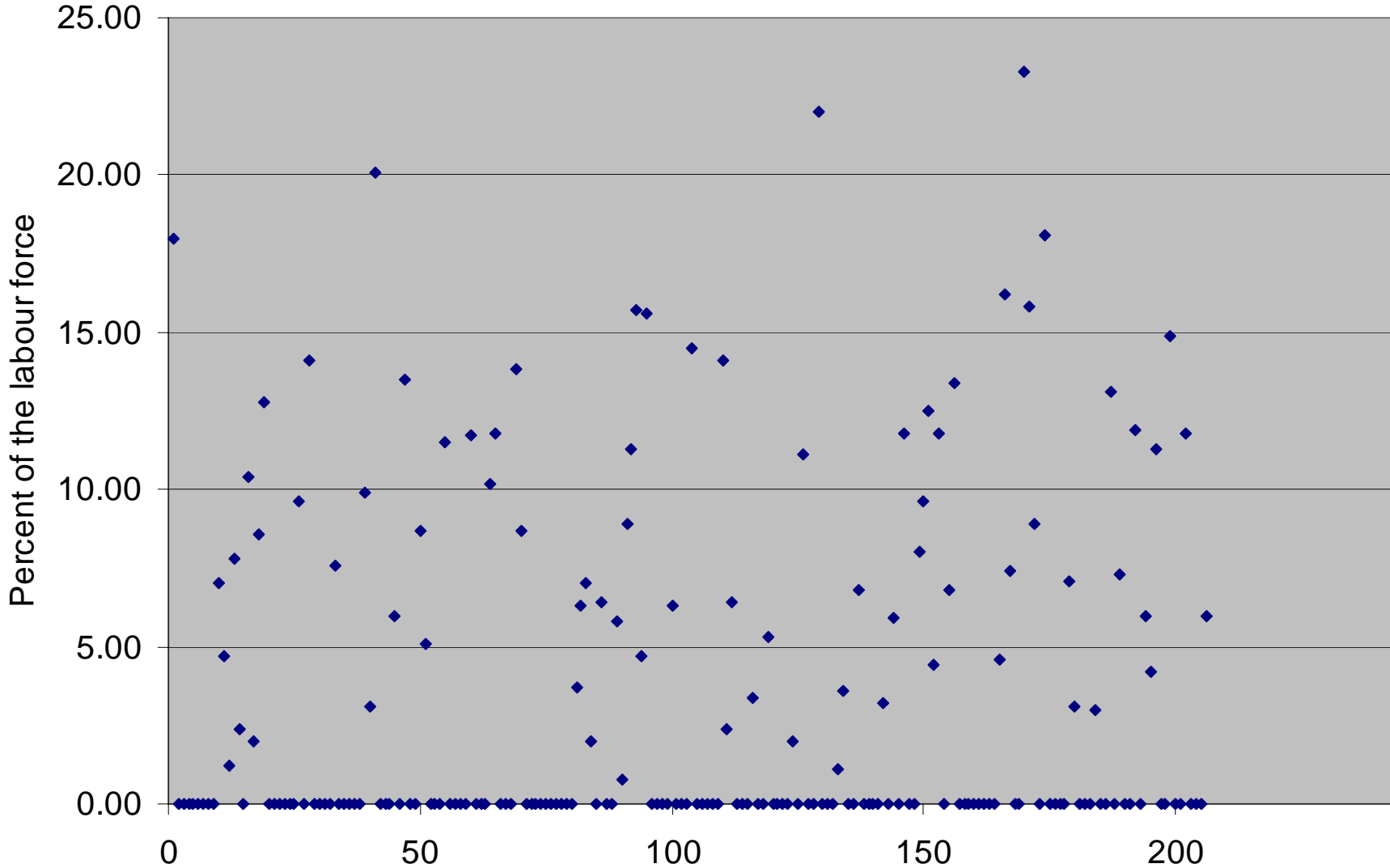


Macroeconomic Theory and Policy

