

Lecture 3: Intermediate macroeconomics, spring 2016

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Literature: *Mankiw, chapter 7.*

Topics

- **Causes of unemployment**
- **Unemployment and labour market flows**
- **Current labour market developments**
- **Refugee migration and unemployment**
- **Real wage rigidity**
- **Minimum wages**
- **Efficiency wages**
- **Collective agreements and trade unions**
- **Swedish labour market reforms**

Determinants of growth

- **Long run (20-30 years)**
 - **Total factor productivity growth**
 - **Capital stock growth**
- **Short run (year to year)**
 - **Aggregate demand and degree of resource utilisation**
- **Medium term (5-10 years)**
 - **Functioning of the labour market and equilibrium (structural) employment**

Causes of unemployment

1. Insufficient demand – the Keynesian view

- **cyclical unemployment**

2. A badly functioning labour market – the neoclassical view

- **equilibrium rate of unemployment: rate of unemployment around which the economy fluctuates**
- **natural rate of unemployment**
- **NAIRU (non-accelerating inflation rate of unemployment), i.e. the unemployment rate consistent with stable inflation**
- **structural unemployment**
- **frictional unemployment (caused by the time it takes for workers to find a new job)**

Figure 7-1: The unemployment rate and the natural rate of unemployment in the United States

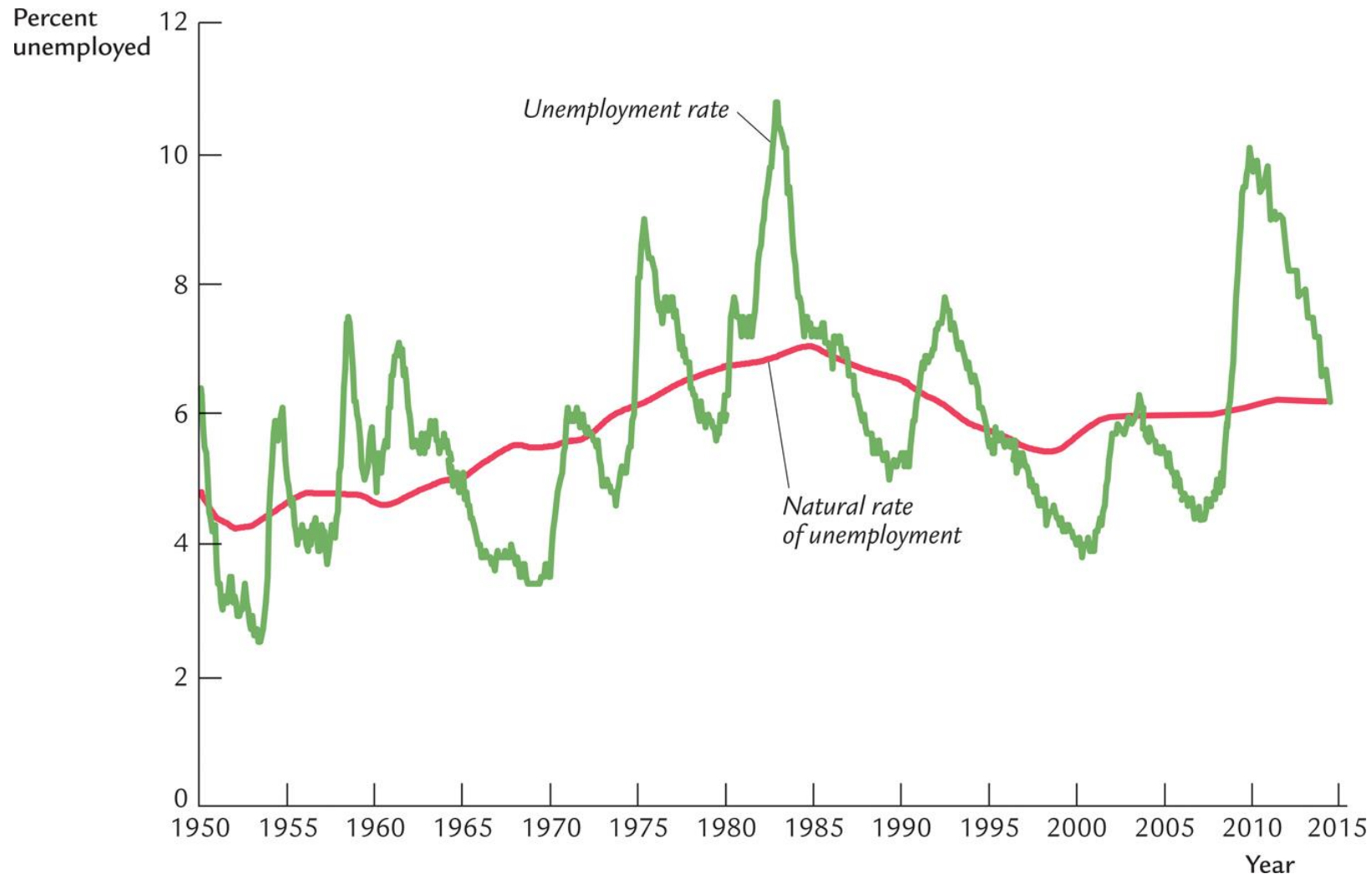
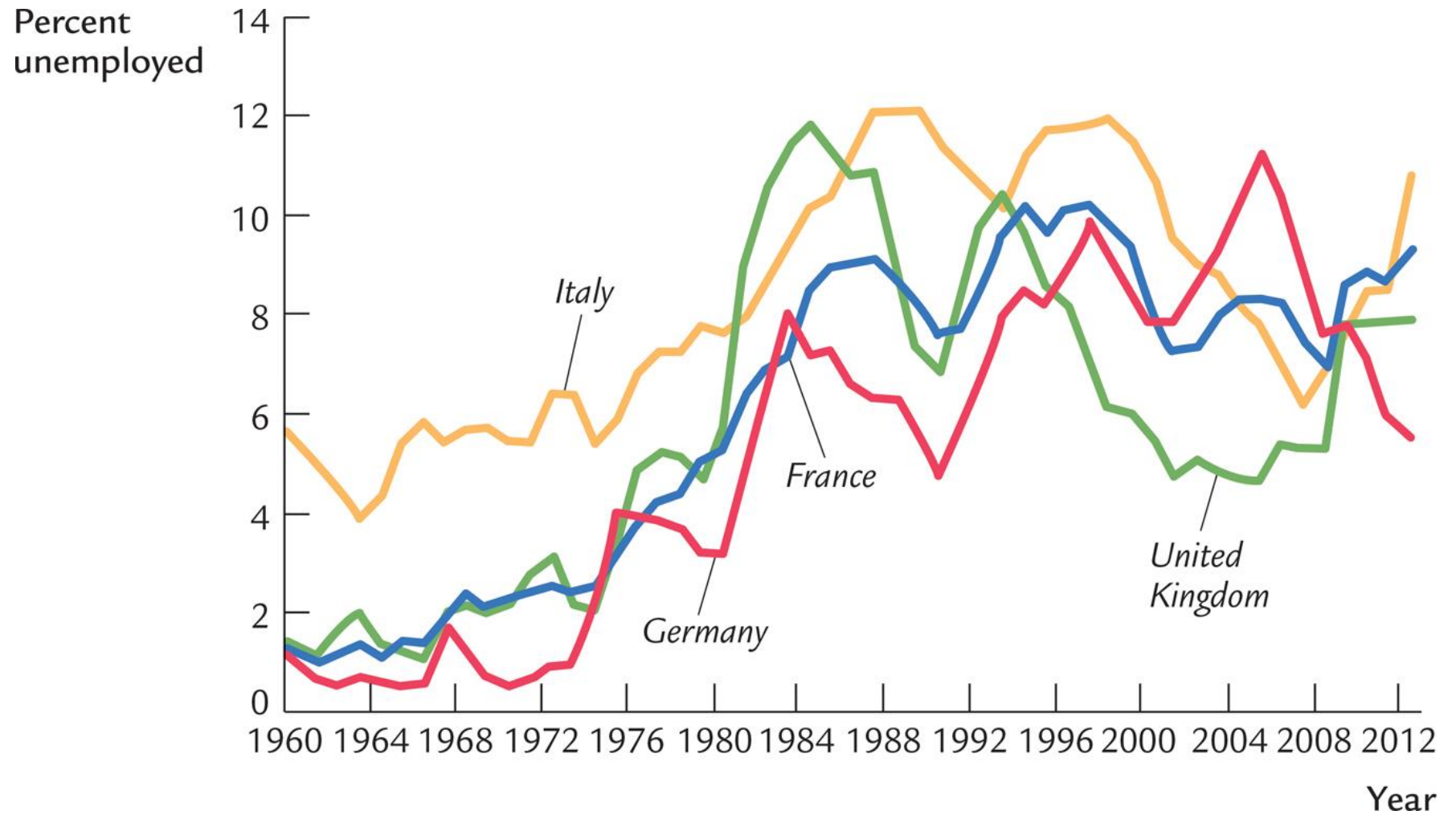


