Glossary

q.v. is short for "quid vide" which means "which see." Here I use it to mean "this term is defined elsewhere in the Glossary; look it up."

Administered rates
This phrase refers to the interest rates that are directly set by the Fed, including the primary credit rate and the interest rate paid on banks' reserve balances. (As opposed to rates that the Fed controls indirectly, like the market overnight rate.)

Agency MBS
Mortgage-backed securities (q.v.) issued and guaranteed by Fannie Mae, Freddie Mac or another GSE (q.v.), made out of conforming mortgages.

Asset-backed commercial paper (ABCP)
This is a type of commercial paper (q.v.) issued by a structured investment vehicle (q.v.) to fund purchases of long-term securities, often asset-backed securities (ABS) (q.v.) such as mortgage-backed securities (MBS) (q.v.).

Asset-backed security (ABS)
Same thing as a mortgage-banked security (q.v.) except that the loans pooled together to make the payments on the bond - "securitized" - are not mortgage loans but rather car loans, or student loans, or credit-card debt, or.... Think of a new kind of debt to make into ABS and you can live on the Upper East Side and buy your kid's way into Princeton!

Autonomous or exogenous factors
Open market operations are not the only thing that affects reserve supply (see class notes). The other things that affect reserve supply, such as changes in the balance in the Treasury's Federal Reserve account, are called autonomous factors or exogenous factors.

Balance sheet
A balance sheet is a statement of a business's assets and liabilities. When people talk about the Fed's balance sheet, they usually mean the asset side of the balance sheet. Thus, the "size of the Fed's balance sheet" increases when the Fed engages in LOLR operations (LOLR loans are assets to the Fed). The "size of the Fed's balance sheet" also increases when the Fed buys bonds in open-market operations or quantitative easing. Increases in the "size of the Fed's balance sheet" are usually associated with increases in reserve supply. (This makes sense, because reserve balances are a liability of the Fed. In accounting, increases in assets are be matched by increases in liabilities.)

Bank note
When you made a deposit in a bank in the early nineteenth century, you could choose for the bank to give you "bank notes" rather than a balance in a checking account or savings account. A bank note was a piece of paper that stated the bank would pay $1, or $2, or $5 - some number of dollars - in gold coins to

anyone who brought that piece of paper to the bank. Sometimes people selling things in a town would be willing to take bank notes issued by local banks as payment for things. A bank note could circulate around the town as a form of money until someone chose to take the note back to the bank and ask for gold or silver coins. If the bank issuing a note failed, the note became worthless.

Basis point
A hundredth of a percent. 50 basis points is half a percent.

Commercial paper(CP)
A type of bill issued by a private company. (Bills issued by the Federal government are called "Treasury bills.") A company can issue commercial paper for any reason. It might use the funds borrowed through commercial paper to purchase inventories or raw materials. It might use the funds to purchase long-term assets, in which case it would be engaging in financial intermediation (borrowing short-term to finance purchases of long-term assets).

Comptroller (of the Currency)
An official in the U.S. Treasury Department whose duties include some aspects of bank regulation.

Conduit
Many types of FIs, including banks, are subject to regulatory capital requirements, that is (simplifying a bit) they are required to hold capital greater than or equal to a certain percentage of their assets. Capital requirements are meant to prevent a FI from funding purchases of risky assets *entirely* with borrowing - if it did, a small drop in the value of the assets would make the FI unable to pay off its borrowing. FIs try to find ways to get around capital requirements, because funding assets entirely with borrowing is very profitable (though dangerous for the lenders to the FI). One way a FI can get around capital requirements is to set up a conduit. A conduit is, technically-legally, a company *separate* from the FI that set it up. If the conduit goes bankrupt, the FI loses its investment in the conduit, but the FI isn't responsible for paying off the lenders to the conduit. (There are other ways the term "conduit" is used in financial markets, but this is the meaning that was most important in the 2008 financial crisis.) One type of conduit is a structured investment vehicle (q.v.).

Credit risk
Default risk.

