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Intro to Quantitative Tightening

On June 1st, the Federal Reserve will begin to aggressively shrink its $9T balance sheet through QT.

But what even is QT and how might it impact the economy and financial markets?

Let's break it down in simple English!
🧵👇

The Federal Reserve begins its quantitative tightening (QT) program on June 1st.

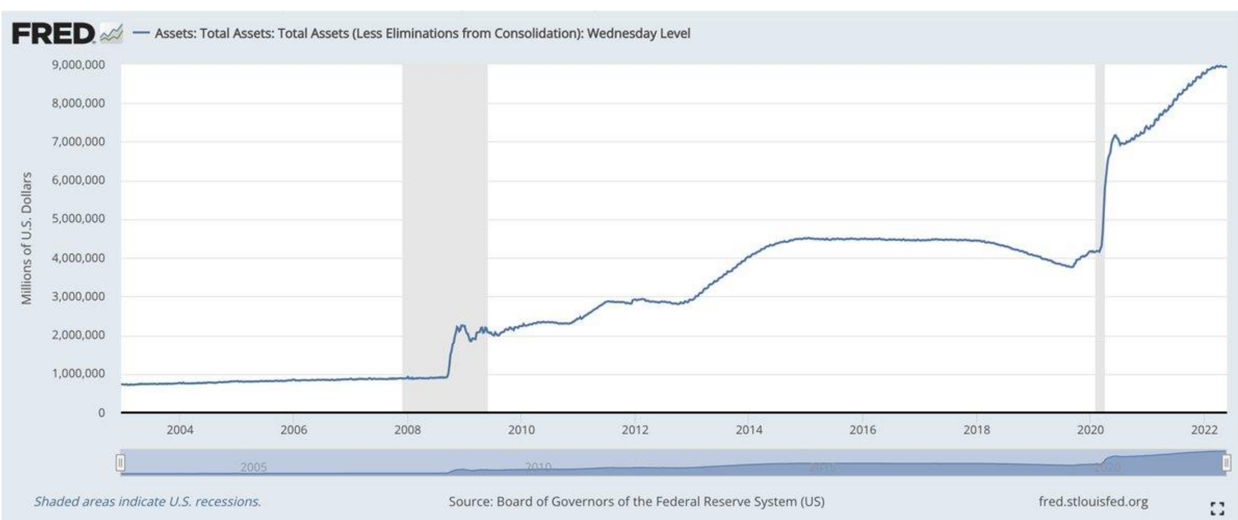
This type of contractionary monetary policy has only been done in the US once before (2017 - 2019).

This tool is used to reduce liquidity in the economy to combat inflation.

Before diving into the mechanics of how this works, let's briefly take a step back and provide some context.

The chart below displays the size of the Fed's balance sheet.

The balance sheet has grown from ~$4.3T in March 2020 to roughly $9T now.



How did this happen?

In March 2020, at the beginning of the pandemic, the Fed started its Quantitative Easing (QE) program to stimulate the economy.

What is QE? 👇
QE is when the Fed buys longer-term Treasury securities and mortgage-backed securities (MBS) from the open market using reserves that it creates (essentially printing money).

The result: new money is added to the system, interest rates fall & the Fed’s balance sheet expands.
So the Fed’s balance sheet has more than doubled in the last two years and the private sector (commercial banks) are awash with excess reserves.

Now, the Fed is pushing the brakes and aiming to slow down the economy.

They can do this through QT, the opposite of QE.

How does it work?

Normally, the Fed reinvests the proceeds from the principal payments of maturing Treasuries into newly issued Treasuries.

In doing so, they replace maturing bonds.

This is how they maintain the size of their balance sheet.
With QT, the Fed reduces the amount of money that's reinvested into new Treasury securities.

Treasuries that are not reinvested "run-off" the balance sheet.

As @fedguy12 says: these proceeds are extinguished and reserves disappear from the banking system with a few keystrokes.
@mentions
This allows them to reduce the value of their balance sheet.

Because of this, you'll see QT often referred to as "Balance Sheet Run-Off" or "Balance Sheet Normalization."
@mentions
The Fed sets a monthly cap on how many Treasuries can mature without having its proceeds reinvested.

