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**Working Paper**

## Magnitude, structure and dynamics of chronic unemployment in Denmark, Finland and Germany

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# IAB-DISCUSSION PAPER

Articles on labour market issues

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## 9|2019 Magnitude, structure and dynamics of chronic unemployment in Denmark, Finland and Germany

Simo Aho, Regina Konle-Seidl, Iben Nørup, Thomas Rhein, Thomas Rothe

# Magnitude, structure and dynamics of chronic unemployment in Denmark, Finland and Germany

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Mit der Reihe „IAB-Discussion Paper“ will das Forschungsinstitut der Bundesagentur für Arbeit den Dialog mit der externen Wissenschaft intensivieren. Durch die rasche Verbreitung von Forschungsergebnissen über das Internet soll noch vor Drucklegung Kritik angeregt und Qualität gesichert werden.

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## Abstract

Individual unemployment spells are frequently interrupted by short casual employment, by participation in active labour market policy (ALMP) measures or by periods outside the labour force. Such episodes end unemployment spells but afterwards the person gets often unemployed again, and the conventional statistics do not capture the actual length of the individual problem of being without a “real” job in the longer run. To better grasp this problem of repeated unemployment we analyse unemployment trajectories of individuals with weak links to the labor market in the longer run. For this purpose, we introduce the concept of “*chronic unemployment*” (CU). Our empirical analysis applies unique comparable and very detailed longitudinal register data to study the CU problem in Denmark, Finland and Germany. We find that chronically unemployed make up about one third of all unemployed in all three countries. This means that a substantial part of the unemployed has not gained a stable foothold in the open labour market for a long time. Individual factors strongly influence the probability of being chronically unemployed. CU becomes more common with age and decreases as the level of education increases. Although persistence in CU is highest in Germany, the country realizes higher transition rates into stable employment than the Nordic countries. Active labour market policy measures have a positive impact on the transition from chronic unemployment to non-subsidized employment, particularly wage subsidies in the private sector and occupational training and qualification.

## Zusammenfassung

Phasen der Arbeitslosigkeit werden häufig durch kurze Zeiten der Beschäftigung, durch die Teilnahme an arbeitsmarktpolitischen (ALMP) Maßnahmen oder durch einen zeitweisen Rückzug vom Arbeitsmarkt unterbrochen. Solche Episoden beenden die Arbeitslosigkeitsdauer, aber danach wird die Person oft wieder arbeitslos. Das Problem, langfristig ohne "echten" Job zu sein, wird aber von herkömmlichen Statistiken nicht angemessen erfasst. Mit unserem Konzept der "chronischen Arbeitslosigkeit" können wir dieses Problem besser analysieren. Auf der Basis von vergleichbaren und sehr detaillierten amtlichen Längsschnittdaten untersuchen wir das Phänomen in Dänemark, Finnland und Deutschland. In allen drei Ländern machen chronisch Arbeitslose etwa ein Drittel aller Arbeitslosen aus. Individuelle Charakteristika haben einen großen Einfluss auf die Wahrscheinlichkeit, chronisch arbeitslos zu sein. In Deutschland verbleiben chronisch Arbeitslose am längsten in diesem Zustand. Trotzdem sind die Übergangsraten in eine stabile Beschäftigung in Deutschland höher als in den zwei nordischen Ländern. Aktive arbeitsmarktpolitische Maßnahmen wirken sich positiv auf den Übergang von der chronischen Arbeitslosigkeit in nicht subventionierte, nachhaltige Beschäftigung aus. Am effektivsten sind Eingliederungszuschüsse sowie berufliche Bildungs- und Qualifizierungsmaßnahmen.

## JEL-Classification

C 81, E 24, J 21, J 69

## Keywords

Administrative data, long-term unemployment, recurrent unemployment, active labour market policy

# 1 Introduction

In many European countries, not only persistent long-term unemployment is widespread, but also recurrent unemployment is a serious social problem as well as an expensive economic burden for the welfare state. There are considerable segments of the labour force that seem to be excluded from steady and unsubsidized employment at the open labour market (Aho, 2004; Aho/Mäkiaho 2016). Studies observing work trajectories for cohorts over several decades show that there is a tendency for stable work to be replaced by alternative and less stable income sources, especially for the more recent cohorts (Hansen/Lorentzen, 2018; Rhein/Stüber, 2014).

The focus in our study are unemployment trajectories of individuals only weakly attached to the labour market. For this purpose, we introduce the concept of “*chronic unemployment*” (henceforth: CU) aiming at grasping the persistent unemployment problem at individual level more adequately than the conventional concept of long-term unemployment. The empirical literature on unemployment almost exclusively focuses on the duration of distinct unemployment spells based on national register data or on survey-based statistics. Conventional statistics, however, do not adequately reveal how widespread long-term exclusion from regular, genuinely market-based employment actually is (Konle-Seidl/Lüdeke 2017). This is because the statistics on long-term unemployment take the *uninterrupted* length of unemployment as indicator. However, individual unemployment spells are frequently interrupted by short casual employment, by participation in active labour market policy (ALMP) measures or by periods outside the labour force because of illness, education, family or other reasons. Such episodes end unemployment spells but afterwards, the person gets often unemployed again, and the conventional statistics do not grasp the actual length of the individual problem of being without a “real” job in the longer run.

Our CU concept assesses the share of people with weak links to the labor market in the longer run: Persons with recurrent spells of unemployment or workers who interrupt their unemployment spells due to (repeated) participation in active labour market programs or due to short-term work experience. We aim to give a more realistic picture of the problem of the lack of a proper job in the longer run. To measure adequately the magnitude, structure and dynamics of persistent lack of open market employment is a precondition for the analysis of influencing factors as well as possible cures. We use large administrative micro data sets for the time span 2001-2014. We apply unique comparable and very detailed longitudinal register data to study the problem of chronic unemployment in three countries: Denmark, Finland and Germany.

We contribute to the economic literature on the comparative analysis of unemployment by accounting for labour market integration problems of individuals in the longer run. Our approach using comparative longitudinal register data is singular in the research of unemployment.

We address the following questions:

1. Is “chronic unemployment” a common feature of post-industrial labour markets and advanced welfare states, or are there clear differences in the scope and the dynamics of “chronic unemployment” across the countries under scrutiny?
2. Which socio-demographic factors, e.g. age, education, nationality, affect the risk of becoming chronically unemployed and the probability to leave chronic unemployment?



