

7.6: Money Demand

learning goals

1. Learn the determinants of money demand in an economy.

The demand for money represents the desire of households and businesses to hold assets in a form that can be easily exchanged for goods and services. Spendability (or liquidity) is the key aspect of money that distinguishes it from other types of assets. For this reason, the demand for money is sometimes called the demand for liquidity.

The demand for money is often broken into two distinct categories: the transactions demand and the speculative demand.

Transactions Demand for Money

The primary reason people hold money is because they expect to use it to buy something sometime soon. In other words, people expect to make transactions for goods or services. How much money a person holds onto should probably depend on the value of the transactions that are anticipated. Thus a person on vacation might demand more money than on a typical day. Wealthier people might also demand more money because their average daily expenditures are higher than the average person's.

However, in this section we are interested not so much in an individual's demand for money but rather in what determines the aggregate, economy-wide demand for money. Extrapolating from the individual to the group, we could conclude that the total value of all transactions in the economy during a period would influence the aggregate transactions demand for money. Gross domestic product (GDP), the value of all goods and services produced during the year, will influence the aggregate value of all transactions since all GDP produced will be purchased by someone during the year. GDP may underestimate the demand for money, though, since people will also need money to buy used goods, intermediate goods, and assets. Nonetheless, changes in GDP are very likely to affect transactions demand.

Anytime GDP rises, there will be a demand for more money to make the transactions necessary to buy the extra GDP. If GDP falls, then people demand less money for transactions.

The GDP that matters here is nominal GDP, meaning GDP measured in terms of the prices that currently prevail (GDP at current prices). Economists often break up GDP into a nominal component and a real component, where real GDP corresponds to a quantity of goods and services produced after eliminating any price level changes that have occurred since the price level base year. To convert nominal to real GDP, simply divide nominal GDP by the current U.S. price level ($P_{\$}$); thus

$$\text{real GDP} = \text{nominal GDP} / P_{\$}$$

If we use the variable $Y_{\$}$ to represent real U.S. GDP and rearrange the equation, we can get

$$\text{nominal GDP} = P_{\$} Y_{\$}$$

By rewriting in this way we can now indicate that since the transactions demand for money rises with an increase in nominal GDP, it will also rise with either an increase in the general price level or an increase in real GDP.

Thus if the amount of goods and services produced in the economy rises while the prices of all products remain the same, then total GDP will rise and people will demand more money to make the additional transactions. On the other hand, if the average prices of goods and services produced in the economy rise, then even if the economy produces no additional products, people will still demand more money to purchase the higher valued GDP, hence the demand for money to make transactions will rise.

Speculative Demand for Money

The second type of money demand arises by considering the opportunity cost of holding money. Recall that holding money is just one of many ways to hold value or wealth. Alternative opportunities include holding wealth in the form of savings deposits, certificate of deposits, mutual funds, stock, or even real estate. For many of these alternative assets interest payments, or at least a positive rate of return, may be obtained. Most assets considered money, such as coin and currency and most checking account deposits, do not pay any interest. If one does hold money in the form of a negotiable order of withdrawal (NOW) account, a

checking account with interest, the interest earned on that deposit will almost surely be less than on a savings deposit at the same institution.

Thus to hold money implies giving up the opportunity of holding other assets that pay interest. The interest one gives up is the opportunity cost of holding money.

Since holding money is costly—that is, there is an opportunity cost—people’s demand for money should be affected by changes in its cost. Since the interest rate on each person’s next best opportunity may differ across money holders, we can use the average interest rate (i_s) in the economy as a proxy for the opportunity cost. It is likely that as average interest rates rise, the opportunity cost of holding money for all money holders will also rise, and vice versa. And as the cost of holding money rises, people should demand less money.

The intuition is straightforward, especially if we exaggerate the story. Suppose interest rates on time deposits suddenly increased to 50 percent per year (from a very low base). Such a high interest rate would undoubtedly lead individuals and businesses to reduce the amount of cash they hold, preferring instead to shift it into the high-interest-yielding time deposits. The same relationship is quite likely to hold even for much smaller changes in interest rates. This implies that as interest rates rise (fall), the demand for money will fall (rise). The speculative demand for money, then, simply relates to component of the money demand related to interest rate effects.

Key Takeaways

- Anytime the gross domestic product (GDP) rises, there will be a demand for more money to make the transactions necessary to buy the extra GDP. If GDP falls, then people demand less money for transactions.
- The interest one gives up is the opportunity cost of holding money.
- As interest rates rise (fall), the demand for money will fall (rise).

exercise

1. **Jeopardy Questions.** As in the popular television game show, you are given an answer to a question and you must respond with the question. For example, if the answer is “a tax on imports,” then the correct question is “What is a tariff?”
 - Of *increase, decrease, or no change*, the effect on the transactions demand for money when interest rates fall.
 - Of *increase, decrease, or no change*, the effect on the transactions demand for money when GDP falls.
 - Of *increase, decrease, or no change*, the effect on the speculative demand for money when GDP falls.
 - Of *increase, decrease, or no change*, the effect on the speculative demand for money when interest rates fall.

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