

UNIT 16

TECHNOLOGICAL PROGRESS, EMPLOYMENT, AND LIVING STANDARDS IN THE LONG RUN

Robot waiters

THEMES AND CAPSTONE UNITS

≡ ● [History, instability, and growth](#)

≡ ● [Global economy](#)

≡ ● [Inequality](#)

≡ ● [Innovation](#)

≡ ● [Politics and policy](#)

How long-term trends and differences in living standards and unemployment + between countries are the result of technological progress, institutions, and policies

16.1 Technological progress and living standards ● ● +

16.2 The job creation and destruction process ● ● ● +

16.3 Job flows, worker flows, and the Beveridge curve ● +

16.4 Investment, firm entry, and the price-setting curve in the long run ● +

16.5 New technology, wages, and unemployment in the long run ● ● ● +


16.6 Technological change and income inequality ● ● +

16.7 How long does it take for labour markets to adjust to shocks? ● ● ● +

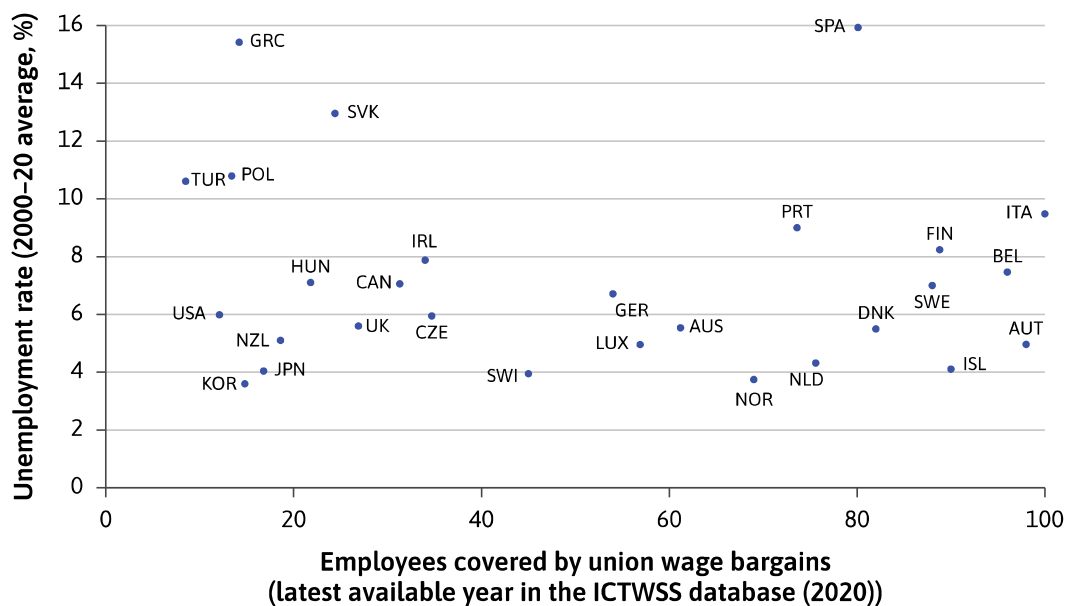
16.8 Institutions and policies: Why do some countries do better than others? +
● ● ● ● ●

16.9 Technological change, labour markets, and trade unions -

● History, instability, and growth ● Global economy ● Inequality
● Innovation ● Politics and policy

 Policies and institutions make a difference. The models shed light on the experience of some of the best and worst performers. We take three countries as examples: Norway and Japan as good performers, and Spain as a poor performer.

In Norway and Spain, unions are important, but not in Japan. In Norway, more than half of all wage and salary workers are trade union members, and union wage deals affect most workers in the economy. In Spain, although union wage deals are important for the entire economy, less than one-fifth of Spanish workers are in unions.



FULLSCREEN

Figure 16.14 Union wage bargaining coverage and unemployment across the OECD (2000–2020).

[View interactive graph](#)

OECD. 2021. [OECD Statistics](#). Labour force statistics. OECD and Amsterdam Institute for Advanced Labour Studies (AIAS). 2021. [‘Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts’](#) OECD Publishing. Paris.

Figure 16.14 provides information on the importance of union wage deals and unemployment. On the horizontal axis, we plot the percentage of employees whose wages are determined by union wage deals. As you can see, in some European countries, union wage deals cover almost all employees. And in the set of countries with coverage of more than 80%, unemployment rates range from less than 4% (Iceland) to 16% (Spain). Figure 16.14 suggests that there is no tendency for unemployment to be higher in countries in which unions are more influential in wage-setting. Low unemployment is found in countries extending across the whole range of union strength. Compare South Korea and the Netherlands, Japan and Austria, or the US and Sweden.

