

PATTAMUNDAI DEGREE COLLEGE, PATTAMUNDAI



DEPARTMENT OF COMMERCE

Project On :

"MONETARY POLICY OF INDIA"

Project report submitted in partial fulfillment of the degree of
BACHELOR OF COMMERCE BY

PROJECT REPORT ON "MONETARY POLICY OF INDIA"

SESSION-2020-2021

DEPARTMENT OF COMMERCE

PATTAMUNDAI COLLEGE, PATTAMUNDAI

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CHAPTER-1

Monetary policy

Monetary policy is the process by which the monetary authority of a country, typically the central bank or currency board, controls either the cost of very short-term borrowing or the monetary base, often targeting an inflation rate or interest rate to ensure price stability and general trust in the currency.

Further goals of a monetary policy are usually to contribute to the stability of gross domestic product, to achieve and maintain low unemployment, and to maintain predictable exchange rates with other currencies.

Monetary economics provides insight into how to draft an optimal monetary policy. In developed countries, monetary policy has generally been formed separately from fiscal policy, which refers to taxation, government spending, and associated borrowing.

Monetary policy is referred to as being either expansionary or contractionary. Expansionary policy is when a monetary authority uses its tools to stimulate the economy. An expansionary policy maintains short-term interest rates at a lower than usual rate or increases the total supply of money in the economy more rapidly than usual. It is traditionally used to try to combat unemployment in a recession by lowering interest rates in the hope that less expensive credit will entice businesses into expanding. This increases aggregate demand (the overall demand for all goods and services in an economy) which brings short-term growth as measured by gross domestic product (GDP) growth. Expansionary monetary policy usually diminishes the value of the currency relative to other currencies (the exchange rate).

The opposite of expansionary monetary policy is contractionary monetary policy, which maintains short-term interest rates higher than usual or which slows the rate of growth in the money supply or even shrinks it. This slows short-term economic growth and lessens inflation. Contractionary monetary policy can lead to increased unemployment and depressed borrowing and spending by consumers and businesses which can eventually result in an economic recession if implemented too vigorously.

❖ History

Monetary policy is associated with interest rates and availability of credit. Instruments of monetary policy have included short-term interest rates and bank reserves through the monetary base. For many centuries there were only two forms of monetary policy: (i) Decisions about coinage; (ii) Decisions to print paper money to create credit. Interest rates, while now thought of as part of monetary authority, were not generally coordinated with the other forms of monetary policy during this time. Monetary policy was seen as an executive decision, and was generally in the hands of the authority with seigniorage, or the power to coin. With the advent of large trading networks came the ability to set the price between gold and silver, and the price of the local currency to foreign currencies. This official price could be enforced by law, even if it varied from the market price.

Paper money called "jiaozi" originated from promissory notes in 7th-century China. Jiaozi did not replace metallic currency and were used alongside the copper coins. The successive Yuan Dynasty was the first government to use paper currency as the predominant circulating medium. In the later course of the dynasty, facing massive shortages of specie to fund war and their rule in China, they began printing paper money without restrictions, resulting in hyperinflation.

With the creation of the Bank of England in 1694 which acquired the responsibility to print notes and back them with gold, the idea of monetary policy as independent of executive action began to be established. The goal of monetary policy was to maintain the value of the coinage, print notes which would trade at par to specie, and prevent coins from leaving circulation. The establishment of central banks by industrializing nations was associated then with the desire to maintain the nation's peg to the gold standard, and to trade in a narrow band with other gold-backed currencies. To accomplish this end, central banks as part of the gold standard began setting the interest rates that they charged, both their own borrowers, and other banks who required liquidity. The maintenance of a gold standard required almost monthly adjustments of interest rates. The gold standard is a system under which the price of the national currency is measured in units of gold bars and is kept constant by the government's promise to buy or sell gold at a fixed price in terms of the base currency. The gold standard might be regarded as a special case of "fixed exchange rate" policy or as a special type of commodity price level targeting. Nowadays this type of monetary policy is no longer used by any country.

During the period 1870–1920, the industrialized nations set up central banking systems, with one of the last being the Federal Reserve in 1913. By this point the role of the central bank as the "lender of last resort" was understood. It was also increasingly understood that interest rates had an effect on the entire economy, in no small part because of the marginal revolution in economics, which demonstrated how people would change a decision based on a change in the economic trade-offs.

Monetarist economists long contended that the money-supply growth could affect the macroeconomy. These included Milton Friedman who early in his career advocated that government budget deficits during recessions be financed in equal amount by money creation to help to stimulate aggregate demand for output. Later he advocated simply increasing the monetary supply at a low constant rate, as the best way of maintaining low inflation and stable output growth. However, when U.S. Federal Reserve Chairman Paul Volcker tried this policy starting in October 1979, it was found to be impractical because of the highly unstable relationship between monetary aggregates and other macroeconomic variables. Even Milton Friedman later acknowledged that direct money supply targeting was less successful than he had hoped.

❖ monetary authority of a country

Central bank :-

A central bank, reserve bank, or monetary authority is an institution that manages a state's currency, money supply, and interest rates. Central banks also usually oversee the commercial banking system of their respective countries. In contrast to a commercial bank, a central bank possesses a monopoly on increasing the monetary base in the state, and usually also prints the national currency, which usually serves as the state's legal tender. Central banks also act as a "lender of last resort" to the banking sector during times of financial crisis. Most central banks usually also have supervisory and regulatory powers to ensure the solvency of member institutions, prevent bank runs, and prevent reckless or fraudulent behavior by member banks.

Central banks in most developed nations are institutionally designed to be independent from political interference. Still, limited control by the executive and legislative bodies usually exists.

Inflation :-

In economics, inflation is a sustained increase in the general price level of goods and services in an economy over a period of time. When the price level rises, each unit of currency buys fewer goods and services; consequently, inflation reflects a reduction in the purchasing power per unit of money – a loss of real value in the medium of exchange and unit of account within the economy. A chief measure of price inflation is the inflation rate, the annualized percentage change in a

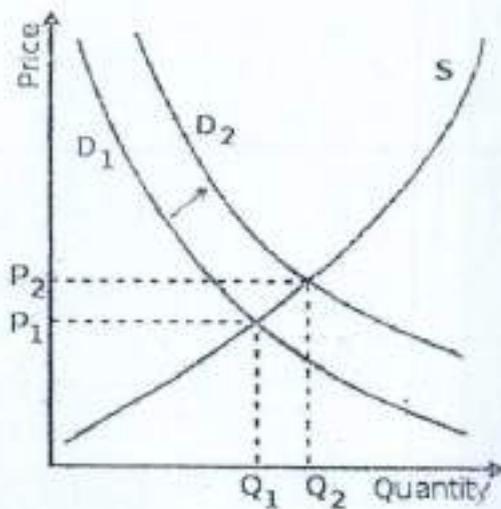
general price index, usually the consumer price index, over time. The opposite of inflation is deflation.

Inflation affects economies in various positive and negative ways. The negative effects of inflation include an increase in the opportunity cost of holding money, uncertainty over future inflation which may discourage investment and savings, and if inflation were rapid enough, shortages of goods as consumers begin hoarding out of concern that prices will increase in the future. Positive effects include reducing the real burden of public and private debt, keeping nominal interest rates above zero so that central banks can adjust interest rates to stabilize the economy, and reducing unemployment due to nominal wage rigidity.

