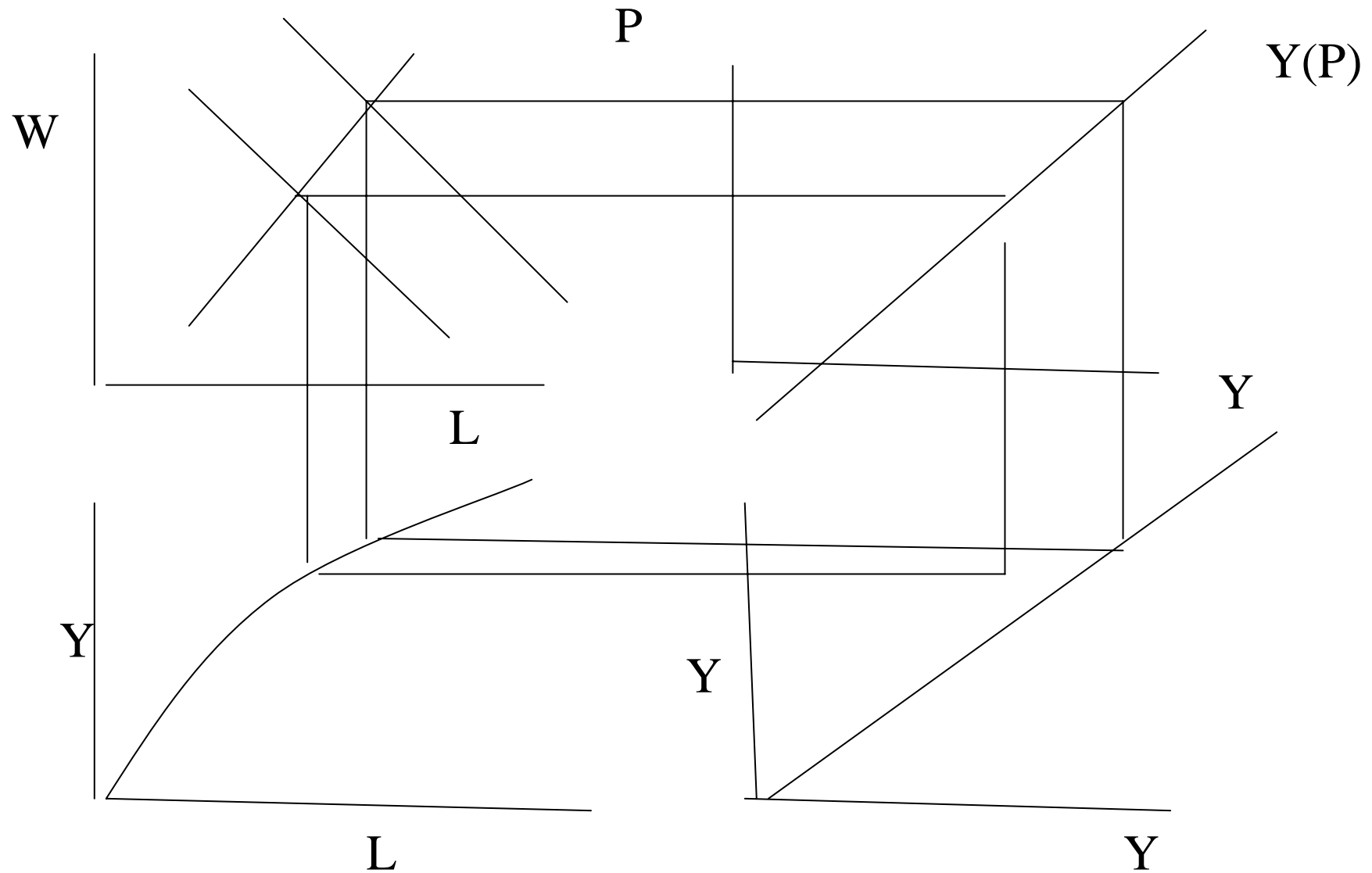


# Macroeconomic Theory and Policy

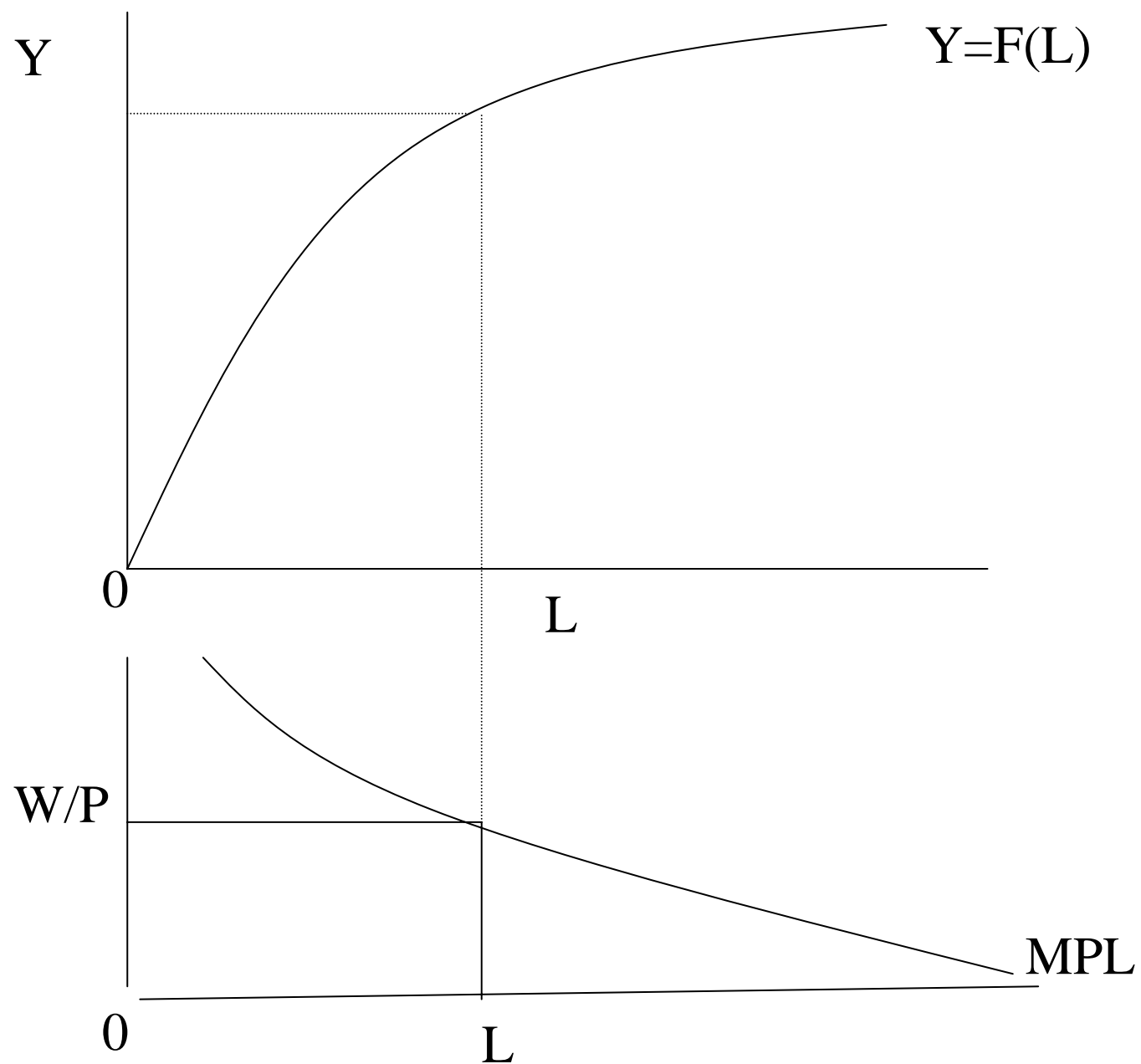
## Lecture 28

### Structure of the