Just as the employer does not offer the lowest wage possible, most unions do not seek the highest wage they could win in bargaining. Employers offer wages above the minimum because they cannot control how hard the worker works. Unions do not bargain for the maximum wage possible (the wage that would leave none of the pie for the owners) because unions cannot control the firm’s decisions about hiring, firing, and investment, and higher wages may reduce employment by reducing the firm’s profits.

A union organized across many firms and sectors will not exploit all the bargaining power it possesses. It knows that large wage gains will lead to:

- *In the **medium run***: Restrictive aggregate demand policies, as the government and central bank seek to keep inflation close to target (as we saw in Unit 15).
- *In the **long run***: The exit of firms and a smaller stock of capital goods, which will slow the rate of productivity growth.

Unions that act this way are called **inclusive trade unions**. Non-inclusive unions may bargain for high wages in their own corner of the economy without regard for the effects on other firms or workers, both employed and unemployed. Employers' associations that take account of the interests of all businesses, including those that might enter an industry and compete with its incumbent firms, are called inclusive business or employers' associations. When unions and businesses act in an inclusive manner there is also more likely to be a positive union voice effect. As discussed in Unit 9, this lowers the disutility of work, helping to push down the wage-setting curve.

The Nordic case: Inclusive unions and employers' associations

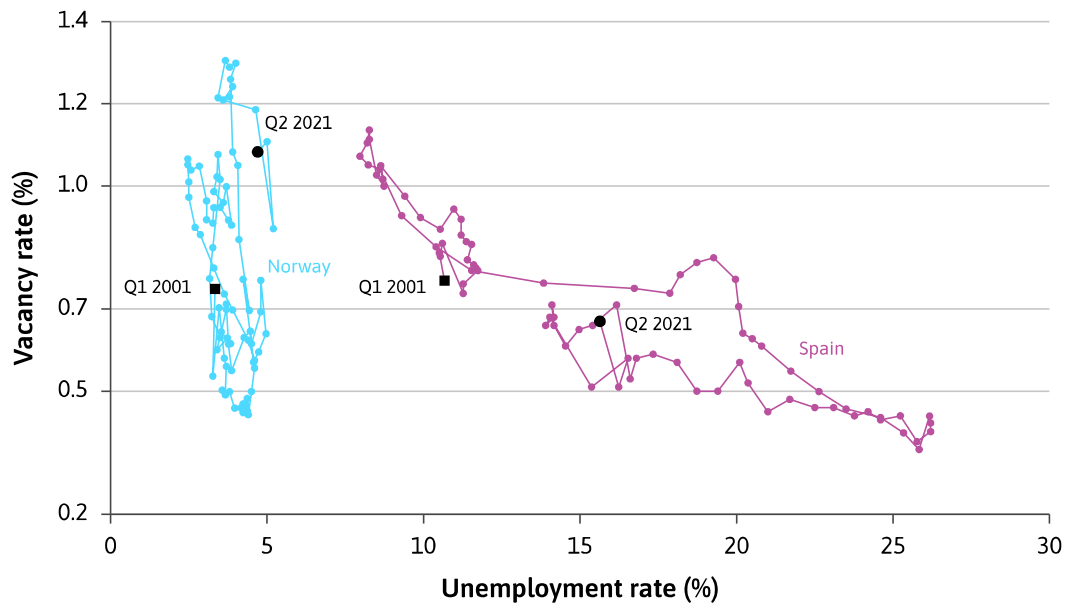
LINK

This inclusive behaviour is exactly what the trade unions and employers' associations of Norway (as well as in the other Nordic countries) did over this period: their centralized wage bargaining insisted on a common wage for a given kind of labour, depriving low-productivity firms of access to inexpensive labour and driving many of them out of business. As workers were quickly redeployed to employment in more productive firms, the main impact was to raise average labour productivity, pushing up the price-setting curve and allowing higher wages.

Inclusive trade unions also support generous income floors and high-quality publicly provided healthcare, occupational retraining, and educational services—all of which reduce the risk to which most individuals are exposed. This has the effect of making the creative destruction of technological change less destructive for people's personal lives and allows them to be generally more open to change and to risk-taking. Both of these attributes are essential for a technologically dynamic society. ¹²

These so-called 'active labour market policies' improve the matching process between workers looking for work and job vacancies available for workers. A result is that workers whose jobs are eliminated (for example, by the failure of low-productivity firms under the pressure of centrally bargained uniform wages) can find an alternative job more quickly. The result is a Beveridge curve closer to the origin, superior to both

the German and US Beveridge curves (shown in Figure 16.6). It is far inside that of Spain, as we see in Figure 16.15.



FULLSCREEN

Figure 16.15 Beveridge curves for Spain and Norway (2001 Q1 – 2021 Q2).

