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Vietnam's Inflation During the Period 1995 – 2024 And Some Policy Implications

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Abstract
This study focuses on analyzing inflation trends in Vietnam during the 1995-2024 period and assessing the linear relationship between current inflation and past inflation through a linear regression model. The data used in the study is the annual Consumer Price Index (CPI). The research reveals that inflation in Vietnam has fluctuated significantly across different economic periods: stable during 1995-2006, surged during the global financial crisis of 2007-2011, and stabilizing again from 2012-2024. During the 1995-2011 period, regression outcomes demonstrate that current inflation was heavily impacted by previous period inflation with a coefficient of 1,2311, whereas this coefficient decreased to 0,9534 in the 2012-2024 period. This clearly reflects the effectiveness of macroeconomic policies in controlling inflation during 2012-2024. The model achieved high statistical significance with no econometric flaws. The research findings not only elucidate the role of past inflation in influencing current inflation but also provide empirical evidence to support more stable and proactive future monetary and fiscal policy planning.

Keywords: Inflation, past inflation, current inflation, CPI, Vietnam

1. Introduction

From 1995 to 2007, the global economy experienced robust growth driven by globalization and advancements in information technology. The period 2008-2009 witnessed a severe global financial crisis, leading to an economic recession. From 2010 to 2024, the economy recovered but faced numerous challenges, including the Covid-19 pandemic, geopolitical conflicts, and rising inflation. During the same period, Vietnam's economy grew rapidly thanks to economic reforms, international integration, and its accession to the WTO in 2007. The period 2008-2011 was affected by global financial crisis, high inflation, and a slowdown in economic growth. From 2012 to 2024, the Vietnamese economy steadily recovered, maintaining a stable growth despite the impacts of Covid-19 and global economic volatility.

During the 1995-2007 period, inflation in Vietnam remained relatively stable but began to rise sharply in 2007-2008, peaking at nearly 23% in 2008 due to global price impacts and overheating growth. From 2009-2011, inflation continued to be high, reaching a peak of nearly 18% in 2011, causing macroeconomic instability. From 2012 onwards, Vietnam implemented macroeconomic stabilization policies and strict inflation control. Between 2012 and 2019, inflation was maintained at a low level, averaging below 5% per year. From 2020 to 2024, despite the impact of Covid-19 pandemic and global inflation, Vietnam managed to keep inflation under control.

In the period 1995-2007, Vietnam adopted a expansionary monetary policy to boost growth. However, inflation management was ineffective, leading to an "overheating growth". From 2007 to 2011, as inflation surged, the government tightened monetary policy and cut public spending to stabilize the macroeconomy. In 2011, Resolution 11 was issued, marking a shift towards more cautious policy management, with inflation control as the top priority. Between 2012 and 2019, monetary policy became more flexible and was closely coordinated with fiscal policy, ensuring controlled money supply and reasonable credit growth. From 2020 to 2024, Vietnam simultaneously supported economic recovery after Covid-19 and maintained inflation stability through proactive and adaptively managed measures.

Studying inflation in Vietnam from 1995 to 2004 is essential because this period witnessed various economic fluctuations, from overheating growth, financial crisis to the Covid-19 pandemic. Inflation directly impacts macroeconomic stability, people's livelihoods, and policy effectiveness. Analyzing this period provides valuable lessons for monetary and fiscal policy management and enhances the ability to respond to future economic risks.

2. Theoretical framework and literature review

2.1. Theoretical framework

- Definition of inflation and its measurement

Inflation is defined as a continuous increase in the general price level of goods and services in an economy over time. Inflation represents a decline in the domestic purchasing power of the national currency. This does not necessarily mean that the price of all goods and services must simultaneously increase at the same rate; rather, it implies that the average price level is rising. An economy may still experience inflation even if the prices of some goods decrease, provided that the prices of other goods and services rise significantly enough to raise the overall average. (Hoang Thanh Tung, Luong Xuan Duong, 2019)

The general price level is understood as the average price of all goods and services in the economy. It is expressed by a price index, which can be either the Consumer Price Index (CPI) or the GDP deflator (DGDP). Formula for calculating the inflation rate:

$$\Pi^t = \frac{P^t - P^{t-1}}{P^{t-1}} x100\%$$

In which:

Π^t : Inflation rate at period t

P^t: General price level at period t

P^{t-1}: General price level at period t-1

In the context of inflation, a unit of currency can purchase progressively fewer goods and services. In other words, when inflation occurs, more units of the domestic currency are required to purchase a fixed basket of goods and services. If nominal income does not keep pace with the rate of price increases, then real income – the purchasing power of nominal income – will decline.

