

What is Money?

Money is anything that is generally accepted as final payment for goods and services or for the repayment of debt - cash/currency, checks, gold, etc.

النقود هي أي شيء مقبول قبولاً عاماً للدفع من أجل الحصول على السلع أو الخدمات الاقتصادية، أو من أجل إعادة دفع الديون، فمثلاً يمكن القول بأن الدينار يعد نقداً أو أن نقول الشيكات هي نقود. وتعرف النقود في المفهوم الاقتصادي على نوعين : نقود حقيقية وأخرى تقديرية، فالنقود الحقيقية (Real Money) هي التي لها وجود مادي مثل الليرة العثمانية (المجيدية) والتي كانت متداولة في سوريا والعراق قبل الحرب العالمية الأولى، وكذلك الجنيه الأنكليزي الذهبي والروبية الهندية الفضية. أما النقود التقديرية أو التعدادية (Account Money) التي ليس لها وجود مادي وإنما تستعمل كوحدة للحاسب كالدينار في الدول العربية، والدولار الأمريكي في الولايات المتحدة الأمريكية والجنيه الأنكليزي في إنجلترا.

Barter

Trading goods and services for goods and services.

المقايضة (التبادل السلعي) هي مبادله سلعه بسلعه اخرى او خدمه بخدمه اخرى دون استخدام النقود..

The Functions of Money (وظائف النقود)

Anything that performs the functions of money is money

1. Medium of exchange وسيلة للتبادل

Money usable for buying and selling goods and services

إن استخدام النقود "كوسيط للمبادلات" Medium of Exchange يسهل عملية التبادل ويوفر كثيراً من الوقت والجهد للذين كانا يضيعان في ظل التبادل عن طريق المقايضة . فهي وسيلة لنقل ملكية السلع والخدمات من طرف الى طرف وبالتالي فهي قوة شرائية تسهل التبادل بين طرفين.

إن النقود بصفتها قوة شرائية عامة تكفل الحرية الاقتصادية للأفراد ، بمعنى حريتهم في اختيار أنواع السلع التي يرغبون الحصول عليها وبالكميات التي يرغبونها وفي المكان والزمان الذي يرغبونه . وهذا كله لا يتوفر إلا لكون النقود تقوم بوظيفة وسيط للتبادل وبالطبع فإن هذا يتطلب تمتعها أصلاً بالقبول العام من جانب أفراد المجتمع.

• Unit of account: وحدة حساب (مقياس للقيمة)

Society uses monetary units for measuring the relative worth of a wide variety of goods, services, and resources. With money as an acceptable unit of account, the price of each item need be stated only in terms of the monetary unit.

Money aids rational decision making by enabling buyers and sellers to easily compare the prices of various goods, services, and resources.

تستخدم النقود لقياس قيم السلع والخدمات ونسبة قيمة كل سلعة الى غيرها من السلع. وفي هذه الحالة تصبح النقود معدلاً للاستدلال وخاصة بين السلع الكبيرة التي يصعب تجزئتها الى وحدات صغيرة دون ان تفقد قيمتها. فالوحدة النقدية لأي دولة هي وحدة تقاس

بها قيم السلع والخدمات في المجتمع. فإذا كان يمكن مبادلة آلة معينة بعشرين طن من الحنطة وكان ثمن الحنطة عشرين ديناراً، فإن هذا يعني أن ثمن الآلة 400 دينار، وفي حالة تواجد النقود ليس من الضروري أن يكون كل طرف محتاجاً للسلعة الأخرى، وإنما يكفي تقديم النقود للحصول على السلعة وهكذا قضت هذه الوظيفة على صعوبات المقايضة التي كانت تقضي ضرورة وجود اتفاق مزدوج للحاجات بين الطرفين.

- **Store of value: النقود كمخزن للقيمة**

Money enables people to transfer purchasing power from the present to the future. People normally do not spend all their incomes on the day they receive them. In order to buy things later, they store some of their wealth as money.