OECD Employment Outlook: OECD, 2021. [OECD Statistics](#).

An inclusive union knows that the economy has to respect the two major incentive problems of a capitalist economy: providing incentives for workers to work and for employers to invest. In some cases—for example, in Sweden with its highly centralized trade union federation—trade union leaders knew and persuaded their members that in the long run, pushing down the wage-setting curve will increase employment and will not reduce wages.

As a result, the inclusive unions of the Nordic countries (Norway, Sweden, Finland, and Denmark) set their wage demands in accordance with the productivity of labour. When it rose they demanded a fair share. They had bargaining power from low unemployment, high membership, and their ability to implement wage agreements across the economy, but they did not use this power to push the wage-setting curve up unless it was warranted by productivity growth. These unions also supported legislation and policies that make working less onerous, shifting downward the wage-setting curve, and further expanding long-run employment.

The Japanese case: Inclusive employers' associations [LINK](#)

In contrast to the Nordic countries, Japanese unions are weak, but workers are well organized in the large companies. Employers' associations are strong and work to coordinate wage-setting among the large firms. These associations therefore operate in a similar way to the unions in Norway: the impact of wage decisions on the economy as a whole is taken into account when wages are set. Specifically, the corporations deliberately do not compete in hiring workers, so as to avoid raising wages.

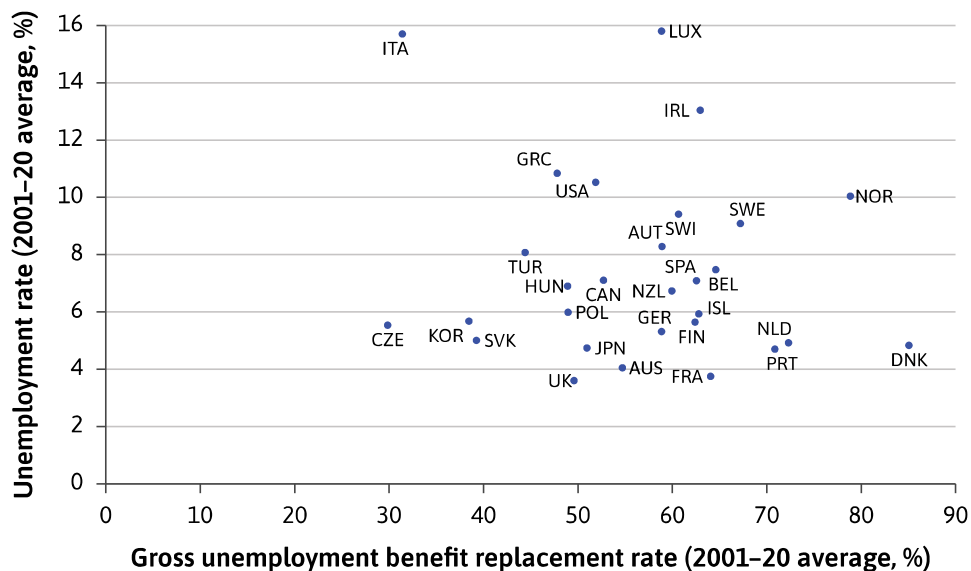
The Spanish case: Non-inclusive unions [LINK](#)

Unions protect jobs in Spain, supported by government policy. Wage-setters in Spain are strong enough to wield power, but are not inclusive. A combination of non-inclusive unions and supportive government legislation that protects jobs may help to account for the poor performance of the Spanish labour market.

Based on the model, we would predict high unemployment in Spain, and low unemployment in Norway and Japan. And that is what we see in the data.

Unemployment benefits and unemployment [LINK](#)

The employment-enhancing effects of inclusive trade union and government co-insurance policies may help to explain an apparent anomaly: countries with generous unemployment benefits do not have higher rates of unemployment (see Figure 16.16).



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Figure 16.16 Unemployment benefit generosity and unemployment rates across the OECD (2001–2020).

[View interactive graph](#)

OECD. 2021. [OECD Statistics](#).

This is anomalous, because in our model an increase in the unemployment benefit would, *ceteris paribus*, reduce the workers' cost of job loss, and shift the wage-setting curve up.

The contrast between unemployment rates and benefits in the Netherlands and Italy illustrates the point. An unemployed person gets a benefit of over 70% of previous gross earnings in the Netherlands, and unemployment is low; in contrast, benefits in Italy offer a 30% **gross replacement rate**, and unemployment is much higher than in the Netherlands. The implication is that countries that are able to implement generous but well-designed unemployment insurance schemes, coordinated with job placement services and other active labour market policies, can achieve low rates of unemployment. Providing people with opportunities to smooth consumption may make them readier to embrace new technology, which will shift the price-setting curve upward.