- Inflation expectations

When the general price level is expected to rise, firms anticipate higher input costs, which in turn increase production costs and reduce their expected profits. Consequently, businesses may choose to reduce their output of goods and services. This leads to a decrease in aggregate supply at any given price level, shifting the short-run aggregate supply (SRAS) curve to the left. This scenario can contribute to cost-push inflation.

Conversely, if the expected price level falls, firms anticipate a decline in input prices, which lowers production costs and increases their profit margins. This encourages businesses to produce more leading to an increase in aggregate supply at any given price levels. As a result, the short-run aggregate supply curve shifts to the right.

Inflation expectations significantly impact the inflation rate, as public sentiment regarding the devaluation of currency can have a direct transmission effect on the Consumer Price Index (CPI), even before cost pressures are reflected through production channels. Excessive inflation expectations can cause policy implementations to fall short of its goals and indirectly reduce the effectiveness of macroeconomic policies.

2.2. Literature review

Several empirical studies have examined inflation and inflation over time in different countries. The study by Marijn A. Bolhuis, Judd N. L. Cramer, and Lawrence H. Summers (2022) constructed a new historical series for both nominal and real CPI to align more closely with modern statistical practices. The research highlights crucial methodological changes in the calculation of the CPI over long periods, leading to distortions when comparing inflation across different phrases. The study concludes that current inflation is closely related to past inflation. The study by Xindi Wang, Zeshui Xu, Xinxin Wang, and Marinko Skare (2022) explored the relationship between past and current inflation in the United States. The qualitative research method involved compiling CPI data and conducting a comprehensive review of influential literature in the field of inflation, aming to clarify the evolution and trends of inflation in the country. The

findings suggest that in the future governments in many countries – particularly in the U.S.- will continue to face challenges in designing policies and implementing measures to mitigate the impacts of inflation. Iván Werning's (2022) research on inflation and inflation expectations presented a generalized Phillips curve in which current inflation is modeled as a linear function of both future inflation expectations and past realized inflation. The study shows that the sum of all coefficients – past and future – is equal to one, implying that the long-run Phillips curve is vertical. The study by Barnett, W., Jawadi, F., and Ftiti, Z. (2020) on inflation over the period from 1906 to 2022 revealed a significant relationship between inflation and inflation uncertainty, with inflation demonstrating time-varying characteristics. Moreover, the relationship between inflation and inflation uncertainty is found to be positive in the short and medium term.

Besides, several empirical studies have identified a relationship between inflation and economic growth. A study by Ho Huu Phuong Chi (2019) applied a threshold regression model using Vietnam's quarterly data from 1995 to 2016 and found that the inflation threshold for Vietnam is 3,79%. When inflation is below 3,79%, it has a positive effect on economic growth. Conversely, when inflation exceeds 3,79%, it has a negative effect on economic growth. These findings suggest that the Vietnamese government and the State Bank of Vietnam should implement monetary policies aimed at maintaining inflation around the 3,79% level to achieve optimal economic growth. The study by Steven Phillips (1998) considered the relationship between inflation, disinflation, and economic growth. Using panel regression and a nonlinear specification, the study found a statistically and economically inverse relationship between inflation and growth.

2.3. Research methodology

Theoretical research methods

The methods of analysis and synthesis were employed to clarify the theoretical foundations of inflation and the influence of past inflation on current inflation. This study conducted a literature review using a range of academic databases, including ResearchGate, ScienceDirect, IEEE Xplore, Scopus, Emerald Insight, Taylor & Francis, and other online sources, alongside Google Scholar and relevant websites. These sources provided information on the relationship between inflation and the link between past and current inflation in both Vietnam and several other economies in the world. In this study, CPI is used as a proxy variable for inflation. The research team constructed model to examine the relationship between past inflation CPI(-1) and current inflation CPI.

Practical research methods

Data collection and processing methods

Secondary data were collected and analyzed from sources such as the General Statistics Office (GSO), International Financial Statistics, the World Bank (WB), and other websites related to CPI and inflation. Based on this data, the study examines the relationship between CPI (-1) and CPI in Vietnam's economy during the period 1995-2024. The study uses secondary data, which was provided and analyzed with the support of Excel and EViews 12 software.

