

Title : Principles of Economics

Unemployment

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Today we will turn once again to deliver market and the issue of the unemployment.

We talked about the labor market in two previous chapters, one chapter eighteen that talked about the value of marginal product of workers, and we talked about how equilibrium wages and the labor market are derived.

In another chapter on monopolistic competition, we discussed labor market as an example of a market where the product of between different providers is differentiated, and we said that in the labor market individual workers are providers of little bit different products.

In this chapter, we will study unemployment and the labor market from a little bit more macroeconomic of perspective, and we will introduce some terminology that macroeconomist use when they discuss labor issues.

Let's go over some of this terminology.

So first of all when we think of unemployment, we should distinguish unemployment that always exists in the economy so-called natural rate of unemployment and we say that there are three sources of natural rate of unemployment in the economy.

And then the second of the portion of unemployment as the cyclical which depends on the current conditions in the overall economy whether there is growth or recession in the economy.

Let's go over these individual components of overall unemployment.

So frictional unemployment comes from search for jobs among workers.

It takes time for workers to find an optimal employment and it takes time for companies to find ideal workers for their jobs.

Workers and employers take weeks or months to get matched and because of this time delay between when openings become available or when workers become available and when employment is secured, there is some temporary unemployment.

Structural unemployment is unemployment to do to cultural or legal reasons for



some systematic reason in the economy.

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We can have unemployment even in the long run.

For example the government might set minimum wages and we already know from the microeconomic part of the course that with price caps or with price floors the economy may not be in the equilibrium.

Impossibility to adjust wages downward we will say in the next few chapters on the financial market that sometimes it is easier to adjust prices upward in the economy than downward.

So if the current economic conditions call for lower wages than the wages currently present, the economy might find it difficult to adjust.

And for some time until the economic conditions correct themselves we could have unemployment uncertainty about market conditions if companies or workers are scared about future conditions in the economy, they might not be willing to switch their jobs or companies might not be willing to hire workers even if there is a current need for more workers.

So temporarily companies might if there is uncertainty in the economy, both companies and workers might behave more cautiously than they would if the uncertainty was not present.

Union power or monopsony power we will say a little bit about the issue of market power and we will say that it does not matter if market power exist on the supply-side or on the demand side of the market we could have unemployment because of that.

Technological change in the industry because the industries and products made in the economy changed over time the skills that workers in the economy have not be as useful in different time period.

And it may take time for workers to up-skill themselves or for companies to figure out what skills they need from their workers and as the technology continuously improve, there might be constantly some amount of unemployment because of that.

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Seasonal unemployment is the simple kind of unemployment between an example is agricultural sector where there is great demand for workers during the time of harvest and small demand for workers in other times of the year.

So because of this seasonal miss match between how many workers are available and how many workers are needed there is month-to-month fluctuation in unemployment rate.



Cyclical unemployment is the one that depends on year-to-year fluctuations in the economy.

And we would expect to this unemployment to exist in the short run, but we would it say that in the long run the conditions in the economy should correct themselves and the economy should get to the natural rate of unemployment.

To summarize, in any particular short run situation we could see all of these four types of unemployment or some of these unemployment rates could be zero.

We could during a particularly busy season there could be zero seasonal unemployment or zero cyclical unemployment.

In the long run we would only expect these three types of unemployment, but no cyclical unemployment.

By definition, we will discuss that more in chapter 33. In the long run when all of the long run is defined by the condition that all resources in the economy are used efficiently and there is no cyclical unemployment.

We should think that in terms of the pattern overtime frictional unemployment might be slowly developing either slowly decreasing maybe sometimes increasing over time.

Structural unemployment just depends on how the cultural and legal conditions in the economy change.

If the government introduces new law, structural unemployment could jump up or could jump down.

And Seasonal unemployment and cyclical unemployment would are expected to fluctuate over time.

Allowed to side note on frictional unemployment overall we would expect the frictional unemployment to fall over time because it is generally easier and easier for companies and workers to get matched with each other.

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The government becomes smarter at matching workers with companies.

The technology such as the Internet exists where workers and companies can find each other it didn't used to be that way.

On the other hand, because of up-skilling it might companies might find it harder over time to find the correct workers for the very technologically intensive jobs.

So it is unclear whether frictional unemployment strictly decreases or could even



increase over time.

Just to illustrate, natural rate of unemployment is fairly stable over time.

It could slightly increase or decrease and overall unemployment which includes both of the natural rate and cyclical can fluctuate a great deal.

So this figure shows us how important the cyclical component of unemployment is.

How do we calculate the unemployment rate? Well, the government so in the U.S. the Bureau of Labor Statistics in Korea it is the bank of Korea collects information about people's employment status.

