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Precariousness in Norway and Sweden: a comparative register-based study of longstanding precarious attachment to the labour market 1996–2015

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ABSTRACT

Precariousness in working life is a rising concern in Europe, but scant statistical evidence exists as to the prevalence and development of longstanding precarious employment. Using high-quality individual-level population-wide register data across several decades, this study addresses this issue in Norway and Sweden. Longstanding precarious attachment to the labour market was defined as low/marginal work income during eight years, with frequent substantial income drops and/or reliance on income maintenance schemes. In the core working-age population, 15.3 percent in Norway and 20.0 percent in Sweden had this employment attachment during 1996–2003. Women, low educated, and foreign-born were at higher risk. Contrary to expectations, in 2008–2015, longstanding precarious attachment had declined to 12.7 percent in Norway and 14.5 percent in Sweden. Women in particular, but also immigrants, had attained stronger labour market attachment in the latter period. These results could indicate that key welfare state elements such as trade union strength, strong employment protection and active labour market policies have been successful in shielding workers from negative labour market developments. However, certain population categories with particularly high risk of precarious employment, such as young adults and short-term and undocumented immigrants, have not been analysed by this study.

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KEYWORDS Precarious work; migration and work; Norway; Sweden; welfare state; register study

Introduction

Precariousness in the labour market is a rising concern, but its prevalence varies considerably across Europe (OECD 2019a; Avlijas 2019; Gutiérrez-

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Barbarrusa 2016). Countries such as Norway and Sweden, exemplifying the Nordic, also known as social democratic, welfare regime (Esping-Andersen 1990), could be expected to restrain the spread of non-standard, instable and insecure attachment to the labour market, because of employment protection legislation, trade union influence, high employment rates, and generous social security systems (Ilsøe *et al.* 2019). Since the 1990s, however, economic crises and policy reforms have raised the question whether the Nordic welfare states have lost some of their defining characteristics (Dølvik *et al.* 2015). Many core principles in this model remain intact, but certain institutional and demographic developments could have led to more precariousness in the labour markets in these countries (Dølvik and Røed Steen 2018).

The overall purpose of this study is to compare the development of *longstanding precarious attachment to the labour market* in Norway and Sweden. The aim is to shed light on three questions. First, we provide estimations of the proportion in the adult population that can be classified as having a longstanding precarious placement in work life. Second, we investigate whether such longstanding precarious attachments have become more common over time. Third, we pay particular attention to the foreign-born population by examining developments of longstanding precarious labour market attachments among immigrants in Norway and Sweden.

In the following, we first outline the background for the current research interest in precariousness on the labour market and discuss conceptual questions and measurement challenges. Thereafter, similarities and differences between the Norwegian and Swedish context are surveyed, before we proceed to data description and the empirical analyses.

Background and concepts

A minimal definition of precariousness on the labour market could refer to the combination of low pay and employment insecurity (Kalleberg 2009). Rodgers and Rodgers (1989) provide additional distinctions in their influential work by distinguishing between four dimensions of precarious work: (i) economic – poor pay and insufficient salary progression, (ii) organisational – lack of workers' individual and collective control over working conditions, (iii) temporal – low certainty regarding continuation of employment, and (iv) social protection – lacking protection against unfair dismissal or discrimination and lacking social security benefits. Commonly, precarious work is contrasted to the standard

employment relationship, i.e. an open-ended, full-time, employment contract with one employer. This employment relationship spread in the first half of the twentieth century and became common in advanced capitalist countries during the first decades after the Second World War, particularly in manufacturing and industrial work (Bosch 2004). Later on, it came under pressure as non-standard employment in the form of part-time jobs, temporary work and fixed-term contracts, seasonal and casual employment, agency work, zero hours contracts, solo self-employment, and undeclared work, became more common in a number of countries (Kalleberg 2009; OECD 2019a; Eurostat 2020a; Eurofound 2017).

Although non-standard and precarious employment share many features, they are not entirely the same. Precariousness points to insecurity and often to very disadvantageous, even degrading, working conditions, whereas non-standard work may sometimes be freely chosen because of personal preferences (Frase 2013). Following Campbell and Price (2016), precariousness has multiple aspects. One distinction is between 'precarious employment' and 'precarious work'. The former points to adverse features of the contractual relationship between employer and worker, whereas the latter term may be used for suboptimal or hazardous job tasks or work environments (Rodgers and Rodgers 1989). A further distinction can be made between 'precarious workers', which refers to the individual men and women in precarious employment, and the 'precariat', which is a concept popularised in the works of Guy Standing (2011) suggesting that precarious workers are in the process of forming a social class with a distinct political role. This notion has however been questioned by several authors who point to the heterogeneity between the segments of the labour force that could be regarded as belonging to a precariat (Frase 2013; Wright 2016). Finally, the concept of 'precarity' has been used to refer not only to work, but also to connected life circumstances, such as housing, debt, welfare and time use. In this broad sense, precarity refers to an overarching existential state characterised by far-reaching uncertainty that hinders well-being and life quality (Butler 2004).