Regarding the relationship between past and current inflation, the research team constructed the following general equations:

$$\mathbf{CPI = C\ (1) * CPI\ (-1) + C\ (2) + \varepsilon}$$

In which:

CPI: Consumer Price Index in the year of study
CPI (-1): Consumer Price Index in the previous year
C (1): Regression coefficient
C (2): Constant term
ε: Random error term

To construct an equation representing the relationship between past inflation and current inflation (with CPI as the proxy variable for inflation), the following steps were carried out:

Step 1: Use EViews 12 software to run the model based on the collected secondary data

Step 2: Test the statistical significance of the regression coefficients corresponding to the explanatory variables and the overall significance of the model.

A coefficient is considered statistically significant if:

- Prob < 0,05 (at the 5% significance level)
- Prob(F-statistics) < 0,05 (at the 5% significance level)

Step 3: Evaluate the explanatory power of the model using R-squared and Adjusted R-squared values. These two indicators show the extent to which the independent variable explains the variation in the dependent variable within the model

Step 4: Check for the presence of econometric defects

A model is considered reliable and suitable for analysis not only when its regression coefficients, and overall model statistically significant, and the R-squared and Adjusted R-squared values are acceptable, but also when it satisfies key econometric assumptions. At the same time, the model must not suffer from autocorrelation or heteroskedasticity, and its residuals must follow a normal distribution.

In this study, the research team employed several diagnostic tools in EViews 12 to detect these issues. Specifically:

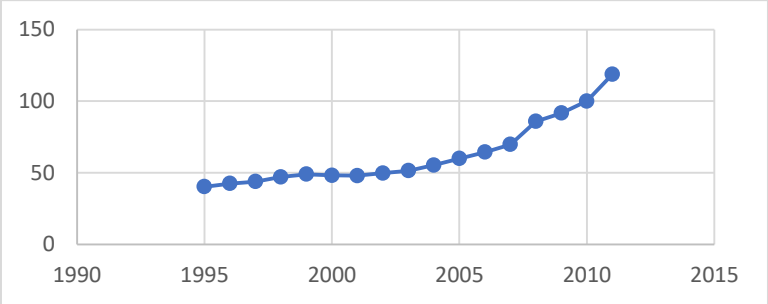
- The Breusch-Godfrey test was used to detect autocorrelation. The model is considered free from autocorrelation at a given order p if Prob (F-statistics) and Prob (Obs*R-squared) > 0,05 (at the 5% significance level)
- The White test was applied to test for heteroskedasticity, the model is considered free from heteroskedasticity if Prob (F-statistics) and Prob (Obs*Chi-squared) > 0,05 (at the 5% significance level)
- The Jarque-Bera test was used to assess whether the residuals follow a normal distribution. The residuals are considered normally distributed if Prob (Jarque–Bera) > 0,05.

When the above conditions are satisfied, the model results will be estimated and analyzed.

3. Inflation in Vietnam during the period 1995-2024

3.1. Inflation and Inflation management policies in Vietnam from 1995 to 2011

Figure 1. Vietnam's Consumer Price Index (CPI) from 1995 to 2011



Source: Compiled from WDI – World Bank, GSO

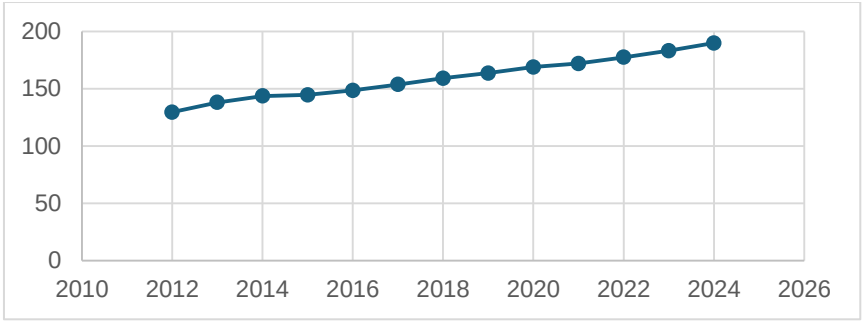
During the period 1995-2001, CPI growth rate fluctuated at a low and relatively stable level, averaging approximately 2,91% per year. Specific annual CPI increases are as follows: 1996 (5,67%), 1997 (3,21%), 1998 (7,27%), 1999 (4,11%), 2000 (0,33%), and a slight decrease in 2001 (-0,43%). This stability reflects prudent macroeconomic policies and effective inflation control during the early phase of economic integration.