3. Are there differences between the three countries with regard to the intensity and structure of active labour market measures for the chronically unemployed?
4. Does participation in labour market policy measures have an effect on the probability to leave chronic unemployment?

The paper is organized as follows. In the next chapter, we expand on our conceptual framework in more detail. We outline the differences between structural and long-term unemployment, on the one hand, and chronic unemployment, on the other hand, and explain why the latter is better suited to capture problems of sustainable labour market inclusion in the longer run. In chapter 3, we describe our data and methodology. In chapter 4, we analyse the magnitude and evolution of chronic unemployment in the three countries over the years 2006-2013 and compare it to official Eurostat figures on long-term unemployment as defined by the ILO. Chapter 5 presents evidence on the structure of chronic unemployment, or more specifically, on the prevalence by gender, age, education and nationality. Furthermore, we turn to the dynamics of chronic unemployment by looking at inflows and outflows and we investigate, in a backward looking perspective, the labour market situation of the chronically unemployed in the past. Chapter 6 looks at the role of activation. We apply a probit model to analyse which factors incl. different types of active labour market measures have an impact on the transition from chronic unemployment to non-subsidized, long-lasting employment. Chapter 7 concludes. Our additional appendix involves further detailed results.

## 2 Conceptual framework: Structural vs. chronic unemployment

Our concept of chronic unemployment is a micro-level category based on the length (not the causes) of the individual lack of open market employment. At macro level, we speak about structural unemployment, when referring to a level of unemployment that remains high even during times of high labour demand. Theoretically, structural unemployment is supposed to be caused by lacking incentives to seek for employment or matching problems, i.e. existing qualifications of supply are not demanded at the open labor market. However, at individual level it is not possible to define who is unemployed because of structural reasons and who is not. Chronic unemployment is a concept trying to identify at individual level those, who have serious difficulties to find sustainable employment at the open labour market. However, CU might be influenced by cyclical variations in labour demand, or by institutional factors such as the level of social security benefits or minimum wages. The theory of unemployment states that when unemployment caused by a cyclical lack of demand is prolonged enough, it may become structural and continue even when demand finally increases again. Prolonged economic recessions seem to lead to permanent increases in the level of unemployment. This phenomenon is called hysteresis, and hysteresis effects are indeed likely to push up structural unemployment since workers who remain unemployed for long periods become less attractive to employers as a result of their declining human capital or as they reduce the intensity of their job search (Machin/Manning, 1999).

However, CU is not equal to structural unemployment. The latter is a macro-level concept that cannot be measured at the individual level. A chronically unemployed person is defined as being out of regular employment for at least two consecutive years or longer, while being mainly in labour force (see box below for the exact operational definition). This means that the person is statistically not “inactive” but registered as unemployed jobseeker or participating in ALMP for at least most of the year. Hence, our concept of CU does not refer to the detachment of the “inactive” working age population from the labour market but focuses on the share of “active” people without genuine market based employment at the open labour market. According to the labour force concept of the ILO, people not available for work and/or not seeking employment are “inactive” or outside the labour force. Early retirement, disability benefit receipt and health problems are still important reasons of “inactivity” even though their relevance as an exit route out of the labour market has declined in recent years (Konle-Seidl/Rhein, 2015). Strikingly, countries with a relatively low share of long-term unemployed among all non-employed such as Denmark have still markedly higher shares of people being retired or “inactive” for health reasons. This substitution phenomenon, however, is beyond the scope of our analysis.

The long-term unemployed are statistically defined as those who have been unemployed for twelve consecutive months. The term ‘consecutive’ implies that those having worked (or been inactive) for a short period between two spells of unemployment are excluded from the count. However, it is very common that several unemployment spells follow each other with shorter or longer intervals of temporary employment, inactivity, and/or activation measures, a fact we capture in our CU concept. Individuals manage to exit unemployment, but only on a temporary basis. Two factors may drive this phenomenon: the prevalence of temporary contracts coupled with frequent transitions back and forth to unemployment/inactivity and participation in labour market programmes that only “reset” the duration of the unemployment spell without necessarily leading to a transition to a stable job.

### 3 Comparison of three countries: Data and measurement

Comparative research on transitions from and into (long-term) unemployment is usually based on harmonized survey data, mainly the European Labour Force Survey (EU-LFS) and the European Union Statistics on Income and Living Conditions (EU-SILC). Both data sets, however, provide only limited possibilities to explore the unemployment problem over longer periods. Although EU-SILC has a longitudinal component, small sample sizes and the short length of the panel limit the dataset. Longitudinal information for a given four-year-framework is available only for a quarter of the sample due to its rotational framework: every year, a quarter of the sample is new (interviewed for the first time). A four-year period is extremely short for fully observing long-term trajectories, such as persistence and recurrence of chronic unemployment over time.

The second survey, the EU-LFS, has a larger sample size, but is cross-sectional and focuses mainly on the situation of the sample members at the time of the interview. It provides some retrospective information, e.g., on how long the interviewee has been in the current labour market status (e.g.

unemployment) and on his/her status before, but not on recurrent unemployment spells. In contrast, our study is based on extensive and rich longitudinal register data sets, including detailed information on individual labour market histories, allowing analysing long follow up periods of individuals. The data is fairly well comparable between the three countries.

For Finland, we use the FLEED dataset maintained by Statistics Finland. It is a representative sample covering one third of the total working age population for the years 2000 to 2014. This data is combined with detailed and comprehensive data from registers of public employment services (called FLEED+). It contains very detailed information on the labour market history of individuals (employment, unemployment and participation in ALMP measures). The data used for Germany is a two percent random sample of administrative data (IEB V12.01) for the years 2000 to 2014 covering employed, registered unemployed, participants in ALMP measures and participants in vocational/apprenticeship training, marginal as well as subsidized employment (Ganzer et al. 2017). The dataset for Denmark is a 1.5 percent random sample of the DREAM database<sup>1</sup> for the years 2002-2013, containing administrative data on registered unemployed, unemployed and participating in measures of ALMP, not registered unemployed but participating in ALMP as well as employees subject to labour market contribution and subsidized employment.

As a measure of the severity of unemployment, we construct a policy relevant typology based essentially on the individual duration of absence from open labour market employment. The target population in our analysis are the unemployed or those participating in measures of ALMP at the end of a given year or fulfilling the criteria of CU. We define four different types of unemployment: chronic, prolonged, intermediate and short-term (see Box “Definitions”).