Daylight overdrafts, daylight reserves, daylight credit
In the notes I describe how the Fed treats end-of-day overdrafts in banks' reserve accounts. Banks can also run overdrafts in their reserve accounts during the day. These are called "daylight overdrafts." The Fed treats daylight overdrafts leniently as long as the bank has "lodged collateral" at the Fed to cover daylight overdrafts. "Lodged collateral" means that the bank has placed Treasury bonds or other acceptable collateral in the Fed's hands to be used as collateral for loans to cover overdrafts. The Fed does not charge interest for these loans, which are called "daylight credit," as long as the overdraft is covered by the end of the day and the bank does not do it too often.

Deposit insurance

In order to prevent runs of deposits from banks, in 1933 the Federal government established a government-owned corporation, the Federal Deposit Insurance Corporation, that insures deposits in banks. If your bank becomes insolvent and defaults, your deposits will be paid off by the F.D.I.C. In the 2008 financial crisis, there were practically no runs on bank deposits, except for special types of deposits that don't have F.D.I.C. insurance. There were lots of runs on other types of short-term loans to banks.

Desk

Open market operations are handled by staff of the Federal Reserve Bank of New York. These staff are called the "Desk" or the "trading Desk." Under the Fed's old system, the Desk did open-market operations nearly every day to keep the market rate at the target. Every morning, Desk staff forecast what the position of the reserve demand curve would be that day, which told them what reserve supply needed to be to make the makret rate hit the target. They also forecast what autonomous factors (q.v.) would do to reserve supply that day. Then they did open-market operations to add or subtract just the right amount of reserves, given what the autonomous factors were going to do, to keep reserve supply at the right value to make the overnight rate hit the target. If the Fed moved to a corridor system (rather than a floor system), the Desk would have to do the same thing.

Discount lending, discount window

This is a phrase used to refer to *any* kind of lending by the Fed, including (but not limited to) overnight loans to cover overdrafts in banks' reserve accounts, and LOLR lending (which is usually longer-term than overnight). Fed loans are said to go "through the discount window." These phrases exist for historical reasons you needn't worry about.

At the time the 2008 financial crisis hit, the law governing the Federal Reserve system (the Federal Reserve Act) said the Fed could ordinarily lend *only* to banks, that is businesses that have a "banking charter" that allows them to take deposits. But the Act also specified, in Section 13 (3), that under "unusual and exigent circumstances" the Fed could lend to any type of business. Early in the financial crisis, Federal Reserve policymakers were reluctant to invoke Section 13(3) - they didn't want to scare people. So when they wanted to lend to a non-bank FI, they did it in the following way. They found a cooperative bank. They made a loan to the bank while the bank simultaneously lent the money on to the nonbank FI that the Fed wanted to help. The nonbank FI gave collateral to the bank and the bank gave the same collateral to the Fed. In order to make the bank willing to take part in the operation, the loan from the Fed had to be a "non-recourse loan"(q.v.).

Dodd-Frank Act

This is a federal law passed in 2010 (in response to the 2008 financial crisis, of course) that changed regulation of banks and other FI's, and imposed new constraints on Federal Reserve lending operations ("discount lending").

Effective federal funds rate

This is the Fed's official measure of the federal funds rate. It is an average of rates paid by banks for fed funds loans.

Effective lower bound

Fed policymakers used to believe that nominal interest rates could not go below zero - why would a lender pay to lend when the lender could just hold cash instead? They talked about the "zero lower bound" or "zero bound" on interest rates. Then some central banks forced overnight rates to go below zero. They did this by using the floor system and charging interest, rather than paying interest, on reserve accounts, so that the floor is below zero. Fed staff and policymakers had believed such a thing was not possible - wouldn't banks just hold stacks of currency (which pays zero interest, better than negative) rather than reserve balances? Well, apparently the Fed people were wrong. It is still not totally clear how below-zero interest rates can work. Fed people now believe that overnight rates can be pushed below zero, but not far below zero, so that there is still an "effective lower bound" somewhere a bit below zero.

Excess reserves
This phrase refers to a bank's reserve balance *minus* its required reserve. (Or, to be absolutely precise, a bank's reserve balance minus the portion of its required reserve that is not satisfied by its vault cash (q.v.))