إن أحد صعوبات المقايضة تمثلت في صعوبة اختزان الأفراد لثرواتهم (الفوائض من نتاج عملهم) في صورة سلعية ، إذ أن معظم السلع خصوصاً الاستهلاكية لا تعمر طويلاً . ولذلك أدى استخدام النقود إلى التغلب على هذه الصعوبة ، حيث يمكن للأفراد عن طريق الاحتفاظ بالنقود في شكلها "السيولي" اختزان "قوة شرائية" يستطيعون الاستفادة منها مستقبلاً في الوقت الذي يختارونه

Example: Choose the correct answer

1. When a consumer wants to compare the price of one product with another, money is primarily functioning as a:
A) Store of value
B) Unit of account
C) Checkable deposit
D) Medium of exchange
2. What function is money serving when you deposit money in a savings account?
A) A store of value
B) A unit of account
C) A checkable deposit
D) A medium of exchange
3. What function is money serving when you use it when you go shopping?
A) A store of value
B) A unit of account
C) A medium of deferred payment
D) A medium of exchange
4. If whole tomatoes were money, which of the following functions of money would be the hardest (صعب) for tomatoes to satisfy?
A) Unit of account
B) Store of value
C) Medium of exchange
D) Certificate of gold
5. When a banker records how many dollars each of his borrowers owes the bank, money is serving as a:
A) Store of value
B) Unit of account
C) Medium of exchange
D) Legal tender

Liquidity of money:

An asset's **liquidity** is the ease with which it can be converted quickly into the most widely accepted and easily spent form of money, cash, with little or no loss of purchasing power.

The more liquid an asset is, the more quickly it can be converted into cash and used for either purchases of goods and services, or purchases of other assets. *By definition, cash is perfectly liquid. By contrast, a house is highly illiquid for two reasons. First, it may take several months before buying it. Second, there is a loss of purchasing power when the house is sold.*

السيولة : هي القدرة على تحويل بعض الموجودات إلى نقد جاهز خلال فترة قصيرة دون خسارة.

The Components of the Money Supply: مكوّنات العرض النقدي

Money Definition M1

It consists of:

- (1) Currency (coins and paper money) in the hands of the public . العملة المتداولة بين الناس .
- (2) All checkable deposits (all deposits in commercial banks and saving institutions جميع الودائع الموجودة في البنوك التجارية ومؤسسات الادخار

Money, $M1 = \text{Currency} + \text{Checkable Deposits}$

- Government and government agencies (central bank البنك المركزي) supply coins and paper money. Commercial banks and savings institutions (thrifts) provide checkable deposits.

Currency: Cons + Paper Money

The currency consists of metal coins and paper money. The coins are issued by the treasury (يتم إصدارها) while paper money consists of central bank notes. (من قبل الخزينة)

The currency is **token money**. This means that the face value of any prices of currency is unrelated to its intrinsic value (القيمة الذاتية) -the value of the physical material (metal or paper and ink).

Checkable Deposits:

The safety and convenience of checks has made checkable deposits a large component of the M1 money supply. Checks are less accepted than currency for small purchases, for major purchases most sellers will accept checks as payment.

People can convert checkable deposits into paper money and coins on demand; checks drawn on those deposits are the equivalent of currency.

Money Definition M2

Money definition M2 includes M1 plus several near monies (الودائع الآجلة).

Near- monies are certain highly liquid financial assets that do not function directly or fully as a medium of exchange but can be readily converted into currency or checkable deposits.

There are three categories of near monies included in the M2:

- Saving deposits, including money market deposit accounts (MMDA).
- Small (less than \$100,000) time deposits "certificate of deposits CD" (funds from time deposit become available at their maturity).
- Money market mutual funds held by individuals (MMMF)

$$\text{Money, } M2 = M1 + \text{MMDA} + \text{Small time deposits} + \text{MMMF}$$

$$\text{Total money supply} = \text{Money } M2$$

Example

Use the following to answer equations below:

Money market mutual fund	\$220
Currency and coins in banks	\$10
Currency and coins in circulation	\$60
Saving deposits, including money market deposit accounts	\$50
Large (\$100,000 or more) time deposit	\$180
Small (less than \$100,000) time deposits	\$80
Checkable deposits	\$70

1. Refer to the above information. What is the amount of money supply M1 for this economy?

$$\text{Money, } M1 = \text{Currency and coins in circulation} + \text{Checkable Deposits} = 60 + 70 = \$130$$

2. Refer to the above information. What is the amount of money supply M2 for this economy?

$$\text{Money, } M2 = M1 + \text{MMDA} + \text{Small time deposits} + \text{MMMF}$$

$$M2 = 130 + 50 + 80 + 220 = \$480$$

Money as Debt:

The components of the money supply (paper money and checkable deposits) are debts, or promises to pay. Paper money is the circulating debt of the central bank. Checkable deposits are the debts of commercial banks and thrift institutions.