Economists generally believe that high rates of inflation and hyperinflation are caused by an excessive growth of the money supply. Views on which factors determine low to moderate rates of inflation are more varied. Low or moderate inflation may be attributed to fluctuations in real demand for goods and services, or changes in available supplies such as during scarcities. However, the consensus view is that a long sustained period of inflation is caused by money supply growing faster than the rate of economic growth. Inflation may also lead to an invisible tax in which the value of currency is lowered in contrast with its actual reserve, ultimately leading individuals to hold devalued legal tender.

Today, most economists favor a low and steady rate of inflation. Low (as opposed to zero or negative) inflation reduces the severity of economic recessions by enabling the labor market to adjust more quickly in a downturn, and reduces the risk that a liquidity trap prevents monetary policy from stabilizing the economy. The task of keeping the rate of inflation low and stable is usually given to monetary authorities. Generally, these monetary authorities are the central banks that control monetary policy through the setting of interest rates, through open market operations, and through the setting of banking reserve requirements.

Economics



A supply and demand diagram, illustrating the effects of an increase in demand.

Interest rate :-

An **interest rate** is the amount of interest due per period as a proportion of the amount lent, deposited or borrowed (called the principal sum). The total interest on an amount lent or borrowed depends on the principal sum, the interest rate, the compounding frequency and the length of time over which it is lent, deposited or borrowed.

It is defined as the proportion of an amount loaned which a lender charges as interest to the borrower, normally expressed as an annual percentage. It is the rate a bank or other lender charges to borrow its money, or the rate a bank pays its savers for keeping money in an account.

Annual interest rate is the rate over a period of one year. Other interest rates apply over different periods, such as a month or a day but they are usually annualised.

Price stability :-

Price stability is a goal of monetary and fiscal policy aiming to support sustainable rates of economic activity. Policy is set to maintain a very low rate of inflation or deflation. For example, the European Central Bank (ECB) describes price stability as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the Euro area of below 2%. However, by referring to "an increase in the HICP of below 2%" the ECB makes clear that not only persistent inflation above 2% but also deflation (i.e. a persistent decrease of the general price level) are inconsistent with the goal of price stability.

In the United States, the Federal Reserve Act (as amended in 1977) directs the Federal Reserve to pursue policies promoting "maximum employment, stable prices, and moderate long-term interest rates." The Fed long ago determined that the best way to meet those mandates is to target a rate of inflation of around 2%. In 2011 it officially adopted a 2% annual increase in the personal consumption expenditures price index (often called PCE inflation) as the target. Since the mid-trend 1990s, the Federal Reserve's measure of the inflation trend averaged 1.7%, a mere 0.3% shy of the Federal Open Market Committee's 2% target for overall PCE inflation. Trend inflation as measured by the price index of core personal consumption expenditures (PCE) – that is, excluding food and energy – has fluctuated between $\pm 2\%$ and 2.3% over the past 20 years.

CHAPTER-2

In managing the rate of inflation or deflation, information and expectations play an important role, as explained by Jeffrey Lacker, President of the Federal Reserve Bank of Richmond: "If people expect inflation to erode the future value of money, they will rationally place a lower value on money today. This principle applies equally well to the price-setting behavior of firms. If a firm expects the general level of prices to rise by 3 percent over the coming year, it will take into account the expected increase in the costs of inputs and the prices of substitutes when setting its own prices today."

Goals of a monetary policy

Gross domestic product :-

Gross domestic product (GDP) is a monetary measure of the market value of all final goods and services produced in a period (quarterly or yearly) of time. Nominal GDP estimates are commonly used to determine the economic performance of a whole country or region, and to make international comparisons. Nominal GDP per capita does not, however, reflect differences in the cost of living and the inflation rates of the countries, therefore using a basis of GDP per capita at purchasing power parity (PPP) is arguably more useful when comparing differences in living standards between different nations.

Definition

The OECD defines GDP as "an aggregate measure of production equal to the sum of the gross values added of all resident and institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs)." An IMF publication states that "GDP measures the monetary value of final goods and services - that are bought by the final user - produced in a country in a given period of time (say a quarter or a year)."

Total GDP can also be broken down into the contribution of each industry or sector of the economy. The ratio of GDP to the total population of the region is the per capita GDP and the same is called Mean Standard of Living. GDP is considered the "world's most powerful statistical indicator of national development and progress"¹

History:-

William Petty came up with a basic concept of GDP to defend landlords against unfair taxation during warfare between the Dutch and the English between 1652 and 1674. Charles Davenant developed the method further in 1695. The modern concept of GDP was first developed by Simon Kuznets for a US Congress report in 1934. In this report, Kuznets warned against its use as a measure of welfare (see below under *limitations and criticisms*). After the Bretton Woods conference in 1944, GDP became the main tool for measuring a country's economy. At that time gross national product (GNP) was the preferred estimate,

which differed from GDP in that it measured production by a country's citizens at home and abroad rather than its 'resident institutional units' (see OECD definition above). The switch from "GNP" to "GDP" in the US was in 1991, trailing behind most other nations. Crucial to the development of GDP was its role in the wartime effort. A crucial role was played here by the US Department of Commerce under Milton Gilbert

where ideas from Kuznets were embedded into governmental institutions.

The history of the concept of GDP should be distinguished from the history of changes in ways of estimating it. The value added by firms is relatively easy to calculate from their accounts but the value added by the public sector, by financial industries and by intangible asset creation is more complex. These activities are increasingly important in developed economies, and the international conventions governing their estimation and their inclusion or exclusion in GDP regularly change in an attempt to keep up with industrial advances. In the words of one academic economist "The actual number for GDP is therefore the product of a vast patchwork of statistics and a complicated set of processes carried out on the raw data to fit them to the conceptual framework."

Gross domestic product (GDP):-

GDP can be determined in three ways: all of which should, in principle, give the same result. They are the production (or output or value added) approach, the income approach, or the speculated expenditure approach.

The most direct of the three is the production approach, which sums the outputs of every class of enterprise to arrive at the total. The expenditure approach works on the principle that all of the product must be bought by somebody, therefore the value of the total product must be equal to people's total expenditures in buying things. The income approach works on the principle that the incomes of the productive factors ("producers," colloquially) must be equal to the value of their product, and determines GDP by finding the sum of all producers' incomes.

Unemployment:-

Unemployment is the situation of actively looking for employment but not being currently employed.

The unemployment rate is a measure of the prevalence of unemployment and it is calculated as a percentage by dividing the number of unemployed individuals by all individuals currently in the labor force. During periods of recession, an economy usually experiences a relatively high unemployment rate. According to International Labour Organization report, more than 200 million people globally or 6% of the world's workforce were without a job in 2012.

The causes of unemployment are heavily debated. Classical economics, new classical economics, and the Austrian School of economics argued that market mechanisms are reliable means of resolving unemployment. These theories argue against interventions imposed on the labor market from the outside, such as unionization,

bureaucratic work rules, minimum wage laws, taxes, and other regulations that they claim discourage the hiring of workers. Keynesian economics emphasizes the cyclical nature of unemployment and recommends government interventions in the economy that it claims will reduce unemployment during recessions. This theory focuses on recurrent shocks that suddenly reduce aggregate demand for goods and services and thus reduce demand for workers.

Keynesian models recommend government interventions designed to increase demand for workers; these can include financial stimuli, publicly funded job creation, and expansionist monetary policies. Its namesake economist John Maynard Keynes, believed that the root cause of unemployment is the desire of investors to receive more money rather than produce more products, which is not possible without public bodies producing new money. A third group of theories emphasize the need for a stable supply of capital and investment to maintain full employment. On this view, government should guarantee full employment through fiscal policy, monetary policy and trade policy as stated, for example, in the US Employment Act of 1946, by counteracting private sector or trade investment volatility, and reducing inequality.