Fannie Mae
See ***Mortgages, etc.***

Federal Home Loan Banks (FHLB's)
These are GSEs, like Fannie Mae and Freddie Mac (see Mortgages etc.), set up in the 1930s to promote mortgage lending. All you need to know about them is that, like Fannie and Freddie, they hold reserve accounts in the Federal Reserve system but (unlike ordinary banks) do *not* get paid interest on their reserve accounts. Thus, the FHLB's are willing to lend overnight at rates below the "floor" (the interest rate paid on reserves) but above the "subfloor" (the ONRRP rate). As of late 2018 *most* lending of fed funds was by FHLBs.

Financial Services Regulatory Relief Act of 2006
This was a law that said the fed could start paying interest on reserves in 2011. In 2008 the Fed got Congress to pass another law (the Emergency Economic Stabilization Act of 2008) allowing it to start paying interest on reserves immediately.

Freddie Mac
See ***Mortgages, etc.***

Government-sponsored enterprise (GSE)
See ***Mortgages, etc.***

Haircut
For many loans, the collateral provided by the borrower is a security - a bond, or shares of stock - or a basket of securities. Securities' prices change from day to day, and may fall. Thus, to protect the lender, the amount of money a lender will provide on security collateral is always less than the market value of the security at the time the loan is made. Suppose bank A lends to bank B. The collateral is a bond with a current market price of $1 million. If bank A lent bank B the full $1 million on this collateral, and bank B defaulted on the loan, and the market price of the collateral had fallen in the meantime, bank A would be left holding the bag - it would not get enough from selling the collateral to pay off the loan. So the

amount of the loan will be less than $1 million - say, $900,000. The difference between the current market value of a security (or basket of securities) and a loan collateralized by that securitiy (or securities) is called a "haircut." In the example I just gave, the haircut is ten percent.

Investment grade

Bonds that have high ratings (indicating low risk of default), specificially ratings from AAA down to BBB-. (Bonds with lower ratings are called "junk bonds.") They are called "investment grade" because some investment firms, trust funds, endowments and so on are required by their charters to hold *only* highly-rated bonds.

Interest on Excess Reserves (IOER)

The law allowing the Fed to pay interest on reserve accounts allows it to pay different rates on required reserves and excess reserves (q.v.). The rate paid on excess reserves is IOER. In practice, the Fed has set IORR equal to the rate paid on required reserves.

Interest on Required Reserves (IORR)

The law allowing the fed to pay interest on reserve accounts allows it to pay different rates on required reserves and excess reserves (q.v.). The rate paid on required reserves is IORR, In practice, the Fed has set IORR equal to the rate paid on excess reserves.

Investment banks

In the 1920s, big New York city banks such as J.P. Morgan and Company had a sideline in helping private companies issue bonds and new shares of stock. Sometimes a bank would buy up all (or some) of a company's new stock or bond issue from the company wholesale, then retail the bonds or shares of stocks to investors (taking a markup of course). This is called "underwriting." Helping a company design a bond or stock issue and sell the new security, perhaps through underwriting, is called "investment banking."

In 1933, during the Roosevelt administration, a law (called the "Glass-Steagall Act") decreed that banks (companies that take deposits) could no longer engage in investment banking. That is, a company that took deposits could not do investment banking. The investment banking arms of big New York banks became separate corporations, called "investment banks." J.P. Morgan's investment banking business became an investment bank called "Morgan Stanley." Some other investment banks were Goldman Sachs, Lehman Brothers, and Bear Stearns. When I came out of college, investment banks were, like hedge funds today, where smart greedy young people wanted to work. (I hope you are smart and greedy, get a job in a hedge fund, and give money to SUNY-Binghamton once you make your fortune. Not for a baseball stadium, mind. Something useful, please.) Many investment banks were also "primary dealers" (q.v.). Note that investment banks were not really banks. They did not engage in financial intermediation. They did not borrow short-term to acquire long-term or illiquid assets.

In the 2000s many investment banks got into the business of securitizing nonconforming mortgages. In doing so, they held the MBS securities that they made out of nonconforming mortgages on their own books while they were selling them off to investors. Investment banks also started doing financial intermediation. They borrowed overnight to buy and *hold* MBS securities (not just hold them while they

were retailing them to investors). They borrowed overnight through "repos" (q.v.) collateralized by the MBS.