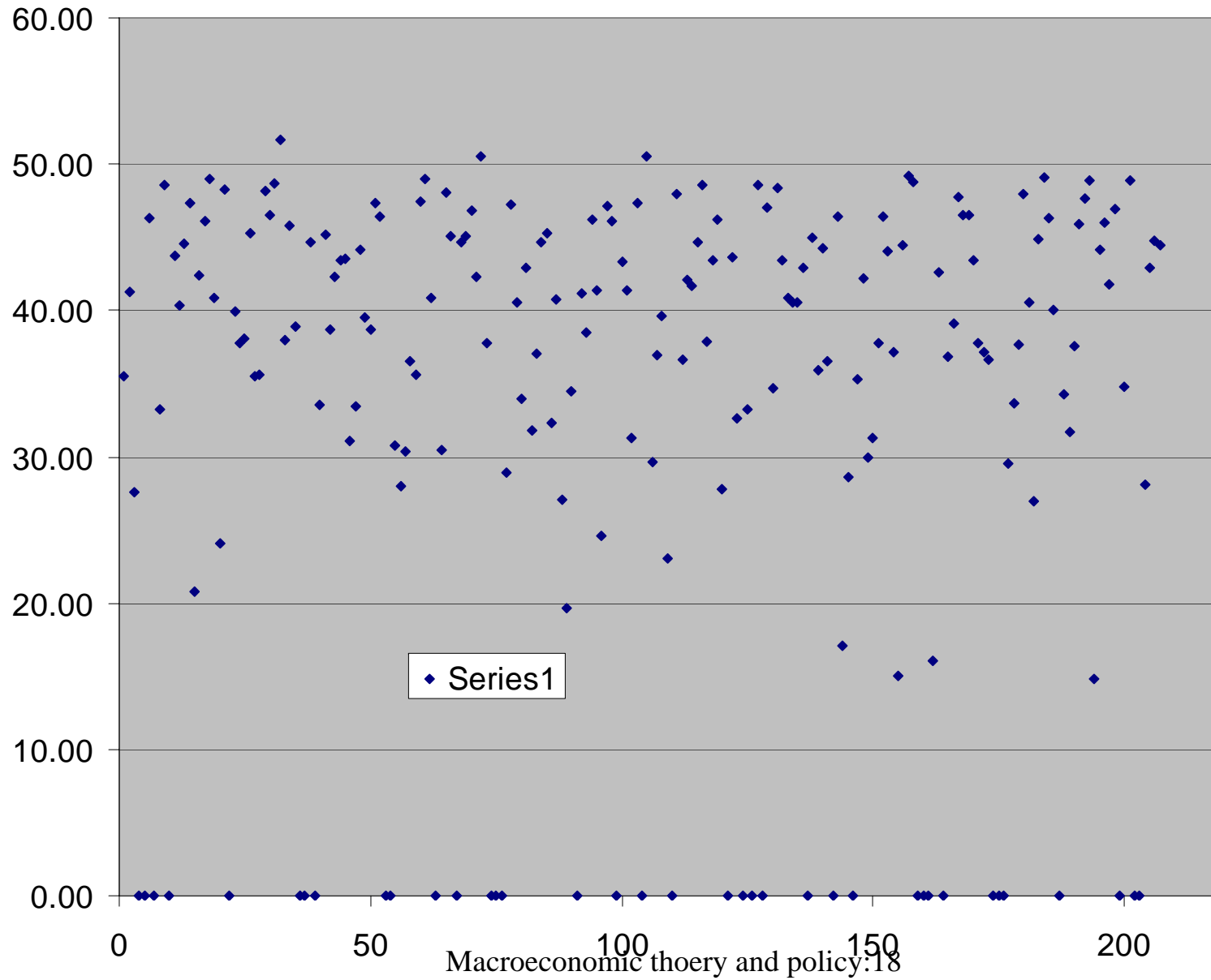
Lecture 18

Theories of unemployment

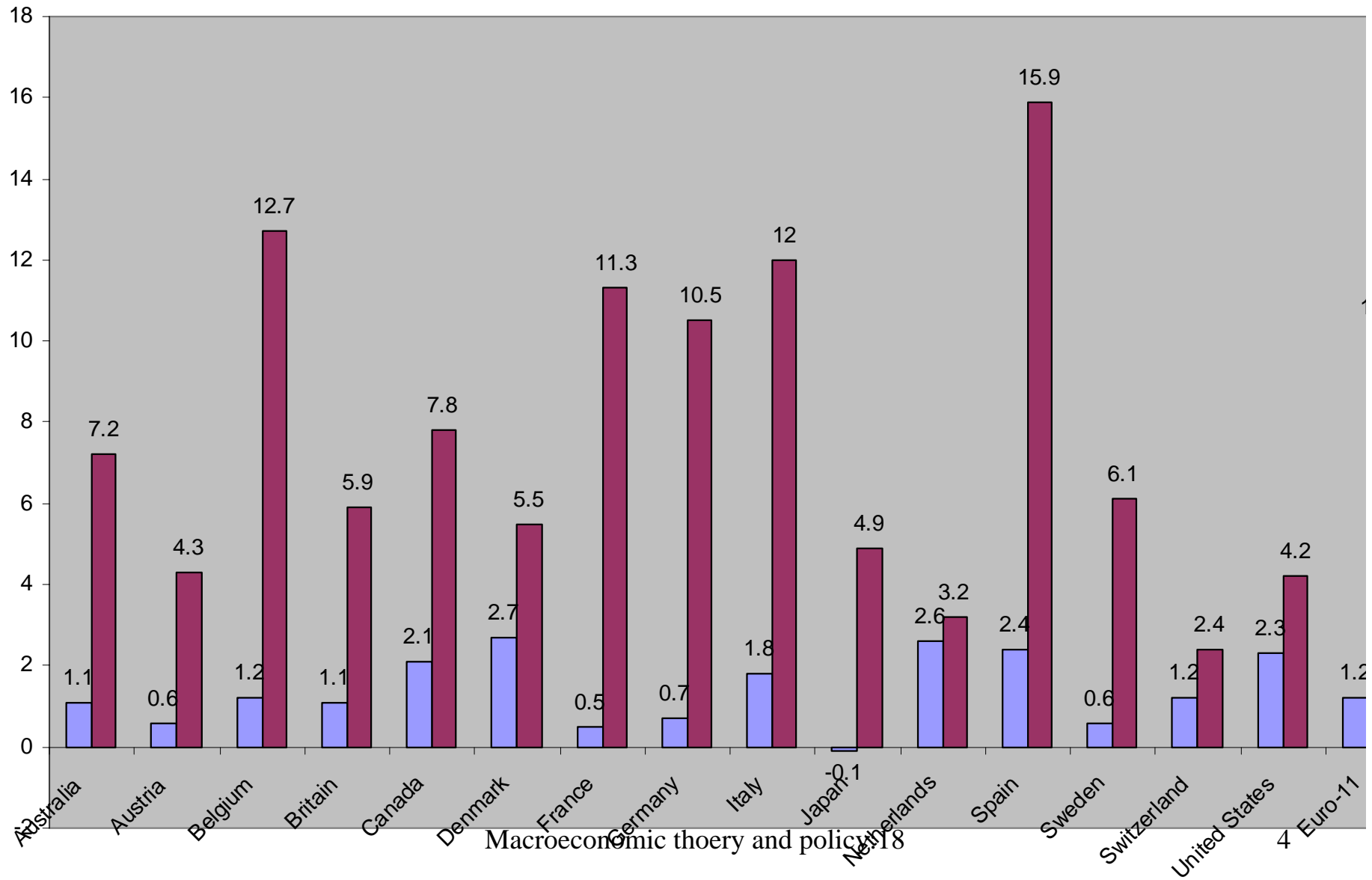
Unemployment Rate Across Various Countries in the World (WDI-2000)



