

Chapter 8

Wage Policies and the Integration of Immigrants¹

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ABSTRACT

Most Nordic countries struggle with the integration of low-skilled immigrants. Relying on research from primarily the Nordics, we discuss to what extent minimum wage reductions can improve labour market prospects for immigrants, whether unskilled and low-pay jobs serve as stepping stones to more qualified and higher-paid jobs and how wages of incumbent workers would be affected by lower minimum wages. We argue that targeted minimum wage reductions aimed at new, previously non-existing jobs and increased differentiation of minimum wages according to experience provide an appropriate balance between the conflicting goals of high employment and low wage inequality.

Keywords: Integration of immigrants, minimum wages, wage policies.

JEL codes: J08, J31, J38, J50.

¹ We thank Pernilla Andersson Joona, the editors, participants at the seminar arranged by Nordregio on November 6, 2018, and an anonymous reviewer for valuable comments and suggestions. The second author gratefully acknowledges financial support from *Jan Wallanders och Tom Hedelius stiftelse* and the Marianne and Marcus Wallenberg Foundation.

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1. Introduction

The immigrant population has increased substantially in all the Nordic countries during the last two decades. A large fraction of immigrants originates from outside the EU. According to Eurostat, the share of foreign born among the working-age population (20-64 years) ranged from 9% in Finland to 23% in Sweden in 2016. The corresponding figures were around 16% for Denmark, 21% for Norway and 18% for Iceland. Approximately three quarters of the foreign born in Sweden were born outside the European Union (EU28), while the shares in Denmark, Finland and Norway ranged between 55% and 66%. In Iceland, less than a third of all immigrants came from outside the EU28 (Eurostat 2018).

The Nordic labour markets are characterised by low wage dispersion and high collectively agreed minimum wages. High wage floors increase the risk of disemployment because there will be less demand for labour. In line with this reasoning, there are relatively few low-skilled jobs available for the substantial share of immigrants who have little education and poor language skills. Employment rates are also markedly lower for immigrants than for natives. According to studies of the Nordic and other European countries, many immigrants need a long time after arrival to establish themselves in the labour market.⁴

The Nordic welfare models are largely premised on high employment rates. Arguably, this means that successful labour market integration of immigrants is especially important in the Nordics. Improving

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the labour market integration of immigrants is key to achieving better economic outcomes, both for individuals and in the aggregate.

In connection with the large influx of low-skilled refugee immigrants in recent years, various proposals for reductions of minimum wages have been discussed in the Nordic countries.⁵ What role could minimum wage cuts play for creating more low-skilled jobs and improving the labour market prospects of immigrants? This is the primary question in this contribution. We also discuss to what extent such jobs could serve as stepping stones to more qualified and higher-paid jobs and how wages of natives and already employed immigrants would be affected by lower minimum wages.

At present, employment subsidies are being used extensively as a means of cutting wage costs for persons with marginal attachment to the labour market in the Nordic countries. While these subsidies are not the focus of our essay, we provide a brief discussion of them in the concluding section where we appraise different policies to facilitate the labour market integration of immigrants.⁶

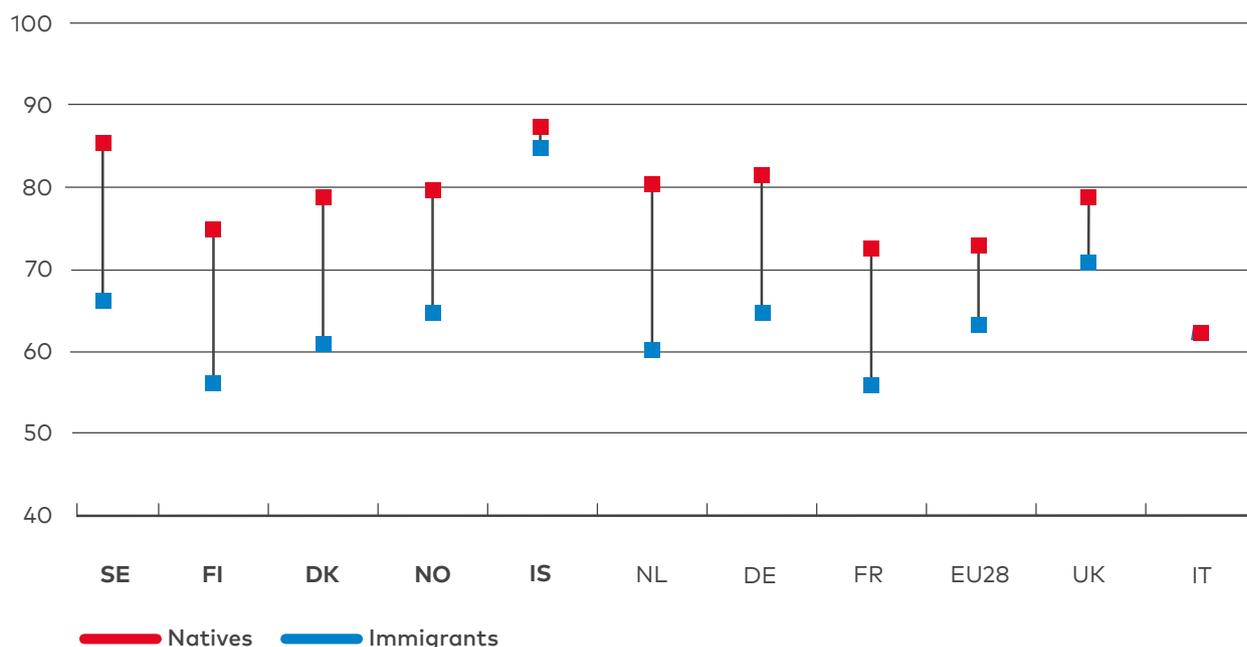
Section 2 describes the labour market situation of foreign-born people in the Nordic countries, while Section 3 is concerned with an aspect of wage formation in these countries that is of particular rel-

⁴ See, e.g., Åslund et al. (2017) for Sweden, Bratsberg et. al (2017) for Norway, Sarvimäki (2017) for Finland, Schultz-Nielsen (2017) for Denmark and Fasani et al. (2018) for several European countries.

⁵ See Winther (2015), Schauman (2016), Dagbladet (2016), and Schüch (2016), for examples from Denmark, Finland, Norway and Sweden, respectively.

⁶ See Andersson Joona (2019) in this volume for a more extensive discussion of subsidised employment in the Nordic countries

Figure 1 Employment rates for natives and immigrants born outside the EU28, 20-64 years, percent of population group



Note: The data refer to 2017 and are ordered by the difference in employment rates between natives and immigrants born outside the EU28.
Source: Eurostat.

advance for the low-skilled: the minimum wage arrangements. Focusing on Nordic studies, Section 4 reviews previous research on the employment effects of minimum wages and wage mobility among low-paid and low-skilled workers. Section 5 discusses the policy implications of our analysis.

2. Immigrants in the Nordic labour markets

We focus primarily on immigrants born outside the EU28 in this section. Migration from outside the EU, as opposed to migration within the EU, is mostly refugee immigration and less often work-related.

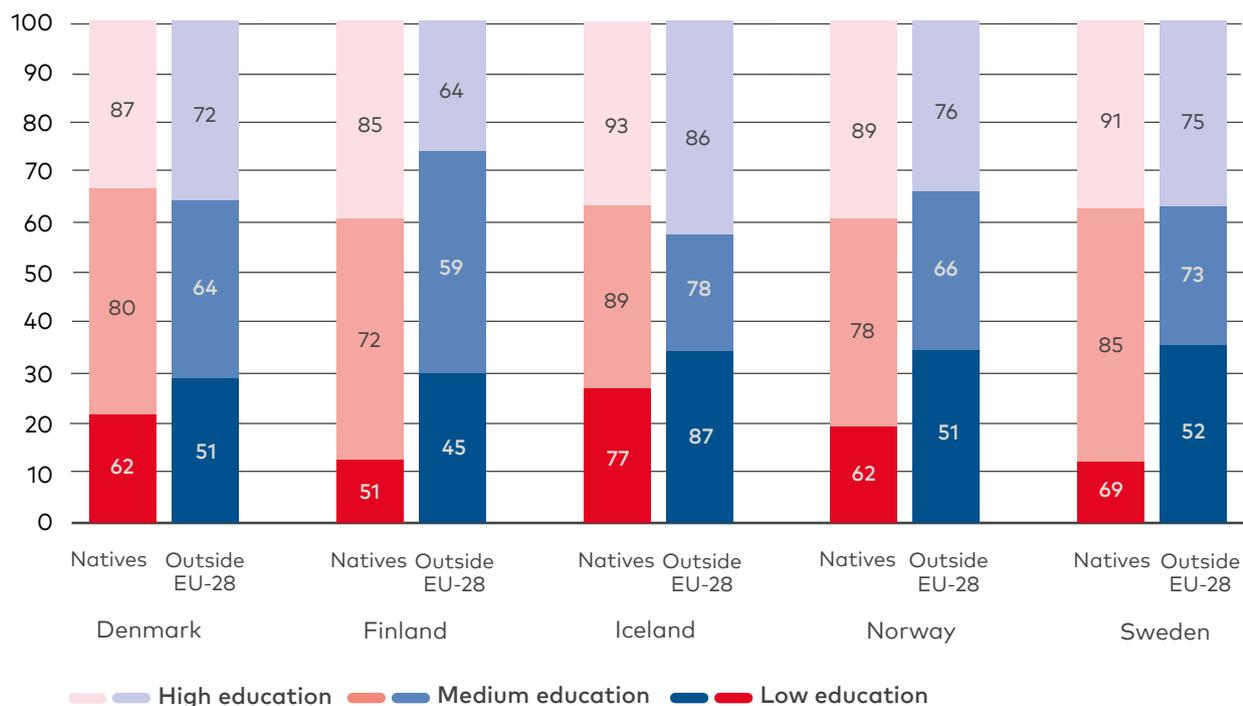
Figure 1 reports employment rates for immigrants and natives in the Nordic as well as other European countries.⁷ While employment rates for natives

