

**Protective, active and legislative
disability policy in 10 OECD countries
through the lens of fuzzy ideal type
analysis (FSITA)**

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Abstract

There is growing interest in the increasing numbers of disabled people, expanding public expenditure on that group, and proliferating initiatives for return-to-work of people with disabilities. Individual countries are implementing various institutional sets of disability policy including return-to-work programmes and benefit provisions.

This thesis aims to arrive at a comprehensive understanding of disability policy and its change over time. In particular, it attempts to answer two questions: whether there are different disability policy models; and how disability policy has changed over time.

The first question involves the construction of disability policy models and their relationship with welfare state regimes. Based on the typologising approach, it is expected to identify different disability policy ideal types. The second question involves the discussion on convergence. Similar to the welfare state discussion, the question of convergence in disability policy is a salient issue.

Based on the findings of previous studies, this thesis explored four attributes of disability policy: protective benefit scheme, protective employment programme, activation approach and legislative regulation. Taking advantage of an emerging comparative methodology, fuzzy set ideal type analysis (FSITA), the thesis constructed ideal types of disability policy and applied these to the empirical analysis of ten developed countries from 1990 or earliest available time to 2010 or last available time.

The findings were that the disability policy models are different to the welfare state regimes and that the over time change of disability policy shows some movement away from convergence. Some countries enhanced both their protective functioning and activation approaches, whereas other concentrated solely on activation. Theoretically, this thesis contributes to the construction of disability policy models in a conceptual way and shows differences between the models and the welfare state regimes put forward by leading researchers in the field. These differences confirm the necessity for individual policy analysis. Furthermore, the thesis identifies contingent convergence in disability policy by showing different policy priorities across countries. Practically speaking, policy makers could use the findings for precise decision making, based on the mapping of the features and outcomes of disability policy in neighbouring countries on the property space.

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Author's declaration

I certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication.

I also certify that, to the best of my knowledge, this thesis does not infringe upon anyone's copyright nor violate any proprietary rights and that any ideas, methodology, and any other material included in the thesis observe the standard referencing practices.

Furthermore I declare that this is a true copy of this thesis, including any final revisions, as approved by the examiners.

Chapter 1 Introduction

1. Introduction

Increasing attention is being given to 'return-to work', namely the participation in the labour market of disabled people, in individual countries as well as by international organisations (see ISSA, 2012; OECD, 2010). This growing interest can be partly explained by the pressures on public finances caused by growing expenditure on disability provisions and an expanding population group applying for disability benefits. Expenditure on disability benefits was about two per cent of GDP in 2007 and almost three times unemployment benefit expenditure in OECD countries in 2007 (OECD, 2010, p.57). Even after the economic crisis in 2008 disability expenditure remained at two per cent of GDP in 2009 (OECD, 2012, p.4). Another important contributing factor to this growing interest in disability policy is increasing social recognition of the rights of disabled people, fuelled in part by the development of disability movements seeking social integration and equality. Indeed, one of the notable changes to disability policy in recent years has been the shift away from segregation towards a more rights-based approach (Grech, 2009).

These changes to disability policy have in turn been influenced by the broader changes taking place to welfare states. The extent to which the welfare state can exert control over an individual policy is a controversial issue, but the impact of the welfare state on disability policy cannot be denied as the policy area is one of the sub-domains of the state's responsibility. Disability policy can be defined simply as government intervention affecting disabled people and the distribution of social resources (Drake, 1999). The category of disabled people refers to persons who have disabilities, and disability is regarded as a complex nexus of individual impairment and environment (WHO, 2001). Historically disabled people have been one of the main target groups of the welfare state. For example, 'the infirm' who are disabled have traditionally been regarded as 'deserving poor' eligible for support from the state, from the Poor Law era onwards (Stone, 1984, p. 40).

The modern welfare state originated out of the dynamic relationship between the state and capitalism, and the impact of revolutionary industrialisation and democratisation in the eighteenth and nineteenth centuries (Pierson, 2006). It expanded dramatically, especially after the First and the Second World Wars based on Marshall's theory of citizenship and Keynesian

economics (ibid.). In these times, the Beveridge Report was released in the UK in 1942, a document which has had an impact throughout the world as a 'landmark in welfare history' (Hudson et al., 2008). The report emphasised the role of the state in upholding the social rights of citizens through social insurance and allied services to treat social ills, the so-called 'five giants' of want, squalor, disease, ignorance and idleness (Hudson et al., 2008, pp. 6-7). After the suffering caused by the World Wars, most states put a great deal of effort into gratifying their publics' desires for a better world and their subsequent expansion of the bureaucratic system has established various welfare institutions and legislations. These days, the welfare state now plays the role of guardian of the social rights of its citizens including the disabled, as well as (re)distributor of social resources and director of social responsibilities (Turner, 2009).