#### Definitions

- *Chronic unemployment (CU)*: Out of regular employment, except for very short employment spells summing up to less than 30 days, for at least two consecutive years or longer while still mainly in labour force (=time in labour force (LFT) > 183 days & open employment < 30 days for two successive years)
- *Prolonged unemployment*: Mainly in labour force, partially employed but more unemployed (=not belonging to previous category & added LFT > 365 days during past two years & number of added unemployment + ALMP days >= added employment days during past two years)
- *Intermediate*: all others belonging to the target population of “all unemployed”
- *Short-term*: added unemployment days < 91 during past two years

## 4 Comparing magnitude and evolution of chronic unemployment

Before presenting the empirical results on chronic unemployment we have a look at the development of long-term unemployment (henceforth: LTU) as defined by the ILO as it is interesting to see

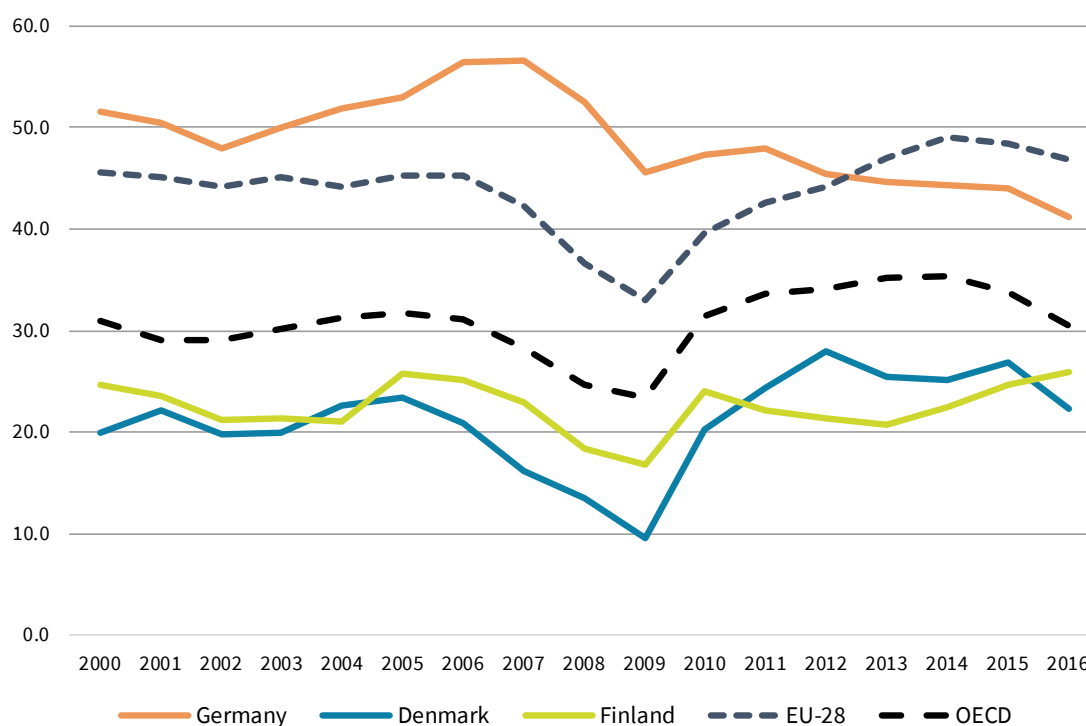
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<sup>1</sup> An English-language description of the DREAM database can be found at [http://www.dreammodel.dk/introduktion\\_en.html](http://www.dreammodel.dk/introduktion_en.html)

how CU shares relate to long-term unemployment rates. Given that the long-term unemployment rates in Denmark and Finland are traditionally much lower than in Germany, we would expect CU shares to be also lower in the two Nordic countries.

Figure 1 gives an overview of LTU as a share of total unemployment in the years 2000-2016. In 2016, LTU accounted for roughly 30 percent of total unemployment in the OECD. The share of LTU has risen between 2010 and 2014, primarily due to the financial crisis. Note that the crisis already started in 2007/8, but the share of LTU kept decreasing up to 2009. This is because the layoffs at the onset of the crisis first increased short-time unemployment, which translated then into higher long-term unemployment only with a time lag.