In the early part of the 2008 financial crisis, before the Fed invoked section 13(3), investment banks became banks (or subsidiaries of banks) - they took "banking charters" - so that they could get "discount loans" (q.v.) from the Fed.

Leverage
A FI buys assets partly with the capital provided by its owners, and partly with borrowed money. The FI profits on the spread between the cost of its borrowing and the earnings on the assets. "Leverage" is a term for the borrowed money, or the process of adding borrowed funds to capital. A FI, by definition, uses leverage. The more leverage, the more profit for the FI, but the greater the danger that the FI will become insolvent and default on its borrowing (see your notes on "capital).

Leverage ratio
This is a ratio that indicates the degree to which the assets of a financial intermediary (or another type of business) are funded by capital *versus* borrowing ("leverage"). Confusingly, the phrase "leverage ratio" is used to refer to several different specific numbers. Perhaps the most common is the debt-to-equity ratio, which is a financial intermediary's total borrowing (through deposits, loans, or bond issuance) divided by the financial intermediary's capital ("equity"). Other things equal, a financial intermediary with a lower debt-to-equity ratio is less likely to default on its borrowing.

LIBOR
stands for "London Interbank Offered Rate." A LIBOR is a measure of interest rates charged for short-term loans between banks in European financial markets, of which London is the most important. The overnight dollar LIBOR measures the market rate for overnight eurodollar loans. Many financial contracts specify that the payment one party makes to the other will depend on what overnight dollar LIBOR turns out to be. It is calculated by a private company that surveys a set of banks every day and asks "what would your bank have to pay to borrow dollars overnight from another bank?" In 2012 it was discovered that the banks responding to the survey had been colluding and lying to manipulate LIBOR (because this changed what the banks would have to pay or receive in financial contracts based on LIBOR). Nowadays LIBOR is viewed as being unreliable so it is being phased out.

Liquidity Coverage Ratio (LCR)
This is what I called "liquidity requirements" in class. It is a regulatory requirement that a bank hold a minimum amount of liquid assets. A bank's holdings of cash, its reserve balance, and the Treasury bills and bonds it holds all count toward satisfying its LCR.

Liquidity effect
This is a term used to refer to the effect of changes in reserve supply on market interest rates. Under the floor system, there is no liquidity effect.

Loan commitment

A bank can enter into a contract with a customer which states that, until an end date specified in the contract, the bank will loan money to the customer if the customer asks for it, up to a specified amount and at a specified interest rate. A business would enter into such a contract with a bank to make sure that it can borrow money from the bank in the future, if necessary. Businesses that ordinarily borrow by selling bonds (or commercial paper) often enter into loan commitments with banks just as a back-up, to be used if for some reason the business becomes unable to sell bonds.

Loan participation

Often a financial intermediary (FI) will "participate" in a loan with other financial intermediaries. Suppose that FI A participates in a loan with FI B. That means FI A provides a share of the money given to the borrower, and will receive a corresponding share of the borrower's repyaments. If the borrower defaults on the loan, neither FI A nor FI B is repaid.

Market risk

Interest-rate risk (duration risk).

Maturity transformation

This is what I called "intermediation across maturity."

Median inflation

An alternative measure of PCE inflation. Like "core" PCE inflation or trimmed-mean PCE inflation (q.v.), median inflation is meant to downweight the influence of especially volatile prices (such as food and fuel prices).

Money-market mutual funds(MMMFs)

An ordinary mutual fund (*not* a MMMF) is an investment fund which buys stocks, bonds, real estate, or a mix of such assets, and sells shares in the fund. A shareholder in the mutual fund gets quarterly payments equal to her share of the coupon payments on the bonds, or the dividends on the stocks, or the rents on the buildings. If a shareholder sells her share back to the mutual fund company, the shareholder will be paid her share of the current market value of the assets held by the mutual fund. Because the price of the assets might have fallen since she bought her share of the mutual fund, the money that she gets when she sells her shares in the MMMF might be lower than the amount of money she put into the fund originally.

