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Using Numerical Modeling to Verify Whether the Relationships Between Inflation and Unemployment Are Significant or not for the History of the United States from 1958 to 2024

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Abstract. Inflation and unemployment are core variables in macroeconomic assessment and policymaking. Exploring the nature of their interactions helps to understand the complexity of economic behavior. This article collects and analyzes inflation and unemployment data from 1958 to 2024, focusing on the United States. The study explored the correlation between the two variables using numerical modeling and statistical methods. The result of this study indicates a lack of strong or consistent correlation throughout the observation period. There are several possible explanations for this outcome, including structural economic changes and interventions of policy. The paper also includes possible ways for future research to discover more subtle interactions or variables that may influence the relationships between unemployment rate and inflation.

Keywords: inflation, unemployment, numerical modeling, Spearman's rank correlation, The Phillips Curve

1. Introduction

The relationship between inflation and the unemployment rate has been widely discussed in economics for decades, not just because of its theoretical interest but also due to how much it matters for real-world decisions. Understanding the relationships between inflation and unemployment helps us to understand how economies function and can influence the way fiscal and monetary policies are made.

The Phillips Curve has long regarded as a reference point for economists, proposing a trade-off between these two variables [1]. However, with factors like globalization, technological developments, supply chain instability, and changes in labor markets, this once direct relationship has become far more complex and less predictable. Because of these changes, there's a growing need to update the traditional models and explore frameworks that better describe the current realities of the economy [2].

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This study aims to do this—by analyzing long-term U.S. data to see whether the expected relationship still true. Rather than focusing only on numbers, the aim is to gain a clearer sense of broader macroeconomic trends, especially in a time when uncertainty makes right policymaking more important than ever.

1.1. Background

Economists have been exploring the relationship between inflation and unemployment for decades, not only because of academic interest, but also because it directly affects how governments make economic policy and how people experience stability in the economy. Understanding the way these two variables interact with each other can offer valuable information about wider economic behavior and help shape more rational decisions to things like interest rates or labour markets.

For a long time, the relationships between inflation and unemployment—most clearly illustrated by the Phillips Curve—has influenced many policy decisions. According to this curve, when inflation goes up, unemployment tends to go down, and vice versa.

However, that relationship didn't always hold up. A major turning point was in the 1970s, during a period of stagflation. At that time, both inflation and unemployment were high at the same time. That episode challenged the reliability of the original model and led economists to think how stable or universal this trade-off really is. It became clear that the relationship is more complicated and can shift depending on the broader economic environment. In response, economists such as Milton Friedman and Edmund Phelps argued that there is no stable long-term trade-off between inflation and unemployment. They introduced the concept of a "natural rate of unemployment" and emphasized that expectations play a critical role. Later, the rational expectations revolution, led by economists like Robert Lucas, further challenged the effectiveness of predictable monetary policy, arguing that individuals use available information efficiently, and therefore, policy only affects real output when it is unexpected.

As Zvi Hercowitz explains, inflation's ability to influence real output may diminish over time, especially when inflation is anticipated. In his analysis, expected inflation reduces the informational frictions that once made monetary shocks effective, thereby weakening the link between inflation and unemployment [3].

1.2. Definition

Spearman's rank correlation is a method used to measure how strongly two things are related, based on their order or ranking. It checks whether higher values of one variable tend to match higher or lower values of another. Unlike methods that look for straight-line relationships, Spearman's correlation does not assume that the relationship has to be linear. This makes it very useful when working with real-world economic data, like inflation and unemployment, which often behave in unpredictable ways and can include extreme values.

As real-world economic data hardly behave in perfectly consistent ways, and can react unpredictably because of policies or external shocks, we use Spearman's method, which offers a better approach than techniques that assume smooth or regular trends. As Conover points out, "Spearman's rank correlation is especially helpful when the usual conditions for standard correlation methods aren't met" [4]. For this reason, it is used here to examine how inflation and unemployment interact with each other in the U.S. from 1958 to 2024.

Spearman's rank correlation:

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Spearman's rank correlation coefficient (ρ) is a tool used to measure how strongly two ranked variables move together in a consistent direction. Unlike Pearson's correlation, which assumes a linear relationship and distributed data—Spearman's method studies the ranked positions rather than the raw values. This makes it more suitable for situations where the relationship isn't perfectly linear and where outliers might influence the results, which often happens in economic data like inflation and unemployment. The formula for ρ is:

$$\rho = 1 - \frac{6\Sigma di^2}{n(n^2-1)}$$

Here, d_i represents the difference between the ranks of each pair of observations, and n is the total number of observations. The resulting coefficient falls between -1 and 1: a value near -1 means a strong negative relationship, a value around 0 suggests little to no consistent pattern, and a value close to 1 indicates a strong positive link between the variables.

