Money and Banking

Section 5

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Value of Money:

The term value of money means the purchasing power of money. It refers to the quantity of goods and services that can be bought by a unit of money.

According to D. H. Robertson, " The value of money means the amount of things in general which will be given in exchange for a unit of money"

Value of Money- A relative concept:

The value of money is a relative concept. The value of money or purchasing power of money depends upon the price level of goods and services to be purchased with money.

Thus, the value of money is inversely related to the price level. The money buys more when prices of goods and services are low and money buys less when prices are high.

Standards of value of money:

1. **Wholesale Standard:**

According to this standard, the value of money is expressed in terms of prices of all those commodities whish are traded in the wholesale market. It includes raw materials, semi-finished and finished goods which are traded in large quantities

2. **Retail standard:**

According to this standard, the value of money express in terms of those goods and services which are purchased by average family for consumption purpose. There are purchased in small quantities.

3. Labour Standard:

According to this, the value of money is calculated from the average wage rate payable to the labour for a day's work.

TYPES OF VALUE OF MONEY:

VALUE OF MONEY IS OF TWO TYPES:

1. INTERNAL VALUE OF MONEY:

IT REFERS TO THE PURCHASING POWER OF MONEY WITHIN A COUNTRY. IT IS VALUE OF NATIONAL CURRENCY OVER DOMESTIC GOODS AND SERVICES. IT IS BASED ON THE INTERNAL PRICE LEVEL.

2. EXTERNAL VALUE OF MONEY:

IT REFERS TO THE VALUE OF MONEY OVER FOREIGN GOODS AND SERVICES. IT IS THE PURCHASING POWER OF THE NATIONAL CURRENCY OUTSIDE THE CURRENCY. IT IS BASED ON THE 'EXCHANGE RATE' BETWEEN TWO CURRENCIES.

The Quantity Theory of money:

This theory try to explain the determination of the value of money and variations in its value over a period of time.

This theory was made by writers like Locke and **David Hume** in 18th century, Irving Fisher, Alfred Marshall, A.C. Pigou and Friedman in the 20th century.

It states that, other things remaining the same, the general price level varies directly and proportionately with the quantity of money.

Generally the value of money or the price level does not remain constant but fluctuates often. When the price level rises, the value of money declines and when the price level declines, the value of money rises.

There are two approaches to the traditional quantity theory of money,

- The American version or cash transaction version, and
- The Cambridge version or cash balance version.

FISHER'S QUANTITY THEORY OF MONEY OR CASH TRANSACTION APPROACH.

THE CASH TRANSACTION APPROACH OF THE QUANTITY THEORY OF MONEY WAS PROVIDED BY THE AMERICAN ECONOMIST IRVING FISHER IN HIS BOOK- THE PURCHASING POWER OF MONEY (1911). ACCORDING TO FISHER, "OTHER THINGS REMAINING UNCHANGED, AS THE QUANTITY OF MONEY IN CIRCULATION INCREASES, THE PRICE LEVEL ALSO INCREASES IN DIRECT PROPORTION AND THE VALUE OF MONEY DECREASES AND VICE VERSA".

FISHER'S QUANTITY THEORY IS EXPLAINED WITH THE HELP OF HIS FAMOUS EQUATION OF EXCHANGE:

$MV = PT$ OR $P = MV/T$

WHERE, M – THE TOTAL QUANTITY OF MONEY OF ALL TYPES.

V – IS THE VELOCITY OF CIRCULATION OF MONEY. THE PRODUCT MV IS THE TOTAL SUPPLY OF

MONEY IN A YEAR.

T – IS THE TOTAL AMOUNT OF GOODS AND SERVICES EXCHANGED FOR MONEY.

P – IS THE PRICE PER UNIT, HENCE THE PRODUCT PT IS THE TOTAL VALUE OF ALL THE

TRANSACTIONS FOR WHICH MONEY IS USED.