A "money market mutual fund" or MMMF is a mutual fund that mimics checkable deposits in a bank. Its "shares" are sold to investors at a "price" of $1. The MMMF promises that it will always buy shares back at the same "price" of $1. In the meantime, the MMMF pays the investor a fixed percentage rate of return on each $1 share. In effect, this is the same promise a bank makes when it takes a deposit from me - if I put in $1000, I can always take the entire $1000 out again and in the meantime I get interest. An investor in a MMMF can also write checks against her "shares" in the mutual fund.

If the MMMF bought long-term bonds, it might find itself unable to pay its investors everything it owes them: the prices of the bonds might fall (interest-rate risk). So MMMFs don't buy long-term bonds. They don't make long-term loans, either (loans are illiquid). MMMFs *only* make very short-term loans, including overnight repos (q.v.), and buy bills: Treasury bills and commercial paper (q.v.).

A "Treasury" or "government" MMMF buys only Treasury bills, not commercial paper.

A "prime" MMMF buys commercial paper.

In the 2008 liquidity crisis, there were defaults (or at least people feared defaults) on the commercial paper held by MMMFs, especially the CP issued by structured investment vehicles (c.v.). Investors in prime MMMFs "ran" - that is, there were mass withdrawals from MMMFs. MMMFs did not have enough funds on hand to pay everyone. So some funds reneged on their promise to always buy back shares for $1 - they would buy back shares for only 90 cents, for example. This was called "breaking the buck." It was equivalent to a bank refusing to pay back the entire amount of your deposit.

Money supply, monetary aggregate, quantity of money
When people say "money supply," they are often referring to a "monetarty aggregate" such as M1 or M2. This is a statistic that gives the total of cash held by the public plus some types of bank deposit. (M1 includes only checking accounts and similar accounts; M2 includes savings accounts and money-market accounts too.) An very old notion of monetary policy, dating from the 1950s, is that a central bank should try to keep M1 or M2 growing at a steady rate from year to year. No one in central banks has thought this way for a long time.

Mortgage-backed security (MBS)
See ***Mortgages, etc.***

Mortgages, etc.
A "mortgage loan" is a loan used to buy a house or other piece of real estate collateralized by the real estate itself. If the borrower fails to make the specified payments on the loan, the lender has the legal right to seize the collateral, as in any loan. In the case of a mortgage loan, this process is called "foreclosure." A mortgage can be sold, kind of like a bond (but not quite as easily as a bond can be sold). Most mortgage loans are made by banks or companies that specialize in making mortgage loans. Usually, the original lender sells a mortgage very soon after the loan is made.

It is possible to buy insurance on a mortgage. The company providing the insurance will pay off on the mortgage if the borrower defaults.

It is also possible for a company to buy up a lot of mortgages and "package" them into a bond. That is, after buying up the mortgages, the company issues a bond made out of the mortgages. The money that comes in from the interest and principal payments on the mortgages goes to pay the coupon and face value payments on the bond. Such a bond is called a "mortgage-backed security" or MBS. ("Security" is a word that means stock or bond.) The process is called "securitization."

A "conforming" or "prime" mortgage is a mortgage that is structured so that the borrower will almost certainly be able to pay off the mortgage, that is, not default. A conforming mortgage does not cover the full purchase price of the house. That is, if the house costs $500,000, a conforming mortgage loan is only for $450,000. The buyer must cover the rest of the house price with her own money (the "down

payment"). A conforming mortgage is a "fixed-payment" loan (all payments the same size; final payment is not especially big) and is long-term, typically 30 years. Thus, the monthly payment is predictable and relatively small. Finally, before making a conforming mortgage loan the lender checks the borrower's monthly income to make sure that it can easily cover the monthly mortgage payment.

Many years ago the federal government set up two special corporations, which are called "government-sponsored enterprises" or GSE's. The companies' nicknames are "Fannie Mae" and "Freddie Mac." They buy up insured, conforming mortgages and package them into MBS. These are called "agency MBS." Agency MBS (those created by Fannie Mae and Freddie Mac) are guaranteed by Fannie or Freddie: if the underlying mortgages suffer lots of defaults and don't actually generate enough money to cover the bond payments, Fannie or Freddie will still pay off on the bond. The ownership of the GSEs is ambiguous. Going into the 2008 financial crisis they were technically private corporations, with shareholders, but no one thought the federal government would ever let them actually go bankrupt. In fact, the federal government did effectively save them from bankruptcy in 2008, but once Fannie and Freddie became profitable again the government kept the profits - the shareholders lost a lot.

