Formula (In simplified terms - do not use it for calculations)*:

Nominal Return (NR) = Real Return (RR) + Breakeven Rate (IR)

Facts:
1. We don't have any control on the inflation rate.
2. By buying TIPS one locks in a real rate of return.
3. By buying regular government/corporate bonds, CDs etc, one locks in a nominal rate of return.

Below numbers are applicable to both hypothetical scenarios:
IR: 3.0%
RR: 2.5%
NR: 5.5%

Scenario 1:

Mr. Investor decides to buy a government bond and therefore locks in a 5.5% NR. However, that does not mean that he has locked in a real return because he has no control over inflation. So as inflation rises(falls), his real return falls(rises). In other words, by locking in NR, he is implicitly saying that I can withstand UPTO X% (3.0% in this case) inflation. Any inflation number above X% results in a degradation of my purchasing power.

It also means that if Inflation remains below X% then he is generating wealth, as his purchasing power has improved, BUT he is vulnerable to future inflation rate increases.

Scenario 2:

Mr. Investor decides to buy 30 year TIPS and therefore locks in a 2.5% RR. By doing so, he is implicitly saying that I can withstand inflation that is ABOVE X% and therefore my purchasing power will not erode if inflation is above X%.

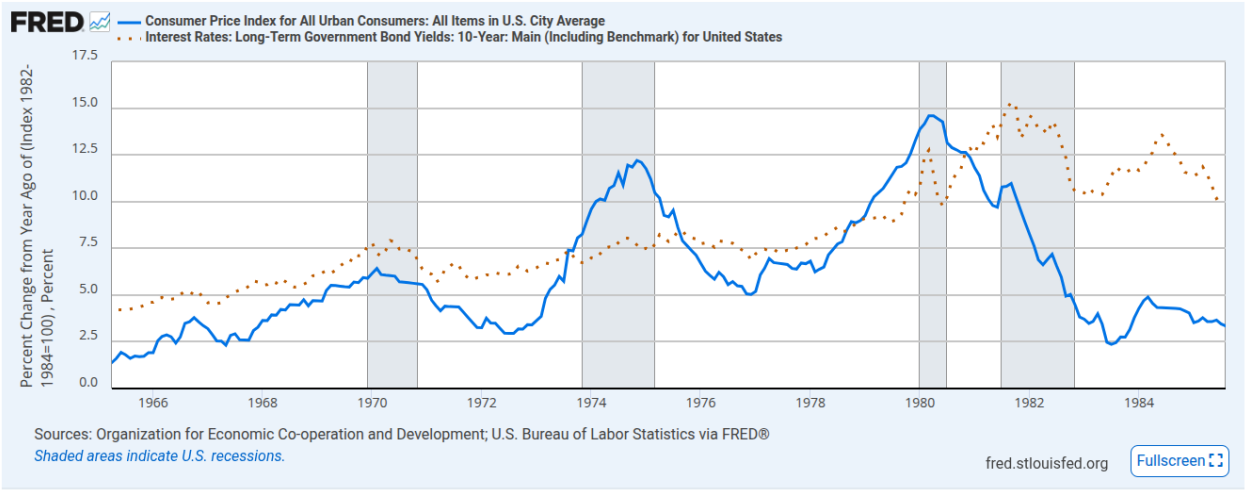
It also means that if Inflation remains below X% then he is not generating wealth as his purchasing power has not increased (but not diminished either). But he is still protected from future inflation rate increases.

Real World Scenario 1:

Year: 1965
IR: 1.38
RR: ~2.55
NR: 4.20
Link (of the below chart): https://fred.stlouisfed.org/graph/?g=1MSCY

Mr. Investor buys 10 year government bonds and locks in a NR of 4.20. Mr. Investor is happy (for lack of better words) until 04/1968. In 05/1968, the IR is at 4.22, which means the inflation has started to eat into returns, which is okay if the inflation is “transitory”. Unfortunately, the IR stays above his comfort zone till 09/1971, which is 2.5 years of buying power destruction. Going further down the years we notice inflation again ticks up beyond his comfort zone in 03/1973 and this time does not come back to his comfort zone until 12/1982, which is ~9 years of buying power destruction.