To determine whether the observed correlation is statistically significant, a corresponding ρ-value is calculated using statistical software or a t-distribution.

$$t = \frac{\rho\sqrt{n-2}}{\sqrt{1-\rho^2}}$$

With a ρ less than 0.05, that is means that the correlation is statistically significant; With a ρ greater than and equal to 0.05: that is means that the correlation may be due to random variation.

1.3. Hypothesis

This study tests whether a statistically significant relationship exists between inflation and unemployment in the United States from 1958 to 2024. Based on Spearman's rank correlation analysis, the results reveal a weak but statistically significant negative relationship between the two variables ($p < 0.05$), consistent with the traditional interpretation of the Phillips Curve, which suggests that higher inflation tends to be associated with lower unemployment. To formally evaluate this, the hypotheses are defined as follows: If the p-value is less than 0.05, there is a significant negative relationship between inflation and unemployment in the United States from 1958 to 2024, consistent with the Phillips Curve. Conversely, if the p-value is greater than or equal to 0.05, there is no significant relationship between inflation and unemployment in the United States over the same period.

2. Methodology

To investigate the potential correlation between inflation and unemployment, this study

employed Spearman's rank correlation coefficient. This method does not assume linearity and is particularly effective in detecting monotonic relationships, whether increasing or decreasing.

2.1. Data source

This study uses data on U.S. inflation and unemployment from 1958 to 2024, collected from trusted and widely used sources.

U.S. Bureau of Labor Statistics (BLS):

The unemployment rate comes from the BLS, the official source for U.S. labor data. It's reliable because it uses consistent methods and has a long history of accurate, high-frequency reporting.

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Federal Reserve Economic Data (FRED):

Inflation data, based on the Consumer Price Index (CPI), is taken from FRED. This website is run by the Federal Reserve and is known for reliable official economic data, which is perfect for studying long-term trends.

World Bank:

The World Bank provides data for international comparison. Their data is trusted in global economic studies.

The Detailed data table can be found in the bottom of the article

2.2. Procedure

To examine how inflation and unemployment have interacted in the U.S. between 1958 and 2024, this study followed a step-by-step approach to collect, process, and analyze the data.

The first step is collecting raw data from two official sources. Unemployment rates (on a half-year basis) were taken from the U.S. Bureau of Labor Statistics (BLS), while inflation data came from the Federal Reserve Economic Data (FRED) database. Specifically, the inflation measure was based on the Consumer Price Index for All Urban Consumers (CPI-U), which reflects average price changes in a typical set of goods and services.

To make the CPI data more suitable for analysis, we calculated quarterly inflation rates by measuring the percentage change from one quarter to the next quarter. This step helped making time scale with that of the unemployment figures he same, allowing the two datasets to be compared consistently over time.

After computing the inflation rates. Any gaps or inconsistencies were removed to reduce the risk of errors in the analysis. With the cleaned and combined data, Spearman's rank correlation coefficient was used to measure the strength and direction of the relationship between inflation and unemployment.

Finally, the processed data were visualized using a scatter plot diagram to illustrate the general pattern of association between inflation and unemployment over the selected time period.

2.3. Data selection

By studying the different historical periods of time, it is necessary to study whether a particular historical event has caused the uncorrelation between inflation and unemployment.

Post-war Economic Adjustment and Recession (1958-early 1960s):

In 1958, the United States experienced one of the worst recessions of the postwar era, with unemployment rising and industrial production falling. Subsequently, the government adjusted monetary policy and increased public spending, and the economy gradually recovered.

Steady Growth and the Great Society Program (mid-1960s - early 1970s):

During this period, the US economy maintained relatively stable growth. President Lyndon Johnson introduced the Great Society program to reduce poverty and promote social welfare. However, the Vietnam War led to increased fiscal deficits and inflationary pressures.

Stagflation and Economic Turmoil (1970s):

In the 1970s, the USA faced "stagflation" with high inflation and high unemployment rate. oil crisis of 1973 sent energy prices soaring, adding to the economic woes.

Reaganomics and the Economic Recovery (1980s):

After taking office in 1981, President Ronald Reagan promoted "Reaganomics" to stimulate economic growth through massive tax cuts, deregulation, and increased defense spending. These

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policies boosted economic recovery in the short term, but they also led to a widening fiscal deficit and a widening gap between the rich and the poor.