Practice

- If nominal GDP is $500, real GDP is $250, and the money supply is $50, calculate the price level and the velocity of money.

- HINT: M = $50 and Y = $250 and MV must equal PY.

Solution

- If nominal GDP is equal to $500, then we know that MV and PY both equal $500.
- Since we know that the money supply is equal to $50, we can solve for the velocity of money.
- $50 x V = $500 which means V = $500/$50 or 10.
- Similarly, if we know that real GDP is equal to $250, we can solve for the price level.
- P * $250 = $500, which means P = $500/$250 = 2.
- Therefore $50 x 10 = 2 * $250 or MV = PY.

LIKE OTHER COMMODITIES, THE VALUE OF MONEY OR THE PRICE LEVEL IS ALSO DETERMINED BY THE DEMAND AND SUPPLY OF MONEY.

1. SUPPLY OF MONEY:

THE SUPPLY OF MONEY CONSISTS OF THE QUANTITY OF MONEY IN EXISTENCE (M) MULTIPLIED BY THE VELOCITY OF MONEY (V). IN FISHER'S EQUATION, V IS THE VELOCITY OF MONEY WHICH MEANS THE AVERAGE NUMBER OF TIMES A UNIT OF MONEY TURNS OVER OR CHANGES HANDS.

THUS, MV REFERS TO THE TOTAL VOLUME OF MONEY IN CIRCULATION DURING A PERIOD OF TIME.

II. DEMAND FOR MONEY:

MONEY IS DEMANDED FOR TRANSACTION PURPOSES. THE DEMAND FOR MONEY IS EQUAL TO THE TOTAL MARKET VALUE OF ALL GOODS AND SERVICES TRANSACTED. IT IS OBTAINED BY MULTIPLYING TOTAL AMOUNT OF THINGS (T) BY AVERAGE PRICE LEVEL (P).

MV=PT SUGGEST THAT IN AN ECONOMY, THE TOTAL VALUE OF ALL GOODS SOLD DURING ANY PERIOD PT, IS EQUAL TO THE TOTAL QUANTITY OF MONEY MV SPENT DURING THAT PERIOD. THE EQUATION FURTHER DENOTES THAT THE PRICE LEVEL IS DIRECTLY RELATED TO MV AND INVERSELY RELATED T.

In the modern economy, major part of the circulating medium consists of bank deposits and hence the total volume of money at any time should also include the bank deposits available in the economy. Thus the equation of exchange becomes:

Where, $MV+M^1V^1 = PT$

M = total supply of money

M^1 = the total quantity of credit money

V = the velocity of circulation money.

V^1 = the velocity of circulation of credit money.

P = the general price level.

