

# ALMPs in the North

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# Abstract

The subject of this paper is to determine the importance of different Active labour market policies (ALMP) on the unemployment rate in the Nordic countries of Sweden, Denmark, Norway and Finland between the years 2000 and 2020. The ALMPs examined are Public employment services (PES) and administration, Training, Employment incentives, Integration of the disabled, Direct job creation and Start-up incentives. Knowing the effect of each measure can lead to more efficient spendings and a more efficient lowering of the unemployment rate. To find the impacts of the measure, the first part of the paper examines earlier research on the subject and analyses their findings. The second part examines the differences and similarities in labour markets between the Nordic countries to enhance the understanding of how each ALMP has a different impact in the different countries. Lastly, an econometric model is used to see how each measure affects the unemployment rate. The result showed integration of the disabled and start-up incentives to be the only measures lowering unemployment in the short run, but neither was shown to be significant. The one-year lagged variable displayed how PES and administration, direct job creation and employment incentives had a significant impact on lowering the unemployment rate. The conclusion is that an increased spending on direct job creation and employment incentives can lead to a lowering of the unemployment rate while the spending on training and PES and administration should be re-examined by the countries.

**Keywords:** Unemployment, ALMP, Econometrics, Nordic countries, Labour market

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# 1. Introduction

Employment and unemployment are fundamental parts of the economy and a country, in general, aims to have the unemployment level as low as possible to be more efficient and function on a sufficient level. With too high unemployment comes a barrage of problems; both for the individuals and the society at large, and it is therefore of great importance to try to reduce the unemployment rate.

Why unemployment at too high a degree is considered damaging for society is e.g., examined by Watts and Mitchell (2000) who studies unemployment in Australia and shows different kinds of costs unemployment can result in. These costs are a loss of output, increased inequality between genders and ethnicities, loss of skills, and social exclusion in addition to physical and mental health problems. To exemplify the cost of lost output Watts and Mitchell (2000) showed that in 1999, the extra 2 percentages unemployment above the full employment rate (to be explained further down) would result in a national cost of 33.5 billion dollars (or around 10 per cent of GDP) from the lost production opportunities. Additional studies from Australia (McClelland & Macdonald, 1998) conclude that unemployment is the leading cause of poverty and increases the risk of developing physical and mental illnesses such as diabetes and depression. It is also shown to have a long-term negative effect as children growing up with both parents unemployed are more likely to be unemployed as adults. Being unemployed also comes with a higher risk of anxiety and financial worries, both for the unemployed and their family (Gallie, Kostova & Kuchar, 2001). Some of the costs of unemployment are considered hidden costs which can be depicted as indirect costs for individuals as well as for third parties (Gorjón, de la Rica & Villar, 2020). For the individuals, these are mostly because of the loss of human capital which leads to a lower future wage, and for the third parties, the costs include the extra tax burden on the employed due to the social benefits the unemployed receive.

On a microeconomic level, the cost of the individual can be seen as the reduced income received when becoming unemployed. This cost reduces when social welfare is introduced which lowers the differences between having a job and not. Because of this, the short-term cost of unemployment for the individual is often very low (Feldstein, 1977). This cost is

reduced even further if the well-being of the individual is included as the person, during unemployment, will increase their leisure time, increasing the utility (while the lowering of income decreases it). However, the national cost still exists as the welfare is paid by an increase in taxes for the employed, reducing the total well-being in the nation. This is shown by Helliwell and Huang's (2014) study which examines the well-being of 3.3 million Americans and how they were affected by unemployment. The study showed that the person who loses their job will obtain a decreased well-being, but the spillover effect is even greater as the non-directly affected third party (rest of the society) will lose even more in well-being. This drop in well-being comes from the increase combined with the increased insecurity felt among the employed when the unemployment rate begins to increase, as they fear they are at risk of also becoming unemployed.

But unemployment may not always only lead to a disadvantage for society. According to the Phillips curve (Phillips, 1958; Lipsey 1960; Samuelson & Solow, 1960), there is a negative relationship between unemployment and inflation, implicating that higher unemployment results in lower inflation. As increased inflation lowers well-being, higher unemployment and lower inflation can therefore, theoretically, increase the well-being of the nation. The problem is, however, that since the creation of the Phillips curve the relationship between inflation and unemployment seems less significant and many scholars are critical of its existence, especially in the long run (Friedman, 1977). And since the 90s the critics have increased and according to newer studies the relationship may not exist at all (Brayton, Roberts & Williams, 1999 and more). Blanchflower et al. (2014) do further analyses on the subject and explain the "misery index", constructed by Arthur Okun, which measures the sum of the unemployment rate and the inflation rate. Inflation lowers well-being through increased prices produced by increased spending, and unemployment lowers well-being by the aforementioned examples. In their study of the misery index they saw, using data from Europe, that a 1 per cent increase in the unemployment rate decreases well-being by 5.6 per cent "more than an equivalent rise in inflation" (Blanchflower et al. 2014, p.131). This indicates that even if the Phillips curve functions as thought at its creation, the gains from lower inflation would still not defuse the negative effect of an increase in unemployment.

To conclude, unemployment primarily leads to negative consequences for both the individual and the nation at large. It is therefore important to try to reduce unemployment, and the main tool used to do this is called Active Labour Market Policies (to be mentioned as ALMPs

throughout the paper). The aim of this paper is to clarify the importance of the different ALMPs in the Nordic countries (excluding Iceland) with the use of academic papers and analysis through econometric tools. The purpose is to further understand what importance and impact each ALMP has had on the unemployment rate between the years 2000 and 2020 and to see if the impact of the measures is significant. Given that the result is significant it will hopefully lead to a broader understanding of which policies to focus investment in to give as big of a result as possible. What distinguish this study from earlier studies on the subject is firstly, that it is focused on only the Nordic countries and defines the current and historical labour markets. And secondly, that it uses econometric tools to determine how to, in the future, allocate spending to reduce the unemployment more efficiently and to not spend money where it does not optimise the usage. The reason the focus is on only the Nordic countries is because of the similarities shared between them with a (partly) mutual history, culture and society. And although they are similarly structured countries, they still have chosen to focus on different ALMPs and labour market measures, and it is therefore of interest to understand how that has affected the unemployment rate. Another reason for choosing these countries is that the impact of each active labour market policy will have a (more) similar effect in similar countries and examining four countries will provide more data than if only one of the countries would be examined, resulting in a more significant result. Simultaneously, choosing to examine the whole OECD (Organisation for Economic Co-operation and Development) would risk influencing the result as the effect of a too different country would aggravate analysing the effect of ALMPs in the Nordic countries. This difference in ALMP spendings between the Nordic countries and the rest of the OECD is depicted in *Table 1* below with data from OECD (2022).

