Equity Investments as a Hedge against Inflation, Part 1

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The world economy has seen stable inflation over the last two to three decades, but this stable pattern is not observed throughout a longer time period. When examining a longer series for world prices, we commonly observe episodes of inflation or deflation, but not stability. The current high levels of sovereign debt, expansive monetary policies, and rising commodity prices as a result of emerging market demand suggest an increasing probability of a change to recent inflation stability. A direct result of an increase in inflation would be for real returns on securities to suffer, particularly in fixed income assets. As a consequence, many investors are seeking to secure the value of their investments by diversifying into real assets. Real assets include not only “hard assets” like real estate, infrastructure, and natural resources, but also equities, which in principle are a claim on tangible property.

In this paper we examine the suitability of equity investments to protect against the loss of value in inflationary or deflationary environments. In our view, the role of equities as an inflation hedge is a fundamental question that cannot be answered concisely. On one hand, in inflationary periods real returns from stocks are greater than those of bonds and are almost always positive. On the other hand, the inflation hedge is limited, explained by the negative correlation of real equity returns and inflation: the higher the inflation, the lower the real return on stocks. The decline of real returns on equities in the face of rising inflation can be strongly influenced by risk-averse investors. In high and volatile inflation scenarios, investors become more risk averse and willing to pay lower prices in the stock markets.
Since the early 1990s (in some regions since the early 1980s), the world economy has been marked by a rather unusual period of growth. The progress of globalization and the associated increase in competition in most markets have curbed inflation, despite relatively high global growth. In many regions of the world, the rates of price increases in the past two to three decades have steadily declined or remained stable. This is in stark contrast to the 1970s, in particular, when the world economy experienced severe stagnation (high inflation and low growth) in the wake of oil price shocks (see Exhibit 1).

Inflation over Two Decades

If we broaden our view to much longer time periods, low inflation is not the normal state of the world economy. As noted in a paper by Fels (2007), over the last two hundred years, the world's economies have been characterized by inflation or a pronounced deflationary environment, but not by price stability. Using prices from Germany, the United States, and the United Kingdom as an example, the study shows that significant volatility in inflation was the norm. This means that the unusually stable inflationary conditions of the last twenty to thirty years have not entirely wrongly been called the “Goldilocks” years or “The Great Moderation”.

Since the beginning of the latest global financial crisis, the specter of inflation, much feared in 2007 and 2008 because of rising commodity prices, has largely been pushed to the side by political leaders. Governments and central banks in recent years have correctly tried to use expansive monetary and fiscal policies to prevent a meltdown of the global economy and a relapse into recession or even depression. The central banks have been inflating their balance sheets, though, as if there were no tomorrow, as shown in Exhibit 2.

One could almost get the impression that inflation is now being regarded by many leaders in strategic terms. It is often overlooked that the recent decades of stable inflation, a condition desirable for the economy, was a hard-won result of action by governments, central banks, enterprises, and citizens. In times of private and public indebtedness as well as decades of comfortable low inflation, the fight against inflation has subsided or is no longer a priority. The proponents of globalization, free trade, and an open global economy are now on the defensive with interventionist and protectionist forces on the rise.

Many market participants are gradually coming to the conclusion that a little inflation cannot be all that bad. We believe that the interdependence of unbroken monetary expansion and government intervention has become poisonous in its own right.

The Decade of Deleveraging

Undoubtedly, in our view, we are only at the beginning of government and private sector deleveraging in the developed world. While there has already been a certain amount of private sector deleveraging in the United States, Australia, and South Korea since the financial crisis, national governments everywhere have continued to run up their debt levels. In Europe, debt reduction across all sectors is just beginning. Neither the states, nor the financial sector, nor private households have been able to reduce debt ratios substantially. The developed world is facing a decade of overall deleveraging, with all sectors and countries reducing debt loads at the same time. This is a situation that is difficult or impossible to accomplish as far as the balance mechanism is concerned (see Exhibit 3).

In such a situation, the investor must ask two questions: how can the world economy accomplish the unavoidable deleveraging, and what consequences will this have for various asset classes?