are high in an international comparison in Sweden, Denmark and Norway, employment rates for immigrants are around the same as in most other comparison countries. This is reflected in the large employment rate gaps between natives and foreign born, ranging from 15 percentage points in Norway to 19 in Sweden. The generally high employment rates in the Nordics are mainly due to higher female employment than in most other EU countries. Differences in employment rates for men are smaller. Employed immigrants also tend to have lower wages than employed natives and more insecure jobs. Those born outside the EU28 are overrepresented in fixed-term employment in Denmark, Finland, Norway and Sweden, and (except in Denmark) more so than in the EU28 on average.⁸

⁷ Norway and Iceland are not included in the EU28. Immigrants from these countries in the other Nordic countries are thus included in the group of non-EU immigrants.

⁸ See Nielsen et al. (2004), Elonen and Woolley (2014), Barth et al. (2012) and National Institute for Economic Research (2014) for more details on wages in Denmark, Finland, Norway and Sweden, respectively, and Calmfors et al. (2018a) for more details on fixed-term employment.

Figure 2 Employment rates by educational attainment in the Nordic countries for natives and immigrants born outside the EU28, percent



Note: The data are for 2017 and the population refers to those aged 18-64 years. Low, medium and high education refers to lower secondary education or lower, upper secondary and post-secondary non-tertiary education and tertiary education, respectively. The employment rate is reported inside the bars and refers to the age group 20-64 years. Source: Eurostat.

An important determinant of labour market prospects is educational attainment. High entry wages may act as a barrier to entering the labour market primarily for low-skilled immigrants. As shown in the next section, minimum wages cut far into the wage distribution in sectors offering jobs with low qualification requirements.

Figure 2 shows the educational composition among natives and immigrants born outside the EU28 in the Nordic countries as well as the employment rate for each group (reported inside the bars of the diagram). Immigrants in all Nordic countries are more likely to have lower education (lower secondary or less) than natives. This is particularly true for Finland and Sweden, mainly due to the very small share of low-educated natives. The share of immi-

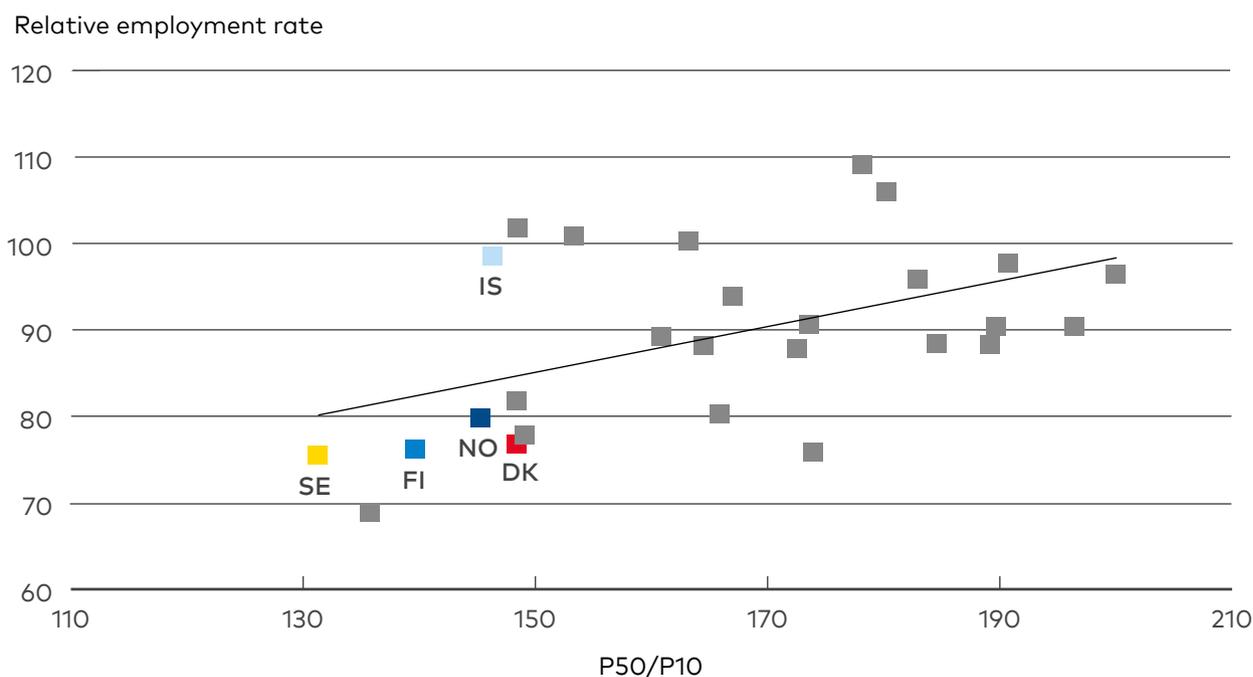
grants with a low-education background varies only moderately across the countries, ranging from 29% in Denmark to 36% in Sweden. However, it should also be noted that a large share of immigrants are highly educated (with tertiary education) in some of the Nordic countries.

Employment rates are positively related to the level of education for both natives and immigrants in all countries.⁹ However, even after accounting for educational attainment, employment rates are in almost all cases lower for immigrants.

Besides high employment rates, the Nordic countries are also characterised by low wage inequality, as evident in Figure 3. The figure relates the dispersion in the lower part of the wage distribution

⁹ The exception is immigrants in Iceland with low education, who have a higher employment rate than immigrants with medium-level education.

Figure 3 Relationship between wage dispersion and relative employment rate of foreign born from outside the EU-28, percent



Note: The relative employment rate of immigrants is measured as the ratio between the employment rates for immigrants and natives in the age group 20-64 years. Dispersion in hourly wages is measured as P50/P10 (see footnote 10). Data refer to 2014.
Source: Eurostat.

(P50/P10)¹⁰ to the relative employment rate of immigrants from outside the EU28 (the ratio between the employment rates for these immigrants and natives) for 27 European countries. There is a positive relationship between wage inequality and immigrants' relative employment. This is no proof of causality, but the duality in the Nordic labour markets seems to manifest itself in employment rate differentials rather than wage differentials.