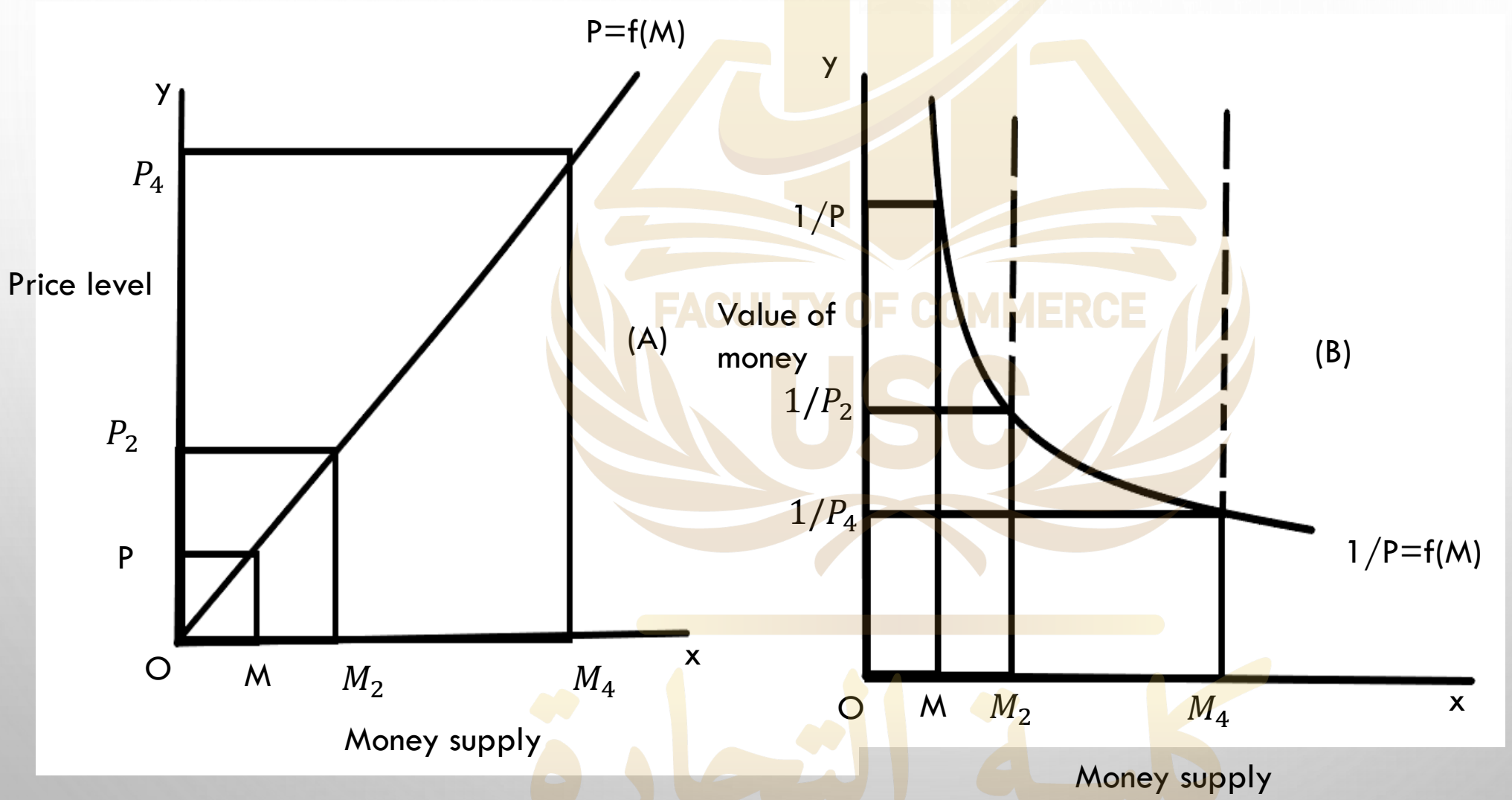
T= total amount of transactions.

In the equation, MV+ M^1V^1 refers to the total supply of money. Similarly PT represents the demand for money. Thus, in an economy, the total supply of money is equal to demand for money.

The equation of exchange shows that the price level is directly related to M,V, M^1 and V^1. According to Fisher, the price level or value of money is a function of supply of money when other things remain constant.

Hence, the general price level in a country is determined by the supply of and the demand for money.

FISHER QUANTITY THEORY OF MONEY IS EXPLAINED WITH THE HELP OF DIAGRAM.



THE DIAGRAM A SHOWS THE EFFECT OF CHANGE IN QUANTITY OF MONEY ON THE PRICE LEVEL. WHEN THE QUANTITY OF MONEY IS M, PRICE LEVEL IS P. WHEN THE QUANTITY OF MONEY DOUBLED TO M2, THE PRICE LEVEL IS ALSO RAISED TO P2. THIS RELATIONSHIP IS EXPRESSED BY THE CURVE P=F(M).

