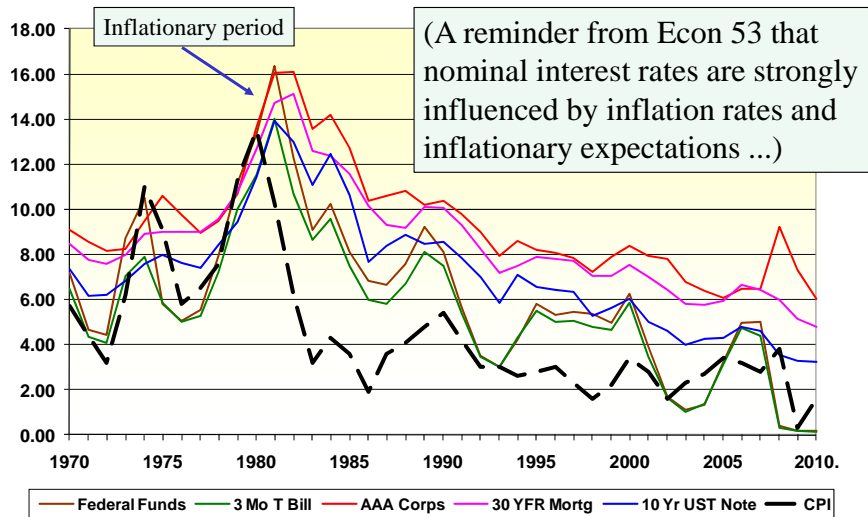


The Impact of Monetary Policy Upon Interest Rates

... and yields and capital gains and losses among YBFAs



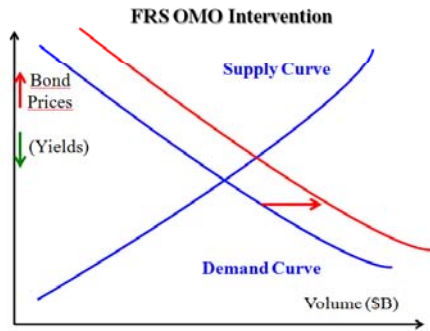
Select Interest Rates and CPI 1970-2010



Source: Economic Report of the President, 2011.

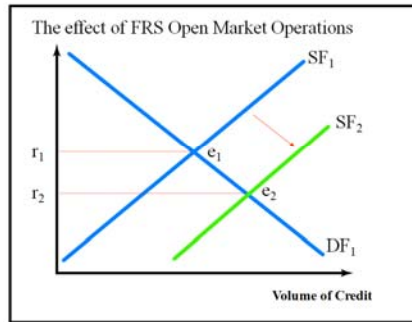
Data kept with 104 slides.

The General Impact Upon Bond Markets of FRS Open Market Operations

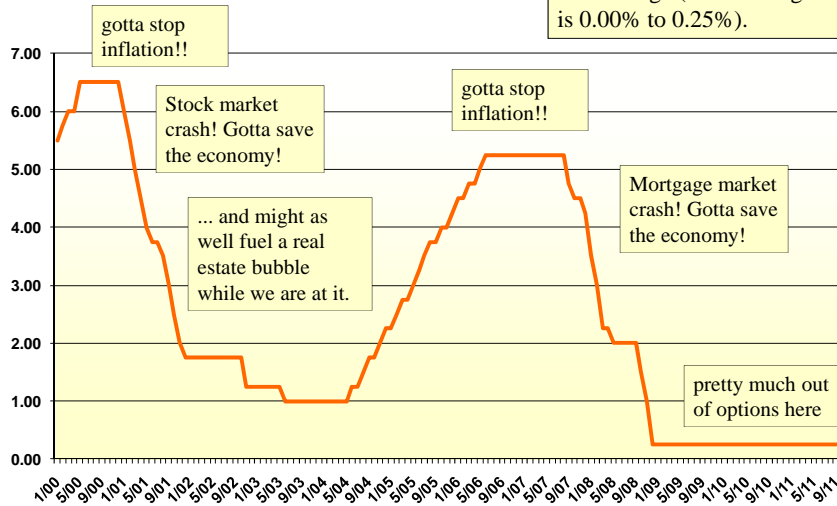


OMOs increase the demand for U.S. Treasury securities in general, raising their prices and lowering their yields. Typically the FRS buys securities at the lower end of the maturity spectrum.