From 2002 to 2006, the CPI growth rate began to rise considerably, averaging 6,90% per year. The annual figures were: 2002 (3,82%), 2003 (3,25%), 2004(7,78%), 2005 (8,28%) and 2006 (7,41%). This period laid the groundwork for accumulated inflationary pressures, potentially due to rapid economic growth, increased public investment, and fluctuations in global commodity markets.

The period 2007-201 witnessed a sharp upward trend in inflation, with an average CPI increase of 13,4% per year – the highest in the entire time series. In 2007, CPI rose by 8,36%, followed by a dramatic surge to 22,98% in 2008, the highest increase in the analyzed period, mainly due to the impact of global food and energy price shocks. Although in 2009 the CPI growth rate decreased to 6,70%, in 2010 and 2011 it continued to increase with 9,23% and 18,68% respectively. These fluctuations indicate that inflation was likely cumulatively affected by previous years, and also amplified by external economic shocks.

3.2 Inflation and inflation management policies in Vietnam during the 2012-2024 period

Figure 2. Vietnam's CPI during the 2012-2024 Period



Source: Compiled from WDI – World Bank, GSO

Following the 1995-2011 period, Consumer Price Index (CPI) data for 2012-2024 indicate that inflation in Vietnam continued to rise, though in a more stable and controlled manner compared to the previous phase. Converting CPI into annual percentage growth provides a quantitative foundation for testing the linear relationship between current and past inflation, in line with the linear regression model proposed by the study.

During the 2012-2016 period, CPI growth slowed compared to earlier years, reflecting efforts to stabilize the macroeconomy following the global financial crisis. Specifically, CPI increased by +6,60% in 2013, +3,93% in 2014, +0,63% in 2015, and +2,67% in 2016. On average, CPI grew by 3,46% per year, indicating a low and stable inflation trend, consistent with contractionary monetary policies and institutional reforms in economic governance.

The period 2017-2020 maintained moderate CPI growth, with annual increases of +3,52% in 2017, +3,54% in 2018, +2,79% in 2019, and +3,22% in 2020. The average CPI growth rate during this phase was 3,27% per year, suggesting that inflation management policies remained relatively effective and sustainable, despite global price pressures and domestic growth cycles.

However, during the 2021-2024 period, particularly in the post-Covid19 context, the CPI growth rate began to rise more noticeably. The annual rises were: +1,83% in 2021, +3,15% in 2022, +3,25% in 2023, and +3,61% in 2024. On average, CPI increased by 2,96% per year during this period. Although this rate has not exceeded the inflation target, it shows signs of gradually returning to higher levels, especially when considering the accumulation from previous years.

Observing the entire 2012-2024 time series reveals a plausible linear relationship between the current CPI growth rate and the growth rates from previous years. Years with lower CPI increases tend to be followed by years of slower growth, and vice versa

4. The relationship between past and current Inflation (a quantitative analysis)

Table 1. Previous-year inflation and current-year inflation

Past and current inflation during the period 1995-2011			**Past and current inflation during the period 2012-2024**		
Dependent Variable: CPI			Dependent Variable: CPI		
Variable	Coefficient	Prob.	Variable	Coefficient	Prob.
CPI (-1)	1,231106	0,0000	CPI (-1)	0,953399	0,0000
C	-8,756091	0,0000	C	12,63412	0,0412
R-squared	0,978833		R-squared	0,985153	
Adjusted R-squared	0,977321		Adjusted R-squared	0,983804	
Prob(F-statistic)	0,000000		Prob(F-statistic)	0,000000	
Breusch-Godfrey Serial Correlation LM Test:			***Breusch-Godfrey Serial Correlation LM Test:***		
F-statistic	Prob. F (2,12)	0,1779	F-statistic	Prob. F (2,9)	0,2791
Obs*R-squared	Prob. Chi-Square (2)	0,1353	Obs*R-squared	Prob. Chi-Square (2)	0,2009

Heteroskedasticity Test: White			***Heteroskedasticity Test: White***		
F-statistic	Prob. F (2,13)	0,1023	F-statistic	Prob. F (2,10)	0,3867
Obs*R-squared	Prob. Chi-Square (2)	0,0938	Obs*R-squared	Prob. Chi-Square (2)	0,3247
Scaled explained SS	Prob. Chi-Square (2)	0,0519	Scaled explained SS	Prob. Chi-Square (2)	0,3955
Histogram – Normality Test			***Histogram – Normality Test***		
Probability	0,193095		Probability	0,744265	

Source: Model estimation's results

**** Past and current inflation during the period 1995–2011***

Model fit evaluation

The results presented in Table 1 indicate that the regression coefficients are statistically significant, as Prob CPI (-1) = 0,0000 < 0,05; Prob (C) = 0,0000 < 0,05. The regression model is statistically valid overall, with Prob (F-statistic) = 0,000000< 0,05

The coefficient of determination is R-squared = 0,978833 (>0,6); Adjusted R- squared = 0,977321 (>0,6)

According to Table 1, the results show Prob. F (2,12) = 0,1779 >0,05, indicating that the model does not suffer from autocorrelation.

