

1. Six monetary policy goals:
  - 1) Price stability
  - 2) High employment
  - 3) Economic growth
  - 4) Stability of financial markets and institutions
  - 5) Interest rate stability
  - 6) Foreign-exchange market stability

### 1.1. Monetary policy goal: Price stability

Inflation erodes the value of money as a medium of exchange and as a unit of account. So Most industrial economies have set price stability as a policy goal. 通货膨胀会侵蚀货币作为交换媒介和记账单位的价值。所以，大多数工业经济体已将价格稳定设为政策目标。

Problems caused by inflation:

- 1) Inflation makes prices less useful as signals for resource allocation.
- 2) Uncertain future prices complicate decisions households and firms have to make.
- 3) Inflation can also arbitrarily redistribute income.
- 4) Hyperinflation (inflation in the hundreds or thousands of percent per year) can severely damage an economy's productive capacity.

通货膨胀引发的问题：

- 1) 通货膨胀使价格作为资源配置信号的作用变得不再有效。
- 2) 未来价格的不确定性使家庭和企业的决策更加复杂。
- 3) 通货膨胀还会任意地重新分配收入。
- 4) 恶性通货膨胀（每年数百或数千个百分点的通胀）可能严重损害一个经济体的生产能力。

### 1.2. Monetary policy goal: High employment

- High employment, or a low unemployment rate, is another key monetary policy goal.
- Unemployment reduces output and causes financial and personal distress.
- Even under the best economic conditions, some frictional and structural unemployment remain.
- The tools of monetary policy are ineffective in reducing these types of unemployment.
- Most economists estimate that the natural rate of unemployment is between 5% and 6%.
- Instead, Central Banks attempt to reduce cyclical unemployment associated with business cycle recessions.
- 高就业率或低失业率是另一项关键的货币政策目标。
- 失业减少产出并造成财务和个人困境。
- 即使在最佳经济条件下，一些摩擦性和结构性失业依然存在。
- 货币政策工具无法有效减少这些类型的失业。
- 大多数经济学家估计，自然失业率在 5%到 6%之间。
- 因此，中央银行试图减少与经济周期衰退相关的周期性失业。

“Monetary policy can affect cyclical unemployment(周期性失业), but not natural unemployment (structural and frictional unemployment).”

### 周期性失业：

- 定义： 周期性失业与经济周期相关，在经济衰退期间增加，在经济扩张期间减少。它发生在经济中对商品和服务的需求不足时，导致生产减少，从而减少对工人的需求。
- 货币政策的作用： 这种类型的失业是货币政策的主要目标。中央银行通过调整利率等工具来刺激或冷却经济，以减少周期性失业并稳定经济。

### 自然失业率：

- 定义： 自然失业率是指即使在经济实现充分就业的情况下也存在的失业率，这意味着所有可用资源都得到了有效利用。这一失业率包括摩擦性失业和结构性失业。
- 摩擦性失业指的是由于个人在工作之间转换或正在寻找新工作而产生的短期失业。这种失业可能由于各种原因发生，例如首次进入劳动力市场的人，工作之间转换的人，或者因个人原因暂时退出劳动力市场的人。
- 结构性失业是指由于失业者的技能与现有工作所需技能之间的不匹配而产生的失业。这种情况可能因技术变化、消费者需求的转变或经济结构的变化导致某些工作过时，而新的工作则需要不同的技能。

## 1.3. Monetary policy goal: Economic growth

- Economic growth is an increase in the economy's output of goods and services over time.
- Economic growth provides the only source of sustained real increases in household incomes.
- Economic growth depends on high employment.
- With high unemployment, businesses have unused productive capacity and are much less likely to invest in capital improvements.
- Stable economic growth allows firms and households to plan accurately and encourages long-term investment.
- 经济增长是经济体随着时间推移增加商品和服务产出的过程。
- 经济增长提供了持续提高家庭收入的唯一途径。
- 经济增长依赖于高就业率。
- 当失业率高企时，企业有未被充分利用的生产能力，因此不太可能投资于资本改进。
- 稳定的经济增长使企业和家庭能够准确规划，并鼓励长期投资。

## 1.4. Monetary policy goal: Stability of financial markets and institutions

- When financial markets and institutions are not efficient in matching savers and borrowers, the economy loses resources.
- The stability of financial markets and institutions makes possible the efficient matching of savers and borrowers.

- 当金融市场和机构在将储蓄者和借款人匹配方面效率低下时，经济会损失资源。
- 金融市场和机构的稳定使得储蓄者和借款人可以有效匹配。

#### 1.5. Monetary policy goal: Interest rate stability

- Like fluctuations in price levels, fluctuations in interest rates make planning and investment decisions difficult for households and firms.
- Central Banks' goal of interest rate stability is motivated by political pressure and a desire for a stable financial environment.
- Sharp interest rate fluctuations cause problems for financial institutions. So, stabilizing interest rates can help to stabilize the financial system.
- 与价格水平波动类似，利率波动也会使家庭和企业的规划与投资决策变得困难。
- 中央银行追求利率稳定的目标，既受到政治压力的推动，也源于对稳定金融环境的需求。
- 剧烈的利率波动会给金融机构带来问题，因此，稳定利率有助于稳定金融体系。

#### 1.6. Monetary policy goal: Foreign-exchange market stability

- In the global economy, stability in the foreign-exchange value of the local currency is an important monetary policy goal.
- A stable currency simplifies planning for commercial and financial transactions.
- Fluctuations in the currency's value affect the international competitiveness of that country's industries: e.g., a rising Australian dollar makes Australian goods more expensive abroad, reducing exports.
- 在全球经济中，当地货币的外汇价值的稳定是重要的货币政策目标。
- 稳定的货币有助于简化商业和金融交易的规划。
- 货币价值的波动会影响一个国家产业的国际竞争力：例如，澳大利亚元升值会使澳大利亚的商品在国外变得更加昂贵，减少出口。

