

Do Stocks act as a hedge Against Inflation? Evidence From U.S. Market Returns, 1960 to Present

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Abstract:

This study tests whether U.S. common stocks have served as a hedge against inflation. Classical Fisher theory predicts that nominal stock returns should rise one-for-one with expected inflation, yet earlier research documents a negative relation between stock returns and inflation. Using monthly data on the U.S. market return from the Kenneth R. French Data Library and macroeconomic series from the Federal Reserve Bank of St. Louis (FRED), the study estimates regressions of nominal and excess market returns on inflation, controlling for industrial production growth and changes in the federal funds rate, with Newey–West standard errors. Subperiod estimates compare 1960–1982 with 1983 onward. Using 797 monthly observations from January 1960 to August 2026, the study rejects the Fisher prediction that nominal stock returns rise one-for-one with inflation ($p = .008$). The inflation coefficient is negative in every specification but only weakly significant ($p < .10$ in two of four models), and adding output growth and the change in the federal funds rate shrinks it only slightly. The negative relation is concentrated in 1960–1982 and is statistically indistinguishable from zero after 1983, although the difference between the two subperiod estimates is not itself statistically significant. The findings are descriptive associations rather than causal effects. The study contributes a transparent, fully reproducible test using only free public data.

Keywords:

Inflation, stock returns, Fisher hypothesis, proxy hypothesis, inflation hedge

Introduction:

Inflation erodes the purchasing power of financial assets, so investors naturally ask which assets protect their wealth when prices rise. Common stocks are claims on real assets and on the earnings of firms that can, in principle, raise their prices. This reasoning suggests that stocks should keep pace with inflation over time. The idea has long been central to both academic finance and practical portfolio advice, and it has regained attention whenever inflation accelerates.

The empirical record, however, does not cleanly support it. A substantial literature finds that stock returns are negatively related to inflation in the short run, which contradicts the simple hedging story (Fama, 1981; Fama & Schwert, 1977). Subsequent work offers competing explanations and mixed evidence across periods and countries. For an investor or student of finance, the practical question remains unresolved: should stocks be treated as an inflation hedge, and does the answer depend on the period examined?

This study addresses the question using long-run U.S. data and a transparent regression framework. The problem it targets is the gap between theory, which predicts a positive one-for-one relation, and the evidence, which often shows a negative or weak one. The study also asks whether the relation has changed since the early 1980s, when U.S. inflation fell sharply. Three research questions guide the analysis:

RQ1. Do nominal stock returns move one-for-one with inflation, as Fisher theory implies?

RQ2. Is the relation between stock returns and inflation negative once real activity and monetary policy are controlled for?

RQ3. Does the relation differ between 1960–1982 and the period from 1983 onward?

The objectives are to construct a reproducible monthly dataset from free public sources, to estimate and test the relation with appropriate time-series inference, and to interpret the findings in light of the leading theories. The paper proceeds with a literature review, the methodology, results, and a conclusion.

Literature Review:

Theoretical Background

The starting point is the Fisher hypothesis, which holds that nominal asset returns incorporate expected inflation, leaving real returns unaffected by it. Applied to equities, the hypothesis implies a coefficient of one when nominal returns are regressed on inflation. Bodie (1976) examined whether common stocks hedge against inflation and found that, in the short run, they did not behave as a hedge, an early indication that the simple theory was in trouble.

Fama and Schwert (1977) extended this evidence by examining the relation between several asset classes and expected and unexpected inflation, and reported that stock returns were

negatively related to both components. This negative relation became known as a puzzle because it seemed to conflict with the claim that stocks are claims on real assets.

The Proxy Hypothesis

Fama (1981) proposed that the negative relation is not a direct effect of inflation on stock values but a proxy effect. Stock returns respond to expected real activity, such as output growth, and real activity is negatively related to inflation. When real activity is included in the regression, the apparent inflation effect should weaken. Gallagher and Taylor (2002) formalize this explanation and report strong support for it in U.S. data over about forty years. This prediction motivates the use of an output control in the present study.

Period Dependence

Much of the research on the puzzle uses samples dominated by the high-inflation 1970s. Because inflation behaved very differently before and after the early 1980s, the relation need not be stable over time. This study therefore compares two subperiods instead of assuming a single relation, **an approach that also helps connect the findings to current discussions of inflation risk.**

Research Gap and Hypotheses

Prior work often examines the full sample alone, depends on proprietary data, or is difficult to replicate. This study tests the Fisher and proxy hypotheses together on the same free data, extends the sample to recent years, and compares subperiods. The hypotheses are:

H1. Nominal stock returns do not rise one-for-one with inflation (the inflation coefficient differs from one).