In addition to these comprehensive theories of unemployment, there are a few categorizations of unemployment that are used to more precisely model the effects of unemployment within the economic system. The main types of unemployment include structural unemployment which focuses on structural problems in the economy and inefficiencies inherent in labour markets, including a mismatch between the supply and demand of laborers with necessary skill sets. Structural arguments emphasize causes and solutions related to disruptive technologies and globalization... Discussions of frictional unemployment focus on voluntary decisions to work based on each individual's valuation of their own work and how that compares to current wage rates plus the time and effort required to find a job. Causes and solutions for frictional unemployment often address job entry threshold and wage rates. Behavioral economists highlight individual biases in decision making, and often involve problems and solutions concerning sticky wages and efficiency wages.

For centuries experts have predicted that machines would make workers obsolete and increase unemployment.

Defination :-

The state of being without any work for an educated person, for earning one's livelihood is meant by unemployment. Economists distinguish between various overlapping types of and theories of unemployment, including cyclical or Keynesian unemployment, frictional unemployment, structural unemployment and classical unemployment. Some additional types of unemployment that are occasionally mentioned

are seasonal unemployment, hardcore unemployment, and hidden unemployment.

Though there have been several definitions of "voluntary" and "involuntary unemployment" in the economics literature, a simple distinction is often applied. Voluntary unemployment is attributed to the individual's decisions, whereas involuntary unemployment exists because of the socio-economic environment (including the market structure, government intervention, and the level of aggregate demand) in which individuals operate. In these terms, much or most of frictional unemployment is voluntary, since it reflects individual search behavior. Voluntary unemployment includes workers who reject low wage jobs whereas involuntary unemployment includes workers fired due to an economic crisis, industrial decline, company bankruptcy, or organizational restructuring.

On the other hand, cyclical unemployment, structural unemployment, and classical unemployment are largely involuntary in nature. However, the existence of structural unemployment may reflect choices made by the unemployed in the past, while classical (natural) unemployment may result from the legislative and economic choices made by labour unions or political parties. So, in practice, the distinction between voluntary and involuntary unemployment is hard to draw.

The clearest cases of involuntary unemployment are those where there are fewer job vacancies than unemployed workers even when wages are allowed to adjust, so that even if all vacancies were to be filled, some unemployed workers would still remain. This happens with cyclical unemployment, as macroeconomic forces cause microeconomic unemployment which can boomerang back and exacerbate these macroeconomic forces.

Classical unemployment:-

Classical, or real-wage unemployment, occurs when real wages for a job are set above the market-clearing level causing the number of job-seekers to exceed the number of vacancies. On the other hand, most economists argue that as wages fall below a livable wage many choose to fall out of the labor market and no longer seek employment. This is especially true in countries where low-income families are supported through public welfare systems. In such cases, wages would have to be high enough to motivate people to choose employment over what they receive through public welfare. Wages below a livable wage are likely to result in lower labor market participation in above stated scenario. In addition it must be noted that consumption of goods and services is the primary driver of increased need for labor. Higher wages leads to workers having more income available to consume goods and services. Therefore, higher wages increase general consumption and as a result need for labor increases and unemployment decreases in the economy. Many economists have argued that unemployment increases with increased governmental regulation. For example, minimum wage laws raise the cost of some low-skill laborers above market equilibrium, resulting in increased unemployment as people who wish to work at the going rate cannot (as the new and higher enforced wage is now greater than the value of their labour). Laws restricting layoffs may make businesses less likely to hire in the first place, as hiring becomes more risky.

However, this argument overly simplifies the relationship between wage rates and unemployment, ignoring numerous factors, which contribute to unemployment. Some, such as Murray Rothbard, suggest that even social taboos can prevent wages from falling to the market-clearing level.

Economists Richard Vedder and Lowell Gallaway argue that the empirical record of wages rates, productivity, and unemployment in American validates classical unemployment theory. Their data shows a strong correlation between adjusted real wage and unemployment in the United States from 1900 to 1990. However, they maintain that their data does not take into account exogenous events.

Cyclical unemployment:-

Cyclical, deficient-demand, or Keynesian unemployment, occurs when there is not enough aggregate demand in the economy to provide jobs for everyone who wants to work. Demand for most goods and services falls less production is needed and consequently fewer workers are needed, wages are sticky and do not fall to meet the equilibrium level, and mass unemployment results. Its name is derived from the frequent shifts in the business cycle although unemployment can also be persistent as occurred during the Great Depression of the 1930s.

With cyclical unemployment, the number of unemployed workers exceeds the number of job vacancies, so that even if full employment were attained and all open jobs were filled, some workers would still remain unemployed. Some associate cyclical unemployment with frictional unemployment because the factors that cause the friction are partially caused by cyclical variables. For example, a surprise decrease in the money supply may shock rational economic factors and suddenly inhibit aggregate demand.

Keynesian economists on the other hand see the lack of supply for jobs as potentially resolvable by government intervention. One suggested intervention involves deficit spending to boost employment and demand. Another intervention involves an expansionary

monetary policy that increases the supply of money which should reduce interest rates which should lead to an increase in non-governmental spending.

Structural unemployment:-

Structural unemployment occurs when a labour market is unable to provide jobs for everyone who wants one because there is a mismatch between the skills of the unemployed workers and the skills needed for the available jobs. Structural unemployment is hard to separate empirically from frictional unemployment, except to say that it lasts longer. As with frictional unemployment, simple demand-side stimulus will not work to easily abolish this type of unemployment.

Structural unemployment may also be encouraged to rise by persistent cyclical unemployment: if an economy suffers from long-lasting low aggregate demand, it means that many of the unemployed become disheartened, while their skills (including job-searching skills) become rusty and obsolete. Problems with debt may lead to homelessness and a fall into the vicious circle of poverty.

This means that they may not fit the job vacancies that are created when the economy recovers. The implication is that sustained *high* demand may *lower* structural unemployment. This theory of persistence in structural unemployment has been referred to as an example of path dependence or "hysteresis".

Much *technological unemployment*, due to the replacement of workers by machines, might be counted as structural unemployment. Alternatively, technological unemployment might refer to the way in which steady increases in labour productivity mean that fewer workers are needed to produce the same level of output every year. The fact that aggregate demand can be raised to deal with this problem suggests that this problem is instead one of cyclical unemployment. As indicated by Okun's Law, the demand side must grow sufficiently quickly to absorb not only the growing labour force but also the workers made redundant by increased labour productivity.

Seasonal unemployment may be seen as a kind of structural unemployment, since it is a type of unemployment that is linked to **certain** kinds of jobs (construction work, migratory farm work). The most-cited official unemployment measures erase this kind of unemployment from the statistics using "seasonal adjustment" techniques. This results in substantial, permanent structural unemployment.

Frictional unemployment:-

Frictional unemployment is the time period between jobs when a worker is searching for, or transitioning from one job to another. It is sometimes called search unemployment and can be voluntary based on the circumstances of the unemployed individual.

Frictional unemployment exists because both jobs and workers are heterogeneous, and a mismatch can result between the characteristics of supply and demand. Such a mismatch can be related to skills, payment, work-time, location, seasonal industries, attitude, taste, and a multitude of other factors. New entrants (such as graduating students) and re-entrants (such as former homemakers) can also suffer a spell of frictional unemployment.

Workers as well as employers accept a certain level of imperfection, risk or compromise, but usually not right away; they will invest some time and effort to find a better match. This is in fact beneficial to the economy since it results in a better allocation of resources. However, if the search takes too long and mismatches are too frequent, the economy suffers, since some work will not get done. Therefore, governments will seek ways to reduce unnecessary frictional unemployment through multiple means including providing education, advice, training, and assistance such as daycare centers.