### 2. The Fed's Dual Mandate （美联储的双重任务）

- In fact, all these policy goals are related to two broad goals:
  - 1) **price stability**
  - 2) **maximum employment**
- Many CBs focus primarily on price stability believing attaining that goal will make possible to attain other goals as well.
- The Fed focuses on both price stability and maximum employment. This is called as DUAL MANDATE.
- If the Fed can attain these two goals, it will typically attain its other goals as well.
- 实际上，所有这些政策目标都与两个广泛的目标有关：价格稳定和最大就业。
- 许多中央银行主要关注价格稳定，认为实现这一目标将使其他目标也能实现。
- 美联储则同时关注价格稳定和最大就业，这被称为“双重任务”。
- 如果美联储能够实现这两个目标，通常也能够实现其他目标。

### 3. Monetary Policy Tools

#### 3.1. Open market operations

- Open market operations are the CB's purchases and sales of securities, usually Treasury securities, in financial markets.
- 公开市场操作是中央银行在金融市场上购买和出售证券，通常是国债。

#### 3.2. Discount policy

- Discount policy is the policy tool of setting the discount rate and the terms of discount lending.
- Discount window is how the CB makes discount loans to banks.
- This serves as the channel for meeting the liquidity needs of banks.
- 贴现政策是设定贴现率和贴现贷款条款的政策工具。
- 贴现窗口是中央银行向银行发放贴现贷款的渠道，满足银行的流动性需求。

#### 3.3. Reserve requirements

- Reserve requirement is the regulation requiring banks to hold a fraction of checkable deposits as vault cash or deposits with the CB.
- 准备金要求是规定银行持有一部分可提现存款作为现金或存放在中央银行的款的规定。

#### 3.4. Interest on Reserve Balances

- For a long time, banks complained that the Federal Reserve's failure to pay interest on reserve deposits amounted to a form of taxation.
- 长期以来，银行抱怨美联储不对银行的准备金存款支付利息，认为这相当于一种税收。
- Policy Introduction: In 2008, the Federal Reserve began paying interest on bank reserve balances as a new monetary policy tool.
- 政策引入：2008年，美联储开始对银行的准备金余额支付利息，作为一种新的货币政策工具。

##### 3.4.1. How does Interest on Reserve Balances work as a Monetary Policy Tool?

- 1) Raising Interest Rates: By increasing the interest rate on reserves, the Fed can encourage banks to hold more reserves, thereby restraining bank lending and the money supply.
  - 2) Lowering Interest Rates: Lowering the interest rate on reserves would reduce banks' willingness to hold reserves, promoting lending and expanding the money supply.
- 提高利率：美联储通过提高准备金利率，可以增加银行持有准备金的意愿，进而抑制银行贷款和货币供应。
  - 降低利率：降低准备金利率则会减少银行持有准备金的意愿，促进银行贷款和增加货币供应。

##### 3.4.1.1. Increasing Interest Rates: "Contractionary Monetary Policy"

- When the Federal Reserve raises the interest rate on reserves, banks are inclined to keep more funds in their reserve accounts to earn higher interest. This reduces the

amount of funds available for lending, thereby limiting the banks' ability to extend loans to the market.

- As a result, the volume of bank lending decreases, and the money supply in the market shrinks. This is a method of contractionary monetary policy, typically used to address inflationary pressures.
- 增加利率: “contractionary monetary policy”
- 当美联储提高准备金的利率时, 银行会倾向于将更多的资金留在准备金账户中, 以赚取更高的利息。这会减少银行的可贷资金, 从而限制银行向市场提供贷款的能力。
- 结果是, 银行的贷款量减少, 市场上的货币供应也因此减少。这是一种收紧货币政策 (contractionary monetary policy) 的手段, 通常用于应对通货膨胀压力

### 3.4.1.2. Lowering Interest Rates: "Expansionary Monetary Policy"

- Conversely, when the Federal Reserve lowers the interest rate on reserves, banks reduce their deposits in reserve accounts and instead use the funds for loans or other investments. This increases the volume of bank lending, thereby expanding the money supply in the market.
- This policy, known as expansionary monetary policy, is often used to stimulate economic activity, particularly during periods of slow growth or recession.
- 降低利率: “expansionary monetary policy”
- 相反, 当美联储降低准备金的利率时, 银行将减少在准备金账户中的存款, 转而将资金用于贷款或其他投资。这样可以增加银行的贷款量, 从而增加市场上的货币供应。
- 这种政策(expansionary monetary policy)通常用于刺激经济活动, 尤其是在经济增长缓慢或衰退的时期。

## 4. The Federal Fund Market

### In Federal Fund Market, banks borrow from each other (paying the policy rate)

- Policy rate is called as Cash Rate in Australia and as Federal Funds Rate in the US.
- A policy rate is a short-term interest rate that can be DIRECTLY affected by CBs through Monetary Policy tools.
- In the following explanations, we will focus on Federal Funds Market in which the US policy rate (federal funds rate) is determined.
- Demand and Supply in the Market for Reserves
- What happens to the quantity of reserves demanded by banks, holding everything else constant, as the federal funds rate changes?
- Excess reserves are insurance against deposit outflows
- The cost of holding these is the interest rate that could have been earned minus the interest rate that is paid on these reserves (ior)
- 政策利率在澳大利亚被称为**现金利率 (Cash Rate)**, 在美国被称为**联邦基金利率 (Federal Funds Rate)**。

政策利率是一种**短期利率**, 可以通过中央银行的货币政策工具直接影响。

在以下解释中, 我们将重点讨论美国政策利率 (联邦基金利率) 如何在**联邦基金市场**中确定。

- **准备金市场中的供求关系** 在其他条件不变的情况下，当联邦基金利率变化时，银行对准备金的需求量会发生什么变化？
- **超额准备金**是防范存款流失的保险。  
持有超额准备金的成本是本可以赚取的利率减去这些准备金上支付的利率 (ior)。

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7. OMO vs. Other Policy Tools

**7.1.** The benefits of open market operations include

- 1) Control
- 2) Flexibility
- 3) ease of implementation.