Information Technology Boom and Economic Expansion (1990s):

In the 1990s, the United States ushered in the information technology revolution, the rapid development of Internet and technology industry cause the continuous expansion of the economy. This period is known as the "1990s U.S. economic boom," when unemployment fell and inflation remained low.

Dot-com Bubble Burst and Economic Adjustment (early 2000s):

In 2000, the dot-com bubble burst, leading to a sharp drop in the stock market, reduced investment, and slower economic growth. Then came the terrorist attacks of September 11, 2001, which further buffeted the economy.

Housing Bubble and Financial Crisis (mid-2000s - 2008):

In the mid-2000s, the real estate market overheated, home prices soared, and the subprime mortgage market expanded rapidly. From 2007 to 2009, the subprime mortgage crisis triggered the financial crisis globally, and US economy fell into severe recession, the unemployment rate soared, and the GDP shrank sharply.

Economic Recovery and Slow Growth (2010s):

After the financial crisis, the U.S. economy began to recover, but the pace of growth was relatively slow. The government's policy of quantitative easing is designed to stimulate economic growth while reduce unemployment rate.

Trade protectionism and the impact of the COVID-19 (2020s):

In 2020, the outbreak of novel coronavirus caused a severe shock to the global economy, and the US economy has contracted. The government then launched a massive fiscal stimulus to support the recovery. In 2025, the Trump administration imposed high tariffs in an attempt to protect domestic industries but triggered retaliatory measures from trading partners, leading to an escalation of global trade tensions.

2.4. Study different mechanism

By studying the countries that adopt different mechanisms, it is necessary to examine whether a particular mechanism affects the relation between inflation rate and unemployment rate.

The America adopts a free-market capitalist economic model, emphasizing private ownership and market regulation. However, many countries use different economic mechanisms than the United States, mainly including the following:

Mixed economy: A combination of market economy and government intervention, where the government regulates key sectors or owns parts of industries.

Germany: The implementation of the "social market economy, on the basis of market freedom through social welfare and policy to ensure social equity.

France: The market economy coexists with state intervention, and the government plays important roles in strategic industries.

Japan: Mainly market-driven, but the government plays an active role in industrial policy and economic planning.

State capitalism: The state plays a dominant role in the economy, owning or controlling a large number of enterprises.

China: Practicing "socialism with Chinese characteristics," the state owns and controls many large enterprises while allowing the private sector to exist.

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Singapore: The government plays an important role in the economy through sovereign wealth funds and government-linked companies.

The Nordic model combines high taxes, high welfare, and a free market economy with an emphasis on social equality and public services.

Sweden, Norway, Denmark, and Finland: Extensive public welfare systems where the government plays an important role in providing public services such as education and health care while encouraging market competition and innovation.

Planned economy: The government has comprehensive planning and control over economic activities, and the market mechanism has a limited role.

3. Results

The analysis produced a Spearman's rank correlation coefficient (ρ) of -0.2907 between the quarterly inflation rate and unemployment rate in the United States from 1958 to 2024. The associated p-value was 0.0019, indicating that the result is statistically significant at the 5% level.

These findings suggest a weak but statistically significant negative relationship between inflation and unemployment over the observed period. While the strength of the correlation is modest, the negative direction is consistent with the theoretical expectations derived from the traditional Phillips Curve, which posits an inverse relationship between inflation and unemployment. This result implies that, historically, higher inflation has tended to coincide with lower unemployment, albeit not strongly or uniformly across all time periods.

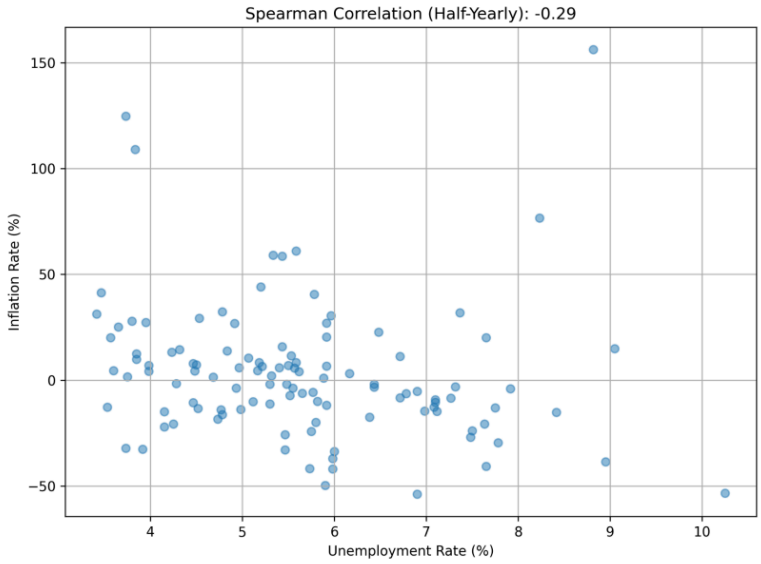

Figure 1: Scatter diagram between inflation rate and unemployment rateDiagram by Tian Shi