The frictions in the labour market are sometimes illustrated graphically with a Beveridge curve, a downward-sloping, convex curve that shows a correlation between the unemployment rate on one axis and the vacancy rate on the other. Changes in the supply of or demand for labour cause movements along this curve. An increase (decrease) in labour market frictions will shift the curve outwards (inwards).

Hidden unemployment:-

Hidden, or covered, unemployment is the unemployment of potential workers that is not reflected in official unemployment statistics, due to the way the statistics are collected. In many countries only those who have no work but are actively looking for work (and/or qualifying for social security benefits) are counted as unemployed. Those who have given up looking for work (and sometimes those who are on Government "retraining" programs) are not officially counted among the unemployed, even though they are not employed.

As defined by the International Labour Organization, "unemployed workers" are those who are currently not working but are willing and able to work for pay, currently available to work, and have actively searched for work. Individuals who are actively seeking job placement must make the effort to: be in contact with an employer, have job interviews, contact job placement agencies, send out resumes, submit applications, respond to advertisements, or some other means of active job searching within the prior four weeks. Simply looking at advertisements and not responding will not count as actively seeking job placement. Since not all unemployment may be "open" and counted by government agencies, official statistics on unemployment may not be accurate. In the United States, for example, the unemployment rate does not take into consideration those individuals who are not actively looking for employment, such as those still attending college.

The ILO describes 4 different methods to calculate the unemployment rate:

- *Labour Force Sample Surveys* are the most preferred method of unemployment rate calculation since they give the most comprehensive results and enables calculation of unemployment by different group categories such as race and gender. This method is the most internationally comparable.
- *Official Estimates* are determined by a combination of information from one or more of the other three methods. The use of this method has been declining in favor of Labour Surveys.
- *Social Insurance Statistics* such as unemployment benefits, are computed base on the number of persons insured representing the total labour force and the number of persons who are insured that are collecting benefits. This method has been heavily criticized due to the expiration of benefits before the person finds work.

The statistic also does not count the "underemployed"—those working fewer hours than they would prefer or in a job that doesn't make good use of their capabilities. In addition, those who are of working age but are currently in full-time education are usually not considered unemployed in government statistics. Traditional unemployed native societies who survive by gathering, hunting, herding, and farming in

wilderness areas, may or may not be counted in unemployment statistics. Official statistics often underestimate unemployment rates because of hidden unemployment

Long-term unemployment:-

Long-term unemployment is defined in European Union statistics, as unemployment lasting for longer than one year. The United States Bureau of Labor Statistics (BLS), which reports current long-term unemployment rate at 1.9 percent, defines this as unemployment lasting 27 weeks or longer. Long-term unemployment is a component of structural unemployment, which results in long-term unemployment existing in every social group, industry, occupation, and all levels of education.

Measurement :-

There are also different ways national statistical agencies measure unemployment. These differences may limit the validity of international comparisons of unemployment data. To some degree these differences remain despite national statistical agencies increasingly adopting the definition of unemployment by the International Labour Organization. To facilitate international comparisons, some organizations, such as the OECD, Eurostat, and International Labor Comparisons Program, adjust data on unemployment for comparability across countries.

Though many people care about the number of unemployed individuals, economists typically focus on the unemployment rate. This corrects for the normal increase in the number of people employed due to increases in population and increases in the labour force relative to the population. The unemployment rate is expressed as a percentage, and is calculated as follows:

- *Employment Office Statistics* are the least effective being that they only include a monthly tally of unemployed persons who enter employment offices. This method also includes unemployed who are not unemployed per the ILO definition.

The primary measure of unemployment, U3, allows for comparisons between countries. Unemployment differs from country to country and across different time periods. For example, during the 1990s and 2000s, the United States had lower unemployment levels than many countries in the European Union which had significant internal variation, with countries like the UK and Denmark outperforming Italy and France. However, large economic events such as the Great Depression can lead to similar unemployment rates across the globe.

Exchange Rate :-

In finance, an exchange rate is the rate at which one currency will be exchanged for another. For example, an exchange rate of 114 Japanese yen to the United States dollar means that ¥114 will be exchanged for each US\$1 or that US\$1 will be exchanged for each ¥114. In this case it is said that the price of a dollar in relation to yen is ¥114, or equivalently that the price of a yen in relation to dollars is \$1/114.

Exchange rates are determined in the foreign exchange market, which is open to a wide range of different types of buyers and sellers, and where currency trading is continuous: 24 hours a day except weekends, i.e. trading from 20:15 GMT on Sunday until 22:00 GMT Friday. The spot exchange rate refers to the current exchange rate. The forward exchange rate refers to an exchange rate that is quoted and traded today but for delivery and payment on a specific future date.

In the retail currency exchange market, different buying and selling rates will be quoted by money dealers. Most trades are to or from the local currency. The buying rate is the rate at which money dealers will buy foreign currency, and the selling rate is the rate at which they will sell that currency.

The quoted rates will incorporate an allowance for a dealer's margin (or profit) in trading, or else the margin may be recovered in the form of a commission or in some other way. Different rates may also be quoted for cash, a documentary form or electronically. The higher rate on documentary transactions has been justified as compensating for the additional time and cost of clearing the document. On the other hand, cash is available for resale immediately, but brings security, storage, and transportation costs, and the cost of tying up capital in a stock of banknotes (bills).

In finance, an exchange rate is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in relation to another currency. For example, an interbank exchange rate of 114 Japanese yen to the United States dollar means that ¥114 will be exchanged for each US\$1 or that US\$1 will be exchanged for each ¥114. In this case it is said that the price of a dollar in relation to yen is ¥114, or equivalently that the price of a yen in relation to dollars is \$1/114.

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In finance, an exchange rate is the rate at which one currency will be exchanged for another. It is also regarded as the value of one country's currency in relation to another currency. For example, an interbank exchange rate of 114 Japanese yen to the United States dollar means that ¥114 will be exchanged for each US\$1 or that US\$1 will be exchanged for each ¥114. In this case it is said that the price of a dollar in relation to yen is ¥114 or equivalently that the price of a yen in relation to dollars is \$1/114.

Exchange rates are determined in the foreign exchange market, which is open to a wide range of different types of buyers and sellers, and where currency trading is continuous: 24 hours a day except weekends, i.e. trading from 20:15 GMT on Sunday until 22:00 GMT Friday. The spot exchange rate refers to the current exchange rate. The forward exchange rate refers to an exchange rate that is quoted and traded today but for delivery and payment on a specific future date.

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Currency :-

currency (from Middle English: *curraunt*, "in circulation", from Latin: *currens*, *-entis*), in the most specific use of the word, refers to money in any form when in actual use or circulation as a medium of exchange, especially circulating banknotes and coins. A more general definition is that a currency is a *system of money* (monetary units) in common use, especially in a nation. Under this definition, US dollars, British pounds, Australian dollars, and European euros are examples of currency. These various currencies are recognized stores of value and are traded between nations in foreign exchange markets, which determine the relative values of the different currencies. Currencies in this sense are defined by governments, and each type has limited boundaries of acceptance.

Other definitions of the term "currency" are discussed in their respective synonymous articles banknote, coin, and money. The latter definition, pertaining to the currency systems of nations, is the topic of this article. Currencies can be classified into two monetary systems: fiat money and commodity money, depending on what guarantees the value (the economy at large vs. the government's physical metal reserves). Some currencies are legal tender in certain political jurisdictions, which means they cannot be refused as payment for debt. Others are simply traded for their economic value. Digital currency has arisen with the popularity of computers and the Internet.