Figure 1: Long-term unemployment (ILO-definition), share of total unemployed

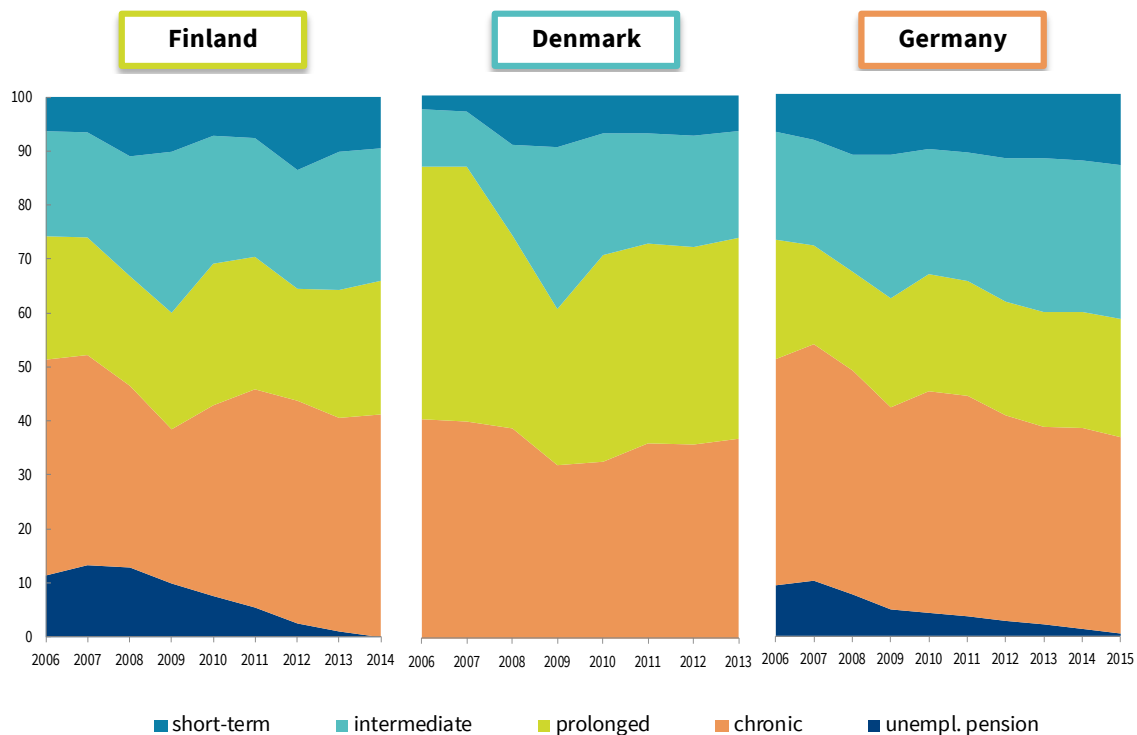


Source: EU-LFS

Compared to the OECD average, the share of LTU was consistently lower in Denmark down to 9.5 percent in 2009, but has risen afterwards, as in the OECD, and peaked at 28 percent in 2012. The trend in Finland was similar up to 2010, even though the LTU share was slightly higher than in Denmark, but it started to decrease again already in 2011. In 2013, it was at the lowest level in the three countries but increased afterwards again following the economic fluctuations. Compared to the Nordic countries, Germany stands out with an exceptionally high share of LTU, peaking at over 56 percent in 2006/7. The share has decreased since 2008 and has fallen to 41 percent in 2016. Despite this downward trend, the German LTU share was still above the OECD average, not to speak of Denmark and Finland. Taken the LTU incidence as an indicator of unemployment persistence, the German value is still worrying although total unemployment almost halved.

Using chronic unemployment as indicator for long-term exclusion of the unemployed from steady employment in the open labour market, instead of LTU, provides a different picture. As can be seen from Figure 2, CU made up roughly 40 percent of total unemployment in Finland and Denmark in 2006. By 2013, the share had gone down to 34.9 and 36.8 percent, respectively. In Germany, the downward trend have been more pronounced, from 48 to 37.1 percent, so that in 2013 the share of CU was almost equal in the three countries. Of the four unemployment types, CU has the biggest share, at least in Finland and Germany, whereas in Denmark “prolonged unemployment” is most frequent.

Figure 2: Distribution of different types of unemployment, in percent of total unemployment

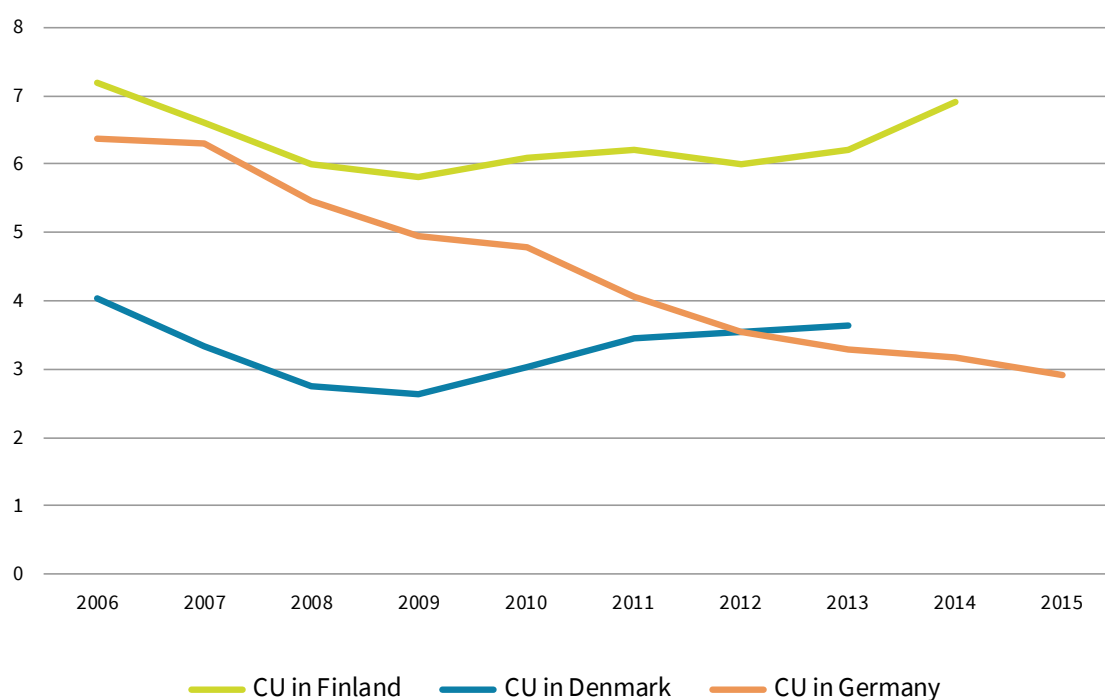


Source: IEB, DREAM Database and FLEED+, own calculations.

Despite the downturn of CU in Germany, the level of very long-term exclusion from steady employment in the labour market is still very high: Of those who were chronically unemployed in 2012/13, more than 35 percent had not been in regular employment during the last 10 years, compared to 28 percent in Finland and only 7 percent in Denmark.

When we relate the number of chronically unemployed not to total unemployment but to the labour force as a whole the strong decrease of CU in Germany still becomes more evident (see Figure 3). In Germany, the share of CU in the labour force has decreased continuously since 2006, and in 2013, it was down to 3.2 percent, lower than in the two Nordic countries. The latter experienced a rise of CU since 2010.

**Figure 3: Evolution of chronic unemployment over time, in percent of total labour force**



Source: IEB, DREAM Database and FLEED+, own calculations.

When comparing the absolute numbers on LTU and CU for 2013, it becomes even more evident that the concept of LTU tends to underestimate the level of exclusion from stable employment, as stated above. This is true for all three countries but most obviously, for Finland and least for Germany. In Germany, more than 1.3 million persons were chronically unemployed in 2013, compared to 963 thousand persons classified as long-term unemployed, so CU exceeds LTU by a factor 1.4. In Denmark, CU exceeds LTU by a factor 1.8 and in Finland even by a factor 3.9 (Table 1).

**Table 1: Chronic unemployment vs. long-term unemployment – absolute numbers for 2013**

	Germany	Denmark	Finland
(1) chronic unemployment (in 1,000)	1347	93	178
(2) long-term unemployed, ILO-classification (in 1,000)	963	52	46
(1) / (2)	1.4	1.8	3.9

Source: EU-LFS, IEB, DREAM Database and FLEED+, own calculations.