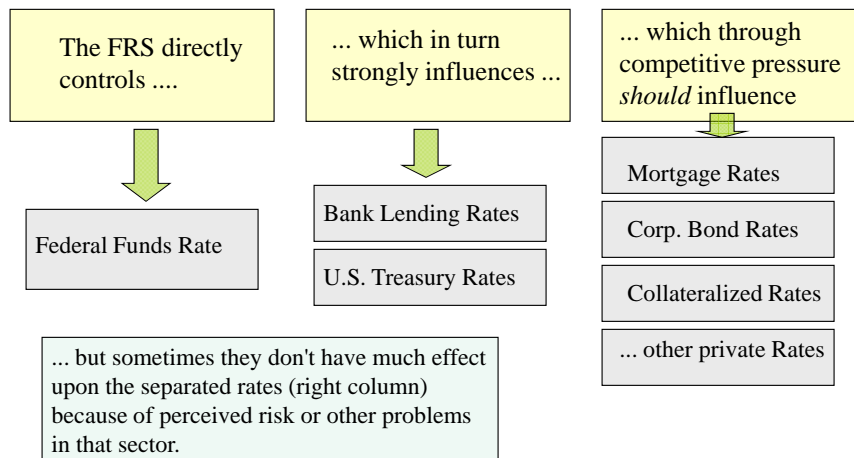
[For those of you who were in Econ 53, we used the Loanable Funds model, below, which has the interest rate on the axis, to demonstrate the same effect.]



Federal Funds Target Rates
January 2000 - October 2011



How FRS Policy is supposed to impact most or all rates (but sometimes doesn't)



The FRS dedicated recovery programs since 2008 ...

... with names like **TARP1*** (Troubled Asset Relief Program), **TARP2**, Maiden Lane LLC, TALF, TSLF, Term Auction facility and **QE2** (Quantitative Easing), these dedicated programs have in summary done the following (blue represents largely paid back or discontinued):

1. Purchased more than \$1 trillion in bad mortgages from the banks that issued them, giving them reserves.
2. Purchased around \$450 billion in agency debt like FNMA.
3. Purchased more than \$600 billion in U.S. Treasury securities while promoting the sale of a much larger amount to banks and overseas trading partners.
4. Made loans to auto makers, **AIG**, and commercial paper and similar markets.

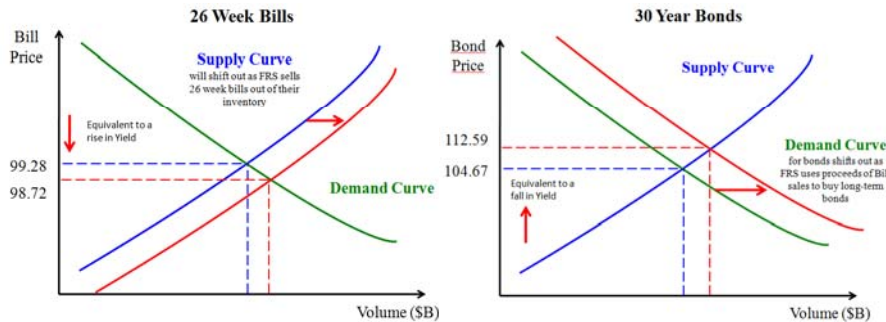
Quantitative Easing 2 (QE2) and Operation Twist

Twist: Two policies *intending* to influence rates

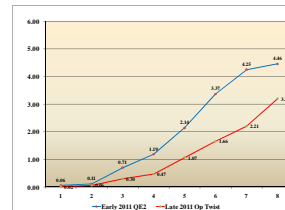
QE2 – (11/12/10 to 7/1/11) FRS using Open Market Operations buys \$600 billion of a mix of United States Treasury bills, notes, and bonds. This has the effect of monetizing part of the U.S. Treasury budget deficit while reducing interest rate on Treasury securities (to a level lower than they would otherwise be).

Operation Twist – (9/21/11 to 6/12 ongoing) FRS will gradually sell \$400 billion of U.S. Treasury bills and notes with maturities between 13 weeks and 3 years and use the proceeds to buy bonds with maturities between 6 years and 30 years, for the purpose of lowering the interest rate on longer-term securities and flattening the yield curve, with the further purpose of stimulating the mortgage market.

FRS Operation Twist – selling short-term T-bills to fund purchases of long-term T-bonds for the purpose of flattening the yield curve



Fall/Summer 2011 – The intent of the policy was to lower mortgage rates and make bonds less attractive to stock investors. As we will see in a later slide, as of late October 2011 it was working to the extent that long rates were down.