Labour Market and Unemployment

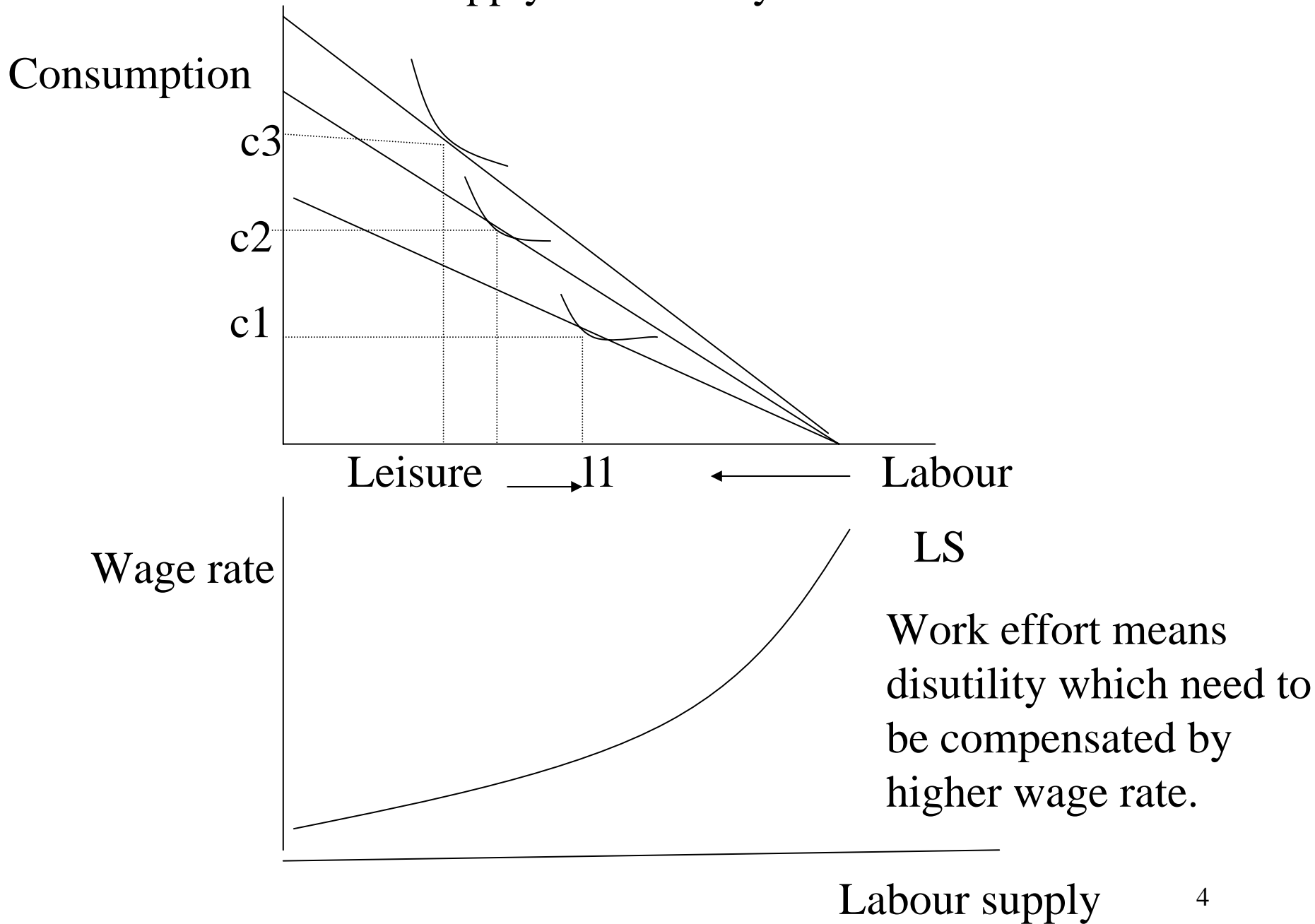
# Labour Market and Aggregate Supply



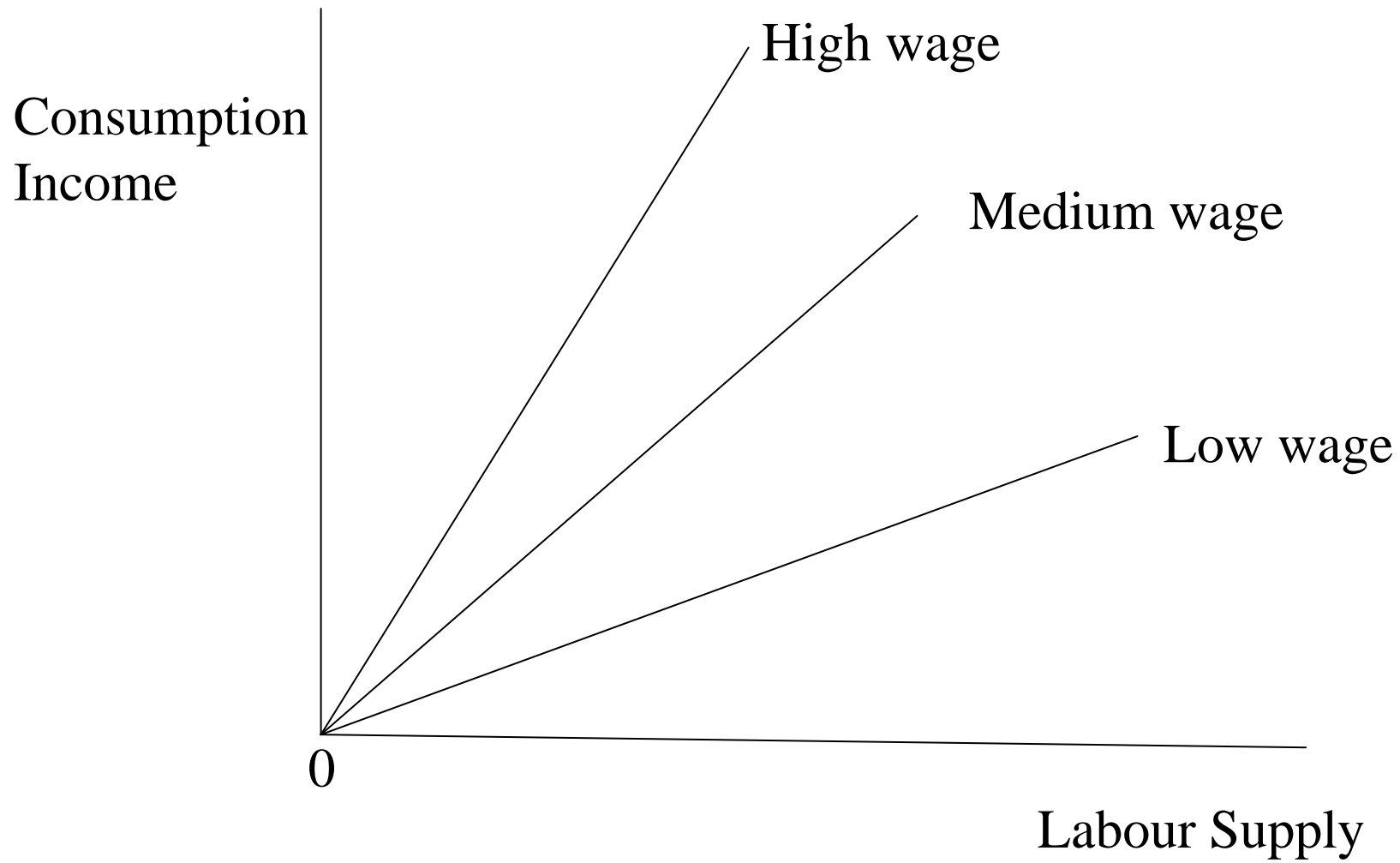