History

Early currency :-

Originally money was a form of receipt, representing grain stored in temple granaries in Sumer in ancient Mesopotamia and later in Ancient Egypt.

In this first stage of currency, metals were used as symbols to represent value stored in the form of commodities. This formed the basis of trade in the Fertile Crescent for over 1500 years. However, the collapse of the Near Eastern trading system pointed to a flaw: in an era where there was no place that was safe to store value, the value of a circulating medium could only be as sound as the forces that defended that store. Trade could only reach as far as the credibility of that military.

By the late Bronze Age, however, a series of treaties had established safe passage for merchants around the Eastern Mediterranean, spreading from Minoan Crete and Mycenae in the northwest

to Elam and Bahrain in the southeast. It is not known what was used as a currency for these exchanges, but it is thought that ox-hide shaped ingots of copper, produced in Cyprus, may have functioned as a currency.

It is thought that the increase in piracy and raiding associated with the Bronze Age collapse, possibly produced by the Peoples of the Sea, brought the trading system of oxhide ingots to an end. It was only with the recovery of Phoenician trade in the 10th and 9th centuries BC that saw a return to prosperity, and the appearance of real coinage, possibly first in Anatolia with Croesus of Lydia and subsequently with the Greeks and Persians. In Africa, many forms of value store have been used, including beads, ingots, ivory, various forms of weapons, livestock, the manilla currency, and ochre and other earth oxides. The manilla rings of West Africa were one of the currencies used from the 15th century onwards to sell slaves. African currency is still notable for its variety and in many places various forms of barter still apply.

Coinage :-

These factors led to the metal itself being the store of value: first silver, then both silver and gold, and at one point also bronze. Now we have copper coins and other non-precious metals as coins. Metals were mined, weighed, and stamped into coins. This was to assure the individual taking the coin that he was getting a certain known weight of precious metal. Coins could be counterfeited, but they also created a new unit of account, which helped lead to banking. Archimedes' principle provided the next link: coins could now be easily tested for their fine weight of metal, and thus the value of a coin could be determined, even if it had been shaved, debased or otherwise tampered with (see Numismatics).

Most major economies using coinage had several tiers of coins, using a mix of copper, silver and gold. Gold coins were used for large purchases, payment of the military and backing of state activities; they were more often used as measures of account than physical coins. Silver coins were used for midsized transactions, and as a unit of account for taxes, dues, contracts and fealty, while coins of copper, silver or some mixture thereof (see debasement), were used for everyday transactions. This system had been used in ancient India since the time of the Mahajanapadas. The exact ratio in value of the three metals varied greatly in different eras and places; for example, the opening of silver mines in the Harz mountains of central Europe made silver relatively less valuable, as did the flood of New World silver after the Spanish conquests. However, the rarity of gold consistently made it more valuable than silver, and likewise silver was consistently worth more than copper.

Paper money :-

At around the same time in the medieval Islamic world, a vigorous monetary economy was created during the 7th-12th centuries on the basis of the expanding levels of circulation of a stable high-value currency (the dinar). Innovations introduced by Muslim economists, traders and merchants include the earliest uses of credit, cheques, promissory notes, savings accounts, transactional accounts, loaning, trusts, exchange rates, the transfer of credit and debt, and banking institutions for loans and deposits. In Europe, paper money was first introduced on a regular basis in Sweden in 1661 (although Washington Irving records an earlier emergency use of it, by the Spanish in a siege during the

Conquest of Granada). As Sweden was rich in copper, its low value necessitated extraordinarily big coins, often weighing several kilograms.

The advantages of paper currency were numerous: it reduced the need to transport gold and silver, which was risky; it facilitated loans of gold or silver at interest, since the underlying specie (gold or silver) never left the possession of the lender until someone else redeemed the note; and it allowed a division of currency into credit and specie backed forms. It enabled the sale of stock in joint-stock companies, and the redemption of those shares in paper.

But there were also disadvantages. First, since a note has no intrinsic value, there was nothing to stop issuing authorities from printing more notes than they had specie to back them with. Second, because it increased the money supply, it increased inflationary pressures, a fact observed by David Hume in the 18th century. Thus paper money would often lead to an inflationary bubble, which could collapse if people began demanding hard money, causing the demand for paper notes to fall to zero. The printing of paper money was also associated with wars, and financing of wars, and therefore regarded as part of maintaining a standing army. For these reasons, paper currency was held in suspicion and hostility in Europe and America. It was also addictive, since the speculative profits of trade and capital creation were quite large. Major nations established mints to print money and mint coins, and branches of their treasury to collect taxes and hold gold and silver stock.

At that time, both silver and gold were considered legal tender, and accepted by governments for taxes. However, the instability in the ratio between the two grew over the course of the 19th century, with the increases both in supply of these metals, particularly silver, and in trade. The parallel use of both metals is called bimetallism, and the attempt to create a bimetallic standard where both gold and silver backed currency remained in circulation occupied the efforts of inflationists. Governments

at this point could use currency as an instrument of policy, printing paper currency such as the United States Greenback, to pay for military expenditures. They could also set the terms at which they would redeem notes for specie, by limiting the amount of purchase, or the minimum amount that could be redeemed.

By 1900, most of the industrializing nations were on some form of gold standard, with paper notes and silver coins constituting the circulating medium. Private banks and governments across the world followed Gresham's law: keeping the gold and silver they received, but paying out in notes. This did not happen all around the world at the same time, but occurred sporadically, generally in times of war or financial crisis.

beginning in the early part of the 20th century and continuing across the world until the late 20th century, when the regime of floating fiat currencies came into force. One of the last countries to break away from the gold standard was the United States in 1971, an action known as the Nixon shock. No country has an enforceable gold standard or silver standard currency system.

In premodern China, the need for credit and for a medium of exchange that was less physically cumbersome than large numbers of copper coins led to the introduction of paper money, i.e. banknotes. Their introduction was a gradual process which lasted from the late Tang dynasty (618–907) into the Song dynasty (960–1279). It began as a means for merchants to exchange heavy coinage for receipts of deposit issued as promissory notes by wholesalers' shops. These notes were valid for temporary use in a small regional territory. In the 10th century, the Song dynasty government began to circulate these notes amongst the traders in its monopolized salt industry. The Song government granted several shops the right to issue banknotes, and in the early 12th century the government finally took over these shops to produce state-issued currency.

Yet the banknotes issued were still only locally and temporarily valid: it was not until the mid 13th century that a standard and uniform government issue of paper money became an acceptable nationwide currency. The already widespread methods of woodblock printing and then Pi Sheng's movable type printing by the 11th century were the impetus for the mass production of paper money in premodern China.

Monetary economics :-

Monetary economics is a branch of economics that provides a framework for analyzing money in its functions as a medium of exchange, store of value, and unit of account. It considers how money, for example fiat currency, can gain acceptance purely because of its convenience as a public good. It examines the effects of monetary systems, including regulation of money and associated financial institutions and international aspects. The discipline has historically prefigured, and remains integrally linked to, macroeconomics. Modern analysis has attempted to provide microfoundations for the demand for money and to distinguish valid nominal and real monetary relationships for micro or macro uses, including their influence on the aggregate demand for output. Its methods include deriving and testing the implications of money as a substitute for other assets and as based on explicit frictions.

History :-

Serious interest in the concepts behind money occurred during the dramatic period of inflation in the late 15th to early 17th centuries known as the Price Revolution, during which the value of gold fell precipitously, sometimes fluctuating wildly, because of the importation of gold from the New World, primarily by Spain.