Yield Spreads

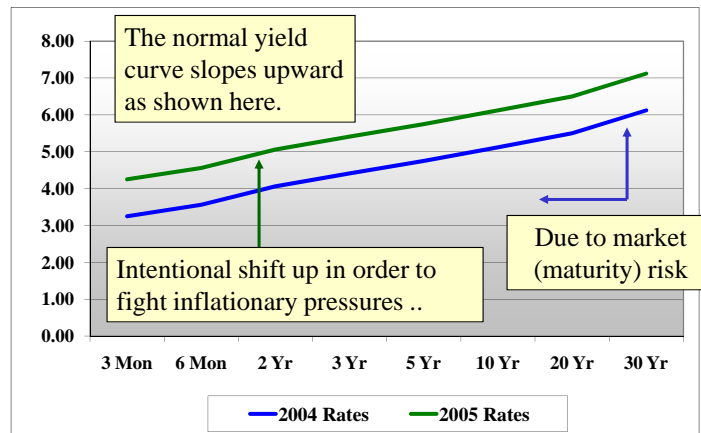
Mudd Finance

- YBFAs with long maturities have a higher probability of **gain** or **loss** when interest rates **fall** or **rise**. They are also subject to a higher level of economic risk.
- Therefore, according to our notions of risk, longer term YBFA maturities are seen as having higher risk, therefore their yields have a **risk premium**.
- Therefore, typically when we map the yields of a full maturity range for a class of YBFA securities, like Treasuries, from short-term to long-term, that mapping will rise (see next slide).
- These are called **yield spreads** or **yield curves** and the mapping is called the **term structure of interest rates**.
- Sometimes we see an atypical **flat** or even **inverted** term structure of interest rates.

“Normal” Treasury Yield Curve

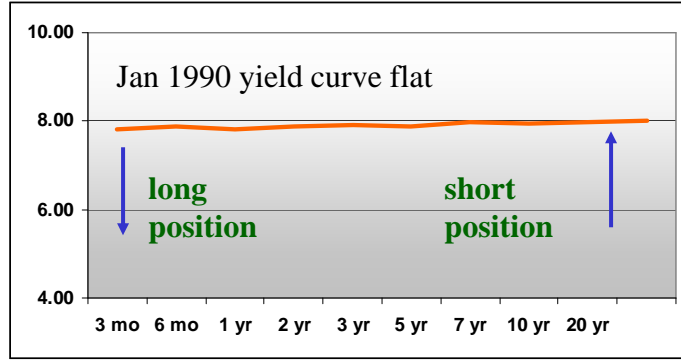
Mudd Finance

showing typical upward shift as FRS tightens rates



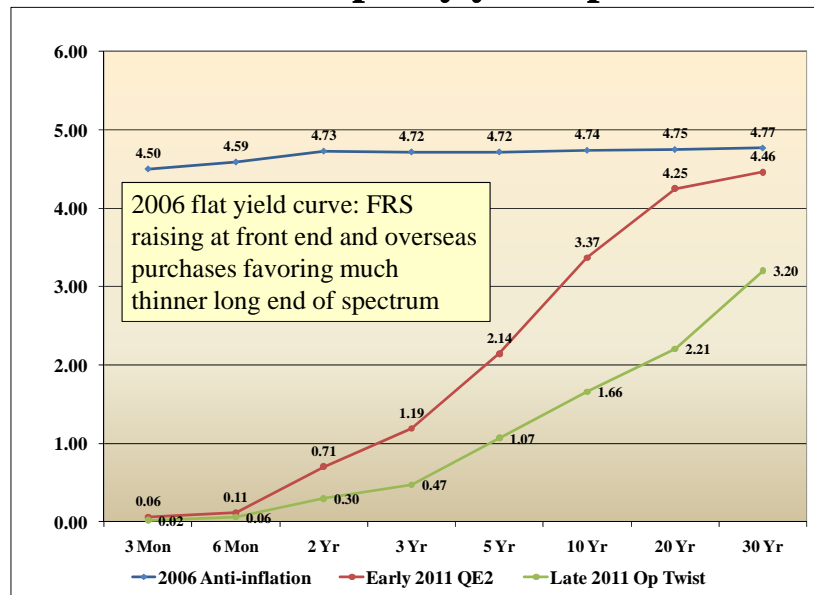
The yield curve, sometimes called the "term structure of interest rates" normally slopes upward as maturities lengthen. This reflects the greater market and economic risk of long-term YBFAs. Typical spreads might be 250 to 400 basis points.