公开市场操作的优势包括控制、灵活性和实施简便性。

**7.2.** Discount loans depend in part on the willingness of banks to request the loans and **so are not as completely under the CBs control.**

贴现贷款在一定程度上取决于银行要求贷款的意愿，因此不像中央银行能够完全控制。

**7.3.** The CB can make both large and small open market operations. Often, **dynamic operations require large purchases** or sales whereas **defensive operations call for small.**

中央银行可以进行大规模和小规模的公开市场操作。动态操作通常需要大规模的购买或出售，而防御性操作则需要小规模的操作。

**7.4.** **Reversing open market operations** is simple for the CB. Discount loans and reserve requirement changes are more difficult to reverse quickly.

逆转公开市场操作对于中央银行来说很简单。贴现贷款和准备金要求的变化则更难快速逆转。

#### **Detailed explanation:**

- 公开市场操作（包括逆转操作）是中央银行通过**买卖政府债券**来调节市场中的货币供应。这个过程非常灵活，中央银行可以根据经济情况随时调整，通过增减债券的买卖来影响银行系统的流动性和利率。这种操作通常是短期的、精确的，并可以在较短时间内进行微调。

#### **逆回购操作:**

如果市场中的流动性过剩，中央银行可以通过**出售政府证券**，并约定在未来的某个时间点**回购**这些证券，从而在短期内从市场中吸收过剩的资金。这被称为**逆回购操作** (reverse repo)。

- 准备金要求和贴现率调整往往被视为重大政策信号，会改变市场对中央银行政策方向的预期。因此，中央银行通常非常谨慎地使用这些工具，避免频繁改变政策方向，而公开市场操作则更加灵活，不会给市场带来过多的长期政策信号。

### 贴现贷款

- 贴现贷款本质上依赖于银行的需求。即使中央银行调整了贴现率，银行未必会主动借款，特别是在银行体系流动性充裕的情况下。因此，调整贴现率的政策效果可能不像公开市场操作那样直接和迅速。
- 从中央银行借款可能会被视为银行出现流动性问题的信号，银行往往不愿通过贴现窗口借款以避免给市场传递负面信息。因此，中央银行通过贴现贷款影响市场的灵活性相对较低，也更难迅速逆转贴现政策。

### 准备金要求

- 由于准备金要求涉及整个银行系统的稳定性，因此中央银行不会频繁调整它。这种调整往往需要经过谨慎评估，并且一旦调整，难以在短期内迅速逆转，否则会给市场带来不确定性和混乱。因此，准备金要求的变化通常用于应对长期的经济结构性问题，而不是短期市场波动。

#### 7.5. The CB can implement its open market operations with no administrative delays.

Changing the discount rate or reserve requirements requires lengthier deliberation.

中央银行可以毫无行政延误地实施其公开市场操作。改变贴现率或准备金要求需要较长的审议时间。

#### 8. Why Can't the Fed Always Hit Its Federal Funds Target?

- 1) The Fed (or any other central bank) can only set a target for the federal funds rate (policy rate). The actual federal funds rate is determined by the demand and supply for reserves.

美联储（或任何其他中央银行）只能设定联邦基金利率（政策利率）的目标。实际联邦基金利率由准备金的供需决定。

- 2) The New York Fed can only use open market operations to keep the actual federal funds rate close to the target rate.

纽约联邦储备银行只能通过公开市场操作使实际联邦基金利率接近目标利率。

#### 9. The Failure of Conventional Monetary Policy Tools in a Financial Panic

- 9.1. When the economy experiences a full-scale financial crisis, conventional monetary policy tools cannot do the job, for two reasons.

当经济经历全面的金融危机时，常规货币政策工具无法发挥作用，原因有二：

- 1) First, the financial system seizes up to such an extent that it becomes unable to allocate capital to productive uses, and so investment spending and the economy collapse.

首先，金融系统陷入瘫痪，无法将资本分配给有生产力的用途，从而导致投资支出和经济崩溃。

- 2) Second, the negative shock to the economy can lead to the zero-lower-bound problem.

其次，经济受到的负面冲击可能导致零利率下限问题(zero lower bound)。

- 在严重的经济危机或衰退中，中央银行可能会一再降低利率，试图通过更低的借贷成本来刺激经济。然而，利率不可能无限制地降低。零利率下限就是这个

极限点——当名义利率（未考虑通胀的利率）降至接近零甚至为零时，中央银行的常规货币政策工具（如利率调整）基本上失去了继续刺激经济的作用。

#### 9.1.1. 零利率下限的影响：

- 1) **无效的传统政策工具：** 当利率接近零时，即使中央银行进一步降低利率，可能也无法有效刺激经济。因为利率已经非常低，银行和消费者的借贷意愿和能力可能不会显著增加。
- 2) **流动性陷阱：** 在零利率下限下，经济可能会进入一种称为“流动性陷阱”（liquidity trap）的状态。即使央行向市场注入更多流动性（增加货币供应），由于极低的利率和低迷的经济前景，消费者和企业仍可能不愿意借贷或投资，导致货币政策难以推动经济复苏。

#### 9.1.2. 现实中的例子：

**2008 年全球金融危机后**，许多发达经济体的中央银行，包括美联储、欧洲央行和日本央行，都将利率降至接近零的水平。然而，即使在这种极低的利率下，经济复苏仍然缓慢。这就是典型的零利率下限问题，导致这些央行不得不转向非常规的货币政策工具，如量化宽松（QE）和负利率政策（如欧洲和日本的一些央行后来采用的）。

### 9.2. Nonconventional Monetary Policy Tools During the Global Financial Crisis

- 1) **Liquidity provision (CREDIT EASING):** The Federal Reserve implemented unprecedented increases in its lending facilities to provide liquidity to the financial markets.  
流动性提供（信贷宽松）：美联储实施了前所未有的贷款设施扩张，以向金融市场提供流动性。
- 2) **Large-scale asset purchases (QUANTITATIVE EASING):** During the crisis, the Fed started three new asset purchase programs to lower interest rates for particular types of credit.  
大规模资产购买（量化宽松）：危机期间，美联储启动了三个新的资产购买计划，以降低特定类型信贷的利率。