4. Limitation

The relationship between inflation and unemployment in the U.S. has grown increasingly difficult to define, largely due to a mix of structural shifts and evolving policy practices. A key reason is the Federal Reserve's proactive approach to inflation. By raising interest rates before inflation fully takes hold, the Fed often prevents the kind of lagged unemployment response that once made the inflation-unemployment link easier to detect.

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The structure of the labor market adds further complexity. In the U.S., flexible employment arrangements, weakened unions, and the rise of gig work have made wage growth less responsive to labor market tightening. Meanwhile, globalization has redirected inflationary pressure overseas. With so many goods imported, domestic price levels are now more sensitive to exchange rates and supply chains than to local job conditions.

Technology has also changed the game. Automation and digital labor platforms have disrupted the classic pattern were lower unemployment boosts wages and triggers inflation. This was especially evident after COVID-19. In 2021–2022, inflation surged even as unemployment remained low, a result of supply disruptions, aggressive fiscal policy, and reduced labor force participation—not overheating demand.

Finally, data limitations make interpretation harder. Indicators like CPI and PCE can lag or shift due to revisions, and headline unemployment figures overlook underemployment and those who've left the labor force altogether. Taken together, these developments call into question the continued usefulness of the Phillips Curve. Modern economic conditions demand more nuanced, flexible models that can account for international factors, labor market shifts, and non-cyclical inflation drivers.

5. Conclusion

This study looked at how inflation and unemployment have moved together in the United States between 1958 and 2024, using Spearman's rank correlation to measure the connection. The results showed a weak but statistically significant negative relationship, with a coefficient of -0.2907 and a p-value of 0.0019. While this outcome generally aligns with the traditional Phillips Curve—which proposes that inflation and unemployment move in opposite directions—the relationship we found was not particularly strong or consistent over time. A number of factors likely contributed to this weakening link. The Federal Reserve's proactive approach to inflation, advances in technology, a more flexible labor market, and the effects of globalization have all played a role. In addition, the way inflation and unemployment are measured may not fully capture today's economic realities. Altogether, these findings suggest that although the trade-off still exists, it's no longer a reliable guide for policymakers without a broader, more adaptive framework.

Acknowledgement

Zhenhao Zhang, Tian Shi, and Jiajun Sun contributed equally to this work and should be considered co-first authors.

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Appendix

Table 1: Labor force statistics from the current population survey: unemployment rate from U.S. Bureau of labor statistics [5]