The Nordic countries have some of the largest differences in literacy proficiency between natives and foreign born. Calmfors et al. (2018a) find that differences in literacy proficiency explain a much larger share of the employment gap between natives and immigrants than differences in formal education. This is also suggested by Figure 4, which

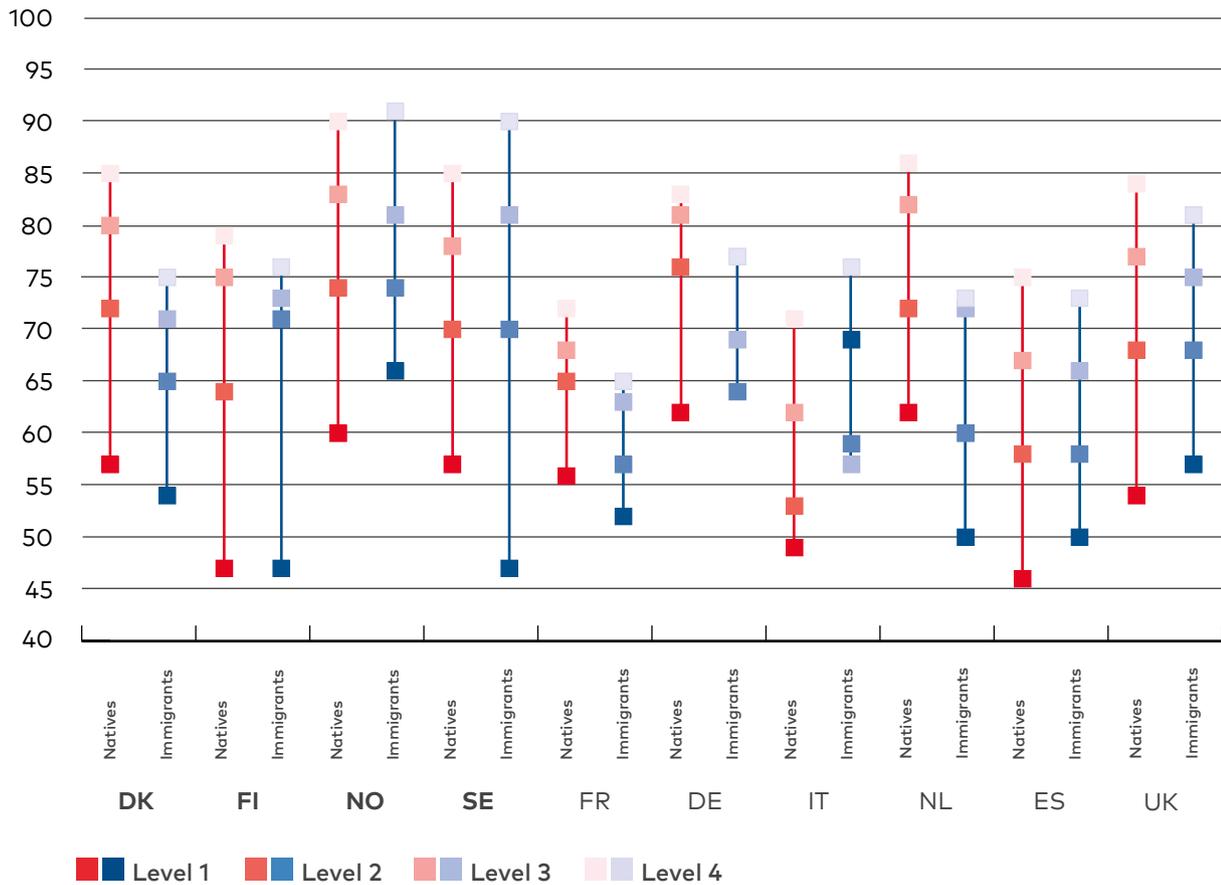
shows employment rates for natives and persons with an immigrant background by the level of literacy proficiency in the Nordics and a few comparison countries.¹¹ Those with an immigrant background and with low levels of literacy proficiency seem to have lower absolute employment rates in Sweden and Finland than in most other comparison countries, suggesting that sufficient language skills may be more important for employability in these two Nordic countries than elsewhere.

To summarise, this section has shown that most Nordic countries struggle with the labour market integration of non-labour immigrants, but to varying extents. The exception is Iceland, where the share of immigrants born outside the EU28 is small and their employment rate is very high. We conclude

¹⁰ P50/P10 refers to the median wage divided by the wage in the tenth percentile, i.e., the wage of the worker with a higher wage than 10% of all employees and a lower wage than 90% of the employees.

¹¹ "Immigrant background" is defined as having spoken a foreign language as a child.

Figure 4 Employment rate by literacy proficiency for natives and persons with an immigrant background, percent



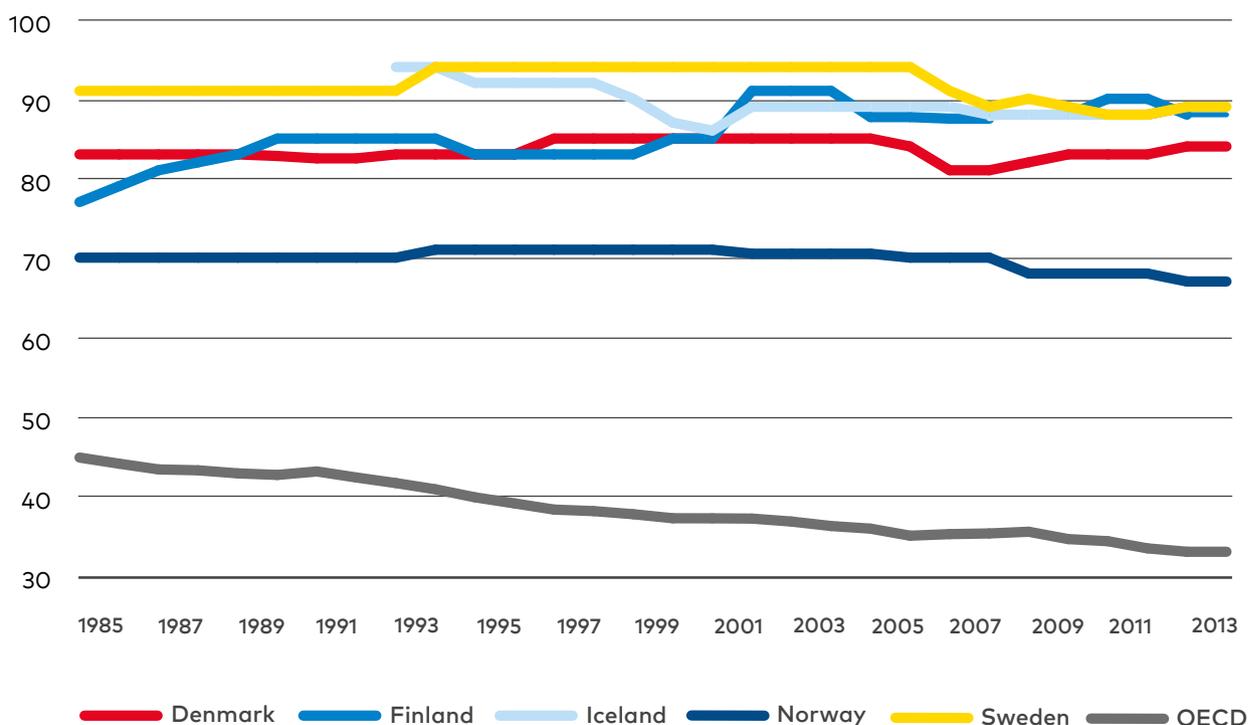
Note: Immigrant background is defined as having spoken a foreign language as a child. The data are from the Programme for the International Assessment of Adult Competencies (PIAAC), conducted by the OECD in 2012. There are six levels of literacy proficiency: the two lowest and two highest have been merged here. Source: Calmfors et al. (2018a).

that the integration challenge is much smaller in Iceland than in the other Nordic countries. Thus, we will focus our analysis on Denmark, Finland, Norway and Sweden. The large differences in the share of immigrants in the population across these countries, however, imply that the magnitude of their challenges differs. Sweden has by far the largest share of foreign born as well as of immigrants born outside the EU28. This makes Sweden's economic prospects even more dependent on successful labour market integration of immigrants than is the case in Denmark, Finland and Norway.

3. Minimum wage systems in the Nordic countries

An aspect of wage formation of particular relevance for the low-skilled in the Nordic countries is the design of the minimum wage systems. Minimum wages are agreed in negotiations at the industry level between employers and unions and not set by legislation as in most other countries. This is a consequence of the Nordic labour market models, which rely heavily on the self-governing of the social partners. The rules to be followed by employers and employees are to a large extent stipulated in collective agreements at the central, industry or

Figure 5 Coverage of collective bargaining, percent of employees



Note: The series for the OECD is a weighted average of the 35 member countries.

Source: OECD (2017).

local level. Figure 5 shows that the coverage of collective agreements is high in the Nordics relative to the OECD average.

Almost all OECD countries including the Nordics (with the exception of Iceland) have experienced decreases in union membership rates in the last thirty years (Calmfors et al. 2018b). But contrary to most other OECD countries, none of the Nordics have seen a significant downward trend in collective agreement coverage. This means that, by and large, collective agreements still set the terms for the labour market.

In Denmark and Sweden, collective agreements (and thus minimum wage stipulations) only apply to firms who have signed such an agreement. Firms

with collective agreements must apply the agreement to all workers, regardless of union membership due to *erga omnes*-clauses, which are used in all Nordic countries. Finland and Norway have different types of extension rules. Such extensions imply that firms not covered by collective agreements must still comply with certain elements of the agreement in their industry or worker profession, e.g., with minimum wage rates.¹²

Table 1 shows minimum wage rates in the Nordic countries (except Iceland) for three industries: hotels and restaurants, retail, and construction.¹³ The first two industries are among the largest of the low-pay sectors, in which minimum wages are typically binding.¹⁴ Also, many immigrants work in these industries. The third industry is not characterised

¹² Norway implements extensions only in some industries, providing additional agreement coverage for around 4% of all employees in 2013, while extensions are more widespread in Finland, covering 16% of employees in 2014 (OECD 2017).