#### 量化宽松如何降低特定类型信贷的利率

- 增加资产需求：当美联储大规模购买资产（如国债、MBS 等）时，这些资产在市场上的需求增加。根据供需原理，当需求增加而供应保持不变时，资产价格上升，其收益率（利率）下降。
  - 压低长期利率：由于美联储购买的大多数是长期资产，这直接导致长期利率下降。长期利率的下降不仅降低了政府的融资成本，还使企业和消费者的长期借贷成本降低，进而鼓励投资和消费。
  - 压低抵押贷款和企业借贷利率：例如，通过购买 MBS，美联储直接压低了抵押贷款利率，这使得购房更加便宜，刺激了住房市场。同时，通过购买国债，美联储也降低了企业发行债券的成本，促进了企业投资。
- 3) **Forward Guidance:** By committing to the future policy action of keeping the federal funds rate at zero for an extended period, the Fed could lower the market's expectations of future short-term interest rates, thereby causing the long-term interest rate to fall.



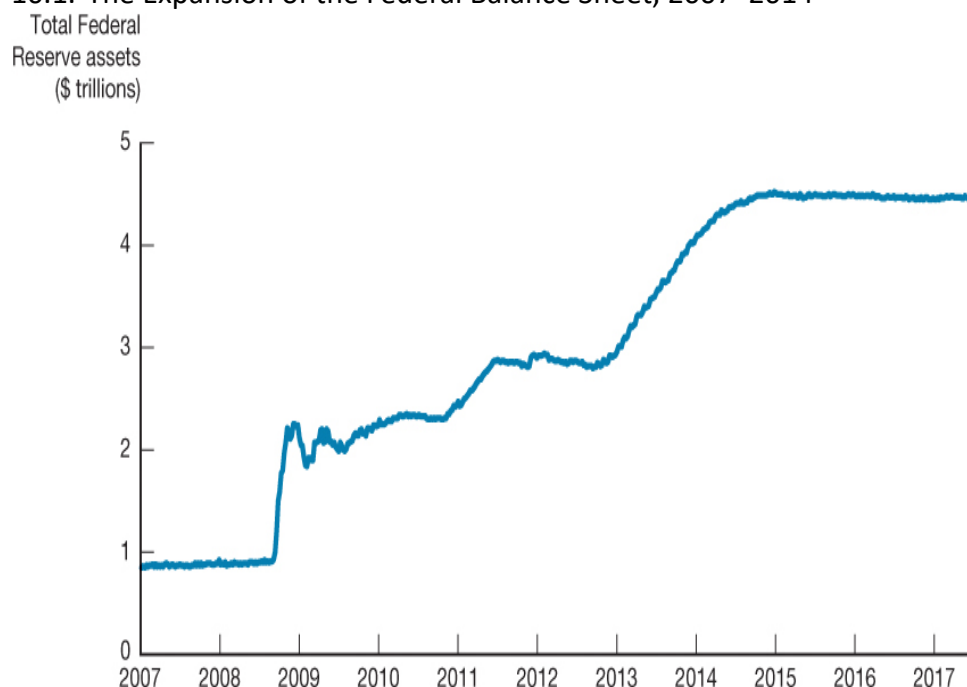
前瞻性指导：通过承诺未来保持联邦基金利率在零利率水平，降低市场对未来短期利率的预期，从而导致长期利率下降。

- 4) **Negative Interest Rates on Banks' Deposits:** Setting negative interest rates on banks' deposits is supposed to work to stimulate the economy by encouraging banks to lend out the deposits they were keeping at the central bank, thereby encouraging households and businesses to spend more. However, there are doubts that negative interest rates on deposits will have the intended, expansionary effect.

银行存款负利率：设定银行存款的负利率，旨在通过鼓励银行借出他们在中央银行的存款，刺激经济，促使家庭和企业增加支出。然而，对于负利率是否能产生预期的扩张性效果存在疑问。