Figure 7-6: Unemployment in Europe



Actual and equilibrium unemployment in Sweden

Arbetslösheten faller ner mot jämvikt 2017

Procent av arbetskraften, säsongrensade kvartalsvärden

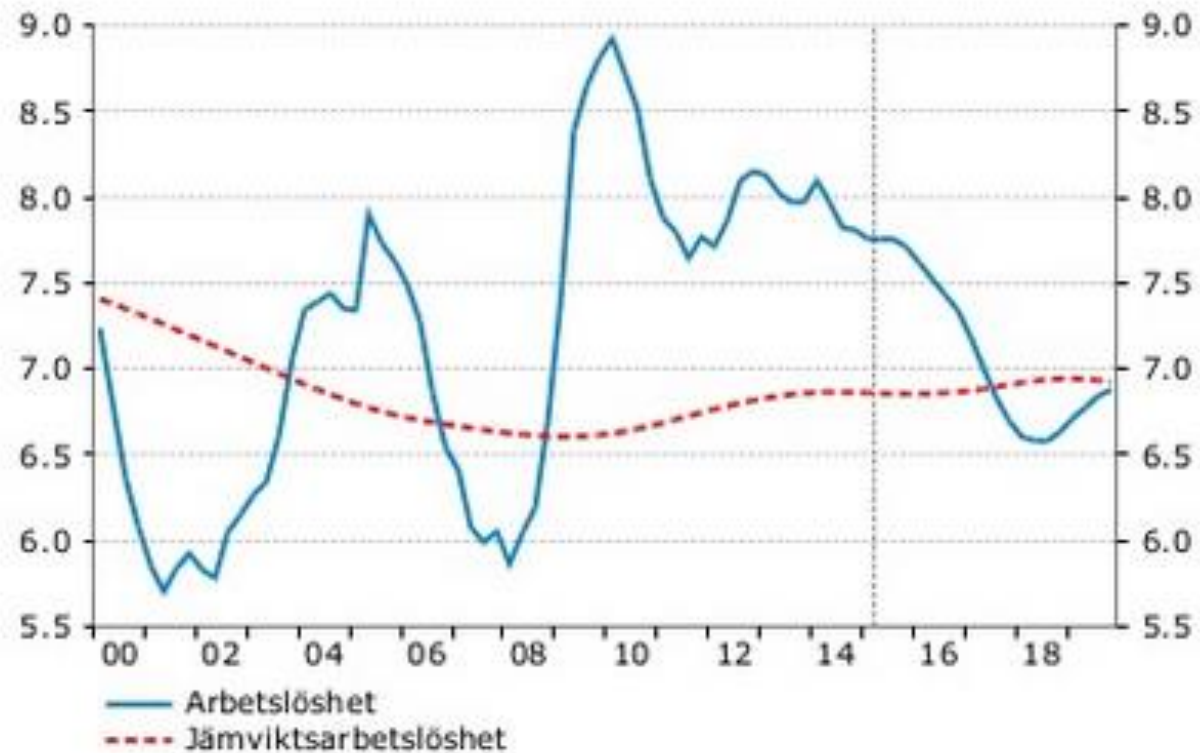


Figure 1.7 EEAG report 2015

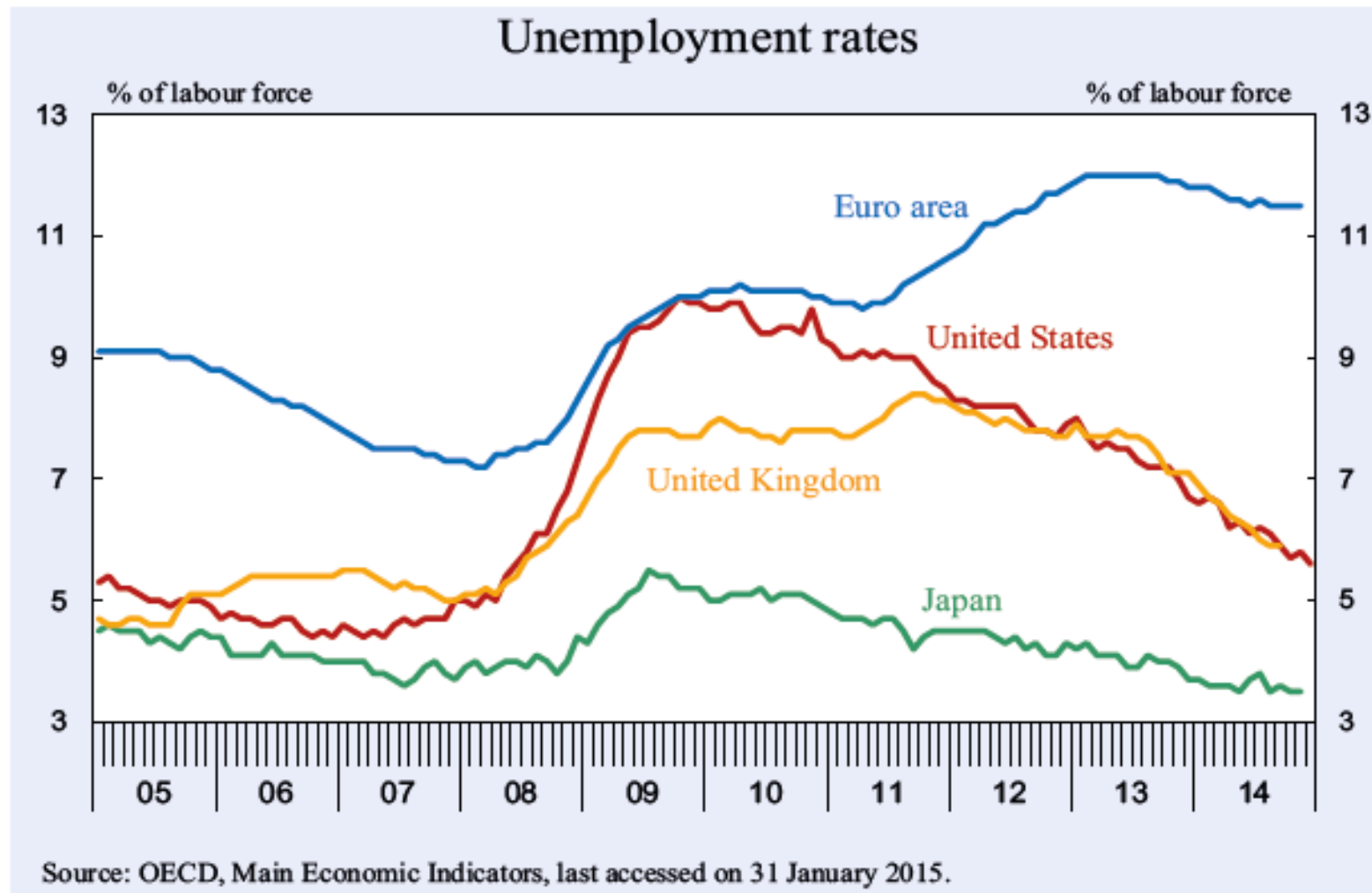
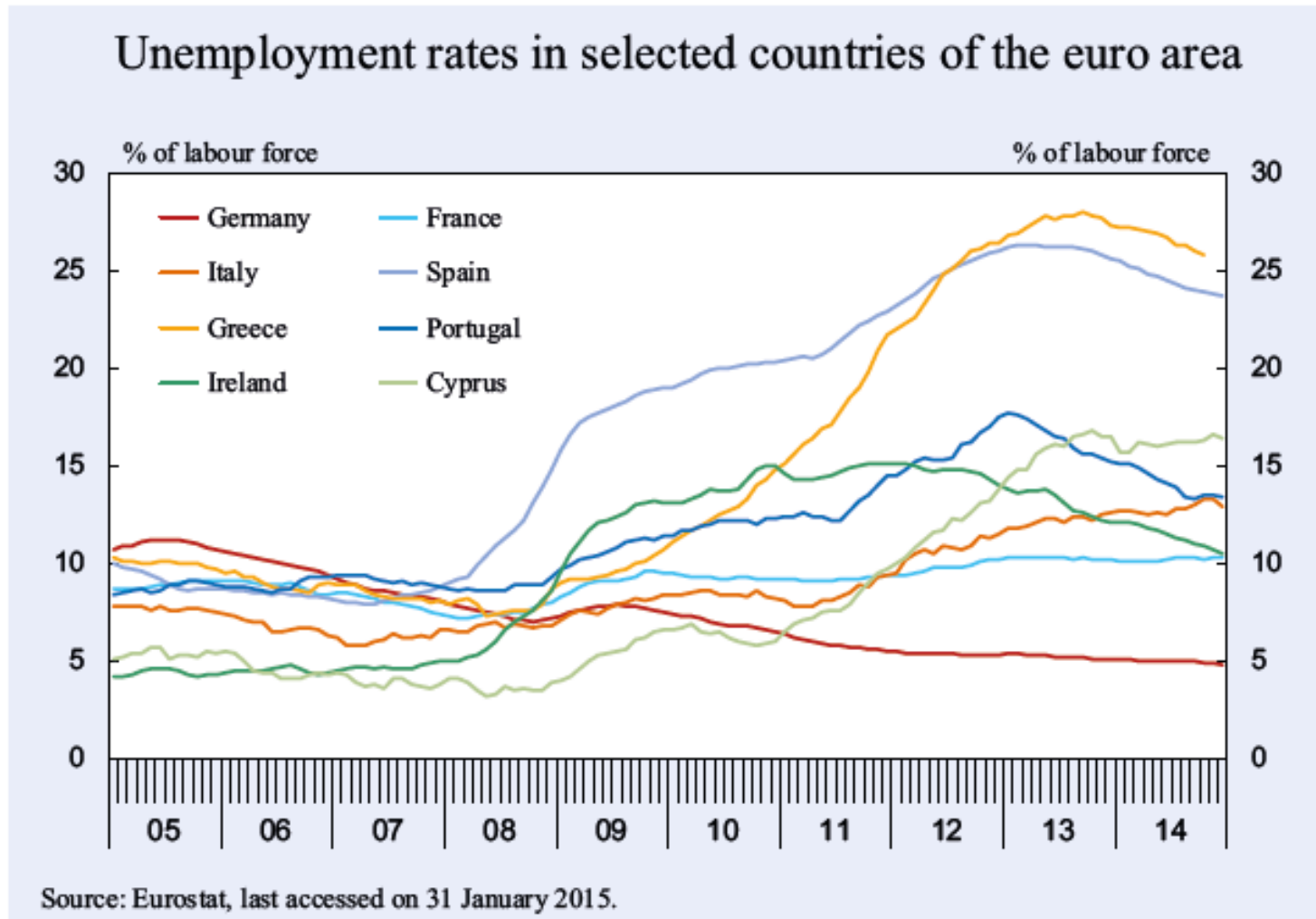
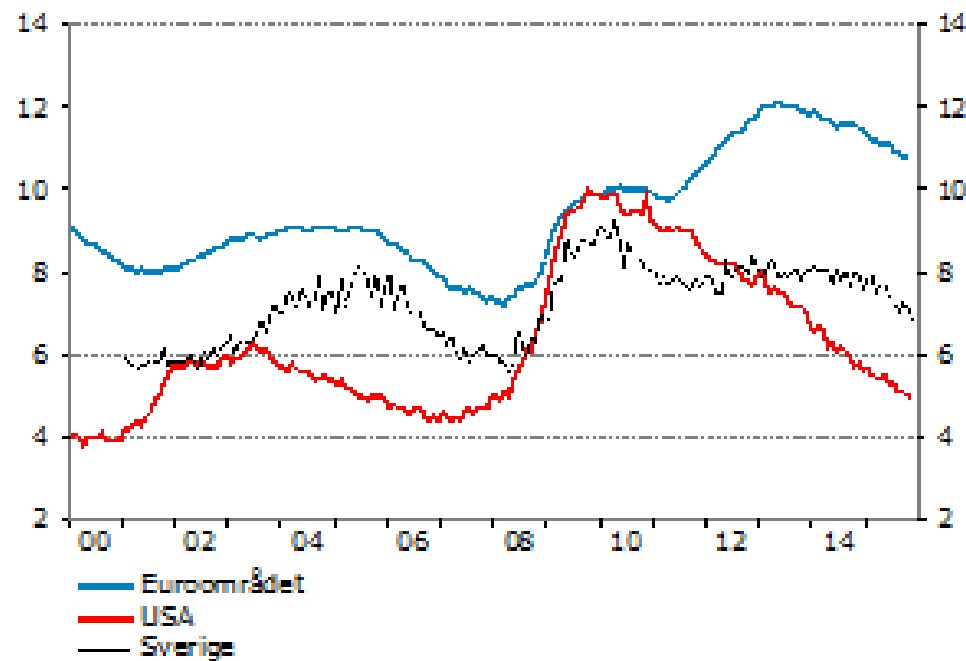


Figure 1.13 EEAG report 2015



Unemployment in the Euro area, the US and Sweden

Arbetslöshet, procent av arbetskraften,
säsongrensade månadsvärden



Models of the labour market

- 1. Search models: labour market flows.**
- 2. Models of structural unemployment and real wage rigidity.**

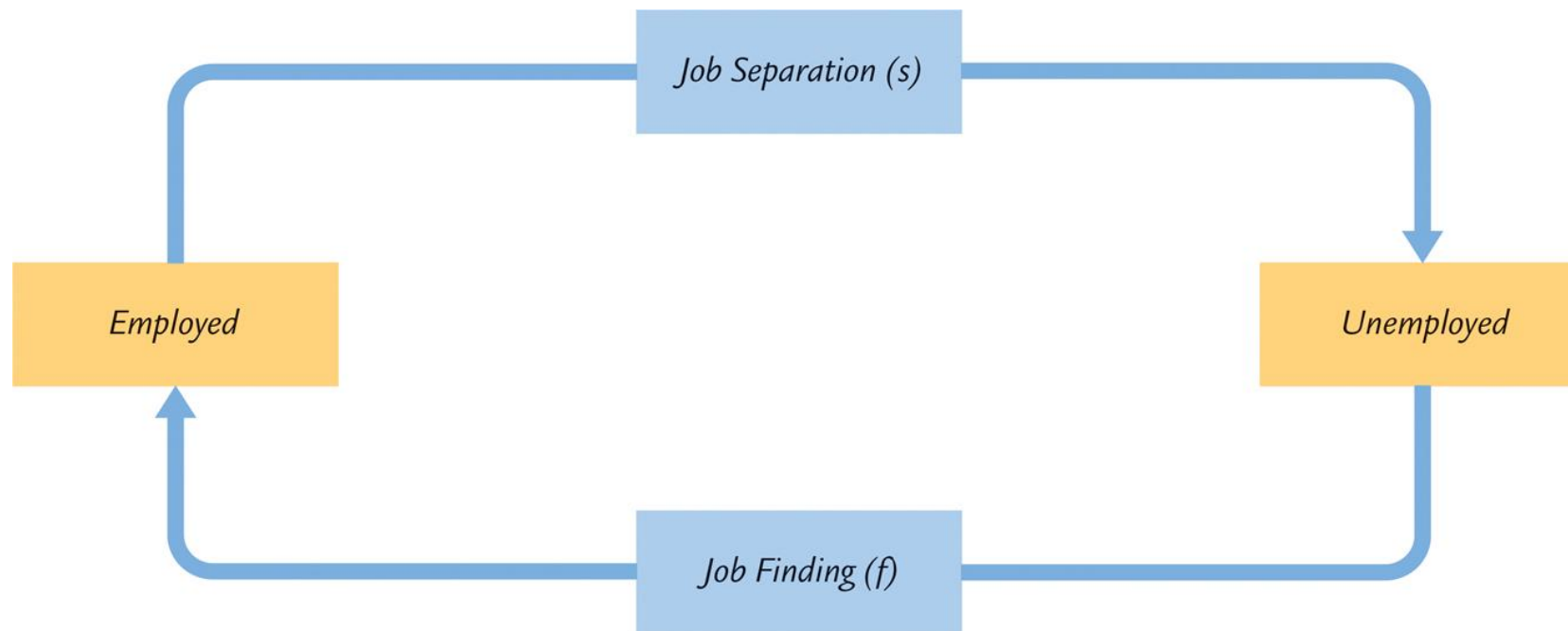
Causes of real wage rigidity:

- **Minimum-wage laws**
- **Labour unions**
- **Efficiency wages**

Search models of the labour market

- **Labour-force dynamics**
- **Workers who are separated from their jobs search for a new position**
- **Job search typically takes time and causes frictional unemployment**
- **Unemployment may be voluntary**

Figure 7-2: The transitions between employment and unemployment



Unemployment and labour market flows

U = the number of unemployed

E = the number of employed

L = labour force

s = probability of separation (the fraction of the employed separated from their jobs)

f = probability of job finding (the fraction of the unemployed who find a job)

Steady state

Constant employment and constant unemployment from period to period.

Inflow into employment = Outflow from employment

Outflow from unemployment = Inflow into unemployment

$$fU = sE$$

$$f \cdot U = s \cdot (L - U)$$

$$f \cdot U/L = s \cdot (1 - U/L)$$

$$U/L = s/(s + f)$$

Steady state, cont.