¹³ In Finland and Norway, the collectively agreed rates in these industries are extended by law to firms without collective agreements (with the exception of retail in Norway; see Arbeidstilsynet 2018).

¹⁴ See, e.g. Skedinger (2006, 2015).

Table 1 Minimum wages in the Nordic countries

Collective agreement	Denmark		Finland		Norway		Sweden	
	2006	2016	2006	2016	2006	2016	2006	2016
Hotels and restaurants								
Monthly, national currencies	16 072	19 038	1 300	1 599	18 141	24 816	15 006	20 610
Monthly, euros	2 155	2 557	1 330	1 599	2 254	2 671	1 621	2 177
Hourly, national currencies	100.24	118.74	8.36	10.06	111.98	153.17	86.75	119.13
Hourly, euros	13.44	15.95	8.36	10.06	13.92	16.49	9.37	12.58
Percent of average wage (monthly)	58.1	52.8	49.7	46.6	59.4	56.2	60.1	61.8
Retail								
Monthly, national currencies	15 060	18 024	1 331	1 707	16 521	22 803	14 515	20 239
Monthly, euros	2 019	2 421	1 331	1 707	2 053	2 454	1 568	2 137
Hourly, national currencies	93.93	112.42	8.32	10.67	101.67	140.33	87.44	121.92
Hourly, euros	12.59	15.10	8.32	10.67	12.63	15.10	9.45	12.88
Percent of average wage (monthly)	54.5	50.0	49.8	49.7	54.1	51.6	58.2	60.7
Construction								
Monthly, national currencies	15 416	18 382	1 317	1 721	19 175	27 667	13 642	18 575
Monthly, euros	2 067	2 469	1 317	1 721	2 383	2 979	1 474	1 962
Hourly, national currencies	96.15	114.65	7.60	9.93	118.00	170.32	78.40	106.75
Hourly, euros	12.89	15.40	7.60	9.93	14.66	18.33	8.47	11.27
Percent of average wage (monthly)	55.8	51.0	49.2	50.1	62.8	62.7	54.7	55.7

Note: The rates apply to unskilled non-trainee manual workers (except cleaners, if covered by the collective agreement) without experience and at least 20 years of age. If the hourly (monthly) minimum rate is not stated in the collective agreement, we have converted it from the monthly (hourly) rate using the explicit formulas in the agreements. The stipulated working week is 37 hours in the Danish collective agreements, 37.5 in the Norwegian agreements and 40 in the Finnish and Swedish agreements. For retail in Finland, the rates apply to the region with lowest adjustment for cost of living.

Source: Own compilation of minimum wages from various collective agreements, using average gross monthly wages in full-time equivalents for the whole economy from UNECE and exchange rates from Eurostat. For details on the collective agreements included, see Ek and Skedinger (2019).

by low pay, nor is it a major employer of immigrants from outside the EU28, but it has attracted a substantial inflow of foreign workers from other EU countries. These individuals include posted workers, i.e., those employed by a foreign firm temporarily operating in the country, as well as workers employed by a domestic firm.

The rates in Table 1 pertain to a worker who is unskilled, without work experience and at least 20 years of age. These are the minimum rates at which a low-educated adult would normally be employed

in his or her first job in the selected industries (apart from apprentices and trainees, for whom special subminimum rates usually apply).

Minimum wage levels, expressed in euros, are highest in Norway, followed by Denmark and Sweden, and lowest in Finland. A more informative measure of the extent to which minimum wages cut into the wage distribution is the relative minimum wage, i.e., the minimum as a percentage of the average wage in the whole economy. These "bites" are consistently smaller in Finland (47-50% in 2016) than in

Table 2 Criteria for differentiation of minimum wages in the Nordic countries

Collective agreement	Age	Experience	Occupation	Region
Hotels and restaurants				
Denmark		X	X	
Norway		X	X	
Finland		X	X	
Sweden	X	X	X	
Retail				
Denmark		X	X	
Norway		X	X	
Finland		X	X	X
Sweden	X	X	X	
Construction				
Denmark		X	X	
Norway		X	X	
Finland		X	X	
Sweden	X	X	X	

Note: The criteria refer to 2016 and apply to non-trainee manual workers who are at least 18 years of age.
Source: See Table 1.

the other countries, and largest in Sweden (55-62% in 2016), except for construction.

Relative minimum wages in hotels and restaurants and retail have evolved differently over time in the Nordics. Compared to 2006, the minimum wage bite in hotels and restaurants in 2016 decreased in all countries except Sweden, where it increased from 60% to 62%. Similarly, relative minimum wages in retail have decreased in Denmark and Norway and increased in Sweden (from 58% to 61%). In construction, though, relative minimum wages have remained rather stable in all countries except for the decline in Denmark.

Displaying the minimum wages only for a standardised worker, Table 1 conceals the fact that minimum wages are differentiated along several dimensions in the collective agreements. Table 2 shows the criteria used for differentiating minimum rates in the selected agreements in the Nordic countries. All of the collective agreements in the four countries differentiate minimum wages by work experience and occupation. Differentiation by occupation always distinguishes between

unskilled and skilled jobs, but differentiation within the two categories also exists in some agreements. For adult workers, age is used as a criterion for differentiation only in the Swedish agreements, and it applies up to the age of 19 or 20. The collective agreement for retail in Finland is the only agreement that differentiates minimum wages by region, with slightly higher rates in areas with higher costs of living.

Differentiation of minimum wages by experience can be justified by economic theory, as more experience is assumed to increase the productivity of the worker. However, a closer look at the differentiation by experience in the collective agreements reveals that it is rather modest. Two years' experience, for example, yielded no higher minimum at all in two countries (Denmark and Sweden) and at most 2.8% (Finland) in hotels and restaurants for an unskilled worker in 2016. The corresponding range in retail is from 3.1% (Norway) to 4.5% (Sweden). Additional experience (above two years and up to at most ten years) is associated with higher minimum wages in almost all of these agreements.

Minimum wages in the Nordics are high by international standards.¹⁵ To the extent that high relative minimum wages act as hurdles for immigrants in the hotels and restaurants industry and in retail, data indicate that this is likely a more severe problem in Sweden than in the other Nordic countries. In line with this argument, our discussion in Section 2 pointed to relatively less successful labour market integration of the large population of immigrants in Sweden. Conversely, relative minimum wages are lowest in Finland. Data also suggest that the hurdles associated with minimum wages have become higher in Sweden during the last decade, while the other three Nordics have moved in the opposite direction and lowered them.

4. Research on minimum wages, spillovers and wage mobility

An assessment of the effects of minimum wages on the functioning of the labour market must address a number of questions concerning efficiency and distributional concerns. How large is the effect on employment in general, and for the low-skilled in particular? Are wages of incumbent and higher-paid employees affected by spillover from minimum wages? Do workers at minimum wages and other low-paid employees get stuck in these jobs or do they proceed to better-paid positions? This section reviews research on these questions, focusing on studies dealing with Nordic labour markets.

4.1 Minimum wages and employment

There is a voluminous international literature on the employment effects of minimum wages, but there is hardly any consensus on the issue.¹⁶ A survey by

Neumark and Wascher (2007) argues that most studies indicate negative effects, albeit in many cases small ones. Several findings also suggest that the negative effects are concentrated among the low-skilled. These views have been challenged in meta studies by Doucouliagos and Stanley (2009) and Belman and Wolfson (2014), who claim that publication bias favouring negative results has exaggerated adverse employment effects. However, these meta analyses do not take into account the methodological quality of the studies.

To what extent are the findings in the international literature relevant in the Nordic context? According to theoretical research, higher minimum wages may have both positive and negative effects on employment. Raising an initially low minimum wage may increase employment because labour supply will be larger. But if the minimum wage is high to begin with, employment will instead decrease because there will be less demand for labour. The competitive model, the monopsony model as well as search and matching models all predict that minimum wages decrease employment if the minimum exceeds the competitive wage, that is the wage at which the labour market clears under perfect competition (see e.g. Cahuc et al. 2014). On theoretical grounds disemployment effects are therefore more likely in the Nordic countries where minimum wages are much higher than in most other countries. Nonetheless, few minimum wage studies are concerned with the Nordic countries. This is somewhat surprising, since these countries are characterised by high minimum wages in low-pay industries that "bite" far into the wage distributions (as noted in Section 3).¹⁷

¹⁵ In OECD countries with statutory minimum wages, these ranged between 25% (US) and 51% (New Zealand) of average wages for full-time workers in 2016, according to the OECD.

