

PORTFOLIO STRATEGIES

Inflation: The Dormant Dragon

If you believe that inflation will rear its ugly head again, it would be prudent to build a portfolio that has demonstrated an ability to defend itself against inflation.

BY CRAIG L. ISRAELSEN, PH.D.

In recent decades the annual rate of inflation in the U.S. has been low, as shown in Figure 1. But many of us remember the years of high inflation in the 1970s and early 1980s. At some point inflation will return, and when it does, we will likely see a distinct change in the performance of several asset classes.

Over the past 50 years from 1970 through 2019, the average annualized (or geometric mean) rate of inflation was 3.91%. This figure was calculated using the consumer price index (CPI) as the measure of inflation in the U.S. Over the same time frame, the median annual inflation rate was 3.16%, as shown by the horizontal black line in Figure 1.

In this article, we focus on the median rate of inflation of 3.16% because it is less affected by the outlier high rates of inflation during the late 1970s. Plus, using the median rate of inflation allows us to divide the last 50 years exactly in half: 25 years with below-median inflation and 25 years with above-median inflation. This facilitates the analysis



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of asset class performance during years of low inflation (those 25 years with below-median inflation) and during periods of higher inflation (25 years with above-median inflation). The average annual inflation during the "low" years was 1.99%; it was 5.92% during the 25 high years (see Table 1).

The last time we experienced a year with inflation above the median rate of 3.16% was in 2007. In 2007, the CPI increased by 4.08%. Since then (from 2008 to 2019), we have experienced very modest levels of inflation, as noted in Figure 1. In fact, since 1990, there have only been six years (out of 30) where the annual rate of inflation exceeded the median rate of 3.16%. Clearly, we have been in a low-inflation environment for most of the past three decades.

Performance of Assets

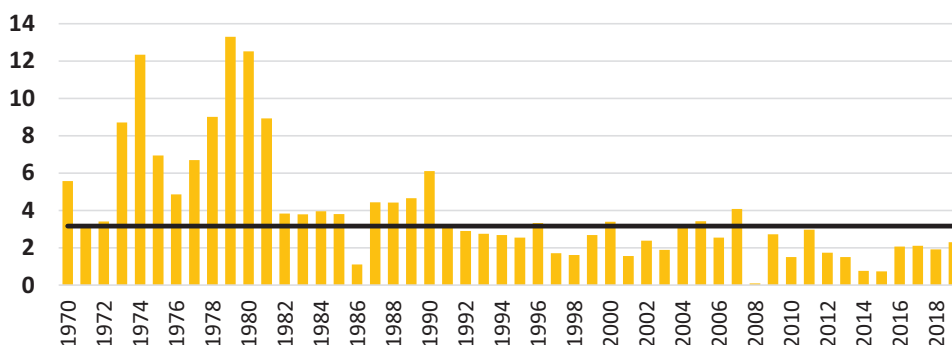
We now review asset performance over the 50-year period from 1970 through 2019. The performance of seven major asset classes is reviewed during the 25 years of low inflation as well as the 25 years of higher inflation. The seven asset classes are large-cap U.S. stock, small-cap U.S. stock, non-U.S. stock, U.S. bonds, U.S. cash, real estate and commodities.

The 50-year historical performance of large-cap U.S.

equities is represented by the S&P 500 index, while the performance of small-cap U.S. equities is captured by using the Ibbotson Small Company Stock index from 1970 to 1978 and the Russell 2000 index from 1979 to 2019. The performance of non-U.S. equities is represented by the Morgan Stanley Capital International EAFE (Europe, Australasia, Far East) index. U.S. bonds are represented by the Ibbotson Intermediate-Term Bond index from 1970 to 1975 and

FIGURE 1

Annual Inflation: % Change in the Consumer Price Index (CPI)



the Barclays Capital Aggregate Bond index from 1976 to 2019. Cash is represented by three-month Treasury bills.

The performance of real estate was measured using the annual returns of the FTSE Nareit (National Association of Real Estate Investment Trusts) index from 1972 to 1977 (annual returns for 1970 and 1971 were based on research by Chan, Erickson and Wang in the book “Real Estate Investment Trusts: Structure, Performance, and Investment Opportunities,” Table 2.2). From 1978 to 2019, 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, it became known as the S&P GSCI index. The S&P GSCI index is a broad-basket commodities fund, meaning that it holds a variety of commodity futures contracts, including crude oil, gasoline, heating oil, natural gas, gold, corn, wheat, soybeans and soybean oil, sugar, aluminum, copper, lean hogs and cattle. The largest allocation in the S&P GSCI index is to energy.

In addition to the seven individual asset classes, we also review the performance of two portfolios. The first portfolio is composed of all seven asset classes in equal allocations of 14.28% and was rebalanced annually. The second portfolio consists of 60% large-cap U.S. stock and 40% U.S. bonds—the classic 60/40 portfolio. The 60/40 portfolio was also rebalanced annually.