Labor Force Statistics from the Current Population Survey												
Original Data Value												
Series Id:	LNS14000000											
Seasonally Adjusted												
Series title:	(Seas) Unemployment Rate											
Labor force status:	Unemployment rate											
Type of data:	Percent or rate											
Age:	16 years and over											
Years:	1948 to 2025											
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1948	3.4	3.8	4.0	3.9	3.5	3.6	3.6	3.9	3.8	3.7	3.8	4.0
1949	4.3	4.7	5.0	5.3	6.1	6.2	6.7	6.8	6.6	7.9	6.4	6.6
1950	6.5	6.4	6.3	5.8	5.5	5.4	5.0	4.5	4.4	4.2	4.2	4.3
1951	3.7	3.4	3.4	3.1	3.0	3.2	3.1	3.1	3.3	3.5	3.5	3.1
1952	3.2	3.1	2.9	2.9	3.0	3.0	3.2	3.4	3.1	3.0	2.8	2.7
1953	2.9	2.6	2.6	2.7	2.5	2.5	2.6	2.7	2.9	3.1	3.5	4.5
1954	4.9	5.2	5.7	5.9	5.9	5.6	5.8	6.0	6.1	5.7	5.3	5.0
1955	4.9	4.7	4.6	4.7	4.3	4.2	4.0	4.2	4.1	4.3	4.2	4.2
1956	4.0	3.9	4.2	4.0	4.3	4.3	4.4	4.1	3.9	3.9	4.3	4.2
1957	4.2	3.9	3.7	3.9	4.1	4.3	4.2	4.1	4.4	4.5	5.1	5.2
1958	5.8	6.4	6.7	7.4	7.4	7.3	7.5	7.4	7.1	6.7	6.2	6.2
1959	6.0	5.9	5.6	5.2	5.1	5.0	5.1	5.2	5.5	5.7	5.8	5.3
1960	5.2	4.8	5.4	5.2	5.1	5.4	5.5	5.6	5.5	6.1	6.1	6.6
1961	6.6	6.9	6.9	7.0	7.1	6.9	7.0	6.6	6.7	6.5	6.1	6.0
1962	5.8	5.5	5.6	5.6	5.5	5.5	5.4	5.7	5.6	5.4	5.7	5.5
1963	5.7	5.9	5.7	5.7	5.9	5.6	5.6	5.4	5.5	5.5	5.7	5.5
1964	5.6	5.4	5.4	5.3	5.1	5.2	4.9	5.0	5.1	5.1	4.8	5.0
1965	4.9	5.1	4.7	4.8	4.6	4.6	4.4	4.4	4.3	4.2	4.1	4.0
1966	4.0	3.8	3.8	3.8	3.9	3.8	3.8	3.8	3.7	3.7	3.6	3.8
1967	3.9	3.8	3.8	3.8	3.8	3.9	3.8	3.8	3.8	4.0	3.9	3.8
1968	3.7	3.8	3.7	3.5	3.5	3.7	3.7	3.5	3.4	3.4	3.4	3.4
1969	3.4	3.4	3.4	3.4	3.4	3.5	3.5	3.5	3.7	3.7	3.5	3.5
1970	3.9	4.2	4.4	4.6	4.8	4.9	5.0	5.1	5.4	5.5	5.9	6.1
1971	5.9	5.9	6.0	5.9	5.9	5.9	6.0	6.1	6.0	5.8	6.0	6.0
1972	5.8	5.7	5.8	5.7	5.7	5.7	5.6	5.6	5.5	5.6	5.3	5.2

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1973	4.9	5.0	4.9	5.0	4.9	4.9	4.8	4.8	4.8	4.6	4.8	4.9
1974	5.1	5.2	5.1	5.1	5.1	5.4	5.5	5.5	5.9	6.0	6.6	7.2
1975	8.1	8.1	8.6	8.8	9.0	8.8	8.6	8.4	8.4	8.4	8.3	8.2
1976	7.9	7.7	7.6	7.7	7.4	7.6	7.8	7.8	7.6	7.7	7.8	7.8
1977	7.5	7.6	7.4	7.2	7.0	7.2	6.9	7.0	6.8	6.8	6.8	6.4
1978	6.4	6.3	6.3	6.1	6.0	5.9	6.2	5.9	6.0	5.8	5.9	6.0
1979	5.9	5.9	5.8	5.8	5.6	5.7	5.7	6.0	5.9	6.0	5.9	6.0
1980	6.3	6.3	6.3	6.9	7.5	7.6	7.8	7.7	7.5	7.5	7.5	7.2
1981	7.5	7.4	7.4	7.2	7.5	7.5	7.2	7.4	7.6	7.9	8.3	8.5
1982	8.6	8.9	9.0	9.3	9.4	9.6	9.8	9.8	10.1	10.4	10.8	10.8
1983	10.4	10.4	10.3	10.2	10.1	10.1	9.4	9.5	9.2	8.8	8.5	8.3
1984	8.0	7.8	7.8	7.7	7.4	7.2	7.5	7.5	7.3	7.4	7.2	7.3
1985	7.3	7.2	7.2	7.3	7.2	7.4	7.4	7.1	7.1	7.1	7.0	7.0
1986	6.7	7.2	7.2	7.1	7.2	7.2	7.0	6.9	7.0	7.0	6.9	6.6
1987	6.6	6.6	6.6	6.3	6.3	6.2	6.1	6.0	5.9	6.0	5.8	5.7
1988	5.7	5.7	5.7	5.4	5.6	5.4	5.4	5.6	5.4	5.4	5.3	5.3
1989	5.4	5.2	5.0	5.2	5.2	5.3	5.2	5.2	5.3	5.3	5.4	5.4
1990	5.4	5.3	5.2	5.4	5.4	5.2	5.5	5.7	5.9	5.9	6.2	6.3
1991	6.4	6.6	6.8	6.7	6.9	6.9	6.8	6.9	6.9	7.0	7.0	7.3
1992	7.3	7.4	7.4	7.4	7.6	7.8	7.7	7.6	7.6	7.3	7.4	7.4
1993	7.3	7.1	7.0	7.1	7.1	7.0	6.9	6.8	6.7	6.8	6.6	6.5
1994	6.6	6.6	6.5	6.4	6.1	6.1	6.1	6.0	5.9	5.8	5.6	5.5
1995	5.6	5.4	5.4	5.8	5.6	5.6	5.7	5.7	5.6	5.5	5.6	5.6
1996	5.6	5.5	5.5	5.6	5.6	5.3	5.5	5.1	5.2	5.2	5.4	5.4
1997	5.3	5.2	5.2	5.1	4.9	5.0	4.9	4.8	4.9	4.7	4.6	4.7
1998	4.6	4.6	4.7	4.3	4.4	4.5	4.5	4.5	4.6	4.5	4.4	4.4
1999	4.3	4.4	4.2	4.3	4.2	4.3	4.3	4.2	4.2	4.1	4.1	4.0
2000	4.0	4.1	4.0	3.8	4.0	4.0	4.0	4.1	3.9	3.9	3.9	3.9
2001	4.2	4.2	4.3	4.4	4.3	4.5	4.6	4.9	5.0	5.3	5.5	5.7
2002	5.7	5.7	5.7	5.9	5.8	5.8	5.8	5.7	5.7	5.7	5.9	6.0
2003	5.8	5.9	5.9	6.0	6.1	6.3	6.2	6.1	6.1	6.0	5.8	5.7
2004	5.7	5.6	5.8	5.6	5.6	5.6	5.5	5.4	5.4	5.5	5.4	5.4
2005	5.3	5.4	5.2	5.2	5.1	5.0	5.0	4.9	5.0	5.0	5.0	4.9
2006	4.7	4.8	4.7	4.7	4.6	4.6	4.7	4.7	4.5	4.4	4.5	4.4
2007	4.6	4.5	4.4	4.5	4.4	4.6	4.7	4.6	4.7	4.7	4.7	5.0
2008	5.0	4.9	5.1	5.0	5.4	5.6	5.8	6.1	6.1	6.5	6.8	7.3
2009	7.8	8.3	8.7	9.0	9.4	9.5	9.5	9.6	9.8	10.0	9.9	9.9
2010	9.8	9.8	9.9	9.9	9.6	9.4	9.4	9.5	9.5	9.4	9.8	9.3
2011	9.1	9.0	9.0	9.1	9.0	9.1	9.0	9.0	9.0	8.8	8.6	8.5
2012	8.3	8.3	8.2	8.2	8.2	8.2	8.2	8.1	7.8	7.8	7.7	7.9