¹⁶ See, e.g., Sabia et al. (2012), Giuliano (2013) and Dube et al. (2016) for some of the more recent studies on US data.

¹⁷ The dearth of studies is probably at least partly explained by the fact that the minimum wages are negotiated at the industry level, implying difficulties in matching bargaining areas with industries (as classified in databases available from national statistics offices) as well as uncertainty regarding whether a given worker or firm is actually covered by a collective agreement.

Table 3 Minimum wage studies in the Nordic countries

Study	Country	Target group/ sector and sample period	Analytic approach	Effect on employment
Albæk and Madsen (1987)	Denmark	Unskilled workers, 1976-78	Comparison of wage distributions	Negative Decrease in level of employment
Askildsen et al. (2000)	Norway	Manufacturing, 1991-95	Quasi-experiments	Mixed Increase in job separations to unemployment with increasing minimum wages, no effect on hirings from unemployment with decreasing minimum wages
Böckerman and Uusitalo (2009)	Finland	Youth, retail, 1991-96	Quasi-experiments	Mixed Share of employment and hours decreased after introduction of youth subminimum as well as after its removal
Edin and Holmlund (1994)	Sweden	Youth, engineering industry, 1972-91	Regression	Negative Decrease in level of employment
Eliasson and Nordström Skans (2014)	Sweden	Public sector, 2003-11	Quasi-experiments	Mixed Decrease in hirings. No effect on job separations in general or for immigrants, but increase for individuals with lower school grades
Forslund et al. (2014)	Sweden	Five case studies, 2001-10	Quasi-experiments	None No effect on job separations in general or for immigrants, but increase for individuals with lower school grades
Kreiner, Reck and Skov (2019)	Denmark	Youth, private sector, 2012-15	Quasi-experiments	Negative Increase in job separations
Lundborg and Skedinger (2014)	Sweden	Refugees, young natives, 1998-2007	Regression	Negative Increase in probability of and number of days in unemployment, larger for refugees than for young natives
Skedinger (2006)	Sweden	Hotels and restaurants, 1979-99	Quasi-experiments	Negative Increase in job separations with increasing minimum wages, increase in hirings with decreasing minimum wages
Skedinger (2015)	Sweden	Retail, 2001-05	Quasi-experiments	Negative Increase in job separations. Substitution of workers with higher wages for workers with lower wages

Note: Eliasson and Nordström Skans (2014) are not studying minimum wages in a strict sense but examine the employment effects of a one-shot increase in collectively agreed wages for a selected group of low-wage workers. Quasi-experiments rely on comparisons between individuals affected by a change in the minimum wage and individuals assumed to be unaffected by the change.

Source: Own compilation.

Table 3 summarises the Nordic studies on the employment effects of minimum wages.¹⁸ A majority of the studies – six out of ten – deal with Sweden, two with Denmark and one study each with Finland and Norway. Six studies report consistently negative employment effects, one study is unable to document any statistically significant effect and the remaining three yield mixed results. Various analytical approaches are used. Seven of the studies rely on quasi-experiments where individuals “affected” by minimum wage changes are compared to a control group of “unaffected” individuals.

Four of the Swedish studies examine how hirings and separations from jobs are affected by changes in minimum wages in a quasi-experimental setting. Skedinger (2006, 2015) finds that increased minimum wages cause more workers to lose their jobs or be separated for other reasons in the hotels and restaurants industry and in retail, respectively. Forslund et al. (2014) deal with minimum wage increases in five collective agreements in the private and public sector. Overall, the results indicate small or negligible effects on job separations. Eliasson and Nordström Skans (2014) study minimum wage increases for municipal workers and find that separations from jobs were little affected but hirings declined.

The most recent study, Kreiner et al. (2019), is also quasi-experimental and documents large job losses when Danish teenagers turn 18 – an age after which substantially higher minimum wages apply according to collective agreements. The oldest study in Table 3, by Albæk and Madsen (1987), also finds a negative employment effect but its analytical approach, originally developed by Meyer and Wise (1983), is

rarely used today. It has been criticised for not being robust to different assumptions about the functional form of the wage distribution and how far spillovers reach into the wage distribution (Dickens et al. 1998). Results in Askildsen et al. (2000) for Norway are mixed, but the choice of manufacturing as the target sector is problematic as minimum wages tend to be more binding in other sectors, primarily personal services. This is also manifested by the fact that there are few observations of individuals “affected” by changes in minimum wages in the data set, resulting in little statistical power.

Böckerman and Uusitalo (2009) examine a natural policy experiment in Finland, in which subminimum wages for youth in the retail sector were introduced on a temporary basis.¹⁹ The finding is that both the decrease in minimum wages and the subsequent increase were associated with a decline in employment for youth. The authors argue that the contradictory findings may be attributed to differential labour force or employment trends that they are unable to adequately control for in the short panel at hand.

Three studies (Forslund et al. 2014, Eliasson and Nordström Skans 2014, Skedinger 2015) examine composition effects in the workforce as minimum wages increase and find that more qualified workers are substituted for less qualified ones (which is consistent with many studies for other countries; see Neumark and Wascher 2007). Notably, this includes the one study that does not suggest any negative effect on overall employment (Forslund et al. 2014).

¹⁸ One Nordic study on the employment effects of minimum wages, Sauramo and Solttila (1985), is not included in Table 3, since it is written in Finnish (in which we lack proficiency). According to the working paper version of Böckerman and Uusitalo (2009), the study finds no negative effects on youth employment.

¹⁹ The subminimum applied to workers below 25 years of age and amounted to 80% of the lowest minimum wage, depending on occupation and region.

Separate results for immigrants are reported in three studies. Eliasson and Nordström Skans (2014) and Forslund et al. (2014) do not find any difference in the probability of separation from a job between natives and foreign born. In contrast, Lundborg and Skedinger (2014) find that refugee immigrants are considerably more likely than young natives to become unemployed as minimum wages increase. Unlike the other more recent studies, the authors rely on a regression framework to identify the effects.²⁰

Several of the features that characterise international research on minimum wages also apply to the Nordic studies. Long-term effects of minimum wages have been examined much less than short-term effects, even though theory suggests that disemployment effects may grow over time as firms adjust their capital-labour ratio (Sorkin 2015).²¹

Another characteristic in common with the international literature is that few studies investigate cuts in the minimum wage (see Hammarstedt and Skedinger 2017). This is not surprising, given that (nominal) decreases of minimum wages are rare. From a policy perspective, this gap in research is serious since the employment effects of wage increases and decreases are not necessarily symmetric. The effects of a decrease may be small because it can take time for new low-wage jobs that can absorb the supply of low-skilled workers to emerge. Employers may also be concerned that a decreased minimum wage would be associated with adverse effects on worker morale and effort. Accordingly, Böckerman and Uusitalo (2009) report low take-up rates of the Finnish temporary subminimum wage for youth. A survey of Swedish employers by Lund-

borg and Skedinger (2016) as well as experimental evidence in Eriksson et al. (2017) also suggest that quite large minimum wage reductions are required before employers are prepared to hire more immigrants.

The Greek experience in the aftermath of the financial crisis may provide the best evidence available on the effects of large reductions of the minimum wage. A reform in 2012 cut minimum wages substantially for workers as part of the country's structural adjustment programme, which was a condition for the rescue loans obtained. The reductions were differentiated by age: 32% for workers below the age of 25 and 22% for older workers. Yannelis (2014) finds a strong positive effect of the minimum wage cuts on employment of young workers relative to that of older workers, most of which was due to a substitution away from the latter to the former group. Karakitsios (2016) finds similar effects of the same reform.

To sum up, the evidence on the effects of minimum wage increases is more suggestive of negative employment effects for the Nordic countries than for other countries. This is consistent with the theoretical prediction that negative employment effects of minimum wages are more likely if these are high as is the case in the Nordics. There is not, however, any empirical research for the Nordic countries on minimum wage cuts.

4.2 Spillover effects

There is overwhelming evidence that minimum wage hikes are associated with wage increases for the lowest paid workers.²² Although rarely studied, minimum wage reductions can be expected to

²⁰ The wage data are too crude to allow a quasi-experimental approach, comparing "treated" individuals to those in a control group "unaffected" by minimum wages.

²¹ Meer and West (2016) find no immediate effects of minimum wage hikes on employment but adverse effects after one and two years.