Percentage of Female in the Labour Force



Inflation and Unemployment rate among OECD countries,2000



Types of unemployment

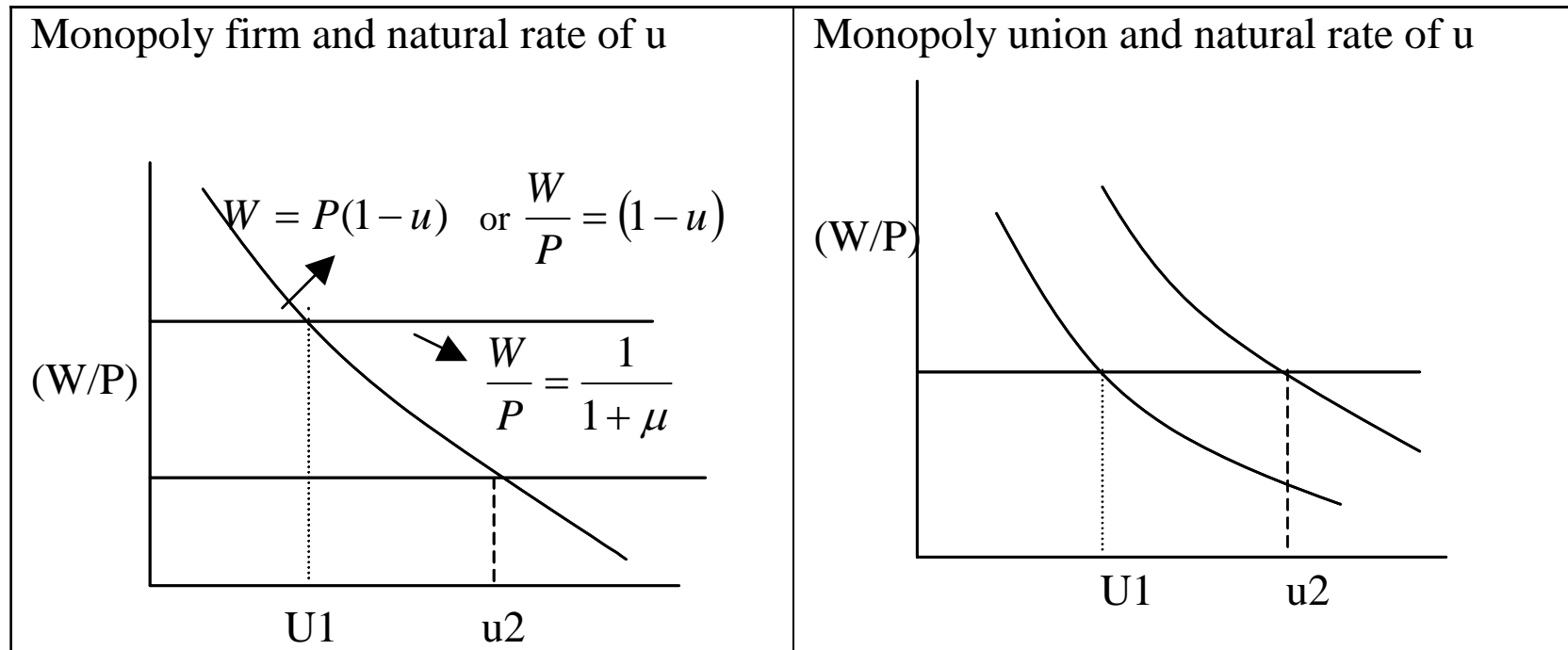
- Frictional unemployment : job mismatch; reflect labour market dynamics- not a great problem.
 - Cyclical or seasonal unemployment: due to up and down in aggregate demand because of a business cycle or seasonal reasons.
 - Structural long run unemployment: teenage unemployment, obsolete skills, long term unemployment, discouraged workers
 - Short term unemployment: less than a year
 - Long term unemployment: more than a year
- Disguised unemployment: in developing countries.