Table 1: Total spending on ALMP as a percentage of the country's GDP

Year	Denmark	Finland	Norway	Sweden	Average OECD excluding	
					Nordic countries	
2000	1,84	0,86	0,60	1,62	0,52	
2001	1,80	0,80	0,62	1,46	0,53	
2002	1,80	0,79	0,68	1,36	0,51	
2003	1,70	0,87	0,78	1,06	0,43	
2004	1,64	0,93	0,76	1,02	0,42	
2005	1,53	0,87	0,72	1,09	0,42	
2006	1,46	0,87	0,56	1,16	0,41	
2007	1,27	0,83	0,54	0,96	0,40	
2008	1,34	0,78	0,51	0,82	0,38	
2009	1,61	0,87	0,59	0,90	0,49	
2010	2,02	1,00	0,62	1,09	0,51	
2011	2,02	0,97	0,56	1,14	0,44	
2012	1,94	0,98	0,53	1,26	0,41	
2013	1,93	1,00	0,50	1,34	0,42	
2014	2,03	1,05	0,51	1,31	0,43	
2015	2,04	0,99	0,52	1,25	0,41	
2016	2,02	0,98	0,53	1,16	0,40	
2017	1,95	0,98	0,47	1,12	0,40	
2018	1,89	0,94	0,42	1,11	0,39	
2019	1,88	0,92	0,40	1,02	0,68	
2020	1,78	0,86	0,42	0,95	0,90	

\*The spending in 2020 in the OECD excluding the North differs from the other years because of the large increase of spending in most of the OECD as a way to battle the effects of the coronavirus (Eichhorst et al. 2022)

## 2. What are Active Labour Market Policies?

Labour market policy can be divided into two parts, passive and active labour market policy. Passive labour market policy (PLMP) is made up of unemployment benefits (UB) and unemployment assistance (UA) (Ernst, Merola & Reljic, 2022). UB aims to prolong the unemployed workers' stay in the labour force as they receive income while searching for new jobs while UA aims to help the unemployed in low-income households by giving aid. Overall, PLMP are shown to be positively correlated with increased unemployment, with higher benefits leading to higher unemployment (Kraft, 1998; Moffitt, 2014). Active labour market policies are, by contrast, measures taken to reduce unemployment and to make the labour market more efficient by creating jobs in addition to helping unemployed workers find already existing jobs (Ernst, Merola & Reljic, 2022). This paper will focus on lowering the unemployment rate with the help of ALMP. Consequently, to analyse the effect, this paper will use the ALMPs used in OECDs database which defines six different kinds: Public Employment Services and Administration, Training, Employment incentives, Integration of the disabled, Direct job creation and Start-up incentives (OECD, 2022), explained below.

### 2.1. PES and Administration

PES is an acronym for Public Employment Service, and it is made up of the authority which helps unemployed workers to find a job by matching them with employers, one example of this being the Swedish authority named “Arbetsförmedlingen” (Hernes et.al., 2019, p.25). Arvo Kuddo (2012) explains how PES helps the government to implement ALMPs with the predominant focus of matching the supply and demand of the labour market to reduce unemployment, by the usage of incentives and sanctions. A higher degree of spending on other ALMPs will therefore impact the spending on PES and Administration as they are positively correlated. This correlation is however not one-to-one (which is illustrated in table 3 below) as not all of a specific ALMP measure is implemented through a PES as some part of the measure is implemented though other channels. And at the same time, PES and administration does some matching processes without the interference of other labour market policies.



## 2.2. Training

Labour market training is a measure taken to increase the unemployed human capital and can appear in many different forms. According to Becker (1962, p.11), training can be split into two parts, one “school” training which takes place in school and is more theoretical, and one “on-the-job training” which increases the productivity of the recipient for a specific job as well as increase their general marginal productivity as workers. Becker (1962, p.12) further divides the “on-the-job training” to be two parts, one specific where the recipient only receives training that can increase productivity for that specific work and one general which increases the workers' overall productivity.

Connecting to earlier in the definition of PES and Administration; PES is involved in implementing the ALMPs in the country and much of the labour market training in the world is provided through the different PES and are an essential tool for matching the unemployed with the right training (Kuddo, 2012)

## 2.3. Employment incentives

Employment incentives include three variables: recruitment incentives, employment maintenance incentives, and job rotation and job sharing (Grubb & Puymoyen, 2008). Park summarizes the three parts of employment incentives as:

Recruitment incentives literally refer to policies that induce the creation of new jobs through subsidizes for new hiring while employment maintenance incentives refer to policies that prevent the elimination of existing jobs, and job rotation and sharing deals with encouraging companies to split one job into several, by breaking down duties or reducing work hours (Park, 2016, p.2).

This implies that employment incentives are a tool used to both create new jobs and at the same time make the jobs already existing more secure. As implied by the quote from Park, employment incentives vary from other measures as it is more related to companies than individuals, which provides some difficulties explained further below.

## 2.4. Integration of the disabled

Integration of the disabled focuses on helping those with disabilities to more easily integrate into the labour market. There are both supply and demand side measures used to help integrate disabled workers (Scharle & Csillags, 2017). Scharle and Csillags (2017, p.8) explains that the different kinds of ALMPs used to integrate the disabled are “mainstream programmes with or without additional support to overcome their disability and programmes tailored to their specific needs, such as vocational rehabilitation, supported employment, targeted wage subsidies or sheltered employment”. They emphasise the importance of PES in this integration and illustrate how much of the ALMPs are used through the means of the PES.

Bergeskog (2001) writes about the measures made to help integrate workers suffering from disabilities. In the study it is revealed that, in the OECD countries examined, the labour force participation and the employment rate of the disabled compared to non-disabled are 60% in Sweden and Norway, and they are the countries mentioned (2001) that have the highest relatively degree of disability workers in labour market programs compared to the rest of the OECD.

## 2.5. Direct job creation

OECD defines Direct job creation as “temporary work and, in some cases, regular jobs in the public sector or in non-profit organisations, offered to unemployed persons” (Grubb & Puymoyen, 2008, p.17). Further elaboration (Hohmeyer & Wolff, 2010) divides direct job creation into two different kinds of direct job creation, one traditional job creation schemes and one work opportunities subsidising contributory jobs (excluding “One-Euro-Jobs” as it is only found in Germany). Hohmeyer and Wolff (2010, p.6) define the goals of direct job creation as partly increasing the employability of the unemployed as well as “integrating participants into regular jobs, providing public goods, providing relief work when unemployment is high (in specific periods, regions or occupations) and enhancing social inclusion of participants”. A summary of direct job creation is the creation of work for the unemployed to make it easier to integrate into the labour market after an extended time out of employment.