THE DIAGRAM B SHOWS THE INVERSE RELATIONSHIP BETWEEN THE QUANTITY OF MONEY AND VALUE OF MONEY. WHEN THE QUANTITY OF MONEY IS M1, THE VALUE OF MONEY IS 1/P. WHEN THE QUANTITY OF MONEY INCREASED BY M4, THE VALUE OF MONEY IS REDUCED TO 1/P4. THIS INVERSE RELATIONSHIP BETWEEN QUANTITY OF MONEY AND THE VALUE OF MONEY IS EXPRESSED BY THE CURVE 1/P=F(M).

ASSUMPTIONS OF FISHER'S QUANTITY THEORY:

1. CONSTANT VELOCITY OF MONEY:

ACCORDING TO FISHER, THE VELOCITY OF MONEY (V) IS CONSTANT AND IS NOT INFLUENCED BY THE CHANGES IN THE QUANTITY OF MONEY.

2. CONSTANT VOLUME OF TRADE OR TRANSACTIONS:

TOTAL VOLUME OF TRADE OR TRANSACTIONS (T) IS ALSO ASSUMED TO BE CONSTANT AND IS NOT AFFECTED BY CHANGES IN THE QUANTITY OF MONEY.

3. PRICE LEVEL IS A PASSIVE FACTOR:

ACCORDING TO FISHER THE PRICE LEVEL (P) IS A PASSIVE FACTOR WHICH MEANS THAT THE PRICE LEVEL IS AFFECTED BY OTHER FACTORS OF EQUATION, BUT IT DOES NOT AFFECT THEM

4. MONEY IS A MEDIUM OF EXCHANGE:

THE QUANTITY THEORY OF MONEY ASSUMED MONEY ONLY AS A MEDIUM OF EXCHANGE. MONEY FACILITATES THE TRANSACTIONS.

5. CONSTANT RELATION BETWEEN M AND M':

FISHER ASSUMES A PROPORTIONAL RELATIONSHIP BETWEEN CURRENCY MONEY (M) AND BANK MONEY (M').

6. LONG PERIOD:

THE THEORY IS BASED ON THE ASSUMPTION OF LONG PERIOD. OVER A LONG PERIOD OF TIME, V AND T ARE CONSIDERED CONSTANT.

CRITICISMS OF QUANTITY THEORY OF MONEY:

1. UNREALISTIC ASSUMPTION:

THE ASSUMPTION THAT P IS PASSIVE, V AND T ARE CONSTANT, IS HIGHLY UNREALISTIC. P IS NOT PASSIVE, IT AFFECT THE OTHER ELEMENTS IN THE EQUATION. SIMILARLY V IS NOT INDEPENDENT, IT CHANGES WITH A CHANGE IN M

2. UNREALISTIC ASSUMPTION OF LONG PERIOD:

THE QUANTITY THEORY OF MONEY HAS BEEN CRITICIZED ON THE GROUND THAT, IT PROVIDES A LONG-TERM ANALYSIS OF VALUE OF MONEY. IT THROWS NO LIGHT ON THE SHORT-RUN PROBLEMS. KEYNES HAS APTLY REMARKED THAT "IN THE LONG-RUN WE ARE ALL DEAD". ACTUAL PROBLEMS ARE SHORT-RUN PROBLEMS.

3. UNREALISTIC ASSUMPTION OF FULL EMPLOYMENT:

KEYNES' FUNDAMENTAL CRITICISM OF THE QUANTITY THEORY OF MONEY WAS BASED UPON ITS UNREALISTIC ASSUMPTION OF FULL EMPLOYMENT. FULL EMPLOYMENT IS A RARE PHENOMENON IN THE ACTUAL WORLD.

4. STATIC THEORY:

THE QUANTITY THEORY ASSUMES THAT THE VALUES OF V, V', M' AND T REMAIN CONSTANT. BUT, IN REALITY, THESE VARIABLES DO NOT REMAIN CONSTANT. HENCE, THIS THEORY IS STATIC NATURE.