²² See, e.g., Forslund et al. (2014) and Skedinger (2014) for results concerning Sweden.

have analogous direct effects, at least in the longer run.²³ However, effects of increases and decreases are not necessarily symmetric in the short term, as discussed previously. An often-expressed concern regarding such reductions of minimum wages is the possibly adverse *indirect* effects on the wages of incumbent workers higher up in the wage distribution. Such wage spillover can occur because of production technology. If minimum wage workers (A) and a group of more skilled and highly paid workers (B) are substitutes, employers may seek to hire more of A workers and less of B workers, when the wage of the former group falls. This may force also B workers to accept lower wages. However, if the groups are complements in production, so that B workers become more productive as more A workers are hired, B workers may see an increase in their wage.

The international literature on spillover effects of minimum wages is much smaller than that on employment effects, and the studies invariably consider only minimum wage increases. The findings are mixed: While some studies indicate that minimum wage hikes contribute to higher wages further up in the wage distribution, albeit not reaching very far, others suggest no spillover at all.²⁴ The National Institute of Economic Research (2007) shows that minimum wage increases in 2003–05 compressed the wage distribution in the hotel and restaurant industry and for employees in municipalities in Sweden. The increases also seem to have affected workers above the minima – but still far down in the distribution – through spillover. We are aware of no other Nordic studies on the subject.

As with employment outcomes, it is not clear whether spillover effects of minimum wage increases and decreases are symmetric. It also appears uncertain to what extent the findings in the international literature on wage spillover are applicable to the Nordic labour markets with their collectively bargained minimum wages.

A different, but related, strand of research deals with wage spillover for native workers due to immigration. The extent to which immigration causes wages of native workers to decrease, if at all, is a highly controversial issue.²⁵ Bratsberg and Raam (2012) study the impact of immigrants entering the Norwegian construction industry and exploit the fact that different occupations have different requirements on certification and licensing, giving rise to exogenous differences in immigrant inflows. The finding is that an increase in the number of immigrants entering a particular occupation has a negative effect on the wages of especially low- and medium-skilled natives. In contrast, recent work by Giovanni Peri and co-authors, including Foged and Peri (2016) for Denmark, finds that native workers are pushed into other, better-paying occupations, even though immigration may cause wages to decrease in a specific occupation.²⁶ According to the Danish study, larger refugee immigration increased the propensity of low-skilled natives to move to occupations with more complex tasks, resulting in higher wages for low-skilled natives. The findings indicate that immigrants and natives act as complements in production to each other.

Despite the lack of consensus in the literature, recent research thus indicates that immigration does not necessarily have detrimental effects on native

²³ The study by Yannelis (2014), discussed in Section 4.1, finds that young workers, who were subject to a larger drop in the minimum wage than older workers, also experienced a larger decrease in the average wage.

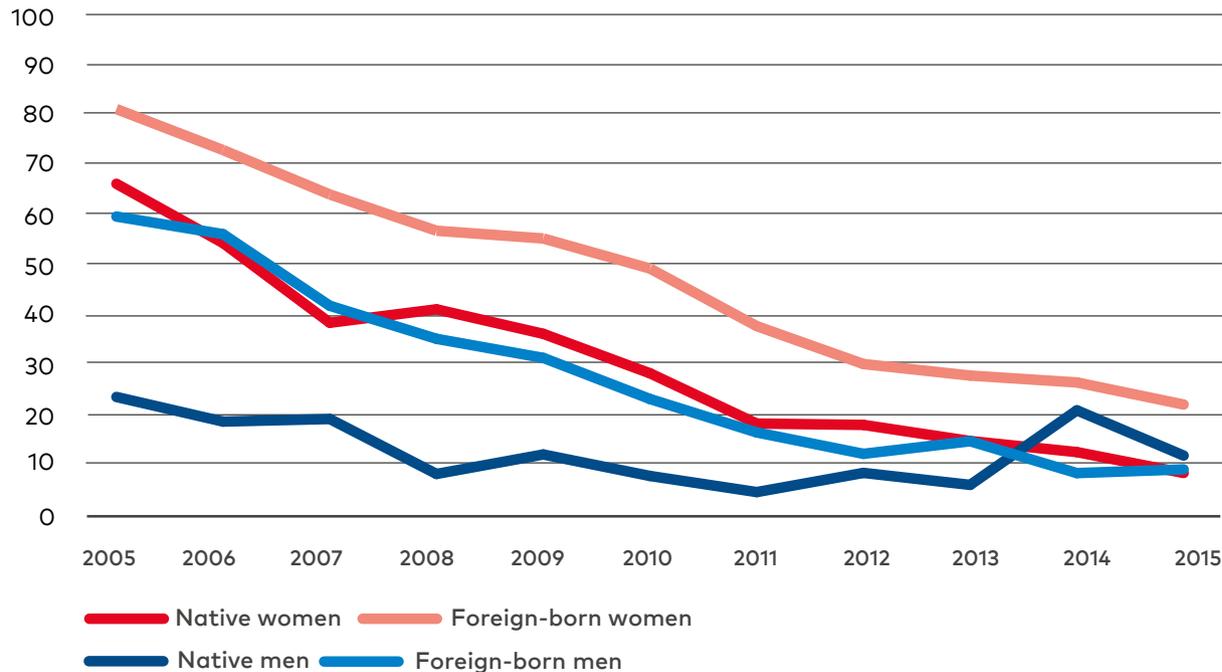
²⁴ See, e.g., Autor et al. (2016) for evidence indicating wage spillovers in the US and Stewart (2012) for evidence to the contrary for the UK.

²⁵ See, e.g., Card and Peri (2016) for a survey of the literature.

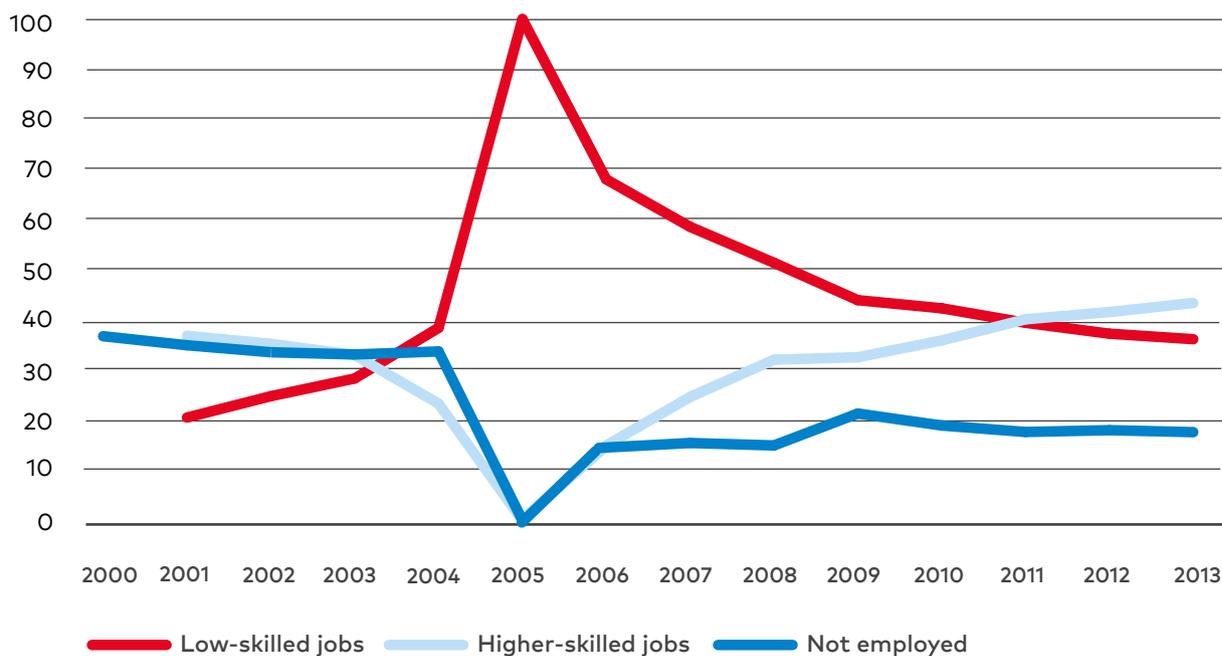
²⁶ See also, e.g., Peri and Sparber (2009), Ottaviano and Peri (2012) and D'Amuri and Peri (2014).

