

# Yield Curve Inversion. The Fed. The QE Trap.

For a while now, the Fed funds effective rate has pushed up against the upper bound of the Fed funds target rate. If not for the Fed, short term rates would have risen above the target range. We see this pressure in repo rates, not just this week but for some months now, where repo is pushing above IOER. This week, just before the FOMC met to cut rates (by 25 bps), overnight repo traded up to 10% prompting remedial action by the Fed to provide liquidity. An initial injection of 53 billion USD was followed by 75 billion USD and is going to be increased to 80 billion USD tonight. Repo is settling down, the markets have been calmed, pundits assure us that this is not a prelude to a 2008 type credit crisis. And they are probably right. 2008 was a credit squeeze in the mortgage market, transmitted by the banking system into full blown panic endemic to fractional reserve systems. This time is different. Slightly.

Corporate credit has increased significantly in the last decade. The corporate bond market has increased 3 fold, the leveraged loan market doubled. But generally, corporate balance sheet leverage is manageable because earnings have grown. Household balance sheets are the least stretched as banks rationed credit to meet new regulatory standards. The increase in leverage has occurred on sovereign balance sheets. Aggressive tax cuts have increased the national debt and resulted in increased treasury issuance.

At the same time, the Fed has, since early 2018, begun to shrink its balance sheet gradually. But just as the implications of QE were not well understood as it was being phased in, the consequences as it was being phased back, are also not well understood. We are seeing some of its effects now.

The market experts are probably right that the repo surge is probably nothing to worry about, but they are illuminating. A number of factors contributed to the repo surge. The FOMC was to meet on Wednesday and announce a rate cut on Thursday. This was widely expected but the concern was that the Fed would send a signal that was insufficiently dovish and could cause a back up in rates. We saw this earlier in the month with the ECB when its 0.1% rate cut and resumption of bond purchases at 20 billion EUR a month was deemed insufficient, or ineffective, and rates backed up aggressively. The reduction in the Fed's balance sheet over the past year, coupled with increased capital requirements for the banks, led to a shortage of reserves to deploy in the repo market. September 15 is the quarterly deadline for payment of taxes. The treasury issuance calendar has also been full, financing the increasing national debt.

We now have a hypothesis for why the yield curve had inverted earlier this year. The shortage of reserves led to a liquidity squeeze in the money market resulting in rising short term rates. The Fed owns just under a third of the mid section of the yield curve and under two thirds of the long end. The roll back of balance sheet led to a demand and supply imbalance that lifted the short end and the long end, leaving the belly fairly balanced. The result was a curve inversion up to 10 years, and a normal curve out to 30.

So we have a theory for how the curve got this way and it has nothing to do with growth expectations. But an inverted curve induces recession as banks borrow at the short end to lend at longer maturities. Maintaining positive margins means that the bank credit market fails to clear. The result is a shortage of credit for SMEs. Large caps have access to the bond market and continue to fund more or less as usual. Quality bank credit assets that can be securitized are also taken out of the equation. That means that the causality between curve inversion and recession is diluted but not completely

mitigated. Curve inversion causes credit rationing.

The Fed needs to cut rates or restore some QE. From an economic perspective, data do not support further rate cuts or bond purchases. Further accommodation may exacerbate valuations and prolong a credit expansion cycle that is in need of decompression. However, the financial system may not be robust against balance sheet reduction.

I don't know if this is the justification for President Trump's encouragement of deeper rate cuts, but the Fed needs to resume QE if it wants to cut rates. This raises a couple of questions. Is QE trap? Is it a policy which once embarked upon cannot be exited without inducing recessionary conditions?