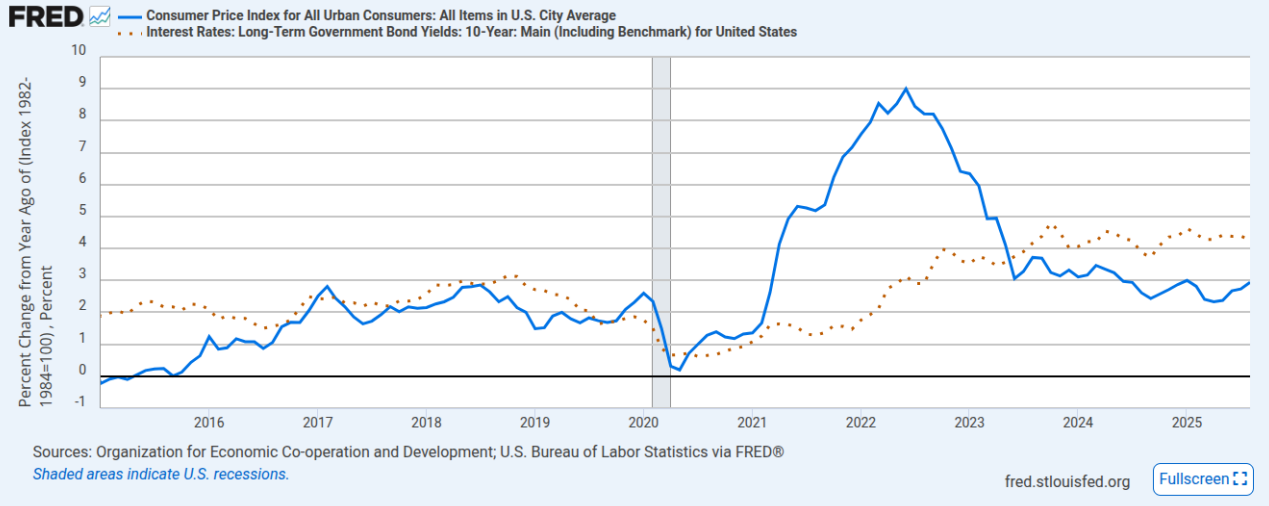
Had Mr. Investor simply locked in a RR of 2.25%, he would have completely avoided this bouts of buying power destruction.



Real World Scenario 2:

Year: 2015
IR: Negative!
RR: 0.25
NR: 1.88
Link (of the below chart): https://fred.stlouisfed.org/graph/?g=1MSKs

Mr Investor buys 10 year government bonds and locks in a NR of 1.88 (Financial Oppression!). Mr. Investor is happy until ~11/2016 as inflation is still in his comfort zone but looking closely beyond that time period makes it immediately apparent that Mr Investor is in a auto-pilot mode of buying power destruction (or annilation if you look at the period from 2021 till 2023.



Observations:
a) While thinking inflation protection - the primary consideration factor should be to take into account insurance mindset, in the sense that one buys insurance to get financial protection when adverse events happen. However, no reasonable individual wants adverse events to happen to them. Similarly buying TIPS is an insurance buying exercise to protect oneself from buying power degradation (adverse event). To play with words, it is Return OF Investment that we should be mindful about and not only Return ON Investment.

b) To extend the insurance analogy, as we renew our insurance policies periodically (e.g. Annually), buying TIPS should be done on a regular periodic basis as one cannot visualize whether one is at the foothill of an inflation mountain or not.

c) Buying TIPS is forward looking exercise in the sense the buyer really has to be convinced on the path of inflation. If one is convinced that future path is deflationary then buying TIPS will be counter intuitive.

d) NR is not the way to assess returns.

Q&A**:
Q1: While thinking inflation protection - the primary consideration factor should be to take into account an insurance mindset, in the sense that one buys insurance to get financial protection when adverse events happen. However, no reasonable individual wants adverse events to happen to them. Similarly buying TIPS is an insurance buying exercise to protect oneself from buying power degradation (adverse event). To play with words, it is Return OF Investment that we should be mindful about and not only Return ON Investment. Is that a good way of looking at it?

