

# THEORIES OF UNEMPLOYMENT (1)

## (Adnett ch.7.2)

### (NEO)CLASSICAL MODELS

- In a competitive labour market, wages and prices adjust in order to clear the market: **it is not possible to have involuntary unemployment** unless there are **distortions in the functioning of the labour market** (*Classical unemployment*):
  - Real wages too high and sticky (due to minimum wage legislation or union power or efficiency wages, or imperfect competition, or high adjustment costs)
  - Information imperfections which lead to misperceptions on prices and wages
  - Welfare benefits too generous (search models)
- **POLICY RECOMMENDATIONS:** let the market adjust. Reduce regulations and let real wages flexibility. Unregulated labour markets have a natural tendency to clear and involuntary unemployment will not persist in the long run.

# THEORIES OF UNEMPLOYMENT (2)

## KEYNESIAN MODELS

- There is involuntary unemployment due to *insufficiency of aggregate demand* and wages/prices stickiness (due to imperfect competition in all markets).
- Since wages and prices do not adjust quickly and completely, firms are constrained on the amount of output they can sell in the product market. When aggregate demand is low, firms hire little labour. Because of unemployment individuals have lower incomes and reduce consumption, further reducing aggregate demand.
- **POLICY RECOMMENDATIONS:** reducing wages may only aggravate the lack of aggregate demand. To reduce unemployment we have to increase demand through demand side policies (fiscal and monetary policies)
- **Question: Why wages are rigid?**

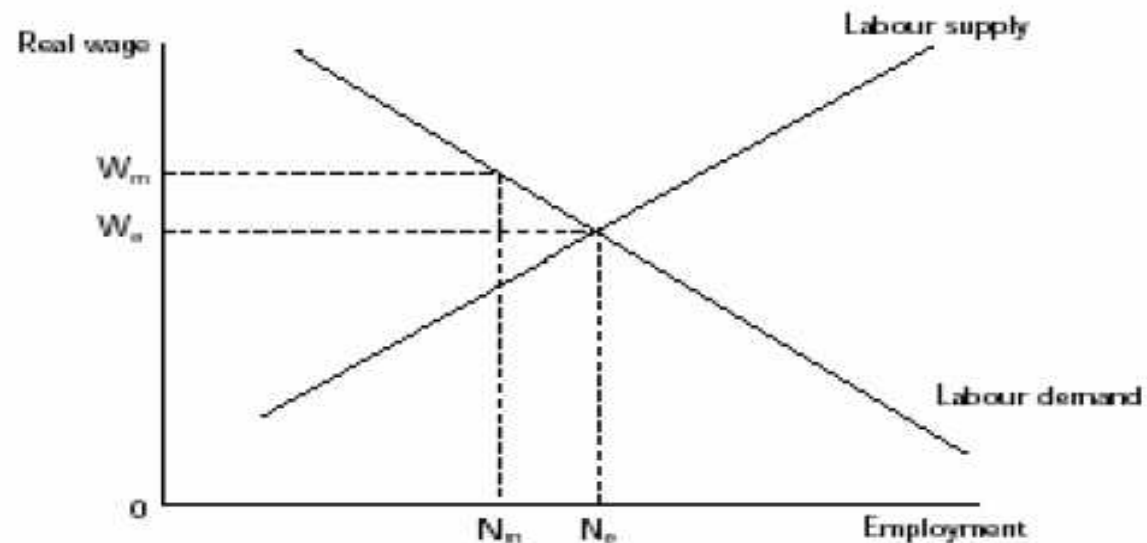
## WHY WAGES ARE RIGID?