As shown in Table 2, large-cap U.S. stock had an average nominal return (nominal return ignores the impact of inflation) of 13.21% during the 25 years in which inflation was low (below the median rate of 3.16%). By comparison, large-cap U.S. stock had an average real return (real return takes into account inflation) of 10.96% during those same 25 years with low inflation. Both performance figures are impressive.

Now, let's look at performance during the 25 years in which there was higher inflation (annual inflation above the median rate of 3.16%). We observe that large-cap U.S. stock had an average nominal return of 10.82%, but an average real return of just 4.81%. These

results clearly do not support the notion that large-cap U.S. stocks are standout performers during inflationary periods.

The performance of small-cap U.S. stock has been similar to large-cap U.S. stock during years with low inflation. The average nominal return for U.S. small

stock was 13.06% whereas the average real return was 10.80%. When looking at performance during years with higher inflation, U.S. small-cap stock outperforms U.S. large-cap stock. The average nominal return was 12.84% for small-cap U.S. stock compared to 10.82% for U.S. large stock. Even more dramatic is the difference in average real returns during years with higher inflation rates: 6.59% for small-cap U.S. stock versus 4.81% for large-cap U.S. stock. If inflation protection is your goal, U.S. small-cap stock (in this case measured by the Russell 2000) has been a better defender than U.S. large-cap stock.

The real story here is commodities. Very simply, a broad-based commodity index such as the S&P GSCI suffers when inflation is low. (Note: There are many other commodity indexes today.) When inflation is high (very likely because energy and commodity prices have gone higher—thus effectively creating inflation) commodity indexes and commodity funds perform well.

The average nominal return for commodities during the 25 low-inflation years was -2.43% compared to 21.80% during the 25 years when inflation was higher. After accounting for inflation, the average return for commodities was -4.43% during low-inflation years and 15.06% during the 25 higher-inflation years. As we have been in a low-inflation environment in recent decades, it is not surprising that commodities have performed relatively poorly. This will likely change at some point in the future.

The performance of commodities completely dominates any other asset class during years with high inflation. The next closest asset classes are real estate and small-cap U.S. stock. Non-U.S. stock performance

When looking at performance during years with higher inflation, U.S. small-cap stock outperforms U.S. large-cap stock.

TABLE 1

Inflation Over the Past Half Century: 25 Low Years and 25 High Years

As measured by the consumer price index (CPI).

Low Inflation Years*		High Inflation Years**	
Year	(%)	Year	(%)
2008	0.09	2004	3.26
2015	0.73	1971	3.27
2014	0.76	1996	3.32
1986	1.10	2000	3.39
2010	1.50	1972	3.41
2013	1.50	2005	3.42
2001	1.55	1983	3.79
1998	1.61	1985	3.80
1997	1.70	1982	3.83
2012	1.74	1984	3.95
2003	1.88	2007	4.08
2018	1.91	1988	4.42
2016	2.07	1987	4.43
2017	2.11	1989	4.65
2019	2.29	1976	4.86
2002	2.38	1970	5.57
1995	2.54	1990	6.11
2006	2.54	1977	6.70
1994	2.67	1975	6.94
1999	2.68	1973	8.71
2009	2.72	1981	8.92
1993	2.75	1978	9.02
1992	2.90	1974	12.34
2011	2.96	1980	12.52
1991	3.06	1979	13.29
Average 1.99		5.92	

Overall 50-Year Median Inflation Rate: 3.16%

*Below median CPI of 3.16%.

**Above median CPI of 3.16%.

Source: Lipper and Steele Systems, calculations by author.

TABLE 2

Inflation Over the Past Half Century: 25 Low Years and 25 High Years

Average nominal and real returns when inflation is low and high for the 50-year period of 1970–2019. Nominal return ignores inflation, real return takes inflation into account.

	Large U.S. Stock	Small U.S. Stock	Non-U.S. Stock	U.S. Bonds	U.S. Cash	Real Estate	Commodities	7-Asset Portfolio	60% Stocks/40% Bonds
Low Inflation Years (25 years with below-median CPI)									
Avg Nominal Return (%)	13.21	13.06	9.99	6.31	2.45	11.51	(2.43)	7.73	10.45
Avg Inflation-Adj Return (%)	10.96	10.80	7.82	4.24	0.45	9.30	(4.43)	5.59	8.27
High Inflation Years (25 years with above-median CPI)									
Avg Nominal Return (%)	10.82	12.84	11.68	8.85	7.15	15.02	21.80	12.59	10.03
Avg Inflation-Adj Return (%)	4.81	6.59	5.66	2.92	1.20	8.70	15.06	6.42	4.05

Source: Lipper and Steele Systems, calculations by author.

has been slightly better than large-cap U.S. stock during inflationary times—both in nominal and real terms.