Value of Money

Why are currency and checkable deposits money?

The answer to these questions has three parts:

Acceptability

Currency and checkable deposits are money because people accept them as money.

ان تلقى قبولاً عاماً في المجتمع حتى يستخدمها الجميع كوسيط في المبادلات ان كل فرد في المجتمع يقبل النقود في تعاملاته مع الآخرين، لأنه يستطيع كذلك أن يدفعها مقابل الحصول على اية سلعة أو خدمة

Legal Tender الغطاء النقدي

The confidence in the acceptability of paper money is strengthened because government has designated currency as legal tender.

النقود القانونية هي النقود الأساسية المعاصرة. وسميت "بالنقود القانونية" لأنها تستمد قوتها من قوة القانون وقبول الأفراد لها قبولاً عاماً ونظراً لاحتكار البنك المركزي حق إصدارها. وتمثل هذه النقود ديناً على الدولة تجاه القطاع الخاص، ويتحتم على البنك المركزي الاحتفاظ بأصول مساوية في قيمتها لقيمة ما أصدره من نقود، وتسمى هذه الأصول بالغطاء النقدي.

Relative Scarcity الندرة النسبية

The value of money depends on its supply and demand for money. Money derives its value from its scarcity relative to its utility. The utility of money lies in its capacity to be exchanged for goods and service now or in the future. The demand for money depends on the total dollar volume of transactions in any period plus the amount of money individuals and businesses want to hold for future transactions. With a constant demand for money, the supply of money provided by monetary authorities will determine the domestic value or "purchasing power" of the monetary unit.

أن يتم اختيار المادة التي تصنع منها النقود بحيث تكون ذات ندرة نسبية وذلك حتى لا تفقد قيمتها سريعاً. أما في عصر النقود الورقية فالندرة تتمثل في سلطة الدولة في وضع القيود والحدود للإصدار النقدي والورقي أي أن يتم تحديد ثمنها بتفاعل العرض والطلب على النقود في السوق.

Money and Prices

Purchasing Power of Money: Is the amount of goods and services a unit of money will buy.

Purchasing Power of the Dollar: The amount a dollar will buy varies inversely with the price level.

When the consumer price index (CPI) or "cost of living" index goes up, the value of the dollar goes down, and vice versa.

Higher prices lower the value of the dollar because more dollars are needed to buy a particular amount of goods and services, or resources.

$$\$V = \frac{1}{P}$$

Where \$V is the value of dollar, P is the price level.

For example, if the price level is 1, then the value of dollar is 1. If the price level rises to, say, 1.2, the value of dollar falls to 0.833.

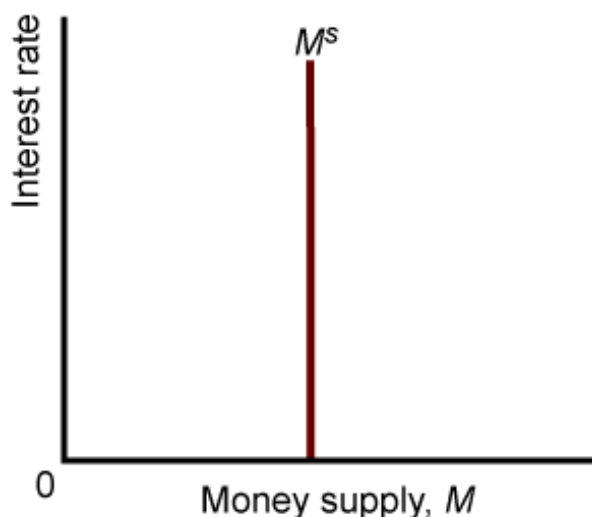
Money supply curve

A line showing the total quantity of money in the economy at each interest rate. The money supply is determined by the central bank.

منحنى عرض النقد M^S يرسم عموديا حيث يتغير عرض النقد ثابتة يحدده البنك المركزي . لذلك لا توجد علاقة بين سعر الفائدة والعرض النقدي لأن العرض النقدي ثابت يحدده البنك المركزي.

Interest rates: Is the price paid for the use of money. It also the price that borrowers need to pay lenders for transferring purchasing power to the future.

- The supply of money is independent of the interest rate (interest rate change \Rightarrow money supply constant).
- The central bank changes the supply of money by buying or selling bonds in the bonds market.



