

Inflation, Money Demand and Portfolio Choice

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Netspar IPW, January 2015

Topic

- What is the effect of inflation on portfolio choice?
- This topic is studied in the literature, from somewhat different angles
- Some papers look at inflation risk (short-term and long-term) and how it can be hedged
 - ◆ E.g. Campbell-Viceira (1999) and Brennan–Xia (2002)
 - ◆ Explains demand for long term (inflation linked) bonds
- Other papers look at ‘behavioral’ biases: money illusion
 - ◆ There is not much work; de Jong & Zhou (2014) introduce money illusion into a habit formation model

This paper

- This paper takes a different route, inspired by models from monetary economics
- Consumers hold cash for transaction purposes, and inflation erodes the value of cash (negative real return)
- Monetary models typically study the choice between (zero-interest) cash and interest-paying bonds
- This paper adds other assets, in particular stocks
- Stocks have higher expected returns than cash or bonds, and may also (somewhat) hedge against inflation
- The model is calibrated to many moments, including stock ownership by various age and income groups

Comment: inflation

- Inflation is modeled as an IID process
- This is clearly at odds with the data: inflation is very persistent (the asset allocation with inflation models rely heavily on that property)
- Can inflation in the model be understood as the unexpected component of inflation?
- Volatility may be different over time, and have an impact on the expected shopping cost
- It is important how the relations between expected stock returns, interest rates and (expected) inflation are modeled.

Comment: stock returns

- Nominal expected stock returns are constant in the model
- The return difference between stocks and cash is also constant then, and the inflation level does not matter
 - ◆ Inflation erodes real returns on all assets in the same way
- Instead, you could model $E[R]$ as the sum of the risk-free rate and a fixed risk premium, where the risk free rate adapts to expected inflation
 - ◆ the asset allocation papers typically assume this
- In such a model, stocks become more attractive vis-a-vis (zero interest) cash if inflation is high
- Minor point: the calibration uses a very short sample (1995-2008), how accurate are the estimates then?

Fixed costs and asset menu

- In your model, there are fixed costs of stock market participation, but not for bond market participation
 - ◆ But putting money into a bond mutual fund or an equity mutual fund seems equally easy
- In the empirical calibration, you define cash as the sum of all checking, saving, money market, deposit and call accounts
 - ◆ But many of these assets pay interest!
 - ◆ Maybe a bit below what bonds pay, but in any case it adapts to inflation
 - ◆ Don't you over-estimate the 'cash' portfolio share in this way (and underestimate the bond share)?

Final comments

- The main goal of the paper is to explain that the share in stocks rises as wealth rises
- The mechanism is that high wealth people can hold relatively less cash for shopping purposes
- Is this mechanism more convincing than other explanations?

- Model pays a lot of attention to calibration
- One striking pattern in the data is the fraction of stocks (for stockholders): there is almost no age pattern (Table 3)
- Does your model produce this as well?