The result for Finland is particularly striking. Unemployed workers seem to cycle more often between unemployment and repeated participation in ALMP measures. This assumption is supported by the Employment Service Statistics of the Ministry of Economy Affairs and Employment in Finland (<https://tem.fi/en/annual-statistical-summaries>). Data on “structural unemployment” shows that just about 50 per cent of the persons with sustainable employment problems are long-term unemployed. The other half are people who are repeatedly unemployed (12 months within a period of 16 months) or, who make a direct transition from ALMP participation into unemployment

or, who are participating in several measures within a 12-months period. A recent study on targeting of ALMP in Finland shows that 42 per cent of those participating in ALMP measures in 2010 participated again within a 12-months period (Aho et al., 2018).

## 5 Structure and dynamics of chronic unemployment

We now turn to the prevalence of chronic unemployment by individual characteristics, conditional on being unemployed, i.e. belonging to one of the four categories defined above (see Box “Definitions”). We focus on four characteristics, namely gender, citizenship, age and educational level. The results are displayed in Table A 1 in the appendix. They refer to the year 2013 and can be summarized as follows: Gender does not matter much for the prevalence of one of the four unemployment categories, nor does nationality. However, differences between educational levels are pronounced.<sup>2</sup> Out of the low-skilled unemployed persons in Finland or Germany, more than 40 per cent are chronically unemployed. This share is considerably lower among those with vocational training and even lower among university graduates. As to age, CU tends to be less widespread among the young unemployed in the three countries. This is not surprising since they usually have spent less time in the labour force than older workers have. Finland stands out with an exceptionally high share of CU in the oldest age bracket (55-64 years)<sup>3</sup>.

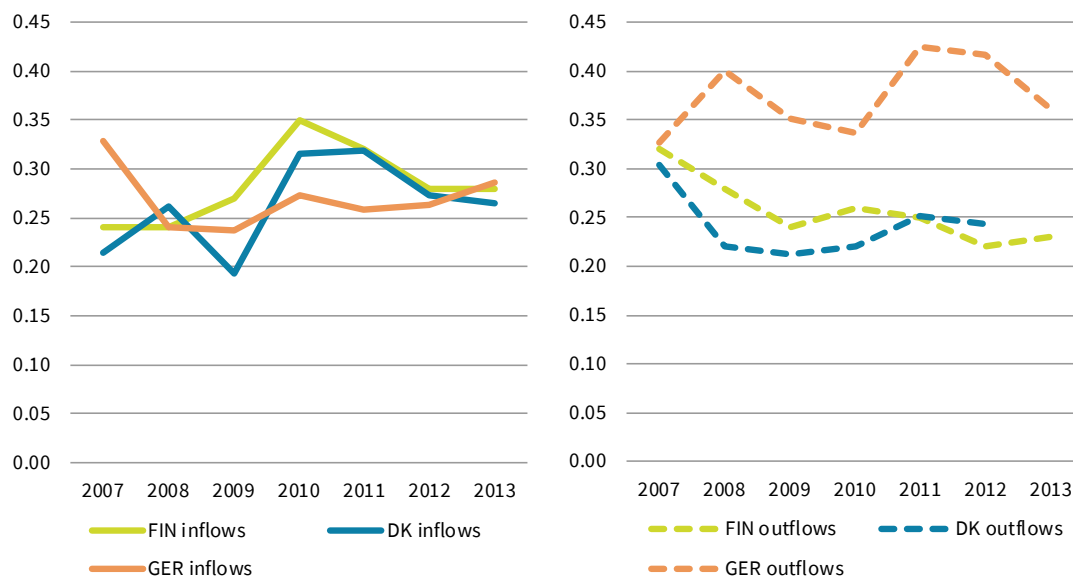
In order to understand the dynamics of CU over time, a look at inflows into and outflows from CU is useful. The evidence for the years 2006-2013 is shown in Figure 4. Both, inflows and outflows fluctuate within a margin of 20 to 40 percent of total CU in the respective year, so there are sizeable movements into and out of CU every year. This is especially true for outflows in Germany before 2009 and after 2010. This high outflow level could be related to the German labour market and social security reforms initiated between 2002 and 2005 aiming at diminishing unemployment persistence (Klinger/Rothe, 2012). As to inflows, they increase after 2009, especially in Denmark and Finland, so they seem to be at least partly driven by cyclical factors.

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<sup>2</sup> Educational levels are not available for the Danish data at present.

<sup>3</sup> This might be partly due to the fact that early retirement pensions in Finland have been abolished in 2013 and older people without work are now required to look actively for work. In Germany, exemption rules for job search by unemployed older than 58 have been abolished for recipients of insurance benefits already in 2008. However, those unemployed receiving welfare benefits (Hartz IV) and completing their 58th year are exempted from job search since 2012 not having been offered a job after a period of 12 months of unemployment (Konle-Seidl/Lüdeke, 2017).

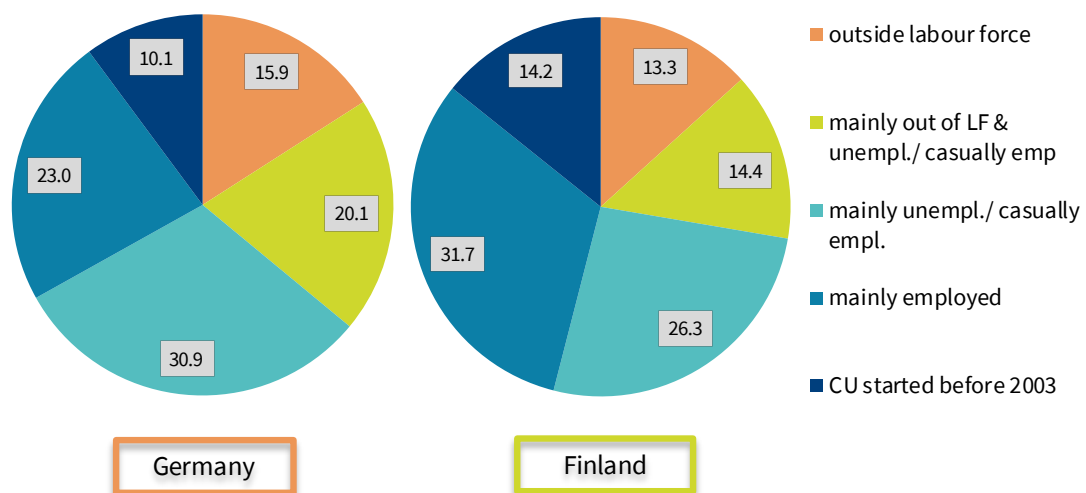
Figure 4: Inflows into and outflows from chronic unemployment in Finland, Denmark and Germany



Source: IEB, DREAM Database and FLEED+, own calculations.

