ARTICLE REVIEW

‘Getting to the Core: Inflation Risks Within and Across Asset Classes’

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Inflation’s erosive effect on purchasing power is a major concern for many investors. In an effort to mitigate the risk, investors often turn to real assets, including stocks, foreign currencies, commodities, and real estate. Researchers Xiang Fang, Yang Liu, and Nikolai Roussanov disagree with that approach, arguing that real assets “mostly hedge against energy inflation but … provide almost no protection against core inflation risk.”

Fang et al. (2022) explain: “These hedging properties are reflected in the prices of inflation risks: only core inflation carries a negative risk premium, and its magnitude is consistent both within and across asset classes, uniquely among macroeconomic risk factors. The relative contribution of core and energy changes over time, helping explain the time-varying correlation between stock and bond returns.”

The researchers began their exploration by “decomposing inflation into core and non-core components” and then examining “the inflation hedging properties of … 8 major asset classes: U.S. stocks, Treasury notes/bonds, agency bonds, currencies, commodity futures, REITS [real estate investment trusts], and international stocks.” They found:

Assets’ exposures to the two components are sharply different. All stock and REITs portfolios have consistently negative core betas and positive energy betas, which means stocks and REITs hedge against energy inflation and are hurt by core inflation. Treasuries and agency bonds are negatively exposed to both core and energy inflation shocks, and corporate bonds have negative core betas and insignificant energy betas. The exposures of currencies and commodity futures to energy inflation are positive, and those to core inflation are negative but insignificant. Therefore, the conventional view mixes the two distinct components of inflation, core and energy, in a way that potentially obscures their effects on asset prices. For example, stocks’ often insignificant headline betas are largely an artefact of their energy betas, which vary over time but are strongly positive in the recent decades, obscuring the robustly negative betas with respect to core inflation. Currencies, commodities, and REITs, often considered as inflation-hedging assets, also only hedge against the energy inflation but not the core.

The researchers then studied “the cost of hedging against inflation shocks” asking “how much return are investors willing to give up to hold assets that do well when inflation is unexpectedly high?” Using “cross-sectional asset pricing tests” they discovered: “[C]ore inflation carries a significantly negative price of risk, and the price of energy inflation risk is positive but indistinguishable from zero. In other words, hedging against core inflation is costly, while hedging against energy inflation is essentially ‘free’ or even rewarded.”

They also estimated “the price of inflation risks within each asset class” and found that “the magnitude of the core inflation risk price is rather consistent across asset classes. Average returns of assets line up well with core inflation betas both within and across asset classes, but are essentially unrelated to betas with energy or headline inflation. Therefore, different asset classes imply a largely consistent cost of hedging against core inflation.”

Constructing “factor mimicking portfolios for headline, core, and energy inflation using portfolios from each asset class” revealed that “[o]nly the average returns of core inflation mimicking portfolios behave similarly, while the average returns of headline and energy inflation mimicking portfolios are unstable and switch signs for different asset classes.”

Looking at “how these exposures—and their prices—vary over time” (from the second quarter of 1963 to the fourth quarter of 2019) shows:

Stocks, currencies, commodity futures, REITs, and international stocks have energy betas that are significantly larger in the post-1999 subsample than before, while their core betas did not experience significant changes. Moreover, core inflation becomes less volatile after the 1980s while energy inflation fluctuates more wildly in the 2000s. The growing dominance of energy in total inflation (relative to...
core) and its positive correlation with stock returns serves as a potential new explanation for why the correlation between bond and stock returns switches from positive to negative in the recent subsample (Song 2017; Campbell, Pflueger, and Viceira 2020). Before 1999, core inflation is relatively more important. Both stocks and bonds have negative core betas, so their correlation is positive. After 1999, energy inflation becomes dominant ... [and] the correlation between stock and bond returns turns from positive to negative. Stocks’ energy betas are significantly smaller in the early sample, consistent with the view that energy supply mainly drives energy inflation pre-1999 while demand dominates after 2000 (Baumeister and Hamilton 2018, 50; Kilian 2009; Ready 2018).

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