It groups, this agencies group workers group people as non adult population among adult population people who are employed, people who are unemployed, and people who are not in the labor force.

And how does the government distinguish these kinds of people?

Well, in the U.S. everybody who has 16 years of age and older is officially an adult, and among these workers among these people if the person has spent any time in the previous week working for pay, he is considered to be employed this week.

A person is unemployed if the person wasn't working for pay in the previous week, but he is on temporary lay-off, looking for a job, or waiting for the start of a new job.

People who don't fit any of these categories, such as students, people who are occupied at home, retirees, are considered to be not in the labor force.

In Korea, the one difference is that bank of Korea considers everybody who has 15 years and older to be an adult.

We might see some differences in statistics between Korea and the U.S. because of these different definitions.

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And to get to what we are interested in, the unemployment rate, we simply look at the overall size of the labor force, and let's remember that labor force is the number employed plus the number unemployed, and we divide the number unemployed by the sum of employed and unemployed workers.

Labor force participation rate is just the ratio of the entire labor force to the entire adult population in a country.

And generally we multiply these ratios by one hundred so we would talk about, let's say 5% unemployment rate, 10% unemployment rate, and so one: maybe 50 or 60% percent labor force participation rate.

Now, just like with the definitions that we had for the aggregate output or for the amount of saving in the economy or for inflation, there are some problems with these definitions.

For at least two reasons, the unemployment rate may not represent very well the ease of workers to find occupation.

One problem is that of discouraged workers.


If people are looking for job for several time periods, and they're not successful, they might give up on their search, and leave labor force.

So even though these people are not included in the unemployment, the unemployed group anymore, we should still think that they represent a problem.

These people are not happy with the labor market, they would want to work, but they simply gave up because they didn't see the likelihood of getting a job very high.

On the other hand, people who are outside of the labor force might want to pretend to be looking for work to collect unemployment benefits that the government offers them.

So, because of this point, unemployment rate, the officially reported unemployment rate could be lower than the effective uneasiness of finding jobs, in the economy.

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But because of this factor, it could be the other way.

The reported number could actually overstate how difficult it is for worker, for people find jobs.

So overall we should view the officially reported unemployment rate carefully, it may not represent exactly what we want it to.

Let's talk about two kinds of unemployment in more detail now.

Let's talk about frictional unemployment on this slide and then let's turn to structural unemployment, talk about couple of sources of structural unemployment and then talk about more conceptual material.

So frictional unemployment, we said, comes from difficulty, from the time it takes for workers and company to get matched with each other correctly.

Now, the government recognizes this problem and tries to make it easier on companies and workers to find each other.

Government usually sets up employment agencies that help in this process, that make it faster for workers and companies to find each other.



I also said that in the economy, the level of technology used to continuously improves or changes, and as a result, the skills that workers have today may not be the correct set of skills tomorrow.

Government recognizes it and sometimes sets up public training programs, so that workers who cannot find job currently because of their outdated skills will be able to up-skill and find a new job.

Unemployment insurance is a government program that tries to help currently unemployed workers to stay employable.

One problem with unemployment is that if workers lose their job, they have no means to keep themselves healthy, to keep their strengths and skills healthy, up to date, and we should think that the longer a person is unemployed, maybe the more difficult it is to, for that person to find a job.

Also, when people are unemployed, they are desperate to find a job, and they are desperate to get the first job offered to them rather than find the correct job well matched to them.

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So by offering unemployment insurance to them the government makes it easier for people to stay unemployed and get matched to the correct kind of job.

Now you may remember from early in the semester we discussed this program from the equity and efficiency point of view, and we said that there are also some problems with this program.

The problem is that because of unemployment insurance workers may not have the correct incentives to try to keep their job.

They may not try hard enough to find a job because they are getting efficient... effectively they are getting a salary from the government for being unemployed.

So as a result of unemployment insurance maybe workers can get fired faster because if they have a job they don't have very high incentive to keep that job.

If people are unemployed they will not try as hard to find a new job.

So we could...would expect because of this program the unemployment spells will be longer in the economy.

Let's turn to structural unemployment a little bit.

I said that structural unemployment exist because of some systemic regions.

Some of cultural, political reasons...



The government might set minimum wages.

There could be market power on the supply side or on the demand side.

We will also discuss the model of efficiency wages and we will compare it to the monopolistically competitive.

A market structure that we studied before.

And I said that because of technological progress and there is a continuous need for up skilling of workers in the economy and that results in unemployment.

So this is a graph that we studied in the beginning of the semester that showed us.

Because of the price floor, the market cannot achieve the equilibrium level of the equilibrium quantity and equilibrium price or wage and so in this solution without any a black market we would have access supply of labor and that's exactly the unemployment the number of unemployed workers that we would see in the economy.