Figure 6 Trajectories of unemployed individuals who were hired on low-skilled jobs in 2005 in Sweden

(a) Persons with a wage in the lowest decile of the wage distribution, percent



(b) Persons in low-skilled jobs, higher-skilled jobs and non-employment, percent



Note: The diagrams apply to individuals aged 25-54 years who had at least 60 days of registered unemployment at the Public Employment Service in 2005 and who were employed in low-skilled jobs according to the International Standard Classification of Occupations in November the same year. These individuals are then tracked five years back (in panel b) and up to ten years forward in time. Panel (a) shows the share of all workers from this group (employed at a particular point in time) who are in the lowest decile of the Swedish wage distribution of workers aged 18-64 years. Panel (b) shows the share of all workers from this group who are either employed in low-skilled (elementary) occupations, higher-skilled (not elementary) occupations or not employed in November in different years. Source: Calmfors et al. (2018a).

workers' wages. This is relevant to our discussion, since it suggests that incumbent workers may be able to transition to other jobs should wages in their current occupation fall, at least if the reduction is caused by large immigration inflows and possibly also if it is due to lower minimum wages.

4.3 Wage mobility

A potential downside of minimum wage cuts to facilitate the creation of low-skilled jobs is the risk that more workers may be stuck with very low wages. Therefore, the extent to which low-wage workers are able to proceed to jobs with higher skill requirements and higher wages is important for the long-run effects of minimum wage policy.

There is a large international literature on wage and earnings mobility.²⁷ It explores the characteristics of low-wage workers and whether low-wage jobs act as stepping stones to better-paid jobs or lead to lower future wages through, e.g., stigmatisation or deterioration of human capital.

Forslund et al. (2012) and the National Institute of Economic Research (2014) study workers in the lowest decile of the Swedish wage distribution in 2000 and 2008, respectively. Only few of these workers experienced low-wage persistence in the long term, but it was more common for women, older workers, lower educated and foreign born. Nonetheless, most workers leaving jobs with low wages did not move very far upwards in the wage distribution according to the second study. Similar results are presented by Skedinger (2014), who analyses low-wage persistence in the short term in the Swedish hotel and restaurant industry and retail. Few workers in the lowest decile of the intra-industry wage distribution

remained there in the following year, but most workers moved only to the second-lowest decile.

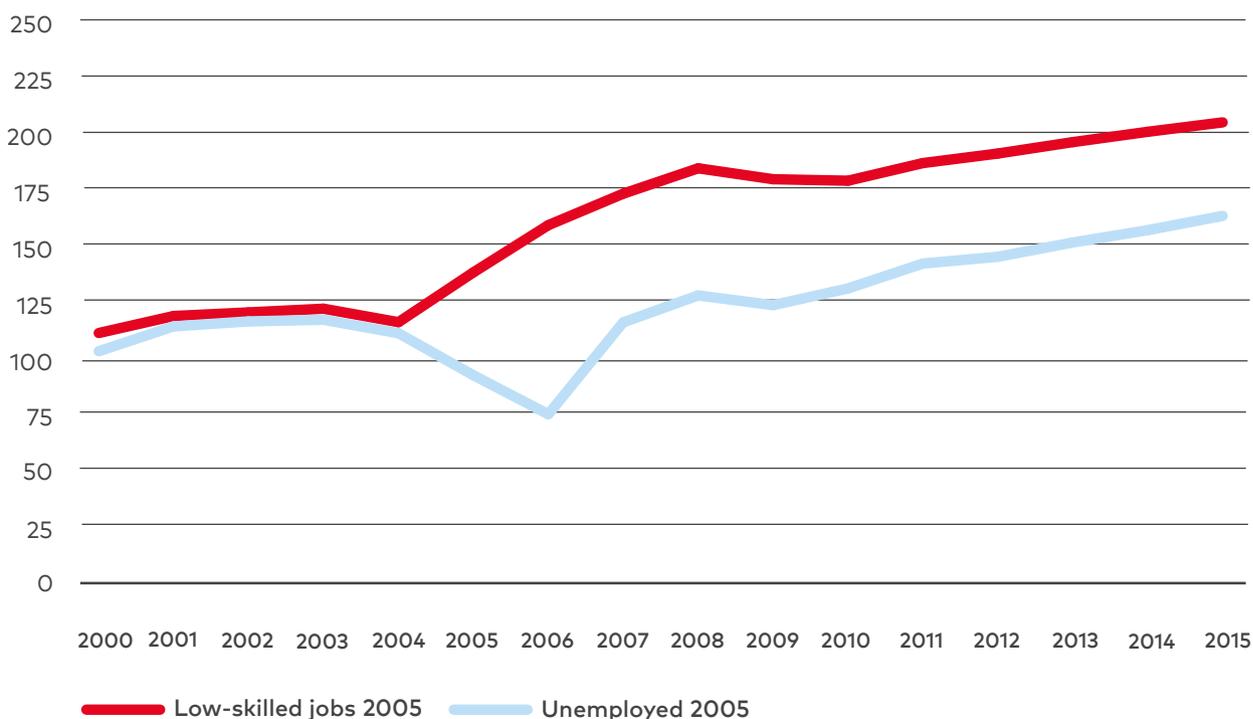
For Denmark, Deding (2002) finds that men and workers with less work experience had a higher probability of leaving low-wage employment between 1992 and 1995 than women and more experienced workers. Swedish low-wage workers who switch sector, occupation, workplace or participate in education have an increased probability of leaving low-wage employment, according to the National Institute of Economic Research (2014).²⁸

In previous work (Calmfors et al. 2018a), we study the stepping-stone effect of low-skilled jobs in, e.g., cleaning, hotels and restaurants in Sweden – elementary occupations in the terminology of the International Standard Classification of Occupations. We examine the long-term labour market outcomes for unemployed persons who took such jobs in 2005, as shown in Figure 6. Panel (a) reports the share of all employees from this group who had a wage in the lowest tenth of the wage distribution between 2005 and 2015. Although many workers, especially foreign born and women, are hired at wages in the lowest decile of the wage distribution, the majority transition to higher wages over time. Quite a few of them also eventually move to more skilled occupations. This is evident from panel (b), which shows the share of all individuals in the studied group who were employed in low-skilled jobs, in higher-skilled jobs and not employed in November 2000-13. For instance, eight years after entry into a low-skilled job, 43% were employed in occupations with higher skill requirements.

²⁷ See McKnight et al. (2016) and Schnabel (2016) for reviews of the international literature. Asplund and Eriksson (2000) provide a review of earlier research from the Nordics.

²⁸ In general, foreign studies show that education and (on-the-job) training increase the probability of – but far from guarantee – upward wage mobility and future employment. The effect likely depends on the scope and quality of the training (see McKnight et al. 2016 for a discussion).

Figure 7 Annual earnings of unskilled unemployed individuals who were hired in low-skilled jobs or who remained unemployed in November 2005 in Sweden, in thousand SEK



Note: The figure compares the annual earnings (in thousand SEK, 2015 prices) of low-skilled individuals (less than upper secondary school education), aged 25-54 years, who had at least 60 days of registered unemployment at the Public Employment Service (PES) in 2005 and who were employed in low-skilled jobs in November the same year, with earnings of low-skilled individuals, also with at least 60 days of unemployment, who remained registered at the PES in November. We utilise nearest neighbour matching to make individuals within the two groups more comparable. Matching is performed on gender, birth region and educational attainment (exact matching) as well as age, years since immigration (for foreign born), earnings in 2004 and registered unemployment days in 2004 and 2005 (as close matching as possible). Matching is performed with replacement. All workers in low-skilled jobs in 2005 are matched to persons who were unemployed in 2005 but not vice versa.
Source: Calmfors et al. (2018a).

Further analysis in Calmfors et al. (2018a), however, shows that this process does not lead very far – neither in terms of the wage level nor occupational skill requirements. Around 15% of workers also quickly leave employment after entering low-skilled occupations. Foreign-born and low-skilled workers have less favourable long-term labour market outcomes than natives and high-skilled workers, but low-skilled jobs act as a path to employment to a larger extent for foreign born than for natives. Another observation is that among the unemployed with tertiary education who take up low-skilled jobs, many are foreign-born. Finally, we find a positive, but small, relationship between the share of high-skilled jobs at the firm of the low-skilled job entrants and their probability of transitioning to occupations

with higher skill requirements in the future. Hence, the characteristics of the workplace also seem to affect future wage and job mobility.

Figure 7 estimates the effect on annual earnings of entering a low-skilled job. We compare the annual earnings of low-skilled, unemployed individuals taking such jobs with those of unemployed who remained registered at the Public Employment Service in November 2005. The latter group thus acts as a control group. To improve comparability of the two groups, we match each individual from the first group to an individual in the second group with as similar observable characteristics as possible. Then we only compare the outcomes of the matched individuals. According to the results, average earnings

were markedly higher among the unemployed who took low-skilled jobs than in the control group – both in the short and long term.²⁹ Taking low-skilled jobs may thus be a favourable strategy for the unemployed with little education.³⁰ Even so, low-skilled jobs do not generally work as shortcuts to more qualified jobs: the share of workers in jobs with higher skill requirements in 2013 was markedly lower among workers who took low-skilled jobs than for those who remained unemployed in November 2005 (Calmfors et al. 2018a). This means that one should not expect low-skilled, low-paying jobs to quickly lead to better-paid jobs, even though a sizeable share of the low-skilled entrants eventually transitioned to more skilled occupations.