At the end of this period, the first modern texts on monetary economics were beginning to appear.

In 1705 John Law in Scotland published *Money and Trade*, which examined the failure of metal-based money during the previous 150 years and proposed replacing it with a land bank system of paper money based on the value of real estate. Though he succeeded in getting this proposal implemented, he failed to take the lessons of the Spanish Price Revolution seriously enough, and his bank failed, a bubble of speculation collapsing into extreme inflation.

Then in 1720, Isaac Gervaise wrote *The System or Theory of the Trade of the World*, blaming mercantilism and state-supported credit for the inflation problems of his era, doing so in a careful, scientific way that is still respected in the 21st century.

Della Moneta was published by Ferdinando Galiani in 1751, and is arguably the first modern text on economic theory. This was 25 years before Adam Smith's more famous book, *The Wealth of Nations*, the latter of which touched on some of the same topics.

Della Moneta covered all major modern monetary concepts, including the value, origin, and regulation of money. Presumably because of the previous period of unreliable monetary value, he carefully examined the possible causes for money's value to fluctuate.

During this same century, the concept of bank notes became more common in Europe. David Hume referred to it as "this new invention of paper". In his own book published the year following Galiani's, *Of the Balance of Trade*, Hume argues that one need not worry about the import or export of goods creating a surplus or shortage of either money or goods, because an excess or shortage of money will always increase or decrease demand, until equilibrium is reached. In modern economic terms, this is an equilibration through the price-specie flow mechanism.

Fiscal policy :-

In economics and political science, **fiscal policy** is the use of government revenue collection (mainly taxes) and expenditure (spending) to influence the economy. According to Keynesian economics, when the government changes the levels of taxation and government spending, it influences aggregate demand and the level of economic activity. Fiscal policy is often used to stabilize the economy over the course of the business cycle.

Changes in the level and composition of taxation and government spending can affect the following macroeconomic variables, amongst others:

- Aggregate demand and the level of economic activity;
- Saving and investment;
- Income distribution.

Fiscal policy can be distinguished from monetary policy, in that fiscal policy deals with taxation and government spending and is often administered by an executive under laws of a legislature, whereas monetary policy deals with the money supply and interest rates and is often administered by a central bank.

Taxation :-

A tax (from the Latin *taxo*) is a mandatory financial charge or some other type of levy imposed upon a taxpayer (an individual or other legal entity) by a governmental organization in order to fund various public expenditures. A failure to pay, or evasion of or resistance to taxation, is punishable by law. Taxes consist of direct or indirect taxes and may be paid in money or as its labour equivalent. Most countries have a tax system in place to pay for public/common/agreed national needs and government functions: some levy a flat percentage rate of taxation on personal annual income, some on a scale based on annual income amounts, and some countries impose almost no taxation at all, or a very low tax rate for a certain area of taxation. Some countries charge a tax both on corporate income and dividends; this is often referred to as double taxation as the individual shareholder(s) receiving this payment from the company will also be levied some tax on that personal income.

Government Spending :-

Government spending or expenditure includes all government consumption, investment, and transfer payments. In national income accounting the acquisition by governments of goods and services for current use, to directly satisfy the individual or collective needs of the community, is classed as government final consumption expenditure. Government acquisition of goods and services intended to create future benefits, such as infrastructure investment or research spending, is classed as government investment (government gross capital formation). These two types of government spending, on final consumption and on gross capital formation, together constitute one of the major components of gross domestic product.

Government spending can be financed by government borrowing, seigniorage, or taxes. Changes in government spending is a major component of fiscal policy used to stabilize the macroeconomic business cycle.

Government Debt :-

Government debt (also known as public interest, public debt, national debt and sovereign debt) is the debt owed by a government. By contrast,

the annual "government deficit" refers to the difference between government receipts and spending in a single year.

Government debt can be categorized as internal debt (owed to lenders within the country) and external debt (owed to foreign lenders). Another common division of government debt is by duration until repayment is due. Short term debt is generally considered to be for one year or less, long term is for more than ten years. Medium term debt falls between these two boundaries. A broader definition of government debt may consider all government liabilities, including future pension payments and payments for goods and services which the government has contracted but not yet paid.

Governments create debt by issuing securities, government bonds and bills. Less creditworthy countries sometimes borrow directly from a supranational organization (e.g. the World Bank) or international financial institutions.

In a monetarily sovereign country (such as the United States of America, the United Kingdom and most other countries, in contrast with eurozone countries), government debt held in the home currency are merely savings accounts held at her central bank. In this way this 'debt' has a very different meaning than that of the debt acquired by households who are restricted by their income. Monetarily sovereign governments issue their own currencies and do not need this income to finance spending. In these self-financing nations, government debt is effectively an account of all the money that has been spent but not yet taxed back. Their ability to issue currency means they can always service the interest repayments on these savings accounts. This is why bonds and gilt-edged securities are considered the safest form of investment.

A central government with its own currency can pay for its spending by creating money *ex novo*. In this instance, a government issues securities not to raise funds, but instead to remove excess bank reserves (caused by government spending that is higher than tax receipts) and '...create a shortage of reserves in the market so that the system as a whole must come to the [central] Bank for liquidity.

CHAPTER-3

Monetary policy instruments

Conventional instrument :-

The central bank influences interest rates by expanding or contracting the monetary base, which consists of currency in circulation and banks' reserves on deposit at the central bank. Central banks have three main tools of monetary policy: open market operations, the discount rate and the reserve requirements.

An important tool with which a central bank can affect the monetary base is **open market operations** if its country has a well developed market for its government bonds. This entails managing the quantity of money in circulation through the buying and selling of various financial instruments, such as treasury bills, company bonds, or foreign currencies, in exchange for money on deposit at the central bank. Those deposits are convertible to currency, so all of these purchases or sales result in more or less base currency entering or leaving market circulation. For example, if the central bank wishes to lower interest rates (executing expansionary monetary policy), it purchases government debt (thereby increasing the amount of cash in circulation or increasing banks' reserve accounts). Commercial banks then have more money to lend, so they reduce lending rates, making loans less expensive. Cheaper credit card interest rates boost consumer spending. Additionally, when business loans are more affordable, companies can expand to keep up with consumer demand. They ultimately hire more workers, whose incomes rise, which in its turn also increases the demand. This tool is usually enough to stimulate demand and drive economic growth to a healthy rate. Usually, the short-term goal of open market operations is to achieve a specific short-term interest rate target. In other instances, monetary policy might instead entail the targeting of a specific exchange rate relative to some foreign currency or else relative to gold. For example, in the case of the United States the Federal Reserve targets the federal funds rate (the rate at which member banks lend to one another overnight); however, the monetary policy of China is to target the exchange rate between the Chinese renminbi and a basket of foreign currencies.

If the open market operations do not lead to the desired effects, a second tool can be used: the central bank can **increase or decrease the interest rate** it charges on discounts or overdrafts (loans from the central bank to commercial banks, see discount window). If the interest rate on such transactions is sufficiently low, commercial banks can borrow from the central bank to meet reserve requirements and use the additional liquidity

to expand their balance sheets, increasing the credit available to the economy.

A third alternative is to change the reserve requirements. The reserve requirement refers to the proportion of total assets that banks must keep on hand overnight, either in its vaults or at the central bank. Banks only maintain a small portion of their assets as cash available for immediate withdrawal; the rest is invested in illiquid assets like mortgages and bonds. Lowering the reserve requirement frees up funds for banks to increase loans or buy other profitable assets. This is expansionary because it creates credit. However, even though this tool immediately increases liquidity, central banks rarely change the reserve requirement because doing so frequently adds uncertainty to banks' planning. The use of open market operations is therefore preferred.