**Unemployment rate = probability of separation/
(probability of separation + probability of job finding)**

$$U/L = s/(s + f)$$

$$s = 0,01, f = 0,20 \Rightarrow U/L = 0,01/0,21 \approx 0,05$$

**Unemployment rises if the outflow from
employment (s) increases or the outflow from
unemployment (f) decreases**

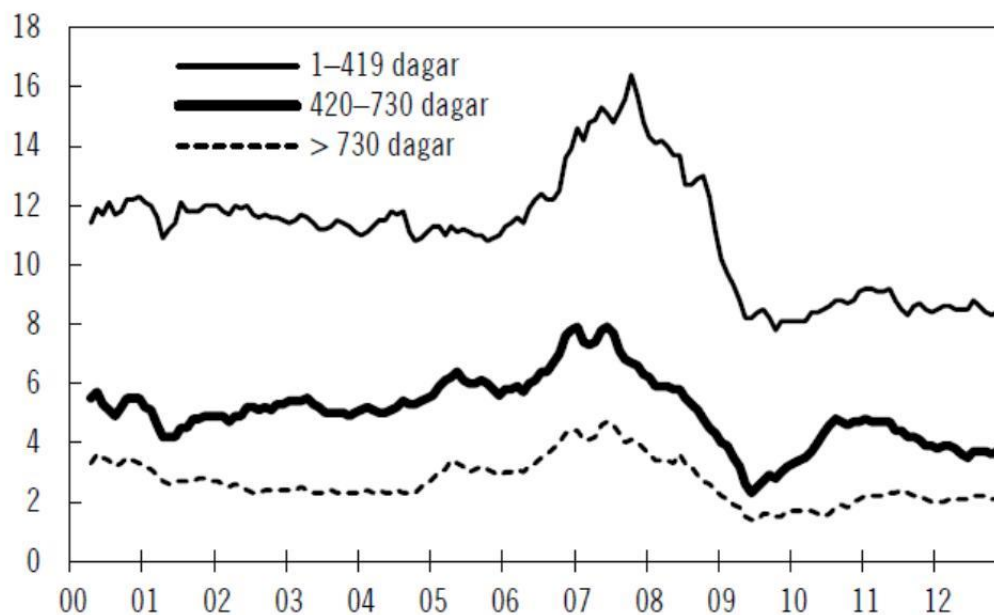
$$s = 0,02, f = 0,20 \Rightarrow U/L = 0,02/0,22 \approx 0,09$$

$$s = 0,01, f = 0,10 \Rightarrow U/L = 0,01/0,11 \approx 0,09$$

**f could fall because the fraction of long-term
unemployed increases and because their job finding
probability is lower than that of short-term
unemployed
– persistence (hysteresis)**

Diagram 10.10 Jobbchanser fördelat på inskrivningstid vid Arbetsförmedlingen

Procent



Anm.: Diagrammet visar antalet personer som har fått ett osubventionerat arbete aktuell månad som andel av antalet kvarstående arbetslösa och deltagare i program med aktivitetsstöd närmast föregående månad. Avser åldersgruppen 16–64 år.

Säsongrensad data, tre månaders glidande medelvärde.

Källa: Arbetsförmedlingen.

Why are job-finding rates lower for the long-term unemployed

- **Discouraged worker effect**
- **Lower productivity because of cumulative loss of human capital during period of unemployment**
- **Statistical discrimination on the part of employers (on average the long-term unemployed are less productive)**

Figure 7-4: The median duration of employment

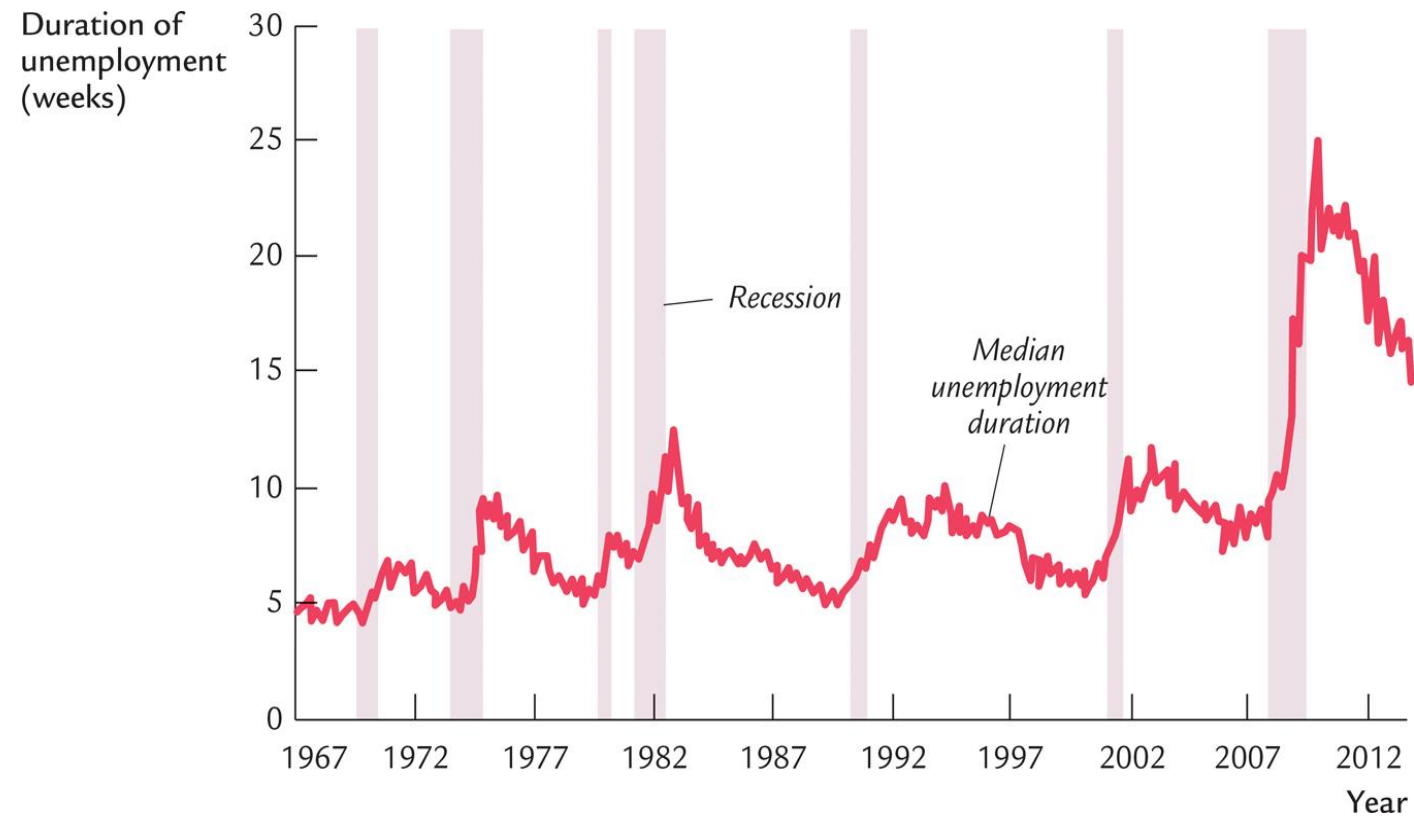
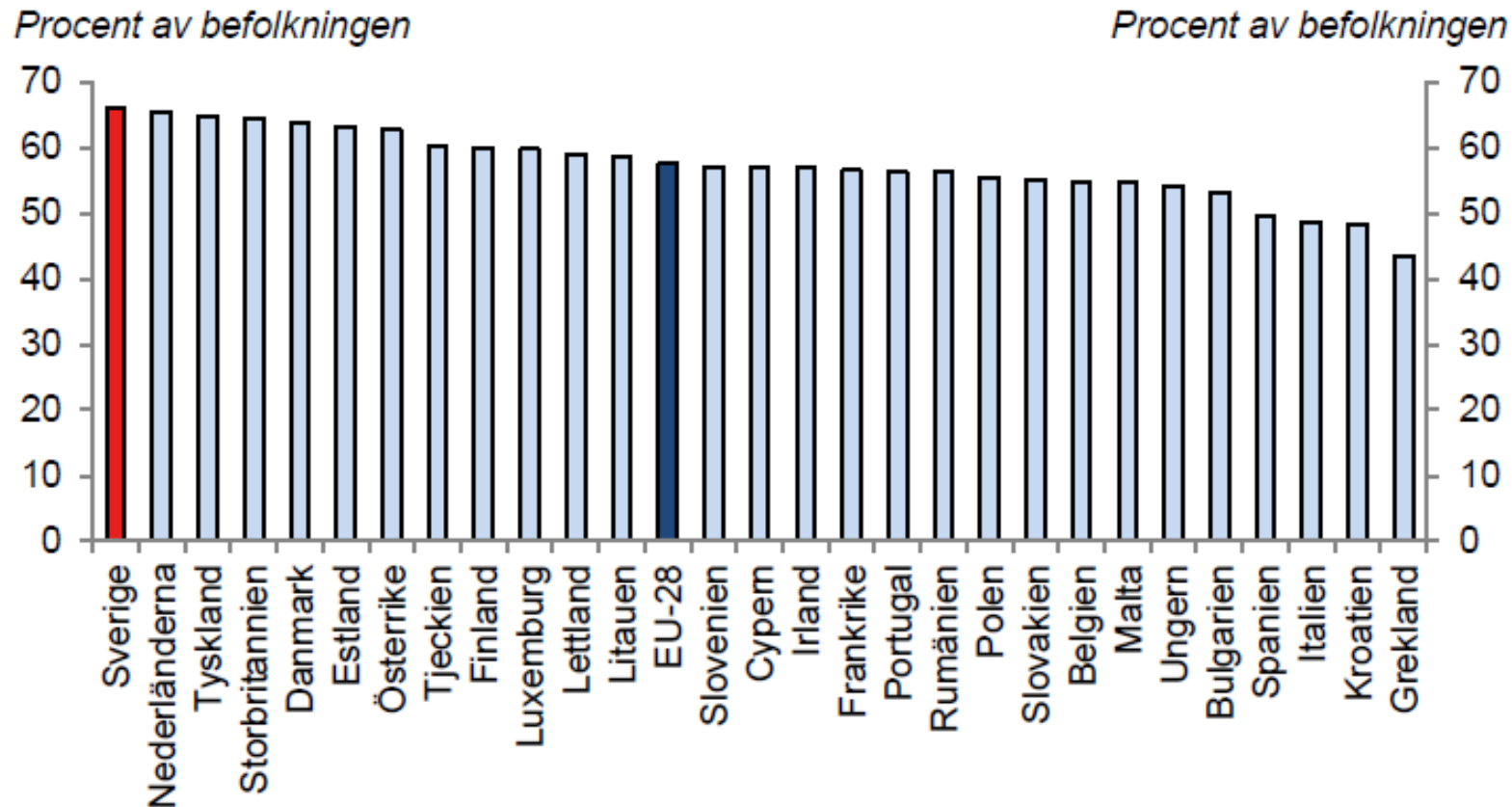


Diagram 3.3: Sysselsättningsgrad i EU 2014



Anm: Avser 15–74 år.

Källa: Eurostat (2015).