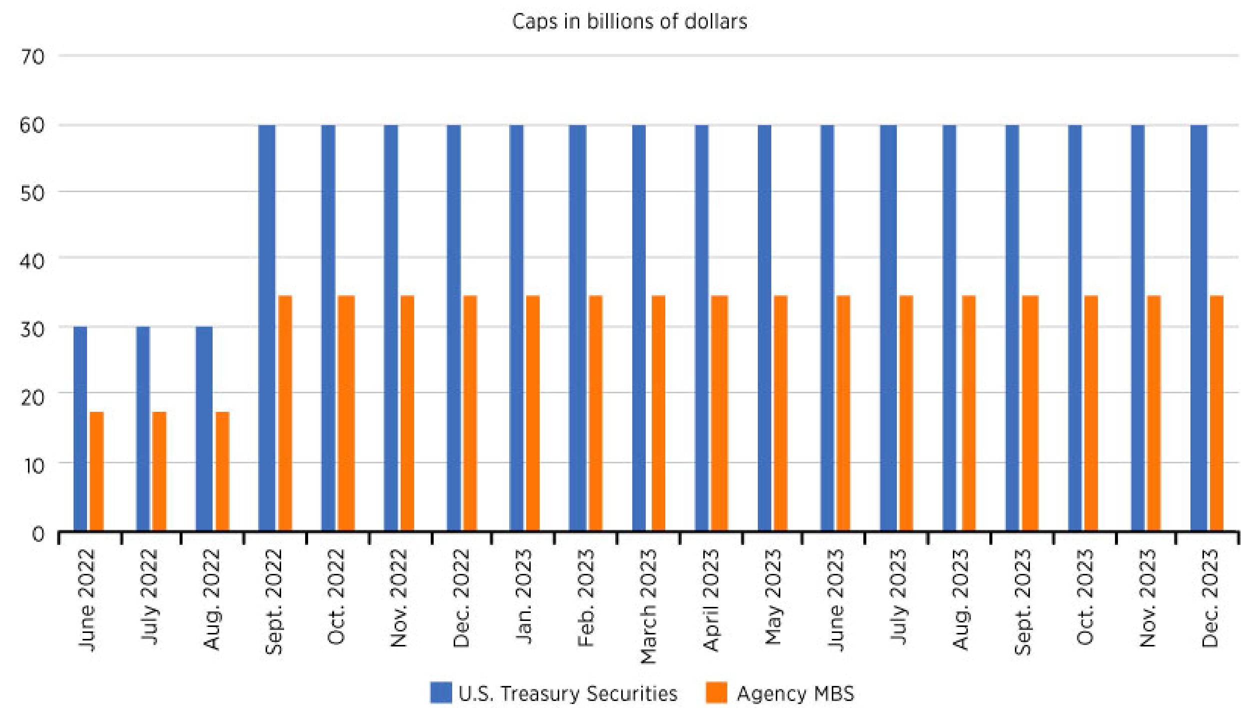
These reductions must be gradual and measured since we don't know what level of bank reserve balances need to be maintained in order to not cause a shock in the financial system.

In this round of QT, securities will “run-off” the balance sheet at this pace:

June - August: $47.5b ($30b in Treasuries and $17.5b in MBS)

September onwards: $95b ($60b in Treasuries and $35b in MBS)

Once the cap is met, any extra money from maturing securities is reinvested.



■ FEDERAL RESERVE BANK OF ST. LOUIS

Effectively, the Fed's balance sheet should shrink by roughly $1T annually.

This is a much faster pace than the last round of QT in 2017-2019.

Powell expects that it may take around three years for the balance sheet to normalize, although there is no fixed timeframe.
@mentions
Note: Recent Fed minutes from May 25th indicate that outright selling of MBS (rather running-off) may be possible in the future.

Although this is not certain yet.

This may put some downward pressure on the price of MBS, leading to higher mortgage rates and weakness in housing.
@mentions
However, former senior Fed trader, Joseph Wang, expects that sales will be no more than $10b per month and that there should be buyers including banks, insurance companies and pension funds.

Joseph Wang
@FedGuy12

Fed forecasted SOMA MBS paydowns of about 25b a month but had a 35b a month QT cap. That extra 10b is the most they will sell, if they maybe decide to sell one day. It'll be ok - it's a 10t market.

