Musings from Harley Bassman:

The Convexity Maven

Value Concepts from the BAS/ML Trading Desk
January 25, 2010

"The Replicators have a Problem"

Under the rubric of "No good deed goes unpunished" is the sub-notion of "Unintended Consequences". Thus we will soon leave the somnambulant world of Quantitative Easing and enter the Twilight Zone of exactly how money managers intend to beat an index that does not exist.

What do I mean ? As is well known, the FED+US Treasury has purchased nearly $1.5Trillion of Fixed-rate MBS bonds; that is well over one third of the outstanding balance. Ordinarily, this type of asset shift would not be of consequence to Index or measured Total Return managers since the bonds that are retired from the market are subsequently taken out of the Aggregate Index. Yet in this case, the major bond indices have not removed these bonds. This means that the professional investing class as a whole cannot mathematically match the index without taking on substantial risk in other sectors. Let's use some realistic, but not actual numbers to demonstrate how large an impact this could be.

	Pre-QE	Yield	Post-QE	Yield	Post-QE *Re-Invested*	Yield
Cash	0	0.05%	15	0.05%	0	0.05%
USTreasury +GSE	35	3.50%	35	3.50%	43	3.50%
MBS bonds	35	4.30%	20	4.30%	20	4.30%
USCorporates	20	4.25%	20	4.25%	25	4.25%
ABS+etc	10	3.75%	10	3.75%	12	3.75%
	$100	3.96%	$100	3.32%	$100	3.88%

All charts, unless otherwise noted, are sourced from BAC/MER data

In the table above, we make up a theoretical Investment Grade universe made up of 35% MBS bonds. Applying sample interest rates in the first set of columns to each class we can calculate a base case yield of 3.96%. The next set of columns show how this universe will look after the QE program buys 40% of the MBS bonds for cash. Notice how the yield drops to 3.32%. Consequently, the Index and TR managers will quickly spend this cash on the other bonds available. The final set of columns assumes that this cash is spent proportionally allocated to the remaining bonds. Under this assumption, the base case yield is 3.88% or 8bps under the original Index construction.

There are some rather severe implications here:

1) Unless the Aggregate Index is modified to reflect the fact that $1.5Trillion MBS bonds are not available to investors, it will be impossible for Indexers to passively match the index before fees since MBS bonds are some of the highest yielding securities in the Investment Grade universe.
2) To match the Index, managers will have to take on extra risk exposure via the addition of Duration, Credit or Convexity risk to their portfolios.
3) Many Index managers do not have the expertise to take the amount of risk required to match the Index returns.
4) The US Government has increased issuance of Treasuries and reduced the supply of MBS. However, replacing MBS with Treasuries is not a viable strategy because of the yield "give up". This will eventually lead to a feeding frenzy for Corporate bonds, the other large "spread" asset.
5) The only other reasonable strategy available is to sell options as a way to increase portfolio yields to match the Index.

It is this final idea that is most interesting. The FED's purchase of "unhedged" MBS has the theoretical impact of selling over $1 Trillion 3yr into 10yr swaptions. By effectively forcing the Index and TR manager to sell options to replicate the return profile of MBS (and match the yield of the unadjusted Aggregate Index), the FED has found a mechanism to transfer risk from the market to itself. However, as time progresses, the Portfolios of otherwise passive Index managers will become unstable with an increased usage of negatively convex derivatives. While we have been huge proponents of replication strategies to beat the market averages, we are also aware that it takes a certain degree of skill and in-house risk support to manage this type of trading. We should be concerned that some investment managers may feel compelled to enter into trading strategies that are not within their expertise.

The obvious answer to all this is to immediately remove the FED+US Treasury holdings from the Index. **But until that time, expect Implied Volatility to decline as replicators sell options to match and index.** Also be prepared for this to end badly if too many managers choose this path.

Finally, beware of the potential for another Credit problem if the reach for yield in the High Grade sectors leads to an excessive compression of Yield spreads in the High Yield universe. Reaching for yield is always the "canary in the coalmine" for a market tragedy.

Harley S. Bassman
BAS/ML US Rates Trading
January 25, 2010

Bank of America Merrill Lynch