H2. The coefficient on inflation in a regression of excess market returns is negative, and it is smaller in magnitude once output growth and monetary policy are controlled for.

H3. The inflation coefficient differs between 1960–1982 and 1983 onward.

Macroeconomic Interrelatedness, Investor Sentiment, and Equity Pricing

Understanding the persistent puzzle between stock returns and inflation requires acknowledging the complex interrelatedness of modern macroeconomic variables. Today, examining these relationships frequently demands high technological analytic adeptness, such as utilizing vector autoregression (VAR) to decode how monetary policy and inflation interact with real activity (Bejjani, Toros, Elia, & Jabbour Al Maalouf, 2024). Furthermore, nominal market returns and S&P 500 pricing are heavily dictated by shifts in investor sentiment, a dynamic that researchers now increasingly model using deep learning techniques (Khalife, Yammine, El Bazi, Zaki, & Jabbour Al Maalouf, 2025). Accurately predicting asset returns across shifting economic quadrants and inflation regimes also relies on ensemble machine learning to capture non-linear

market behaviors (Nasser, Yammine, Harouny, & Khalife, 2025). U.S. equity returns and domestic inflation are also inextricably linked to the structural global dominance of the U.S. dollar (Beainy, Kamel, Subrahmanyam, & Younis, 2025) and broader geopolitical equity perspectives, such as the ongoing economic contest between the USA and China (Kamel & Beainy, 2025).

Financial Distress and the Shift to Alternative Assets

Because traditional equities frequently fail to serve as reliable short-term inflation hedges, capital inevitably rotates during periods of severe macroeconomic instability. When structural inflation induces corporate financial distress—often anticipated by alpha banks using predictive models like the Altman Z-score (Elia, Toros, Sawaya, & Balouza, 2021)—investors seek alternative financial resilience strategies. This has driven extensive quantitative comparisons between physical gold and decentralized digital assets like Bitcoin (Beainy & Kamel, 2026). During systemic crises and periods of fiat currency devaluation, specific psychological and behavioral determinants drive investors and households toward these alternative assets (Aoun, Youssef, & Jabbour Al Maalouf, 2026; El-Chaarani, Mawad, Mawad, & Khalife, 2025) as well as toward physical gold to anchor their financial security (Jabbour Al Maalouf, Sfeir, Nehme, & Mawad, 2026).

Real Activity, Governance, and Modern Market Regimes

Revisiting Fama's proxy hypothesis, stock returns ultimately reflect real economic activity and underlying firm performance. In the modern era, translating real activity into sustainable equity returns requires robust corporate and country-level governance, which is critical for maintaining market stability in vulnerable environments (Athari, Saliba, Khalife, & Salameh-Ayanian, 2023; El-Chaarani, Abraham, Khalife, & Salameh-Ayanian, 2023). Additionally, firms must leverage big data analytics capabilities and comprehensive knowledge management to drive the genuine operational growth that equities represent (Subrahmanyam et al., 2024). Finally, evaluating long-term market returns requires recognizing structural regime shifts; contemporary equity performance is increasingly integrated with sustainability-oriented indices (Kaspard, Kamel, Khalil, & Beainy, 2026), and sovereign ESG practices now exhibit measurable impacts on aggregate firm profitability (Athari, Saliba, Abboud, & El-Bayaa, 2024). These modern dynamics suggest that testing the Fisher hypothesis requires accounting for evolving market structures beyond simple inflation metrics.

Methodology:

Research Design

The study uses a quantitative time-series design with monthly data. It estimates linear regressions of stock market returns on inflation and control variables, and it tests hypotheses about the estimated coefficients. Results are interpreted as statistical associations, not causal effects.

Data Sources

Monthly U.S. market returns and the risk-free rate come from the Kenneth R. French Data Library (French, n.d.), which provides the value-weighted market excess return and the one-month Treasury bill rate. Macroeconomic series come from the Federal Reserve Bank of St. Louis FRED database (Federal Reserve Bank of St. Louis, n.d.): the Consumer Price Index for All Urban Consumers (CPIAUCSL), industrial production (INDPRO), and the effective federal funds rate (FEDFUNDS). The sample starts in January 1960, when all series are available, and ends in August 2026. Data were collected in October 2026. The French data were downloaded programmatically, and the three FRED series were downloaded as CSV files through a web browser because direct programmatic access to FRED was unavailable in the computing environment used. The complete analysis code is provided for replication.