The need for longitudinal measurements

Previous research has measured working life precariousness in different ways. Lewchuk (2017) focused mostly on the employment relationship (e.g. temporary employment, self-employment) and job security,

whereas Puig-Barrachina *et al.* (2014) utilised 11 indicators (e.g. employment contract, income level, work schedule determination, and long working hours). Previous research has in most cases used cross-sectional survey data, such as the European Labour Force Survey (Eurostat 2020a). These surveys provide data on the occurrence of temporary work contracts, job insecurity, and low-income jobs at specific time points and may provide valuable information on general labour market trends over time on an aggregated level. In addition, there are a number of longitudinal studies which have analysed individuals' labour market transitions and precarious work over time (Bekker and Pop 2020; Berloffa *et al.* 2016; Brzinsky-Fay 2007). A disadvantage is that available panel data often cover short periods and suffer from substantial attrition, but such shortcomings may be partly overcome by simulation techniques (Mack *et al.* 2016:9; OECD 2015:168). Moreover, the use of sequence and cluster analyses can be helpful for identifying employment trends and work career trajectories in the population (Fuller and Stecy-Hildebrandt 2015; Ojala *et al.* 2018).

A central conclusion from these studies is that precariousness in working life will be insufficiently analysed if longitudinal aspects are overlooked. For example, temporary experiences of low income or insecure employment, which is often the reality for young professionals who have just entered working life, is not necessarily a reason for concern if a permanent or full-time contract is expected in the near future. The *duration* of precarious attachment to the labour market is a crucial factor, both with regard to individual welfare and living conditions, but also for social policy development. Accordingly, this study adds to previous studies by utilising a measure which indicates work trajectories across eight years, thereby contributing to longitudinal research on the topic.

Norway and Sweden: similarities and differences

This comparative study addresses two Nordic countries typifying the Nordic welfare state model, which primarily developed in the latter half of the twentieth century (Greve 2007). Norway and Sweden share an egalitarian tradition with comparatively low income inequality (OECD 2020a), free or heavily subsidised education and healthcare, as well as relatively generous and universally available income protection schemes. Trade unions have considerable strength, as indicated by high unionisation rates and collective bargaining coverage (OECD 2020b). Employment protection legislation is comparatively strong (OECD

2020c), and the availability of active labour market programmes is yet another defining characteristic of these two countries. Whereby the material living standard is comparatively high in both countries, Norwegian oil and natural gas resources have made the country one of the wealthiest in the world, with higher average, price-adjusted household income than Sweden (Eurostat 2020b). Sweden's economy, on the other hand, is largely based on an export-oriented industrial and manufactural sector which is highly reliant on trends in the global economy. Nonetheless, the adverse effects of the 2008 economic crisis were relatively modest, and in recent years, Sweden has maintained high employment rates, exceeding the employment rates of Norway (OECD 2019b).

In recent decades, however, Norway and Sweden have taken slightly different paths in relation to labour market policy and the welfare state, and these differences may have implications for how precariousness has developed in the two countries.

In terms of *institutional environment*, both countries have experienced adaptions to a neoliberal organisation of the labour market and the welfare state, including deregulation, privatisation, weakening trade unions and introduction of so-called workfare policies (Dølvik *et al.* 2015; Larsson *et al.* 2012; Lyngstad 2008; Kananen 2012). These tendencies have arguably gone further in Sweden than in Norway, as indicated by studies on privatisation in elderly care (Meagher and Szebehely 2013), education (Wiborg 2013), and sickness insurance systems (Hagelund and Bryngelson 2014). Swedish labour market reforms and austerity measures, many initiated after the 1990–94 economic crisis, have reduced the generosity and coverage of several income maintenance schemes, in particular unemployment benefits (Lorentzen *et al.* 2014; Farrants and Bambra 2018; Rasmussen *et al.* 2019). Efforts to combine increased flexibility in the labour market (i.e. relaxed employment protection legislation) without reducing workers' security (i.e. maintaining income protection schemes) have occurred, although so-called 'flexicurity' reforms are primarily associated with the neighbouring state of Denmark and not with Norway or Sweden (Vulkan 2016).