2:53 PM · May 25, 2022

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Joseph Wang
@FedGuy12

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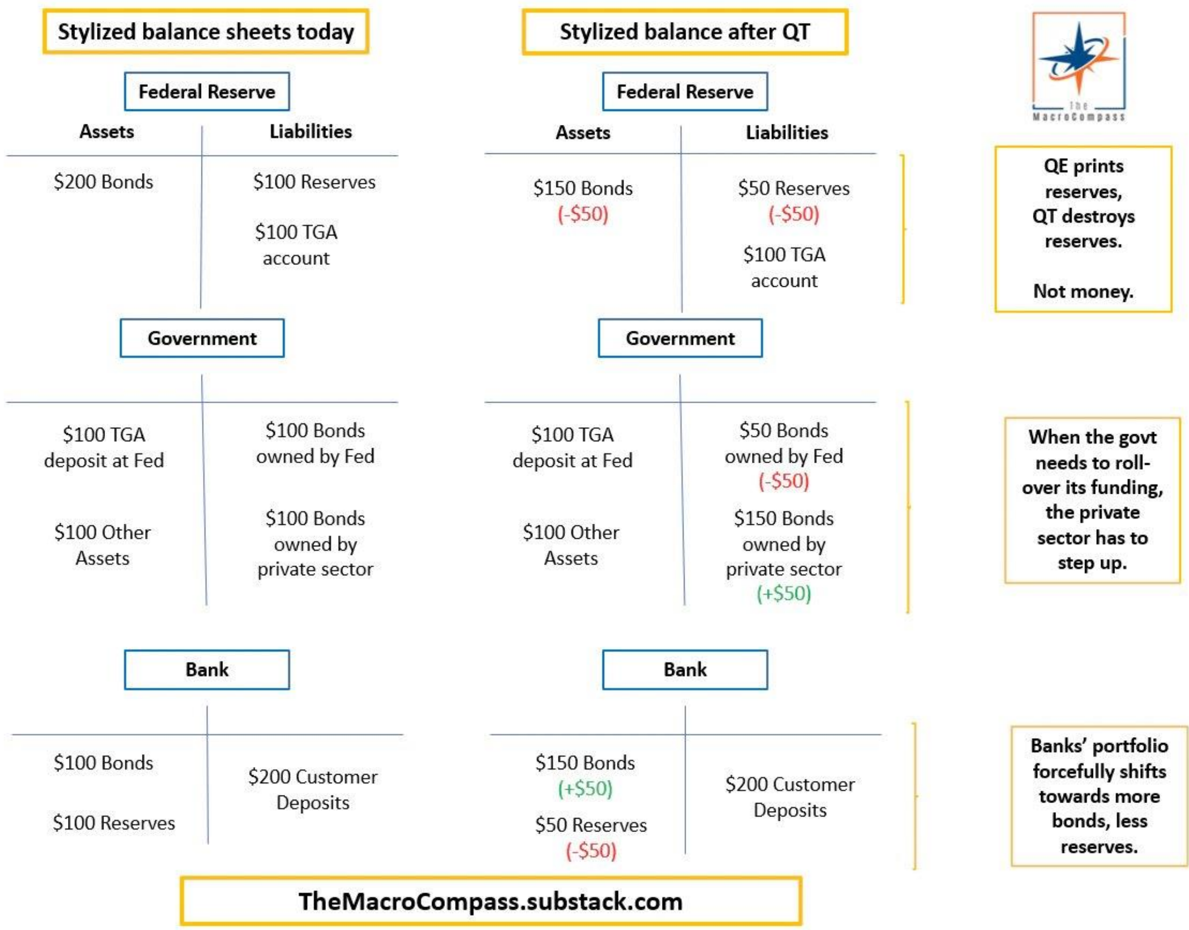
Let's explore how QT affects the balance sheets of the Fed, the government and the private sector.

@MacroAlf created a useful illustration of this, which you can find on his newsletter, The Macro Compass.

Note: The figures used are just examples.



Federal Reserve: Balance sheet shrinks.

Bonds mature and run-off. (-$50B: Assets side)

Reserves are extinguished through a few keystrokes (-$50B: Liabilities side, reversing the reserves that were created out of thin air through QE.)

