Inflation and Asset Performance: A Review of the Past 48 Years

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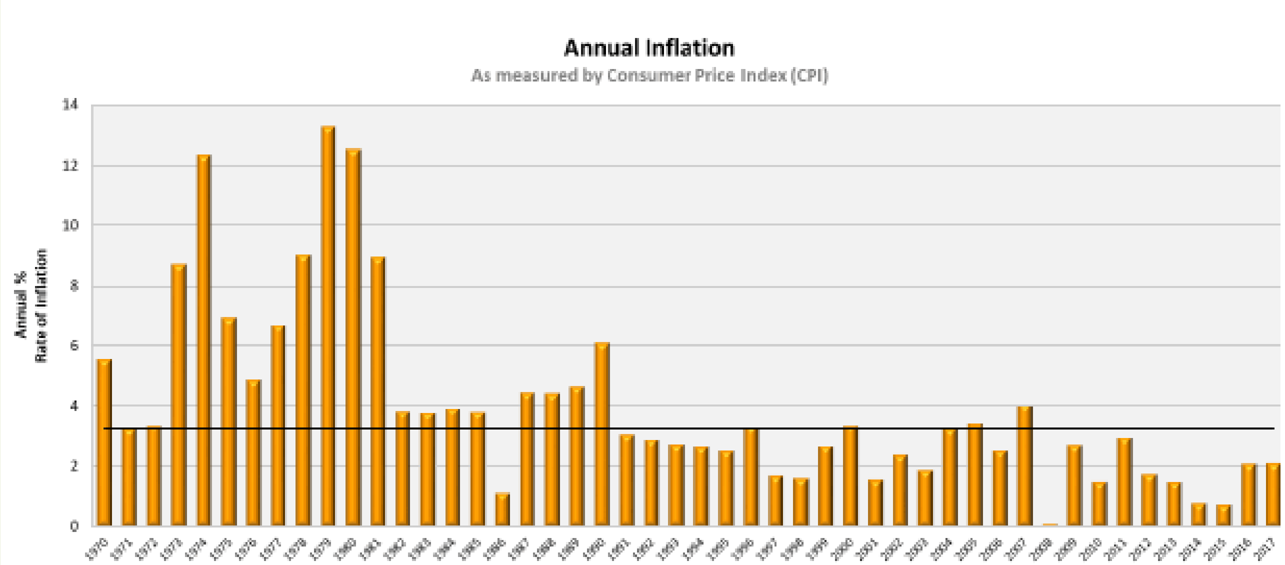
This is a tale of two time periods: one period with high inflation and one with low inflation. The plot thickens as we examine how various asset classes (and two portfolios) fared during these two different time periods.

The overall time frame we are reviewing is the past 48 years, from 1970 through 2017. There are several ways to calculate the rate of inflation as measured by the Consumer Price Index or CPI. During this nearly five-decade period the average rate of annual inflation (arithmetic mean) was 4.03%, whereas the 48-year median inflation rate was 3.26%. The average annualized growth rate of inflation (the geometric mean) was 3.99%. In this analysis, we will focus on the median inflation rate of 3.26% to facilitate a comparison of two time frames—each one with the same number of years.

This 48-year period was divided into two halves: the 24 years with below-median CPI (low inflation years) and the 24 years with above median CPI (high inflation years). As you look at the graph of annual inflation rates in Figure 1, the 24-year time period with high inflation is basically the left side of the chart, while the 24-years with low inflation are on the right side of the graph (i.e., more recent years). There are a couple of exceptions, such as 1986 when the CPI was well below the median rate of inflation and 2007 when the CPI was slightly above the median level of 3.26%.

Figure 1: Annual Inflation Rates From 1970 to 2017
Median CPI of 3.26% shown by horizontal black line



Source: Craig Israelsen

Individual asset classes

The information in Table 1 outlines how seven key asset classes performed during the 24 years of low inflation and the 24 years of high inflation. The seven asset classes include large-cap U.S. stock, small-cap U.S. stock, non-U.S. stock, U.S. bonds, U.S. cash, real estate, and commodities.

The 48-year historical performance of large-cap U.S. equities was represented by the S&P 500 Index, while the performance of small-cap U.S. equities was captured by using the Ibbotson Small Companies Index from 1970-1978 and the Russell 2000 Index from 1979-2017. The performance of non-U.S. equities was represented by the Morgan Stanley Capital International EAFE Index (Europe, Australasia, Far East) Index. U.S. bonds were represented by the Ibbotson Intermediate Term Bond Index from 1970-75 and the Barclays Capital Aggregate Bond Index from 1976-2017. Cash was represented by 3-month Treasury bills. The performance of real estate was measured by using the annual returns of the NAREIT Index (National Association of Real Estate Investment Trusts) from 1970-1977 and from 1978-2017 the annual returns of the Dow Jones U.S. Select REIT Index were used. Finally, the historical performance of commodities was measured by the Goldman Sachs Commodities Index (GSCI). As of February 6, 2007, the GSCI became known as the S&P GSCI.

Low-inflation years

As shown in Table 1, the best performing asset classes during years in which inflation was low (that is, below the median rate of 3.26%) were small-cap U.S. stock, large-cap U.S. stock, and real estate. The worst performer, by far, was commodities with a -1.97% average gross return. Cash also languished during years in which inflation was low. Real returns (gross returns minus inflation) are shown in Table 2.