5. SIMPLE TRUISM:

THE EQUATION OF EXCHANGE (MV = PT) IS A MERE TRUISM AND PROVES NOTHING. THE EQUATION DOES NOT TELL ANYTHING ABOUT THE CAUSAL RELATIONSHIP BETWEEN MONEY AND PRICES; IT DOES NOT INDICATE WHICH IS THE CAUSE IS AND WHICH IS THE EFFECT.

7. FAILS TO EXPLAIN TRADE CYCLES:

THE QUANTITY THEORY DOES NOT EXPLAIN THE CYCLICAL FLUCTUATIONS IN PRICES. IT DOES NOT TELL WHY DURING DEPRESSION THE PRICES FALL EVEN WITH THE INCREASE IN THE QUANTITY OF MONEY AND DURING THE BOOM PERIOD THE PRICES CONTINUE TO RISE AT A FASTER RATE IN SPITE OF THE ADOPTION OF TIGHT MONEY AND CREDIT POLICY.

8. ONE-SIDED THEORY:

FISHER'S TRANSACTIONS APPROACH IS ONE- SIDED. IT TAKES INTO CONSIDERATION ONLY THE SUPPLY OF MONEY AND ITS EFFECTS AND ASSUMES THE DEMAND FOR MONEY TO BE CONSTANT.

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THE CASH-BALANCE APPROACH OR CAMBRIDGE EQUATION OF EXCHANGE:

THE CASH – BALANCE APPROACH WAS PROVIDED BY SOME OF THE ECONOMISTS OF THE CAMBRIDGE UNIVERSITY SUCH AS ALFRED MARSHALL, A C PIGOU, D H ROBERTSON AND J M KEYNES. THE EQUATION IS BASED ON THE STORE OF VALUE FUNCTION OF MONEY AND CASH BALANCE HELD BY THE PEOPLE TO MAKE DAY TO DAY EXPENDITURES.

ACCORDING TO THE CAMBRIDGE ECONOMISTS, THE VALUE OF MONEY IS DETERMINISED IN TERMS OF SUPPLY AND DEMAND.

FEATURES:

1. ACCORDING TO THIS APPROACH, THE PRICE LEVEL DEPENDS UPON THE DEMAND FOR AND SUPPLY OF MONEY. HENCE, THE CHANGES IN THE VALUE OF MONEY ARE CAUSED BY EITHER CHANGE IN THE DEMAND FOR OR SUPPLY OF MONEY.
2. ACCORDING TO THE THEORY, THE SUPPLY OF MONEY IS A STOCK RATHER THAN A FLOW. IT COMPRISES OF ALL THE CASH AND BANK DEPOSITS.
3. THE DEMAND FOR MONEY IMPLIES A DEMAND FOR CASH BALANCE. CASH BALANCE IS THAT PROPORTION OF THE REAL INCOME WHICH THE PEOPLE TO HOLD IN THE FORM OF MONEY.
4. GIVEN THE SUPPLY OF MONEY AT A POINT OF TIME, THE VALUE OF MONEY IS DETERMINED BY THE DEMAND FOR CASH BALANCES.

1. MARSHALL'S EQUATION:

ACCORDING TO MARSHALL, THE DEMAND FOR MONEY AS A STABLE FUNCTION OF MONEY, INCOME AND PROPERTY. MARSHALL'S EQUATION IS AS FOLLOWS:

$M = KPY$

WHERE,

M – TOTAL SUPPLY OF MONEY (CURRENCY CASH AND DEMAND DEPOSITS)

K – IS THE FRACTION OF MONEY INCOME HELD IN CASH.

Y – IS THE AGGREGATE REAL NATIONAL INCOME.

P – IS THE PRICE LEVEL.

