

*Classical Macroeconomics:
Money, Prices, and Interest*

The Quantity Theory of Money

- **The equation of exchange: $MV_T = P_T T$**
- **$V_T = P_T T / M$**
- M is the quantity of money, V_T is the transactions velocity of money, P_T is the price index for the items traded, and T is the volume of transactions
- **Another expression of the equation of exchange focuses only on income transactions: $MV = PY$**
- **$V = PY / M$**
- M is again the quantity of money, and V is now the income velocity of money. The price index for currently

Continued

- Fisher put it:
- Under the conditions assumed, the price level varies
 - (1) directly as the quantity of money in circulation (M),
 - (2) directly as the velocity of its circulation (V),
 - (3) inversely as the volume of trade done by it (T).

The first of these three relations is worth emphasis. It constitutes the “quantity theory of money

- According to Fisher and other quantity theorists, *the equilibrium level of velocity was determined by such institutional factors and could be regarded as fixed for the short run* .
- With output fixed from the supply side, the equation of exchange now expresses a relationship of proportionality between the exogenously given money supply and the price level



Explanation of inflation by the QTM

1. Long-term effects (Classical QTM)

According to the equation

$$\mathbf{MV = PY}$$

- If V and Y are constant,
 - When $M^S \uparrow 5\% \rightarrow$ Price level $\uparrow 5\%$
- Conclusion:

$$\uparrow M \bar{V} = \uparrow P \bar{Y}$$



$$\% \Delta M = \% \Delta P$$

Continued

- This is the basic result of the quantity theory of money: *The quantity of money determines the price level*

Uses of Quantity Theory of Money

- Theory of price level

$$\text{or } MV + M'V' = PT$$
$$P = \frac{MV + M'V'}{T}$$

- The Demand for money

($MV = PT$, Where V and T are constants, Thus $M = \frac{1}{V} PT$)