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If there is a market power on the supply side, we can discuss the situation just as we discussed the monopoly in a previous chapter.

Basically labor union... when labor union is considering getting another worker hired it realizes that in order for one more worker to get hired, this additional worker will receive a salary but all of the existing workers who are already employed their wage rate will have to fall a little bit.

There is both a price effect and a quantity effect to the increase in employment for the union and effectively the union doesn't care only about the labor demand curve but it cares about the marginal earnings curve and this marginal curve... marginal earnings curve represents this trade of between output effect and price effect of the union.

So when another worker get hired the union recognizes that this worker will earn some wages but all the existing workers will earn lower wages than before and for the union to want to hire another worker these marginal earnings should be greater than the marginal this utility work represented by this labor supply curve.

So effectively labor unions will want to stop the hiring process this number of workers rather than the efficient number of workers which would be here.

So surprisingly, or paradoxically even from the workers' point of view since the union represents workers we would get that workers don't want too many other workers to get hired.

Labor union cares about the existing workers not only about the new workers being hired, and that's why the union wants to stop the hiring process at a smaller level of employment rather than the efficient level of employment.

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So this is the discussion of market power on the supply side, now we can bring the discussion of market power on the demand side as well.

So on the demand side, We've talked about the case of monopsony before we said that monopsony is a single consumer of labor in the market place.

Imagine small town where there is only one factory one employer hiring workers and there are many small workers.

This factory have a monopsony power. The factory recognizes that if it hires an additional worker, first of all, comparing two points on the labor supply curve first of all the company has to increase.. has to offer a little bit higher wage to the marginal worker who is being hired.

Second of all, if we are offering a little bit higher wage to this marginal worker we also have to hire we also have to offer higher wages to all of the existing workers.

So in the case of monopsony, we have.. we still have the output effect and the price effect of hiring an extra worker but here the two effects work in the same direction.

Because of the output effect, the factory has to payout greater wages and also it has to be higher wages to all of the existing workers.

So because of that the monopsonist faces marginal expenditures curve which is steeper than the labor supply curve and the monopsonist would want to stop hiring workers where marginal expenditures on labor are equal to the value of the marginal product of the marginal worker.

So if we only had market power on the demand side, we would conclude that the monopsonist will want to hire this many workers and pay this wage rate.

Now if we have both market power on the supply side and market power on the demand side, we could have this situation illustrated in this figure where the monopsonist employer faces this marginal expenditures curve the union who is the monopolistic worker faces this marginal earnings curves, and generally it is unclear which wage rate and which level of employment these two monopolies will agree on,

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We should think that in this situation, there will have to be bargaining between the monopsonist and union and maybe depending on ability to bargain, any of these wages is possible and when particular labor wage rate is determined, that will

determine the number of workers hired by the company.

So we don't have a good prediction in this case of what would happen, we only know that equilibrium wage in this situation would be somewhere between the union wage and monopsony wage and the equilibrium level of employment would be somewhere between this limited quantities and the efficient quantities.

Finally, in another model of unemployment is that a efficiency wages.

We could, we can imagine that the labor market works as monopolistic competition where the product produced by individual workers their labor it's likely differentiated.

So workers have different health, different likelihood of turnover, different equality, different worker's exert different amount of effort, and it makes sense for company's to look around first before hiring a particular worker.

And it makes sense for company to offer slightly high wages to encourage and to, or to find time to find workers with the best health and the best turnover or lowest turnover rate, highest quality and highest effort.

This figure comes exactly from the chapter on monopolistic competition, and it summarizes that if workers are slightly differentiated, they have a little bit of market power in negotiating their wages.

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The equilibrium wages in this unit could be above wages that we would result in perfect competition.

The equilibrium amount of labor would be smaller than the efficient or perfectly competitive amount of labor, and same prediction that we made about monopolistic competition we can make here that with this market structure, efficiency wages will be hired than the efficient wages.

There will be some excess capacity among the workers, so there will be some amount of unemployment and perhaps the level of costs that workers face will be higher than if the industry was perfectly competitive.

If we think that workers have to pay some cost to be good worker, if people have to create very nice resumes, if they have to dress up to go to job, if some workers undergo plastic surgery, that raises the cost to workers in the industry and we might see some, and we might think that the cost in the industry are inflated, compared to the levels in perfectly competitive markets.

So the same prediction that we would make about monopolistic competitive markets we can make here about the labor market with differentiated workers.

So we've looked at different sources of unemployment and the economy and different models of unemployment might be, continues problems in the economy.



Now, I want you to look at the economic conditions in the economy today and we think about which of these factors are more important than others and which of these models that we've covered is maybe more relevant or more correct in explaining the level of unemployment today.