- **Causes external to the firms:** minimum wages, union power, employment regulations determined by the actions of governments (regulation) and/or unions which introduce **distorsions** in the functioning of the labour market
- **Causes inside the firms:** employers action to increase productivity and effort from workers (efficiency wages), different degrees of risk aversion (implicit contracts)

# EXTERNAL CAUSES OF WAGE RIGIDITY/1 MINIMUM WAGES

## Effetti del $w$ minimo: la teoria

Minimum wages and employment in a competitive labour market



**Table 2.6. Estimated impact of the minimum wage on teenage employment<sup>a)</sup>**

Percentage point changes in teenage employment/population ratios

	Belgium	Canada	France	Greece	Japan	Netherlands	Portugal	Spain	United States
Actual change, 1975-1996	-14.5	-5.6	-18.5	-15.2	-4.7	0.5	-40.4	-34.5	0.3
Change explained by									
Minimum wage	1.1	1.1	-0.3	2.9	-0.5	2.1	-1.4	1.6	1.2
Other factors	-16.9	-4.7	-17.7	-17.4	-3.3	2.1	-34.3	-35.7	-1.7
Residual	1.2	-2.1	-0.5	-0.7	-0.9	-3.7	-4.6	-0.4	0.7

a) The estimated contribution of changes in the minimum-wage ratio to changes in the teenage employment/population ratio is based on the regression results reported for the linear specification in Column 3 of Table 2.5. Teenagers refer to persons aged 16 to 19 in Spain and the United States, and 15 to 19 in the other countries.

Sources: Secretariat estimates. See Table 2.5 and Annex 2.C for further details on estimation methodology and data sources.

Fonte: OECD

## External causes of wage rigidity/2

**UNION POWER:** Unions increase the bargaining power of workers.

- There is a **wage setting curve above the individual labour supply curve.**
- The slope of the wage offer curve reflects the relative bargaining strength of unions, which increases as employment increases. The market clearing real wage is higher than in the competitive case, employment is lower and there involuntary unemployment.
- Unions end up representing the employed (insiders), not the unemployed (outsiders), especially when bargaining at the industry level.

# External causes of wage rigidity/3

## 3. EMPLOYMENT REGULATION

- If employment regulation limits dismissals, the costs of labour (adjustment costs) perceived by the firm increases and they are more reluctant to hire in good times, because they worry about the consequences in bad times.
- Moreover employed workers are less likely to be dismissed and increase their bargaining power. They may ask for higher wages without fearing to lose their job and, again, there is a **wage setting curve** above the individual labour supply one.

## 4. IMPERFECT COMPETITION IN THE PRODUCT MARKETS:

firms have the power to define prices and impose a mark up over production costs and their *price setting curve* is below the labour demand curve in perfect competition. In addition they may share the rents due to non competition with their workers.

# Internal causes of wage rigidity (1)

## 1. EFFICIENCY WAGES

Firms are willing to pay wages higher than the equilibrium ones, in order to improve workers' productivity, for example by:

- Attracting the best applicants and keeping them (turnover models)
- Maintaining high the workers' morale and involvement in the firm
- Avoid shirking

There is a **wage setting curve** above the labour supply one, the equilibrium real wage is higher than in the competitive model, employment lower and unemployment higher.



## Internal causes of wage rigidity (2)

### 2. IMPLICIT CONTRACTS

- Employees are more risk averse than employers. Employers offer an implicit contract to workers which includes a wage-employment package lasting some years where the variability of wages is minimised: the employer provides an “insurance” against wage declines.
- With these contracts real wages are more stable: they do not decline during recessions, while employment is more variable than in competitive markets.

# Equilibrium in non competitive markets:the NAIRU(1)

**The Nairu** model summarises the different cases considered before.

It considers the possibility of imperfect competition in the labour market and product markets.

In most economies there is imperfect competition: collective bargaining set wages, firms set prices. In these economies the relevant curves are:

- the *wage setting curve* ( $W_s$ ), which is *above* the  $L_s$  and reflects the bargaining power of unions (or workers)
- the *price setting curve* ( $P_s$ ), which is *below* the  $L_d$  curve, and reflects the market power of firms over prices.

