10 Theory of Unemployment

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I Introduction

1 Relevant Concepts about Unemployment

Labour Force (Economically Active Population)

Labour Force = Population aged 15 or above - Students - Housewives - Retired (- Soldiers)
= Employed People + People available or seeking for jobs

Labour Force Participation Rate

L.F.P.R. = Labour Force / People aged 15 or above

This rate is gradually declining because :
- a change in demographic structure, i.e. the birth rate drops.
- improved education opportunities reduce this rate with 15 to 19 aged studying more than before.

However, the influx of legal immigrants from China recently will have an opposite effect on the rate above.

People Aged 15 or Above (Non-institutionalised Population)
- Labour Force : seek employment
  - Employed people
  - Unemployed People
    * do not accept employment voluntarily or involuntarily
- People do not seek employment.

Definition of Unemployment In H.K.
* No work, no salary rewards or profit from work within the statistical week ;
* Can work at any time within the statistical week ; and
* Finding job 30 days before the statistics was taken.

Under-employment In H.K.
* Involuntarily working for less than 35 hours within the statistical week ;
* Those looking for jobs ;
* Potential people not looking for jobs (but able to be employed).

Types of Unemployment

Cyclical Unemployment - It is affected by the trade cycle.

Disguised Unemployment or Under-employment - There are idle resources or a potential addition to the labour force.

Frictional Unemployment - There is a time lag of redeployment of labour or time of enter and exit of labour. It reflects the absence of perfect information, mobility and necessity for search and choice of workers & employers ; or both.

Seasonal Unemployment - Unemployed people in the occupations affected by seasonal changes like tourist and agricultural industry.

Structural Unemployment - It is due to technological change especially when an economy experiences structural changes.

2 Causes of Unemployment : Search Market
* The inflexibility of wage exists.
* Discrimination exists on labour.
* Labour is lack of job training or experience.
* There is the unemployment benefit scheme which lowers the opportunity cost of people unemployed either voluntarily or involuntarily.
* There is the absence of perfect information about the labour market.

II Search Theory of Unemployment

It suggests that unemployment is the result of **imperfect market information** on jobs, on both the employers and employees.

The IS-LM model basically assumes the labour market in equilibrium so that the full employment level of income is reached by the shifts of the IS & LM curves. The search theory explains if the labour market does exist disequilibrium, then what is the adjustment needed and the solutions followed.

1 Labour Market : A Search Market

Assumptions :
* There are many rational buyers (employers) and sellers (employees) in the labour market.
* Labour is homogeneous, i.e. of the same productivity for the sake of easy analysis.
* There is basically perfect competition except that information is not perfect. Information had to use up resources to obtain, i.e. transaction costs are significant in a search market. For example, a second-hand car market is a typical search market with a large range of prices because information varies in its value.

In other words, the labour market has the following characteristics :
* Imperfect transmission of information ;
* The search for jobs takes time, effort and sacrifice of current earnings to find out other options.
* When workers are searching for their jobs, they are said to be search unemployed. Usually, they are not satisfied with the present wage or rewards and voluntarily quit the job to find another.
* When there is zero involuntary unemployment but positive voluntary unemployment, economists treat this state as a normal situation, i.e. an economy is natural to have a normal or natural rate of unemployment.

2 Job Search & Voluntary Unemployment
* Imperfect information on both employers and employees leads to unequal wages , i.e. although they are equally productive, they are paid differently in terms of monetary rewards.
* Workers are rational and they have expectations to find higher wage rates. In general, the higher the wage rate expected, the lower the chance to get that wage rate will be. The workers always expect a higher wage rate but they also understand that the possibility falls with a higher wage rate.
* Workers, as rational maximizers, in deciding to accept a job or not, depends on a marginal comparison of benefits and costs (the equi-marginal principle).

