Macroeconomics: Lecture 5

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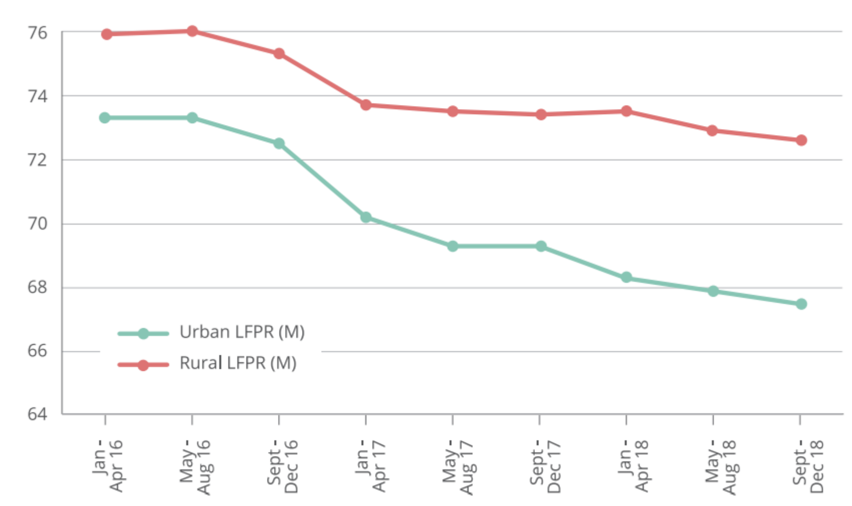
Agenda

- Overview of the labour market.
- Unemployment rate, and its effects.
- Wage and price determination.
- Natural rate of unemployment.
- Material: Blanchard, Chapter 6.

Labour Force Participation Rate



[1]

[1] Source: https://cse.azimpremjiuniversity.edu.in/wp-content/uploads/2019/04/SWI2019_Employment_Trends.pdf

Unemployment in India: Last Two Decades

Overall Unemployment Rate

	NSS 55th	NSS 61st	NSS 68th	LB	LB	CMIE	CMIE
	1999-2000	**2004-05**	**2011-12**	**2011-12**	**2015-16**	**2016**	**2018**
Overall	2.7	3.1	2.7	3.8	5.0	8.2	6.0
Male	2.9	2.7	2.4	2.9	2.9	5.5	4.9
Female	2.4	4.2	3.7	6.9	8.7	22.4	14.2

Unemployment Rate among Educated (Degree/Diploma beyond Class 12)

Overall	10.3	10.7	10.3	9.0	15.2	16.2	12.7
Male	8.4	7.5	8.4	5.9	11.4	12.1	9.7
Female	21.1	24.3	21.3	25.8	30.6	40.1	34.0

Unemployment and Worker

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What do firms do when there is fall in demand?
They can stop hiring new people.

Unemployment and Worker

What implications does this movement have for the workers?

- If the adjustment happens via hiring stoppage, finding a job might be tough.
- If the adjustment happens via firing, the odds of losing a job become higher.

Wage Determination

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- Wages are determined by bargaining between the firm and the labour union/the employee.
- The bargaining will be harder for the jobs that require better skills.
- *Workers are typically paid a wage that exceeds their reservation wage, the wage that would make them indifferent between working or being unemployed.*

Bargaining

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Implications

1. Skills fetch worker greater bargaining power.
2. Labour market conditions determine bargaining power.

Efficiency Wages

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Firms may want to pay more than the ‘reservation’ wage. Reason: **Incentivizes productivity**.

Firms want their workers to feel good about their jobs. This is **efficiency wage theory** in nutshell.

Wages, once again, depend upon the type of job and labour market conditions.

$$W = P^e F(u, z)$$

The nominal wage W depends upon three variables:

- The expected price level P^e.
- The unemployment rate u
- All other variables indexed as z.

The Expected Price Level

- All involved- firms as well as workers- care about **real wages**.
- Workers care about what they can buy with the wages.
- Firms care about the price of the good (P) and the wages relative to these prices.
- Typically, actual price level is not known in advance. So, workers form expectations about the price level.

The Unemployment Rate

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- Therefore, unemployment rate and wages are inversely related in our model.

Other Factors

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- **Unemployment Insurance**: *At a given unemployment rate, higher unemployment benefits increase the wage.*
- **Employment Protection**: This makes hiring new workers or firing the existing ones a costly affair. Worker's bargaining power goes up. Therefore, the average wage would go up as well.
- What if minimum wage shifts?

Price Determination

- We know from microeconomics that the price is a function of costs.
- We also know from microeconomics that costs depend upon the type of production function.
- At this point, we just simplify everything:

$$Y = AN$$

- Y is output, N is labour, A is some estimated measure of productivity.
- One more (over)simplification: $A = 1$.
- What's the marginal cost here?

