

ReWISE

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Real Interest Rate

- Normally when one speaks of interest rates, it refers to nominal interest rate which is not adjusted for inflation.
- Inflation reduces value of money over a period of time. Therefore one needs to adjust for inflation to know the actual return on investment.
- Interest rate adjusted for the effect of inflation is known as real interest rate.
- Suppose one invests ₹ 100 in a 1 year bond having interest rate 8%. After a year return on investment is ₹ 108. This interest rate doesn't adjust for inflation and is known as nominal interest rate.
- Suppose one invests in same bond and assumes inflation for the year to be 6%, then the actual return on investment adjusting for inflation is ₹ 102. This 2% interest rate is known as real interest rate.

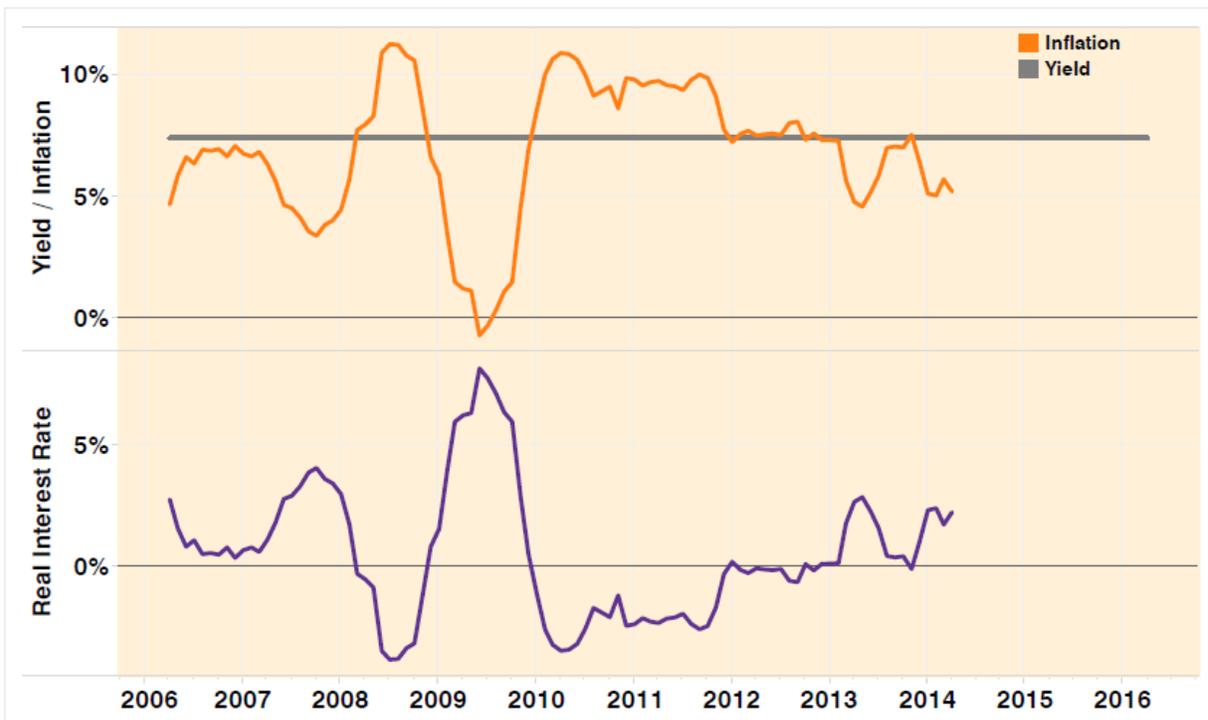
Real Interest Rate = Nominal Interest Rate - Inflation

- As seen from the above formula, real interest rate is impacted by inflation.
- Higher inflation lowers the real interest rate.
- Nominal interest rate is determined by future expectation of inflation.
- Real interest rate is impacted on how these expectations play out.
- Assume nominal interest rate to be constant, real interest rate will decrease if inflation is higher than expectation and real interest rate will increase if inflation is below expectation¹.
- To understand how real interest rate is affected by inflation, we have assumed investment in a 10 year Gsec bond maturing in April 2016 with nominal interest rate of 7.40% p.a.².
- Assuming we hold till maturity at the nominal interest rate of 7.40% p.a. and inflation³ changes every month, the real interest rate change can be observed in the chart below.