In the early 2000s, house prices began rising rapidly, year after year, over nearly all of the country. (Not in upstate New York, but nearly everywhere else.) People came to believe that house prices would keep rising forever. Mortgage lenders became willing to make "subprime" or "nonconforming" mortgage loans. These were mortgage loans where the final payment was much bigger than the other payments ("balloon loans"), or where the interest payments on the loan were not fixed - they went up if short-term interest rates went up ("floating rate loans"), or where the monthly payment was quite large relative to the borrowers monthly income, or where the term of the loan was very short (as short as five years), requiring the borrower to get another mortgage when the first mortgage came due. Paying off an old mortgage with money borrowed in a new mortgage is called "refinancing." Because lenders believed house prices would rise forever, they did not worry that borrowers would default on such mortgages - if worst came to worst, the borrower could just sell the house for a high price and pay off the mortgage.

Fannie Mae and Freddie Mac would *not buy* nonconforming mortgages to repackage into MBS's. But other companies, including investment banks (q.v.), did. Such bonds are called "non-agency MBS." Because people thought there was little risk of default on nonconforming mortgages (because house prices were going to rise forever), they thought there was little risk of default on these MBS bonds. Bond raters like Moody's and Standard and Poor's gave the bonds high (AAA) ratings. And the bonds were frequently sold with credit default swaps attached which insured the bonds against default - assuming the counterparties on the CDS did not default themselves. Because people thought there was practically no danger of default on these MBS bonds, even though they were made out of nonconforming mortgages, they were quite liquid - almost as liquid as Treasury bonds!

In the 2008 financial crisis, people realized that there was high default risk on MBS bonds made out of nonconforming mortgages, and that other people might be better able to judge the default risk - a lemons problem. Thus the prices of these bonds fell a *lot* and the bonds also became very illiquid.

Non-recourse loan

Usually, a loan with collateral is a "recourse" loan, which mean that if the borrower defaults on the loan, and the value of the collateral isn't enough to pay off all of the loan, the lender has the right to seize other assets of the borrower to make up the difference. A "non-recourse loan" is one where the lender can seize only the collateral specified in the loan agreement - not any other assets of the borrower.

Nonreserve liabilities (of the Federal Reserve system)
This refers mainly to the U.S.Treasury's account in the Fedreal Reserve system, and cash held by the public. (Look at a dollar bill. It says "Federal Reserve Note." That means it is a liability of the Federal Reserve system. Until 1933, you could take Federal Reserve notes to a Federal Reserve Bank and that Bank would give you gold in exchange for the paper currency.) Recall that increases in the Treasury's Fed account, and increases in currency held by the public, tend to reduce reserve supply (section VII E 4).

On-the run, off-the run
"On-the-run" Treasury bonds are the ones that were most recently issued. "Off-the-run" Treasury bonds were issued a while ago. A Treasury bond with a ten-year maturity might be an on-the-run bond, that is a bond just issued by the Treasury that will pay off ten years from now. It might also be an off-the-run bond, that is a bond issued by the Treasury in the past - perhaps many years ago - with an original maturity longer than ten years. On-the-run Treasuries are a little bit more liquid (they can be more quickly sold) than off-the-run Treasuries of similar maturity. Thus, when you talk about yields for, e.g., ten-year Treasury bonds, you have to specify whether you mean on-the-run ten-year Treasuries (which were recently issued as ten-year bonds) or off-the-run ten-year Treasuries (which may have been issued as twenty-five or thirty-year bonds many years ago, but are now ten-year bonds).

Overnight bank funding rate (OBFR)
A statistic that is the average of the effective federal funds rate (q.v.) and the overnight eurodollar rate on a day.