Country differences are also indicated by the frequency of temporary work contracts, which are more widespread in Sweden than in Norway. In the early 1990s, around 10 percent of Swedish employees had a temporary work contract. After the 1990s economic crisis and labour legislation reforms implemented in Sweden in the following years, this proportion increased sharply to around 15–17 percent (Svalund and

Berglund 2018). A more recent development concerns not only the frequency, but the type of temporary employment. In the 1990s, fixed-term substitute positions were the most common form of temporary employment in Sweden, but from 2005 and onwards, the on-demand temporary employment has been more widespread (Berglund *et al.* 2017). The differences between Norway and Sweden remain substantial: in 2015, the prevalence of temporary work contracts among all employees was 16.6 percent in Sweden and 8.0 percent in Norway (Eurostat 2020a).

In terms of *demographic developments*, both Norway and Sweden have an ageing population with around 20 percent projected to be over the age of 65 in 2025. This is partly compensated for by a positive net migration, with immigrants being generally younger than the native population. During the 1990s, the immigrant share of the total population was clearly larger in Sweden than in Norway. The relative increase 2000—2015 of the immigrant population has been larger in Norway, and in 2015, the two countries were comparable as to overall foreign-born proportion in the population: 16.6 percent in Sweden and 14.2 percent in Norway (World Bank 2019). However, migration patterns have differed somewhat, with work immigration being more common in Norway, in particular since the enlargement of the European Economic Area in 2004 and 2007, while the refugee proportion of the immigrant population is larger in Sweden (Nordic Statistics 2019).

On this background, some hypotheses can be suggested. First, both in Norway and Sweden, it can be expected that a sizeable proportion of the working-age population has a longstanding precarious attachment to the labour market. The general economic and institutional drivers behind precariousness in Europe (ILO 2016) are likely to have been influential also in Norway and Sweden, since their economies are deeply integrated in the international economy. We furthermore expect that since temporary work contracts are more prevalent and income maintenance schemes less generous in Sweden than in Norway, longstanding precariousness will be more common in Sweden.

Second, as to time trends, various authors argue that precariousness in work life has been steadily increasing in advanced capitalist societies (e.g. Standing 2011; Gutiérrez-Barbarrusa 2016; Wright 2016). Nonetheless, empirical studies of typical indicators of precariousness, such as fixed-term contracts and part-time work, indicate considerable country differences (ILO 2016; Avlijas 2019). As to the Norwegian and Swedish situation, neoliberal reforms as well as global competition could have led to increasing occurrence of longstanding precariousness in work life.

This hypothesis is uncertain, however, as it cannot be precluded that certain features of these two welfare states (e.g. trade union strength, employment protection legislation) could have shielded the labour force from such developments.

Third, as to the foreign-born population, their well-known difficulties in the labour market (Calmfors and Gassen 2019) make it highly likely that longstanding precariousness is more widespread in the immigrant population. Sweden's larger refugee population may lead to more precariousness in the immigrant population than in Norway, but the steeper rise in the Norwegian immigrant population since 2000 could mean that precarious attachment to the labour market has become more common among immigrants in Norway.

Data and methods

Data and study populations

In Norway, public register data with linked individual-level information were obtained from an online data portal (https://microdata.no/en/) administered by Statistics Norway (NSD/SSB 2019). Since data security is ensured by inbuilt devices that block access to information about identifiable individuals, no particular ethical permission is necessary for authorised researchers to use these data for research purposes. The Swedish data were obtained from the LISA database (Statistics Sweden 2019) which contains information on labour market participation, income, education and social assistance. Although fully anonymised, an ethical permission is required to access the Swedish data, and the study has been approved by the regional ethics committee in the Stockholm region (project number 2017/716-31/5).

The study populations consist of two Norwegian and two Swedish cohorts. Cohort 1 includes all men and women born 1941–1970 who lived in Norway or Sweden in the years between 1996 and 2003. These individuals were aged 26–55 years during the first year of observation (1996). As they were followed for eight years, they were aged 33–62 years old in the last observation year (2003). Similarly, Cohort 2 includes all men and women born 1953–1982 who resided in Norway or Sweden in the eight years between 2008 and 2015, therefore aged 26–55 in 2008 and 33–62 in 2015. The study periods and cohorts were defined as a result of the endeavour to find a balance between sufficient follow-up time in order to capture longstanding precarious attachment to the labour

market on the one hand, and the need to minimise the number of students and (early) pensioners in the study populations on the other.

Classifying longstanding labour market attachments

Earlier studies on precariousness in the labour market have mostly used information on types of employment contracts, but also including, to varying extent, working time, income, work place rights, access to social benefits and the volatility of working careers (Lewchuk 2017; Kalleberg 2014; Puig-Barrachina *et al.* 2014). In this study, we highlight *work income trajectories* as a central measure of longstanding precariousness on the labour market. This refers to the level of income, but also to income security which might be challenged in case of instable, fluctuating and unpredictable employment relations. Part-time employment, short-term contracts, short-notice loss of job, spells of unemployment, and episodes of being entirely outside the labour force, will be reflected and summarised in an individual's work income trajectory (Kalleberg 2014).

