

# Chapter 11

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## The classical theory of inflation

- Applies in the LONG RUN only
- Thought of prices of the money value of a basket of goods, and have compared it over points in time.
- Conception around and think of the value of money in terms of how many goods and services it can buy
  - o "value of money" as opposed to "the money value" of items

## Quantity theory of money

- Def : inflation in the LONG RUN is the growth in the QUANTITY of the money circulating relative to the availability of the real goods and services on which it is to be spent.
- " too many \$ chasing too few goods" = causes the price inflation
- " too few \$ chasing too many goods" = that cause price deflation

## The classical dichotomy

- Real and the money sectors of economy that are DICHOTOMOUS, which means separate and isolated from each other
- An implication of this dichotomy that money is neutral.

Nominal variables : measured in monetary units

Real variables : reflect volumes and are measured in either physical units or constant dollars.

Price as we normally consider them are NOMINAL VARIABLES

Relative prices or prices compared to each other are REAL VARIABLES.

The real economy consists of the real variables.

The money economy consists only of nominal variables.

## Back to the neutrality of money

- A change in the money supply, a totally NOMINAL variable, will affect the price level, but it will not affect any REAL variable.

## The quantity equation

Def : the velocity of money is the number of times per year that a \$ circulates.

$V = (P \cdot Y) / M$  ( identity)

- P is the composite price level
- Y is real GDP
- $P \cdot Y$  is nominal GDP
- M is the money supply

$$M \cdot V = P \cdot Y$$

## What is the significance of this ?

- If M increases by a lot, either...
  - P must rise
  - Or Y must rise
  - Or V must fall
- V is thought to be pretty stable over time
- Y ( real GDP) increases , but only due to increasing factor endowments or productivity.
- P is forced to rise, which means inflation

## The inflation tax

- Quantity equation
- If government face a big budget deficit it can do 3 things :
  - Raise taxes
  - Borrow the shortfall by issuing bonds
  - Print money to pay its creditors. That's is the inflation tax

## The fisher effect

Long run only

- The nominal interest rate adjusts such that the real interest rate is relatively constant
- Inflation rate increases , the nominal interest rate will increase in tandem
- Recall that the real interest rate is a real variable , so that the neutrality of money applies.

### Summary of this chapter

- One factor contributes to inflation or deflation is the rate of growth of the money supply
  - o Large increase or decreases
  - o There are other factors
- Quantity theory of money is the classical view of the macro, and is closely tied to the neutrality of money
  - o The quantity equation is the key element of it
- Rapid growth ( shrinkage) in the money supply without a commensurate increase in the REAL output, then there will be a high inflation , as there are too many \$ chasing too little output.
- The growth rate in the money supply should not greatly exceed the growth rate in real production, as the production of additional consumable goods and services are required in order to soak up the newly circulating \$.
- Hyperinflation can also be caused by a normal growth rate in the money supply coupled with a collapse in real output.

### The costs of non hyper-inflation

- Often incomes are indexed to inflation which means that wages and pensions often adjust to price inflation.
- Does this mean that inflation is NOT dangerous from an economics perspective? NO.
- Inflation does that have a impact on the real economy , How ?
  - o shoe leather costs
  - o Relative price variability and mis allocation of resources

- Tax distortions
- Unexpected inflation causes arbitrary

### **Relative price variability and mis-allocation of resources**

- We have experienced this in Canada
- It can distort investment decisions in particular when it becomes more profitable to invest in speculative activities (inflation hedges) rather than in capital goods and structures, which are productive activities
- This type of economic behaviour is sometimes called hedging

### **Tax distortions are compounded by inflation**

- Because income taxes are applied to nominal interest earnings rather than real interest earnings, the return to saving, already eroded by inflation, is all the lower
  - See table 11.1
  - Man, was I dumb in the 1970s!
- If income taxes are applied to nominal wage increases rather than real wage increases, governments gain and workers lose

### **Unexpected inflation causes arbitrary redistributions of income and wealth**

- Unanticipated inflation is more harmful
- When inflation is higher (lower) than expected, creditors lose (win) and debtors win (lose) as the debts are paid back in deflated (inflated) \$
  - Unless the loan contract can be renegotiated
- It severely complicates long-term contracting for investments in human or physical capital