# Production Function and Demand for Labour



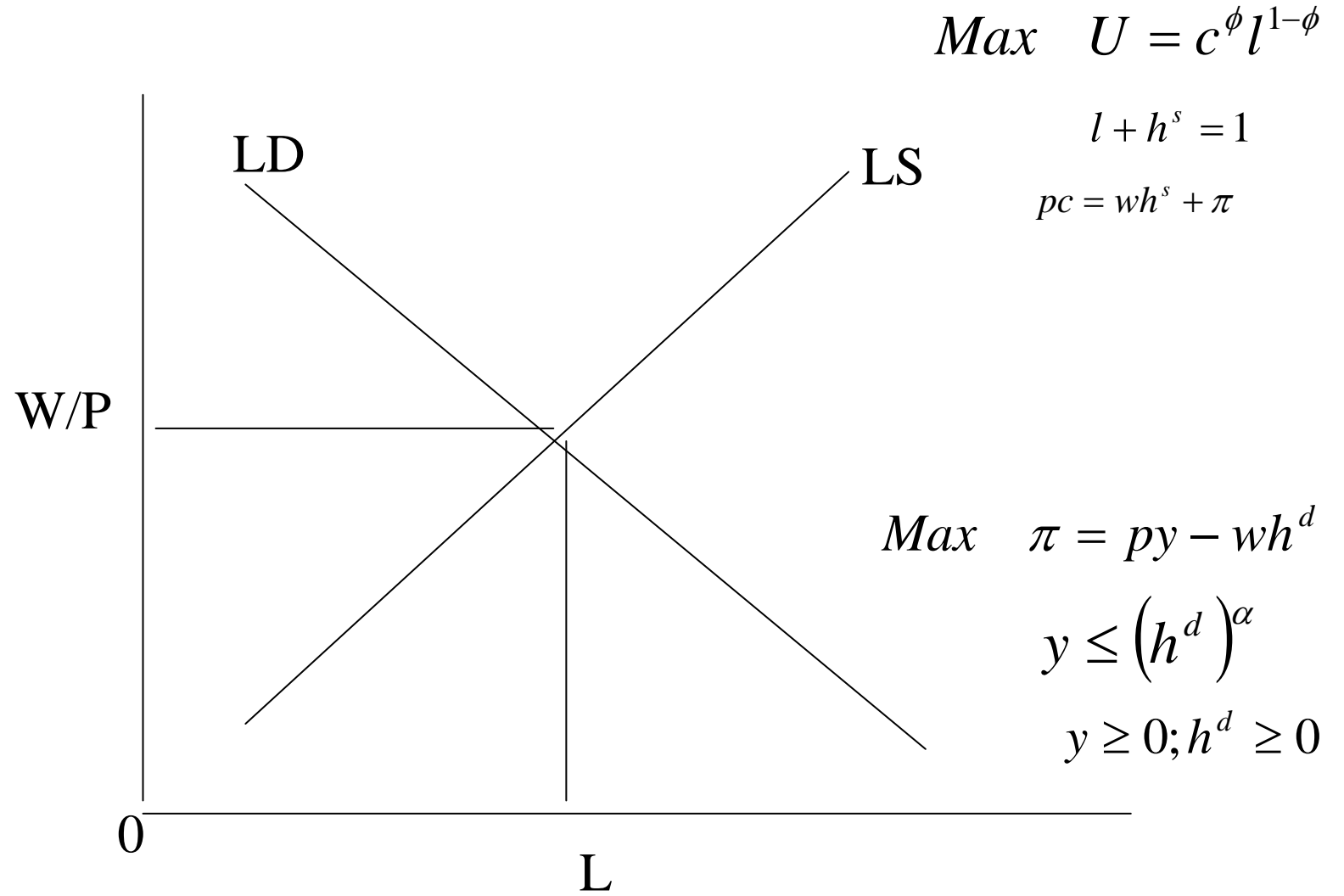
# Derivation of Labour Supply from Utility Maximisation of Households