A1: Yes, I agree with the idea of an insurance mindset. I have grown to appreciate TIPS as a stacked investment to allow set par amounts mature every year out into the future. That sets up a very predictable withdrawal rate, totally safe, and adjusted for inflation. I have TIPS maturing out to 2043, when I will be 90 years old, if I make it. Almost all in a tax-deferred account. That money will be there and holding to maturity is the only way I will invest in TIPS.

Q2: Are the TIPS expensive at this time (~10/2025)?
A2: TIPS are going to rise and fall every day on the secondary market, and I ignore that because I am holding to maturity. That 30-year TIPS with a 2.5% real yield would increase in value dramatically if the market real yield fell to 1%. Or ... it would fall dramatically if the market real yield rose to 4%. There isn't a sure bet either way, *but I like the idea of collecting 2.5% above inflation, which is a bit better than the historical return of Treasurys.*

The way to look at TIPS as expensive vs inexpensive is to watch the inflation breakeven rate. For many years, TIPS had an inflation breakeven rate of 1.5% to 2.0%, well below the current rate of inflation, so those ended up being "cheap" versus nominal Treasurys. But today the 30-year inflation breakeven rate is 2.26%, higher but probably still reasonable. Who knows? So TIPS are pricier now versus nominals, compared to pre-2022. Inflation over the last 30 years has averaged 2.5%.

Q3: What is a typical allocation % of TIPS in a portfolio?
A3: TIPS and I Bonds make up only about 15% to 20% of our household investments.

Q4: What Maturity should I select for a TIPS allocation.
A4: Like any fixed rate bond portfolio, the tenor can have a significant impact on TIPS holders' experience. TIPS have a fixed real rate, and the principal is adjusted up or down for inflation/deflation. The coupon payments are then applied to the inflation adjusted principal amount. TIPS with a longer maturity have more price sensitivity to the fixed real rate and relatively little sensitivity to near-term changes in inflation. TIPS with shorter maturities have less price sensitivity to real rates resulting in a greater proportion of performance coming from inflation. While all TIPS capture the same inflation accruals, the journey can feel very different depending on the tenor of the bonds. TIPS with shorter maturities are more correlated with inflation, while TIPS with longer maturities are more correlated with changes in interest rates.

Q5: Mindset?
A5: Short-term price performance is not the only factor to consider. If the objective of an investor's TIPS allocation is to immunize the amount invested in TIPS from inflation over time, a full-maturity TIPS portfolio may be more appropriate. It is important, however, to understand how this allocation will interact with the rest of a fixed-income portfolio.

Q6: How do TIPS behave with the rest of a fixed income portfolio?

A6: Over any holding period the relationship between the return on the two types of bonds depends on the combination of real rate and breakeven rate movements. While traditional fixed-rate bond yields are easily explained by general interest rate moves, and TIPS yields by moves in real rates, the relationship of real ratesand nominal rates are not always stable. Consider these scenarios:

a) Interest rate changes are dominated by changes in real rates; breakeven rates remain unchanged.
→ TIPS and nominal bonds with similar maturities respond similarly to changes in interest rates.

b) Interest rate changes are dominated by changes in inflation expectations; real rates do not change, but breakeven rates do.
→ TIPS prices do not change while nominal bond prices do.

c) Interest rate changes are due to changes in both real rates and inflation expectations in the same direction.
→ Similar maturity Nominal bond prices move more than TIPS prices.

d) Interest rate changes are due to changes in real rates and inflation expectations moving in different directions.
→ TIPS prices experience a greater move than nominal bonds.

* The exact formula is 1+(Nominal Return/100) = (1+(Real Return/100)) * (1+(Inflation Rate/100))

**Q/A(1-3) was with the owner of www.tipswatch.com.
**Q/A(4-6) are excerpts from MAJOR CONSIDERATIONS FOR TIPS INVESTORS TODAY, Northern Trust Asset Management