Continued

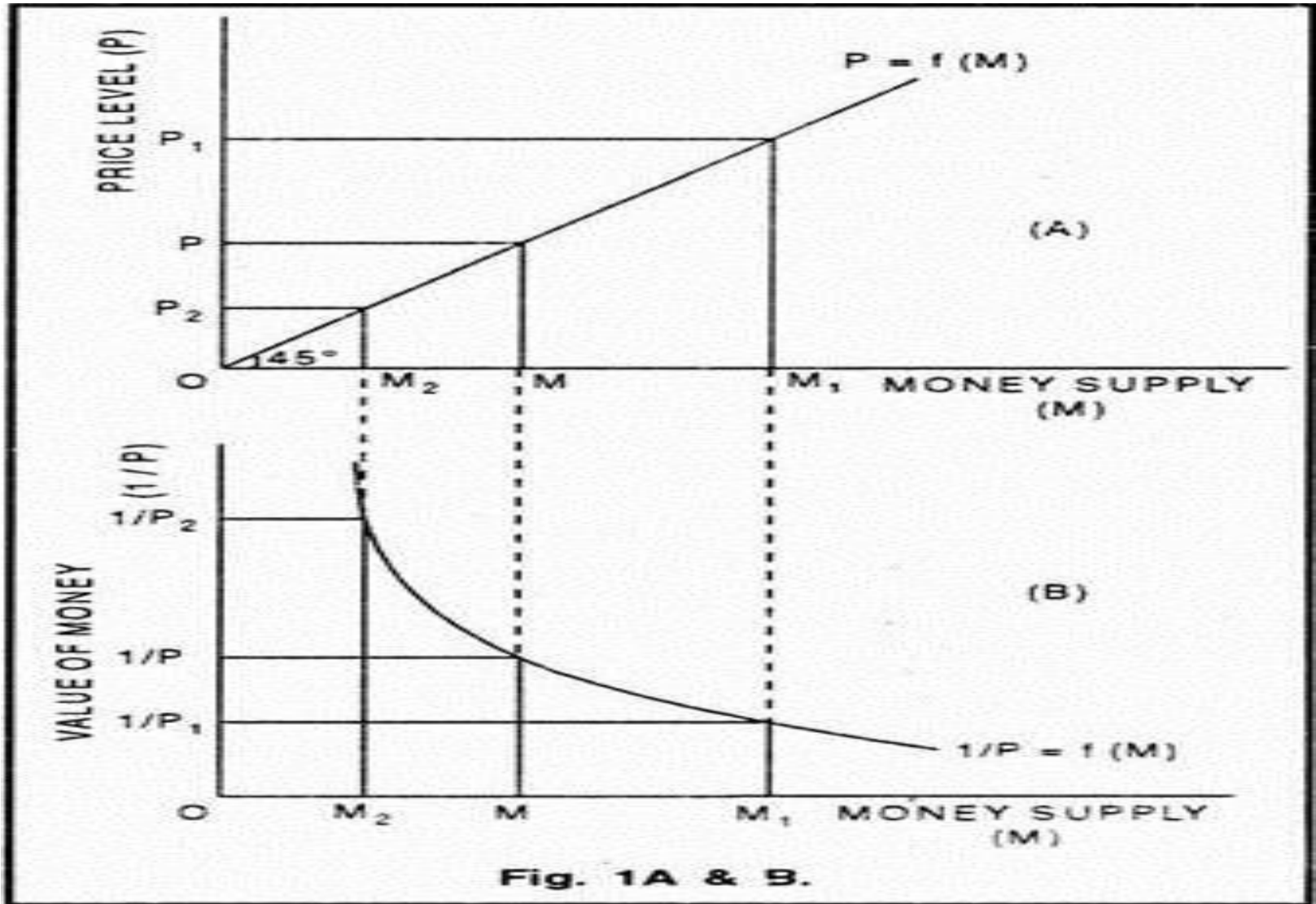


Fig. 1A & B.

Assumptions of Fisher's Quantity Theory

- Constant Velocity of Money
- Constant Volume of Trade or Transactions
- Price Level is a Passive Factor
- Money is a Medium of Exchange
- Constant Relation between M and M'
- Long Period

Broad Conclusions of Fisher's Quantity Theory

- The general price level in a country is determined by the supply of and the demand for money
- Given the demand for money, changes in money supply lead to proportional changes in the price level
- The monetary authorities, by changing the supply of money, can influence and control the price level and the level of economic activity of the country

Criticism of Quantity Theory of Money

- Fisher's transaction equation is a truism
- Interdependence of Variables
- Unrealistic Assumption of Long Period
- Unrealistic Assumption of full Employment
- Static Theory

THE CAMBRIDGE APPROACH TO THE QUANTITY THEORY

- Marshall and the other Cambridge economists assumed that the demand for money would be a proportion of income.
- **The Cambridge equation is written as $M_d = kPY$**
- Money demand (M_d) is assumed to be a proportion (k) of nominal income held as currency and bank deposits, the price level (P) times the level of real income (Y)
- The proportion of income that would be optimal to hold in the form of money (k) is assumed to be stable in the short run
- **In equilibrium, the exogenous supply of money must equal the quantity of money demanded: $M = M_d = kPY$ (Y fixed)**

Important features

- The theory links prices to the demand for money and not the supply of money
- It links demand for money to money income

Similarities between Fisher and Cambridge Equation

- Prof. Fisher's equation is related to a period of time while Cambridge equation associates with point of time.
- Both Fisher and Cambridge ideologies show a direct and proportional relationship between the price level and the amount of money.
- The amount of money has been considered an important element of price determination in both the ideologies.
- P represents the price level in both the equations

Difference between Fisher and Cambridge Equations

Bases of Difference	Fisher's Equation	Cambridge's Equation
1. Flow and Stock of Money	Fisher's equation gives importance to flow of money.	Cambridge's equation stresses on stock of money.
2. Nature of Price Level	P represents the average price level of all goods and services.	P represents the price of consumer goods.
3. Stress on Demand and Supply	Fisher's view point stress on supply of money.	Cambridge's viewpoint stresses on demand of money.
4. Time	It is associated with period of time.	It is associated with point of time.
5. Demand of Money	According to Fisher, the Demand of money is for actual transactions.	According to Cambridge ideology, demand of money is for storage of money.

- THANK YOU