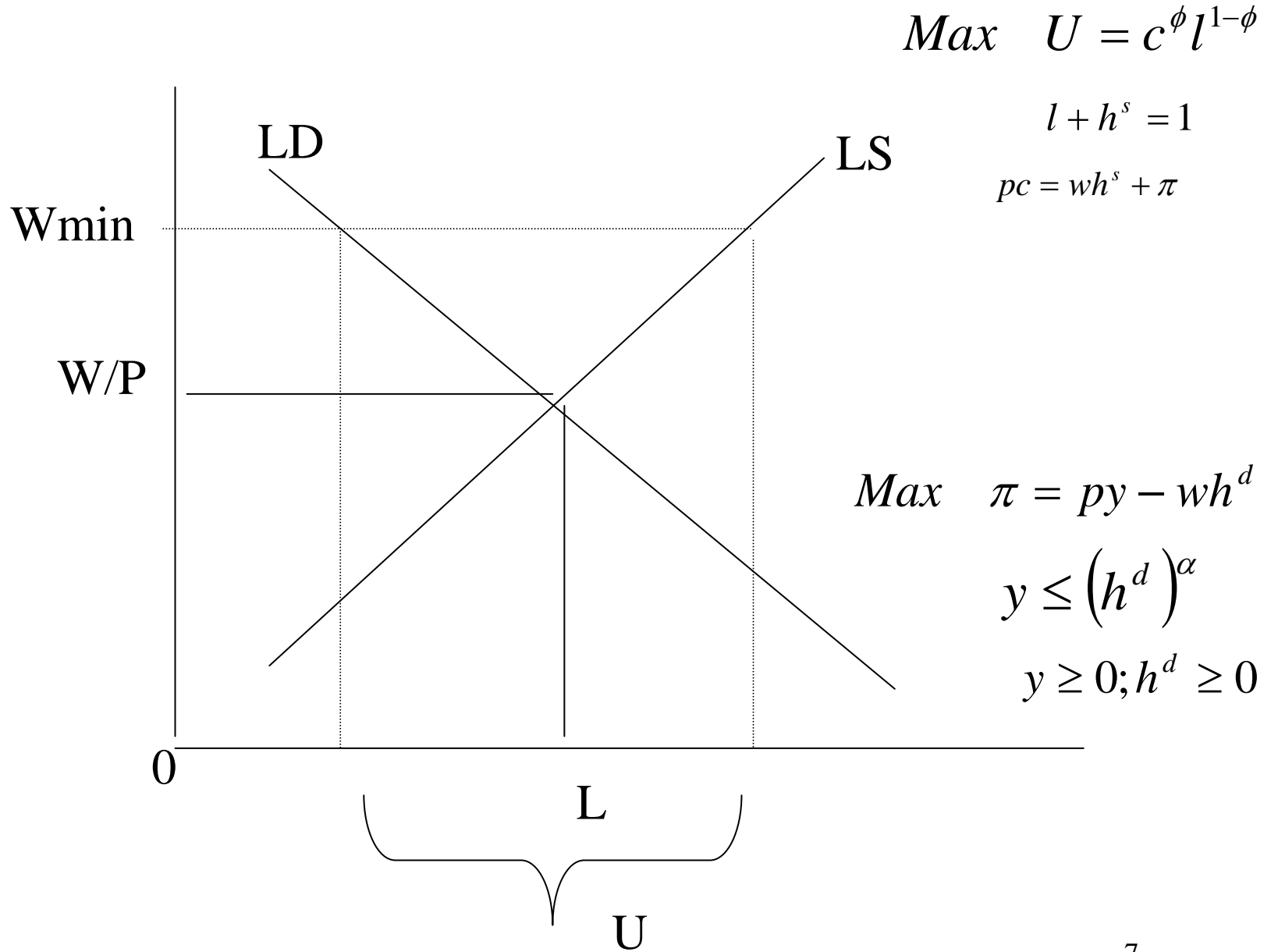
# Consumption, Income and Labour Supply



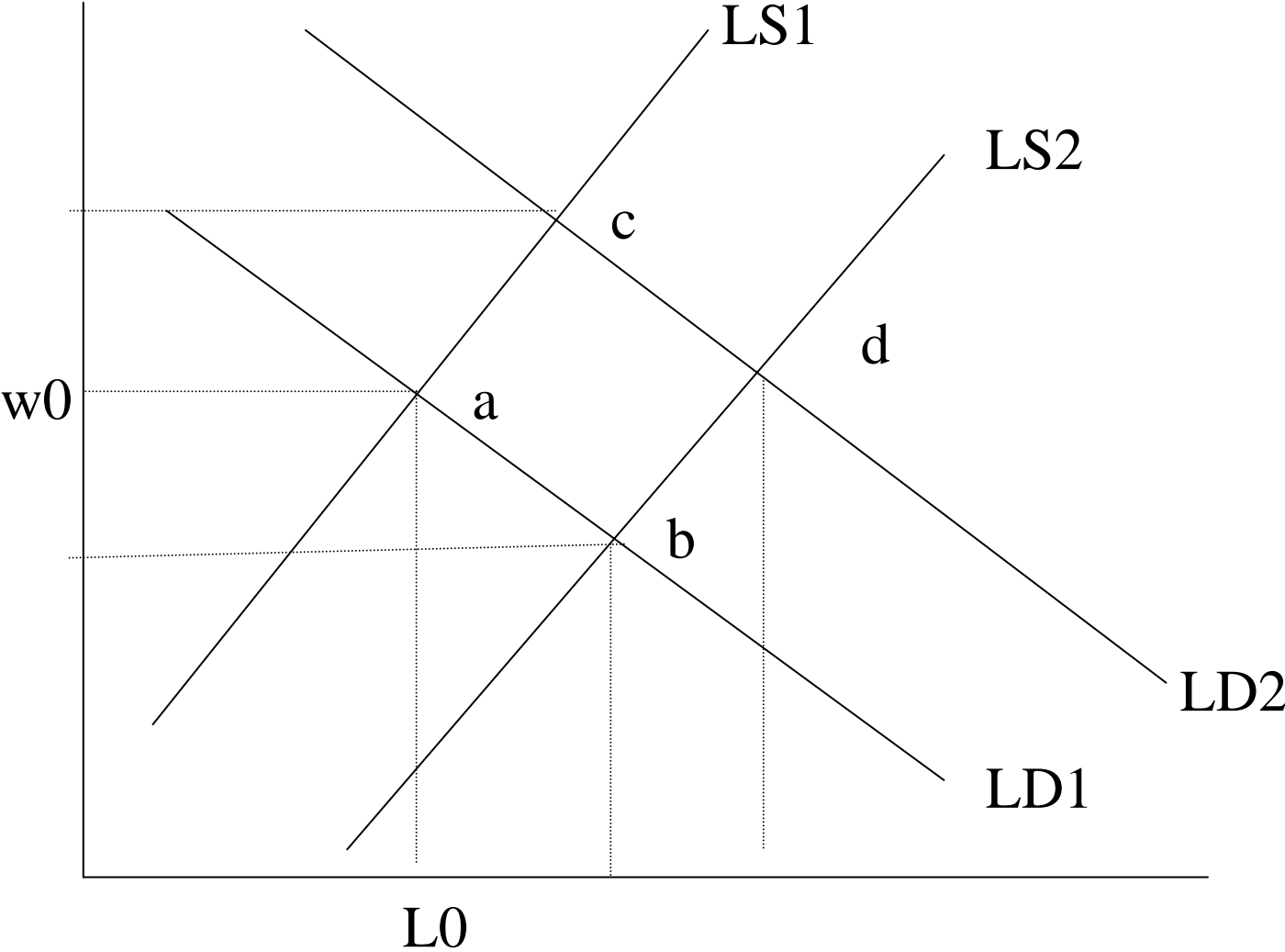
# Equilibrium in the Labour Market



# Labour Market Rigidity and Unemployment

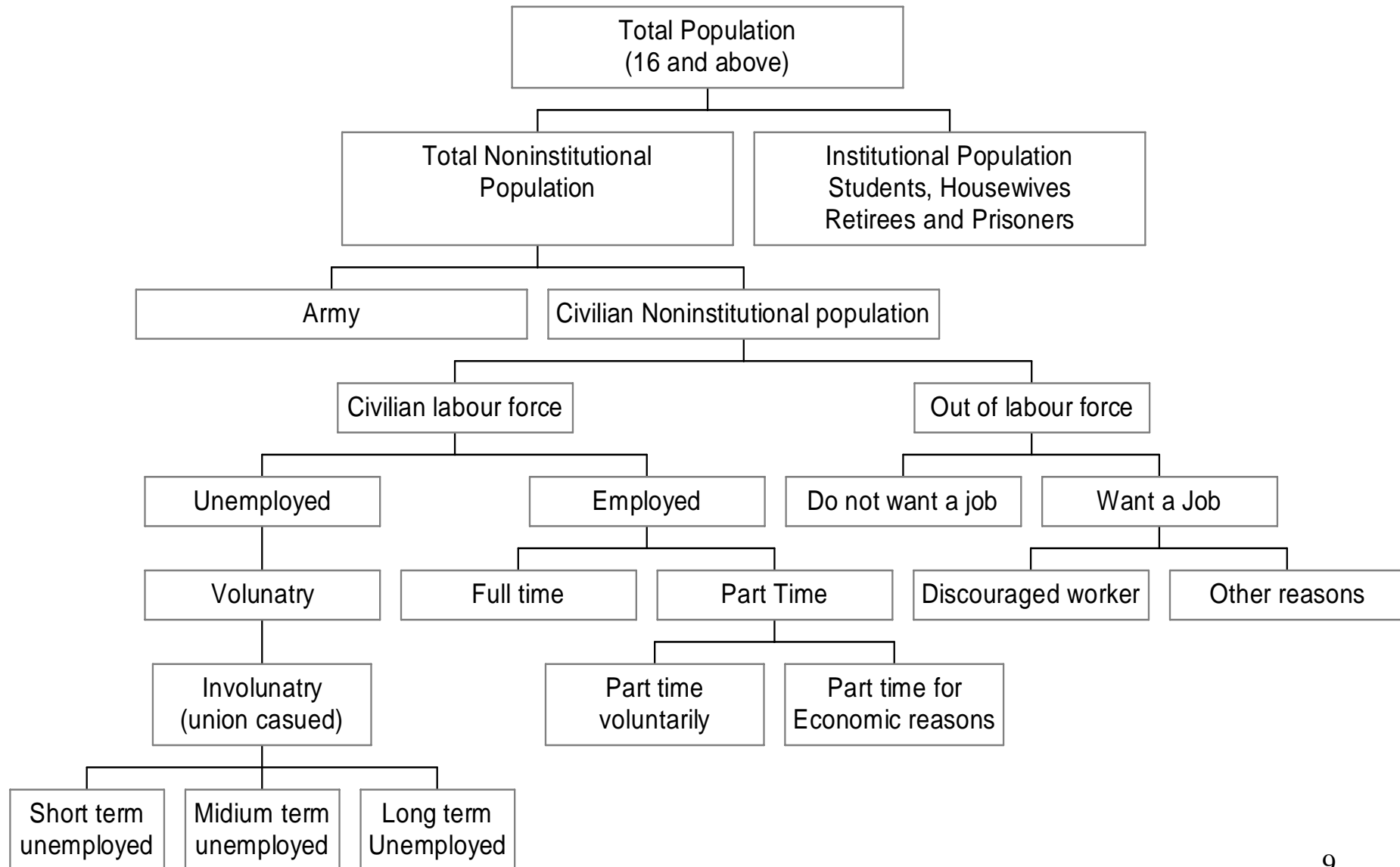


# Impact of Increase in Demand for Goods and Immigration in the labour Market



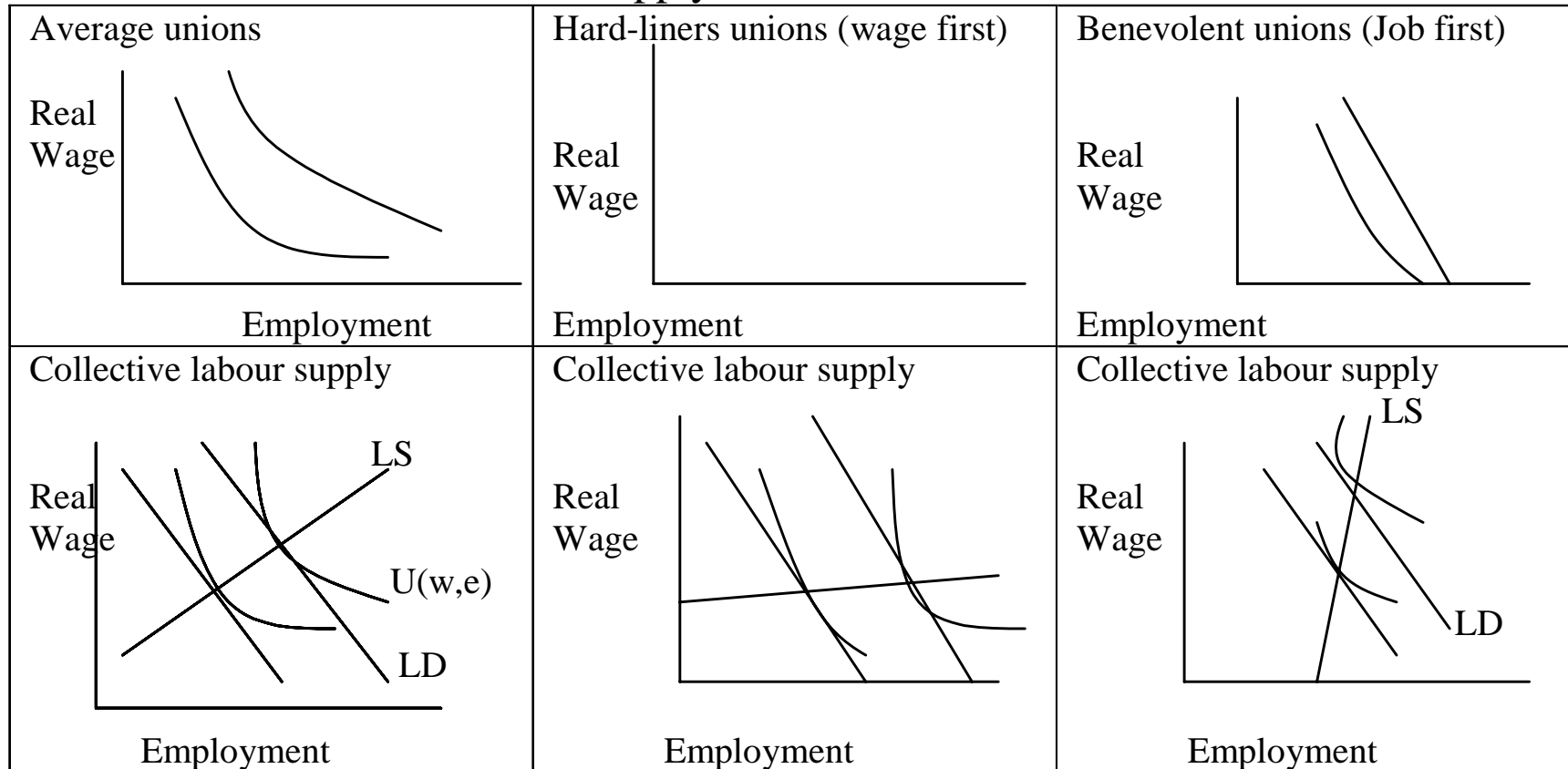
# Labour Market Concepts

Labour Market concepts

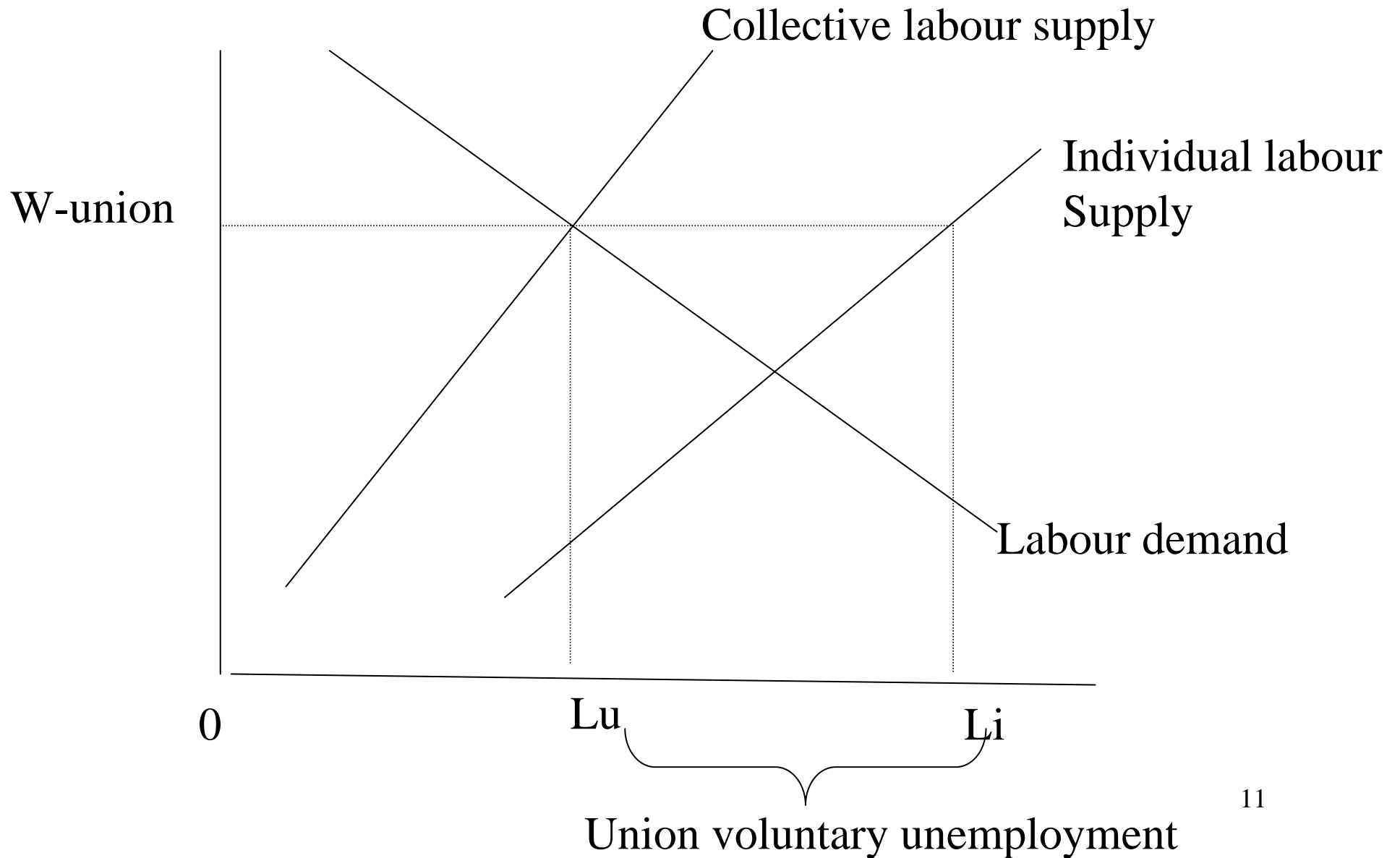


# Collective Bargaining and Labour Market

## 1. Unions and collective labour supply



# Union Voluntary and Individual Involuntary Unemployment Rate



# Frictional Unemployment

Labour force:  $L = E + U$

Unemployment:  $\Delta U = sE - fU$

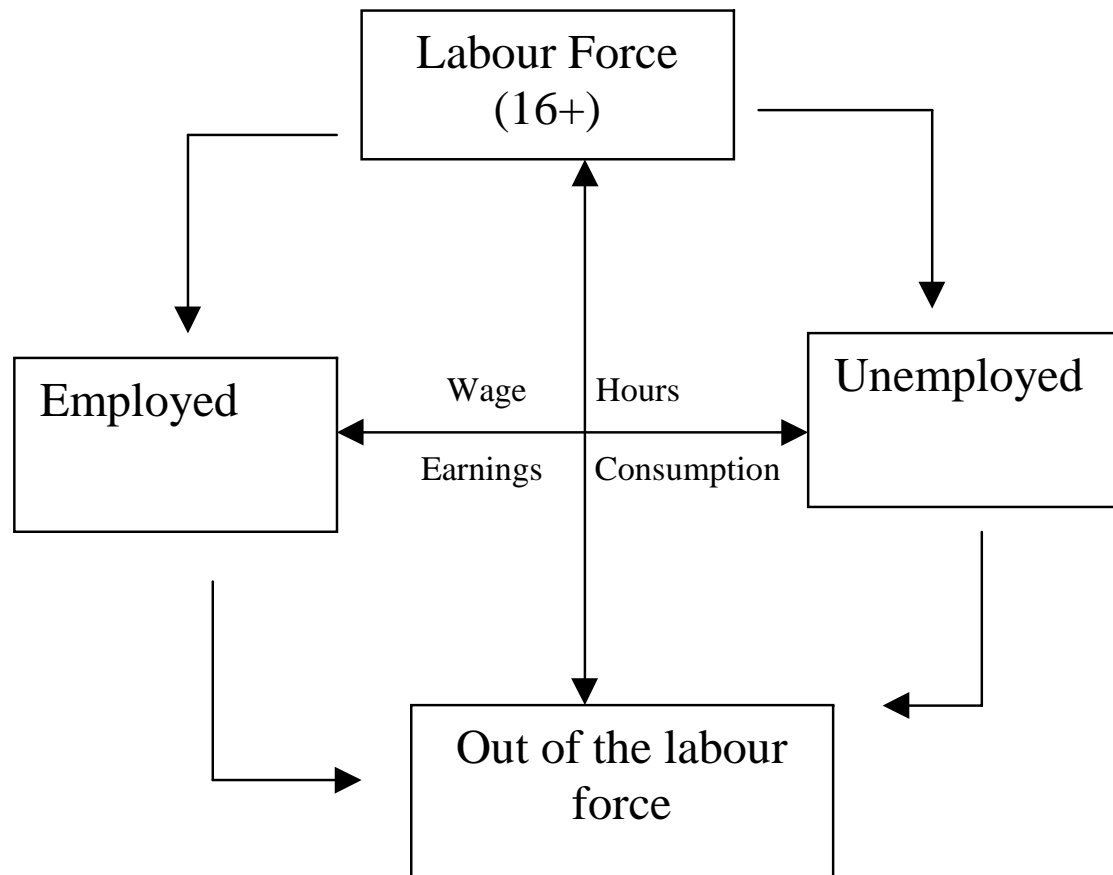
Steady state

$$\left\{ \begin{array}{l} \Delta U = 0 \\ sE = fU \\ s(L - U) = fU \end{array} \right.$$

Frictional Unemployment rate:  $\frac{U}{L} = \frac{s}{s + f}$

# Stock and Flow in Labour Market

Labour Market States and Transitions (Stock and Flows)



# ILO Definition of Labour Force

- **Working age population:**
- all individuals of 16 years of age or above
- **Labour force** includes