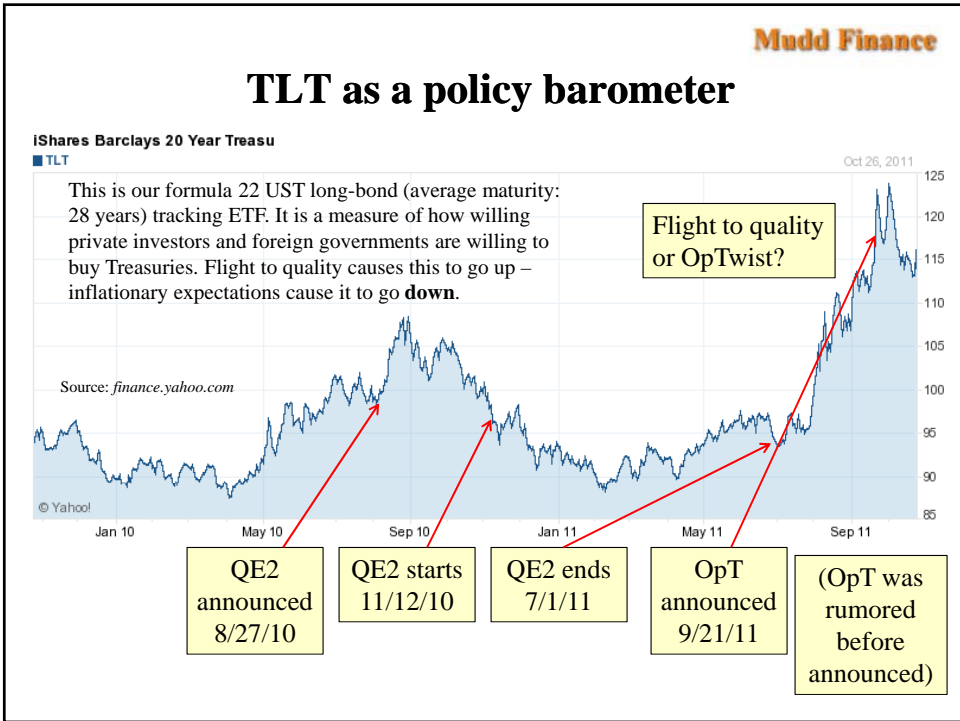
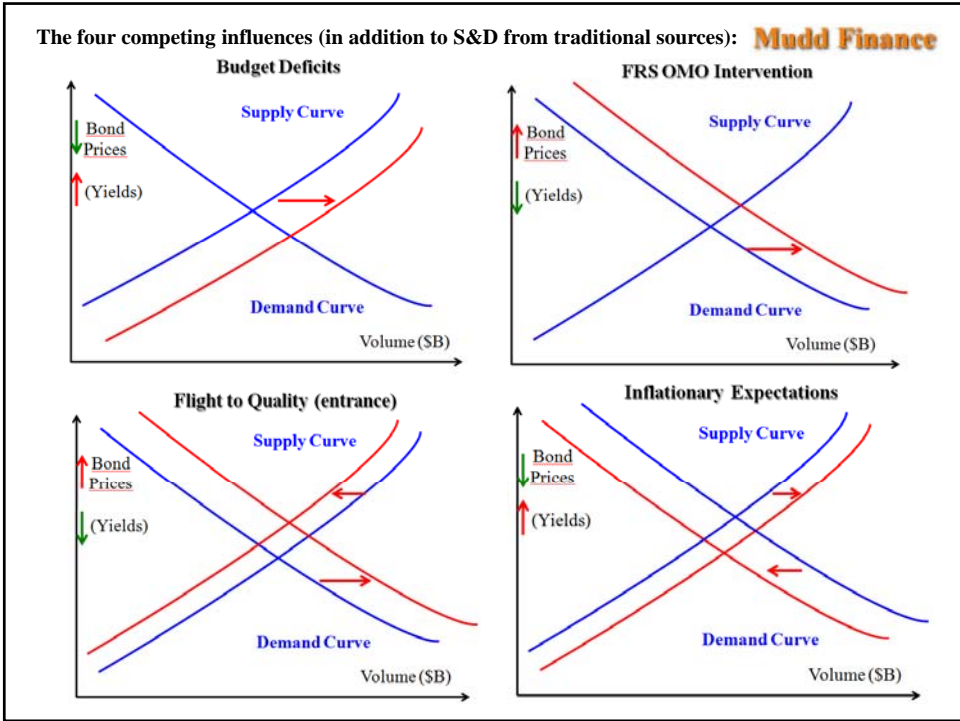
Flat and Inverted Yield Spreads at High Levels



This tends to happen during periods of high inflation or when the FRS is aggressively raising short term rates to combat inflation. Inverted (1980) at end of hyper-inflation period. This also happened in 2006/7. Presents an ideal spread arb situation. Risk is not being priced properly

Three FRS policy yield spreads





Summary points ...

- At times like this, multiple factors, including political decisions, FRS policy, flights to quality for various reasons (and the reversal), inflationary expectations, plus normal supply and demand parameters, such as overseas desire to invest in U.S. securities, strongly impact prices and yields of YBFAs.
- Further, there may be time-lagged influence of one variable upon another, such as a short-term monetary policy the effectively monetizes a deficit to keep interest rates low, may trigger inflationary expectations that cause them to raise later, with a vengeance.
- When rates change, there are sizeable capital losses and gains, the longer the maturity the greater the risk.
- If in doubt, flee to shorter maturities despite the lower yields.