Accordingly, in this study, we have used information on the *level* of and *drops* in work income across eight years, provided by public taxation registers, for classifying the study populations into categories of longstanding labour market attachment. In addition to income drops, repeated reliance on income maintenance schemes (unemployment benefits and social assistance) is used as a sign of instability and insecurity.

Since the study encompasses two decades (1996–2015), with nominal as well as real changes in income levels, income information was made comparable over time by recalculating annual work income into units of 'income base amounts'. One income base amount (hereafter BA) is an indexed income measure used in both Norway ('grunnbeløp') and Sweden ('inkomstbasbelopp') for various social security purposes. The BA is adjusted annually in line with changes in wage levels and cost of living, and is therefore well suited for analyses of income data over time.

The classification of longstanding labour market attachment proceeded in two steps and was based on the two fundamental precariousness dimensions of income level and security. In step one, we divided the study populations according to level of work income across the eight-year period. Similar to previous Nordic studies (Nilsson and Bäckman 2010; Widding-Havnerås 2016) we used 3.5 BA in yearly work income as a threshold. Both in Norway and Sweden, 3.5 BA is roughly similar to the yearly pay for a full-time, full-year worker in the *lowest* income brackets, and corresponds to approximately two thirds of the median work income. Thus, an

average annual work income above 3.5 BA across eight years would usually signify a relatively secure placement in the labour market and is here termed 'standard employment'. Those with an average work income between 2 and 3.5 BA were classified as having 'low' income; those with an annual income between 0.2 and 2 BA were classified as 'marginal'; and an average work income below 0.2 BA was denoted 'no/negligible work income'.

In step two, we divided the standard employment group into three subgroups: 'high income' (average annual income over 7 BA), 'middle income' (average annual income between 3.5 and 7 BA), and 'standard, but unstable' (average annual income over 3.5 BA, but experiences of years with income less than 3.5 BA). Thereafter, we identified those considered to have a longstanding *precarious* attachment to the labour market. This category was defined as not only having low or marginal work income, but also, large income fluctuations or other signs of economic uncertainty and insecurity. Thus, among those with 'low work income' and 'marginal work income', we located those who had two or more years of at least 20 percent work income decline, or three or more years of unemployment benefit and/or social assistance receipt. Together, the 'unstable low income' and 'unstable marginal income' categories – categories 2b and 3b (see Table 1) – constitute *longstanding precarious attachment to the labour market* – for simplicity, also termed *precarious employment*.

Demographic variables

Demographic variables include sex, year of birth, educational level, and country of origin. The educational variable differentiates between two categories: no versus any post-secondary education (ISCED 4 or more). Five categories indicated country of origin: Natives (born in Norway or Sweden, including second-generation immigrants); other Nordic countries (Denmark, Finland, Iceland and Norway or Sweden); other high-income countries (European Union member states, plus USA, Canada, Australia and New Zealand); other European countries (non-EU European countries, plus Russia and Turkey); and finally other non-European countries (mostly refugees and family reunified immigrants from African, Asian, and Latin American countries).

Analyses

The three research questions will be addressed by descriptive analyses and cross-tabulations, supplemented by regressions models (linear

Table 1. Classification of longstanding labour market attachment.

Employment group	Definition
1. Standard employment	Average yearly work income exceeds 3.5 BA during 8-year period
a) Standard, high income	Work income exceeds 7 BA each year during study period
b) Standard, middle income	Work income above 3.5 BA each year
c) Standard, but unstable	Average yearly work income during 8-year period more than 3.5 BA, but work income below 3.5 BA some years
2. Low work income	Average yearly work income between 2 and 3.5 BA
a) Low but stable income	No or singular experience of income decrease, unemployment and/or social assistance during 8-year period
b) Unstable low income	During 8-year period: minimum two income decreases of at least 20%, and/or receipt of unemployment benefits and/or social assistance in minimum three years
3. Marginal work income	Average yearly work income between 0.2 and 2 BA
a) Marginal but stable income	No or singular experience of income decrease, unemployment and/or social assistance
b) Unstable marginal income	During 8-year period: minimum two income decreases of at least 20%, and/or receipt of unemployment benefits and/or social assistance in minimum three years
4. No/negligible work income	Average yearly work income less than 0.2 BA

probability models) in order to net out differences associated with gender and education which might complicate comparisons over time and between countries. The Norwegian statistical analyses relied on the internal software provided by the data portal microdata.no, while the Swedish data were analysed with Stata version 15.

Results

Table 2 describes the study population. Due to a larger population, the Swedish cohorts were around twice as large as the Norwegian cohorts. The share of the population with some post-secondary education increased in both countries. The proportion of foreign-born individuals has also grown considerably from the first to the second cohort – in Norway from 5.5–11.2 percent, in Sweden from 12.7–16.7 percent. Non-European immigrants constitute a large part of the foreign-born population in both countries.