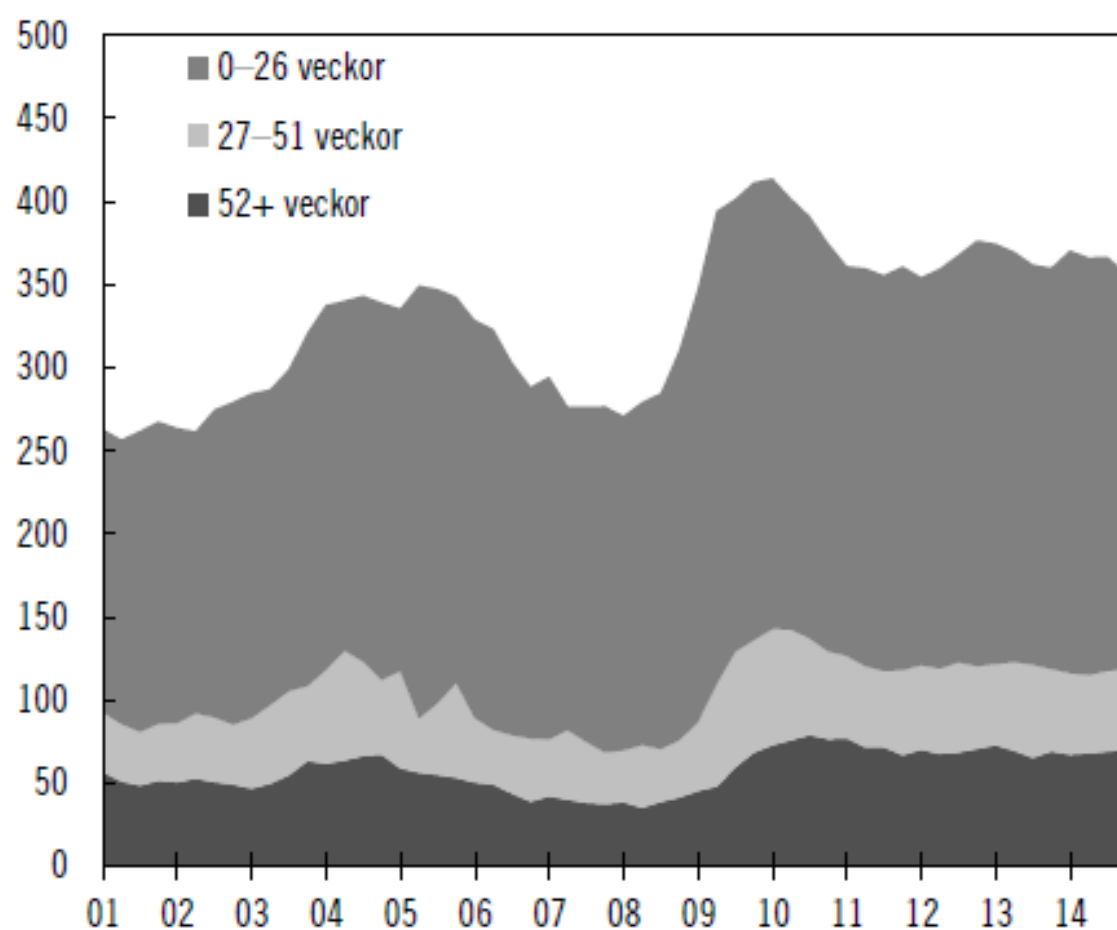
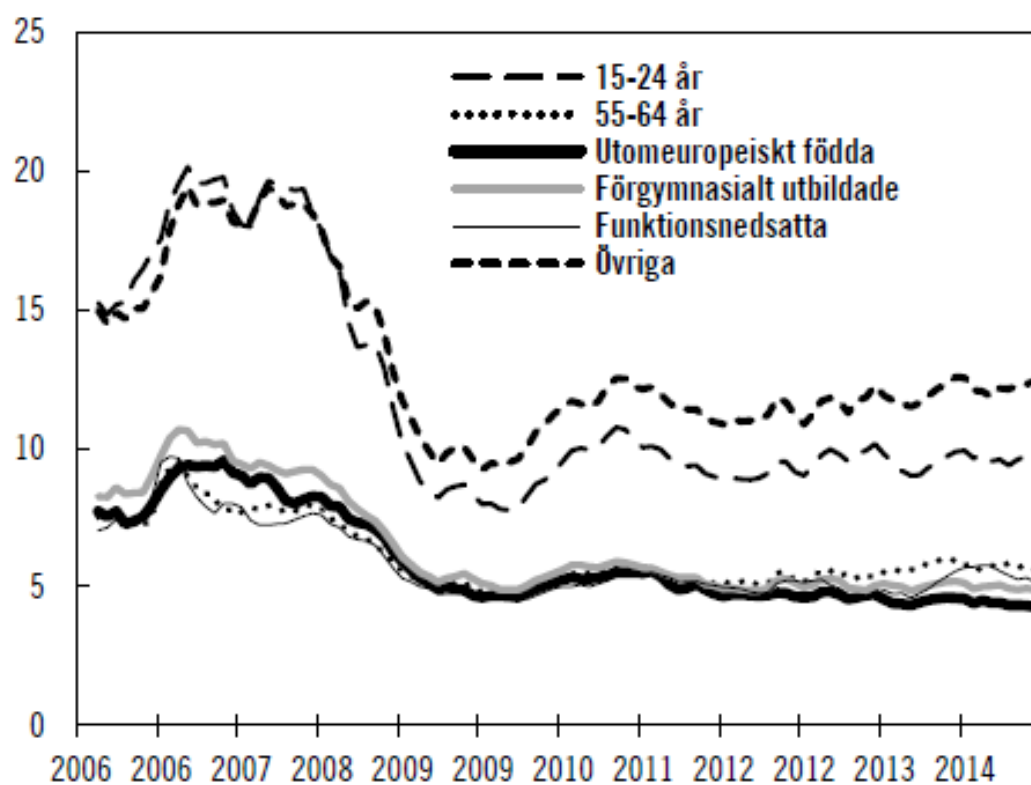
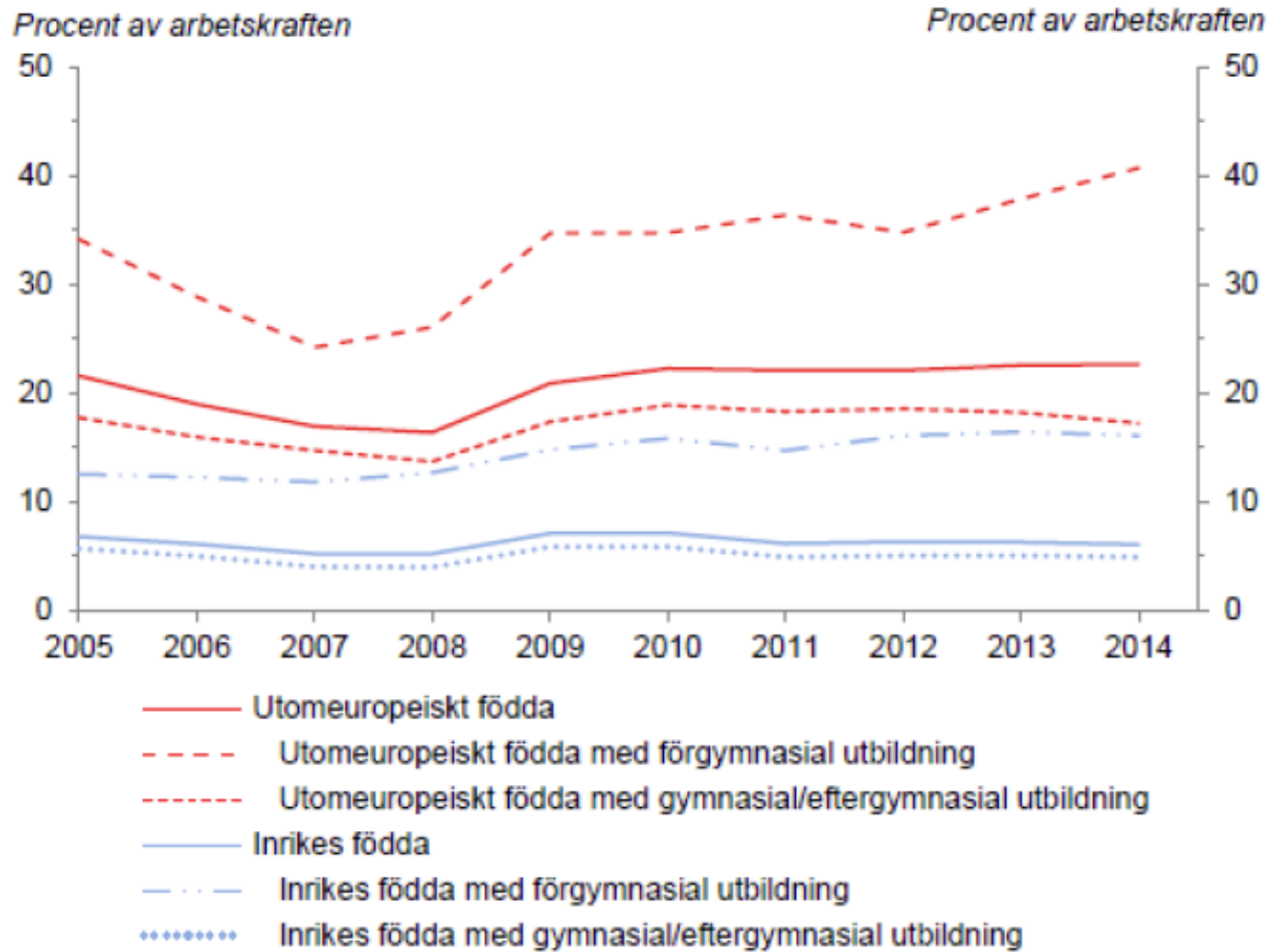
Diagram 10.5 Arbetslösheten fördelat på arbetslöshetstider*Tusental*

Diagram 10.12 Jobbchanser för grupper med svag förankring

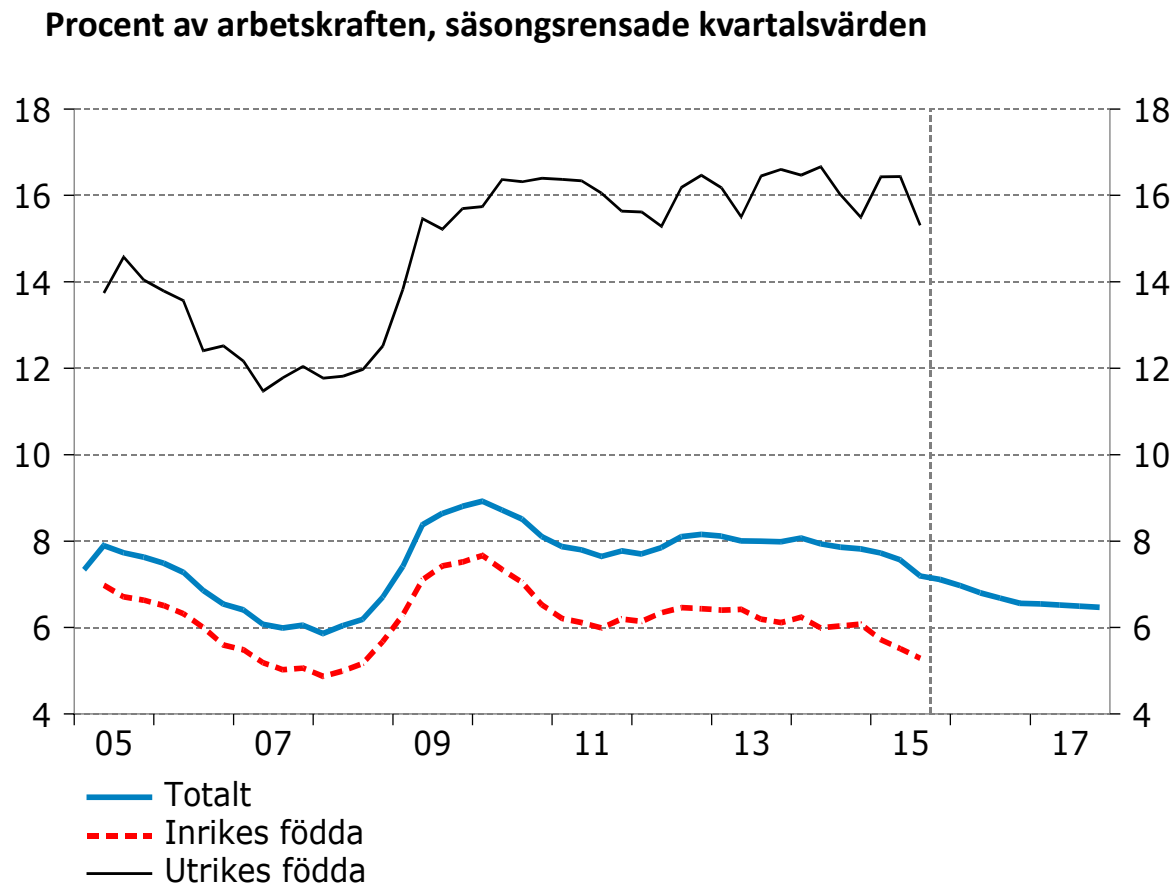
Procent



Relative unemployment depending on region of birth and level of education

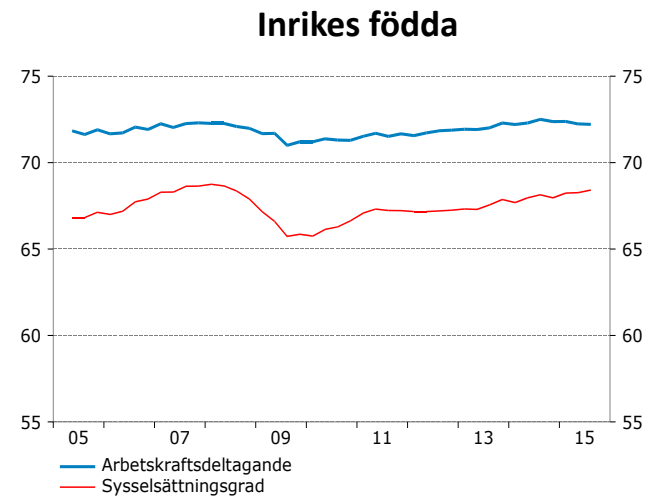
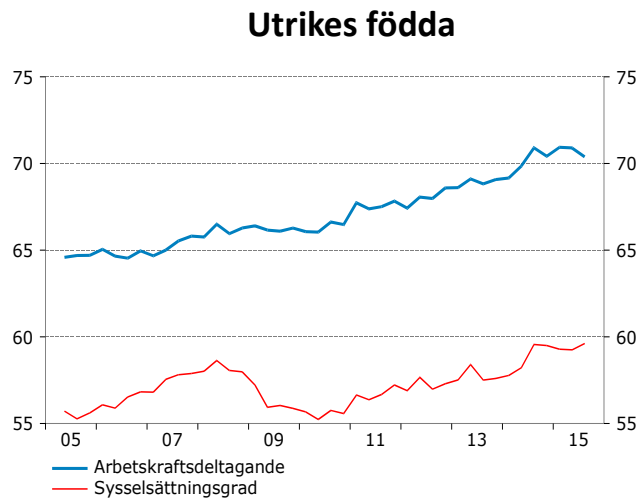