## 10. Facts regarding Federal Balance Sheet after global financial crisis

### 10.1. The Expansion of the Federal Balance Sheet, 2007–2014

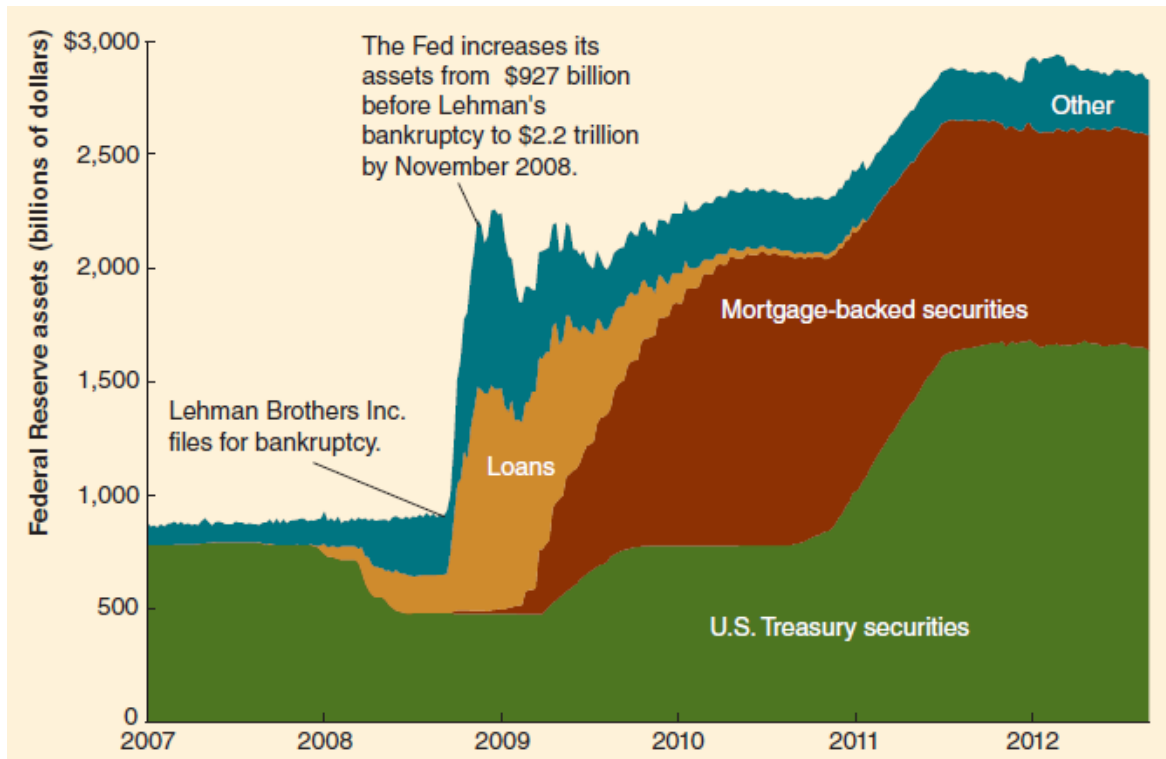


"The Expansion of the Federal Balance Sheet, 2007–2014" 说明的是在 2007 年至 2014 年期间，美联储资产负债表的显著扩张。这一扩张主要是美联储在全球金融危机之后采取的应对措施，通过各种非常规的货币政策工具，如量化宽松（QE），大规模购买国债、抵押支持证券（MBS）以及其他资产，向市场注入流动性。

### 10.2. Federal Reserve Assets 2007-2012

After the collapse of Lehman Brothers, the Fed dramatically increased its assets through loans to financial institutions and purchases of assets such as commercial paper and mortgage-backed securities.

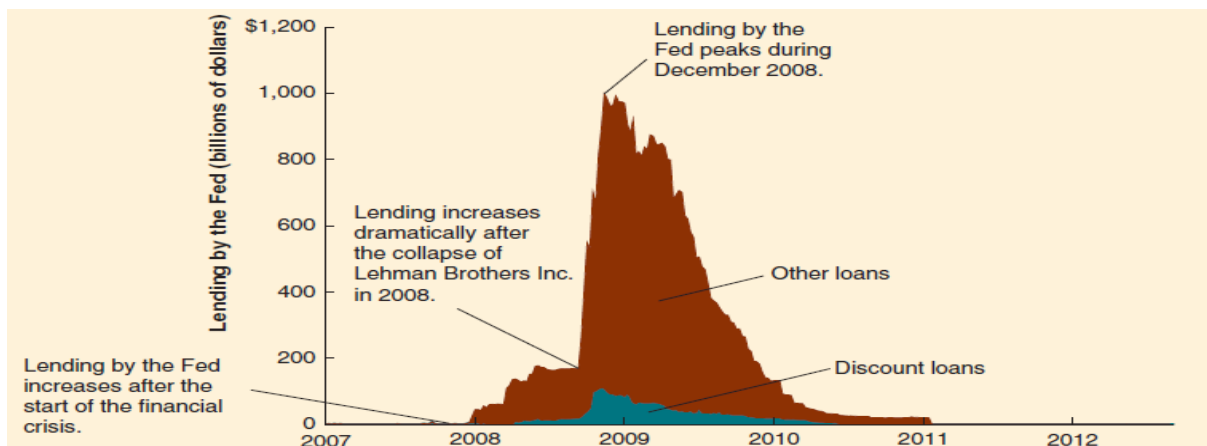
美联储资产 2007-2012：在雷曼兄弟倒闭后，美联储通过向金融机构提供贷款和购买诸如商业票据和抵押支持证券等资产，大幅增加了其资产。



### 10.3. Discount Lending during the Financial Crisis of 2007-2009

During the financial crisis, lending by the Fed increased from just a few hundred million dollars to \$993.5 billion in December 2008.

在金融危机期间，美联储的贷款从几亿美元增加到 2008 年 12 月的 9935 亿美元。



## 11. Facts regarding Monetary Targeting and Monetary Policy

### 11.1. The Fed often faces trade-offs in attempting to reach its goals, particularly the goals of high economic growth and low inflation.

美联储在实现其目标时经常面临权衡，尤其是高经济增长与低通胀的目标。

- To spur economic growth, the Fed could lower the target for the federal funds rate, which increase the money supply, potentially increasing the inflation rate in the longer run.

为了刺激经济增长，美联储可以降低联邦基金利率目标，这可能会增加货币供应，并在较长时间内提高通胀率。

### **Conclusion:**

The tools of monetary policy don't allow the Fed to have direct control over real output or the price level.

货币政策工具并不能让美联储直接控制实际产出或物价水平。

### 11.2. The Fed also faces timing difficulties:

美联储还面临时机上的困难：

- 1) **The information lag** : refers to the Fed's inability to observe instantaneously changes in economic variables.

**信息滞后** (Information lag) 指的是美联储无法即时观察到经济变量的变化。

- 信息滞后是指美联储无法即时获得准确的经济数据，因为统计数据的发布往往存在时间差，且初步数据可能会经过数次修正。因此，美联储不能完全基于实时的经济状况做出决策。为应对这一问题，美联储可以采取目标制，通过设定长期目标来指导短期政策操作，从而减少信息滞后带来的不确定性。
- 目标制的应用：例如，美联储可以设定通货膨胀目标（如 2% 的通胀率）或就业目标，并根据实现这些目标的路径调整货币政策。这样，即便经济数据出现滞后，美联储可以通过持续观察经济变量与目标之间的差距，调整政策工具（如利率或公开市场操作）以确保经济逐步接近设定的目标。

- 2) **The impact lag**: the time that is required for monetary policy changes to affect output, employment, or inflation.