## 2.6. Start-up incentives

Start-up incentives are incentives for more entrepreneurship in the economy (Jiménez, Millán and Román, 2016). The incentives encourage the unemployed to create their own business through loans and reduce the individual's risk (Ernst, Merola & Reljic, 2022). The problem with measuring start-up incentives is that entrepreneurs are not a homogeneous group as many kinds of self-employment exist and it is, therefore, problematic to fully measure the effect of the incentive.

### 3. What is Unemployment?

Unemployment is defined as the number of people willing to work but unable to find a job (Janoski, Luke & Oliver, 2014). This implies that the part of the population who are not actively trying to find work are not a part of the unemployed but are instead “out of the labour force”. In an economy, there exists a target unemployment called full unemployment (Lucas, 1978) where the unemployment is made up of only frictional unemployment. Frictional unemployment is unavoidable unemployment due to the imperfect information shared between employers and potential workers, leading to short-term unemployment until the information is correct (Jackman & Roper, 1987). This imperfect information comes from the time it takes for employees and newly unemployed workers to match and is an inevitable unemployment for the economy at large. Any exceeding unemployment above this point of full unemployment is caused by types of unemployment other than frictional and this extra unemployment is a deadweight loss for society (Lucas, 1978). This deadweight loss is produced by two kinds of unemployment, cyclical and structural unemployment. Mocan (1999, p.125) explains structural unemployment as the long-term unemployment that comes from “changes in technology, the composition of the labor force, and the institutional characteristics of the labor market”. This illustrates that there exists a difference between demand and supply in the labour market and structural unemployment is created when the supply exceeds the demand. Short-term unemployment (which is not part of the “full unemployment”) is therefore the cyclical unemployment and it comes from changes in the business cycle as the demand changes throughout the cycle. Diamond (2013) explains how the analysis of this unemployment often evaluates the number of vacancies using the Beveridge curve and then concludes if the unemployment is structural or cyclical. The Beveridge curve shows the relationship between job openings and the unemployment rate and movement along the curve indicates cyclical changes and a shift of the curve indicates structural changes.

## 4. The Effect of ALMPs

There has been a long debate in the academic world about whether ALMPs have any significant effect on the unemployment rate, and in that case, which kind of policies yield the best result. Calmfors, Forslund and Hemström (2002) display the relationship between the usage of ALMPs and the number of unemployed; when the unemployment level rises the usage of ALMPs rises as well. This indicates that there is a view that ALMPs are effective in fighting unemployment. However, Kuddo (2012) examines developing economies in his paper and shows through a study of government spending summarised by OECD how, in most countries examined, the amount of money allocated to ALMPs does not fluctuate substantially during the business cycle leaving the unemployed during a recession worse off as there is less spending for each unemployed person (with the assumption of that a recession result in an increasing unemployment rate). This contrary research shows that there is a divided prioritisation between the developed and the developing nation by how important the usage of ALMPs is.

### 4.1. Different settings, different results

The effectiveness of each ALMP on the unemployment rate is also something researchers have had different conclusions about as well as how the results differ for different settings and variables. Card, Kluve and Weber (2015) explain through their analysis of various studies around the world how different labour market measures have different impacts over time. The conclusion of the different studies showed that in the short run, measures targeted at “finding work” have positive results, while in the medium- and long run this effect tapers off as programs, such as training programs, increase their yield instead. The authors argue that the reason the turnout of training programs is low in the short run, and sometimes even negative, is caused by the changing focus of the unemployed as they undertake the training. While attending training the focus of the worker is to complete the training and they cannot spend as much time searching for a job as they would otherwise. This effect is called the lock-in effect and will reoccur later in this paper.

It is not only the time aspect that varies in Card, Kluve and Webers' (2015) summary of the effect but also the impact on different demographics. The biggest positive effects of ALMPs

came when the recipient was either female or long-term unemployed, while for men, older or younger workers, the effect of active labour market policies was inferior. Study done by Bergemann and van den Berg (2008) give more substance to this with their study of the effect of training programs. The positive results of training programs are shown to be bigger for women than for men and the effect for men was often even neglectable. In their study they found that in countries such as Sweden and Denmark where the difference in labour market participation between the genders is modest the difference in the effect of training for men and women was almost gone, providing evidence that this extra effect for women only occurs when there is a large diversity in the labour market.

Another factor which has an impact on the result is the country where the policy is implemented. Dahl and Lorentzen (2005) summarise different ALMPs used in Europe during the 90s up to the 00s and conclude that “activation” programs varied in success depending on the measure and the country. In Sweden (and Canada) those measures often even lead to negative results. When summarising a study of one hundred different ALMPs, Dar and Tzannatos (1999) found ALMPs to be less effective than expected and the labour market, the measure and the group targeted by the measure mattered heavily when it came to the result. Calmfors, Forslund and Hemström (2002) explain how Sweden had the world's highest (percentage) spending on active labour market policies during the 90s, but according to Dahl and Lorentzen have studies shown that the effect of those measures yielded low positive results and concludes that ALMPs is more efficiently used in a smaller scale. Dahl and Lorentzen continue to describe how most studies done in Norway have found ALMPs to be successful and one reason being the notion of only using ALMPs on a small scale.

#### 4.2. Earlier studies about the impact of the measures

An overall assessment of ALMP is done by Sahnoun & Abdennadher (2020) who examines the combined effects of ALMPs in the OECD and finds that increasing ALMPs by 1 per cent lowers unemployment by 0.18 per cent. A more specific result comes from Crépon and van den Berg (2016) who investigates the effect of labour market policies which aim to help the unemployed search for work in the OECD and concludes that it has a positive effect on lowering unemployment. This effect is increased further if the policy includes the unemployed person meeting with employment agencies, and the combination of increased

help and increased control for the unemployed. Kuddos's (2012) research explains further how ALMPs aimed to increase job-searching (mostly through PES) has two different kinds of effect on the unemployed. The first effect is the lock-in effect, where the participant is taking part in a program and therefore lowers their search effort for the period of the program. The other effect is called the threat effect which appears when the unemployed are reluctant to be part of a compulsory ALMP measure (due to the stigma surrounding it) and therefore exceed his or her previous commitment of finding a new job and consequently “evade” the ALMP by finding employment. The threat effect is further analysed in the Danish labour market (Rosholm & Svarer, 2008) and displays how the threat of being part of the ALMP measure, on average, lowered the unemployment spell by two and a half weeks because the unemployed increased search for work, combined with lowering their asking wage.