Marginal Benefit of Search = Expected Value of New Offer - Present Highest Offer (if any)

Marginal Cost of Search = Present Highest Offer + Search Costs - Unemployment Benefits

The “expected value of new offer” depends on workers expectations and the longer the time of search, the more likely the employers would know about the equilibrium wage will be.

The workers’ decision on the offer depends on :
* The chances of doing better than now which further depends on the wage offered and the possibility of getting this offer.

* How much better on the average among the jobs offered - the wage premium.
* The length of the lasting horizon. Due to the imperfect knowledge on the part of the employers also, the wage of a worker can last for a period of time without notice by his employer - so-called a duration of luck.

Voluntary Unemployment

Search unemployment is voluntary and is the result of rational and optimal decision-making in response to imperfect information in the labour market. The decision, as mentioned above, depends on a benefit-cost analysis.

To conclude, on the supply side of the labour market, working or job-seeking workers are all based on a benefit-cost comparison to decide their optimal choice.

3 Factors Affecting Unemployment Rate

Search Flow = The percentage of people changing jobs (quits / layoffs / new entry) in a year within a labour force.

Search Duration = The number of days / weeks / months that a person looking for job within a year or month or week.

An Example

Labour Force = 100 million
Number of people changing jobs or looking for jobs = 25 million per year
Search Flow = 25 / 100 = 25 %

People finding jobs with an average of time = 20.8 weeks
Search Duration = 20.8 / 52 = 40 %

There is 25 % of the labour force needs 20.8 weeks (or 40 % of a year's time) looking for a job.

Unemployment Rate = 25 % X 40 % = 10 %

Unemployment Rate = Search Flow X Search Duration

If Hong Kong has an unemployment rate of 3 % ; a search duration of 40 % , then our Search Flow = 3 % / 40 % = 7.5 %.

With a population of about 6 million, the number of people looking for jobs = 6 m. X 7.5 % = 450 000 persons a year.

Factors Affecting The Search Flow

* A change in aggregate demand for final goods and services may lead firms in all industries to increase their demand for labour. Their demand curves shift up.
* A change in structural demand would cause an increase in demand in an industry X but a decrease in demand in another industry Y. This change in the structural demand may be caused by a change in the taste of consumers.
* The search flow is affected by the demand and supply of the labour market which is again largely affected by the level of AD or structural demand changes. However, it is difficult to assure that workers quitting in industry Y will go to industry X at a relatively short time. Hence, the period of finding jobs is another important factor, i.e. the search duration.

Factors Affecting Search Duration

* Everyone has a reservation wage in mind. If this wage is high relative to the current one, the time of finding job is much longer.
* The unemployment insurance program affects the period of search duration as the private cost of finding job is smaller so that the duration is greater. The lower the marginal cost of search, the longer the time for search.

4 Natural Rate of Unemployment And Stagflation

Under stable conditions, the amount of search unemployment will remain at a steady level, i.e. there is a natural or normal rate of (voluntary) unemployment in the labour market.

* Voluntarily unemployed workers are rational wealth-maximizers, their decisions of remained unemployed are based on benefit-cost analysis so that this state of voluntary unemployment implies no economic inefficiency or waste.
* For any economy at an equilibrium output, there is an unemployment rate determined by the supply of factor, technology and institutions.

Stagflation : Increasing Unemployment & Prices

If government uses an expansionary monetary policy to shift the LM curve with an equilibrium state of 6 % unemployment rate at first. Workers do not at once know about this effect and over-full employment is possible. Later, workers know about this and the voluntary unemployment will rise back to 6 %. The LM shifts back with increases in prices. It is a situation with unemployment and inflation existing at the same time - stagflation.

III Unemployment & Inflation : Phillips Curve

1 Trade-off Between Unemployment & Inflation

Assumptions :

* Initial unemployment rate = 6 %.
* Workers anticipate inflation based on that of the previous period, i.e. if it is 0 % inflation rate at before, they expect a zero inflation rate this period. The workers are said to be misinformed on inflationary expectation - according to Keynes, they have "**money illusion**".