**影响滞后** (Impact lag) 是指货币政策变化对产出、就业或通货膨胀产生影响所需的时间

- 影响滞后是指货币政策的调整不会立即在经济中产生效果，通常需要数月甚至数年的时间才能对产出、就业和通货膨胀产生显著影响。因此，影响滞后使得货币政策的效果在短期内难以评估，容易导致政策超调或滞后反应。
- 目标制的应用：为了应对这一问题，美联储可以采用中长期目标（如稳定的通胀率或充分就业），并通过逐步调整政策工具，提前应对预期的经济变化。例如，如果通胀率在未来被预计会高于目标，美联储可以提前提高利率，即使当前的通胀尚未显著上升。这样可以在货币政策发挥作用的时间内，使经济逐步朝向目标靠拢，避免滞后带来的政策失效。

### One possible solution to those timing problems:

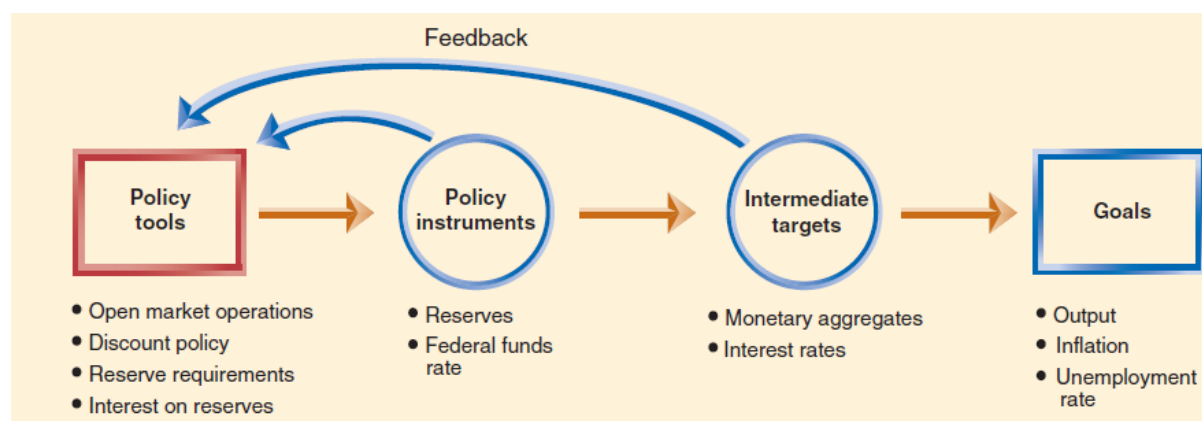
is for the Fed to use targets to meet its goals.

针对这些时机问题的一个可能解决方案是，美联储可以使用目标制来实现其政策目标。

#### 11.3. The Fed establishes goals, but it directly controls only its policy tools.

So it can use targets to help achieve monetary policy goals.

美联储设定了政策目标，但它只能直接控制其政策工具。因此，它可以使用中间目标来帮助实现货币政策目标。



美联储的货币政策框架通过四个关键环节来实现其经济目标：

- 1) 首先，利用政策工具（如公开市场操作、贴现政策、准备金要求和准备金利率）直接影响银行系统的储备量和联邦基金利率等政策变量；
- 2) 接着，这些政策变量会作用于中间目标（如货币供应量和利率），从而间接影响经济的最终目标（包括产出、通货膨胀和失业率）。
- 3) 美联储通过监控中间目标和最终目标的表现，收集反馈并动态调整政策工具，以确保经济朝着既定的目标发展。这一框架使美联储能够灵活应对经济变化，稳定价格水平、促进经济增长并降低失业率。

#### 11.4. What Happened to the Link Between Money and Prices?

货币供应量在通胀率的关系？

- In the United States, the money supply has grown more rapidly during decades when the inflation rate has been relatively high.  
在美国，货币供应量在通胀率较高的几十年里增长更快。
- Prior to 1980, strong evidence supports the link between money and prices in the short run of a year or two.  
1980 年之前，有力的证据表明，货币供应量的增长与短期（一到两年内）通胀率之间存在联系。
- The economists who argued this point most forcefully were known as monetarists, notably Nobel laureate Milton Friedman.

主张这一观点的经济学家被称为货币主义者，最著名的是诺贝尔奖得主米尔顿·弗里德曼。

- After 1980, the short-run link between the growth of the money supply and inflation broke down.  
1980 年之后，货币供应量增长与短期通胀率之间的联系断裂。

Period for money growth	Growth in M1	Inflation rate two years later	Period for inflation
Third quarter of 1973 to third quarter of 1975	5.2%	6.3%	Third quarter of 1975 to third quarter of 1977
Third quarter of 1975 to third quarter of 1977	6.4	8.3	Third quarter of 1977 to third quarter of 1979
Third quarter of 1977 to third quarter of 1979	8.6	9.4	Third quarter of 1979 to third quarter of 1981
Third quarter of 1979 to third quarter of 1981	6.1	4.8	Third quarter of 1981 to third quarter of 1983
Third quarter of 1981 to third quarter of 1983	9.2	3.3	Third quarter of 1983 to third quarter of 1985
Third quarter of 1983 to third quarter of 1985	8.1	2.8	Third quarter of 1985 to third quarter of 1987

### 11.5. Targeting on Reserves vs. Federal Funds Rate

- The Fed faces a trade-off:  
It can choose a reserve aggregate for its policy instrument, or it can choose the federal funds rate, but it cannot choose both.  
美联储面临一个权衡取舍：它可以选择储备总量作为其政策工具，也可以选择联邦基金利率，但不能同时选择两者。
- Using reserves as the Fed's policy instrument will cause the federal funds rate to fluctuate in response to changes in the demand for reserves.  
使用储备作为美联储的政策工具将导致联邦基金利率随着储备需求的变化而波动。
- Using the federal funds rate as the policy instrument will cause the level of reserves to fluctuate in response to changes in the demand for reserves.  
而使用联邦基金利率作为政策工具则会导致储备水平随着储备需求的变化而波动。
- By the 1980s, the Fed had concluded that the link between the federal funds rate and its policy goals was closer than the link between the level of reserves and its policy goals.
- So, the federal funds rate has been the Fed's policy instrument for the past 30 years.  
到 20 世纪 80 年代，美联储得出结论，**联邦基金利率**与其政策目标之间的联系比储备水平与政策目标之间的联系更紧密。  
因此，**联邦基金利率**在过去 30 年中一直是美联储的政策工具。

