Back to the 1980s or Not? Inflation Risk in Treasury Bonds

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Chicago Harris, NBER, and CEPR

Inflation Panel, January 2023

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 - Volatility of 60-40 stock-bond portfolio (e.g. Campbell and Viceira (2002))

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 - State-contingency of corporate debt (e.g. Fisher (1933), Kang and Pflueger (2015), Bocola and Lorenzoni (2022))
- Informative about macroeconomic dynamics

a) Bond-stock betas; b) Inflation risk premia

Basic Intuition: Inflation Risk in Nominal Bonds

Nominal bond yield:



Assume power utility over consumption with risk aversion $\boldsymbol{\gamma}$ and lognormality

• "Bad" inflation ($Cov_t (\Delta c_{t+1}, \pi_{t+1}) < 0$):

- Stagflation risk
- Cov(bonds, stocks) > 0
- Inflation risk premium > 0 (e.g. Piazzesi and Schneider (2006))

2 "Good" inflation ($Cov_t (\Delta c_{t+1}, \pi_{t+1}) > 0$):

- Inflation occurs in expansions
- Cov(bonds, stocks) < 0
- Inflation risk premium < 0 (e.g. Campbell, Sunderam, and Viceira (2017))

LONG-TERM VIEW: 1980s vs. 2000s

Historical Link Between Inflation, Stocks, and Bonds



Cieslak and Pflueger (2022), Figure 1, data from Robert Shiller

- Nominal bond yields clearly linked to long-term inflation
- Inflation was bad for stocks in 1980s, but good in 2000s

Pflueger (2023)

Inflation Risk in Treasury Bonds

Treasury Bond Risks as a Macroeconomic Moment



 $xr_{n,t+1} = \alpha + \beta xr_{t+1}^{eq} + \varepsilon_{t+1}$, quarterly returns, 5-year rolling windows Pflueger (2022) Figure 1

• Nominal bond-stock betas price stagflation risk (Campbell, Pflueger, Viceira (2020, JPE))

Pflueger (2023)

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WHAT IS PRICED POST-PANDEMIC?

Back to the 1980s or Not?



 $xr_{n,t+1} = \alpha + \beta xr_{t+1}^{eq} + \varepsilon_{t+1}$, daily returns, 6-month rolling windows Pflueger (2022), Figure 1

Breakeven Moves with Stock Market



Pushes nominal bond-stock return beta negative

Pflueger (2023)

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Real Yields Move Against Stock Market



Positive real bond-stock return beta

Pflueger (2023)

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Decoupling of Nominal and Real Yields



Moderate Risk Premia in Inflation Swaps



Cieslak and Pflueger (2022), updated 01/03/2023

ECONOMIC DRIVERS

DE Shaw & Co (2021)

In short, the safe haven status of Treasury securities was put to a major test, and it passed. (...) As argued in that paper, we believe that the stock-bond correlation depends critically on the type of shocks hitting the economic system,

WSJ

That hedge has evaporated this year. 5/22/2022 Investors have dumped both stocks and bonds as the **Federal Reserve has** embarked on a campaign to raise interest rates to combat inflation, which is at a 40-year high. Even the

Counterfactuals Starting from 1980s Calibration





Pflueger (2022), Figure 7

Risky nominal bonds require both supply shocks and responsive monetary policy!

Pflueger (2023)

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Role of Endogenously Time-Varying Risk Premia



Pflueger (2022), shocks scaled to match initial stock PD response

- Nominal bond-stock comovement switches sign even in response to same shock
- Flight-to-safety benefits bonds if inflation dynamics render their real cash flows safe

Bond-stock comovement reflects perceived macroeconomic equilibrium, not realized shocks. Meshes well with the goals of this panel!

Conclusion: Not (Yet) Back to Stagflationary 1980s

- Nominal bond-stock betas priced stagflation risk in 1980s (Campbell, Pflueger, and Viceira (2020))
- Post-pandemic, bond-stock comovement and inflation risk premia mostly don't indicate risk of "stagflation" (Pflueger (2022), Cieslak and Pflueger (2022))
- Potentially slight increase after 2022.Q, coinciding with shift towards monetary tightening
- New Keyenesian-asset pricing model shows interaction of monetary policy and supply shocks is crucial (Pflueger (2022))