Anyway, most of those entering CU over the period 2003-2013 appear to be only weakly attached to the labour market before entering CU, or had been even completely outside the labour force. This conclusion emerges from Figure 5, which informs about the individual labour market status before getting chronically unemployed. In Finland, only 32 percent were mainly employed before getting CU, in Germany even less (23 percent).

Figure 5: Labour market situation 3 years before the start of CU in 2012/2013

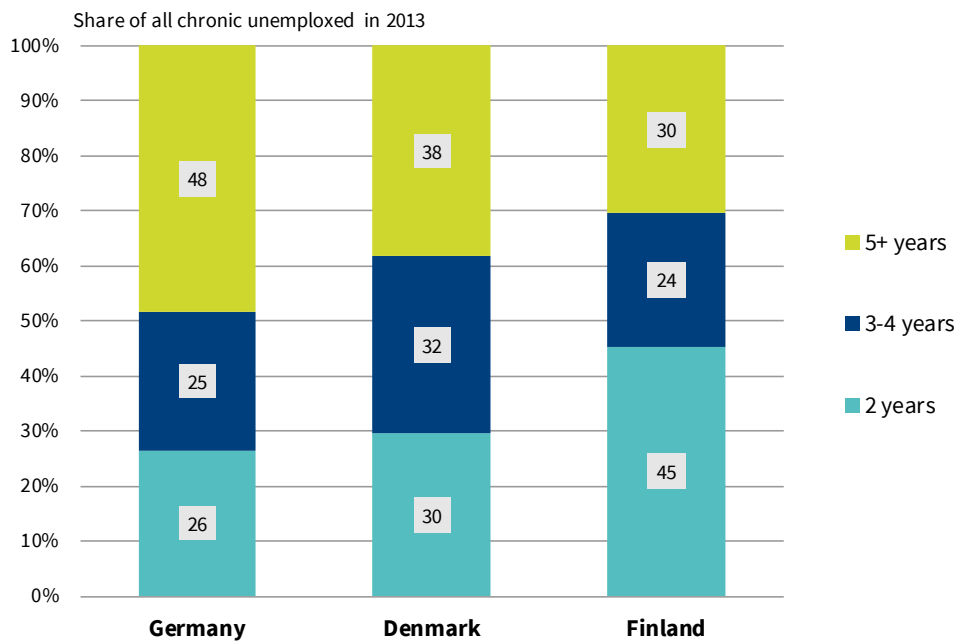


Source: IEB and FLEED+, own calculations.

Persistence in CU is highest in Germany. Nearly 50 percent of chronically unemployed stayed 5 years and over in that status (Figure 6).



**Figure 6: Persistence of chronic unemployment in Germany, Denmark and Finland**

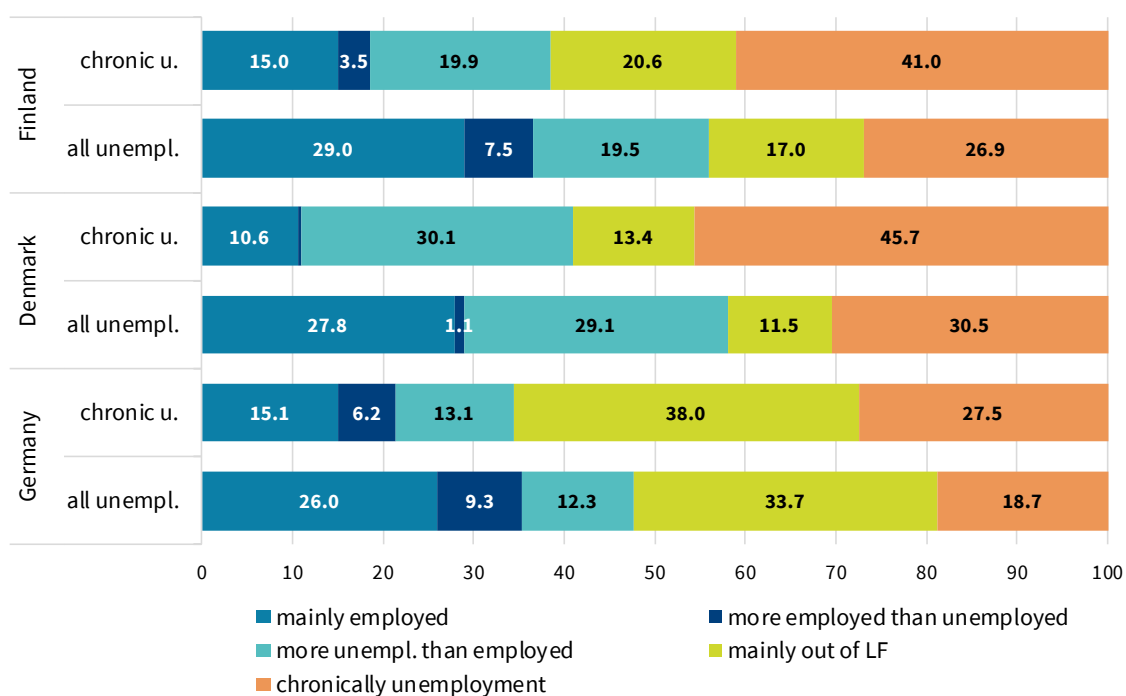


Source: IEB, DREAM database, FLEED+, own calculations

Despite the considerable dynamics, most persons either remain in CU, or find only transitory jobs, or leave the labour force altogether. Only a minority find their way into regular, long-lasting employment. Of those chronically unemployed in 2007/2008, just 15 percent in Germany and Finland and about 11 percent in Denmark were mainly (at least 18 months out of 24 months) employed five years later compared to a share of between 26 percent (Germany) and 29 percent (Finland) of all unemployed (see Figure 7).

Figure 7 also reveals a striking difference between the three countries. In Germany, many more chronically unemployed leave the labour force (38 percent) than remain in CU (27.5 percent) whereas in Denmark and Finland it is the other way round.

Figure 7: Labour market status of the cohort chronically unemployed in 2007/2008 five years later



Source: IEB, DREAM Database and FLEED+, own calculations.