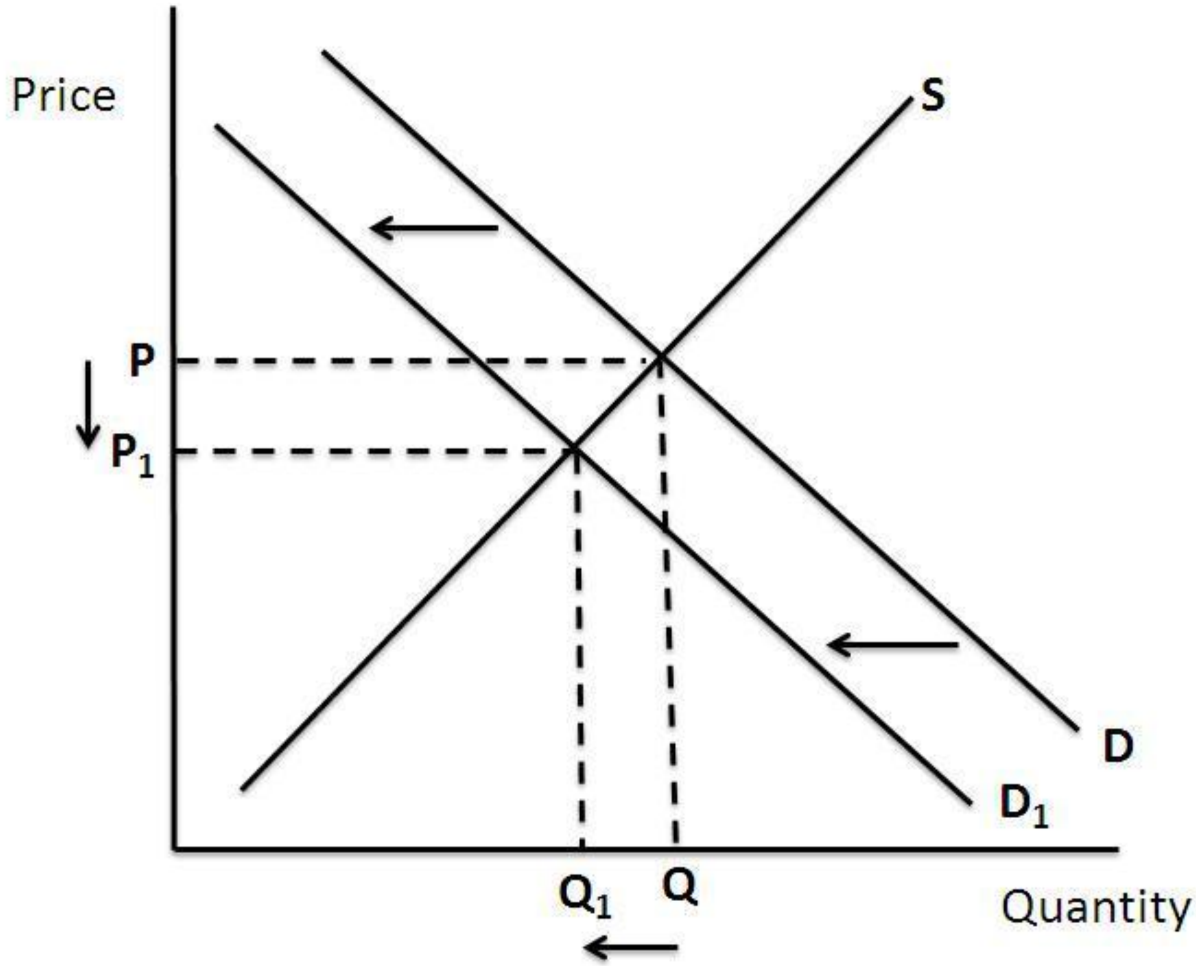
Government: Their issuance of Treasury debt is not changed, but the composition of who buys the debt is affected. (-$50B owned by Fed vs. +$50B owned by private sector)

Since the Fed is no longer purchasing these securities, the private sector buys their issuance instead.
@mentions
Private sector (commercial banks): They use their cash reserves to buy Treasury securities.