Arbetslösheten faller, men fortfarande mycket hög bland utrikes födda



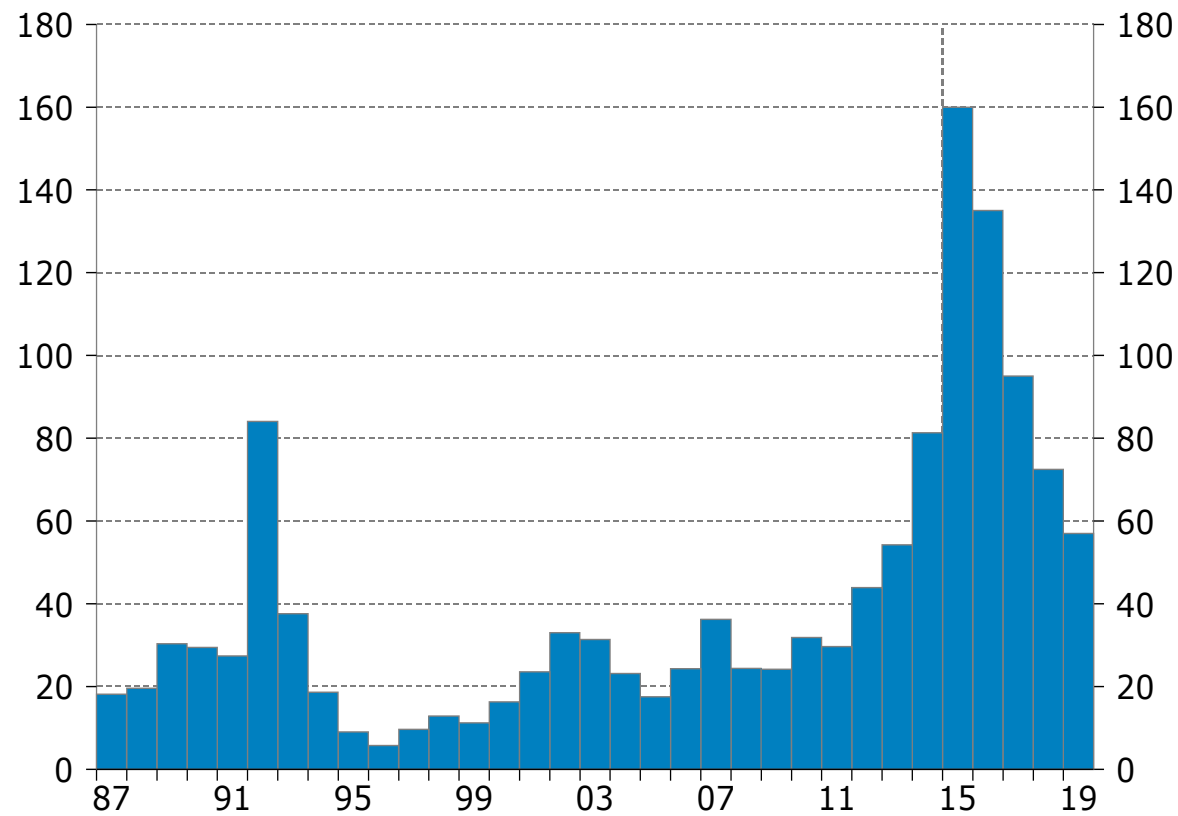
Stigande trend för arbetskraftsdeltagandet bland utrikes födda

Procent av befolkningen, 15-74 år



Kraftigt ökad flyktinginvandring innebär osäker prognos 2017

Asvlsökande. tusental

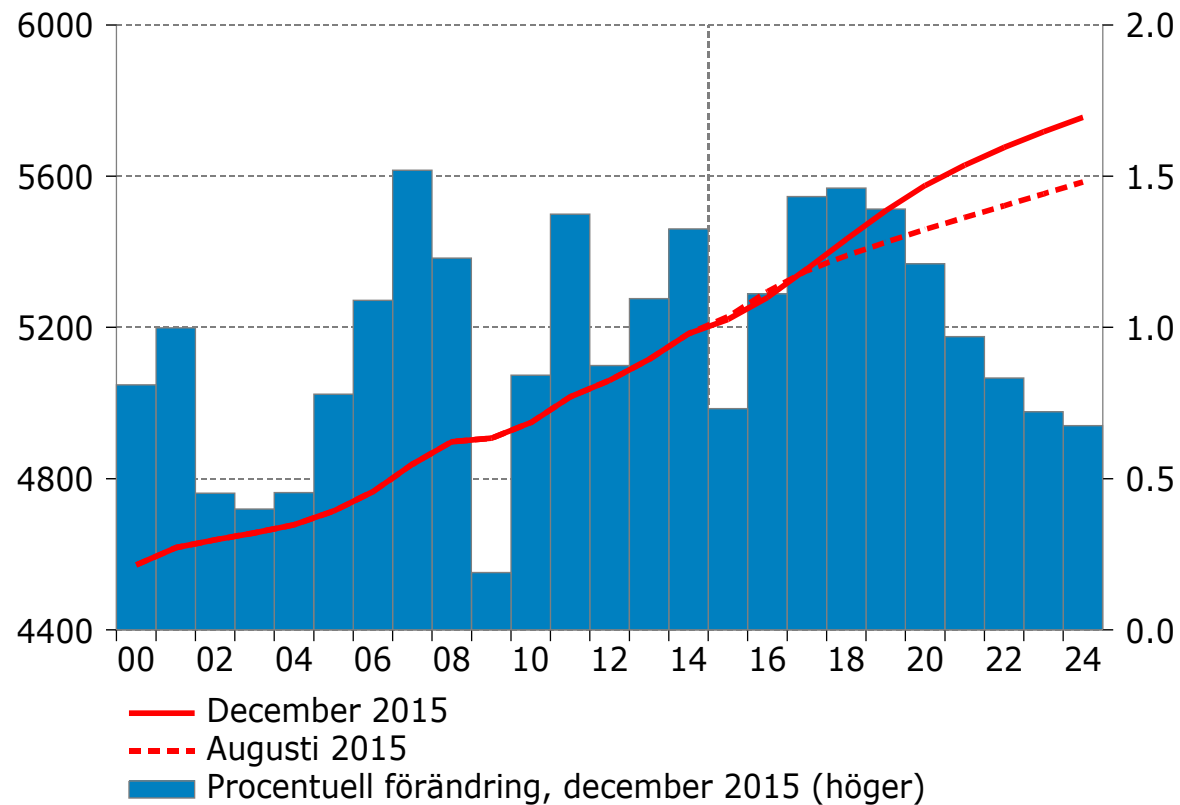


Refugee immigration

- **Increase in population and labour force**
- **But population increase registered first when refugees have obtained residence permit**
 - **lag of 15-24 months**
 - **increase of labour force comes later**
- **Increased spending on refugees increase aggregate demand in the economy as well as labour demand**
 - **first decrease in unemployment**
- **But takes time to find jobs for immigrants when once in labour force**
 - **matching problems: skills, language, absence of networks**
- **lower employment rates than for native-borns and for earlier immigrants**
- **Increase in equilibrium – and actual - unemployment from 2017**
- **Reduction again in the very long term**

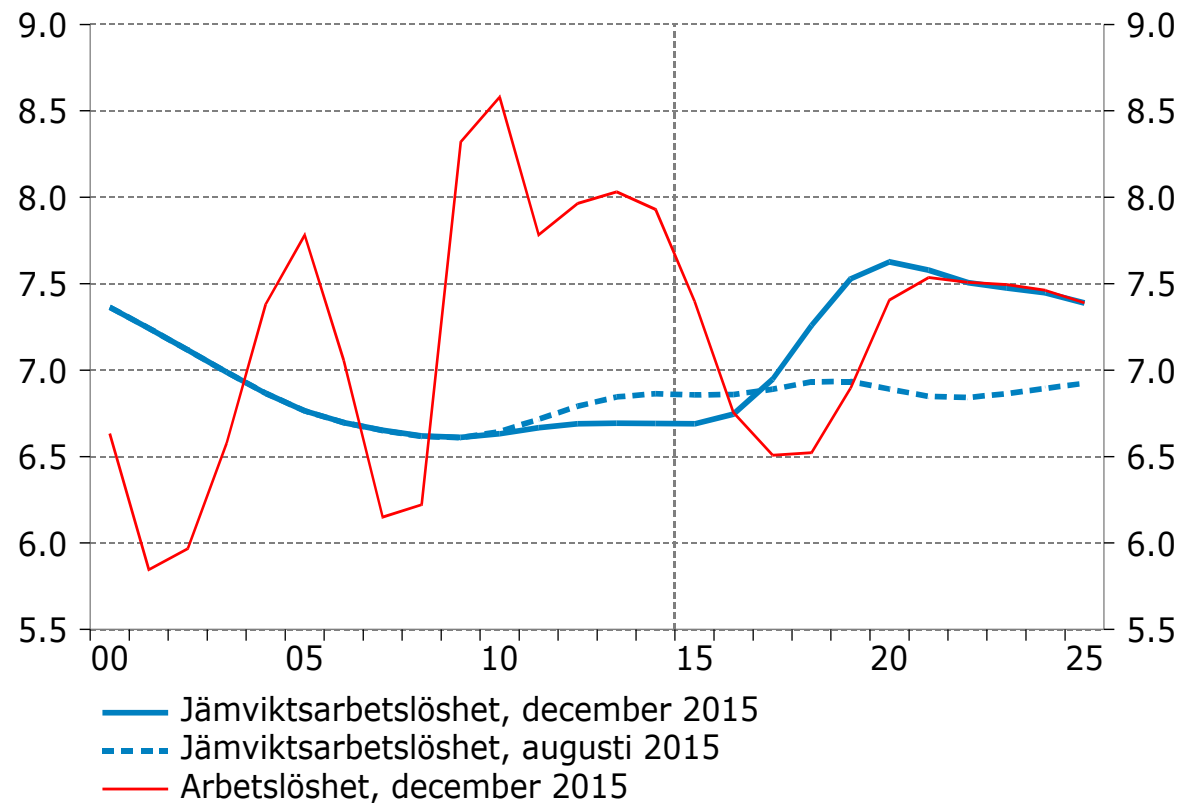
Större arbetskraft, men först fr.o.m. 2017 när årets flyktinginvandrare har fått uppehållstillstånd

Tusental personer respektive procentuell förändring



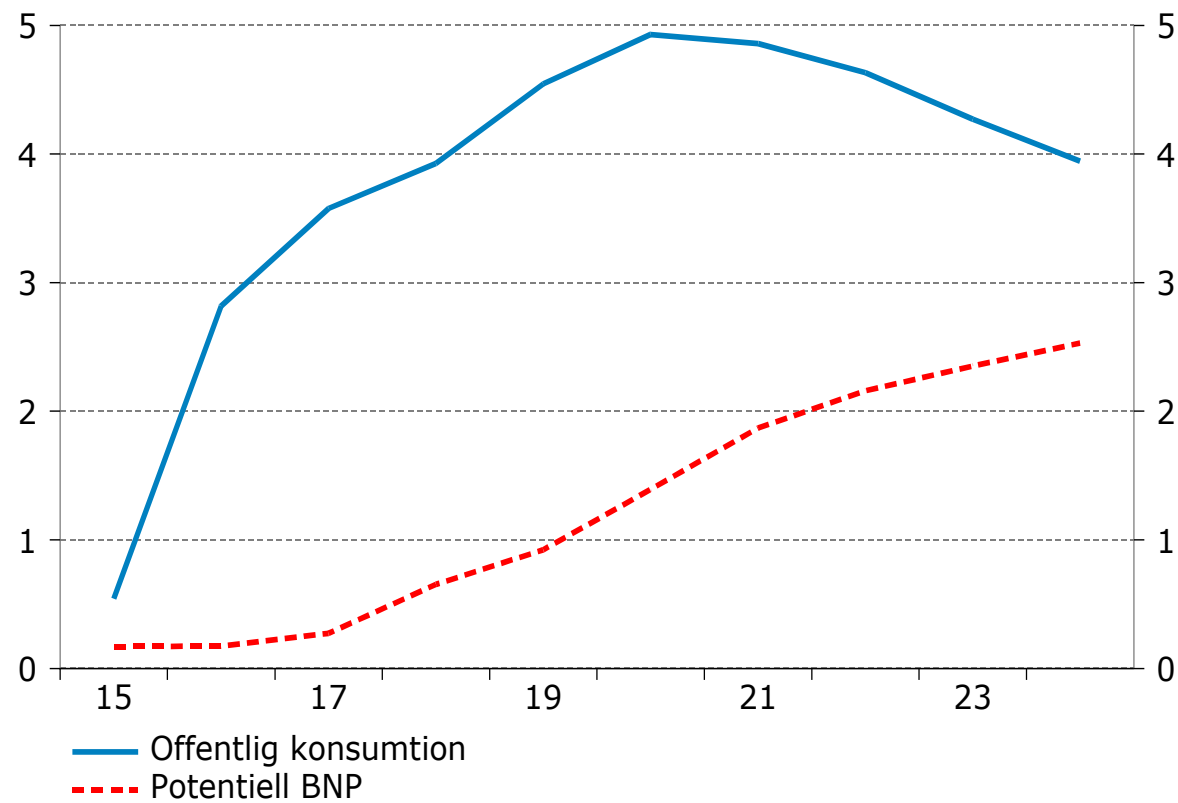
Högre jämviktsarbetslöshet fr.o.m. 2017, som sedan långsamt faller tillbaka

Procent av potentiell arbetskraft respektive procentenheter



Ökad efterfrågan kommer före ökat utbud i ekonomin...