The Demand for Money

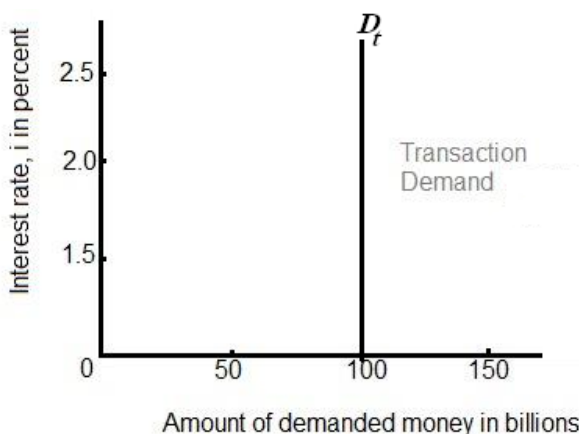
Why does the public want to hold some of its wealth as money?

The public wants to hold some of its wealth in money for two reasons: to make purchases with it and to hold it as an asset

Transactions Demand (D_t)

People hold money because it is convenient for purchasing goods and services. Households need money to pay for groceries and to pay mortgage and utility bills. Businesses need money to pay for labor, materials, power, and other inputs they both have a transactions demand

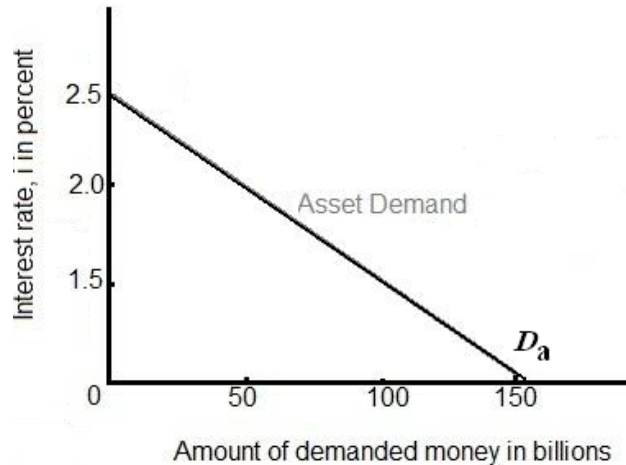
- The level of GDP is the main determinant of the amount of money demanded for transactions
- Larger the total money value=larger the amount of money needed
- The demand for money as a medium of exchange is called the transactions demand for money.



- The level of nominal GDP is the main determinant of the amount of money demanded for transactions.
- The larger the total money value of all goods and services exchanged in the economy, the larger the amount of money needed to negotiate those transactions.
- The transactions demand for money varies directly with nominal GDP. ($NGDP \uparrow \Rightarrow D_t \uparrow$).
- The transactions demand for money is independent of the interest rate (interest rate change \Rightarrow transactions demand for money constant).
- The transactions demand is vertical because it is assumed to depend on nominal GDP rather than on the interest rate.

Asset Demand for Money (D_a)

The second reason for holding money derives from money's function as a store of value. People may hold their financial assets in many forms, including corporate stocks, corporate or government bonds, or money. To the extent they want to hold money as an asset, there is an asset demand for money.

