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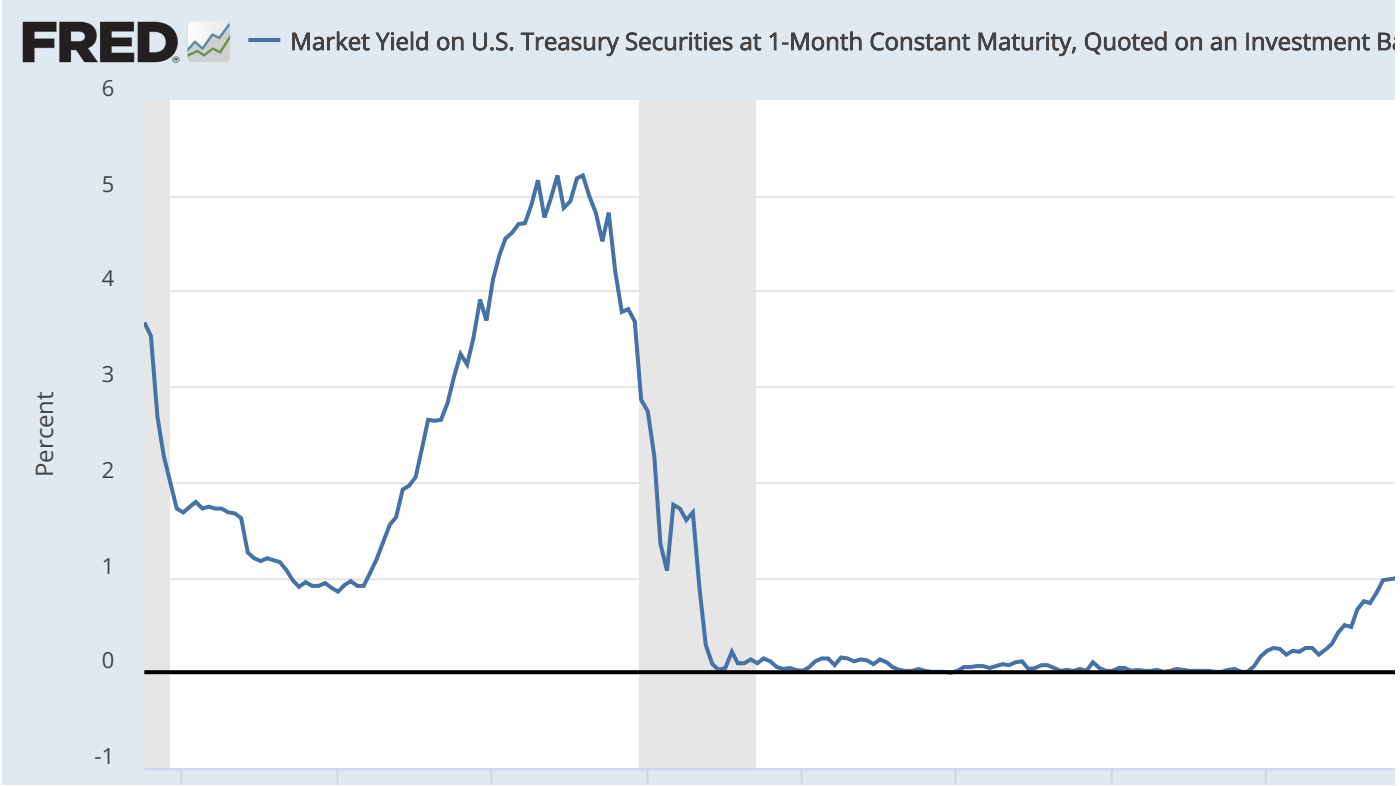
The absence of return on short-term Treasuries

Cash vs. 1-month Treasury bills

Posted on April 8, 2019



Is it worth it to buy 1-month Treasury bills? The above FRED graph shows their returns in recent years: While they often get very close to zero, at least they're positive.* But "positive" may not count for much since we have to account for inflation. So let's redo the graph by subtracting inflation from the return.

This exercise isn't as simple as it might appear: First, we must factor-in inflation over the life of the bill, which is shorter than the period in which inflation is typically reported. Second, the Treasury return that's reported in the data is annualized, meaning the monthly return is compounded to an annual return.

