THE LAW OF DEMAND AND SUPPLY WITH THE CONNECTION OF MONEY

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Abstract. In this article there is more information about the law of demand and supply and the connection of them with the money. We present an empirical analysis of money demand, money supply, and monetary policy. Empirical models for velocity and forecast models for the money multiplier are estimated. Stability analysis reveals that structural stability of the demand for broad money after monetary union must be rejected; stability of the demand for narrow money can be accepted.. The increase in monetary control uncertainty caused by these adjustments did not, however, impede monetary targeting with reasonable precision.
Key words: supply, demand, the law of supply and demand, price, equilibrium, price discovery, marketplace, elasticity, the law of demand, income effect, cost squeeze

The law of supply and demand combines two fundamental economic principles describing how changes in the price of a resource, commodity, or product affect its supply and demand.

As the price increases, supply rises while demand declines. Conversely, as the price drops supply constricts while demand grows.

Levels of supply and demand for varying prices can be plotted on a graph as curves. The intersection of these curves marks the equilibrium, or market-clearing price at which demand equals supply, and represents the process of price discovery in the marketplace.

The law of demand holds that the demand level for a product or a resource will decline as its price rises, and rise as the price drops.

Conversely, the law of supply says higher prices boost supply of an economic good while lower ones tend to diminish it.

A market-clearing price balances supply and demand, and can be graphically represented as the intersection of the supply and demand curves.

The degree to which changes in price translate into changes in demand and supply is known as the product's price elasticity. Demand for basic necessities is relatively inelastic, meaning it is less responsive to changes in their price.

It may seem obvious that in any sale transaction the price satisfies both the buyer and the seller, matching supply with demand. The interactions between supply, demand, and price in a (more or less) free marketplace have been observed for thousands of years.

Many medieval thinkers, like modern day critics of market pricing for select commodities, distinguished between a "just" price based on costs and equitable returns and one at which the sale was in fact transacted. Our understanding of price as a signaling mechanism matching supply and demand is rooted in the work of Enlightenment economists who studied and summarized the relationship.

Importantly, supply and demand do not necessarily respond to price movements proportionally. The degree to which price changes affect the product's demand or supply is known as its price elasticity. Products with a high price elasticity of demand will see wider fluctuations in demand based on the price. In contrast, basic necessities will be relatively inelastic in price because people can't easily do without them, meaning demand will change less relative to changes in the price.

Price discovery based on supply and demand curves assumes a marketplace in which buyers and sellers are free to transact or not, depending on the price. Factors such as taxes and government regulation, the market power of suppliers, the availability of substitute goods, and economic cycles can all shift the supply or demand curves or alter their shapes. But so long as buyers and sellers retain agency, the commodities affected by these external factors remain subject to the fundamental forces of supply and demand. Now let's consider in turn how demand and supply respond to price changes.

The Law of Demand

The law of demand holds that demand for a product changes inversely to its price, all else being equal. In other words, the higher the price, the lower the level of demand.

Because buyers have finite resources, their spending on a given product or commodity is limited as well, so higher prices reduce the quantity demanded. Conversely, demand rises as the product becomes more affordable.

As a result, demand curves slope downward from left to right, as in the chart below. Changes in demand levels as a function of a product's price relative to buyers' income or resources are known as the income effect.

Naturally, there are exceptions. One is Giffen goods, typically low-priced staples also known as inferior goods. Inferior goods are those that see a drop in demand when incomes rise because consumers trade up to higher-quality products. But when the price of an inferior good rises and demand goes up because consumers use more of it in place of costlier alternatives, the substitution effect turns the product into a Giffen good.

The Law of Supply

The law of supply relates price changes for a product with the quantity supplied. In contrast with the law of demand the law of supply relationship is direct, not inverse. The higher the price, the higher the quantity supplied. Lower prices mean reduced supply, all else held equal.

Higher prices give suppliers an incentive to supply more of the product or commodity, assuming their costs aren't increasing as much. Lower prices result in a cost squeeze that curbs supply. As a result, supply slopes are upwardly sloping from left to right.

As with demand, supply constraints may limit the price elasticity of supply for a product, while supply shocks may cause a disproportionate price change for an essential commodity.

Equilibrium Price

Also called a market-clearing price, the equilibrium price is the price at which demand matches supply, producing a market equilibrium acceptable to buyers and sellers.