But, the degree and level of the institutional combinations designed to meet welfare responsibilities varies across countries, it can be seen from the discussion on 'welfare regimes' since Esping-Andersen (1990). The dispute about the development of and the changes to different welfare states has become more vigorous since the big social and economic changes brought about after the 'oil-shocks' of 1973 and 1979. Contrary to the post-war era, declining economic growth, soaring inflation and high unemployment took place simultaneously (e.g. Pierson, 2001; Taylor-Gooby, 2002). While the prescriptions from the Keynesians were unable to ensure efficacy, the advent of neoliberalism and the election of New Right politicians resulted in an assault on the welfare state - a reduction in the public sector and privatisation of previously nationalised concerns, stricter eligibility criteria for social provisions, deregulation policies and radical tax cuts (Blanchard et al., 1987; Peck and Tickell, 2007). Neoliberals posit the welfare state as being incompatible with capitalist economics; hence they have introduced measures based on supply-side monetarism rather than demand-side Keynesian economics. The economic and political influence of this trend was felt around the globe during the 1980s and 90s when various forms of neoliberal interventions were made in domestic economies, although most were not as aggressive as Reaganomics in the US or Thatcherism in the UK.

However, the harsh impact of neoliberalism also gave rise to counter-critiques and in some countries including the US, UK, Germany, Italy and France political reaction shifted towards the New Left or Social Democrats (Pollack, 2000). There has been a trend towards rehabilitating and revising the neoliberal approach since the mid-1990s by emphasising social investment or activation. Regarding this trend, arguments have been put forward about paradigm shift or contingency convergence across countries (Eichhorst and Konle-Seidl, 2008; Hall 1993; Hemerijck and van Kersbergen, 1999; Morel et al., 2012; Serrano Pascual, 2007). Although there are different opinions about whether there has been another shift to a new hegemony

similar to that of Keynesianism or neoliberalism, and although different names are used to describe the recent turn towards a 'social investment strategy' (Esping-Andersen, 1996; Morel et al., 2012), 'activation turn' (Bonoli, 2010; O'Conghaile et al., 1999; Serrano Pascual, 2007) or 'enabling state' (Gilbert, 2002), this trend is often described as a modernisation of the welfare state, an endeavour to make welfare programmes productive, to ensure the financial sustainability of welfare institutions, to deal with new social risks¹, and to sustain the knowledge-based economy (Esping-Andersen et al., 2002; Morel et al., 2012).

There is much controversy about the degree and direction of change to the welfare state in recent decades. Some argue that the welfare state has changed drastically and become a Schumpeterian workfare regime (SWR) (Jessop, 1993, 1995, 1999) or competition state (Cerny, 1997, 2010; Cerny and Evans, 2000, 2003). Though there are differences in the function of the state under these two approaches, the workfare regime and the competition state both involve the retreat of social policy, which becomes subordinate to economic priorities (Horsfall, 2011). On the other hand, mainstream social policy scholars such as Esping-Andersen (1990, 1996 and 1999) and Pierson (1996, 2001) argue that there has been no radical change and individual welfare states are continuing along their respective historical trajectories, kept in line by institutional mechanisms such as path-dependency and veto points, as well as continued public support for social programmes and politicians worried about cutbacks leading to electoral defeat (Pierson, 1996, 2001).

While there has been plentiful discussion on the nature of welfare state regimes since Esping-Andersen's (1990) *The Three Worlds of Welfare Capitalism*, there is little objection to the idea that welfare state systems have developed and changed along with the different historical and cultural contexts of different countries. However, contrary to these aggregated approaches, there are critiques that, as each country's welfare system is composed of a complex of programmes, it may be better understood by focusing on individual policies (Kasza, 2002). Of course, it should not be overlooked the fact that there are often contradictory logics driving welfare provisions, even in a single policy area, contradictions that result from peculiar combinations of different interests and concerns.

¹ Bonoli (2005) explains 'new social risks (NSRs)' as the 'socioeconomic transformation of post-industrial labour market and family structures ... [which] ... drive new social needs and demands' and include 'reconciling work and family life, lone parenthood, long-term unemployment, being among the working poor, and having insufficient social security coverage' (Bonoli, 2005, p. 431).