THUS, THE PRICE LEVEL IS $P = \frac{M}{KY}$ OR VALUE OF MONEY $\frac{1}{P} = \frac{KY}{M}$

ACCORDING TO MARSHALL P THAT IS THE VALUE OF MONEY CAN BE FOUND BY DIVIDING KY, THAT IS THE QUANTITY OF GOODS WHICH THE COMMUNITY DEMANDS AT A PARTICULAR POINT OF TIME, BY M THAT IS TOTAL SUPPLY OF MONEY AT A PARTICULAR POINT OF TIME.

According to Marshall, the value of money is not only influenced by changes in M, but also by changes in K is the fraction of real money.

2. Pigou's Equation:

Pigou was the first Cambridge economist to express the cash balance approach in the form of a equation.

$$P = \frac{KR}{M}$$

Where,

P= The purchasing power of money or the value of money.

K = is the proportion of total real income which the people wish to hold in the form of cash.

R = is the total real income

M = Total cash with the community.

The equation shows that the value of money equals to the amount goods and services which the people want to buy by the amount of cash balances among them.

ACCORDING TO PIGOU, THE DEMAND FOR MONEY CONSISTS NOT ONLY OF LEGAL TENDER MONEY, BUT ALSO BANK DEPOSITS. HENCE, THE EQUATION HAS MODIFIED AS.

$$P = \frac{KR}{M\,[c+h(1-c)]}$$

WHERE:

