Bond investors can choose from many different investment strategies, depending on the role or roles that bonds will play in their investment portfolios. Active bond portfolio managers seeking price appreciation try to buy undervalued bonds, hold them as they rise in price and then sell them before maturity to realize the profits - ideally "buying low and selling high." Active managers can employ a number of different techniques in an effort to find bonds that could rise in price. Credit analysis: Using fundamental, "bottom-up" credit analysis, active managers attempt to identify individual bonds that may rise in price due to an improvement in the credit standing of the issuer. They have the potential to provide many or all of the benefits of bonds; however, to outperform indexes successfully over the long term, active investing requires the ability to: 1) form opinions on the economy, the direction of interest rates and/or the credit environment; 2) trade bonds efficiently to express those views; and 3) manage risk. Sector rotation: Based on their economic outlook, bond managers invest in certain sectors that have historically increased in price during a particular phase in the economic cycle and avoid those that have underperformed at that point. Passive approaches may suit investors seeking some of the traditional benefits of bonds, such as capital preservation, income and diversification, but they do not attempt to capitalize on the interest rate, credit or market environment. In these passive bond strategies, portfolio managers change the composition of their portfolios if and when the corresponding indexes change but do not generally make independent decisions on buying and selling bonds. For example, during periods when emerging markets have become greater drivers of global growth in recent years, many bonds from governments and corporate issuers in these countries have risen in price. Yield curve positioning: Active bond managers can adjust the maturity structure of a bond portfolio based on expected changes in the relationship between bonds with different maturities, a relationship illustrated by the yield curve. Passive strategies -- Buy-and-hold approaches: Investors seeking capital preservation, income and/or diversification may simply buy bonds and hold them until they mature. Investors typically use the laddered approach to match a steady liability stream and to reduce the risk of having to reinvest a significant portion of their money in a low interest-rate environment. Many exchange-traded funds (ETFs) and certain bond mutual funds invest in the same or similar securities held in bond indexes and thus closely track the indexes' performances. Macroeconomic analysis: Portfolio managers use top-down analysis to find bonds that may rise in price due to economic conditions, a favorable interest rate environment or global growth patterns. While yields normally rise with maturity, this relationship can change, creating opportunities for active bond managers to position a portfolio in the area of the yield curve that is likely to perform the best in a given economic environment. Passive investment strategies include buying and holding bonds until maturity and investing in bond funds or portfolios that track bond indexes. Another buy-and-hold approach is the barbell, in which money is invested in a combination of short-term and long-term bonds; as the short-term bonds mature, investors can reinvest to take advantage of market opportunities while the long-term bonds provide attractive coupon rates. One of the most widely used active approaches is known as total return investing, which uses a variety of strategies to maximize capital appreciation. Conversely, to maximize the positive impact of an expected drop in interest rates, active managers can lengthen duration on bond portfolios.