Their portfolio composition changes to hold more bonds and less cash reserves. ($50B in cash reserves replaced by $50B in Bonds).
@mentions
How might QT affect the price of Treasuries and Mortgage-Backed Securities?

The price of these are set by supply and demand.

Supply is not changed, but demand should decrease since the Fed is no longer a buyer of these securities.



Since the private sector is now the main buyer, prices may have to reduce in order for demand to meet supply.

Lower Treasury prices lead to higher yields.

Lower MBS prices lead to higher mortgage rates.
@mentions
During QE, the Fed bought securities at any price as they could create reserves to fund their purchases.

This is why we saw Treasury yields and Mortgage rates fall rapidly during QE.

These markets were propped up by Fed demand, causing upward price pressure and lower yields.
@mentions
But private investors are more price conscious, and their demand is not as inelastic (they do not have endless reserves).

As a result, we've seen a rise in yields and mortgage rates ever since Powell switched his tone to hawkish and announced a taper in QE asset purchases.
@mentions
Markets are forward-looking.

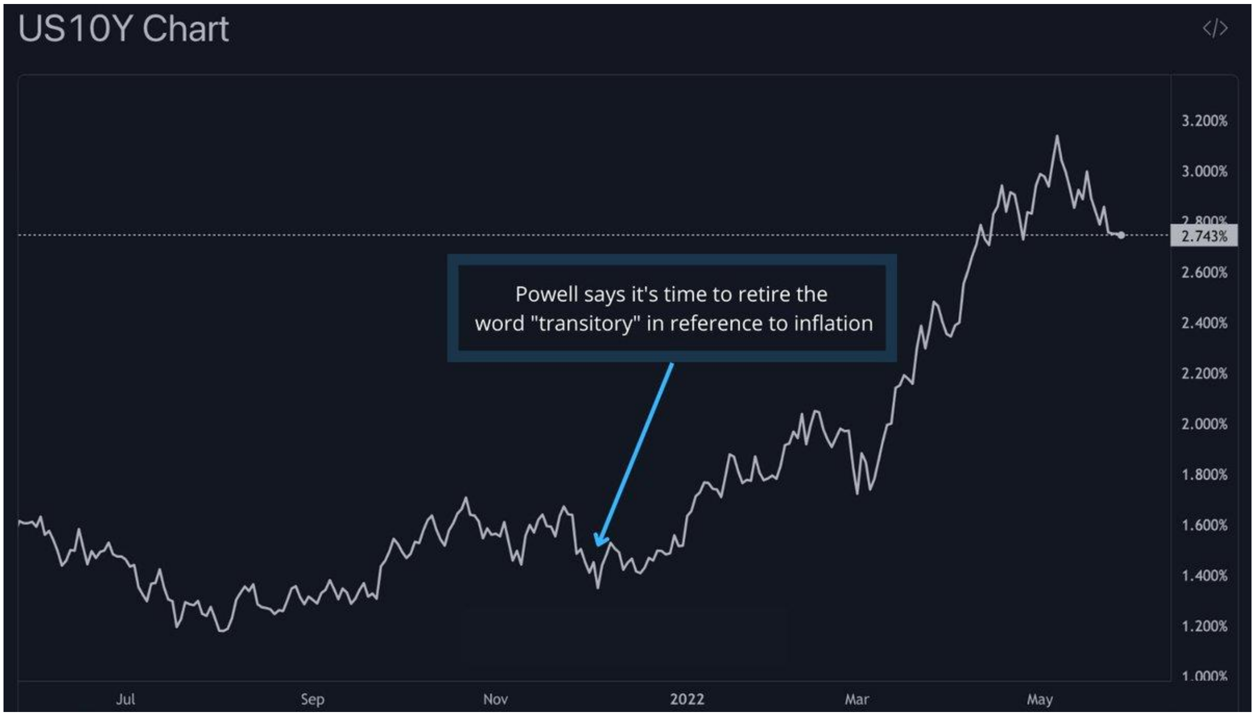
Although rate hikes only started in March this year, and QT is starting in June, Treasury yields and Mortgage Rates have risen aggressively over the past several months.

Since Powell pivoted from 🕊️ to 🦅 on Nov. 30, 2021:

10Yr Treasury Yield has risen from 1.43% to 2.74% now.