- those people who are employed and are at work and
- those people who are unemployed but actively looking for a job and ready to work if they found any job according to their qualification.
- Reasons for not being in the labour force:
- studying at schools
- retirees or in military services or in prisons or
- family reasons
- Other important labour market concepts
- **participation rate and employment rate**
- **productivity rate and unemployment rates**

# Categories of Labour Market

- By location: local, regional, national, urban, rural, global
- By profession: teachers, lawyers, doctors, engineers, scientists, artists; more specialisation in each
- Labour market institutions: rigid, perfectly flexible (fully informed, uninformed)
- By time: short term, medium term and long term, intergenerational
- by skills: unskilled, semi-skilled, skilled

# GDP and Productivity of Manpower

- In fact GDP from the supply side can be decomposed into the working age population (P) labour force and participation rate (L/P), employment rate (E/L), the productivity of per worker and the capital output ratio as following:  $Y = P \frac{L}{P} \frac{E}{L} \frac{Q}{E} \frac{K}{Q}$ .
- Working age population (P): all individuals of 16 years old or above.
- Labour force (L): all individuals at work (employed) or who are willing to work and actively looking for a job (unemployed).
- Participation rate (L/P): Ratio of labour force of working age population.
- Employment rate (E/L): Proportion of labour force that is employed.
- Unemployment rate (U/L): proportion of labour force that is actively looking for work but is out of work.
- Productivity rate (Q/E): output per worker (weekly, monthly or yearly). Capital-output ratio (K/Y): units of capital per unit of output.

# GDP Growth, Utilisation of Labour Force and Productivity

- $g_Y = g_P + g_{L/P} + g_{E/L} + g_{Q/E} + g_{K/Q}$
- Capital increases by saving but the participation rate, employability and productivity of worker mainly depend on their level of education and training.
- By raising skills formal and informal education not only productivity of working individuals but also employability of those in the labour force and participation rate among the working age population.