Primary dealer
If you wanted to buy or sell a Treasury bond, how would you do it? You would probably go to a "dealer" (or "broker/dealer"). This is a business which buys Treasury bonds from people, and from the Treasury when it auctions bonds, and sells bonds at a slightly higher price, making its profit on the spread. Most bond dealers also handle other types of bonds, like MBS and ABS (q.v.). A dealer needs to keep a pretty big inventory of bonds on hand. To pay for the inventory, it uses capital and borrowed money (an example of "leverage", q.v.). Most of its borrowing is through overnight repo (q.v.) loans collateralized by the bonds in its inventory. Thus, a bond dealer is also a FI: it is borrowing short-term (overnight) to finance purchases of longer-term assets (bonds).

A "primary dealer" is a dealer licensed to deal with the Fed when the Fed does open-market operations. Most primary dealers are subsidiaries of banks or (up to 2008) investment banks.

Primary Dealer Credit Facility (PDCF)
In the 2008 financial crisis MBS and ABS bonds became illiquid. Lenders to primary dealers would no longer take the bonds as collateral for repo loans. This was a sort of run on primary dealers. The Fed had

to figure out a way to make LOLR loans to primary dealers. It set up the "Primary Dealer credit Facility" to do this.

Primary market

Sales of newly-issued bonds are called "primary market." Sales of bonds that were issued in the past (perhaps many years ago) are "secondary market."

Real-time gross settlement

Years ago, most central banks did not keep track of the balance in a bank's reserve account during the day. They took an account balance only at the end of the day (when the central bank had finished clearing payments). They did not care at all whether a bank ran "daylight overdrafts" (q.v.). Nowadays, most central banks behave differently. They keep track of the balance in a bank's reserve account and overdrafts at all times during the day. This is called a "real-time gross settlement system."

Repos (repurchase agreements)

A "repurchase agreement" or "repo" is really a collateralized short-term loan. But it is legally structured as the sale of a bond (or basket of bonds) coupled with a contract for future purchase of the bond. Say Bank A wants to borrow money overnight and holds bonds which it can put up as collateral for the loan. Bank B wants to lend money overnight. So Bank A sells a bond to Bank B on Tuesday for $900 thousand and simultaneously signs a contract to buy the bond back from bank B on Wednesday morning for a price a little higher than $900 thousand. The "little higher" is the interest on the loan. The bond itself is the collateral - bank B gets to keep it if bank A defaults on the overnight loan. Lenders apply haircuts (q.v.) in repo loans, so the amount of a repo loan is always substantially less than the market value of the collateral bond (or bonds) on the day the loan is made.

Rollover risk

Frequently, a firm borrows by issuing short-term bonds (e.g. commercial paper), intending to pay them off, when they come due, by issuing another round of short-term bonds, and so on over and over again. There is a risk that the firm won't be able to sell short-term bonds in the future, in which case it might be able to pay off the outstanding bonds. This risk is called rollover risk.

Secondary market

Sales of newly-issued bonds are called "primary market." Sales of bonds that were issued in the past (perhaps many years ago) are "secondary market."

Secured overnight financing rate (SOFR)

A measure of the market interest rate for overnight repurchase agreements. Usually, it is very close to the fed funds rate.

Structured investment vehicle

This is a type of financial intermediary that borrows short-term by issuing commercial paper (q.v.). to buy MBS and ABS (q.v.). The commercial paper issued by a structured investment vehicle is called "asset-banked commercial paper" (ABCP) (q.v.). It is backed by the assets - the securities - that are held by the issuer of the ABCP. In the run-up to the 2008 financial crisis, many structured investment vehicles issued

commercial paper to buy MBS made out of nonconforming mortgages. The ABCP issued by these structured investment vehicles was purchased by MMMFs (q.v.). Whoops and whoops.

Swap line

Many FIs outside the U.S. borrow short-term in dollars, not their local currency. If an FI like this gets into a liquidity crisis, it needs LOLR loans of dollars, not the local currency, from its central bank. But where would a foreign central bank get dollars to lend? From the Fed. A "swap line" is the procedure whereby the Fed lends dollars to a foreign central bank so that the foreign central bank can make LOLR loans of dollars to foreign banks. (The reverse operation happens rarely, because American FI's rarely borrow in anything but dollars.) To do this the Federal Reserve gives dollars to the foreign central bank and the foreign central bank "provides the equivalent amount of funds in its currency to the Federal Reserve, based on the market exchange rate at the time of the transaction. The parties agreed to swap back these quantities of their two currencies at a specified date in the future, which is the next day or as far ahead as three months, using the same exchange rate as in the first transaction. Because the terms of this second transaction are set in advance, fluctuations in exchange rates during the interim do not alter the eventual payments." (I am quoting from a Federal Reserve document.) In effect, the Fed gives the foreign central bank, say, $1 billion now and is paid back $1 billion in the future. It is lending the foreign central bank dollars at an interest rate of zero. Usually, the Fed lends through swap lines only to a small set of foreign central banks that often have need for dollars *and* are very reliable (the Bank of Canada, the Bank of England, the European Central Bank, the Bank of Japan, and the Swiss National Bank). But sometimes the Fed will lend through swap lines to trashier foreign central banks.