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2013	8.0	7.7	7.5	7.6	7.5	7.5	7.3	7.2	7.2	7.2	6.9	6.7
2014	6.6	6.7	6.7	6.2	6.3	6.1	6.2	6.1	5.9	5.7	5.8	5.6
2015	5.7	5.5	5.4	5.4	5.6	5.3	5.2	5.1	5.0	5.0	5.1	5.0
2016	4.8	4.9	5.0	5.1	4.8	4.9	4.8	4.9	5.0	4.9	4.7	4.7
2017	4.7	4.6	4.4	4.4	4.4	4.3	4.3	4.4	4.3	4.2	4.2	4.1
2018	4.0	4.1	4.0	4.0	3.8	4.0	3.8	3.8	3.7	3.8	3.8	3.9
2019	4.0	3.8	3.8	3.7	3.6	3.6	3.7	3.6	3.5	3.6	3.6	3.6
2020	3.6	3.5	4.4	14.8	13.2	11.0	10.2	8.4	7.8	6.9	6.7	6.7
2021	6.4	6.2	6.1	6.1	5.8	5.9	5.4	5.1	4.7	4.5	4.2	3.9
2022	4.0	3.8	3.7	3.7	3.6	3.6	3.5	3.6	3.5	3.6	3.6	3.5
2023	3.5	3.6	3.5	3.4	3.6	3.6	3.5	3.7	3.8	3.9	3.7	3.8
2024	3.7	3.9	3.9	3.9	4.0	4.1	4.2	4.2	4.1	4.1	4.2	4.1

Table 2: Consumer price index for all urban consumers (CPI-U) from U.S. Bureau of labor statistics [6]

Consumer Price Index for All Urban Consumers (CPI-U)	
12-Month Percent Change	
Series Id:	CUUR0000SA0L1E
Not Seasonally Adjusted	
Series Title:	All items less food and energy in U.S. city average, all urban consumers, not seasonally adjusted
Area:	U.S. city average
Item:	All items less food and energy
Base Period:	1982-84=100
Years:	1958 to 2025