The negative experiences of strict austerity measures in the countries on the European periphery, through the last two years, together with declining concerns among financial leaders for the side effects of inflation, suggest that history could repeat itself. In the past, a combination of higher inflation combined with governments forcing, either directly or indirectly, investors to buy government bonds even with negative real yields and other undesirable conditions played a major role in deleveraging public-sector debt.
This suggests that inflation could again play an important role in achieving real debt relief in the coming decade. Acceptance of somewhat higher inflation rates over a longer period will help real debt reduction but only if the higher inflation rates are not accompanied by a substantial rise in interest rates. Given the extremely low interest rates currently offered, this would only be accomplished with the help of financial repression. Financial repression is the practice of governments issuing debt at lower rates than would otherwise be possible. Essentially, the scenario of financial repression is a form of taxation on bondholders and savers as interest rates are below the inflation rate. In Exhibit 4 we show how this is now the situation in the United States and Germany.

Searching for an Inflation Hedge

Against this background, it is not surprising that investors have been busily searching for ways to hedge against inflation and safeguard adequate long-term real returns since the outbreak of the European sovereign debt crisis. In particular, continental European investors,

Exhibit 3
Deleveraging of the Developed World

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<tr>
<td>Japan</td>
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<tr>
<td>Australia</td>
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<tr>
<td>Canada</td>
<td>39</td>
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Significant increase in leverage in recent period²
Deleveraging in recent period ▼

1 Includes all loans and fixed-income securities of households, corporations, financial institutions, and government.
2 Defined as an increase of 25 percentage points or more.
3 Or latest available.
For the period 1990 to 2011Q2
Source: Haver Analytics, national central banks, McKinsey Global Institute

Exhibit 4
10-Year Government Bond Yields and Inflation in Germany and the United States

As of March 2012
Source: Bloomberg, Haver Analytics
with their investment focus on nominal returns and financial assets such as government bonds or money market products, are concerned their investments will suffer real value losses if inflation rises sharply. Conversely, they have profited nicely from twenty years of disinflation and occasional flirting with deflation. This reflational fear is not unfounded, because the (implicit) real interest rate of loans (as well as money market products) varies greatly, and in times of high inflation, is mostly negative, particularly if combined with financial repression.

It should be no surprise, then, that many investors in recent months have become heavily interested in investments into real assets, either to diversify their portfolios or to hedge against inflation, given that in many instances real assets retain value since they appear less susceptible to inflation fluctuations. Most investors think of this category as including all tangible, long-term, non-financial investments essential for the economy which promise a real return or a real value. Although the focus might be largely on assets such as real estate, infrastructure, gold, minerals, or natural resources, corporate investments—i.e., shares—are in principle also a claim on tangible property. In contrast to tangible and real assets, shares have several other distinct advantages: they are generally liquid, transparent, and hedgeable.

Equities and Real Returns

Equities represent a claim on the real economy and, more specifically, of a particular company in the real economy. Therefore, one can expect that real corporate profits (and the corresponding real stock returns) will grow with the real economy, while nominal corporate revenues (and the nominal share prices) will rise with inflation. Shares would provide a complete hedge against inflation if their increase in real value, adjusted for inflation, would be uncorrelated to inflation. Unfortunately, that has not been the case in the past.

Based on a 19-country universe and with 112 years of annual equity and bond return data, Dimson, Marsh, and Staunton (2012) classify these returns according to the level of inflation as shown in Exhibit 5. In times of very low inflation rates, especially during periods of strong disinflation or even deflation, both equities and bonds have high real returns. However, bonds significantly outpace stocks in the event of severe deflation. Bonds are then a hedge against deflation.

However, besides a severe deflation, in all other inflation scenarios, the real returns of stocks are higher than those of bonds, but the level of real returns depends largely on the inflation rate. The perfect condition for real returns from stocks seems to be very low inflation rates that do not fluctuate greatly and exclude slipping into a genuine deflation. As inflation rises, we observe that equity returns decline.

However, compared to fixed income, equities offer a certain degree of protection from inflation in the sense that the real equity returns are always greater than those of bonds during high inflation, and the risk premium of equities tends to rise with the inflation rate. The real returns of stocks are also basically positive in almost all inflationary scenarios, except in times of extreme inflation. In significant inflationary periods, the real returns of both equities and bonds are negative.

To continue our analysis, we shift our focus to the correlation between inflation and equity returns. As shown in Dimson, Marsh, and Staunton (2012) a scatter plot of equity returns and inflation rates reveals more complex results, as illustrated in Exhibit 6. As we previously stated, real equity returns tend to be lower with higher inflation rates (a theoretical regression line would have a negative slope). The correlation, however, depends on the specific country and its different economic factors, its central bank’s policies, or corporate structures. In addition, the dispersion in the chart speaks against a simple linear relationship between inflation and real equity returns, and also refutes inflation as a single explanatory factor of real equity returns.