Revidering sedan augustiprognosen, procent, fasta priser



... driver först ner, sedan upp arbetslösheten

Procent av arbetskraften. säsongrensade kvartalsvärden

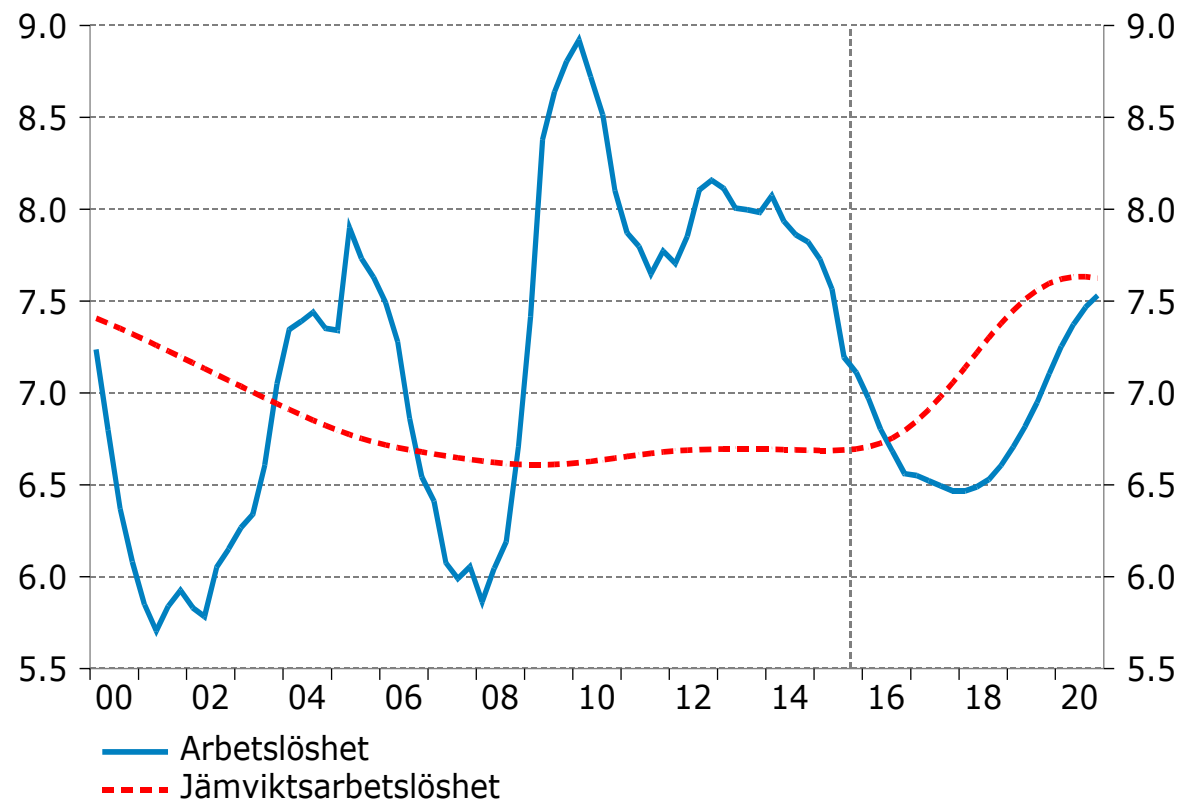
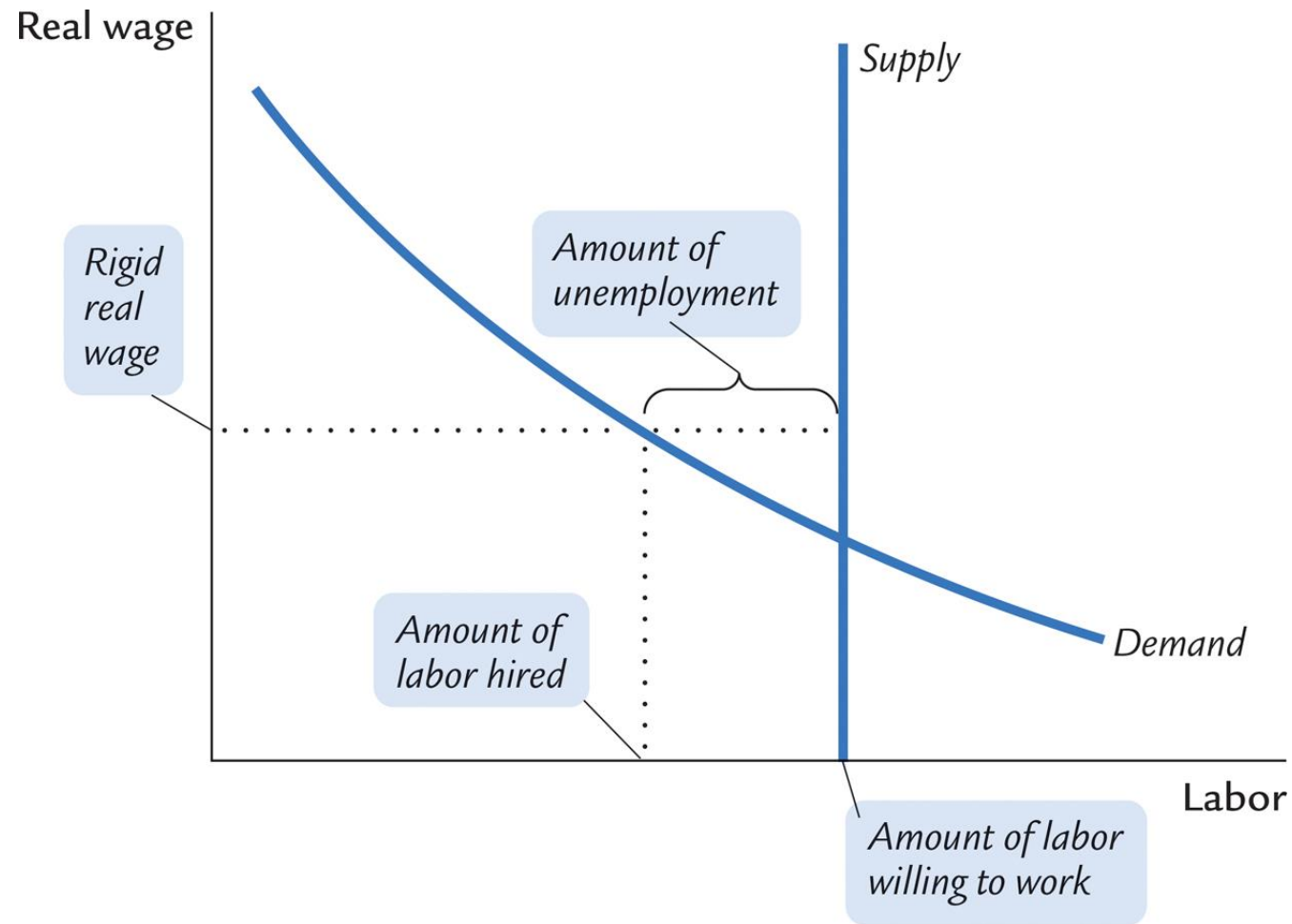


Figure 7-3: Real-wage rigidity leads to job rationing



Causes of real-wage rigidity

- 1. Legal minimum wages**
- 2. Employers set high wages**
- 3. Collective agreements**

Legal minimum wages

- Not in Sweden (but in collective agreements)
- France, the US and the UK
- Now also Germany

Effects

- Higher unemployment if the minimum wage exceeds the productivity of marginal groups
- This may affect particularly young people and immigrants (France)
- But a minimum wage could also raise employment (if it is held back by low supply)
 - effect depends on how high the minimum wage is
 - US (7.25 \$)
 - UK (6.50 £ above 21)
 - France (9.53 €)
 - Germany (8.50 €)
 - UK minimum wage to rise by 40 per cent to 9.35, which is 60 per cent of average wage, by 2020

Efficiency wages

It may be optimal for an employer to pay a higher wage than the market equilibrium wage

- **Higher wages increase the wage bill, which tends to reduce profits**
- **But there are also revenues from a higher wage for an employer**
 - **Reduced labour turnover and thus lower hiring costs**
 - **An incentive for the most productive labour to stay on**
 - **Higher work morale and thus productivity (the wage relative to reference wage determined by various norms is important)**

Collective agreements and trade unions

- **High union density and high coverage of collective agreements tend to raise wages and lower employment**
- **A high degree of coordination of wage negotiations promotes wage moderation and thus employment (Norway, Finland, the Netherlands, Ireland, Belgium and to some extent Sweden)**
 - **total economy effects are considered**
- **Decentralised wage bargaining to the level of the firm may also promote wage moderation (US, UK, New Zealand, Australia, most of the new EU members)**
 - **competitive pressures to hold back wages**
- **Industry bargaining without coordination may result in the highest real wages (Sweden in the 1980s and 1990s)**
 - **neither total economy considerations nor competitive pressures at the firm level**
 - **Calmfors-Driffill hump-shape hypothesis**
- **Sweden**
 - **industry bargaining**
 - **coordination through pattern bargaining with engineering sector (*Teknikföretagen*) as wage leader**
 - **high minimum wages in collective agreement**

Calmfors-Driffill hump-shape hypothesis

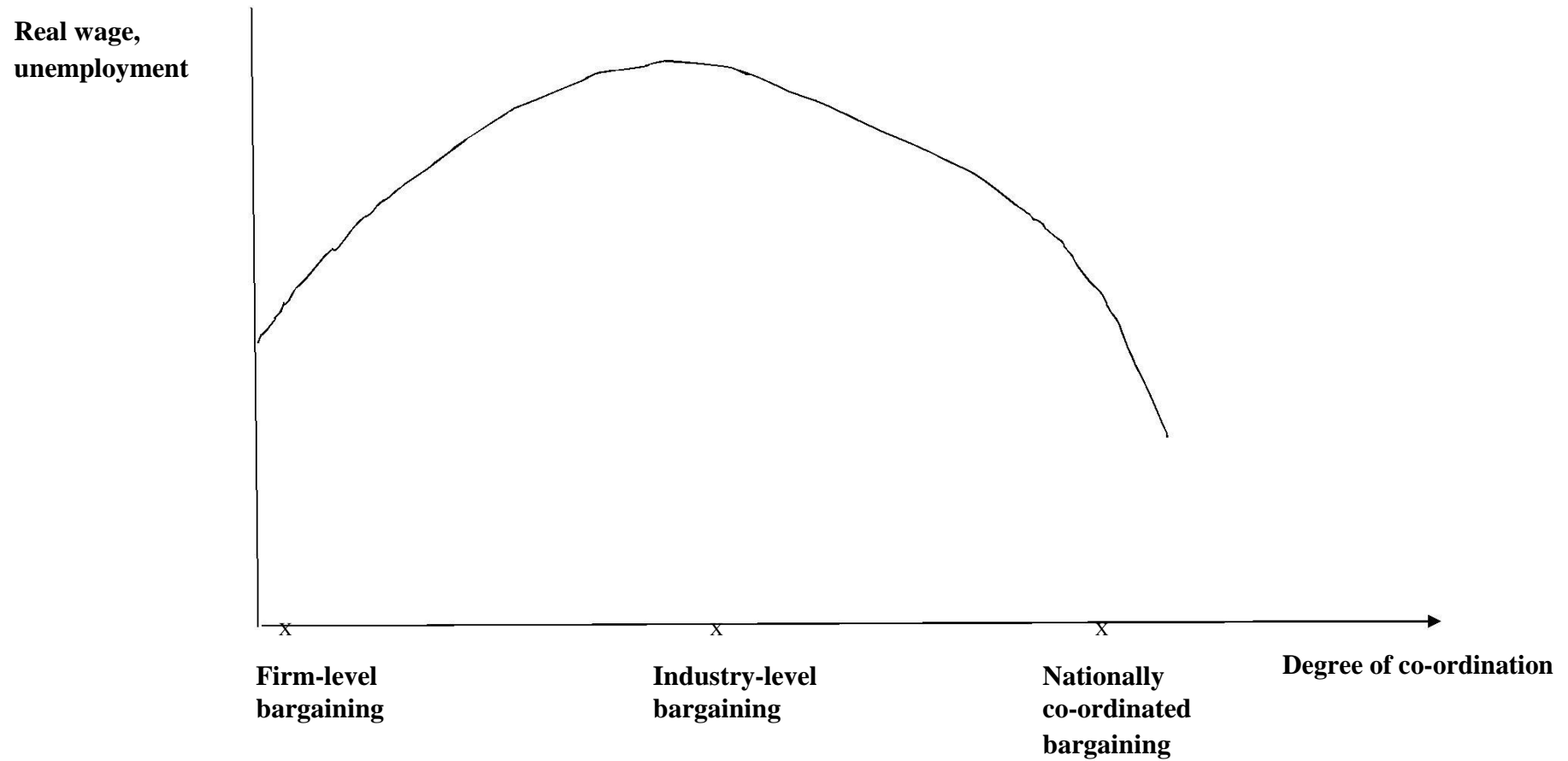


Figure 7.8 in Blanchard, Calmfors et al. **“Makroekonomi”**

Facklig organisationsgrad i olika länder 2013

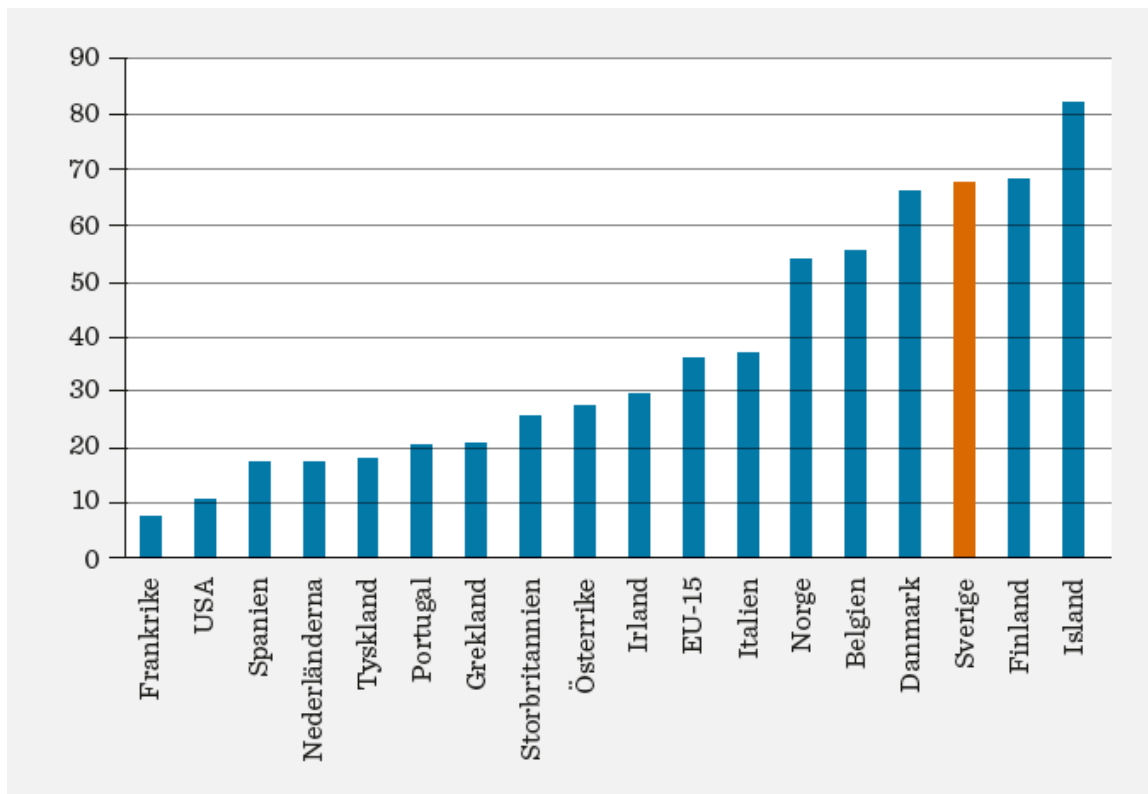


Figure 7.7 in Blanchard, Calmfors et al.
“Makroekonomi”