Table 3 shows both cross-country similarities and some differences in the distributions of the eight types of longstanding labour market attachment including median income in 2015 NOK or SEK. High- and middle-income standard employment increased from 1996–2003 to 2008–2015

in both Norway and in Sweden. The percentage with longstanding high-income standard employment rose in Norway from 17.4 to 21.1 percent and in Sweden from 11.5 to 14.0 percent. In Norway, the rise in standard employment coincided with a small increase in the share of the population with no or negligible attachment to the labour market (from 6.8 to 8.1 percent), but in Sweden, this proportion was stable at 7.6 percent in both periods.

Looking at the groups of particular interest for this study, the population in precarious employment *declined* in both Norway and Sweden. In Norway, those with unstable low income (category 2b) decreased from 7.1 to 5.8 percent and in Sweden from 9.8 to 7.5 percent. The group with unstable marginal income (category 3b) went from 8.1 to 6.9 percent in Norway and 10.2 to 7.0 percent in Sweden. In other words, there were corresponding trends in both countries, although precarious employment was generally slightly more common in Sweden. Table 4 shows the percentages in the different population categories using a clustered, four-category classification of the longstanding labour market attachment categories: standard employment (categories 1a-c), relatively stable low/marginal work income (2a, 3a), precarious employment (2b, 3b), and no/negligible work income (4). The prevalence of these clustered types differed between population categories in

Table 2. Description of study populations

	Cohort 1 (born 1941–1970)		Cohort 2 (born 1953–1982)	
	Norway	Sweden	Norway	Sweden
Total (n)	1 799 745	3 529 247	1 898 796	3 449 654
Sex				
Men	50.8%	50.6%	50.6%	50.5%
Women	49.2%	49.3%	49.4%	49.5%
Education[a]				
No post-secondary education	44.6%	54.8%	27.5%	39.2%
Post-secondary education	54.7%	44.8%	70.9%	60.4%
Missing	0.7%	0.4%	1.6%	0.5%
Country of birth				
Natives	94.5%	87.3%	88.8%	83.3%
Nordic countries	1.1%	4.2%	1.3%	2.6%
EU and other high-income countries[b]	1.2%	2.5%	2.8%	3.2%
Other European countries[c]	0.7%	2.3%	1.6%	3.3%
Other non-European[d]	2.6%	3.8%	5.5%	7.6%

[a]education measured in 2003 and 2015
[b]including USA, Canada, Australia and New Zealand
[c]including Russia and Turkey
[d]Africa, Asia, Latin America

Table 3. Distribution of longstanding labour market attachments in the study populations (%).

	Cohort 1 (born 1941–1970)				Cohort 2 (born 1953–1982)			
	Norway		Sweden		Norway		Sweden	
	Percent	Median[a]	Percent	Median[a]	Percent	Median[a]	Percent	Median[a]
1. Standard employment								
a) Standard, high income	17.4	563 730	11.5	441 896	21.1	764 481	14	543 797
a) Standard, middle income	31.1	362 978	24.6	251 277	34.1	473 310	28.2	313 314
a) Standard, but unstable	19.5	287 293	30.9	241 639	16.4	373 781	30.9	306 832
2. Low work income								
a) Low but stable income	7.1	190 317	3.9	132 325	5.6	255 691	3.3	163 921
a) Unstable low income	7.2	176 147	9.8	121 893	5.8	232 419	7.5	153 350
3. Marginal work income								
a) Marginal but stable income	2.7	77 498	1.4	57 305	2.1	89 409	1.5	64 325
a) Unstable marginal income	8.1	71 259	10.2	50 084	6.9	88 436	7	61 804
4. No/negligible work income	6.8	0	7.6	0	8.1	0	7.6	0
Total (n)	1 799 745		3 529 247		1 898 796		3 449 654	

[a]Median yearly work income is given in 2015 NOK or SEK

Table 4. Four clusters of longstanding labour market attachment in population subgroups (%).

