

Mutual Funds Demystified

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In our last discussion, we had discussed how the yield curve (which basically describes the connection between short-term and long-term interest rates) should normally be upward sloping, implying that interest rates for longer tenors should be higher than those for shorter tenors. This fits perfectly with our intuitive understanding of interest as a price to be paid for foregoing the desire for immediate consumption and hence such upward-sloping yield curves are also referred to as normal yield curves.

We had also explained how yield curves can be 'other than normal' in which long-term rates are lower than short-term rates. We had explained that this is because the market expects interest rates to decline in the future – mainly because inflation is expected to be lower (to refresh your memory - Nominal Interest Rate = Real Rate + Expected Inflation). We had also used a numerical example to explain how this occurs. Continuing this thread of discussion, we also could witness sometimes a flat yield curve. By now, you will easily answer this by saying that market expects inflation rates to be stable in the future!!! Excellent.

Can there be there be shapes other than upward sloping, downward sloping and flat to the yield curve?

To complicate your life further, let me answer: Yes.

To understand this, we first need to know that there are a range of maturities in a continuum from short term to long term. Hence there are various time

buckets which determine the data points on the yield curve ie 3 months, 6 months, 1 year, 2 years, 3 years, 5 years & 10 years, to name a few.

So when we speak about inflation expectation for the future it is actually an expectation for each one of these data points. However no expert will be able to precisely forecast inflation for each time period given that there are so many variables which affect this. Hence there is generally possible to have an only estimate of the direction of inflation rates in the future. This is what explains how the three shapes of the yield curve are arrived at.

In reality, market participants are forced to decide on borrowing rates for each time-bucket based on the demand for and the supply of money. This is because a borrower generally has a requirement of money for a specific period only. Similarly a lender may be able to lend his surplus only for a specific time frame, after which he may need the money for his own needs.

The actual rates of interest at which these lending-borrowing transactions take place are a result of the negotiation process between lender and borrower. These participants use the existing shape of the yield curve as a starting point for the negotiations. Where the borrower is the government, this takes place through an auction process. In the case of private transactions, the negotiations are conducted on a one-to-one basis. These actual rates then become the data points which form the new yield curve.

It is the result of this negotiation process – otherwise referred to in economics as the demand-supply equilibrium that leads sometimes to a yield curve distortion- a shape that is not upward sloping, nor downward sloping or flat.

To explain this we will again use a numerical example. Let us start with a normal' yield curve (an upward sloping yield curve)- short-term (1 year) rates are 3%, medium term (5 years) rates are 4% and long-term (10 years) rates are 5%.

Let us suppose that a company is putting up an expansion project which should be able to recover its capital investment in about 5 years. Naturally, the company would seek to finance the project with a 5-year loan and with this in mind he approaches various lenders.

Suppose we find that, since the economy is in a boom phase, there are quite a few companies in a similar situation. Then we could face a situation where the lenders are inundated with a lot of similar borrowing requests.

Essentially we might be facing a situation of scarcity of lenders willing to lend money for a 5-year timeframe.

Then we can easily envisage a situation where the initial set of borrowers have exhausted the available lendable resources in the market at the rate implied by the yield curve ie 4%.

Then what does a company which has just finalized its expansion programme do? It has no choice, but to offer a higher rate of interest to tempt a few lenders into diverting their surplus funds to him. This rate is determined by the negotiation process ie the level of desperation of the borrower.

The rate has to be high enough to force the lender to back out of financing some other project or alternatively it should be high enough to change the mindset of a short-term or long-term lender and tempt him to lend for a medium term tenor.

Let us assume that this transaction happens at a rate of 6%. Obviously this becomes the new data point for the yield curve.

Now we come to the important point – does this new data point imply that the rates for the 10-year period also goes up correspondingly to say 7%? Not necessarily, because there may be no borrowers for 10-year money at 7%.

In fact the lenders with an outlook of 10 years may be sometimes forced lend at even lower rates of say 4%, unless he is willing to shorten his investment horizon and jump into the 5-year bandwagon because of the higher interest rates.

Thus we could envisage a situation such as the following : 1-year rate at 3%; 5-years rate at 6% and 10-years rate at 4%. Such a yield curve can only be explained as a humped yield curve.

We have now introduced the idea that inflation expectation is not the only factor that differentiates short-term and long-term interest rates.

This type of behaviour is also referred to as the segmentation theory of interest rates.

On this rather heavy note we will end today's discussion.