## 选择储备总量作为政策工具的影响

### 操作方式：

- 当美联储选择储备总量作为其主要政策工具时，它通过公开市场操作直接控制银行系统中的准备金总量。这意味着美联储的主要目标是管理银行体系中的总准备金量，而不是直接控制利率。
- 例如，美联储可以通过购买政府债券将资金注入银行系统，增加储备总量；或者通过出售政府债券，从银行系统中吸收资金，减少储备总量。

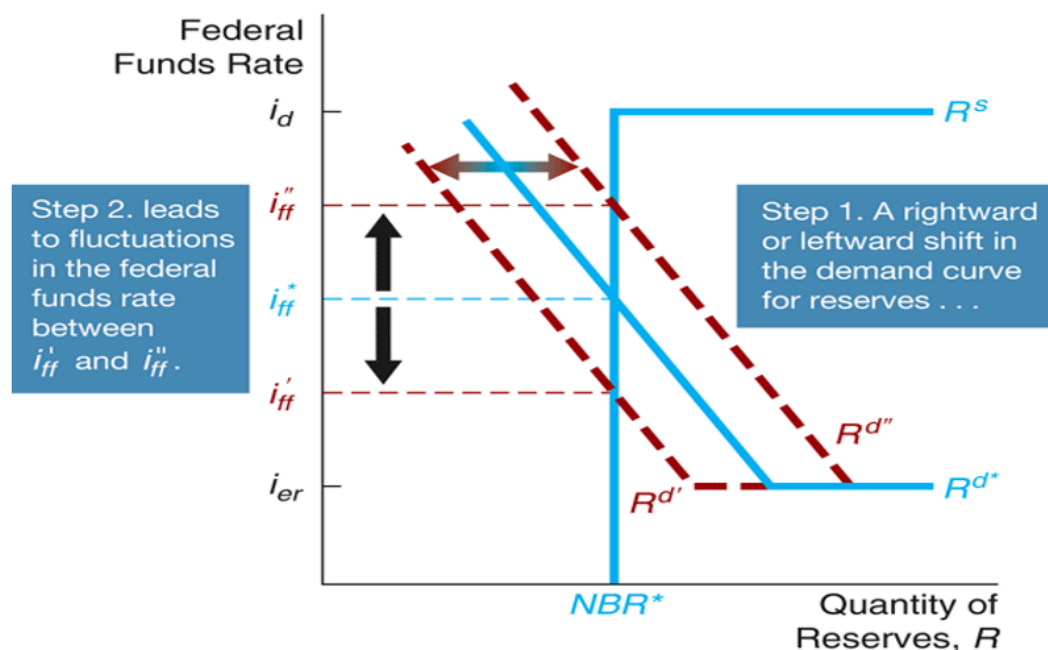
### 市场影响：

- 在这种操作方式下，储备总量是固定的，而联邦基金利率会根据市场上对准备金的需求变化而波动。
- 如果银行的准备金需求增加，但美联储不调整储备总量，联邦基金利率可能会上升，因为银行会在市场上竞争有限的准备金资源。
- 反之，如果银行的需求减少，但储备总量保持不变，联邦基金利率可能会下降。

### 主要关注点：

- 美联储在这种模式下主要关注银行体系中的流动性水平（即准备金总量），而联邦基金利率的波动是市场供需力量的自然结果。

# Targeting on Reserves



## 选择联邦基金利率作为政策工具的影响

### 操作方式：

- 当美联储选择联邦基金利率作为其主要政策工具时，它会设定一个目标利率区间，并通过公开市场操作调整准备金供应，以保持利率在这个目标区间内。
- 例如，当银行对准备金的需求增加时，美联储会通过购买政府债券来增加银行系统中的准备金，以防止联邦基金利率上升超出目标区间。同样，当需求减少时，美联储会通过出售政府债券来减少准备金供应，防止利率下降到目标区间以下。

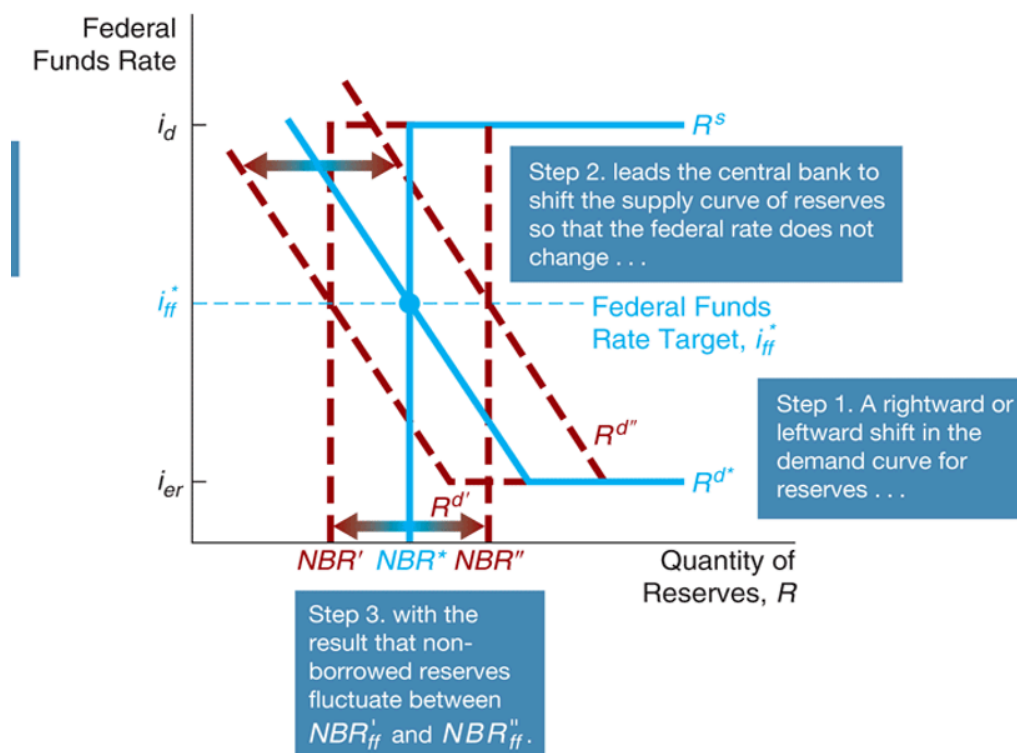
### 市场影响：

- 在这种操作方式下，联邦基金利率是固定的，而储备总量会根据市场对准备金需求的变化而波动。
- 这意味着，美联储通过调节准备金供应量来维持联邦基金利率的稳定，但这也导致银行系统中的储备总量并不是固定的，而是随着市场需求的变化而上下波动。

