F I X E D   I N C O M E

OAS Models, Expected Returns and a Steep Yield Curve

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An upward-sloping yield curve indicates that either investors expect rates to rise or they require a higher expected return on longer-term securities. Either way, it is appropriate that fixed-income options models (FIOMs) assume forward rates are on average realized in the risk-neutral world.

FIOMs price all securities relative to Treasuries. When a FIOM produces a negative option-adjusted spread (OAS) for, say, a principal-only strip (PO), some practitioners apologize for the model. They might say that the model unfairly hurts POs by assuming rates will rise (and prepayments will fall). We show this to be false.

We do not claim that opinions about forward rate realization are irrelevant. How bullish or bearish you are depends directly on your opinion about future spot rates. If you expect future spot rates to be lower than forward rates, then you also expect the return on long bonds to exceed short bonds. If you feel this extra expected return is commensurate with the risk of longer bonds, you will buy these bonds. Thus, opinions on forward rate realization are relevant. They are not relevant, however, for pricing derivative securities.

Under the models' assumptions, derivative securities can be replicated by portfolios of Treasuries. Opinions about forward rates do not matter. Derivative securities are priced at the cost of their Treasury replication portfolio (at least for a zero OAS derivative).

eliminate the risk of experiencing investment losses.

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