As your team’s newly hired fixed income economist, your two responsibilities are to predict the yield-to-maturity for U.S. ten-year treasuries and the effective U.S. federal funds rate, for December of 2017. You have inherited your firm’s old forecast, and they shared the consensus expectation. Thus as of today, you are predicting that the December average yield-to-maturity for the 10-year treasury will be 2.8% and the federal funds rate will average 1.4%. You must be ready to participate in class discussions, and be ready to answer questions about current developments relating to the future direction for the ten-year treasury yield and the federal funds rate.

**Barometer #1: The U.S. 10-Year Treasury Note**

The interest rate that lenders demand for loaning the Federal government money for ten years is the ten-year note rate. Much of the world views the U.S. ten-year note as a key benchmark. The government periodically auctions 10-year treasury notes. Already issued ten-year treasury notes trade, real time, around the globe, leading to continuous changes in the quoted yield.

The trend for the yield on the 10-year has been down for 36 years, since it peaked at a yield of about 15%. Most analysts believe the key determinants of the t-note yield expectations for the economy’s real growth rate and expectations for inflation.

Real growth of 2.5% to 3% and inflation of 2% to 2.5% was thought of as consistent with a 10-year yield of 4% to 5%. In the aftermath of the Great Recession (2008-2009), expectations for growth and for inflation ground lower. And as these expectations fell, so too did the yield on the 10-year.
Real Growth Expectations: A Decade Long Sag

In the U.S. bond market, we have a method for discovering rough measures of real growth and inflation expectations. TIPS bonds compensate owners by giving them a yield plus whatever change we see for prices. By subtracting the 10-year TIPS yield from the 10-year yield, we identify the ‘breakeven inflation rate’, that is the inflation performance for the next 10 years, that would make one indifferent to owning TIPS versus normal treasury securities.

Consider the chart below. It depicts the inflation rate that would give the 10 year and the 10-year TIPS the same total return. Note the persistent decline for these ‘inflation expectations’. Note also the recent reversal.

The 10-year yield, to repeat, is an expected real yield minus the compensation for expected inflation. The 10-year breakeve, above tells us people’s fear of inflation fell, so they demanded a lower 10-year rate, when they lent to the government. The chart below looks at the real yield they required. It too fell. Most believe this reflected a grudging reduction in expectations for real growth.
Some analysts link government bond yields to the government’s financial condition. A nation that has a big deficit and a large amount of debt outstanding, relative to the size of their economy, in theory, should have to pay a higher interest rate. In practice this only works in rare occasions. Italy has a big deficit and high debt to GDP, 110%, and borrows at a lower rate than the USA, which has debt of 80% of GDP.

It is true that Greece has very high government borrowing and pays a very high interest rate. But Japan has very high government debt, over 200%, and pays less than almost any nation.

If Trump slashes taxes, increases defense spending, ramps up infrastructure spending and leaves entitlement spending alone, the U.S. deficit will soar. Most people expect that this will push interest rates sharply higher, but only because these steps will accelerate real growth and inflation.

**The U.S. Federal Funds Rate**

The overnight borrowing rate between banks, the federal funds rate, is the key interest rate that the U.S. Federal Reserve manages, as it attempts to steer the U.S. economy. Over the past 30 years, in most cases, the FRB only changes their target at their once per six week meetings. The chart below reminds us that the federal funds rate held near zero for over 5 years. The FRB first raised their target, in December of 2015. They did so again in December of 2017. Forecasters today expect three moves of 25 bps in 2017, looking for the funds rate to average 1.4% in December of 2017.
The Taylor rule as a Crude Guide:

How does the FRB decide upon the target for the fed funds rate? They are a dual mandate central bank. They want strong real growth, but not so strong that you end up stoking higher inflation. The Taylor rule suggests one strategy:

\[ f = \pi + 0.5 \times (\pi - \pi^*) + (U^* - U) + r^* \]

In words, the fed funds rate equals the inflation rate, \( \pi \), plus the neutral real fed funds rate, \( r^* \), plus any deviation of inflation or unemployment from their target.

Where are we today? We never quite know \( U^* \) and \( r^* \).
If \( U^* = 4.5\% \) and \( r^* = 0 \), my current guess, and if we use the core pce deflator for measuring \( \pi \), we get:

\[ f = 1.6\% + 0.5 \times (1.6 - 2) + (4.5 - 4.8) + 0 = 1.1\% \]
that is close to where we are, .66%

And year-end 2017?

If inflation goes to 2% and \( U \) to 4.5%, you end up with a target of?
2%