Variable Definitions

Table 1

Variable Definitions

Variable	Role	Definition
Nominal return	Dependent (M1)	Market excess return plus the risk-free rate, in percent per month
Excess return	Dependent (M2–M4)	Value-weighted market return minus the one-month T-bill rate, in percent
Inflation	Independent	$100 \times$ change in the natural log of CPI, in percent per month
Output growth	Control	$100 \times$ change in the natural log of industrial production
Δ FFR	Control	Monthly change in the federal funds rate, in percentage points
Lagged inflation	Independent (M4)	Inflation in the previous month

Note. All variables are monthly. Observations with missing values are dropped.

Empirical Models

Four regressions are estimated, where R denotes the return and π inflation:

Model 1: $\text{Nominal return}_t = \alpha + \beta \cdot \pi_t + \varepsilon_t$. The Fisher hypothesis implies $\beta = 1$, which is tested directly.

Model 2: $\text{Excess return}_t = \alpha + \beta \cdot \pi_t + \varepsilon_t$.

Model 3: $\text{Excess return}_t = \alpha + \beta \cdot \pi_t + \gamma \cdot \text{Output growth}_t + \delta \cdot \Delta \text{FFR}_t + \varepsilon_t$, which implements the proxy hypothesis.

Model 4: $\text{Excess return}_t = \alpha + \beta \cdot \pi_{t-1} + \varepsilon_t$, which asks whether past inflation predicts returns.

Model 3 is then estimated separately for 1960–1982 and 1983 onward to test H3. Because monthly returns and macroeconomic series can exhibit autocorrelation and heteroskedasticity, standard errors use the Newey and West (1987) estimator with six lags. Analysis was performed in Python using the supplied script.

Results:

The final sample covers January 1960 to August 2026, a total of 797 monthly observations.

Descriptive Statistics

Table 2 reports descriptive statistics. The average monthly nominal market return was 0.951% (SD = 4.441) and the average monthly excess return was 0.596% (SD = 4.454). Monthly inflation averaged 0.304% (SD = 0.313), with a range from –1.786% to 1.794%. Output growth averaged 0.185% per month, and the federal funds rate changed by 0.000 points on average (SD = 0.493).

Table 2

Descriptive Statistics (Monthly, Percent)

Variable	N	Mean	SD	Min	Median	Max
Nominal return	797	0.951	4.441	–22.590	1.300	16.620
Excess return	797	0.596	4.454	–23.190	1.030	16.110
Inflation	797	0.304	0.313	–1.786	0.265	1.794
Output growth	797	0.185	0.952	–14.142	0.230	6.347
ΔFFR	797	0.000	0.493	–6.630	0.000	3.060

Note. Nominal return = excess return plus the risk-free rate. ΔFFR is the monthly change in the federal funds rate in percentage points.

Correlations

Table 3 reports correlations. Inflation is negatively correlated with both nominal returns ($r = -.072$) and excess returns ($r = -.098$). The change in the federal funds rate is also negatively correlated with returns ($r = -.112$ and $-.113$).

Table 3
Pearson Correlation Matrix

	Nominal	Excess	Inflation	Output	ΔFFR
Nominal return	1.000	.998	−.072	−.023	−.112
Excess return	.998	1.000	−.098	−.022	−.113
Inflation	−.072	−.098	1.000	.075	.083
Output growth	−.023	−.022	.075	1.000	.232
ΔFFR	−.112	−.113	.083	.232	1.000

Note. N = 797 for all correlations.

Regression Results

Table 4 presents the full-sample regressions. In Model 1, the coefficient on inflation is −1.025 (SE = 0.759, $p = .177$). The Fisher test of $H_0: \beta = 1$ gives $t = -2.67$ ($p = .008$), so the hypothesis that nominal returns rise one-for-one with inflation is rejected, which supports H1. In Model 2, the coefficient on inflation is −1.394 (SE = 0.767, $p = .069$). In Model 3, after adding output growth and the change in the federal funds rate, the coefficient is −1.278 (SE = 0.780, $p = .102$); output growth is not significant ($p = .821$), while the change in the federal funds rate is negative and significant (−0.973, $p = .020$). In Model 4, lagged inflation has a coefficient of −1.104 (SE = 0.599, $p = .066$). The inflation coefficient is negative in all four models but significant only at the 10% level in Models 2 and 4. The coefficient falls in magnitude from −1.394 to −1.278 when controls are added, a small change, so H2 receives only weak support.