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1958	3.2	3.2	2.8	2.4	2.4	2.1	2.4	2.1	1.7	1.7	1.7	1.7	2.4
1959	1.7	1.7	1.7	1.7	2.0	2.0	2.0	2.0	2.4	2.7	2.0	2.0	2.0
1960	2.0	2.3	2.0	2.0	1.7	1.7	1.3	1.3	1.0	1.0	1.0	1.0	1.3
1961	1.0	0.7	0.7	1.0	1.0	1.0	1.3	1.3	1.6	1.3	1.3	1.3	1.3
1962	1.3	1.3	1.6	1.3	1.6	1.6	1.3	1.3	1.3	1.3	1.3	1.3	1.3
1963	1.0	1.0	1.0	1.3	1.0	1.3	1.3	1.6	1.3	1.3	1.6	1.6	1.3
1964	1.9	1.9	1.9	1.6	1.6	1.6	1.6	0.9	1.3	1.3	1.2	1.2	1.6
1965	1.6	1.6	1.2	1.6	1.6	1.2	1.2	1.6	1.5	1.5	1.2	1.5	1.2
1966	0.9	1.2	1.5	1.8	2.1	2.4	2.8	3.1	3.0	3.3	3.6	3.3	2.4
1967	3.6	3.6	3.6	3.3	3.3	3.3	3.3	3.3	3.6	3.5	3.5	3.8	3.6
1968	4.1	4.1	4.4	4.4	4.3	4.6	4.9	4.9	4.9	4.8	5.1	5.1	4.6
1969	5.1	5.3	5.6	6.1	6.1	5.8	5.8	5.8	6.0	6.0	5.9	6.2	5.8
1970	6.2	6.1	6.1	5.8	6.0	6.5	6.2	6.2	6.2	6.4	6.6	6.6	6.3
1971	6.3	5.8	5.2	5.0	5.2	4.9	4.9	4.6	4.4	3.8	3.3	3.1	4.7