And yet, most empirical studies carried out for decades can still make one global assertion: Stocks outperform bonds in the event of rising...
and high inflation and provide a certain amount of hedging against inflation when diversifying fixed income portfolios. Their ability to offer investors protection against inflation is limited, however, by the negative correlation between real stock returns and inflation as concluded in Fama and Schwert (1977) as well as Boudoukh and Richardson (1993).

Inflation and Stock Valuation

From a purely empirical observation, we come now to the question of why real stock returns are not independent of inflation and thus why real stock returns do not simply depend on real growth. The answer to this question is quite complex and the source of much controversy in the literature (Tatom 2011). One reason is, however, quite simple: the prevailing inflation regime has an influence on the market valuations investors are willing to accept for equity investments. Rapidly rising, volatile, or generally high rates of inflation cause increasing risk aversion among investors which in turn leads to falling stock prices. Presumably such an environment and the interest rate policies (of the government, the central bank, and banks in general) generate uncertainty and make it more difficult for companies to maintain their (real) growth in the longer term. Also, when interest rates start to rise with inflation, investment alternatives to stocks may become more attractive.

In Exhibit 7, based on U.S. data we observe that generally, higher inflation rates correspond to lower stock valuations in terms of price-to-earnings (P/E) ratios. When inflation is low, we can see that P/E ratios rise.

This relationship becomes even clearer if we view the data through a scatter diagram of inflation and stock valuations, as illustrated in Exhibit 8. In times of low and stable inflation (roughly between 2% and 5%), investors many times accept high stock market valuations. On the other hand, significant deflationary and inflationary environments lead to lower P/E ratios, explained in part by increased risk aversion and uncertainty that characterizes inflation at both extremes of the spectrum. Thus, the real stock returns achievable are to a large extent dependent on the inflation environment, because as inflation rises, equities as a rule may become cheaper.

Conclusion

Over the past two or three decades the world has seen an economy marked with unusually low rates of inflation, despite normal growth. This has been a result, in part, of globalization and deregulation, but also successful monetary policy in most countries in the Organisation for Economic Co-operation and Development (OECD). A look further back in history reveals that this is not the normal state of the world economy. In the past two centuries, more severe periods of inflation or deflation were much more common than the stable, “Goldilocks” scenario experienced in recent decades.

Given the high indebtedness of the public and private sectors in many OECD countries, extremely expansive monetary policies, and rising commodity prices as a result of booming demand from emerging markets, many investors fear stable inflation may come to an end. Particularly investors who own large allocations in assets such as government or mortgage bonds are worried that their assets might suffer losses if inflation begins to run wild.

In this environment, many investors are looking to secure the real value of their assets by diversifying into real assets. Real assets include not only “hard assets” like real estate, infrastructure, and natural resources, but also, acquiring stock in companies is in principle a claim on tangible property. In contrast to the other real assets, shares are highly liquid, transparent, and hedgeable. The empirical results in studies that examined a long horizon of the real returns from equities provide a contradictory picture. On one hand, almost all markets have shown that, in inflationary periods, real returns from stocks are greater than those of bonds and are almost always positive. In this respect, adding equities to fixed income portfolios offers a certain degree of real value preservation in the face of inflation.

Exhibit 7

**Relationship of Price/Earnings Ratios and Inflation**

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<th>Inflation Rate (CPI) (%)</th>
<th>P/E Ratio</th>
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For the period 1900–2011

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Exhibit 8

**Price/Earnings Ratios and Inflation**

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<th>Inflation Rate (CPI) (%)</th>
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For the period 1900–2011

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On the other hand, the inflation hedge is limited, because the correlation of real stock returns and inflation is negative. The higher the inflation, the lower the real returns from equities. However, real returns only become negative in extremely high inflation. As inflation rises or becomes more volatile, uncertainty sets in and investors become more risk averse, and real returns on equities fall as investors demand lower valuations in the overall equity market.

We have limited the first part of our analysis with some strong assumptions and generalizations. As we continue to explore the theme of optimal tools to combat inflation, we will raise other fundamental questions: Can one get different results by differentiating between the short and long terms? Are there any industries whose stocks are more likely to hedge against inflation than the overall stock market? Is it possible to compile a portfolio of individual stocks with better hedge results against inflation than indexes? What other equity-related asset classes are (more) appropriate for an inflation hedge?

References

Important Information
Published on 14 September 2017.
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