	Total	Men	Women	Lower education	Higher education	Natives	Immigrants
Norway (Cohort 1, born 1941-1970)							
Standard employment (1a-c)	68.0	81.9	53.6	54.2	79.4	69.0	48.9
Low/marginal work income (2a, 3a)	9.8	2.6	17.2	13.5	6.8	9.7	11.3
Precarious employment (2b, 3b)	15.3	10.8	20.1	20.2	11.4	14.7	26.5
No/negligible work income (4)	6.8	4.6	9.2	12.2	2.4	6.5	13.3
Norway (Cohort 2, born 1953-1982)							
Standard employment (1a-c)	71.6	79.8	63.2	50.2	80.4	74.0	52.8
Low/marginal work income (2a, 3a)	7.7	3.3	12.1	11.4	6.0	7.3	10.6
Precarious employment (2b, 3b)	12.7	10.5	15.1	19.7	9.9	11.5	22.6
No/negligible work income (4)	8.1	6.6	9.6	18.7	3.7	7.3	14.0
Sweden (Cohort 1, born 1941-1970)							
Standard employment (1a-c)	67.0	75.2	58.7	61.7	74.0	70.6	43.4
Low/marginal work income (2a, 3a)	5.3	2.9	7.9	6.6	3.8	5.0	7.6
Precarious employment (2b, 3b)	20.0	15.3	24.9	21.5	18.4	18.4	31.0
No/negligible work income (4)	7.6	6.6	8.6	10.2	3.8	6.0	18.0
Sweden (Cohort 2, born 1953-1982)							
Standard employment (1a-c)	73.0	78.7	67.2	65.9	78.1	77.3	52.1
Low/marginal work income (2a, 3a)	4.8	3.0	6.7	5.9	4.1	4.3	7.7
Precarious employment (2b, 3b)	14.5	11.5	17.6	15.7	13.8	12.6	24.0
No/negligible work income (4)	7.6	6.7	8.5	12.5	4.0	5.9	16.2

expected ways. Standard employment was more common among men, high educated and natives than among women, low educated and immigrants. Precarious employment was especially common in the foreign-born population.

As noted above, the proportion in standard employment increased from Cohort 1 to Cohort 2 in both countries, largely driven by an

improved situation among women, but also among immigrants. Complementary to this, the proportion with low or marginal work income decreased in both countries. The declining proportion of immigrants with precarious employment is noteworthy: down from 26.5 to 22.6 percent in Norway and from 31.0 to 24.0 percent in Sweden.

No or negligible income among those with low education became markedly more common over time in Norway (from 12.2 to 18.7 percent), and slightly more common in Sweden (from 10.2 to 12.5 percent). Among immigrants, this labour market outcome became marginally more common in Norway and slightly less common in Sweden.

Table 5 reports developments in the immigrant population, classified by country of origin. In both countries and in both cohorts, standard employment was less common and precarious employment more common among non-European immigrants and immigrants from Other Europe, compared to natives and Nordic immigrants. However, labour market attachment *improved* for all four immigrant categories in both countries (one exception: EU/USA immigrants in Norway) – somewhat more marked in Sweden than in Norway.

Finally, the linear probability models reported in Table 6 supplement the picture. Here, the outcome is having *any* of the less favourable long-standing labour market attachments, i.e. low work income, marginal

Table 5. Longstanding labour market attachment, different country origins (%).

	Natives	Nordic	EU, USA etc.	Other Europe	Non-Europe
Norway (Cohort 1, born 1941-1970)					
Standard employment (1a-c)	69.0	67.5	60.9	35.1	39.5
Low/marginal work income (2a, 3a)	9.7	9.5	10.6	13.6	11.7
Precarious employment (2b, 3b)	14.7	16.2	18.8	34.3	32.3
No/negligible work income (4)	6.5	6.8	9.7	17.2	16.6
Norway (Cohort 2, born 1953-1982)					
Standard employment (1a-c)	74.0	75.4	65.2	48.3	42.4
Low/marginal work income (2a, 3a)	7.3	6.6	10.1	10.5	11.8
Precarious employment (2b, 3b)	11.5	12.5	18.8	25.0	26.3
No/negligible work income (4)	7.3	5.5	5.9	16.1	19.5
Sweden (Cohort 1, born 1941-1970)					
Standard employment (1a-c)	70.6	59.4	50.7	29.6	28.9
Low/marginal work income (2a, 3a)	5.0	4.8	6.4	11.6	9.1
Precarious employment (2b, 3b)	18.4	22.0	26.9	36.0	41.1
No/negligible work income (4)	6.0	13.8	16.0	22.9	20.9
Sweden (Cohort 2, born 1953-1982)					
Standard employment (1a-c)	77.3	65.9	61.0	52.1	43.5
Low/marginal work income (2a, 3a)	4.3	4.9	7.2	7.8	8.8
Precarious employment (2b, 3b)	12.6	13.5	19.8	23.6	29.7
No/negligible work income (4)	5.9	15.7	12.0	16.6	18.0

Table 6. Linear probability model (OLS) of low/marginal work income or no labour market attachment (2ab, 3ab, 4), by country of origin, gender and education.