C= DENOTES THE READY CASH WITH THE PUBLIC

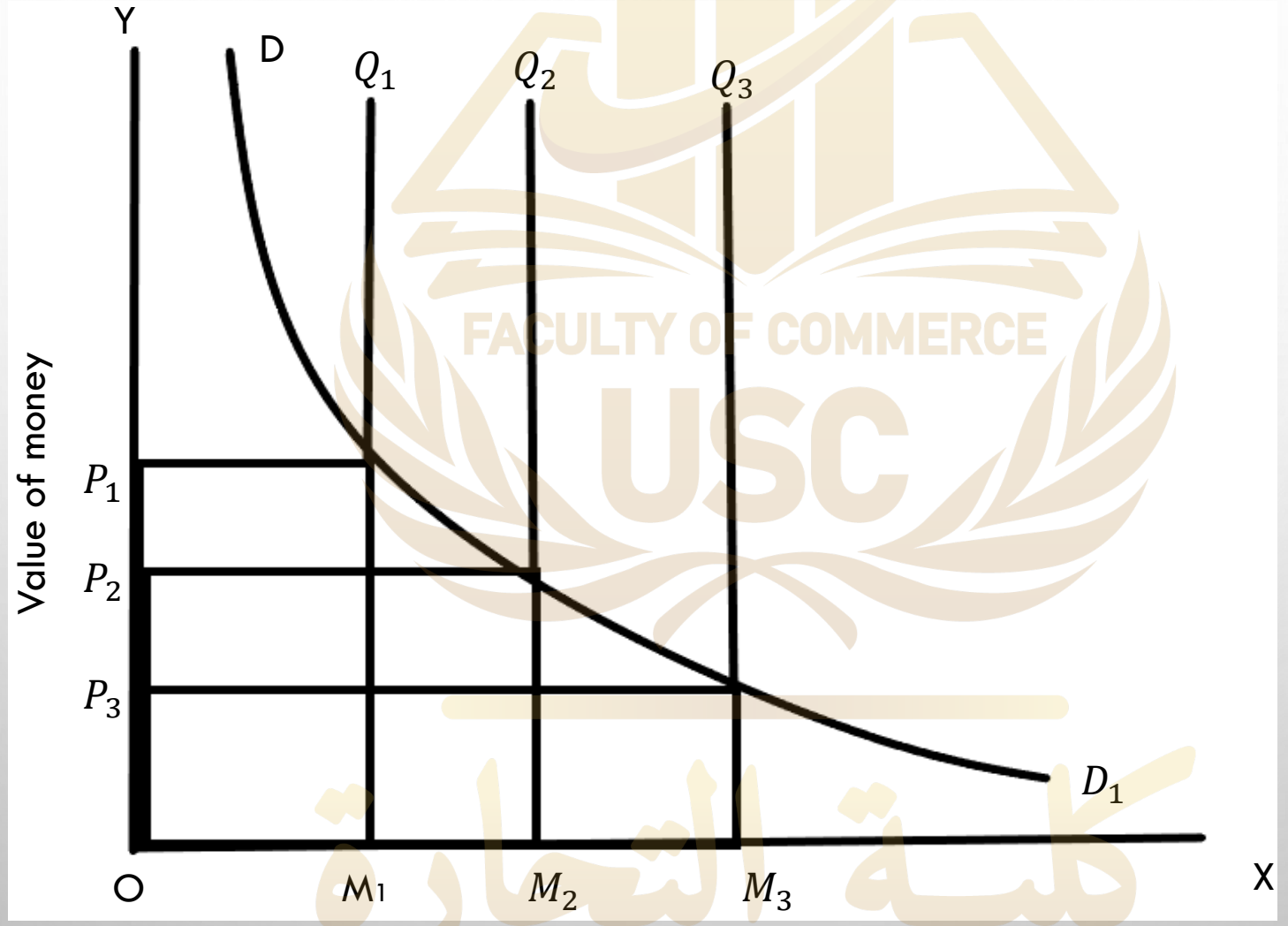
(1-C)= REPRESENTS THE AMOUNT OF READY CASH KEPT IN THE FORM OF BANK DEPOSITS

H =IS THE PERCENTAGE OF CASH RESERVES AGAINST BANK DEPOSITS HELD BY THE BANK.

SO, $[c + h(1 - c)]$ REPRESENTS THE TOTAL AMOUNT OF CASH IN THE COMMUNITY AT ANY PARTICULAR TIME.

ACCORDING TO PIGOU, THE PURCHASING POWER OF MONEY IS INFLUENCED BY BOTH SUPPLY OF MONEY (M) AND THE DEMAND FOR MONEY (K). HE CONSIDERS K AS MORE SIGNIFICANT THAN M IN INFLUENCING THE CHANGES IN THE VALUE OF MONEY.

ACCORDING TO PIGOU, THE DEMAND CURVE FOR MONEY HAS A UNIFORM UNITARY ELASTICITY. THIS IS SHOWN IN THE DIAGRAM AS FOLLOWS.



IN THE ABOVE DIAGRAM, DD_1 IS THE DEMAND CURVE FOR MONEY AND Q_1M_1, Q_2M_2 AND Q_3M_3 ARE THE SUPPLY CURVES OF MONEY DRAWN ON THE ASSUMPTION THAT THE SUPPLY OF MONEY IS FIXED AT A POINT TIME.

WHEN THE SUPPLY OF MONEY INCREASES FROM OM_1 TO OM_2, THE VALUE OF MONEY IS REDUCED FROM OP_1 TO OP_2.

IF THE SUPPLY OF MONEY INCREASES FROM OM_1 TO OM_3, THE VALUE OF MONEY IS REDUCED BY EXACTLY FROM OP_1 TO OP_3. THUS, IT SHOWS CHANGES IN THE VALUE OF MONEY EXACTLY IN THE REVERSE PROPORTIONS TO THE SUPPLY OF MONEY.

Q1:Both sides of the quantity theory of money identity represent _____.

A The Money Supply.

B Nominal GDP.

C Inflation..

D Real GDP.

Answer: B

Q2: In the quantity theory of money, V represents:

A The velocity of a dollar.

B The value of a dollar.

C The velocity of production.

D The value of a good.

Answer: A

Q3:In the quantity theory of money, P and Y represent the price and quantity of:

A **all raw materials and natural resources sold in an economy.**

B all financial services sold in an economy.

C **all durable capital (tractors, manufacturing equipment) purchased in the economy..**

D all finished goods and services sold in an economy.