Table 4
Regressions of Market Returns on Inflation

Variable	M1: Nominal	M2: Excess	M3: Excess	M4: Excess
Inflation	−1.025 (0.759)	−1.394* (0.767)	−1.278 (0.780)	—
Lagged inflation	—	—	—	−1.104* (0.599)
Output growth	—	—	0.046 (0.204)	—
ΔFFR	—	—	−0.973** (0.417)	—
Constant	1.263*** (0.299)	1.020*** (0.301)	0.976*** (0.308)	0.931*** (0.247)
N	797	797	797	797
R ²	.005	.010	.021	.006

Note. Newey–West standard errors (6 lags) in parentheses. $p < .10$, $p < .05$, * $p < .01$. Fisher test ($\beta = 1$) for M1: $t = -2.67$, $p = .008$

Subperiod Results

Table 5 reports Model 3 estimated separately by period. In 1960–1982, the inflation coefficient is -2.104 ($SE = 0.906$, $p = .021$), and the change in the federal funds rate is also significant (-1.241 , $p = .007$). From 1983 onward, the inflation coefficient is -0.074 ($SE = 1.115$, $p = .947$). The difference between the two inflation coefficients is -2.030 . Treating the two subsamples as independent, the approximate z statistic for this difference is -1.41 ($p \approx .16$), so the difference is not statistically significant at conventional levels. H3 is therefore not supported in a formal sense, even though the point estimates differ in size and significance.

Table 5

Model 3 by Subperiod

Variable	1960–1982	1983–latest
Inflation	-2.104^{**} (0.906)	-0.074 (1.115)
Output growth	0.393 (0.304)	-0.227 (0.221)
ΔFFR	-1.241^{***} (0.460)	0.146 (1.137)
Constant	1.117^{**} (0.449)	0.818^{**} (0.353)
N	276	521
R^2	.079	.002

Note. Newey–West standard errors (6 lags) in parentheses. $p < .10$, $p < .05$, $*p < .01$. The z statistic for the difference in inflation coefficients is computed by the author from the two estimates and standard errors, assuming independent subsamples

. *** $p < .01$, ** $p < .05$, * $p < .10$. $FDI(t-1)$ and $REM(t-1)$ are one-year lags.

Discussion and Conclusion:

Summary of Findings

The study finds clear evidence against a one-for-one relation between nominal stock returns and inflation (H1 supported). The relation between excess returns and inflation is negative in every specification, but it is only marginally significant, and controlling for output growth and monetary policy changes it little, so support for the proxy explanation (H2) is weak. The negative relation is strong in 1960–1982 and absent after 1983, but the difference between the periods is not statistically significant (H3 not supported formally). Overall, the evidence does not show that stocks hedged inflation at the monthly horizon.

Implications

For theory, the results bear on whether the Fisher hypothesis holds for equities at monthly frequency and whether the proxy hypothesis of Fama (1981) accounts for the relation. For practice, the findings inform how much weight an investor should place on stocks as protection against inflation, especially if the relation differs across regimes. The findings caution against treating stocks as a short-run inflation hedge. They also suggest that any negative relation is concentrated in high-inflation regimes, though this study cannot confirm that formally, so investors should not assume a result from one regime will carry over to another.

Limitations

Several limitations apply. First, monthly returns are noisy, so the regressions have low explanatory power and wide confidence intervals. Second, the model uses realized inflation rather than separating expected from unexpected inflation, which the literature considers important (Fama & Schwert, 1977). Third, the analysis covers the U.S. only and a single market index. Fourth, the subperiod split at 1983 is a judgment call, and results may change with different break dates. Fifth, the study documents associations and cannot identify causal effects, and omitted variables such as interest-rate expectations may bias the estimates.

Future Research

Future work could decompose inflation into expected and unexpected components, use long-horizon returns where the Fisher relation may be stronger, study sector or industry portfolios, test structural breaks formally, and extend the analysis to other countries or to recent high-inflation episodes.

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