Summing up, we can conclude from our descriptive analysis the following: Less than one third of those becoming chronic unemployed have been mainly in employment before. Following the cohort of chronically unemployed workers over a period of five years, we find that more than 40 per cent are still or again in the status of CU five years later in Denmark and Finland. The share of those making a transition to a more stable employment at the open labour market is considerably lower in all three countries. In Germany, the transition rate to stable employment – which we define as 18 months out of 24 months in 2012/2013 - is similar as in Finland (15 per cent). It is still lower in Denmark amounting only to 10 per cent. However, in contrast to the Nordic countries, nearly 40 per cent of the German CU leave the labour force and a lower share (27.5 per cent) remains in the CU status. These findings suggest that the labour market attachment of the CU population in the Nordic countries is higher. The reason might be that a higher share of CU is cycling between ALMP participation and unemployment and/or more between short-term employment episodes and unemployment. In this sense, active labour market policy measures seems to be a means to adjust to structural unemployment or hide long-term unemployment. To examine this hypothesis, we look in the following on the intensity of ALMP participation across the three countries.

## 6 Activation of the chronically unemployed and its impact

### 6.1 Activation share of CU

A comprehensive indicator to analyse participation in active labour market measures (ALMP) is to look for the average number of days spent in ALMP during a given time span. A second complementary indicator is the activation share defined as the average time spent in ALMP measures as a percentage of the total time spent either in ALMP measures or in unemployment. Table 2 shows the results for both indicators. Denmark stands out according to both indicators. The activation share for the chronically unemployed is with 29 per cent roughly double the share in Germany. The corresponding share in Finland is still 11 percentage points higher than in Germany (see last column of Table 2).

**Table 2: Participation in active labour market measures in 2012 and 2013**

		Total unemployed	Chronic unemployed
Finland	activation share	22%	27%
	activation in days	113	186
Denmark	activation share	29%	29%
	activation in days	148	201
Germany	activation share	15%	16%
	activation in days	66	107

Note: The average (activation in days) also includes persons with zero days, i.e. those who did not participate at all in ALMP measures.

Source: IEB, DREAM Database and FLEED+, own calculations.

The results in table 2 suggest the following: Higher activation shares in the Nordic countries contribute to lower LTU rates in Denmark and Finland compared to Germany but to almost equal shares of chronic unemployed in the three countries (see *Figure 2 above*). In Denmark, 40 per cent of total ALMP expenditure are spent in the category "subsidised employment and rehabilitation" (<https://ec.europa.eu/social/main.jsp?catId=1143&langId=en#LMP>). Persons in subsidised employment with standard work contracts and regular wages are recorded, however, also in international labour force statistics (ILO concept) as being in gainful employment if they state that they were employed in the reference week. Hence, from a statistical point of view, ALMP reduces long-term or structural unemployment without eliminating their underlying courses. In Germany, less time spent in activation is reflected not only in higher persistence rates of CU but result also in higher dropout rates from the labour market through more transitions into "inactivity" (see *Figure 7 above*).

However, active labour market policy was created not to adapt to structural unemployment but to solve the problem of structural unemployment by raising the employability of the unemployed. Since the early 1990s, activation in the sense of enabling and demanding was widely introduced in Europe to increase the incentives of taking up employment. In this context, activation measures providing active labour market policy are combined with more restrictive activation practices such as sanctions for non-participation in ALMP programs, or insufficient job search efforts. Although the overall objective of activation is to improve economic self-reliance and societal integration via gainful employment instead of joblessness and benefit receipt, a major instrument to achieve this goal is still enhancing the employability of jobless people i.e. by participating in ALMP measures (Eichhorst et al., 2008). Based on regression analysis, we examine in the next chapter whether active labour market policy measures can actually contribute to overcoming chronic unemployment.

## 6.2 Transition from CU to employment: The impact of active labour market policy

We apply probit-models for Germany and Finland<sup>4</sup> to estimate the impact of individual factors (gender, age, education, nationality and handicapped status) and the impact of participation in ALMP on the probability to leave chronic unemployment and take up stable employment. We define stable employment when a former chronically unemployed worker (in 2009/2010) is in regular employment for more than 24 months in the following four years (2011-2014). The average probability of such a transition from chronic unemployment in 2009 and 2010 to stable employment is 16.6 percent in Germany and 13.5 percent in Finland.<sup>5</sup>

We are mainly interested in the impact of participation in measures of active labour market policy on the transitions out of chronic unemployment into sustainable employment. Therefore we use dummy variables on participation in five different types of labour market measures in the years 2009 and 2010, namely further occupational training & qualification, training or coaching measures of shorter duration, wage subsidies in the private sector, direct job creation measures and work activity or so-called 1-euro-jobs in Germany and “rehabilitative work activity” in Finland. The latter are widely used measures targeted to unemployed with several employment barriers.

The transition probability is highly influenced by the individual labour market biography, e.g. employment and unemployment experience. As mentioned above, this phenomenon is well known and widely discussed as negative duration dependence. To allow for duration dependence we introduce two further control variables in our probit models: the duration in unemployment and time spent in regular employment during five years before chronic unemployment in 2009 and 2010.

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<sup>4</sup> Results for Denmark are not yet available.

<sup>5</sup> The transition rates to stable employment differ from those in figure 7 as we use a longer time span (4 years instead of 2 years) in the regression analysis.

**Table 3: Transitions from chronic unemployment to stable employment in Germany and Finland**

Probit regressions: marginal effects

Dependent variable: mainly regular employed after chronic unemployment in 2009/2010

(at least 24 months of regular employment in the years 2011 – 2014)

	Germany		Finland	
	dy/dx	std.err.	dy/dx	std.err.
male	-0.032	(0.004)***	-0.029	(0.003)***
age (reference group: 20 – 29 years)				
30 - 49 years	-0.019	(0.006)***	-0.045	(0.005)***
50 - 60 years	-0.084	(0.007)***	-0.096	(0.006)***
education (reference group: without vocational training)				
vocational training or high school degree	0.039	(0.005)***	0.036	(0.003)***
college or university degree	0.057	(0.009)***	0.053	(0.005)***
German/Finish	-0.012	(0.006)*	-0.011	(0.006)
handicapped/disabled	-0.050	(0.029)*	n. a.	
participation in measures of active labour market policy				
occupational training & qualification	0.090	(0.005)***	0.119	(0.005)***
other training / coaching / trial	0.027	(0.004)***	-0.013	(0.003)***
wage subsidies in private sector	0.184	(0.007)***	0.124	(0.008)***
direct job creation	0.059	(0.008)***	0.024	(0.004)***
work activity	-0.016	(0.004)***	-0.058	(0.006)***
pseudo R <sup>2</sup>	0.100		0.192	
observations	32,508		44,372	

Note: Significance levels: \* p&lt;0.10, \*\* p&lt;0.05, \*\*\* p&lt;0.01.