Martin and Grubb (2001) agree through research by the OECD that job-search assistance gives a positive result in combating unemployment. It is also shown to be one of the cheapest active labour market policies which increases the appeal of the measure. They explain the positive effect of it as:

It seems that investment in active placement efforts and raising the motivation of the unemployed, as well as taking steps to encourage and monitor their job-search behaviour, pay dividends in terms of getting the unemployed back into work faster” (Martin & Grubb, 2001, p.17).

Although not all money spent is money well spent. If job-searching assistance is one of the cheapest methods, then labour market training programs are one of the most expensive. In Sweden (as well as Canada and the US), studies have shown that the yield is miniature or even negative when comparing the cost of the program with the extra pay/extra share of workers who acquired employment on accounts of the program.

An additional active labour market policy shown to have positive effects (in Germany) is direct job creation (Hohmeyer & Wolff, 2010). Direct job creation is found to have an, especially, positive effect on workers who have been out of the labour market for a longer period. As they have not worked scheduled work for a long time, the job-creation enhances the chance for the unemployed workers to find a new job. Direct job creation is also believed to improve the image of the unemployed, as they show their future employers that they are

willing to work, as well as leading to work training, increasing the appeal of them as workers. In addition to the direct effects of the ALMP, it also comes with a psychological effect. Workers who are long-term unemployed risk becoming unmotivated searching for jobs and direct job creation can help with their motivation, again resulting in higher chances of finding a new job.

Direct job creation can however come with a drawback in the short run. As ascertained above, training may come with a temporary negative lock-in effect which lowers the search for employment and the same negative effect can occur when participants in the job creation focus on the subsidised job instead of searching for a real job (Hohmeyer & Wolff, 2010). Too high a salary in the scheme may also yield negative results in the long run as workers decrease their efforts to find another work where the salaries might not be much higher or even lower than the subsidized work. Crépon and van den Berg (2016) summarise other studies done on subsidised jobs and conclude that most studies showed it to have a positive effect on unemployment. It did, however, come at an expansive cost and it could lead to a crowding-out effect which means that the person receiving the job subsidy “takes” a job from someone else, leaving the total effect on society at zero. It is also shown that after the subsidised job period ends the effect of the measure quickly disappears.

But to help matching the unemployed with work there must first exist jobs in the economy. Jiménez, Millán, and Concepción (2016) describe the importance of entrepreneurship in the economy and how it drives economic growth and the creation of jobs. Although entrepreneurship is positive for lowering unemployment, the effect of start-up incentives is not absolutely certain, and it can differ between different groups. Their study has shown that when start-up incentives are part of the labour market policy, it has a positive result in raising the chance for people to end their unemployment and find a job. Earlier studies have also shown that start-up incentives not only help the unemployed but also lower the risk of the self-employed falling out of employment. This effect is especially big on those who have been unemployed before. Another study from Betcherman et al. (2007) observed that for young workers, programs aimed at inciting entrepreneurship showed the highest positive impact of all intervention, the drawback being that the number of observations was low, making it difficult to conclude about the impact of the measure.



One group who have yet been excluded from the measures explained in the labour market is participants with disabilities. As about 15 per cent of the world lives with a disability (World Health Organization & World Bank, 2011) it is important to use measures to get this group into the labour market. Bergeskogs (2001) writes in his study of the OECD:

The average labor force participation rate for individuals with disabilities in the 21 countries is 48 percent and the employment rate is 42 percent, which in both cases is about 25 percentage points lower than for people without disabilities. For the group with work disabilities, the average labor force participation rate is 43 percent and the employment rate is 37 percent. It is 36–37 percentage points lower than for individuals without a work disability. It could be worth noting that both people with disabilities and people with work disabilities seem to be unemployed to about the same degree as others, and that people with severe disabilities even tend to have a somewhat lower unemployment rate.” (Bergeskog, 2001, p.6, my translation).

As shown by Bergeskog (2001), the measures for integrating the disabled are an important issue because of the implications on the whole labour market. Yet, the general conclusion from studies in the EU shows that the positive effect of ALMPs aimed to integrate the disabled are lower and less effective than ALMPs aimed at other unemployed persons (Greve, 2009). It is however difficult to measure the measurements and to receive a satisfying result, meaning that the effectiveness of the policy is not completely clear. Eichhorst et al. (2010, p.81) agree with the findings of Greve (2009) but believe that ALMPs aimed at those “partly incapacitated” can be effective in helping them receive part-time jobs, although more research is needed to give a concrete conclusion.

The final active labour market policy studied is the employment incentives which differ from the other measures in this paper as it has a less obvious effect on unemployment and more on the companies. For instance, job rotation does not aim to directly help unemployed workers find a job, but it instead increases the knowledge of the worker who already have a job and makes them more valuable to the company (Mourdoukoutas & Roy, 1994). This causes them to be less likely to lose their job and yet, if they do lose their job, they are then more likely to find a new job as their human capital have increased. As it has no real direct effect on reducing the existing unemployment it is therefore difficult to measure the effect of job rotation. The same is somewhat true for employment maintenance incentives as it aims to

keep the existing jobs in the economy and does not help those who are already unemployed (Park, 2016). It could however have a long-term effect as it keeps the employed with a job, having a more indirect effect on the unemployment rate.

To summarise the measures, the studies mostly agree that ALMPs do have some effect, but they differ in size and relevance between groups and measures. Job-searching measures were, by several studies, shown to be one of the cheapest measures as well as having a positive effect on lowering unemployment. The studies on training were more divided and showed that it could have a positive effect, especially in the long run, while in the short run it often had a negative effect. Another policy with similar results was direct job creation which studies showed to be more efficient in the long run. Integration of people with disabilities is found to have some positive results on specific groups but in general, the efforts seem to be not too efficient, and more research is needed to give concrete answers. This was also the case with employment maintenance incentives as there exist difficulties confirming the marginal impact of the policy on the unemployment rate. Lastly, the conclusion from start-up incentives is that it has a real impact on lowering the unemployment rate but, especially for young workers, more studies are needed to come to a firm conclusion.

## 5. The Nordic Labour Market, Similarities and Differences

ALMPs are not separate instances detached from the rest of the labour market but simply one part of a larger context. It is therefore essential to not only describe the use of ALMPs and their effect but also to describe the labour market where the ALMPs are used and their history in the countries to understand how and why. While the countries of Sweden, Denmark, Norway and Finland share more than just borders there are also some substantial differences in the way their labour market works and ALMPs will therefore operate differently, and it is important to accord this difference.