Answer: D

Q4: Nominal GDP in terms of _____ is represented by how much money there is and how many times it is spent, while Nominal GDP in terms of _____ is represented by all goods and services and their prices.

A buyers & sellers.

B domestic production & international production.

C profit & loss.

D imports & exports.

Answer: A

Q5: The quantity theory of money is expressed by the identity equation

a. $M \times V / P \times Y$

b. $M \times V = Y$

c. $M = P \times Y \times V$

d. $M \times V = P \times Y$

Answer: D

Q6: The value of money in Fisher's equation is determined by

A Demand for money

B Supply of money

C Demand and supply of money

D None of the above

Answer: C

Q7: According to the Quantity Theory of Money, the value of money depends upon

A Quantity theory of money in circulation

B Purchasing power of money

C Demand for money

D Price level

Answer: A

Q8: According to Cambridge equation, the value of money depends upon

A Demand for money

B Supply of money

C Demand for goods and services

D All of the above

Answer: A

Q9: The degree of relationship between the demand for and the supply of money in Fisher's equation will be

A $supply > demand$

B $supply = demand$

C $supply < demand$

D None of the above

Answer: A

Q10: Value of money is

A Directly related to the price level

B Inversely related to the price level

C Proportionately related to the price level

D All the above

Answer: B

Q11: Fisher's cash transaction equation is expressed as

A $P = MV/T$

B $K = M/PT$

C $V = I/K$

D $P = M/KT$

Answer: A

Q12: . In the equation $MV = PY, V$ represent

A Value of money

B Velocity of circulation of money

C Variation of national income

D All of the above

Answer: B

Q13: In the equation $MV = PY$, M represent

A Money supply

B Money demand

C Maximum output

D Minimum output

Answer: A

Q14: Under normal circumstances, the velocity of circulation of money in a country is

A 100 %

B Negative

C Less than 10

D Zero

Answer: C

Q15: Value of money means

A Gold purchased by money

B General Purchasing power of money

C Importance of money

D Demand for money

Answer: B

Q16 If the quantity of money increases 100%, other things remaining constant, value of money changes by :

A Increases by 100 %

B Decreases by 100 %

C Decreases by 200%

D Does not change

Answer: B

Q17 Value of money and supply of money are related

A Inversely

B Directly

C Are not related

D None of the above

Answer: A

Q18 Equation of exchange is associated with

A Pigou

B J.B. Say

C Marshall

D Irving Fisher

Answer: D

Q19 Equation of exchange is converted into the quantity theory of money by assuming the following variables as constants

A V and T

B M and V

C M and P

D V and P

Answer: A

Q20 Fisher equation of exchange states that

A P varies directly with income

B P varies directly with M

C P and M are constants

D None of the above

Answer: B

Q21 In the Fisher's extended equation of exchange MIVI represents

A Credit money

B Primary money

C Both primary and credit money

D General Price level

Answer: A

Q22 In Fisher's transaction velocity model, which one of the following is not an assumption

A Velocity of circulation of money is constant

B The volume of transaction is constant

C Full employment

D P is considered as an active factor

Answer: D

Q23 The cash balance equation $M = KPY$ was given by

A Keynes

B Pigou

C Robertson

D Marshall

Answer: D

Q24 The quantity theory of money was restated by

A Alfred Marshall

B Milton Friedman

C Irving Fisher

D JM. Keynes

Answer: B

Q25 Robertson’s equation of exchange considers money as

A A medium of exchange

B A store of value

C Measures of value

D All of the above

Answer: B

Q26 The number of times a unit of money exchanges hands during a unit period of time is known as

A Velocity of the circulation of money

B Speed of circulation of money

C Momentum of circulation of money

D Count of circulation of money

Answer: A

Q26 The number of times a unit of money exchanges hands during a unit period of time is known as

A Velocity of the circulation of money

B Speed of circulation of money

C Momentum of circulation of money

D Count of circulation of money

Answer: A

THANK YOU FOR YOUR ATTENTION