Discussion of:

Helping Individuals Manage Risk

by Robert J. Shiller

Kent Daniel[1]

[1] Goldman Sachs Asset Management
Quantitative Investment Strategies

2008 BeFi Conference
March 27, 2008

Individual Hedging

- It seems clear that there a number of risks that individuals bear that should be shared across agents in the economy.
  - Yet, many are not.
- Most individuals insure their cars, their homes, their lives.
  - yet they do not insure themselves against job losses or decreases in the values of their homes.
- What determines the differences?
  - *If we create instruments which facilitate the hedging of major risks for individuals, will individuals use these instruments?*

Individuals Don't Hedge

1. **Real Estate:** The open interest in the S&P/CS property future, which enjoyed some initial popularity, have fallen in use dramatically.
2. **Agriculture:** Farm owners don't appear to properly hedge crop price risk.
3. **Income Hedging:** In some settings, there are a number of options for hedging income, but individuals don't seem to want to use these options.

Real Estate Hedging Decisions

- Calculating the optimal hedge for an investment in real estate can be complicated. It involves, among other things:
  - correlation with value swings in alternative housing.
  - consideration of potential liquidity problems
    - marking-to-market.
  - treatment of the default option.
  - correlation of property value with human capital
- Perhaps based on these difficulties, even most financially sophisticated individuals don't hedge their real estate risk at all.
  - However, zero hedging is almost certainly not optimal!

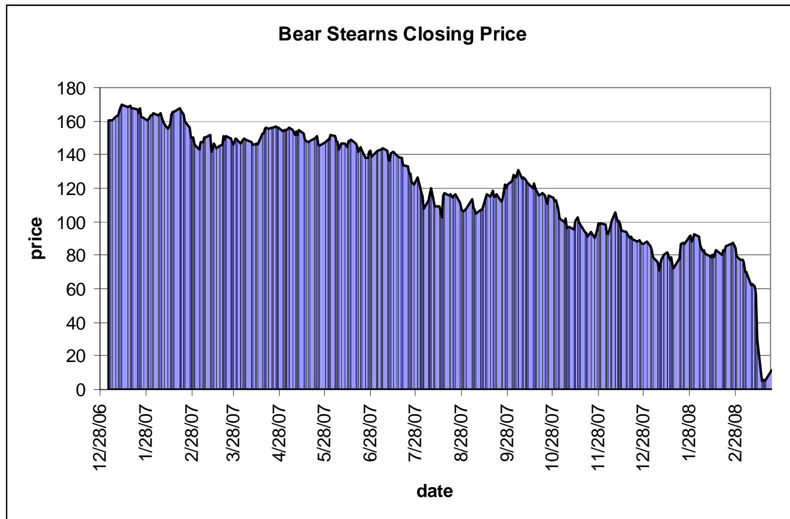
Agricultural Hedging

- One setting where we see hedging by individuals (using futures) is for farmer owners:
  - Farm owners make extensive use of agricultural futures in "locking in" prices for their harvested crops.
- However, standard practice is to hedge only the crop that has been harvested.
  - The vast majority of farmers do not hedge crops that are not yet in the silo.

Why such Limited Hedging?

- Again, determining an optimal hedge ratio is a difficult exercise.
  - The is a large academic literature on this topic.
  - Much of the difficulty is based on the fact that available hedging instruments allow the hedging of *price risk*, but not *quantity risk*.
- A (very informal) survey suggests that hedging as yet un-harvested crops is perceived as "too risky."
- Regardless, hedging 0% of the price risk the day before harvest, and 100% after harvest is certainly not optimal.

Hedging Income Risks



Compensation Structure

- I conducted an informal survey of financially sophisticated employees at a major investment bank.
- Among those surveyed, many have large fractions of their wealth accumulated in their employer's stock.
- For the most senior employees of this IB, about half of their annual compensation is in the form of company stock, which is delivered three years following the year in which it is paid.
    - Initial vesting in 25% – but vested shares can be forfeited if you are fired for cause.

Hedging Stock Portfolios

- At this firm, direct “hedging” of your un-delivered company stock is prohibited.
- This means that employees cannot take short positions in the firm’s stock, or buy puts, sell calls, *etc.* on the firm’s stock.
- However, employees are allowed to utilize hedges which are not directly linked to the firm stock.
  - For example, shorting other financial firms, or buying puts on these financial firms is (generally) permitted.

Hedging Stock Portfolios - 2

- For almost all (sophisticated) employees surveyed, the policy is:
  - Sell any shares that you receive immediately.
  - Do not hedge at all prior to receipt of shares.
- In addition, many of those surveyed have large positions in New York City real estate.
  - NYC real estate returns are almost certainly correlated with financial industry returns.
  - No one surveyed hedges this risk.

Hedging Stock Portfolios - 3

Why not hedge?

1. "It would take a lot of time to figure out the hedge ratio."
2. "I would still have a lot of firm specific risk."
3. "The hedge is potentially pretty risky."

- However, several of the employees said that they started thinking more about this question when BSC fell from $80 to $2/share.
  - Interestingly, most of the BSC decline was idiosyncratic rather than systematic.

Conclusions

- In each of these examples, most individuals choose to not hedge when there is *some* chance that the hedge could cost them money.
- A full hedge – with zero residual risk – seems something that most would want to do.
  - One individual said that he would be willing to pay 10-15% of the value of the position to hedge this fully.
- However, individuals do not make use of the imperfect hedge.

References I