Kollektivavtalens täckningsgrad i olika länder

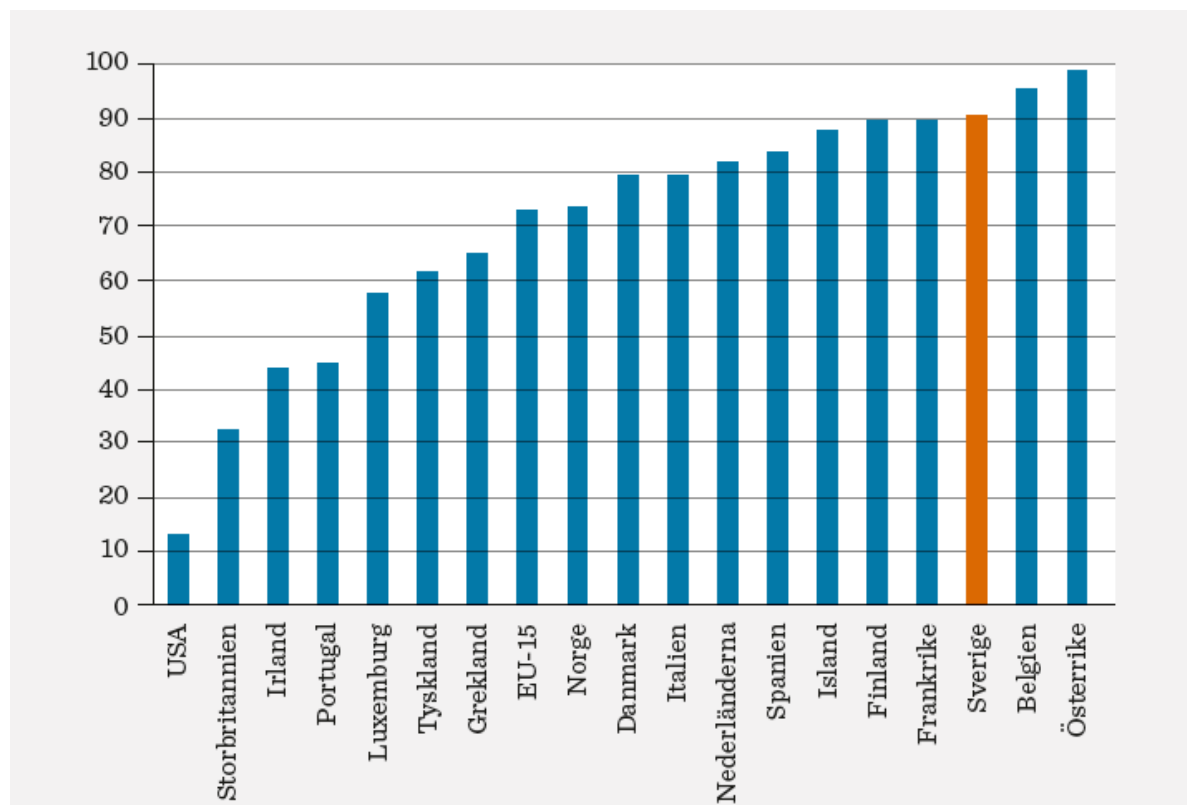


Table 7-1: Percent of Workers Covered by Collective Bargaining

South Korea	10 %
United States	13
Turkey	13
Japan	16
Canada	29
Poland	29
United Kingdom	31
Australia	45
Switzerland	49
Israel	56
Germany	61
Greece	65
Spain	73
Netherlands	84
Italy	85
Sweden	91
France	92
Belgium	96

Data from: Economic Policy Reforms 2014: Going for Growth, OECD, 2014.

Table 3.1. **Structure of collective bargaining systems: Bargaining levels and co-ordination**

Second half of the 2000s, before the crisis

Dominant level*		Central (1)	Sectoral (2)	Extension	Derogations	Local (3)	Change in dominant level since 1990	Co-ordination type
Central	BEL	xxx	xx	xxx	x	x		xxx State-imposed
	IRL ^b	xxx	x	x	xx	xx		xxx Tripartite
Sectoral	AUT		xxx	x		x		xxx Pattern bargaining
	DEU		xxx	x	xxx	xx		xxx Pattern bargaining
	ESP	x	xxx	xx	x	x		xxx Inter-associational
	FIN		xxx	xx	x	x	2 → 1, 1 → 2, 3	xx Intra-associational
	GRC ^b	x**	xxx	xx		x		xx Inter-associational
	ITA ^b		xxx		x	x		xxx Inter-associational
	NLD		xxx	xx	xx	x		xxx Pattern bargaining
	NOR	x	xxx	x	x	x		xxx Pattern bargaining
	PRT		xxx	xx		x		xx Intra-associational
Company/establishment	AUS ^a		x			xxx	2 → 3	
	CAN		x			xxx		
	CZE		xx	xx		xxx		x Intra-associational
	DNK		xx			xxx	2 → 3	xx Pattern bargaining
	FRA	x	xx	xxx	x	xxx	2 → 3	x Intra-associational
	GBR		x			xxx		
	HUN	x	x	x	x	xxx		x Tripartite
	JPN					xxx		x Intra-associational
	KOR		x			xxx		
	POL	x**	x		x	xxx		
	SVK		xx	x		xxx	1, 2 → 3	x Intra-associational
	SWE		xx			xxx	2 → 3	xx Pattern bargaining
	USA		x			xxx		

Note: x = low ; xx = medium ; xxx = high, qualifying the relative importance for bargaining levels and the importance of co-ordination. The table should be read by line, as it describes the relative importance of the various bargaining levels and of the extension of, and derogation from, sectoral agreements within each countries. It is not meant to provide an assessment of the relative importance of a given bargaining level across countries.

* 1 refers to central level of bargaining, 2 to sectoral and 3 to local.

** In Greece and Poland, the central level of bargaining serves only to fix the minimum wage.

a) Collective bargaining systems incurred significant changes in Greece, Ireland and Italy after the start of the global financial crisis; they are not included here as they are not relevant for the period under study in this chapter.

b) In Australia, "awards" passed by Fair Work Australia prevail at the sectoral level, which are not real collective "agreement", as trade union and employer organisations are simply consulted. They apply to the whole sector. Company level agreements cannot be overall less favourable than sectoral ones, but the various elements can be traded against one another (e.g. wage for working time).

Source: OECD Secretariat based on various sources detailed in Annex 3.A1.

Swedish labour market reforms 2007–2014

- **Introduction of Earned Income Tax Credit (EITC)**
- **Less generous unemployment insurance**
- **Less generous sickness insurance**
- **Tax deduction for household-related services (*RUT-avdrag*) and for repair and maintenance (*ROT-avdrag*) : now reduced again**
- **Lower employer contributions (payroll taxes) especially for young people : now raised again**
- **More focus in active labour market programmes on job-search activities**

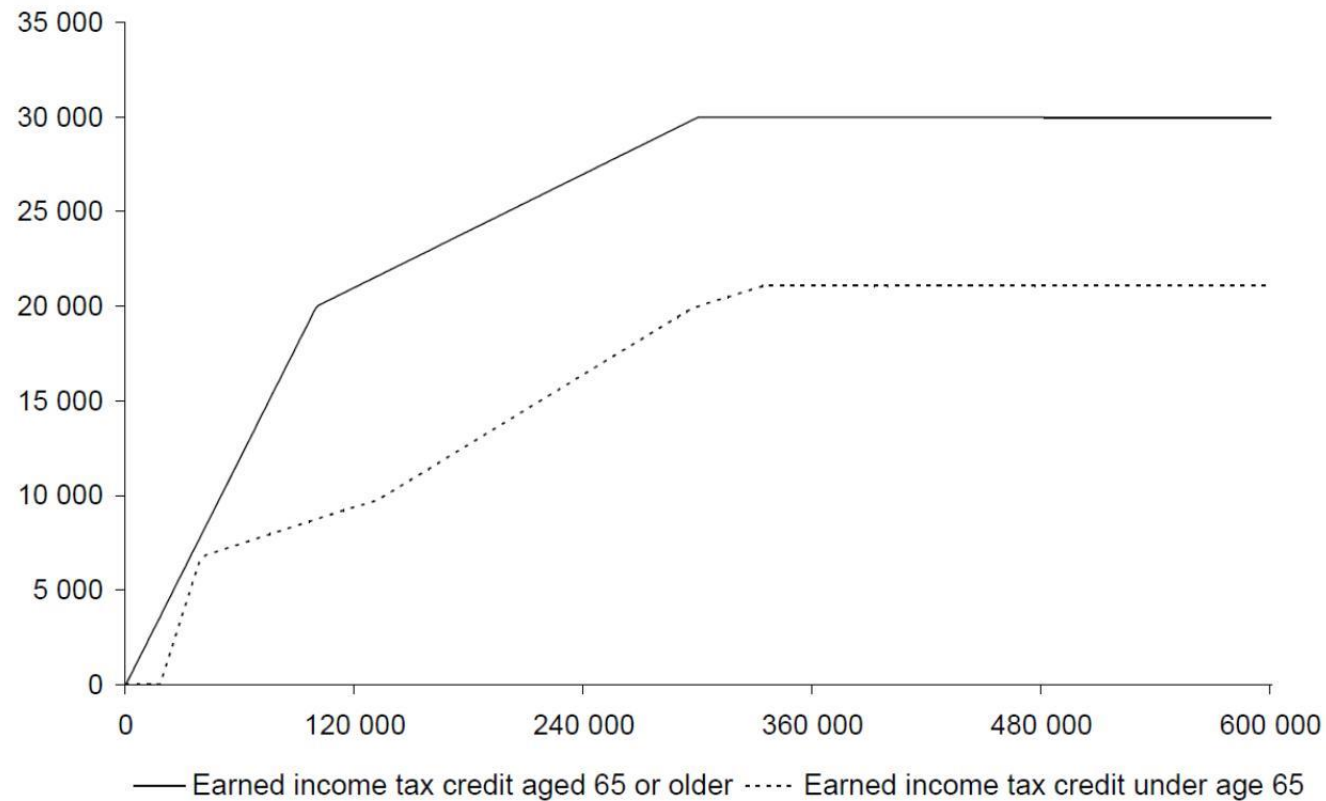
Aim of labour market reforms

- Increase the return to work
- Lower replacement rate when not working
 - $\text{replacement rate} = \frac{\text{income from non-employment}}{\text{income from employment}}$
- EITC and less generous unemployment benefits

Lower replacement rates raise equilibrium employment

- **Larger labour-force participation from EITC**
- **Stronger job search incentives for non-employed**
- **Lower reservation wages (the lowest wages on a job that the non-employed accept)**
- **Lower wages in collective bargaining**
- **But less insurance for the unemployed**
- **Ample empirical evidence that lower replacement rates increase the job-finding rate – shorter unemployment duration**

Figure 7.6 Earned income tax credit and annual income for people under and over 65 years



Note: In the estimates, the assumption is that people over 65 have income other than earned income, for example, pensions, that exceeds SEK 40 000 a year and that people under 65 do not have any income other than earned income.

Source: Fiscal Policy Council calculations.