Four Theories of Unemployment

There are mainly **four macroeconomic theories** of unemployment

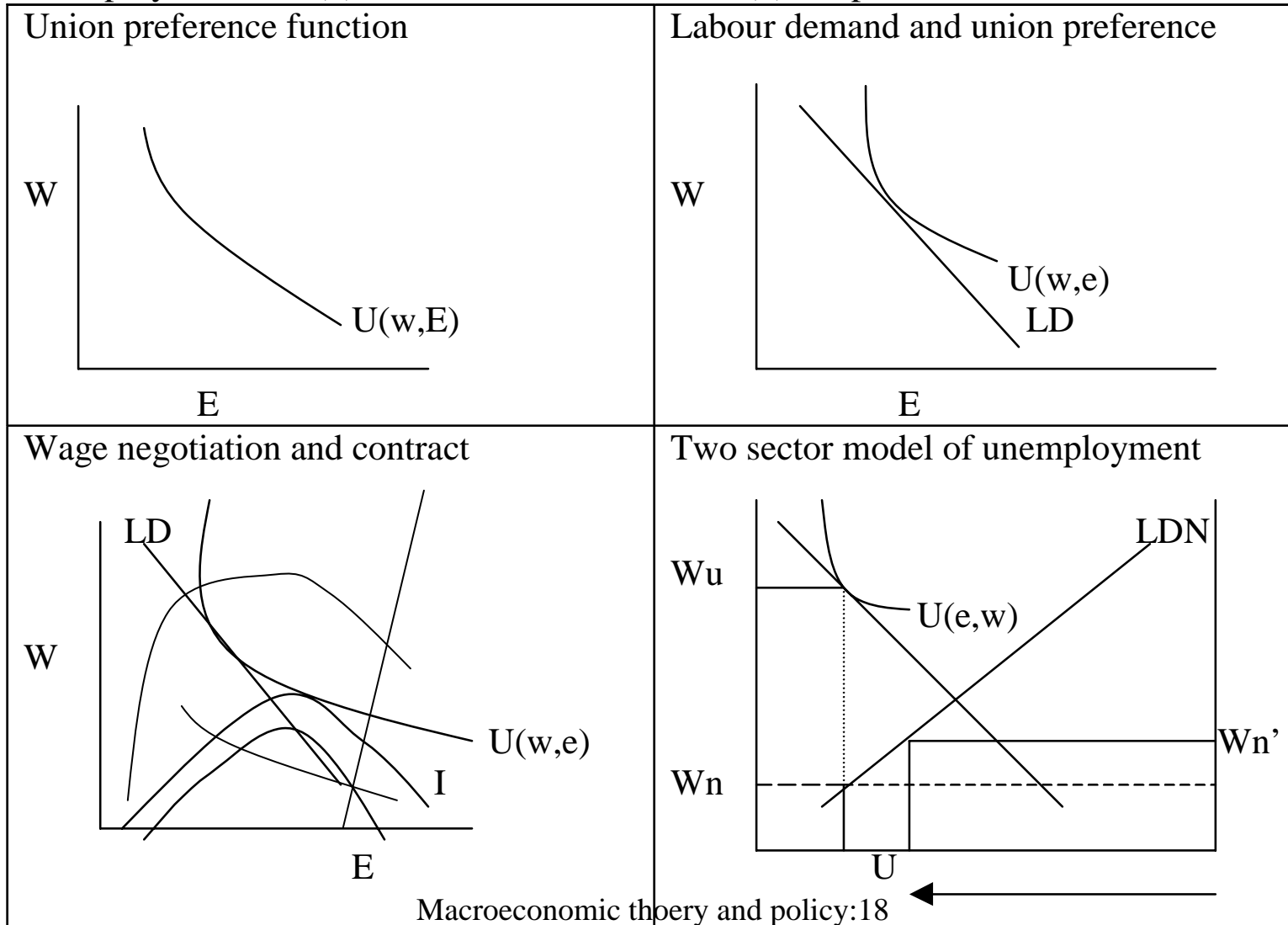
1. Insider-outsider theory: individual and collective labour supply -wage setting and price setting
2. Efficiency wage theory: no shirking, no turnover costs, nourishment, adverse selection
3. Search and job mismatch theory of frictional unemployment
4. Structural unemployment- Labour Market Rigidity

Unemployment Model with Monopoly firm and Monopoly Union



Insider-outsider theories of wage bargaining and determination of unemployment

We use three different tools (1) union indifference curve over wage rate and unemployment rate (2) labour demand curve and (3) iso-profit function of the firms.