At the point where an upward-sloping supply curve and a downward-sloping demand curve intersect, supply and demand in terms of the quantity of the goods are balanced, leaving no surplus supply or unmet demand. The level of the market-clearing price depends on the shape and position of the respective supply and demand curves, which are influenced by numerous factors.

Factors Affecting Supply

In industries where suppliers are not willing to lose money, supply will tend to decline toward zero at product prices below production costs.

Price elasticity will also depend on the number of sellers, their aggregate productive capacity, how easily it can be lowered or increased, and the industry's competitive dynamics. Taxes and regulations may matter as well.

Factors Affecting Demand

Consumer income, preferences, and willingness to substitute one product for another are among the most important determinants of demand.

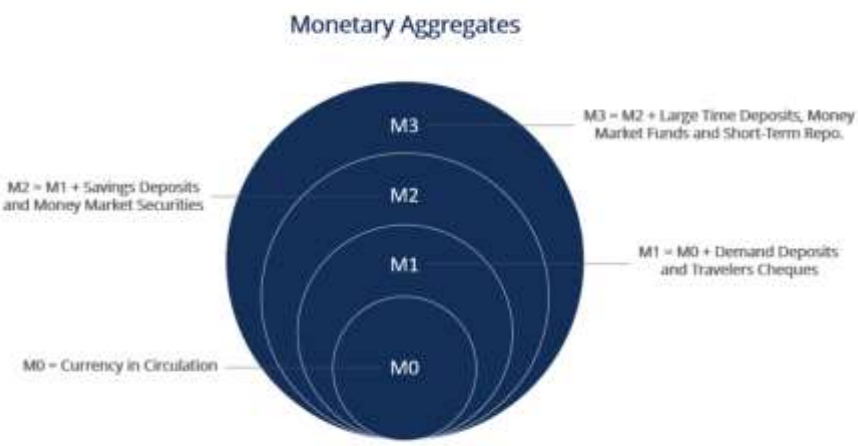
Consumer preferences will depend, in part, on a product's market penetration, since the marginal utility of goods diminishes as the quantity owned increases. The first car is more life-altering than the fifth addition to the fleet; the living-room TV more useful than the fourth one for the garage.

If you've ever wondered how the supply of a product matches demand, or how market prices are set, the law of supply and demand holds the answers. Higher prices cause supply to increase while demand drops. Lower prices boost demand while limiting supply. The market-clearing price is one at which supply and demand are balanced.

The Law of Supply and Demand is essential because it helps investors, entrepreneurs, and economists understand and predict market conditions. For example, a company considering a price hike on a product will typically expect demand for it to decline as a result, and will attempt to estimate the price elasticity and substitution effect to determine whether to proceed regardless.

Money supply refers to the cash and cash equivalents in a country at a given point in time. It is an important measurement for monetary policy decision-making because money supply is a key variable that drives macroeconomic performance. Monetary supply aggregates are the formal breakdown and measurement of money supply in the economy based on liquidity. M0 is the most liquid category, as it represents all the physical coinage and paper money in circulation.

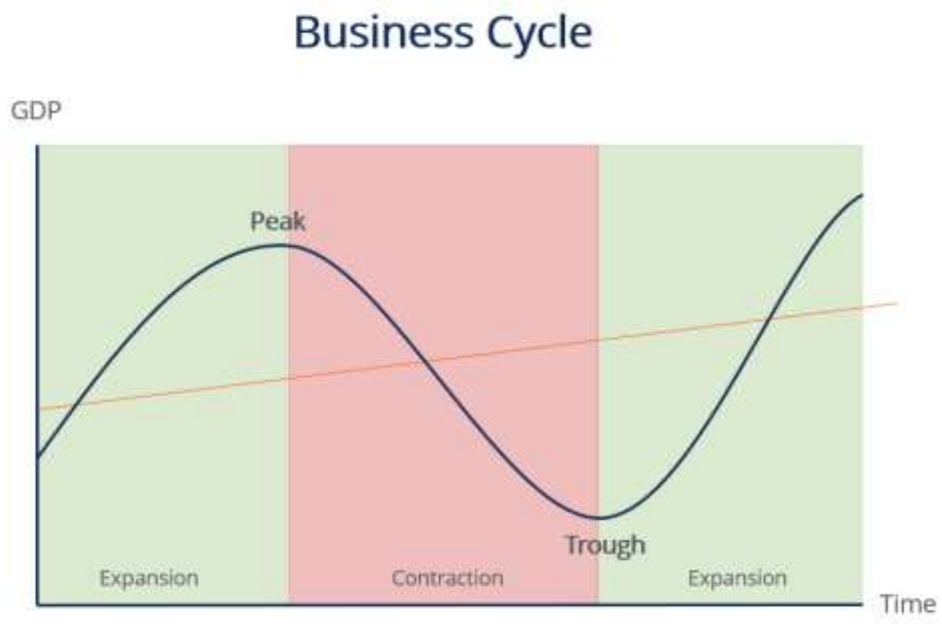
Per the diagram below, as the circles broaden, each grouping encompasses increasingly illiquid assets, with M3 encompassing large deposits over $100,000, money market funds, and Eurodollar deposits.