So here's what we need to do to the CPI:

1. Take the percent change from the previous month, to match the maturity of the (1-month) bill
2. Divide it by 100, to get rid of the % units
3. Add 1, to prepare for compounding

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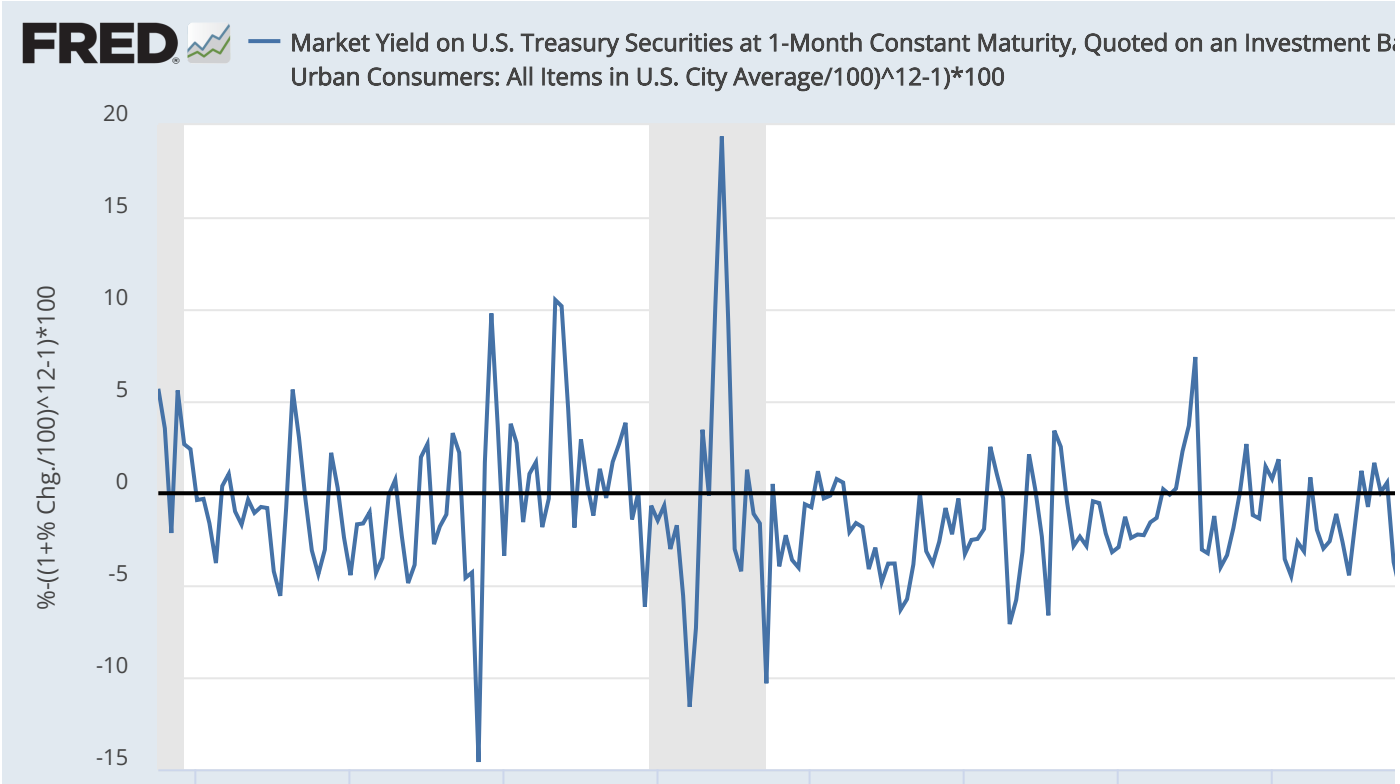
4. Take the power of 12, to compound for one full year (to match the annualized Treasury rate)
5. Remove 1
6. Multiply by 100 to express it back in % units
7. Subtract the result from the Treasury rate

The result shows that the *real* return on the 1-month Treasury bill is very often negative. But simply holding on to your money would have been worse, as money is notorious for earning no interest whatsoever.



*In December 2011, the nominal return actually hit 0.00%.

How these graphs were created: For the first graph, search for "one month Treasury" and select the monthly series. For the second graph, take the first, go to the "Edit Graph" panel, add the CPI series, change its units to "Percent Change," and apply formula *a-((1+b/100)^12-1)*100*.

Suggested by Christian Zimmermann.