# MONEY: IN TRANSACTIONS AND FINANCE

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## Summary

Money, the money market (trade in debt and financial instruments), and financial institutions (banks, insurance companies, other financial intermediaries) all serve to separate—to make independent and decentralized—a complex of interdependent transactions. Money is the intermediary instrument that separates commodity buying and selling transactions. Money is the financial instrument that separates saving and investment transactions. By separating linkages among related actions, money and finance simplify them and allow them to be successfully and independently pursued.

The concept of decentralization is familiar in many economic contexts. Markets and the price system decentralize allocation decisions in a market economy. Money and the financial system similarly allow decentralization of the transactions, exchange, saving and investment process. The saving and investment decisions—necessarily linked for the economy as a whole—are made separate and independent for the individual decision-maker by the buffer, the de-coupler, provided by money and financial institutions.

The use of paper or fiduciary money instead of commodity money is resource saving, allowing commodity inventories to be liquidated. Government-issued fiat (un-backed) money eliminates the commodity inventory backing altogether, completing the resource saving. The market value of (fundamentally worthless) fiat money is supported by the

government's willingness to accept fiat money in payment of taxes.

Money and finance allow necessarily interdependent decisions to be made independently, coordinated by money, prices, and yields. Money allows successful decentralization of the process of exchange. Money, financial instruments, and financial institutions allow successful decentralization of the process of saving and investment. Decentralization of the exchange, saving and investment process by money and financial institutions simplifies and facilitates the allocation and investment process in a market economy, leading to economically efficient resource allocation.

## 1. Introduction

Like production and consumption, exchange is a fundamental economic activity. The transaction function of money is to facilitate exchange. Though the monetary instrument may vary, in practice, trade is almost always monetary. Like written language and the wheel, money is one of the fundamental discoveries of civilization. Financial markets for debt instruments (intertemporal contracts for money) and claims on capital, serve to implement an efficient allocation of consumption and capital across time. They rearrange the control of capital from those who have saved it (and retain their claim on it) to others who can make the most productive (or most profitable) use of it.

## 2. The Scope of this Article

The study of money reaches into several branches of economics: macroeconomics, business cycles, unemployment, inflation, the price level; international finance and trade; asset market prices and yields including the term structure of interest rates. The present article will concentrate more narrowly, on the role of money as a facilitator of transactions and allocation, at a point in time and inter-temporally. These are primarily the functions attributed to money as a medium of exchange and a store of value, money in transactions and in finance.

## 3. What is Money?

Over the course of history money has taken an immense variety of forms: cattle, blocks of salt or compressed tea, rum, cigarettes, tobacco, wrought iron and copper, stones, shells, gold and silver both coined and by weight, paper notes promising gold or silver on demand, paper notes declared by law to be money without additional guarantee (fiat money), paper drafts (checks) on accounts of other forms of money, promises (e.g. credit cards) of other forms of payment. The conventional or physical form of money does not define it; the forms are immensely varied.

The defining property of money is the functions it performs. Money is what money does. Money is the commodity or fiduciary instrument (credit or paper money) that carries purchasing power between trades and over time. This function of money is universal: money appears in some form wherever there is active trade, in every advanced economy and many primitive economies.

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## 4. What Money Does

Money, the money market (trade in debt and financial instruments), and financial institutions (banks, insurance companies, other financial intermediaries) all serve to separate, to make independent and decentralized, a complex of interdependent transactions. By separating linkages among related transactions, money and finance simplify and allow them to be successfully and independently pursued.

The concept of decentralization is familiar in many economic contexts. Decentralization means allowing interdependent transactions to be pursued independently but consistently. Markets and the price system are said to decentralize consumption and production decisions. The quantity of a good produced will typically be equivalent to the amount consumed; they are strongly interdependent. Do the producers and consumers then have to consult with one another to determine the appropriate quantity? In a market economy the answer is "no." They merely consult the market price, which adjusts to bring production and consumption into balance. The price system decentralizes allocation decisions in a market economy.