Unconventional monetary policy at the zero bound:-

Other forms of monetary policy, particularly used when interest rates are at or near 0% and there are concerns about deflation or deflation is occurring, are referred to as **unconventional monetary policy**. These include credit easing, quantitative easing, forward guidance, and signaling. In credit easing, a central bank purchases private sector assets to improve liquidity and improve access to credit. Signaling can be used to lower market expectations for lower interest rates in the future. For example, during the credit crisis of 2008, the US Federal Reserve indicated rates would be low for an "extended period", and the Bank of Canada made a "conditional commitment" to keep rates at the lower bound of 25 basis points (0.25%) until the end of the second quarter of 2010.

Further heterodox monetary policy proposals include the idea of helicopter money whereby central banks would create money without assets as counterpart in their balance sheet. The money created could be distributed directly to the population as a citizen's dividend. This option has been increasingly discussed since March 2016 after the ECB's president

Nominal Anchors

nominal anchor for monetary policy is a single variable or device which the central bank uses to pin down expectations of private agents about the nominal price level or its path or about what the central bank might do with respect to achieving that path. Monetary regimes combine long-run nominal anchoring with flexibility in the short run. Nominal variables used as anchors primarily include exchange rate targets, money supply targets, and inflation targets with interest rate policy.

Types :-

In practice, to implement any type of monetary policy the main tool used is modifying the amount of base money in circulation. The monetary authority does this by buying or selling financial assets (usually government obligations). These open market operations change either the amount of money or its liquidity (if less liquid forms of money are bought or sold). The multiplier effect of fractional reserve banking amplifies the effects of these actions.

Constant market transactions by the monetary authority modify the supply of currency and this impacts other market variables such as short-term interest rates and the exchange rate.

The distinction between the various types of monetary policy lies primarily with the set of instruments and target variables that are used by the monetary authority to achieve their goals

Monetary Policy:	Target Variable:	Market	Long Term Objective:
Inflation Targeting	Interest rate overnight debt	on	A given rate of change in the CPI
Price Level Targeting	Interest rate overnight debt	on	A specific CPI number
Monetary Aggregates	The growth in money supply		A given rate of change in the CPI
Fixed Exchange Rate	The spot price of the currency		The spot price of the currency
Gold Standard	The spot price of gold		Low inflation as measured by the gold price
Mixed Policy	Usually interest rates		Usually unemployment + CPI change

The different types of policy are also called **monetary regimes**, in parallel to exchange-rate regimes. A fixed exchange rate is also an exchange-rate regime. The gold standard results in a relatively fixed regime towards the currency of other countries on the gold standard and a floating regime towards those that are not. Targeting inflation, the price level or other monetary aggregates implies floating the exchange rate unless the management of the relevant foreign currencies is tracking exactly the same variables (such as a harmonized consumer price index).

Inflation targeting

Under this policy approach the target is to keep inflation, under a particular definition such as the Consumer Price Index, within a desired range.

The inflation target is achieved through periodic adjustments to the central bank interest rate target. The interest rate used is generally the overnight rate at which banks lend to each other overnight for cash flow purposes. Depending on the country this particular interest rate might be called the cash rate or something similar.

As the Fisher effect model explains, the equation linking inflation with interest rates is the following:

$$\pi = i - r$$

where π is the inflation rate, i is the home nominal interest rate set by the central bank, and r is the real interest rate. Using i as an anchor, central banks can influence π . Central banks can choose to maintain a fixed interest rate at all times, or just temporarily. The duration of this policy varies, because of the simplicity associated with changing the nominal interest rate.

The interest rate target is maintained for a specific duration using open market operations. Typically the duration that the interest rate target is kept constant will vary between months and years. This interest rate target is usually reviewed on a monthly or quarterly basis by a policy committee.

Changes to the interest rate target are made in response to various market indicators in an attempt to forecast economic trends and in so doing keep the market on track towards achieving the defined inflation target. For example, one simple method of inflation targeting called the Taylor rule adjusts the interest rate in response to changes in the inflation rate and the output gap. The rule was proposed by John B. Taylor of Stanford University. The inflation targeting approach to

monetary policy approach was pioneered in New Zealand. It has been used in Australia, Brazil, Canada, Chile, Colombia, the Czech Republic, Hungary, New Zealand, Norway, Iceland, India, Philippines, Poland, Sweden, South Africa, Turkey, and the United Kingdom.

Price level targeting :-

Price level targeting is a monetary policy that is similar to inflation targeting except that CPI growth in one year over or under the long term price level target is offset in subsequent years such that a targeted price-level is reached over time, e.g. five years, giving more certainty about future price increases to consumers. Under inflation targeting what happened in the immediate past years is not taken into account or adjusted for in the current and future years.

Uncertainty in price levels can create uncertainty about price and wage setting activity for firms and workers, and undermines any information that can be gained from relative prices, as it is more difficult for firms to determine if a change in the price of a good or service is because of inflation or other factors, such as an increase in the efficiency of factors of production, if inflation is high and volatile. An increase in inflation also leads to a decrease in the demand for money, as it reduces the incentive to hold money and increases transaction costs and shoe leather costs.

Monetary aggregates/money supply targeting :-

In the 1980s, several countries used an approach based on a constant growth in the money supply. This approach was refined to include different classes of money and credit (M0, M1 etc.) In the US this approach to monetary policy was discontinued with the selection of Alan Greenspan as Fed Chairman.

This approach is also sometimes called monetarism.

Central banks might choose to set a money supply growth target as a nominal anchor to keep prices stable in the long term. The quantity theory is a long run model, which links price levels to money supply and demand. Using this equation, we can rearrange to see the following:

$$\pi = \mu - g,$$

where π is the inflation rate, μ is the money supply growth rate and g is the real output growth rate. This equation suggests that controlling the money supply's growth rate can ultimately lead to price stability in the long run. To use this nominal anchor a central bank would need to set μ equal to a constant and commit to maintaining this target.

However, the money supply growth rate is considered a weak policy, because it is not stably related to the real output growth. As a result, a higher output growth rate will result in a too low level of inflation. A low

output growth rate will result in inflation that would be higher than the desired level.

While monetary policy typically focuses on a price signal of one form or another, this approach is focused on monetary quantities. As these quantities could have a role on the economy and business cycles depending on the households' risk aversion level, money is sometimes explicitly added in the central bank's reaction function. Recently, however, central banks are shifting away from policies that focus on money supply targeting, because of the uncertainty that real output growth introduces. Some central banks, like the ECB, are choosing to combine money supply anchor with other targets.

Nominal income/NGDP targeting ;-

Related to money targeting, nominal income targeting (also called Nominal GDP or NGDP targeting), originally proposed by James Meade (1978) and James Tobin (1980), was advocated by Scott Sumner and reinforced by the market monetarist school of thought.

Central banks do not implement this monetary policy explicitly. However, numerous studies shown that such a monetary policy targeting better matches welfare optimizing monetary policy compared to more standard monetary policy targeting.

Fixed exchange rate targeting:-

This policy is based on maintaining a fixed exchange rate with a foreign currency. There are varying degrees of fixed exchange rates, which can be ranked in relation to how rigid the fixed exchange rate is with the anchor nation.

Under a system of fiat fixed rates, the local government or monetary authority declares a fixed exchange rate but does not actively buy or sell currency to maintain the rate. Instead, the rate is enforced by non-convertibility measures (e.g. capital controls, import/export licenses, etc.). In this case there is a black market exchange rate where the currency trades at its market/unofficial rate.