System Open Market Account (SOMA)

This is a category in the accounts of the Federal Reserve system that covers assets acquired through open-market operations (including QE operations). It does not include assets acquired through LOLR or primary credit lending. (Recall these loans are assets on the fed's balance sheet).

Tenor

Maturity of a loan.

Term Asset-Backed Securities Loan Facility(TALF)

A program that the Fed set up during the 2008 crisis to lend on collateral of ABS bonds (q.v.).

Term auction facility (TAF)

This was a program that the Fed set up during the 2008 crisis in an effort to provide LOLR loans in a way that would not be hampered by stigma. That's really all you need to know, but here's more. Quoting from the Fed website, "All loans extended under the TAF were fully collateralized, and the funds were allocated through an auction, in which participating depository institutions placed bids specifying an amount of funds, up to a pre-specified limit, and an interest rate that they would be willing to pay for such funds. The funds were allocated beginning with the highest interest rate offered until either all funds were allocated or all bids were satisfied. All borrowing institutions paid the same interest rate, either the rate associated with the bid that would fully subscribe the auction, or in the case that total bids were less than the amount of funds offered, the lowest rate that was bid."

Term Securities Lending Facility (TSLF)
This was a program that the Fed set up during the 2008 crisis to help primary dealers. It lent Treasury bonds, not money, to primary dealers. The dealer could then use the Treasury bonds as collateral to borrow from anybody through repo (q.v.). The dealer gave the Fed collateral for TSLF loans. The collateral was MBS, ABS (q.v.) or other bonds that lenders to primary dealers would no longer take as collateral for repo loans.

Treasury Inflation-Protected Security (TIPS)
Ordinary Treasury bonds specify coupon payments and face value as dollar amounts. If future inflation turns out to be higher than expected, the payoffs on these bonds will have less real value (the money will buy less stuff) than investors expected when they bought the bonds. To provide investors with an investment which is protected from inflation, the Treasury also issues TIPS. These are bonds for which the coupon payments and face value are "indexed" to the consumer price index - if the CPI goes up, the coupon (face value) pays more dollars. The yield on TIPS is sometimes taken to be an indicator of the real interest rate in an economy, and the spread between yields on ordinary Treasury bonds and TIPS of the same maturity is taken to be an indicator of the future inflation rate expected by the public. (Can you see why?) But this is tricky, because ordinary Treasoru bonds are more liquid than TIPS. Thus, the spread reflects a liquidity premium as well as expected future inflation.

Trimmed-mean PCE inflation rate
An alternative measure of PCE inflation. Like "core" PCE inflation or median inflation (q.v.), trimmed-mean PCE is meant to downweight the influence of especially volatile prices (including food and fuel prices).

Tri-party repo
A type of repo (repurchase agreement, q.v.) in which the collateral security is held by a trusted third party, rather by the lender, while the loan is outstanding.

Troubled Asset Relief Program (TARP)
The TARP was a fund set up by the U.S. Treasury, not the Fed. Its original purpose was to help non-bank FIs to which the Fed could not make discount loans (q.v.) without invoking Section 13(3). The original plan for the TARP money was that it would buy up MBS (q.v.) that had become illiquid in the crisis. But it was instead used to recapitalize banks and other FIs. That is, the government used the money to buy shares in the FIs.

Vault cash
Vault cash is cash that a bank holds in its vaults or ATMs. Vault cash counts toward a bank's reserve requirement. So the minimum balance a bank is required to hold in its reserve account is actually its reserve requirement minus its vault cash.