The results in Table 1 indicate Prob. F (2,13) =0,1023> 0,05; Prob. Chi-Square (2) = 0,0938 > 0,05; Prob. Chi-Square (2) = 0,0519 > 0,05, confirming that the model does not exhibit heteroskedasticity.

Table 1 also confirms that the model residuals follow a normal distribution, with Probability = 0,193095 > 0,05

The regression analysis results conducted using EViews 12 software in Table 1 reveal the relationship between past-year inflation and current-year inflation during the period 1995-2011, expressed by the following equation:

CPI= 1,231106 * CPI (-1) – 8,756091

Based on the regression results:

All explanatory variables are statistically significant at the 5% level. The coefficient 1,231106 > 1 implies that changes in the previous year's CPI amplify the impact on current inflation. The model's coefficient of determination, R-squared = 0,978833, indicates that the model explains 97,8833% of the variation in CPI during the 1995-2011 period.

**** Past and current inflation during the period 2012-2024***

Model fit evaluation

The results in Table 1 indicate that the regression coefficients are statistically significant, as Prob (-1) = 0,0000 < 0,05; Prob (C) = 0,0412 < 0,05. The regression model is a good fit because the Prob (F-statistic) = 0,000000< 0,05

The model's coefficient of determination R-squared = 0,985153 (>0,6); Adjusted R-squared = 0,983804 (>0,6)

According to the results in Table 1, Prob. F (2,9) = 0,2791 > 0,05; Prob. Chi-Square (2) = 0,2009 > 0,05. The model does not suffer from autocorrelation.

The results in table 1 also show Prob. F (2,10) = 0,3867 > 0,05; Prob. Chi-square (2) = 0,3247 > 0,05; Prob. Chi-Square (2) = 0,3955 > 0,05. The model does not suffer from heteroskedasticity.

Table 1 further indicates that the residuals of the model follow a normal distribution with Probability = 0,744265 > 0,05

The results of the regression data analysis using EViews 12 software in Table 1 reveal the relationship between previous year inflation and current year inflation for the 2012-2024 period, as expressed in the following equation:

CPI= 0,953399* CPI (-1) + 12,63412

From the results of the regression model, it can be observed that:

All explanatory variables in the model are statistically significant at the 5% level. The regression results show that the coefficient 0,953399 <1, however, this coefficient is >0. This indicates that the current CPI increases with the previous year's CPI, meaning there is a positive relationship, but at a slower rate. The

model's coefficients of determination R – squared = 0,985153 indicates that the model explains 98,5153% of the variation in CPI during the 2012-2024 period.

From the results of the two models developed, it can be seen that the influence of the previous year's CPI on the current year's CPI was greater in the 1995-2011 period compared to the 2012-2024 period.

5. Policy implications

First, it is essential to continue maintaining strong coordination between monetary policy and fiscal policy to ensure long-term inflation stability. The research findings indicate that from 2012 onward, the impact of past inflation on current inflation has significantly declined (with the regression coefficient dropping from 1,2311 to 0,9534), reflecting the effectiveness of macroeconomic policy management. Therefore, in the current context– where inflation is showing signs of resurgence after the Covid-19 pandemic and is affected by global economic instability– the flexible coordination of monetary and fiscal policies, remains a core solution to control input costs, stabilize inflation expectations, and ensure sustainable economic growth.

Second, enhancing transparency and forecastability in policy management is vital to stabilizing inflation expectations. Theoretical studies have highlighted the critical role of inflation expectations in shaping actual inflation. In the 1995-2011 period, the high regression showed strong inflation inertia and propagation of inflation expectations. To avoid repeating high inflation cycles, the government needs to strengthen policy communication (e.g., inflation targets, interest rate management signals, public utility price adjustments) in a timely, transparent, and predictable manner. This will help businesses and households adjust their spendings and investment behaviors appropriately.