	Cohort 1 (1941–1970)		Cohort 2 (1953–1982)	
	Coefficient	95% CI	Coefficient	95% CI
Norway				
Constant	0.302	0.301-0.304	0.387	0.386-0.389
Natives	ref		ref	
Nordic immigrants	0.017	0.011-0.023	−0.026	(−0.031) - (−0.02)
EU, other high-income countries	0.117	0.112-0.123	0.084	0.08-0.087
Other European countries	0.345	0.338-0.353	0.208	0.203-0.213
Non-Europe	0.291	0.287-0.295	0.242	0.24-0.245
Women (versus men)	0.265	0.264-0.266	0.163	0.162-0.164
Higher education (versus lower)	−0.227	(−0.228) - (−0.225)	−0.286	(−0.287) - (−0.284)
Adjusted R2	0.165		0.144	
Sweden				
Constant	0.228	0.226-0.230	0.243	0.241-0.245
Natives	ref		ref	
Nordic immigrants	0.083	0.081-0.085	0.085	0.826-0.882
EU, other high-income countries	0.203	0.200-0.206	0.165	0.163-0.168
Other European countries	0.399	0.396-0.403	0.231	0.228-0.233
Non-Europe	0.423	0.421-0.426	0.324	0.322-0.326
Women (versus men)	0.172	0.171-0.173	0.125	0.125-0.126
Higher education (versus lower)	−0.132	(−0.132) - (−0.131)	−0.126	(−0.127) - (−0.125)
Adjusted R2	0.097		0.086	

work income, or no/negligible work income. The coefficients show therefore how the likelihood of *not* having standard employment differed between natives and the four immigrant groups, after adjusting for gender and educational level.

In line with the results in Table 5, these linear probability models indicate a reduced employment gap over time between natives and immigrants. This occurred also for non-European immigrants who usually experience particularly large difficulties in the Nordic labour markets. The analyses suggest that the probability of having a disadvantageous labour market attachment in Norway was around 29 percentage points higher in the non-European immigrant groups, compared to natives, in Cohort 1 and about 24 percentage points higher in Cohort 2. The gap between natives and non-European immigrants declined even more in Sweden: from about 42 percentage points in Cohort 1 to about 32 percentage points in Cohort 2.

Summary and discussion

The purpose of the current study has been to investigate precariousness in work life in two Nordic welfare states. The study is based on the premise that enduring precariousness in the adult working-age population is particularly worrisome, and that consideration of longstanding

precarious attachment to the labour market will be of particular importance.

Our first aim was to locate longstanding precarious labour market attachments in the adult working-age population in Norway and Sweden. Obviously, such estimations are heavily dependent on definitions. Low work income across eight years, markedly below the earnings of even the lowest paid full-time workers, in combination with recurrent and substantial income drops or other events indicating insecure placement in work life, were used as criteria. When defined in this way, precarious employment emerged as fairly common. In Norway, it occurred for 15.3 percent of the population during 1996–2003 and 12.7 percent during 2008–2015; corresponding percentages in Sweden were 20.0 and 14.5 percent. In both countries, this type of labour market attachment was clearly more widespread among women, low educated and foreign-born residents. Longstanding precarious employment appeared to be somewhat more prevalent in Sweden than in Norway, perhaps due to differences in temporary employment, or because more favourable macro-economic trends in Norway triggered fewer dismissals. More detailed analyses would be needed, however, for explaining the cross-national difference in precarious employment.

The second aim was to analyse changes over time. A notable finding is that longstanding precarious attachment to the labour market did *not* become more prevalent, but *less common*, in both countries. This was not expected in view of widespread ideas about increasing precariousness in capitalist economies in more recent years (Standing 2011). It is possible that the economic crisis in the early 1990s may have had some prolonged negative effects on employment conditions in the first study period, particularly in Sweden. Comparing the early years of the first follow-up period (1996–1999) with the latter (2000–2003), a low income (<3.5 BA) was slightly more common in the earlier period compared to the latter (34.9 percent vs. 31.6 percent). Another possible interpretation is that negative developments have been avoided since core elements of the welfare state have remained intact, such as most employment protection legislation and trade unions' role in defending wage levels and workplace rights. In case of downsizing and redundancies, active labour market policies and comparatively generous income protection schemes would probably ease the transition back to employment and thereby contribute to more income security.

Nonetheless, it must be emphasised that both the group categorisation and the study design will likely lead to underrepresentation of population

categories with a high precariousness risk. The definition used in this study is highly restrictive, and it is very likely that the population in categories not defined as precarious, such as those living with low or marginal income without experiences of income drops, unemployment benefits or social welfare payments (categories 2a and 3a), will also face high degrees of precariousness in their working lives. Considering the dimensions of precarious work provided by Rodgers and Rodgers (1989), one could potentially argue that the material deprivation following low wages is the most central dimension in its own right, as poverty will have such a detrimental effect on all areas of life.