One country with a long history of ALMPs is Sweden. The Swedish model was for a long time focused on the Rehn-Meidner model (Erixon, 2008). This model was first presented in 1951 and claims the need for a restrictive fiscal policy during the business cycle to curb inflation. Erixon (2008) elaborates further and explains how Rehn and Meidner

...advocated an active labour market policy, a wages policy of solidarity and a restrictive macroeconomic policy – primarily indirect taxes – to combine full employment with fair wages, price stability and high economic growth (Erixon, 2008, p.2).

The active labour market policies advocated were mostly focused on marginal employment subsidies to reduce unemployment. This was used from the 50s to the end of the 70s model (Erixon, 2010). First, during the OPEC I and II crisis the model started to crumble as Sweden began using a selective employment policy to prevent the unemployment which had begun to rise in the rest of the western world. This was followed by a large increase in ALMPs during the 70s and 80s to reach its culmen after the Finance crash of the 90s. During the first half of the 1990s, Sweden had the biggest percentage of spending on ALMP in the world (Calmfors, Forslund & Hemström, 2002).

The Danish labour market had a different journey than the Swedish with the “flexicurity” model being the most distinct feature. The model is built around high mobility between jobs, a thorough income safety-net as well as ALMPs and is therefore often called the “golden triangle” (Danish Agency for Labour Market and Recruitment, 2022). All this results in a low(er) level of job protection to make the labour market as flexible as possible (Bredgaard et

al. 2009). Bredgaard, Larsen and Madsen (2006, p.62) describe how the Danish labour market has been in a “golden age” since 1993 with the usage of flexicurity. But the history of the model is far older than that. The first part of the triangle is the mobility between jobs or a “flexible labour market”. The history behind it goes back to the late 1890s and is based on a mutual agreement and understanding between the two parties, the employee and the employer. They argue, due to the longevity of the agreement in Denmark, that it would be hard to implement such a system in another country as they do not have the historical reference, which is part of why the Danish labour market is different from its neighbours. Some parts of the model are however resembling the other Nordic countries. In the 80s the ALMPs started to become a part of the flexicurity model (Bredgaard, Larsen & Madsen, 2006) and it was fully integrated in the 90s, showing similarities with the Swedish use of ALMPs described above.

The implications of flexicurity are noticeable when looking at the country’s unemployment levels. In 2004 Denmark had a yearly unemployment rate of 5.4%, although around 20% of the labour force was unemployed and received benefits or social assistance at some point during that year (Bredgaard, Larsen & Madsen, 2006). This came from the high flexibility which resulted in an average of “only” 5.4% unemployed throughout the year but who made up that percentage changed throughout the year. The effect of the policies can also be seen in long-term unemployment where Denmark had 15.4 per cent lower 6+ month unemployment and 19.8 per cent lower 12+ month unemployment than the rest of the EU 15. Bredgaard, Larsen and Madsen (2006) continue by explaining how the ALMP part of the flexicurity can have motivational effects on the unemployed resulting in increased work searching. This motivational effect is further depicted by how ALMPs introduce a competitive element between the jobseekers and that this competitiveness helps the participants to stay motivated in the job search and therefore results in positive outcomes (Calmfors, Forslund & Hemström, 2002).

Kvist and Pederson (2007) explain how the purpose of the Danish flexicurity model has shifted throughout the years. At the launch in the mid-90s, the model focused on lowering unemployment; during the beginning of the 00s, the model shifted to an ALMP focus, to at the time of their paper in 2007 focus on expanding the labour supply. While the focus of the Danish labour market has shifted since the 90s the goals of the Norwegian policies have stood steady. Since the 90s the Norwegian “working line” has been the focal point of labour market

politics and it seeks to uphold high employment and decrease dependence on welfare benefits (Vedeler, 2009, p.65). An important instrument in lowering the dependence on welfare has, since the 90s, been high spending on integrating the disabled into the labour market as they as a group are more exposed and in general are more likely to be unemployed or not a part of the labour market (Greve, 2009). In line with their policies of lowering dependence on unemployment benefits, in 2003 further steps were taken in the “Action Plan to Combat Poverty” (Rønsen & Skarðhamar, 2009). The main features of the plan aimed to rehabilitate and activate the unemployed who lived off social assistance with the usage of ALMPs. According to a study done by Rønsen & Skarðhamar (2009) the result of this combined measure was overall positive.

The usage of ALMP has, however, not always been the main tool in Norway to reduce unemployment. In the 50s the Norwegian labour market saw a low level of unemployment because of a reduction in unemployment benefits. Unlike their Nordic neighbours, the usage of ALMPs like training and such was relatively limited, and the Norwegian labour market was instead focusing on retaining the high employment rate through the usage of regional politics and state funding to industries in trouble (Halvorsen & Jensen, 2004). One reason for the low unemployment was because of the low labour market participation (relative to the Nordic countries). In the 70s, 68.6 per cent of the “able to work” population was on the labour market compared to 76.6 per cent in Denmark. The reason for this is partly because the female labour market was not fully developed yet with 50 per cent of women participating in 1974 compared to 63.2 in Denmark. In the 90s the Norwegian labour market participation was still far behind the Danish as “only ” 78 per cent of the population either had jobs or were unemployed in comparison to 84.1 per cent in Denmark. This number is still far ahead of the rest of Europe which is part of the OECD with 67.2 per cent (Halvorsen & Jensen, 2004).

Elvander (2002) extends the differences found in the labour markets between Sweden, Denmark, Norway and Finland up to 2002. As stated in Bredgaard, Larsen and Madsen (2006) the history of the current labour market in Denmark goes back to 1890 when an agreement between the Danish Trade Union Confederation and the Danish Employers' Confederation was struck. In the agreement, flexibility in the Danish labour market was established. In Sweden and Norway, a mutual agreement between workers and employers was not established before the 1930s and in Finland, it took until the 1940s. Other differences Elvander presents in the differences between union density between Norway and the other

countries. In 2002, only 55 per cent of the workers in Norway were union members compared to around 80 per cent in Sweden, Finland and Denmark. Those numbers have however decreased with time and in 2019 the union density was 65.2 per cent in Sweden, 50.4 in Norway, 67.0 in Denmark and 58.0 in Finland (OECD, 2022). Even with the decreased union density in the Nordic countries (excluding Norway), it is still at a high level compared to the rest of the world and the reason behind the high level is partly because of the Ghent system Sweden, Denmark and Finland have in common (Kjellberg, 2017). Dimick (2012, p.319) explains the Ghent system as “a voluntary system of unemployment insurance in which labor unions administer publicly subsidized insurance funds and, along with employers and the state, participate in unemployment insurance policymaking”. He explains how the Ghent system in Denmark and Sweden is used as a positive incentive for workers to join a union as they then receive insurance. In Denmark the Ghent system has become an important part of the “flexicurity” as agreements between employers, unions and workers gave workers their unemployment insurance while it gave employers the flexibility to lay off people when needed more easily. Even Norway used the Ghent system for a while, but the state quickly took back control of the insurance from the unions. This results in the difference in union density seen in Sweden, Denmark and Finland compared to Norway.