Money and the financial system similarly allow decentralization of transactions, exchange, saving, and investment. They implement trade of goods for money to replace barter, the direct trade of goods for goods. Money's functions are often described then as medium of exchange, store of value, unit of account, standard of deferred payment.

### 4.1 Medium of Exchange

The medium of exchange function of money is its most evident. We carry paper money around with us and use it to buy what we want. Checks and credit cards perform the same function and are alternative forms of money. The concept of a medium of exchange here is that money is the carrier of value between two interdependent transactions. The property that allows the transactions successfully to take place independently is the availability of the medium of exchange. Money allows separation of related sale and purchase transactions. Think for example of a worker who wants his wages to buy some consumer goods. First the worker provides his labor to an employer, who pays him in money. Then the worker uses the money to buy consumer goods.

The worker is trading his labor for his consumption. The transactions are strongly linked: the worker will not work if he cannot acquire his desired goods in exchange; the goods will be available to the worker only in exchange for his labor. Money temporarily frees the link between the two coordinated transactions. (Following Prof. Martin Shubik, we can say that money acts as a "strategic de-coupler"). Money appears in the middle of the trading process and dramatically simplifies it. Money is not essential to the underlying exchange of labor for goods, but it makes it much easier. The laborer's employer does not need to know or arrange for the laborer's consumption. The employer merely has to pay money. The consumer goods merchant does not need to know or arrange for the laborer's employment. The seller has merely to accept money. Thus the trade of labor for goods that the worker undertakes is separated into two far simpler elementary transactions: labor for money and money for goods.

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The notion of separating complex interdependent decisions into simpler independent decisions appears repeatedly in economic analysis. It is usually termed decentralization, reflecting the notion that interdependent decisions ordinarily need central coordination, but that nevertheless, successful systematic structure can allow them to be pursued independently. Such a structure is said to decentralize the process. In this sense, money as a medium of exchange helps to decentralize the process of exchange.

### 4.2 Store of Value

The notion of a store of value represents money as means of saving and of allocating capital. The store of value allows a transfer of purchasing power across time. Saving may take the form of holding currency, bank accounts, or debt instruments (denominated in monetary terms) issued by a borrower, or holding an accumulation of a commodity money like gold. By holding money—or by lending it out—the owner can shift his purchasing power from the present into the future. If a household's income is variable or uncertain, high at some times, low at others, the household may wish to smooth out consumption by saving during high income periods and spending out of savings in low income periods. The typical life-cycle model of income includes a high income period during mature middle age and a low-income period of old age (retirement). Saving in money and money-denominated forms allows the household to transfer purchasing power from one time of life to another. Of course there are other stores of value, other ways to save, for example holding land or capital. The advantage of holding money as a means of saving is that money is liquid and certain (in nominal value in a monetary economy). Monetary savings can be transformed at will into new spending and consumption when the time is right.

### 4.3 Unit of Account

The notion of a unit of account is that money is the common measure of quantities evaluated in an economy. The total output of the economy, GDP, is measured in monetary terms. Prices of goods are measured in a common monetary unit. Personal incomes are measured in the same monetary unit. Having this single common unit available makes the arithmetic of prices and outputs relatively easy. Using the common measure of value it is easy to tell that beef at $5 a pound is twice as expensive as chicken at $2.50 per pound, and that a pound of beef represents 1% of the weekly income of a household receiving $500 per week. These are the sorts of calculations that households and firms must perform many times daily in ordinary commerce. Having a common unit in which to calculate them renders them simple and intuitive.

### 4.4 Standard of Deferred Payment

A standard of deferred payment is the mirror image of a store of value. Just as some economic units—firms and households—save their income, others borrow from them. This puts the savings to work forming capital or smoothing out the consumption streams of those who borrow to support spending. Just as the savers' (lenders') asset position is denominated in monetary terms, the borrowers' debt position is measured in the same way. Thus the debt is payable in monetary form—the same form the borrower expects his income to accrue in—and is certain (in nominal value).

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## Biographical Sketch

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