A second source of underrepresentation may be related to the exclusion of young workers, leading to a study population that mostly consists of people who were well established in the labour market at the start of the observation periods. Furthermore, the sample selection excluded immigrant workers with shorter stays, undocumented migrants, and those who had emigrated during the follow-up. Thus, many workers who are, or have been, part of the total workforce are not included. Statistics Sweden has illustrated this potential limitation by identifying a substantial and heavily increasing gap between register data including labour carried out by residents in Sweden and employer tax reports registering all legal work activities in Sweden, regardless if they are carried out by resident or non-resident workers. From this increasing gap, Statistics Sweden infers that a substantial amount of paid work, typically in low-wage sectors such as restaurants and cleaning, has been carried out by non-resident workers (Statistics Sweden 2016). Similar findings exist for Norway (Statistics Norway 2019). Accordingly, interpretations must take into account that our findings of a decreasing percentage with long-standing precarious labour market attachment refer to adults with long-term registered residency, while other 'hidden' parts of the workforce (Gauffin 2020) have not been analysed, and *could* have been growing over time.

The third aim was to investigate precarious employment in the foreign-born population. As expected, immigrants had a more disadvantageous longstanding attachment to the labour market than natives. In both countries in 2008–2015, the proportion with long-term precarious employment was almost twice as high among immigrants than among natives (Table 4). However, a striking finding is that the high immigration rates in recent decades are not associated with increasing levels of precarious employment among the foreign-born, but rather the opposite: a reduction. This was true also for the most disadvantaged immigrant

groups from Africa, Asia, and Latin America, where fewer had longstanding precarious attachments in 2008–2015 than in 1995–2003. Again, it must be noted that our design does not capture longstanding labour market attachment among short-term or undocumented immigrants, but the positive development found for the immigrants in the study samples is nevertheless encouraging.

Strengths and weaknesses

Only scattered information exists as regards the distribution of *longstanding* labour market attachments in the populations of European countries, and the prevalence of longstanding *precarious* employment is largely unknown. The current study provides new knowledge about such issues. The Norwegian and Swedish administrative registers we have used, with high-quality, individual-level data across several decades, have offered unique opportunities for conducting large, longitudinal, and comparative studies on practically the entire adult population in Norway and Sweden.

On the other hand: public registers will also have some shortcomings. Often, subjective dimensions such as feelings of insecurity, fear of losing one's job, and time spent on managing frequent job shifts, are considered important aspects of precariousness in today's labour markets (Standing 2011). Such dimensions cannot be captured by register data. Moreover, the occurrence of long-term precariousness among 'hidden' populations such as undocumented immigrants, or among migrant workers who repeatedly move between countries, is nearly impossible to investigate with the information available in these registers.

Whether the findings from Norway and Sweden can be generalised to other Nordic or European countries is uncertain. Employment protection, trade union influence, and other aspects typical of the Norwegian and Swedish welfares state may have hindered precariousness to a higher degree than in European countries with higher unemployment levels and more deregulated labour markets. A suggestion in this direction has appeared in a study using data from the European Working Condition Survey, in which Sweden had comparatively 'good scores' on several indicators of precariousness (Puig-Barrachina *et al.* 2014). However, as previous research suggests: whereas the welfare state may prevent *labour market insecurity*, meaning the low probability to find a new job with more or less the same standards, to a certain degree, the effects on *job insecurity*, meaning the worker's perceived threat to the

own job situation and feelings of powerlessness, may be less clear (Anderson and Pontusson 2007). Whether this study's findings, and in particular the *declining* occurrence of longstanding precarious attachment to the labour market, are typical for or deviating from the general European situation and whether it could be applied to decomposed measures of precariousness, can only be answered by broader comparative studies.

Conclusion

This register-based, comparative study has used information on long-term low work income and unstable employment trajectories in order to measure the development of longstanding precarious attachment to the labour market in Norway and Sweden. Results indicate many striking similarities between the two countries. With this study's definition of longstanding precarious employment, the prevalence was about one sixth of the adult working-age population in 1996–2003 in Norway, and somewhat higher – about one fifth – in Sweden. Contrary to expectations, long-term precarious employment had become *less common* in both countries in 2008–2015 compared to 1996–2003. This positive development was largely driven by an improved employment situation in the female population, assumingly because many women have moved from part-time to full-time work. Improvements were also observed in the longstanding labour market attachment for all immigrant groups. Foreign-born residents – and those from non-European countries in particular – were clearly more exposed to longstanding precarious attachment to the labour market than natives and immigrants from high-income countries. Nonetheless, also the immigrant parts of the populations experienced a decrease in longstanding precarious labour market attachments from the first to the last study period. A possibility exists, however, that the present study fails to cover the totality of precarious employment, since the analysed populations did not include short-term residents and migratory workers. The number of individuals in the two countries having longstanding precarious employment could therefore be underestimated. While the questions regarding this type of precarious employment were outside the scope of this article, future research in this area would be very useful.

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