¹ Further understanding on inflation and impact refer to ReWISE on Macro variables and Inflation

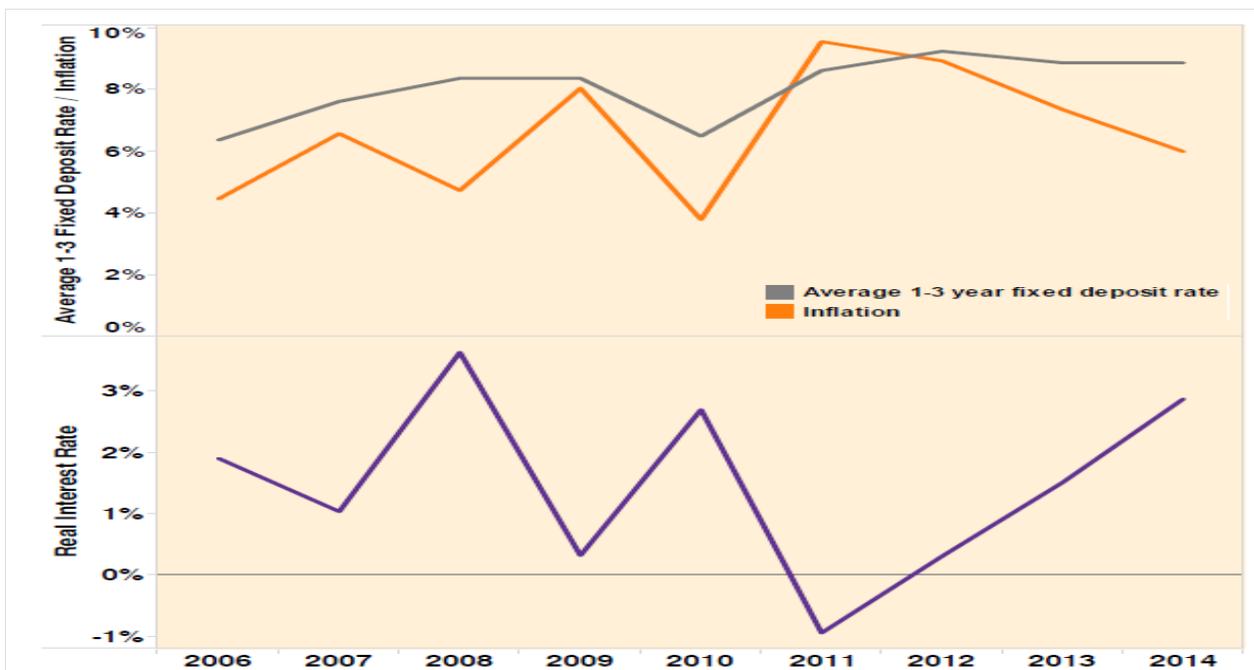
² Have taken 7.59% GS 2016

³ Inflation refers to WPI



Source: RBI, EA Industry, Inflation data is till April 2014

- From the above chart, we can observe with high inflation real interest rate decreases and with falling inflation real interest rate increases.
- During the years of very high inflation, real interest rates have been negative.
- For the given period if one had invested minimum, average and maximum real interest rates are -3.85%, 0.52% and 8.11% respectively.
- Chart below shows annual average 1-3 year fixed deposit rate, inflation (WPI) and real interest rates.



Source: RBI, EA Industry, Annual inflation (WPI) calculated by taking average for FY14

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