Other similarities are shown in how Finland, just like Sweden, has had a long history of using ALMP to help the unemployed. OECD (2001) writes about Finland using Public Employment Services (PES) as early as the 19th century and other labour market policies such as subsidized jobs and labour market training were introduced in the 1960s.

As in most of Europe, the financial crisis of the 90s struck hard against the Finnish economy and the unemployment rate increased from 3 per cent before the crisis to more than 17 per cent in 1994 (OECD, 2001). Finland then experienced one of the fastest recovering and five years later the number of unemployed was down to 10 per cent, to some extent thanks to ALMPs.

Even though Finland made a relatively fast recovery there are still parts of the economy which struggle with high unemployment. Finland and Sweden again share similarities as they both have a high youth unemployment rate compared to Norway and Denmark (Kahn, 2010). The reason behind the high unemployment in Finland and Sweden is likely caused by the fact that temporary jobs are more volatile and younger workers are more likely to acquire more temporary jobs. But in countries with fewer restrictions (Denmark and Norway) there are

fewer temporary jobs (Kahn, 2010), leaving the young workers in those countries with more stable jobs, while Sweden and Finland receive higher youth unemployment. Kahn (2012) comes to an additional result when summarising research done on employment protection and its effect on unemployment and explains how there is a positive correlation between employment protection on permanent jobs and long-term unemployment. For short-term unemployment the relationship is negative, implying that in the short run, employment protection leads to fewer unemployed (but more in the long run).

A large problem with a high level of unemployment among young people is expressed by Larsson (2003). Research has shown that the effect of ALMPs aimed towards youth has not resulted in a great decrease in youth unemployment and most of the labour market training did instead yield negative results and increased unemployment durations. This is the effect in the short run, which is a time period up to one year according to Larsson. After one year the effect is not clear anymore and there is no conclusion whether the measures aimed at the youth give positive or negative results.

## 6. Data and Method

The data used comes from the OECD as well as the world bank and contains information about Sweden, Denmark, Norway and Finland between the years 2000 to 2020. The data is in per cent and yearly with the unemployment rate (OECD, 2022) being the percentage of the population who is part of the labour force and, on average throughout the year, is unemployed. As the data contains individuals (countries) over the same time period(s) (years) the data is considered panel data (Hsiao, 2014). Panel data can be divided into fixed and random effects (Schmidheiny & Basel, 2011) and this model will be using fixed effects. In the model where the unemployment rate is the dependent variable it is reasonable to believe that last year's unemployment has some effect on this year's unemployment, the model will therefore be using a one-year lagged dependent variable (Fredriksson, 2021). The ALMP (OECD, 2022) measures are the percentage of the GDP used each year on the different measures (for example, a 0,10 spending on PES and Administration means that 0,1 per cent of the total GDP is spent on PES and Administration that year). As last year usage of ALMP is also likely to affect unemployment the next year the ALMP measures will also have a one-year lag (as well as the correlating years effect). By doing this both a short-term and long-term effect on the unemployment rate can be analysed. One note though is that as a one-year lagged variable is not a long- "long-term effect" but earlier regression tested showed that a lagged-variable of more than one year, or a combination of several different lags, produced a similar result as when only counting for the one-year lag and the one-year lag will therefore be referenced as a long-term effect. To help describe the model as accurately as possible, data from other parts of the economy is also included. This included data on GDP growth (GDP Growth (Annual %) | Data, 2021) and inflation (Inflation, Consumer Prices (Annual %) | Data, 2021), measured by CPI, to see where in the cycle the economy is for a certain year. This is important as it is probable that the unemployment level will increase in a recession and decrease in an expansion (Hegelund, 2020), affecting the importance of the ALMPs. Another variable used in the model is the strictness of the labour market (OECD, 2022), measuring the individual and collective dismissals of regular contracts and is measured by an index where the aggregative score depends on procedural requirements, notice and severance pay, the regulatory framework for unfair dismissals and enforcement of unfair dismissal regulation (OECD, 2020). This captures some of the effects of the difference between the countries in the question of flexibility in the labour market. Lastly, the union density in the countries is



part of the model (OECD, 2022). This comes from the difference between Norway and the others to reduce the effect the different levels of union participation may have on the model. Both the strictness and union density are seen as important when estimating the effectiveness of ALMPs (Sahnoun & Abdennadher, 2020). The summary statistics of the variables are displayed in Table 2 below.

*Table 2: Summary statistics of the variables*

	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Range</b>	<b>Variance</b>	<b>SD</b>
Unemployment	2,72	9,78	6,26	7,06	3,75	1,94
PES and Administration	0,10	0,40	0,21	0,30	0,01	0,09
Training	0,06	0,75	0,33	0,69	0,03	0,19
Employment incentives	0,05	0,64	0,24	0,59	0,03	0,17
Integration of the disabled	0,06	0,98	0,28	0,92	0,06	0,24
Direct Job creation	0,00	0,20	0,03	0,20	0,00	0,05
Start-up incentives	0,00	0,04	0,01	0,04	0,00	0,01
Union Density	0,50	0,81	0,65	0,31	0,01	0,09
Inflation	-0,49	4,07	1,59	4,56	1,11	1,06
GDP growth	-8,07	5,95	1,58	14,03	5,20	2,28
The Strictness of the labour market	1,87	2,64	2,23	0,77	0,08	0,28

Before running the model there are some econometric problems to consider. One problem in econometrics is endogeneity which, if the model suffers from it, produces unreliable estimators. This is tested for with the Hausman-test and is not found in the model (Wooldridge, 2001). Another problem is multicollinearity which exists when two or more explanatory variables are correlated with each other and lowers the efficiency of the estimators in the model (Alin, 2010). As explained above, PES and administration have some correlation with the other explanatory variables (which is depicted in Table 3). This leads to the model suffering from multicollinearity and less efficient estimators. This problem is however difficult to solve without removing one or more variables. Another problem in the model is heteroscedasticity which is tested for using the Breusch-Pagan test (Breusch & Pagan, 1980) and, as with multicollinearity, this leads to less efficient estimators (Downs &

