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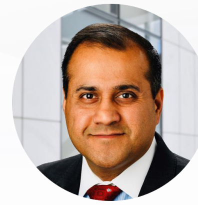
IAS PORTFOLIO INSIGHTS

INFLATION VS. STAGFLATION – HOW DO REAL ASSET PORTFOLIOS DIFFER?



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Asset returns and volatilities vary depending on the underlying economic environment. For example, in an environment of low economic activity and high inflation – **stagflation** – the average annual S&P 500 return is 7%/y. In contrast, the average annual S&P 500 return across all high-inflation environments is 11%/y, a difference of 4%/y.

Just as returns and volatilities vary, the sensitivities (*i.e.,* betas) of real assets to inflation and economic growth also change depending on the economic environment, and these sensitivities should inform a CIO's real assets portfolio construction. A CIO constructing an inflation-protection real assets portfolio, but who has no view on economic growth, may wish to target a portfolio inflation beta using inflation betas across all economic environments.

However, suppose a CIO has a view that inflation is coming. A CIO having a view of a high-inflation environment may wish to construct a real assets portfolio with a high inflation beta using betas estimated only from high-inflation environments, regardless of the growth environment. In contrast, another CIO may share the view that inflation is coming but also has the view of slower economic growth (*i.e.,* stagflation). In this case, the CIO may wish to construct a real assets portfolio, with a high inflation beta *and* a low growth beta, using betas estimated specifically from stagflation environments.

To show why this distinction in views is important for portfolio construction, consider two real asset portfolios: ***Inflation*** and ***Stagflation***. We use the RASA® methodology to construct each portfolio that maximizes the ratio of the portfolio's inflation beta to the volatility in the portfolio's estimated inflation beta. For the Stagflation portfolio we also constrain the portfolio's growth beta to be low. Note that the betas used for the Inflation portfolio are estimated across all high-inflation environments, whereas the Stagflation betas are estimated only from stagflation environments.

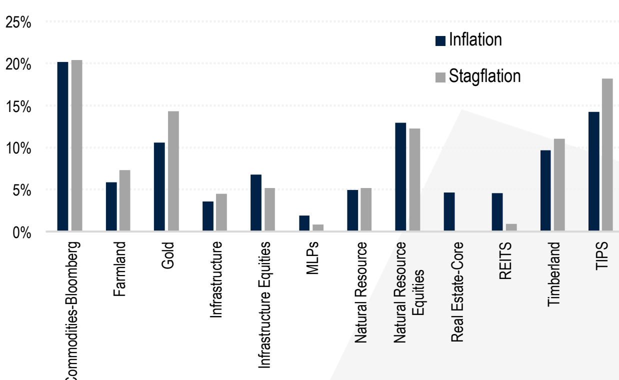
For the Inflation portfolio, simply maximizing the portfolio's inflation beta results in the portfolio having a relatively high growth beta of 0.05 during stagflation, but a lower growth beta of 0.037 across all economic environments. So, we see that an effective stagflation portfolio must explicitly reduce the portfolio's growth exposure if stagflation were to occur, validating the CIO's view. For the Stagflation portfolio, we assume the CIO constrains the portfolio's growth beta to be less than 0.015, making the portfolio less sensitive to below-trend growth compared to the Inflation portfolio. Despite the Stagflation portfolio having a lower beta to economic activity, the portfolio has approximately the same inflation beta of 7 (*i.e.,* a 1%/y increase in average 3y realized inflation reduces portfolio returns by 7%/y) as the Inflation portfolio.

Be wary of economic growth sensitivities in your real asset portfolios if the economic environment were to be stagflationary

How do the two portfolios compare? The Inflation portfolio has a higher allocation to farmland, gold, infrastructure, timberland, and TIPS and a lower allocation to infrastructure equities, MLPs, real estate, and REITS.

Suppose a CIO is expecting high inflation but is only somewhat sure of having stagflation. In this case, a CIO can construct a "view-tilted" real assets portfolio having a high inflation beta and a low-growth beta using estimated beta values from environments with high inflation, but with a greater proportion of values selected from low-growth environments.

One of the **four elements of successful real assets investing** for a CIO is to embrace their economic outlook and incorporate their views when constructing a real assets portfolio. By doing so, the CIO is better positioned to capture the desired performance if their view materializes. If a CIO has a view that stagflation is likely, then they may wish to consider constructing a stagflation-focused real assets portfolio.



For analysis we use historical data from January 1992 – December 2021.
Source: Refinitiv Eikon Datastream, Philadelphia Fed, Burgiss, NCREIF, and PGIM IAS.
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