Third, strictly control credit growth and the money supply in the economy. Empirical results show that during the high inflation period of 2007–2011, the sharp increase in CPI was linked to expansionary monetary policies and overheated credit growth. Therefore, to prevent cumulative inflationary pressures from spilling over into subsequent years, the State Bank needs to consistently control the total means of payment at a reasonable level, ensure targeted credit allocation, prioritize the production and export sectors, and limit capital flows into speculative sectors such as real estate or securities.

Fourth, enhance the capacity for analysis and early warning of inflation trends through econometric modeling. The successful modeling of the linear relationship between current inflation and past inflation in this study provides a basis for policymakers to develop medium-to-long-term forecasting tools. The Ministry of Finance, the General Statistics Office, and the State Bank should invest in early warning systems based on updated quarterly data, helping to make timely decision-making in the context of increasingly complex global fluctuations.

Fifth, focus on price management and market stabilization policies in the short term. Recent data indicate a tendency for inflation to return, partly due to rising global commodity prices and production costs. Therefore, in the short term, the government should continue implementing price stabilization programs, provide transport support, and control prices of gasoline, electricity, and food, in order to curb cost-push inflation and protect purchasing power of the population, especially low-income groups.

Finally, maintain a reasonable inflation target (around 3-4%) to balance macroeconomic stability and support growth. The research results by Ho Huu Phuong Chi (2019) indicated that the optimal inflation level to promote growth is below 3,79%. In the current context, as Vietnam recovers from the pandemic and aims for sustainable development, maintaining inflation at a reasonable level – not too low but also not exceeding the warning threshold – is a strategic choice. This approach fosters a stable environment for business development without imposing excessive pressure on living costs or social investment.

Conclusion

This research examines inflation trends in Vietnam from 1995 to 2024 and tests the linear relationship between current and past inflation using a linear regression model. The results indicate that during 1995–2011, inflation tended to amplify over time, as reflected by a regression coefficient greater than 1. This period saw rapid economic growth in Vietnam but was accompanied by accumulating price pressures, macroeconomic instability, and impacts from external shocks. The 2012–2024 period recorded a regression coefficient less than 1, showing a diminishing influence of past inflation on current inflation. This reflects the effectiveness of cautious, flexible, and tightly coordinated monetary and fiscal policies in managing inflation amidst significant global economic volatility, especially the Covid-19 pandemic and global inflation.

The regression model passes all diagnostic tests, showing no signs of autocorrelation or heteroskedasticity, and the residuals follow a normal distribution, ensuring high reliability. With an R-squared above 97% in both periods, the model demonstrates its strong ability to explain CPI fluctuations over time. The findings provide compelling empirical evidence that previous year's inflation is a crucial forecasting factor for current inflation. This provides a valuable basis for macroeconomic policymaking and managing, particularly in controlling inflation expectations, stabilizing markets, and guiding sustainable growth.

References

1. Barnett, W., Jawadi, F. & Ftiti, Z. (2020). *Causal relationships between inflation and inflation uncertainty.* Studies in Nonlinear Dynamics & Econometrics, 24(5), 20190094. https://doi.org/10.1515/snde-2019-0094
2. Chi, H. H. P. (2019). *The non-linear relationship between inflation and economic growth in Vietnam*. Can Tho University Journal of Science, 55(6), 82-88. https://doi.org/10.22144/ctu.jvn.2019.171
3. GSO (2024). https://www.nso.gov.vn/
4. Hoang Thanh Tung, Luong Xuan Duong (2019). *Macroeconomics Textbook*. Bach Khoa Publishing House
5. Iván Werning (2022). *Expectations and the Rate of Inflation NBER Working Paper No.* 30260, JEL No. E03,E31. https://www.nber.org/system/files/working_papers/w30260/w30260.pdf
6. Marijn A Bolhuis, Judd N L Cramer, Lawrence H Summers (2022). *Comparing Past and Present Inflation*. Review of Finance, 26(5), 1073–1100, https://doi.org/10.1093/rof/rfac047
7. Steven Phillips (1998). *International monetary fund Policy Development and Review Department Inflation, Disinflation, and Growth.* https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=249203
8. WDI-WB (2024). https://databank.worldbank.org/source/world-development-indicators
9. Xindi Wang, Zeshui Xu, Xinxin Wang, Marinko Skare (2022). *A review of inflation from 1906 to 2022: a comprehensive analysis of inflation studies from a global perspective.* Instytut Badań Gospodarczych, (3), 395-631.