Money Supply and the Business Cycle

Money supply data is published monthly and is one of the many important macroeconomic variables that are tracked by economists and investors alike. The variables can be used to determine the timing of the business cycle and future expectations. They are often intertwined and therefore must be understood together to draw conclusions.

Different assets and attributes outperform at different stages in the business cycle. By understanding where we are in the current business cycle, investors can strategically shift their portfolios to maximize their returns.



Money Supply and Monetary Policy

Monetary policy is a tool implemented by the central bank to maintain economic stability and growth. One of the biggest challenges monetary policy seeks to tackle is inflation. When spending (demand) is abnormally high and supply remains constant, it artificially pushes up the equilibrium price.

Too much inflation can spell disaster, because when the prices of goods increase but wages do not, it erodes the purchasing power of consumers and can quickly lead to decreased overall spending and an economic downturn. On the other hand, not enough inflation will result in a stagnant economy, or even worse, deflation will create a cycle of high unemployment and bankruptcies.

Monetary policy seeks to control inflation through the manipulation of money supply and interest rate targets, of which we will explore the former. When money supply is high, it boosts consumer spending and investments, which in turn spurs the economy. Vice versa, when the money supply is low, consumer spending and investments fall and, in the long term, can result in a declining economy.

The central bank uses two methods to influence the money supply:

Buying or selling money market securities (M2) from the open market

Easing or tightening reserve requirements

Reserve requirements are the required funds that banks must keep on hand at all times to meet abnormally high client withdrawal needs. By influencing reserve requirements, the central bank directly influences money in circulation (M0).

Types of Monetary Policy

The two types of monetary policy are:

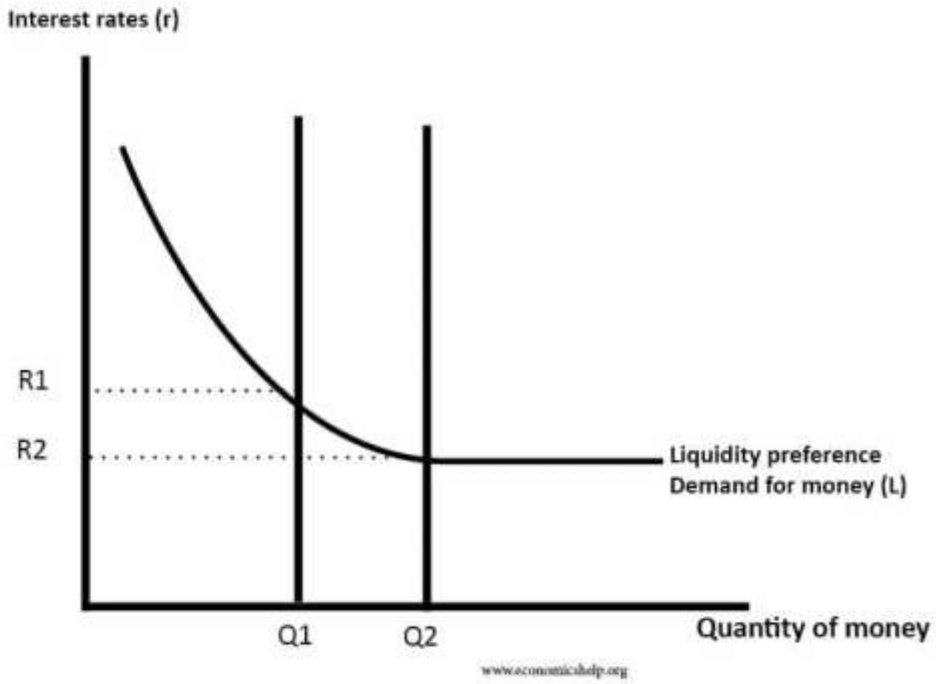
1. Expansionary monetary policy

In times of economic slowdown, the government can expand monetary policy to encourage economic growth. It does so by buying securities from the open market and easing reserve requirements to increase the money supply, and on the other hand, reducing the interest rate target.