The specification includes also previous unemployment duration and duration in regular employment between 2004 and 2008 and 186 regional dummy variables for Germany.

Source: IEB, FLEED+, own calculations.

The results of the probit regressions for Germany and Finland in table 3 show that the probability to find a stable job is about three percentage points lower for men than for women. Moreover, chronically unemployed persons of higher age have lower chances to get a job, and a higher educational level has a positive influence on the probability to find a stable job. Therefore, persons with a college or university degree have a more than 5 percentage points higher probability of job finding than low qualified workers without vocational training. Handicapped persons (only available for Germany) have a 5 percentage points lower probability to find a stable job, while German or Finnish nationality has a negative sign, but the effect is small in both countries and statistically insignificant for Finland.

For the group we defined as chronically unemployed in 2009 and 2010, most measures of active labour market policy have a positive impact on the transition to stable employment. Wage subsidies and occupational training and qualification have the most pronounced effect. A wage subsidy increases the probability of a successful transition by 12 percentage points in Finland and 18 percentage points in Germany. One reason for the strong positive effect of wage subsidies might be that persons closer to the labour market have a better chance to find a subsidized job, compared to other chronically unemployed persons. Participants in occupational training and qualification

have a 12 (9) percentage point higher probability to get a stable job in Finland (Germany). Job creation measures show weaker but positive effects, while other shorter training measures and coaching have weakly positive effects in Germany but small negative effects in Finland. Moreover, CU participating in work activity measures (or 1-euro-jobs in Germany and so-called rehabilitation activities in Finland) have a lower probability to find a stable job in the following four years.

However, it should also be mentioned that the group of chronically unemployed who participate in certain or any ALMP measures may differ from those who do not by a number of unobserved characteristics, e.g. by motivation or search intensity. Our model controls this selection bias only partially. Therefore, our estimation results do not represent causal effects and allow only tentative conclusions.

## 7 Conclusion

Despite considerable differences in long-term unemployment rates across our three comparison countries Denmark, Finland and Germany, chronically unemployed persons make up about one third of all the unemployed in all three countries. This finding implies on the one hand, that a substantial part of the unemployed has not gained a stable foothold in the open labour market for a long time. On the other hand, it also implies that taking the recurrence of unemployment spells shorter than one year into account the unemployment performance of Finland and Denmark compared to Germany worsens.

In the German case, however, not only the high persistence of long-term unemployment but also the evolution of chronic unemployment is noticeable. Almost half of all chronically unemployed have been in that status for five years or over, clearly more than in Denmark and Finland. At the same time, Germany records a strong decline in CU since 2006. While the business cycle influences the dynamics (in- and outflows) across all three countries, the remarkable decline in Germany - where CU almost halved within eight years - seems to have also structural reasons. Striking is also the fact, that despite having a high share of persons with very long durations of chronic unemployment, Germany realizes higher transition rates into employment. Within a four-year period, around 16 per cent (Finland: 13 per cent) of the chronically unemployed were able to take up (relatively) stable employment on the open labour market. Less surprising is the finding that outflows of CU to stable employment decreases with increasing duration of CU spells. Individual factors strongly influence the probability of being chronically unemployed. CU becomes more common with age and decreases as the level of education increases. Conversely, transitions to regular employment are more likely for younger, female and high skilled workers.

Altogether, our findings suggest that effective ALMP reduces CU. Although the volume and time spent in ALMP measures differ across countries, our analysis shows that the effectiveness of different types of ALMP in overcoming CU is similar. Particularly wage subsidies in the private sector and occupational training and qualification - have a positive impact on the transition from chronic unemployment to un-subsidized employment. However, ALMP provides a cure only for a small share of the CU population. This might be a consequence of inadequate targeting as only a minority of

the CU population are participating in the most effective measures but the majority in short training, coaching or public work activities, which show low or no effects (see table A2 in the Appendix).

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# Appendix

**Table A 1: Distribution of types of unemployment in 2013**

	Chronic unemployed	Prolonged unemployed	Intermediate unemployed	Short-term unemployed
<b>Finland</b>				
total	36.1	24.8	23.9	15.1
males	35.6	25.5	23.6	15.3
females	36.9	23.9	24.3	14.9
16-24 yers	16.4	21.5	33.0	29.1
25-34 years	26.8	27.1	27.6	18.5
35-44 years	33.5	26.5	24.6	15.4
45-54 years	38.7	26.5	22.5	12.3
55-64 years	55.7	22.0	16.1	6.3
Foreigner	36.7	22.3	24.2	16.7
Finnish	36.1	25.1	23.9	15.0
no voc. training	46.4	23.1	19.7	10.7
voc. training	33.9	26.0	24.6	15.6
University	28.9	24.0	27.6	19.5
<b>Germany</b>				
total	37.9	21.3	28.8	12.0
males	37.6	22.1	28.4	11.9
females	38.3	20.4	29.3	12.0
16-24 yers	14.3	20.5	44.2	21.0
25-34 years	30.4	23.9	31.2	14.6
35-44 years	41.0	21.5	26.2	11.3
45-54 years	46.9	19.5	24.2	9.4
55-64 years	46.0	20.6	26.0	7.5
Foreigner	34.2	22.4	29.3	14.1
German	38.7	21.1	28.7	11.5
no voc. training	42.9	20.6	25.9	10.7
voc. training	38.0	21.8	28.7	11.6
University	26.2	20.4	36.6	16.7
<b>Denmark</b>				
total	36.8	37.0	19.8	6.5
males	39.6	35.2	18.7	6.4
females	33.4	39.0	21.1	6.6
16-24 yers	22.8	39.1	27.4	10.7
25-34 years	31.6	39.6	22.0	6.8
35-44 years	40.5	36.0	18.1	5.3
45-54 years	43.2	33.3	17.2	6.3
55-64 years	42.5	37.3	16.0	4.3
Foreigner	38.3	34.2	21.4	6.1
Danish	36.4	37.6	19.4	6.6

Source: EU-LFS, IEB, DREAM Database and Statistics Finland, own calculations.



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**Table A 2: Participation of chronic unemployed in different types of ALMP measures (2009/2010), in percent**

<b>ALMP measure</b>	<b>Germany</b>	<b>Finland</b>
Occupational training & qualification	12	24
Other training/coaching/work trial	31	34
Wage subsidies in private sector	7	5
Direct job creation /work activity	32	32

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Source: IEB and Statistics Finland, own calculations.

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