Rocke, 1979). Finally, the panel data is autocorrelated which is a common problem with time-series data as the data of a measure one year is likely to be correlated with last year's data (Drukker, 2003). This leads to the standard errors being larger than they should. The problem with multicollinearity could not be solved without dropping one or more variables but both the problem with heteroskedasticity and autocorrelation can be solved by clustering the standard errors (Hanck et al. 2019). This is done by using the Romero-Padilla (2018) cluster model for fixed effects panel data where the cluster variable is the individual countries. Using this model will produce robust standard errors (instead of "normal standard errors") which makes the standard errors reliable even with autocorrelation and heteroscedasticity (Croux, Dhaene, & Hoorelbeke, 2003). The regression model, considering the variables presented above with the fixed effects dynamic panel data and cluster effect, is presented below:

*Econometric model:*

$$\begin{aligned} \Delta U_{it} = & \alpha U_{t-1} + \beta_1 PES_{it} + \beta_2 PES_{it-1} + \beta_3 Training_{it} + \beta_4 Training_{it-1} \\ & + \beta_5 Employment_{it} + \beta_6 Employment_{it-1} + \beta_7 Intergration_{it} \\ & + \beta_8 Intergration_{it-1} + \beta_9 Direct_{it} + \beta_{10} Direct_{it} + \beta_{11} Direct_{it-1} \\ & + \beta_{12} Startup_{it} + \beta_{13} Startup_{it-1} + \beta_{14} Union_{it} + \beta_{15} Inf_{it} + \beta_{16} GDPg_{it} \\ & + \beta_{17} Strictness_{it} + \mu_{it} ; i \in G_g \end{aligned}$$

(The abbreviations used are U = unemployment rate, PES = PES and Administration, Employment = Employment incentives, Integration = Integration of the disabled, Direct = Direct job creation, Startup = Start-up incentives, Union = Union density, Inf = Inflation, GDPg = Gross domestic production growth, Strictness = the Strictness of the labour market,  $G_g$  = "indicator variable for true group membership" (Romero-Padilla, 2018, p.67)

While the model is sufficient there are ways to make the regression more efficient. To do this, and to also consider the potential missing variables correlated with unemployment, an error correction specialization could have been used (Fredriksson, 2021). Another improvement could have been using a GMM (Generalized method of moments) estimator (Blundell & Bond, 1998) which would give a more efficient result, the problem being the small number of N (individuals, in this case only four countries) and the relative large number of T (time periods, in this case 21 years) which makes the use of GMM estimator not reliable (Labra & Torrecillas, 2018) and could have resulted in overidentification and is therefore not suitable to use for solving the regression.

Table 3: Correlation matrix

	(1)									
	Unemployment	PES and Administration	Training	Employment incentives	Integration of disabled	Direct job creation	Start-up incentives	Union density	Inflation	GDP growth
Unemployment	1	0.156	0.100	0.370***	-0.138	0.527***	0.481***	0.631***		
PES and Administration	0.156	1								
Training	0.100	0.385***	1							
Employment incentives	0.370***	0.568***	-0.0943	1						
Integration of disabled	-0.138	0.890***	0.418***	0.221*	1					
Direct job creation	0.527***	-0.381***	0.257*	-0.362***	-0.402***	1				
Start-up incentives	0.481***	-0.135	-0.0349	0.349**	-0.372***	0.316**	1			
Union density	0.631***	0.482***	0.428***	0.540***	0.238*	0.195	0.577***	1		
Inflation	-0.362***	-0.213	0.00772	-0.224*	-0.135	-0.116	-0.138	-0.164	1	
GDP growth	0.0231	0.00893	-0.0353	0.148	-0.0496	0.0257	0.201	0.0985	0.00343	1

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## 7. Result and Discussion

Table 4 shows the effects of each of the measures calculated using panel data with fixed effects, clusters and lagged unemployment rate and ALMP measures.

*Table 4: The effects of the active labour market policies on the unemployment rate*

<b>Variable</b>	<b>Effect</b>	<b>Lag (<math>x_{t-1}</math>)</b>
Unemployment rate		0,79***
PES and Administration	8,89**	-5,89*
Training	2,63	-1,20
Employment incentives	1,82*	-4,12**
Integration of the disabled	-1,81	2,08
Direct job creation	11,27***	-10,51***
Start-up incentives	-18,92	-16,00
Union density	8,21***	
Inflation	-0,11	
GDP growth	-0,15***	
The Strictness of the labour market	-0,03	
Constant	-3,82*	
R <sup>2</sup>	0,877	

(\*, \*\* and \*\*\* shows the significance level with 10, 5 and 1 per cent significance respectively)

Before analysing the result, it is important to clarify what the coefficient of the measures means combined with what exactly the model measures. Showing a decrease with -1,00 is to be interpreted as a 1 percentage increase spending on the variable will result in a 1 percentage lower unemployment rate. A coefficient with a positive integer of, for example 0,7, will instead illustrate how a 1 percentage increase in that measure will increase unemployment by

0,7 per cent. As the data is on a yearly basis, the marginal effect of the variables is showing the impact on unemployment rate over a year and is therefore not an immediate effect.

*Table 4* shows the overall effectiveness of the regression with an R2 of 87,7 per cent, indicating that a large majority of the changes in the unemployment rate are described by the model. By analysing the separate measures, the lagged unemployment variable was greatly important in the next year's unemployment as 79 percent of the preceding year's unemployment rate transferred over to the next year, showing the effect of long-term unemployment. Of the ALMPs, only integration of the disabled and start-up incentives is shown to give an immediate positive effect on the unemployment rate while PES and administration, training, employment incentives, and direct job creation have a positive effect one year after the usage of the policy. The significance of employment incentives, integration of the disabled and start-up incentives, have shown a low precision as their significance level does not prove them to be significant in affecting the unemployment rate. For the Integration of the disabled, this is in line with earlier studies mentioned above by Greve (2009) as there are problems in finding satisfying results on the impact of the measures.

Training is, from the regression, shown to have a negative result on the unemployment rate in the short run (=it increases unemployment), while in the long run the effect is positive (=decreasing unemployment). While training is not shown to have a significant effect on the unemployment rate it still produces the same result shown from earlier studies by Card, Kluve and Weber (2015) and, even though it lacks significance, further supports the idea of the lock-in effect and how taking part in a training program will temporarily reduce search efforts. But after the training period is done the likelihood of finding a job increases more than before the participant took part in the program. The result of direct job creation is also in line with earlier studies (Hohmeyer & Wolff, 2010) with the immediate measures having a negative effect on the unemployment rate, but after one year the measure decreased unemployment, possibly also a result of the lock-in effect. The result of PES and administration could as well be connected to the lock-in effect due to training and other measures taking place through the PES. A higher spending on the policy could therefore lead to a higher short-term unemployment rate (as fewer unemployed find work) and the lagged variable then displays where the positive effect comes to fruition. Employment incentives are, as explained earlier, a difficult active labour market policy to measure as the effects target companies more than specific unemployed individuals as the other policies do. While the immediate effect of the

policy slightly increases the unemployment, the lagged variable does show a high significance and lowers the unemployment rate, displaying that there exists some relationship between employment incentives and the unemployment rate. The last ALMP is start-up incentives which displays a relatively extreme effect on the unemployment rate but cannot be proven to be significant. This is in line with Betcherman et al. (2007) findings as it was shown that programs aimed at entrepreneurship, for unemployed youth, were the most impactful measure, but the number of samples and the relative spending were too low to conclude how large an effect the measure really provided.