### 主要关注点：

- 美联储在这种模式下主要关注的是利率的稳定性。通过调节储备供应，美联储确保联邦基金利率保持在预定的目标范围内，而储备总量则是为了实现这一目标而进行的调整。

# Targeting on the Federal Funds Rate



### 11.6. The Taylor Rule: A Summary Measure of Central Bank Policy

- Actual CB deliberations are complex and incorporate many factors about the economy.  
实际的中央银行政策讨论很复杂，涉及许多经济因素。
- John Taylor of Stanford University has summarized these factors in the Taylor rule.  
斯坦福大学的约翰·泰勒将这些因素总结为泰勒规则。
- Taylor rule is a monetary policy guideline developed by economist John Taylor for determining the target for the federal funds rate.
- 泰勒规则是经济学家约翰·泰勒制定的一个货币政策指导方针，用于确定联邦基金利率的目标。
- The Taylor rule is an estimate of the value of the federal funds rate (after adjustment for inflation) to be consistent with real GDP being equal to potential real GDP in the long run.  
泰勒规则是对联邦基金利率（经过通胀调整后）价值的估计，以使实际 GDP 在长期内等于潜在实际 GDP。
- According to the Taylor rule, the Fed should set its current federal funds rate target equal to the current inflation rate, the equilibrium real federal funds rate, and two additional terms.  
根据泰勒规则，美联储应将其当前的联邦基金利率目标设定为当前的通胀率、平衡的实际联邦基金利率，以及两个附加项。
- The first of these terms is the inflation gap – the difference between current inflation and a target rate; the second is the output gap – the percentage difference of real GDP from potential real GDP.  
第一个附加项是通胀缺口——即当前通胀率与目标通胀率之间的差距；第二个附加项是产出缺口——即实际 GDP 与潜在 GDP 之间的百分比差距。
- The inflation gap and the output gap are each given “weights” that reflect their influence on the federal funds rate target. With weights of one half for both gaps, we have the following Taylor rule:  
通胀缺口和产出缺口都被赋予了权重，以反映它们对联邦基金利率目标的影响。按照泰勒规则的权重设置，每个缺口的权重为 1/2。  
**Federal funds target = Current inflation rate + Equilibrium real funds rate + (1/2 x Inflation gap) + (1/2 x Output gap)**

#### Summary:

- **泰勒规则（Taylor Rule）**是由美国经济学家约翰·泰勒（John Taylor）于 1993 年提出的一个**货币政策指导框架**，用于帮助央行设定短期利率（如联邦基金利率），以实现经济的**价格稳定**和**经济增长**目标。
- 泰勒规则的核心思想是，央行应根据**通货膨胀率**与**经济产出差距**（即实际经济产出与潜在产出之间的差异）来调整政策利率。这一规则为货币政策提供了一种系统的、规则化的方法，可以避免政策制定的随意性，并在实现通胀和产出的双重目标之间取得平衡。



### 泰勒规则的目的：

泰勒规则的主要目的是为央行提供一个明确的货币政策指导框架，使其在制定利率政策时能够有依据地平衡**通货膨胀**和**经济增长**之间的关系。

- 1) **保持价格稳定：**泰勒规则规定，当通货膨胀高于目标时，央行应提高利率，以抑制物价上涨；反之，当通胀率低于目标时，应降低利率以刺激经济活动和价格上涨。
- 2) **促进充分就业和经济增长：**泰勒规则要求央行根据经济的产出缺口（实际产出与潜在产出之间的差距）调整利率。当经济处于萧条状态时（即产出低于潜在水平），泰勒规则建议降低利率以刺激经济；当经济过热时（即产出超过潜在水平），则提高利率以防止经济过热和通胀上升。

### 11.7. Inflation Targeting

- With inflation targeting, a central bank publicly sets an explicit target for the inflation rate over a period of time.  
通胀目标制是指中央银行公开设定一个明确的通胀率目标，并在一段时间内努力实现该目标。
- The RBA introduced inflation targeting in early 1990s. The Governor and the Treasurer agreed that the appropriate target is 2-3% inflation rate.  
澳大利亚储备银行在 20 世纪 90 年代初引入了通胀目标。行长与财政部长达成一致，适当的目标是 2-3% 的通胀率。

#### 11.7.1. Arguments in favor of an explicit inflation targeting:

- **It would draw attention to what the Central Bank can actually achieve in practice.**  
这将使公众关注中央银行在实际操作中能够实现的目标。
- **It would provide an anchor for inflationary expectations.**  
这能为通胀预期提供锚点。
- **It would help institutionalize effective monetary policy.**  
这将有助于使有效的货币政策制度化。
- **It would promote accountability.**  
这将促进问责制。

#### 11.7.2. Arguments against an inflation targeting:

- **Rigid numerical targets for inflation diminish flexibility.**  
固定的通胀数值目标减少了灵活性。
- **Reliance on uncertain forecasts of future inflation can create problems.**  
依赖于对未来通胀的不确定预测可能会带来问题。
- **The focus on inflation may make it more difficult for elected officials to monitor the CB's support for good economic policy overall.**  
过度关注通胀可能使民选官员更难以监控中央银行对整体良好经济政策的支持。
- **Uncertainty about future levels of output and employment can impede economic decision making in the presence of an inflation target.**  
对未来产出和就业水平的不确定性可能在通胀目标制下阻碍经济决策。