Portfolio Performance

Inasmuch as investors don't normally build portfolios with only one asset class, it's important to consider how multi-asset portfolios perform during periods of low

inflation and high inflation. Toward that end, I evaluated two different portfolios: an equal-weighted seven-asset portfolio and a two-asset 60/40 portfolio. The two different models are depicted in Figure 2.

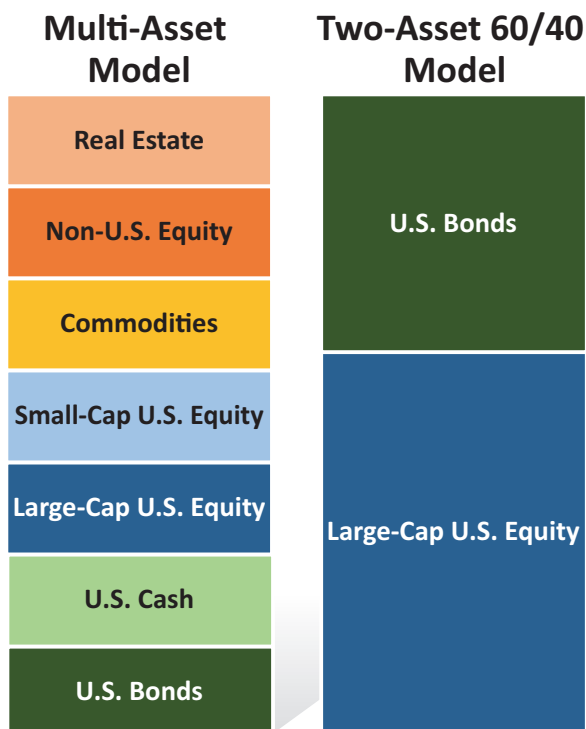
As shown in Table 2, an equal-weighted seven-asset portfolio underperformed the 60% stock/40% “balanced” portfolio during periods of low inflation. The average real (inflation-adjusted) return for the seven-asset portfolio was 5.59% during the 25 years with low inflation—most of which have been in recent decades. The two-asset 60/40 portfolio had an average real return of 8.27%. The two-asset model did not have commodities dragging down the performance.

Now, let's turn our attention to the years of higher inflation (the years on the right side of Table 1). The seven-asset model had an average inflation-adjusted return of 6.42% compared to 4.05% for the two-asset 60/40 portfolio. Commodities, real estate, U.S. small-cap stock and non-U.S. stock—all missing in the two-asset model—were helpful contributors in the seven-asset portfolio during inflationary years. Having one-seventh of the portfolio in a broad-basket commodities fund was clearly the most helpful asset class during years of higher inflation.

If you believe that inflation will remain low forever, stay with a two-asset portfolio. However, if you believe that inflation will rear its ugly head again, it would be prudent 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.

FIGURE 2

Two Multi-Asset Portfolios



Having one-seventh of the portfolio in a broad-basket commodities fund was clearly the most helpful asset class during years of higher inflation.

TABLE 3

Five Broad-Basket Commodity Funds

	Type	Total Assets (\$ Mil)	Min. Initial Purchase (\$)	Annual Expense Ratio (%)
Invesco Optimum Yield Divers Commodity Strat No K1 ETF (PDBC)	ETF	2,120	—	0.59
MFS Commodity Strategy R6 (MCSRX)	mutual fund	654	0	0.84
Invesco Balanced-Risk Commodity Strat Y (BRCYX)	mutual fund	349	1,000	1.15
Aberdeen Standard Bloomberg All Commod Strat K1 Free ETF (BCI)	ETF	226	—	0.25
Van Eck CM Commodity Index Y (CMCYX)	mutual fund	185	1,000	0.70

Data as of June 30, 2020.

Five no-load broad-basket commodity funds are shown in Table 3. When inflation heats up, these funds are positioned to do well. The decision of when to add a commodities fund into your portfolio is yours alone to make. I would suggest that your allocation to a commodity fund not exceed 5% to 10% of your overall portfolio.

Two of the commodity funds in the table are exchange-traded funds (ETFs), which do not have a stated initial purchase requirement. The only initial “requirement” will be the cost per share. For example, on July 13, 2020, the purchase price per share of Invesco Optimum Yield Diversified Commodity Strategy No K1 ETF (PDBC) was \$13.17 per share.

A Final Note

Remember that investing in a broadly diversified portfolio will mean that your portfolio will have one winner and six “losers” each year. It’s important to keep in mind that each asset class takes a turn being the winner. Don’t chase last year’s best-performing asset class. Diversify, rebalance annually and play more pickleball with the grandkids! ■

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