If the government pursues an expansionary monetary policy, say 10 %, based on the LM curve and the Quantity Theory, the LM curve will shift out and the price level rises also by 10 %. However, if workers have no money illusion, i.e. with fully anticipated inflation, the voluntary unemployment rate of 6 % will remain unchanged.

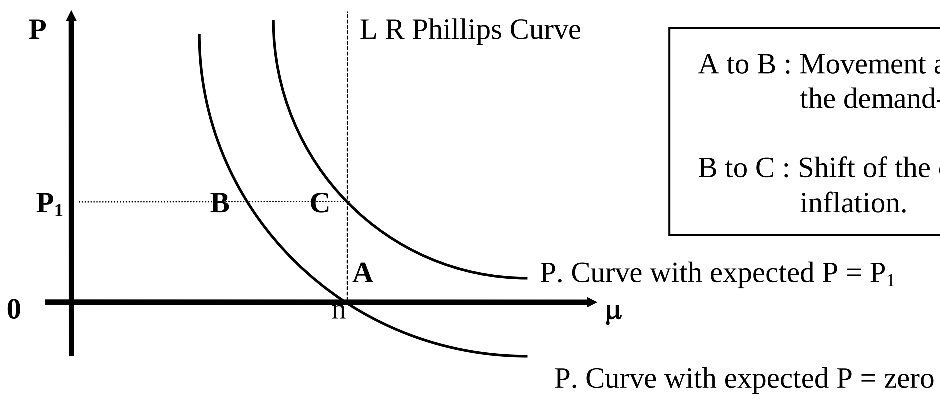
However workers have imperfect information at first so that they can only find that their nominal wages (= Price level X Real Wage Rate) increase. Some of them will accept their job offer. As a result, the unemployment rate falls to a lower rate, say 4 %.

Implication :

* The transmission lag on information in the labour market results in a temporary fall in the unemployment rate below its natural rate (6 % to 4 %) in the short run.
* Monetary policy can be effective in the short run.
* Unemployment and inflation rate may have a trade-off in the short run.

2 The Phillips Curve (1958)

Professor A.W. Phillips (1914-75) of the London School of Economics made a research on British wage rate and unemployment from 1861-1957.



A to B : Movement along the curve or the demand-pull inflation.

B to C : Shift of the curve or the cost-push inflation.

* Initially the economy is at A with the natural rate = n and zero inflation. Suppose the government wants to lower n by increasing the money supply, the aggregate demand rises as well as the money wage rates because firms hire more labour to increase their outputs whereas the price level starts to rise.
* If the actual inflation (P_1) is unanticipated with information lag on the part of the labour, workers are more willing to accept the job offers. Firms in order to increase outputs, demand more labour with the nominal wage rises.
* The workers are willing to shorten their search duration and the unemployment rate falls to point B as a result.
* In the short run, the unemployment rate falls from point A to B due to money illusion.
* Once inflation is fully anticipated (to be P_1) the voluntary unemployment rate goes to C again, i.e. over the long run, the Phillips curve shifts once the inflationary expectation of the workers changes. Point C is called an inflationary equilibrium - an equilibrium output with full-employment and inflation.
* If the money supply rises again by the monetary policy, the above adjustment repeats itself....

<u>Implications</u> :

* In the short run due to the monetary policy, the behaviour of labour changes so that both the search flow and search duration change and the Phillips curve shifts in the long run.
* The short run trade-off is due to :
  - wage rigidity in the labour market ; and
  - money illusion of labour ; and
  - wage expectation of labour.
* When inflation is fully anticipated, no matter what its value is, unemployment rate will stay at the natural rate, n.
* There is **no long run** trade-off between inflation and unemployment.
* Monetary policy can only result in a temporary fall in the unemployment rate.
* In order to lower the natural rate, the labour market has to be **more perfect**, e.g. labour agencies can lower the information cost of labour ; centralised advertisement on jobs and employees' information etc.

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