30Yr Fixed Mortgage Rate Avg. rose from 3.11% to over 5% now.

Markets have started tightening for the Fed, but have they fully priced in the Fed's contractionary policy?



There is no certain answer to this question.

There is also very little data on the effects of QT on the economy and markets as there has only been one cycle in the past.

These factors breed fear and uncertainty, and hence we've seen heightened volatility in equity markets.
@mentions
In terms of equities, @JDHenning published a great analysis that tracked the performance of the S&P, VIX, FANG stocks and more during prior QE and QT cycles.

Here's how the S&P performed during the last QT cycle.
Returns turned sharply negative when QT's pace was $50B per month.

Federal Reserve Program	S&P 500 Return	Duration/Mo	Avg/Mo
QT ramp 1 (Jan 2018 - Sep 2018)	+8.99% $30B/mo	9 months	+0.99%
QT ramp 2 (Oct 2018 - Dec 2018)	-13.97% $50B/mo	3 months	-4.65%
QT removal (Jan 2019 - Aug 2019)	+17.82%	8 months	+2.22%

Of course, past performance is not indicative of the future.

But equities have sold off considerably YTD in anticipation of the Fed's tightening.

While equity markets have been pricing in contractionary policies, the macro backdrop doesn't seem too supportive for risk assets.
@mentions
There isn't much history to look at to forecast the effects that QT will have on the financial system.

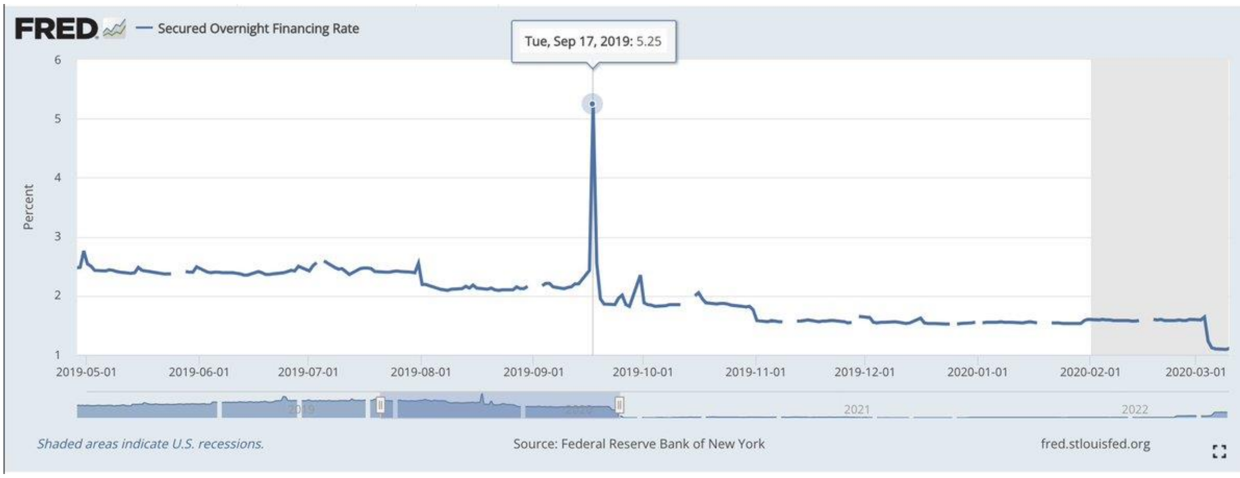
Prior to the last QT cycle, Janet Yellen, former chair of the Federal Reserve, said it would be like watching paint dry.

This analogy proved to be quite inaccurate.

The last QT cycle ended abruptly in September 2019, after repo rates unexpectedly spiked.

It was believed that reserve balances in the banking system hit a minimum, prompting the Fed to start another round of QE.

Details on the last QT cycle can be found in our list of sources.



Time will tell if this QT experiment will lead to any new unforeseeable shocks in the financial system.

With the current macro backdrop, we'd wager that this cycle will likely be more eventful than watching paint dry.
@mentions
Thank you for reading!

We'd love to hear your thoughts on QT and how you think this policy will affect the economy and markets.

Sources used for this write-up can be found here:

Resources

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