2. Contractionary monetary policy

When the economy overheats, high inflation rates in the long term can spell trouble because of reduced purchasing power. To lower inflation, the government can decrease the money supply and increase interest rates by selling securities on the open market, tightening reserve requirements, and increasing the interest rate target.

The demand for money refers to how much assets individuals wish to hold in the form of money (as opposed to illiquid physical assets.) It is sometimes referred to as liquidity preference. The demand for money is related to income, interest rates and whether people prefer to hold cash(money) or illiquid assets like money.



This shows that the demand for money is inversely related to the interest rate.

At high-interest rates, people prefer to hold bonds (which give a high-interest payment).

When interest rates fall, holding bonds gives a lower return so people prefer to hold cash.

Types of demand for money

Transaction demand – money needed to buy goods – this is related to income.

Precautionary demand – money needed for financial emergencies.

Asset motive/speculative demand – when people wish to hold money rather than buy assets/bonds/risky investment.

Transaction demand for money

Transaction demand for money – the money we need to purchase goods and services in day to day life.

In the classical quantity theory of money. The demand for money is a function of prices and income (assuming the velocity of circulation is stable.) If income rises, demand for money will rise.

In an inventory model, the demand for holding money depends on the frequency of getting paid, and the cost of depositing money in a bank. When employees are paid, they will hold some money to buy goods. If they are paid once a month, they may deposit half to benefit from interest payments, and then withdraw after two months. However, electronic transfers and debit cards have made this less relevant.

Precautionary demand for money

Precautionary demand for money – the money we may need for unexpected purchases or emergencies.

Asset motive

The asset motive states that people demand money as a way to hold wealth. This may occur during periods of deflation or periods where investors expect bonds to fall in value.

Speculative demand

Keynes explained the asset motive through what he termed ‘speculative demand’. In this theory, he argued that demand for money is a choice between holding cash and buying bonds.

Portfolio motive

The portfolio motive is another way of considering the asset motive. This theory was developed by James Tobin. He placed emphasis on the trade off between asset growth and risk aversion. For example, if an individual is nervous about future economic trends, he will hold money rather than purchase more risky bonds and shares. If the individual is optimistic, he will take risks and purchase fewer bonds and shares.

The demand for money can vary due to many factors other than income and interest rates. These include

Technological changes – e.g. debit cards, make holding cash less important. Easy access to current accounts can enable people to hold less cash.

Availability of credit. If credit is more available, precautionary demand for money will fall as individuals feel they can borrow – if they meet short-term difficulties.

Irrational behaviour of asset prices. Markets can enter boom and busts driven by psychological factors such as over-exuberance. In these bubble periods, demand for assets will rise and demand for holding money will fall.

Empirical evidence in *A Monetary History of the United States* (1963) Friedman and Schwartz suggested a relationship between demand for money and income and interest rates. However, this relationship seems to break-down post-1975

It depends on how you define money. Narrow definitions such as M0 and M1 are quite different from broader definitions. Also, there is near-money which includes short-term gilts with the maturity of fewer than six months.

The demand for money can refer to narrow definitions of the money supply (M0, M1) or broad measures of the money supply like M3 or M4.

In a liquidity trap, the demand for money is perfectly elastic. Increasing the money supply doesn’t reduce interest rates and the impact of increasing the money supply is ineffective in boosting demand.

Whenever a large number of entities or corporations join together and make up a system is known as the banking system. They carry out their specific job of raising funds and lending resources in the economic and financial markets.

The main purpose and explanation of the existence of this sector is the need for certain organizations to be in charge of carrying out financial inter-mediation operations. In this way,

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it is possible that the money moves from one place to another adjusting to certain risks and deadlines that mark the financial reality.

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