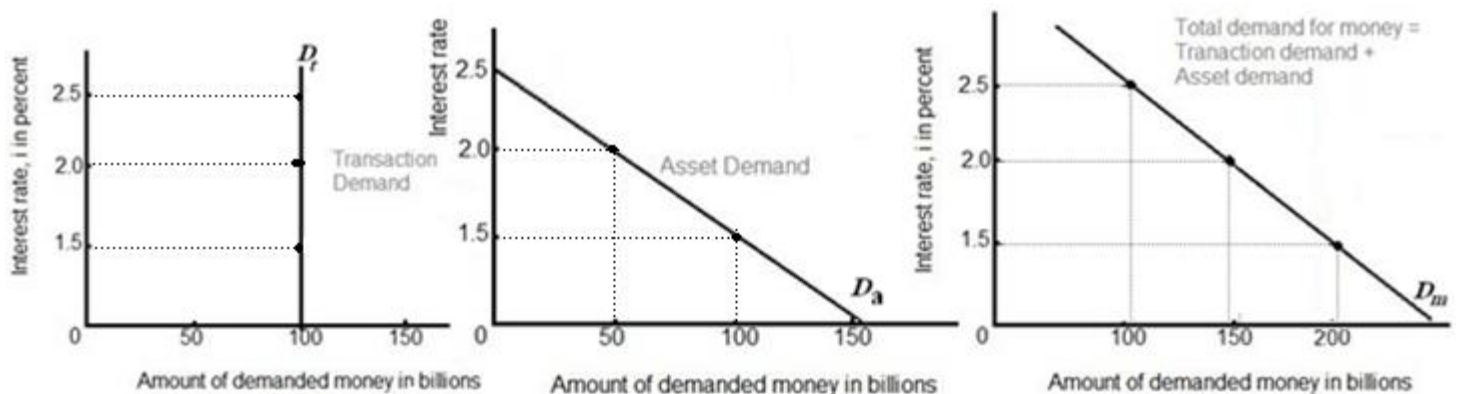


- The asset demand for money varies inversely with the interest rate because of the opportunity cost involved in holding currency and checkable deposits that pay no interest or very low interest.

Total Money Demand (D_m)

The total demand for money D_m is determined by horizontally adding the asset demand for money D_a to the transactions demand D_t .

$$D_m = D_t + D_a$$



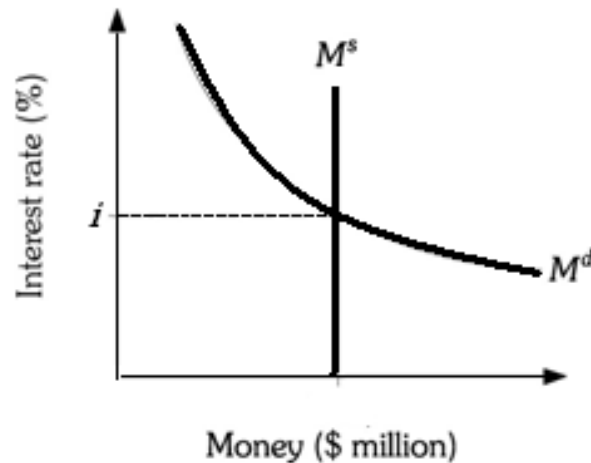
The Equilibrium Interest Rate

We can combine the demand for money with the supply of money to determine the equilibrium interest rate.

At equilibrium interest rate:

Amount of money demanded = amount of money supply

The intersection of demand and supply determines the equilibrium interest rate.



Example

Assume that the following data characterize an economy: money supply = 200 billion, quantity of money demanded for transactions = 150 billion; quantity of money demanded as an asset = 10 billion at 12 percent interest, increasing by 10 billion for each 2 percentage point fall in the interest rate.

a. What is the equilibrium interest rate?

Interest rate	Transactions demand for money	Asset demand for money	Total demand for money $D_m = D_a + D_t$	Money supply (S_m)
12	150	10	160	200
10	150	20	170	200
8	150	30	180	200
6	150	40	190	200
4	150	50	200	200
2	150	60	210	200

At equilibrium interest rate: $D_m = S_m = 200 \rightarrow i = 4\%$

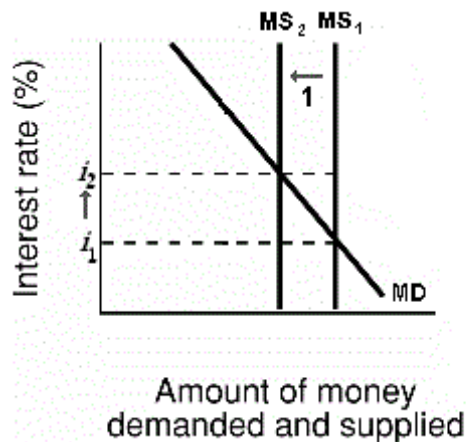
b. Suppose that money supply decrease to 180, what is the new equilibrium interest rate?

At equilibrium interest rate: $D_m = S_m = 180$

When $i = 8\%$

- c. Considering your answers in part b, what is the impact of a decrease in money supply on the interest rate (show graphically)

A decrease money supply shifts the money supply curve to the left. That leads to increase on the interest rate from i_1 to i_2 .



- d. What is the impact of an increase in transactions demand for money on the interest rate?

An increase in transactions demand for money shifts the total demand for money curve to the right. There is a greater amount demanded at each possible interest rate, the equilibrium interest rate increase from i_1 to i_2 .