For the variables excluding the ALMPs, which aim to make the model more efficient, only union density and GDP growth were shown to be significant. The GDP growth displays a low, but still existing, effect on decreasing the unemployment rate which is consistent with earlier studies (Hegelund, 2020), as a country experiencing economic growth will in general have an easier time finding a job for its workers. For the inflation rate the result was insignificant but is still interesting to analyse. As an increase in inflation is not proven to have any effect on the unemployment rate and this further supports the idea that the Phillips-curve might not exist. For the union density the result shows a largely positive relationship between union membership and unemployment, where an increase in union density leads to a higher unemployment. However, that result might be somewhat problematic. The first notation being that there are only four countries in the model, with Norway having a low union density as well as a “relatively” low unemployment which could significantly impact the result. Another important factor is that, as explained above, the Ghent system (Dimick, 2012) encourages workers to be part of the union to receive insurance. Dimick explains how this is used in countries with more flexible labour laws and can increase unemployment:

In Denmark in particular, unions and employers are able to achieve a positive-sum tradeoff by exchanging income security for employment flexibility. While workers receive generous unemployment insurance benefits, unions cede their demands for job security, which gives employers more flexibility in the workplace” (Dimick, 2012, p.325).

This is displayed in the correlation matrix (table 3) where the unemployment rate and union density have a high correlation (63,1 per cent). This positive relationship between union density and ALMP has been studied by economists before and confirms the correlation between the variables (Tepe & Vanhuyse, 2011).

The correlation problem is also seen between PES and administration and several other policies. Between PES and administration and Employment incentives, there is a 56,8 per cent correlation and with the integration of the disabled, there is an 89,0 per cent correlation. Fredriksson (2021) confirmed in his study the relationship between PES and other ALMPs in the OECD, the difference being that training was the most correlated to PES in his paper while the regression from only the Nordic countries determined training to be “only” 38,5 per cent correlated. As explained above, this high of a correlation indicates multicollinearity which makes the efficiency of the estimators worse and may lead to less accurate independent variables (Alin, 2010).

To sum, not all separate ALMPs were shown to reduce unemployment although, when combining the immediate and lagged effect of all variables, the effect had a positive effect of unemployment. If that result is then combined with the earlier literary analysis of the countries, some conclusions emerge. Sweden and Finland both suffer from high youth unemployment (Kahn, 2010) and labour market training is the main tool to try and reduce the unemployment, but it is shown to be inefficient by several studies (Larsson, 2003; Betcherman et al. 2007). From the result of the regression in this paper it shows that a higher spending on start-up incentives could result in a reduced unemployment rate and could be the way forward in tackling the problem. The result is however not significant but as other studies (Betcherman et al. 2007) have come to the same conclusion the result can still be considered an indicator of the possible effects of start-up incentive.

Another policy Sweden and Finland could start to implement more, which is shown to have a significant effect, is direct job creation. From Hohmeyer & Wolff (2010), in addition to the result of the regression, direct job creation is shown to have a great effect on lowering the long-term unemployment in countries. As Sweden and Finland experience more long-term unemployment than Norway and Denmark an increased focus on the measure could result in a reduced unemployment. Another conclusion that can be drawn is that PES and administration does not appear to be the most efficient measure and as the Nordic countries have a large focus on PES and administration (as can be seen from the relative spending in table 2) it is possible that they could benefit from providing the labour market training and other ALMPs through other instances to make it more efficient. Examining training, the result reveals how the measure is less effective than others and is not shown to have a significant effect and is

simultaneously the ALMP with the highest mean spending per year (table 2). A displacement of the funds spent on training could therefore be sufficient in making the ALMP spendings more efficient. One note is that the effect of training in a country with less female workforce participation might still yield positive results on lowering unemployment. As Bergemann and van den Berg (2008) revealed in their study on training, a country with less labour equality had more success when using training programs. This could therefore be a way forward for Norway to help integrate its female population in the labour market while the other Nordic countries should use the spending on other ALMPs.

Employment incentives are shown to have a significant effect on lowering the unemployment rate after one year. From the earlier explanation of the incentive, one fundamental part of the measure has been how it distinguishes itself from the other ALMPs by making employed workers less likely to become long-term unemployed through the increased human capital it provides, combined with the increased job-security. For the countries with a stricter labour market, Sweden and Finland in this paper, an increased investment in employment incentives could be a natural step as it is already in line with the labour market's focus of a less flexible labour market. And with the accumulated effect of the direct and “after one year” measure providing a significant decline of unemployment, it could be a valuable policy to increase spending too. For a country with a less strict labour market, especially Denmark of the aforementioned countries, an increase spending on employment incentives, especially the job-security part, would be ill-advised as it is contradicting the idea of a flexible labour market and would work against the success of the flexicurity model.

The final variable is the union density, which, although it is not one of the ALMPs, might have a significant effect on the unemployment in the countries. The result implies that higher union density leads to higher unemployment and since both Sweden, Denmark and Finland have a high union density it could be sufficient for them to examine the need of the Ghent system and its implications for the unemployment. The system does however provide in the PLMP through the unemployment insurance (Dimick, 2012) and taking away the system could come with consequences as additional instances could be needed to implement the insurances.



## 8. Conclusion

This paper aimed to show the effects of different ALMPs on the unemployment rate in the Nordic countries to see what measures were the most efficient and provided the best support in helping unemployed workers find work. From the result integration of the disabled and start-up incentives provided the best immediate (within one year) effect in lowering the unemployment but the result was not shown to be significant. After one year, PES and Administration, employment incentives and direct job creation all displayed significant effects in lowering the unemployment rate, with direct job creation having the largest- significant- effect. Using the result from the regression some implications could be used on the different Nordic countries to try and reduce unemployment. Those being a larger spending on direct- job creation, employment incentives and start-up incentives, a shifted focus from PES and administration in implementing the measures in addition to a decreased focus on training schemes. Combining these could make the spendings on ALMPs more effective and lower the unemployment rate in the Nordic countries.

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