Efficiency wage theory

1. **Shirking Model** : Workers who shirks has a chance of being caught. There is no cost of shirking in full employment model as one can easily find another job, but not a job that pays higher wage.
2. **Turnover costs**: by retaining current workers firms reduce hiring, firing and training costs
3. **Adverse selection**: turn away lemons

Sociological models: Firms show appropriate behaviour by paying higher wage rates

Efficiency wage theory

A simple efficiency wage model (as summarised Yellen (1984)):

Output: $Y = F(e(w)N)$ where N is the number of employees and e is effort per worker and w is the real wage rate.

Marginal product of labour is equal to real wage rate w^*

$$e(w^*)F'(e(w^*)N^*) = w^*$$

Firms do not reduce real wages below w^* because it would reduce productivity of all workers.

Efficiency wage model explains four different labour market phenomena:

1. real wage rigidity
2. The dual labour market
3. The existence of wage distribution for workers of identical characteristics
4. Discrimination among observationally distinct groups.

Why firms pay efficiency wages?

- Higher wages are means of effective monitoring. It minimises shirking by workers because cost of job loss is higher when wages are above the market clearing rate. Thus efficiency wages encourage higher effort by individuals.
- Higher efficiency wages reduce turnover costs (cost of hiring, firing and training) to firms as workers are less likely to quit the job that pays them higher than competitive wage rates.
- Higher effective wage enables firms to attract higher quality pool of applicants, it is beneficial specially whenever there is an imperfect observability of job quality.
- Higher wages improve morale of employees.

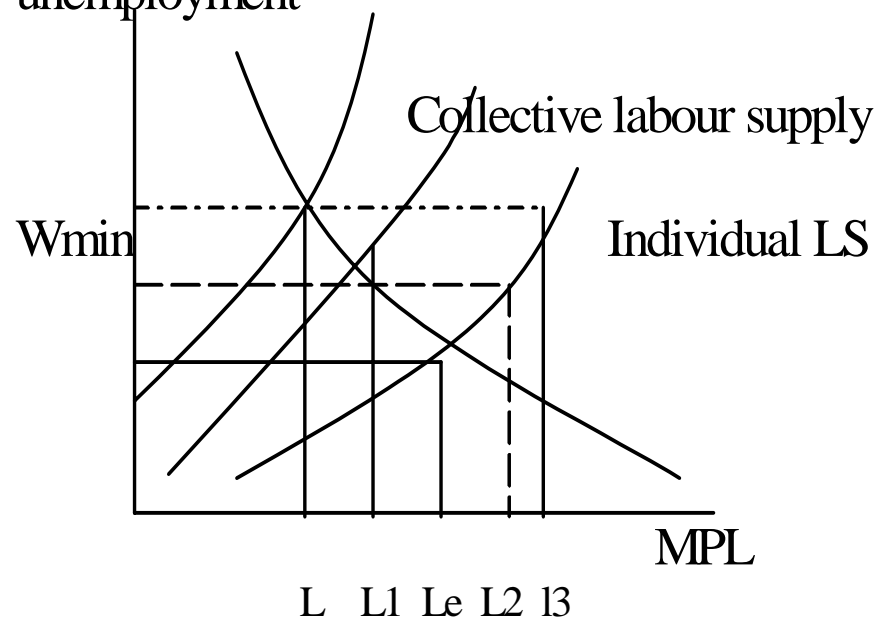
Frictional and structural unemployment

It occurs mainly because of the following reasons:

1. Imperfect flow of information; it takes time for employers with vacant position to find suitable employees and employees do not know enough about the potential employers.
2. New entrant enter into the job market every time, it takes time before they get settled in a job.
3. Some of current employees quit their job in anticipation of finding new and better job. They are unemployed until they find another job.