There is some related Nordic research on the wage assimilation of immigrants. Husted et al. (2001) and Nielsen et al. (2004) find that the wage catch-up for non-labour immigrants in relation to natives in Denmark is strongly related to work experience, especially for males. This suggests that finding a job soon after arrival is important for future wage levels. Ansala et al. (2018) report that entry-job characteristics, like co-worker earnings, strongly predict both initial and future annual earnings for immigrants in Sweden and Finland. Apparently, the nature of the entry job – not just having found one – also plays an important role.³¹

5. Policy conclusions

Our analysis has shown that there are large groups of low-skilled immigrants in the Nordic countries and that labour market integration is problematic

mainly for these immigrants (and much less so for those with higher skills). We have also documented relatively high wage floors in industries that employ low-skilled workers. Our conclusion is that the productivity of many low-skilled immigrants does not match the wage levels associated with the Nordic labour market models.

Could minimum wage reductions improve labour market prospects for low-skilled immigrants? We think so, but such cuts would probably need to be fairly large, implying a trade-off between increased employment and increased wage inequality that should be taken seriously.³² In our opinion, the case for minimum wage reductions to improve labour market integration for immigrants is strongest in Sweden, almost as strong in Denmark, Finland and Norway, but weak in Iceland. Sweden stands out with the largest number of immigrants born outside the EU28 relative to the working-age population, the largest employment gap between natives and those born outside the EU28, and the highest minimum wages in the low-wage sectors that we have examined.

It is sometimes argued that low take-up of generous employment subsidies is evidence against large employment effects of minimum wage cuts.³³ But employer surveys show that this is not necessarily the case, since employers report a multitude of reasons for not using employment subsidies despite lower wage costs: a belief that those eligible for support do not have the appropriate skills, a lack of knowledge about the availability of subsidies, demanding contacts with the authorities, the need

²⁹ Even though we use matching to control for observable worker characteristics in our analyses, there may still be unobserved heterogeneity between the groups that we have not accounted for. Consequently, the results should be interpreted with some caution.

³⁰ This is also suggested by the international literature on low-wage persistence (see Schnabel 2016).

³¹ See also Barth et al. (2012) and Eliasson (2013) for studies on the wage catch-up of immigrants relative to natives in Norway and Sweden.

³² The trade-off between increased employment and increased income inequality is less certain, as there are large differences in income between those with and those without jobs.

³³ See, e.g., Swedin (2017).

for mentoring and so forth (Calmfors et al. 2018a). One could add that the temporary nature of the employment subsidies and their being subject to political discretion also make it quite unlikely that firms would endeavour to set up large-scale operations relying on such subsidies. It has proven especially difficult to achieve large volumes for programmes that combine subsidised employment with education and training. The Swedish vocational introduction jobs, YA jobs (*yrkesintroduktionsanställningar*), for youths, the long-term unemployed and newly arrived immigrants, is a case in point. YA jobs require the employer to have a collective agreement, are complex to administrate and engaged only 600 participants in January 2019, which is far below expectations when the programme was launched in 2014.

In 2016, Denmark introduced a special programme with subminimum wages for refugees, the Basic Integration Training Programme, IGU (*integrationsgrunduddannelse*).³⁴ Refugees and their reunited family members, aged 18-40, who have resided in Denmark less than five years are eligible for the two-year programme, which combines work with 20 weeks of schooling. Unlike the Swedish YA jobs, employers are not required to have a collective agreement. Employers should apply the minimum wage for trainees in the corresponding agreement. These wages are in most cases lower than the regular ones for non-trainees but differ substantially across agreements. In hotels and restaurants, for example, IGU workers are at present (December 2018) entitled to 62% of the regular industry minimum during the first year and 68% during the second, while the corresponding figures for 18-25-year-olds in construction are 79% and 93%, respectively. Those aged 26 and older in construction receive no less than 100% of the minimum. As in the YA programme, take-up rates have been low, with only about 1 800

workers having registered from July 2016 to November 2018 (Ministry of Immigration and Integration 2018b). Critics of the programme have zeroed in on its bureaucratic procedures, including the stipulation that workers receive a wage that differs by industry rather than a flat, low rate (Centre for Political Studies 2017).

As argued in Calmfors et al. (2018a), *global* minimum wage reductions, pertaining to the whole labour market, are likely to result in higher employment but also wider wage disparities, since many incumbent workers – both those on minimum wages and some of those indirectly affected through spillovers – would probably see their wages decline. Some form of *targeted* minimum wage reductions could achieve a better balance between the two conflicting goals of high employment and wage equality. The proposal outlined in Calmfors et al. (2018a) builds upon the idea that minimum wage reductions should apply only to permanent, new types of jobs for the low skilled. Tasks in these jobs, which could include janitors, receptionists, handymen, caretakers, manual help/assistants (in construction), “pick and pack” (in warehouses) and the like, should involve various types of assistance to more skilled workers. Due to high wage floors, these tasks are not carried out at all today or performed by the skilled workers themselves according to employer surveys. If the new workers are complementary to the existing work force, so that their productivity increases, wage spillovers could be positive rather than negative. We also noted above that the labour market mobility of low-wage and low-skilled workers tends to be higher in firms with more skilled workers. This suggests that low-skilled jobs that complement more qualified ones could be associated with higher wage mobility than other low-skilled jobs.

³⁴ See Ministry of Immigration and Integration (2018a) for more details.

The poor take-up rates in the Swedish YA and Danish IGU programmes, in particular, point to the importance of minimal bureaucracy and a flat, low wage rate. About a third of Swedish employers report that they would hire workers in new types of low-skilled jobs for monthly wages of SEK 14 000-15 000 (about € 1 470-1 580, and roughly 70% of the minimum wage in hotels and restaurants and retail at the time of the survey). This could be an appropriate wage level in the new types of jobs. It is preferable that the subminimum is negotiated between employers and unions and not introduced through legislation. Political involvement in wage setting is not only alien to the traditional Nordic labour market models, but also increases the risk of opportunistic election promises from politicians in the longer term.

To reduce the risk that workers in the new jobs get stuck in low-wage jobs, it is important that training and education opportunities are provided. However, forcing employers to provide them may not be a viable policy option since this can affect their willingness to hire workers. An alternative strategy is to give workers generous possibilities to combine low-wage jobs with education, with financial study support given directly to individual employees. This could increase possibilities of advancing to higher-paying jobs. Even so, workers without the necessary skills required by current minimum wage levels can be expected to receive lower future wages than those of incumbent low-wage workers. It is not realistic to assume that very low-paid jobs would enable the foreign born with a weak connection to the labour market to quickly proceed to more qualified and higher-paying jobs. This speaks to the usefulness of targeting earned income tax credits to low-wage workers to reduce net-of-tax wage inequality and stimulate labour supply to such jobs.

A targeted minimum wage reduction could be combined with other changes in the minimum wage systems in the Nordic countries. As we have seen, differentiation of minimum wages is quite modest and could be expanded, both according to experience and region.³⁵ If, say, lower minimum wages for inexperienced workers were combined with a contemporaneous hike of those for more experienced workers, this would not necessarily increase wage inequality in a life-cycle perspective.

As discussed previously, the employment impact of minimum wage reductions seems to be more uncertain than that of increases, simply due to the fact that the former are more unusual and thus have not been studied to the same extent. This makes careful evaluation of any future minimum wage reductions all the more important. It would be helpful if some minimum wage changes could be carried out in an experimental setting, as proposed by Hammarstedt and Skedinger (2017), in order to improve our knowledge of the employment effects of minimum wages.³⁶

Discussions on labour market integration have suffered from a tendency to regard minimum wage reductions as a *substitute* to other policies, such as adult education and employment subsidies. A more constructive approach is to see the different policies as *complements*. Taken in isolation, minimum wage reductions, adult education and employment subsidies cannot be expected to strongly enhance employment, according to the empirical evidence reviewed in Calmfors et al. (2018a). If minimum wage reductions are part of a wider policy package, however, the combined effects on labour market integration of immigrants could be substantial.

³⁵ Greater differentiation of minimum wages to improve labour market integration has also been advocated in the Swedish context by Nordström Skans et al. (2017)

³⁶ See Horton (2017) for a randomised field experiment on the employment effects of minimum wages in the US.

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