GDP increases either by an increase in population or their participation rate, or by their employment rate or by increase in their productivity or by increase in capital stock or any combination of these factors or by all of them.

Population, working age population, labour force and participation rates (Selected countries)

Country	Population (million)		Labour force		Participation rate		% of Female labour force		15-65 age population	
	1980	1999	1980	1999	1980	1999	1980	1999	1980	1999
China	981	1250	540	750	0.550	0.600	43	45	586	844
Hong Kong	5	6.9	2	4	0.400	0.580	34	37	3	5
Japan	117	127	57	68	0.487	0.535	38	41	79	87
Singapore	2.3	3.2	1	2	0.435	0.625	35	39	2	2
Pakistan	83	135	29	50	0.349	0.370	23	28	44	74
Nepal	15	23	7	11	0.467	0.478	39	40	8	13
Uganda	13	22	7	11	0.538	0.500	48	48	6	11
Tanzania	19	33	9	17	0.474	0.515	50	49	9	17
Ghana	11	19	5	9	0.455	0.474	51	51	6	10
UK	56	59	27	30	0.482	0.508	39	44	36	39
USA	227	273	109	139	0.480	0.509	41	46	151	179
World	4430	5975	2035	2892	0.459	0.484	39	41	2595	3761
Low Income	1613	2417	709	1085	0.440	0.449	38	38	890	1417
Middle Income	2028	2667	790	1374	0.390	0.515	40	42	1199	1748
High Income	789	891	357	433	0.452	0.486	38	43	505	596

World development report, 2001/2001

## Determinants of stock of Manpower in a given Occupation

Entrants	Existing stock	Exits
<ul style="list-style-type: none"> <li>• Completers and leavers from training/ educational institutions who are seeking work in the occupation.</li> <li>• Qualified currently unemployed persons who are seeking work in the occupations.</li> <li>• Qualified persons who move into the labour market area and are seeking work in the occupations.</li> <li>• Qualified persons who transfer or are promoted from another occupation to work in the occupation.</li> <li>• Qualified new entrants and reentrants to the labour force, who are seeking work in the occupation.</li> </ul>	<p>Persons currently employed in the occupation in the labour market area.</p>	<ul style="list-style-type: none"> <li>• Persons who transfer or are promoted to the different occupation.</li> <li>• Persons who move out of the labour market area.</li> <li>• Persons who leave the labour force (retirement, death, personal reason).</li> </ul>

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