High-inflation years

Things get interesting when we examine average asset class performance in years with higher inflation. The winner, by far, was commodities with an average gross return of 21.98%. The average return for real estate was 14.26% and 12.61% for small-cap U.S. stock. Large-cap U.S. stock under performed non-U.S. stock during periods of high inflation. As a reminder, the CPI is a measure of inflation in the United States. Cash had an average return of 7.39% during years with high inflation—not too surprising inasmuch as interest rates and inflation have a fairly high positive correlation of 0.71. However, as shown in Table 2 the real (or inflation-adjusted) return of cash during high inflation years was a meager 1.33%.

Table 1: Gross Returns During Low- and High-Inflation Years

Average **GROSS** performance of various asset classes	24 years with below-median CPI of 3.26% Low inflation	24 years with above-median CPI of 3.26% High inflation
Large Cap US Stock	13.08	10.82
Small Cap US Stock	13.76	12.61
Non-US Stock	10.91	11.33
Real Estate	12.58	14.26
Commodities	-1.97	21.98
US Bonds	6.39	9.03
US Cash	2.45	7.39

Source: Craig Israelsen

Table 2: Real Returns During Low- and High-Inflation Years
Real returns = inflation-adjusted

Average **REAL** performance of various asset classes	24 years with below-median CPI of 3.26% Low inflation	24 years with above-median CPI of 3.26% High inflation
Large Cap US Stock	10.80	4.70
Small Cap US Stock	11.44	6.26
Non-US Stock	8.67	5.21
Real Estate	10.30	7.86
Commodities	-4.03	15.13
US Bonds	4.27	3.00
US Cash	0.41	1.33

Source: Craig Israelsen

If inflation protection is your goal, commodities has been the best defender among this group of asset classes—but only during periods of high inflation. But that's OK, because that's when you need the protection. As shown above in Table 2, commodities had an average real return of 15.13% during years when inflation was above the median rate of 3.26%.

Broad-based commodity indexes such as the S&P Goldman Sachs Commodity Index (Note: there are many other commodity indexes today) suffer when inflation is low. When inflation is high (because energy and commodity prices have gone higher—thus effectively creating inflation) commodity indexes and commodity funds perform well. As we have been in a period of low interest rates and low inflation in recent decades it is not surprising that commodities have performed relatively poorly. This will change as inflation leaks back into our economic cycle.

Portfolio performance

As shown below in Figure 3, an equally weighted 7-asset portfolio (14.28% allocation to each asset class with annual rebalancing) underperformed the 60% stock/40% "balanced" portfolio during periods of low inflation (years in which the annual rate of inflation was below the median rate of 3.26%). The average gross return for the 7-asset portfolio was 8.17% (5.98% real return) during the 24 years with low inflation—nearly all of those years being recent years. The two-asset 60/40 portfolio had an average gross return of 10.41% (8.19% real return) during low inflation years. The two-asset model did not have commodities dragging it down—hence it was the better performer.

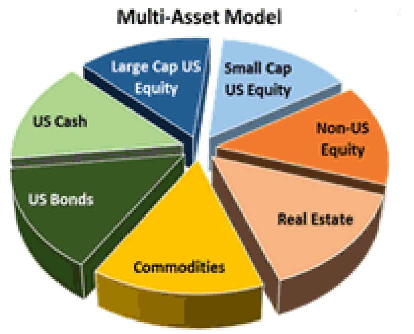
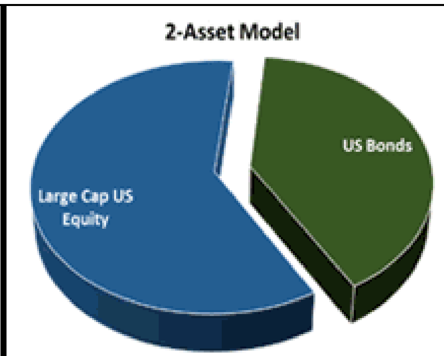
Now, let's turn our attention to the years in which we experienced higher inflation (years in which the annual CPI was above the median rate of 3.26%). The 7-asset model had an average gross return of 12.49% (6.21% real return) compared to an average return of 10.10% (4.02% real return) for the 2-asset 60/40 portfolio. The 7-asset portfolio generated a 239 bps gross return advantage (and a 219 bps real return advantage) during high inflation years compared to the 60/40 2-asset portfolio.

Commodities, real estate, U.S. small-cap stock, and non-U.S. stock—all missing in the 2-asset model—were helpful contributors in the 7-asset portfolio during inflationary years. However, commodities was the most helpful asset during years with high inflation (as shown in Tables 1 and 2).

If you believe that inflation will remain low forever, stay with a 2-asset portfolio. However, if you acknowledge that inflation will eventually rear its ugly head again it would be wise to build a portfolio that has demonstrated an ability to defend itself against inflation. This would require a portfolio with a wider variety of asset classes—including real estate, commodities, and small-cap U.S. stock.

In short, build a broadly diversified portfolio.

Table 3: Multi-Asset Portfolio vs. 60/40 Portfolio
(Real returns = inflation adjusted)

"Real" portfolio performance during periods of ***Low Inflation*** *and* ***High Inflation*** ***Real return is gross return minus inflation***		
Average gross performance during years with **Low Inflation**	8.17	10.41
Average gross performance during years with **High Inflation**	12.49	10.10
Average annualized gross return over the **48-Year Period**	9.84	9.69
Average annualized real return over the **48-Year Period**	5.62	5.48
48-year standard deviation of real returns	9.69	11.30

Source: Craig Israelsen

Craig L. Israelsen, PhD, is an Executive-in-Residence in the Personal Financial Planning program in the Woodbury School of Business at Utah Valley University. He is the developer of the 7Twelve® Portfolio. Learn more at www.7TwelvePortfolio.com.

Clelan and Company, 210 Grandview Avenue, Suite 101, Camp Hill, PA 17011
(717) 761-4633, www.clelan.com, financialpro@clelan.com