Under a system of fixed-convertibility, currency is bought and sold by the central bank or monetary authority on a daily basis to achieve the target exchange rate. This target rate may be a fixed level or a fixed band within which the exchange rate may fluctuate until the monetary authority intervenes to buy or sell as necessary to maintain the exchange rate within the band. (In this case, the fixed exchange rate with a fixed level can be seen as a special case of the fixed exchange rate with bands where the bands are set to zero.)

Under a system of fixed exchange rates maintained by a currency board every unit of local currency must be backed by a unit of foreign currency (correcting for the exchange rate). This ensures that the local monetary base does not inflate without being backed by hard currency and eliminates any worries about a run on the local currency by those wishing to convert the local currency to the hard (anchor) currency.

Under dollarization, foreign currency (usually the US dollar, hence the term "dollarization") is used freely as the medium of exchange either exclusively or in parallel with local currency. This outcome can come about because the local population has lost all faith in the local currency, or it may also be a policy of the government (usually to rein in inflation and import credible monetary policy).

Theoretically, using relative purchasing power parity (PPP), the rate of depreciation of the home country's currency must equal the inflation differential.

rate of depreciation = home inflation rate - foreign inflation rate,

which implies that

home inflation rate = foreign inflation rate + rate of depreciation.

The anchor variable is the rate of depreciation. Therefore, the rate of inflation at home must equal the rate of inflation in the foreign country plus the rate of depreciation of the exchange rate of the home country currency relative to the other.

With a strict fixed exchange rate or a peg, the rate of depreciation of the exchange rate is set equal to zero. In the case of a crawling peg, the rate of depreciation is set equal to a constant. With a limited flexible band, the rate of depreciation is allowed to fluctuate within a given range.

By fixing the rate of depreciation, PPP theory concludes that the home country's inflation rate must depend on the foreign country's

Countries may decide to use a fixed exchange rate monetary regime in order to take advantage of price stability and control inflation. In practice, more than half of nation's monetary regimes

use fixed exchange rate anchoring. These policies often abdicate monetary policy to the foreign monetary authority or government as monetary policy in the pegging nation must align with monetary policy in the anchor nation to maintain the exchange rate. The degree to which local monetary policy becomes dependent on the anchor nation depends on factors such as capital mobility, openness, credit channels and other economic factors.

CHAPTER-4

Monetary policy committee

The Reserve Bank of India Act, 1934 (RBI Act) was amended by the Finance Act, 2016, to provide for a statutory and institutionalised framework for a Monetary Policy Committee, for maintaining price stability, while keeping in mind the objective of growth. The Monetary Policy Committee is entrusted with the task of fixing the benchmark policy rate (repo rate) required to contain inflation within the specified target level. As per the provisions of the RBI Act, out of the six Members of Monetary Policy Committee, three Members will be from the RBI and the other three Members of MPC will be appointed by the Central Government.

The Government of India, in consultation with RBI, notified the Inflation Target in the Gazette of India Extraordinary dated 5th August 2016 for the period beginning from the date of publication of this notification and ending on the March 31, 2021 as 4%. At the same time lower and upper tolerance levels were notified to be 2% and 6% respectively.

Monetary operation :-

Monetary operations involve monetary techniques which operate on monetary magnitudes such as money supply, interest rates and availability of credit aimed to maintain Price Stability, Stable exchange rate, Healthy Balance of Payment, Financial stability, Economic growth. RBI, the apex institute of India which

Instruments of monetary policy

These instruments are used to control the money flow in the economy. anushkar

Open Market Operations

An open market operation is an instrument of monetary policy which involves buying or selling of government securities from or to the public and banks. This mechanism influences the reserve position of the banks, yield on government securities and cost of bank credit. The RBI sells government securities to control the flow of credit and buys government securities to increase credit flow. Open market operation makes bank rate policy effective and maintains stability in government securities market.



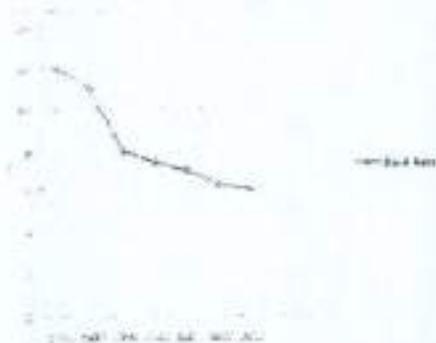
Cash Reserve Ratio

Cash Reserve Ratio is a certain percentage of bank deposits which banks are required to keep with RBI in the form of reserves or balances. Higher the CRR with the RBI lower will be the liquidity in the system and vice versa. RBI is empowered to vary CRR between 15 percent and 3 percent. But as per the suggestion by the Narsimham committee Report the CRR was reduced from 15% in the 1990 to 5 percent in 2002. As of 4 October 2016, the CRR is 4.00 percent.^[9]



Statutory Liquidity Ratio :-

Every financial institution has to maintain a certain quantity of liquid assets with themselves at any point of time of their total time and demand liabilities. These assets have to be kept in non-cash form such as G-secs, precious metals, approved securities like bonds etc. The ratio of the liquid assets to time and demand liabilities is termed as the Statutory liquidity ratio. There was a reduction of SLR from 38.5% to 25% because of the suggestion by Narsimham Committee. The current SLR is 19.50%.



Bank Rate Policy :-

The bank rate, also known as the discount rate, is the rate of interest charged by the RBI for providing funds or loans to the banking system. This banking system involves commercial and cooperative banks, Industrial Development Bank of India, IFC, EXIM Bank, and other approved financial institutes. Funds are provided either through lending directly or discounting or buying money market instruments like commercial bills and treasury bills. Increase in Bank Rate increases the cost of borrowing by commercial banks which results in the reduction in credit volume to the banks and hence declines the supply of money. Increase in the bank rate is the symbol of tightening of RBI monetary policy. As on 2nd August 2017, bank rate is 6.25 percent.

Credit Ceiling :-

In this operation RBI issues prior information or direction that loans to the commercial banks will be given up to a certain limit. In this case commercial bank will be tight in advancing loans to the public. They will allocate loans to limited sectors. Few examples of ceiling are agriculture sector advances, priority sector lending.

Credit Authorization Scheme :-

Credit Authorization Scheme was introduced in November, 1965 when P C Bhattacharya was the chairman of RBI. Under this instrument of credit regulation RBI as per the guideline authorizes the banks to advance loans to desired sectors.

Moral Suasion :-

Moral Suasion is just as a request by the RBI to the commercial banks to take so and so action and measures in so and so trend of the economy. RBI may request commercial banks not to give loans for unproductive purpose which does not add to economic growth but increases inflation.

Repo Rate and Reverse Repo Rate :-

banks to get money at a cheaper rate and increase in Repo rate discourages the commercial banks to get money as the rate increases and becomes expensive. Reverse Repo rate is the rate at which RBI borrows money from the commercial banks. The increase in the Repo rate will increase the cost of borrowing and lending of the banks which will discourage the public to borrow money and will encourage them to deposit. As the rates are high the availability of credit and demand decreases resulting to decrease in inflation. This increase in Repo Rate and Reverse Repo Rate is a symbol of tightening of the policy.

Monitors and regulates the monetary policy of the country stabilizes the price by controlling Inflation. RBI takes into account the following monetary policies.

THANK U

PROJECT REPORT ON "MONETARY POLICY OF INDIA"

SESSION-2020-2021

DEPARTMENT OF COMMERCE

PATTAMUNDAI COLLEGE, PATTAMUNDAI

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