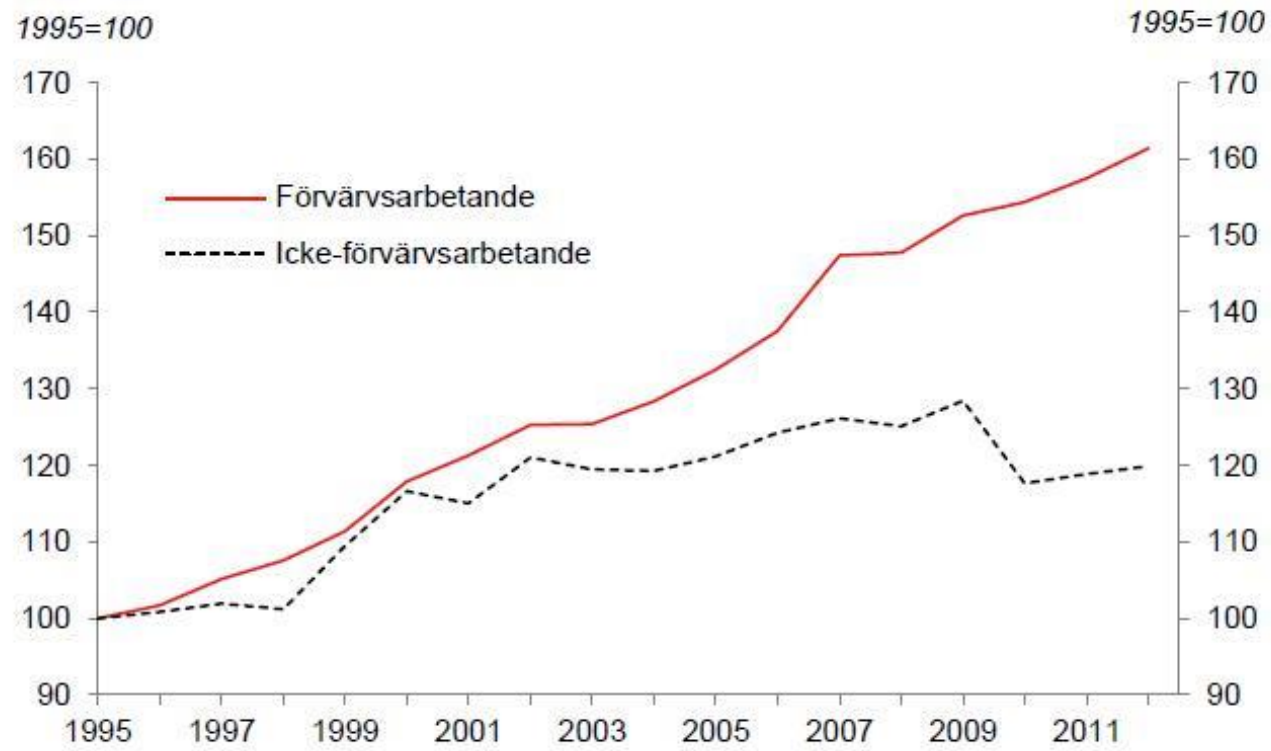
Unemployment insurance in Sweden

- Voluntary participation in unemployment insurance funds (“a-kassorna”) affiliated to trade unions gives income-related unemployment benefit
- Otherwise only fixed basic allowance (“grundbelopp”)

Benefit levels for members in unemployment insurance funds

- 80 per cent replacement rate for 200 days
- 70 per cent replacement rate for another 100 days (250 days for parents)
- After that 65 per cent replacement rate for ever in the job and development guarantee (“jobb- och utvecklingsgarantin”).
- Benefit ceiling: 910 SEK per day
 - higher income than 25 000 SEK for 100 days gives less than 80 per cent
- After that the benefit ceiling is SEK 760 per day
- Basic allowance (“grundbelopp”): 365 SEK per day

Diagram 1.13 Real disponibel inkomst efter sysselsättning



Studies of the effects of EITCs

- **Natural experiments if only some groups receive EITCs**
 - **such studies in the US and UK**
 - **large effects (single parents)**
 - **such studies are not possible in Sweden except comparisons between 65+ (double EITC) and 65– (simple EITC)**
 - **5 percent increase in employment for 65+ relative to 65- after introduction of EITCs**
- **Microsimulations**
 - **Computed effects in models**
 - **Labour force participation rather than working time**
 - **The government's calculations: EITC has lowered unemployment by 0.6 percentage points and less generous unemployment insurance by 0.7 percentage points**
 - **Critique from the Fiscal Policy Council**
 - **Mechanisms: wages**

- **Recent study (Bennmarker–Calmfors–Larsson)**
 - **Strong covariation between individual wage and after-tax replacement rate**
 - **Each percentage point reduction in after-tax replacement rate is associated with 0.2-0.4 percent lower wages than would otherwise have been the case**

Conclusions

- **EITC is probably effective in lowering unemployment**
- **Hard to see effects in deep cyclical downturn**
- **But likely effect even then on labour force participation**
- **But EITC means less of insurance**
- **Also net cost of such tax decreases**
 - **more difficult to finance government expenditures**
- **Whether EITC is good or bad is a question of value judgements**
 - **trade-off between on one hand unemployment reductions and on the other hand less insurance and difficulties of financing government expenditure**

Employment, wage dispersion and minimum wages in Sweden

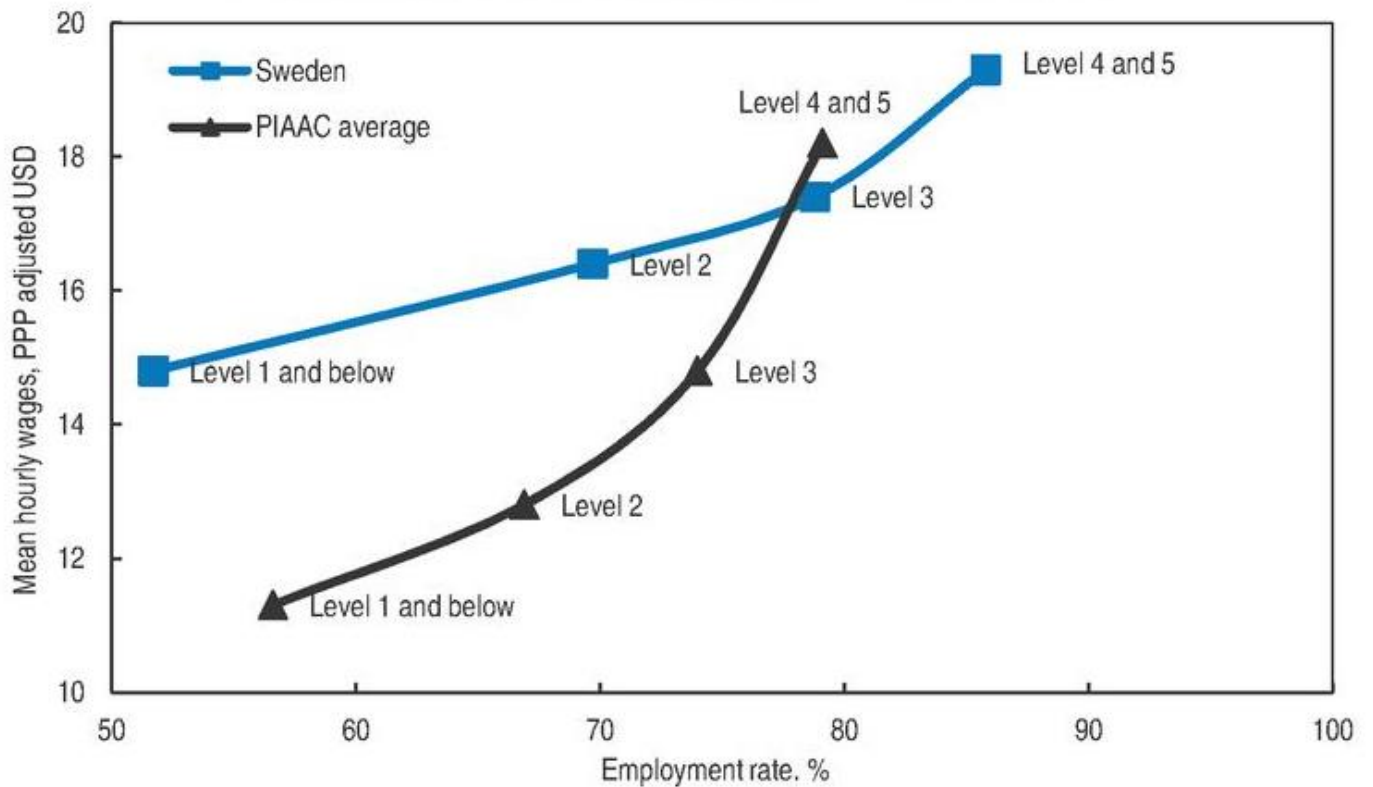
- **No legal minimum wages**
- **But high minimum wages in collective agreements**
 - **Hotels and restaurants**
 - **Retailing**
 - **Municipal services**
- **Empirical studies have shown negative employment effects**
 - **hirings (but effects probably underestimated because one has looked at already existing enterprises: potential new entries/sectors not covered)**
 - **not always effects on separations**
 - **less separations of more qualified workers, more separations for the weakest groups**
- **Sweden has the lowest wage dispersion of all countries but large productivity dispersion**
- **Immigrants have on average lower skills than native-borns**
- **The problem is exacerbated by refugee immigration**

Skillnader i lön och kunskaper (90/10)

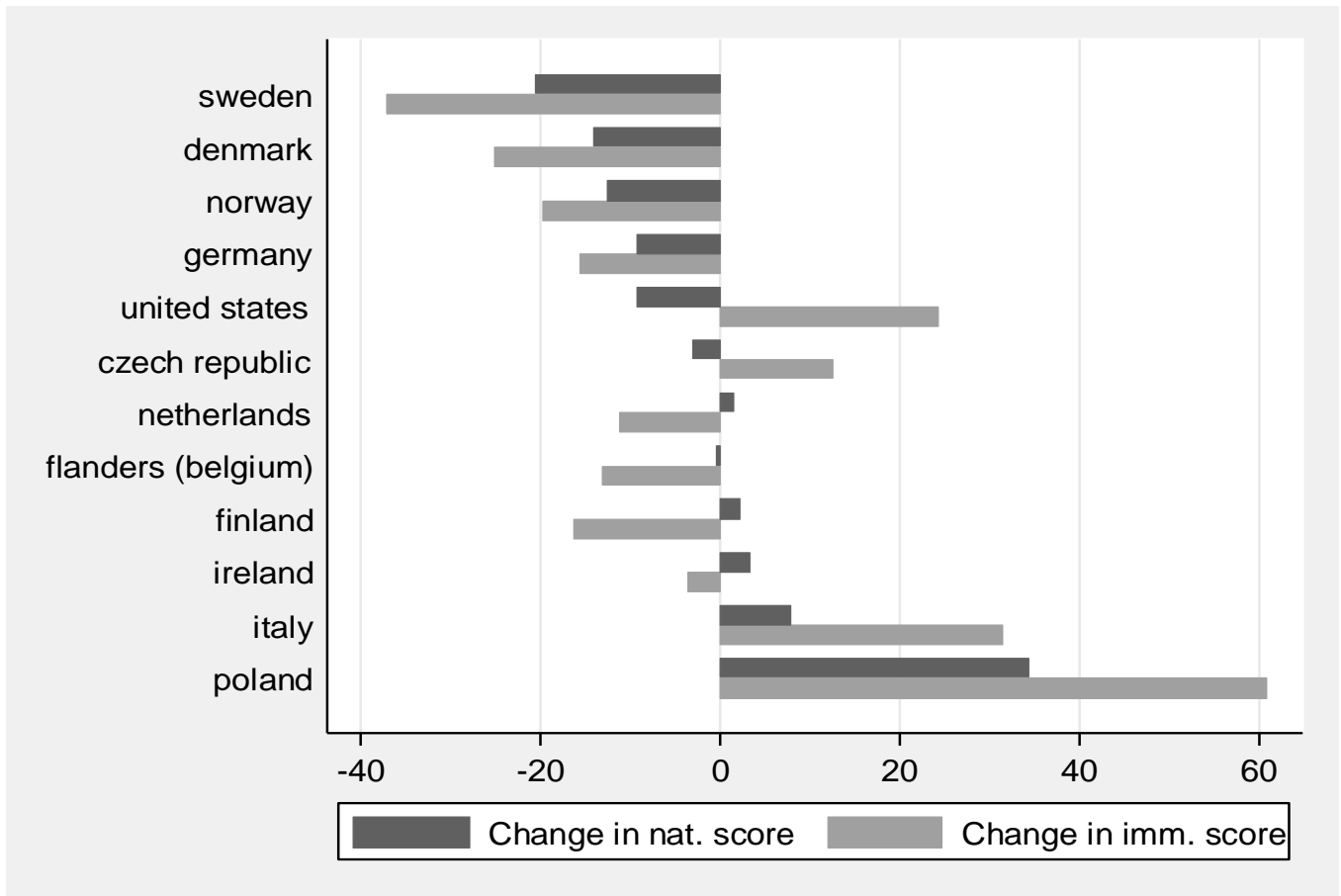
	Lön	PISA-resultat
Sverige	2,08	1.73
Finland	2,31	1,57
Norge	2,31	1,66
Belgien	2,38	1,71
Danmark	2,40	1.58
Italien	2,65	1.67
Frankrike	2,84	1.73
Nederländerna	2,90	1,62
Spanien	3,10	1.61
Tjeckien	3.23	1,61
Österrike	3,33	1.64
Slovakien	3,34	1,78
Irland	3,64	1.56
Storbritannien	3.71	1.66
Polen	3,97	1,56
Estland	4,05	1,49
Tyskland	4,12	1,63
Cypern	4,16	1.83

OECD Economic Survey of Sweden 2015

Figure 2.6. **Skills and labour market outcomes**
Mean hourly wages and employment rates by PIAAC skill levels



Change in the average literacy score between IALS 1994-1998 and PIAAC 2012 for native-borns and immigrants, respectively



On-going debate on the balance between different measures

- **Education and training**
 - **Preferred option, but the problem is too big**
- **Employment subsidies**
 - **low take-up**
 - **stigmatisation effects**
 - **too bureaucratic?**
 - **uncertainty**
 - **expensive**
- **Lower minimum wages**
- **The measures should be seen as complements not as substitutes**