Frictional Unemployment an Illustration

Minimum wage collective bargaining and unemployment



L L1 Le L2 L3
 L1-L2 is union voluntary individual involuntary u
 L-L3 is unemployment due to minimum wage

Key equations for the labour market

$$\text{Budget constraint: } w\bar{L} = wl + C$$

$$\text{Consumption Leisure Preference: } U = CL$$

$$\text{Labour force: } L = E + U$$

Change in unemployment is the difference between job separation and job finding rates

$$\Delta U = sE - fU ; \text{ in steady state } \Delta U = 0$$

$$sE = fU \text{ or } s(L - U) = fU$$

$$\frac{U}{L} = \frac{s}{s + f} \text{ unemployment rate is high if } s \text{ is high.}$$

Structural unemployment: Labour Market Rigidity

- It occurs because of redundancies due to the structural change in the economy.
- Some skill become obsolete and people with these skills become unemployed.
- It happens when an old technology is replaced by new technology of production.
- Some sectors and regions experience outflow of capital resources, become less attractive place for investment, therefore experience less demand for labour and higher unemployment rate.

Measures to reduce unemployment rate

European governments have taken several steps to solve the problem.

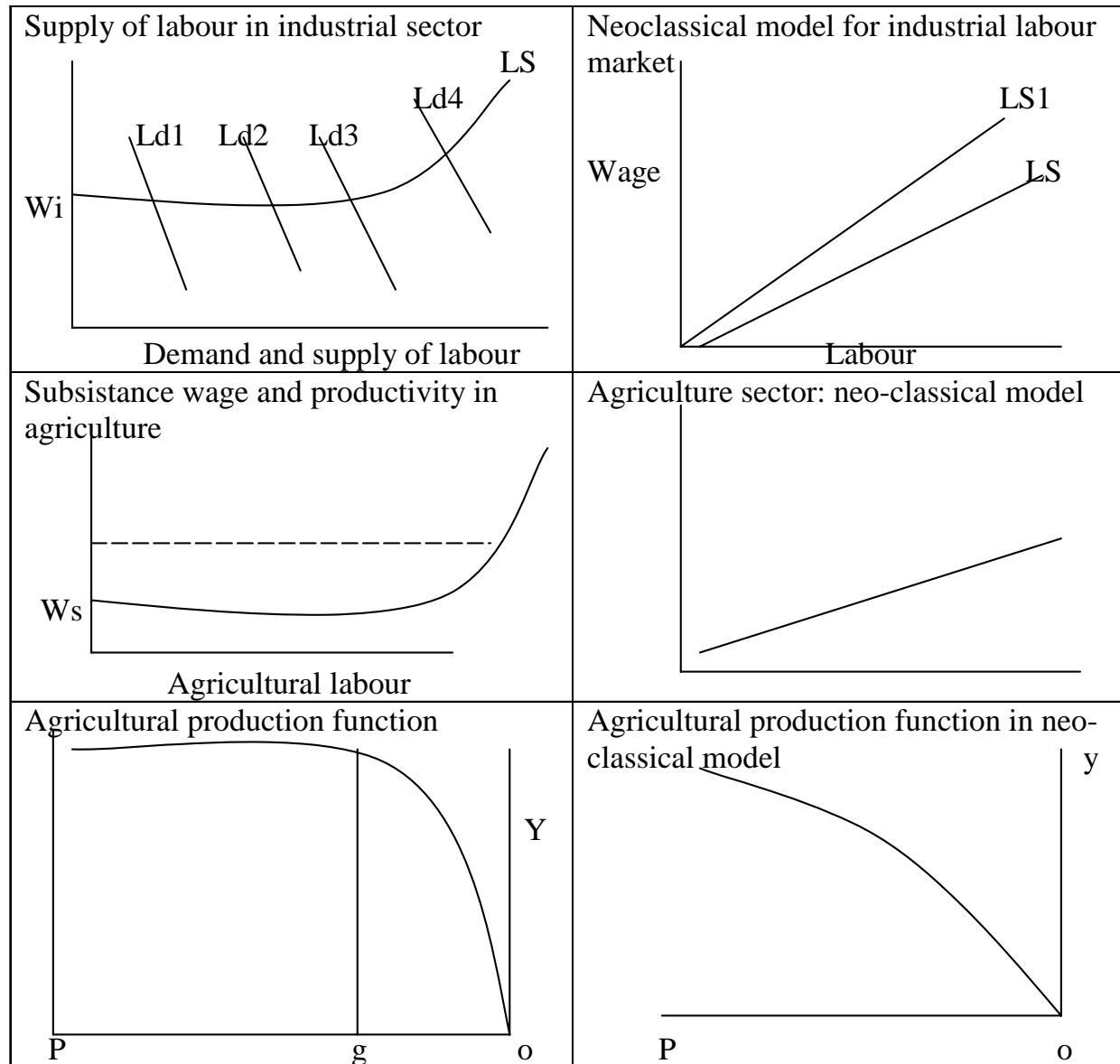
Structural unemployment is gradually declining in Europe in late 1990s for reasons such as:

- a) tighter benefit eligibility criteria
- b) “New Deal” type measure which makes work pay by carrot and stick policy
- c) use of information technology in creating vacancy databases which any job seeker can easily access using touchscreens in local labour market offices
- d) CV data banks where employer can access CVs of job applicants
- e) One-stop shop concept which bring different services required by a job seeker into a single place e) strengthening of Public employment services

Supply side: manpower planning approach to unemployment problem:

skill formation, New Deal – unemployment to work programmes.

Disguised Unemployment in Developing Economies: Lewis (1954)



References

- Akelof G A and Yellen J. L. (1985) A Near Rational Model of the Business Cycle with Wage and Price Inertia, *The Quarterly Journal of Economics*, v. 100, supplement, 823-838.
- Blanchard O.J. and Kiyotaki (1987) Monopolistic competition and the effects of aggregate demand, *American Economic Review*, 77: September, pp 647-66.
- Ball Laurence (1999) Aggregate Demand and Long-Run Unemployment, *Brookings Paper on Economic Activity*, 2.
- Blanchard O.J. and L.H. Summers (1986) Hysterisis and the European Unemployment Problem in S.Fischer ed. *Macroeconomic Annual*.
- Friedman, Milton, 1968: *The Role of Monetary Policy*, *AER*, vol. LVIII, March 1968, no.1.
- Hicks, J. R. (1937) Mr. Keynes and the "Classics"; A Suggested Interpretations, *Econometrica* 5: 1937.
- Holly S and M Weale (Eds.) *Econometric Modelling: Techniques and Applications*, pp.69-93, the Cambridge University Press, 2000.
- Layard R and S. Nickeel (1990) Is Unemployment Lower if Unions Bargain Over Employment?, *Quarterly Journal of Economics*, 3, 773-87.
- Lewis Arthur (1954) Economic Development with Unlimited Supply of Labour, *The Manchester School of Economics and Social Studies*, XXII No.2 May.
- Manning, Alan (1995) Development in Labour Market Theory and their implications for macroeconomic Policy, *Scottish Journal of Political Economy*, vol.42, no. 3, August 1995.
- Nickel Stephen (1990) Unemployment Survey, *Economic Journal*, June, pp 391-439.
- Nickell, S. (1990), "Inflation and the UK Labor Market," *Oxford Review of Economic Policy*; 6(4) Winter.
- Phelps, Edmund S. (1968), *Money-Wage Dynamics and Labor-market equilibrium*, *Journal of Political Economy*, vol. 76, pp. 678-710.
- Phelps E. S. and J.B. Taylor (1977) Stabilisation Powers of Monetary Policy under Rational Expectations, *Journal of Political Economy*, vol.85 no. 1, pp. 163-190.
- Phillips, A. W., (1958) The Relation Between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957, *Economica*, pp.283-299.
- Taylor J B (1972) Staggered Wage Setting in a Macro Model, *American Economic Review*, 62, pages 1-18.
- Yellen J. L (1984) Efficiency wage models of unemployment, *AEA papers and proceedings* vol.74 No.2, May, pp. 199-205.