# Labour demand in the NARU model

- Firms fix prices as a mark up over production costs; on this basis they derive the real wages they are willing to pay at each level of employment.
- The labour demand function is a **price setting** function (**PS**) which derives from the price function:

$$P = (W/a + a_m P_m) (1+m)$$

hence:

$$PS = W^s/P = a[ 1/(1+m) - a_m P_m/P]$$

where: **a** = labour productivity  $Q/L$  (assumed constant); **W/a** = labour costs per unit of production

**a<sub>m</sub> P<sub>m</sub>** = costs of other factors (i.e. raw materials) per unit of production

**m** = mark up

Its **position** depends on technology, labour productivity and the costs of other production factors, the level of the mark up;

Its **slope** reflect how the mark up is set.

# Labour supply in the NAIRU model

- The **labour supply** function is represented by a **wage setting function (WS)** given by the real wages demanded by workers and their unions at each level of employment. It reflects their bargaining power.
- **WS shifts upward if:**
  - the labour productivity (**a**) increases
  - other factors (**z**) which increase the bargaining power of unions/workers: such as the bargaining system, the employment protection regulations, unemployment and welfare benefits, taxation etc.)
- Its slope is positive because the real wage demanded (workers bargaining power) increases with employment (**L**)

$$\mathbf{WS} = \mathbf{W}^d / \mathbf{P} = \mathbf{w} (\mathbf{a}, \mathbf{L}, \mathbf{z})$$

# THE NAIRU (2)

If claims over output by firms and workers (unions) are conflicting, each party uses its market power to raise prices or nominal wages in an attempt to realise its claim. The result is rising inflation.

In the short run, the only way to reduce inflation is to increase unemployment.

- In these economies the NAIRU (non accelerating inflation unemployment rate) is the long run equilibrium rate of unemployment at which the competing claims on output by firms and workers are reconciled and inflation is constant. It is set where the wage setting and the price setting curve intersect.
- The NAIRU changes if one or both these curves shift.
  - The *WS* curve may shift due to changes in union power, employment protection regulation, unemployment benefits, mismatches, demographic changes, etc.,
  - the *PS* may shift due to technology or productivity changes, factor prices, firms market power, terms of trade, etc.
- In the **short run** the unemployment rate may diverge from the NAIRU due to *demand (macroeconomic policis)*, but in the **medium/long term** the economy returns to the NAIRU as inflation stabilises.

# Policy Implications

- The NAIRU is a long run equilibrium rate of unemployment which only depends on structural supply factors. Hence the policy conclusions are similar to the classical model (it is a neoclassical model).
- Since in the long run the NAIRU is determined only by supply factors, only structural policies acting on the labour and the product markets may affect the NAIRU
- Macroeconomic policies which affect aggregate demand are not effective in the long run, they only affect the short run (cyclical) unemployment rate, but not the long run structural unemployment rate (NAIRU)
- In the short run it is possible to reduce the unemployment rate with macroeconomic policies, but only accepting higher inflation.

# Hysteresis models

- These are alternative models to the NAIRU which reintroduce the role of macroeconomic policies in affecting unemployment also in the long run (neo Keynesian models).
- The hypothesis is that an increase in short run unemployment may affect the long run unemployment rate when it **persists** for a long time, due to labour market rigidities and the slowness of the adjustment mechanisms determined by:
  - Trade unions representing only employed workers (insiders): insiders gain bargaining power when employment is low and increase their wage demands, thus not allowing a reduction in unemployment;
  - Unemployment composed mainly by the *long term unemployed* which are discouraged and do not actively seek work, thus not competing in the labour market
  - The *long term unemployed become obsolete* and loose their working capacity, firms do not want to hire them and they do not compete with employed workers in the labour market
  - **In these conditions macroeconomic policies may have long run effects on the unemployment rate.**
- In *full hysteresis models*, there is no equilibrium unemployment in the long run, but unemployment always reflects past unemployment rates.