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- What's the marginal cost here? W
- In perfect competition: $P = MR = MC$.
- But not all firms in our toy economy are competitive.

Price Determination

- Some firms enjoy markup. (m)
- So, in aggregate,

$$P = (1 + m)W$$

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The Wage Setting Relation

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Rework this equation to get:

$$\frac{W}{P} = F(u, z)$$

The Price Setting Relation

We learnt that

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Rearrange this equation such that:

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How do we translate this equation into English? Help!

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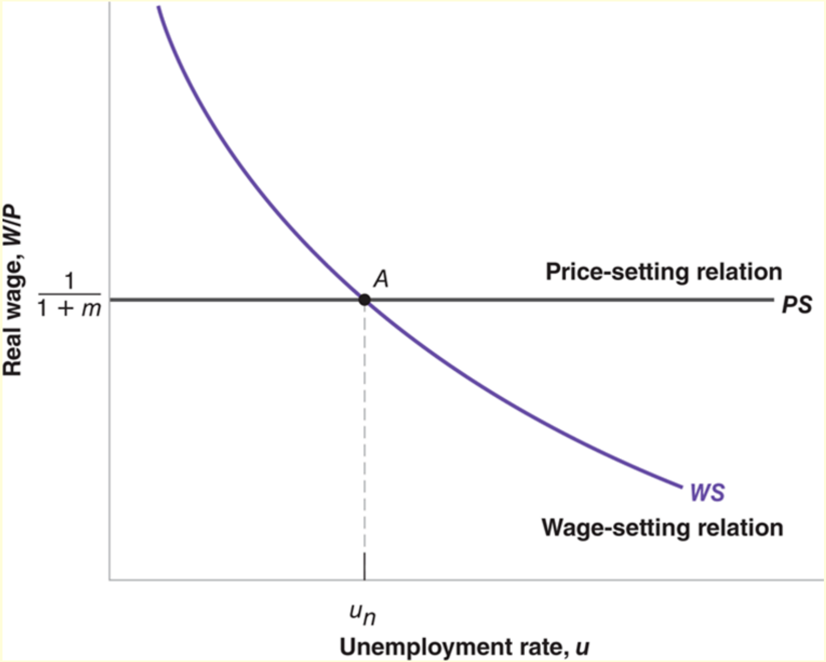
- Real wage depends upon firms' markup price.
- *An increase in the markup leads firms to increase their prices given the wage they have to pay.*
- Therefore, the real wages should fall.


Real wage, W/P
$\frac{1}{1+m}$
A
Price-setting relation
PS
WS
Wage-setting relation
u_n
Unemployment rate, u

Equilibrium

- Equilibrium in the labour market: real wage chosen in wage setting = real wage determined by price setting.
- We can bring in the relationship between real wages and unemployment now.

$$F(u_n, z) = \frac{1}{1+m}$$

- The equilibrium unemployment rate is known as the natural rate of unemployment.
- u_n depends upon m, z.

Natural Rate of Unemployment: Nothing Natural About It

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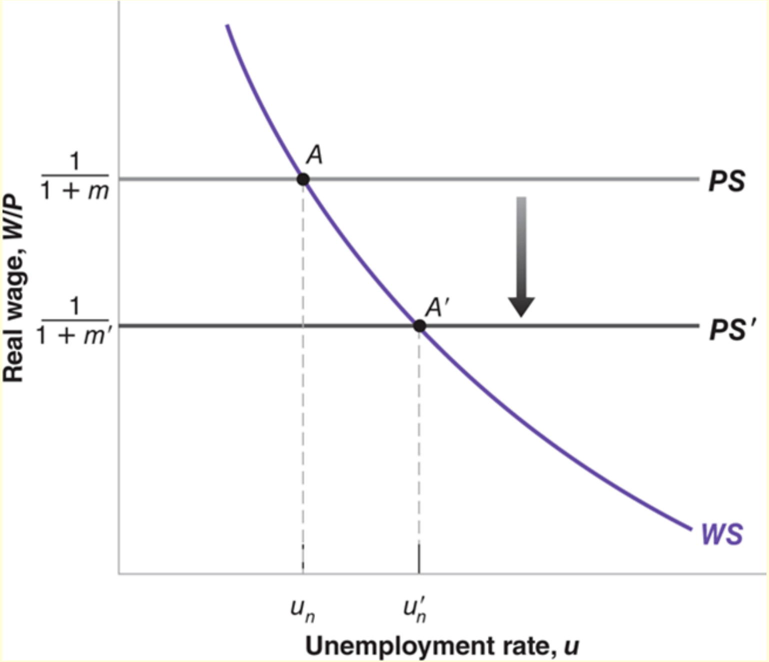
Unemployment rate, u



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$\frac{1}{1+m}$
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PS′
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$$N_n = L(1 - u_n)$$

We assign natural rate of output as

$$Y_n = N_n = L(1 - u_n)$$