EXERCISE 16.7 UNEMPLOYMENT RATES AND LABOUR

MARKET INSTITUTIONS [LINK](#)

Some people have argued that high unemployment in some European countries relative to the US during the 1990s and 2000s was due to the existence of rigid labour market

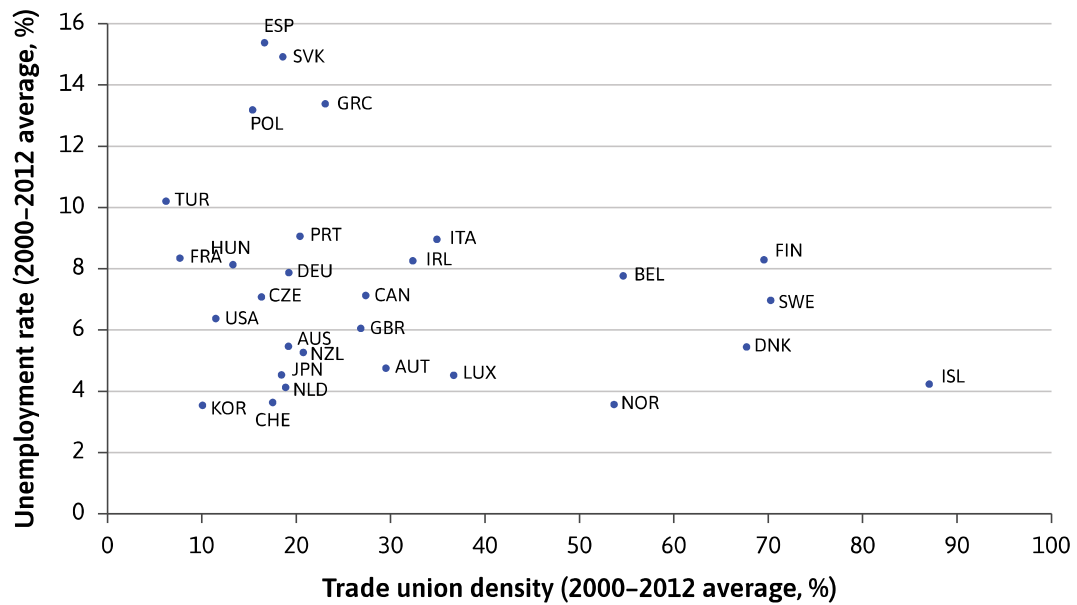
institutions (for example, powerful unions, generous unemployment benefits, and strong employment protection legislation). ¹³

1. Using [Figure 16.1](#), check if the unemployment rate has always been higher in most European countries compared to the US.
2. From what you have learned from this section, and by looking at Figures 16.1, [16.14](#), and [16.16](#), evaluate the claim that high unemployment in Europe was due to the existence of rigid labour market institutions.

QUESTION 16.10 CHOOSE THE CORRECT ANSWER(S)

[LINK](#)

The following is a plot of unemployment rate and trade union density for the period 2000–2012. Trade union density is defined as the fraction of employees who are union members.



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Country	Unemployment (%)	Trade union density (%)
AUS	5.5	19.2
AUT	4.8	29.5
BEL	7.8	54.6
CAN	7.1	27.4
CZE	7.1	16.3
DNK	5.4	67.7
FIN	8.3	69.5
FRA	8.3	7.7
DEU	7.9	19.2
GRC	13.4	23.1
HUN	8.1	13.3
ISL	4.2	87.1
IRL	8.3	32.4
ITA	9.0	34.9
JPN	4.5	18.4
KOR	3.5	10.1
LUX	4.5	36.7
NLD	4.1	18.9
NZL	5.3	20.7
NOR	3.6	53.7
POL	13.2	15.4
PRT	9.1	20.4
SVK	14.9	18.6
ESP	15.4	16.6
SWE	7.0	70.3
CHE	3.6	17.5

Country	Unemployment (%)	Trade union density (%)
TUR	10.2	6.2
GBR	6.1	26.8
USA	6.4	11.5

Based on this information, which of the following statements is correct?

- High trade union density is a necessary condition for a low unemployment rate.
- Low trade union density results in high unemployment.
- Considering only the Nordic countries (Norway, Denmark, Sweden, and Finland), it can be concluded that high trade union density leads to a low unemployment rate.
- Given the trade union density, the relative unemployment outcomes indicate that inclusiveness of trade unions is higher in Norway than in Belgium.

[Check my answers](#)

16.10 Changes in institutions and policies ● ● +

16.11 Slower productivity growth in services, and the changing nature of work ● ● ● +

16.12 Wages and unemployment in the long run ● ● +

16.13 Conclusion +

16.14 References +