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1972	3.1	3.3	3.3	3.3	3.1	2.8	2.8	3.3	2.8	3.0	3.0	3.0	3.0
1973	2.8	2.8	3.0	3.2	3.2	3.2	3.2	3.2	3.8	4.3	4.5	4.7	3.6
1974	4.9	5.4	5.8	6.2	6.8	7.9	8.8	9.6	10.2	10.6	11.2	11.1	8.3
1975	11.5	11.7	11.4	11.3	10.5	9.6	9.1	8.2	7.7	7.0	6.8	6.7	9.1
1976	6.7	6.5	6.6	6.4	6.5	6.5	6.7	6.8	6.8	6.7	6.5	6.1	6.5
1977	6.3	6.3	6.2	6.3	6.3	6.6	6.3	6.2	6.2	6.0	5.9	6.5	6.3
1978	6.4	6.2	6.3	6.5	6.8	7.0	7.4	7.5	7.9	8.4	8.7	8.5	7.4
1979	8.6	9.2	9.3	9.3	9.4	9.3	9.6	10.0	9.9	10.1	10.6	11.3	9.8
1980	12.0	12.0	12.5	13.0	13.3	13.6	12.4	11.8	12.0	12.3	12.1	12.2	12.4
1981	11.4	10.9	10.0	9.5	9.5	9.4	11.1	11.6	11.8	10.9	10.2	9.5	10.4
1982	9.3	9.1	8.8	8.9	8.7	8.6	7.6	7.1	5.9	5.9	5.3	4.5	7.4
1983	4.7	4.7	4.7	4.3	3.6	2.9	3.0	3.0	3.5	3.7	4.3	4.8	4.0
1984	4.8	4.8	5.0	5.0	5.2	5.1	5.0	5.1	5.1	4.9	4.6	4.7	5.0
1985	4.5	4.7	4.8	4.5	4.5	4.4	4.2	4.1	4.0	4.1	4.4	4.3	4.3
1986	4.4	4.2	4.1	4.2	4.0	4.0	4.1	4.0	4.1	4.0	3.8	3.8	4.0
1987	3.8	3.8	4.0	4.2	4.2	4.1	4.0	4.2	4.3	4.3	4.4	4.2	4.1
1988	4.3	4.3	4.4	4.3	4.3	4.5	4.5	4.4	4.4	4.5	4.4	4.7	4.4
1989	4.6	4.8	4.7	4.6	4.6	4.5	4.6	4.4	4.3	4.3	4.4	4.4	4.5
1990	4.4	4.6	4.9	4.8	4.8	4.9	5.0	5.5	5.5	5.3	5.3	5.2	5.0
1991	5.6	5.6	5.2	5.1	5.1	5.0	4.8	4.6	4.5	4.4	4.5	4.4	4.9
1992	3.9	3.8	3.9	3.9	3.8	3.8	3.7	3.5	3.3	3.5	3.4	3.3	3.7
1993	3.5	3.6	3.4	3.5	3.4	3.3	3.2	3.3	3.2	3.0	3.1	3.2	3.3
1994	2.9	2.8	2.9	2.8	2.8	2.9	2.9	2.9	3.0	2.9	2.8	2.6	2.8
1995	2.9	3.0	3.0	3.1	3.1	3.0	3.0	2.9	2.9	3.0	3.0	3.0	3.0
1996	3.0	2.9	2.8	2.7	2.7	2.7	2.7	2.6	2.7	2.6	2.6	2.6	2.7
1997	2.5	2.5	2.5	2.7	2.5	2.4	2.4	2.3	2.2	2.3	2.2	2.2	2.4
1998	2.2	2.3	2.1	2.1	2.2	2.2	2.2	2.5	2.5	2.3	2.3	2.4	2.3
1999	2.4	2.1	2.1	2.2	2.0	2.1	2.1	1.9	2.0	2.1	2.1	1.9	2.1
2000	2.0	2.2	2.4	2.3	2.4	2.5	2.5	2.6	2.6	2.5	2.6	2.6	2.4
2001	2.6	2.7	2.7	2.6	2.5	2.7	2.7	2.7	2.6	2.6	2.8	2.7	2.6
2002	2.6	2.6	2.4	2.5	2.5	2.3	2.2	2.4	2.2	2.2	2.0	1.9	2.4
2003	1.9	1.7	1.7	1.5	1.6	1.5	1.5	1.3	1.2	1.3	1.1	1.1	1.4
2004	1.1	1.2	1.6	1.8	1.7	1.9	1.8	1.7	2.0	2.0	2.2	2.2	1.8
2005	2.3	2.4	2.3	2.2	2.2	2.0	2.1	2.1	2.0	2.1	2.1	2.2	2.2
2006	2.1	2.1	2.1	2.3	2.4	2.6	2.7	2.8	2.9	2.7	2.6	2.6	2.5
2007	2.7	2.7	2.5	2.3	2.2	2.2	2.2	2.1	2.1	2.2	2.3	2.4	2.3
2008	2.5	2.3	2.4	2.3	2.3	2.4	2.5	2.5	2.5	2.2	2.0	1.8	2.3
2009	1.7	1.8	1.8	1.9	1.8	1.7	1.5	1.4	1.5	1.7	1.7	1.8	1.7
2010	1.6	1.3	1.1	0.9	0.9	0.9	0.9	0.9	0.8	0.6	0.8	0.8	1.0
2011	1.0	1.1	1.2	1.3	1.5	1.6	1.8	2.0	2.0	2.1	2.2	2.2	1.7

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2012	2.3	2.2	2.3	2.3	2.3	2.2	2.1	1.9	2.0	2.0	1.9	1.9	2.1
2013	1.9	2.0	1.9	1.7	1.7	1.6	1.7	1.8	1.7	1.7	1.7	1.7	1.8
2014	1.6	1.6	1.7	1.8	2.0	1.9	1.9	1.7	1.7	1.8	1.7	1.6	1.7
2015	1.6	1.7	1.8	1.8	1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.1	1.8
2016	2.2	2.3	2.2	2.1	2.2	2.2	2.2	2.3	2.2	2.1	2.1	2.2	2.2
2017	2.3	2.2	2.0	1.9	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8
2018	1.8	1.8	2.1	2.1	2.2	2.3	2.4	2.2	2.2	2.1	2.2	2.2	2.1
2019	2.2	2.1	2.0	2.1	2.0	2.1	2.2	2.4	2.4	2.3	2.3	2.3	2.2
2020	2.3	2.4	2.1	1.4	1.2	1.2	1.6	1.7	1.7	1.6	1.6	1.6	1.7
2021	1.4	1.3	1.6	3.0	3.8	4.5	4.3	4.0	4.0	4.6	4.9	5.5	3.6
2022	6.0	6.4	6.5	6.2	6.0	5.9	5.9	6.3	6.6	6.3	6.0	5.7	6.2
2023	5.6	5.5	5.6	5.5	5.3	4.8	4.7	4.3	4.1	4.0	4.0	3.9	4.8
2024	3.9	3.8	3.8	3.6	3.4	3.3	3.2	3.2	3.3	3.3	3.3	3.2	3.4