Welfare states are evolutionary not static systems (Eichhorst and Konle-Seidl, 2008) and this same logic be applied to disability policy. The question is: how to grasp the evolution of disability policy? Finding an answer to this question is the aim of this thesis.

2. Aims of the study

This thesis aims to arrive at a more comprehensive understanding of disability policy and how it has changed in recent years. Through cross-cultural comparison, it is hoped to reveal the similarities and differences in disability policy across countries. The focus of this thesis will be disability policy due to its huge and direct impact on disabled people. As one of the most vulnerable social groups, disabled people have experienced different social treatment or attitudes (Finkelstein, 1980; Oliver and Barnes, 2012; Stone, 1984). The situation of disabled people today is of course different to earlier times, and disability policy has improved. Nevertheless, people with disabilities still have a higher risk of poverty than people without disabilities (ISSA, 2012; OECD, 2010).

The main goal of this study is to construct disability policy models, as a distinguishable policy model is able to clearly show the distance between conceptual typologies of policy and empirical cases (Kvist, 2007; Ragin, 2000). By measuring this distance, the study aims to identify the similarities and differences in disability policy and how disability policy models have changed over time. Furthermore this study aims to find specific policy implications or lessons from the comparable similarities and differences in disability policy models, and from the past features of policy across countries. Policy lessons, as Rose (1991) reminds us, can also come from different spaces such as other countries as well as different times namely the past (Rose, 1991).

As the brief discussion of the welfare state above indicates, there has been vigorous debate about the existence of different welfare models or regimes. There are also some studies in individual policy areas that suggest different policy models through typologising². However, only a few research studies have been conducted into the characteristics of disability policy. This thesis aims to establish disability policy models that reflect the historical context and which will be distinguishable from previous research in the disability policy area.

² Representative examples include healthcare (Bambra, 2005a; Böhm et al., 2012) and education (Beblavy et al., 2011) as well as pensions (Soede and Vrooman, 2008) and employment policy (Vis, 2007). See also Chapter Three.

In this context, the main research questions of the thesis are as follows:

Q1. Are there different disability policy models? If there are, are these models similar to the welfare state regimes of different countries?

This question departs from both the aggregated and the disaggregated approach to researching the welfare state. In other words, it suggests that while a welfare state regime may have its own values and impacts on subordinated policies, at the same time, individual policies can also have their own values within an independent historical context. Thus, although the welfare state scheme and policy system may have some common strands under the predominant rule of the state, it can also show some discrepancies as well. This thesis attempts to identify disability policy models based on a conceptual framework of disability policy, then compares the distribution of empirical cases with welfare regime, in order to identify the similarities and differences within disability policy and the consistency or inconsistency between welfare state regime and disability policy model.

Q2. In what ways have disability policy models changed over time? Is there clear convergence?

The thesis also aims to track the change over time of disability policy. Regarding the change of the welfare state, there has been vigorous discussion about the degree and/or direction of change. A great number of studies have examined whether the change is convergent and what the pathway of change is. Different time points are indispensable for tracing change. Comparing disability policy models in the present with a point in the past allows us to identify the degree or kind of change in disability policy historically, in other words, to determine the shift from one model to another model and the movement within a specific model. It also allows us to compare the changes to both disability policy and the welfare state.

The findings from this research could have significant implications for theoretical and substantive knowledge about disability policy, as well as the discussion on the nature of the welfare state. Moreover, the empirical analysis will provide practical and specific policy information for policy makers on different areas and different time periods.

3. Methodological approach

To map the similarities and differences between disability policies across time and place, it is selected the typology approach as the main methodology of this thesis. As a basic scientific way of exhibit ordering or sorting, typologising has often been used in comparative studies about 'welfare state regimes', especially since Esping-Andersen (1990). After careful consideration, it is decided to employ the fuzzy set ideal type analysis (FSITA) as it has some advantages and allows for the construction of a conceptual disability policy model as well as the identification of distances between empirical cases. The first and most difficult methodological task is to measure disability policy so that the main attributes or characteristics are extracted from previous studies. As way of operationalising disability policy, it is able to find or match the empirical data with the conceptual attributes of disability policy. Furthermore, by performing an analysis of how disability policy has changed over time, an additional contribution to the discussion on disability policy models and welfare state change can be made.

In short, this thesis uses the typologising approach to show the differences and similarities in disability policy as well as the distance between welfare state regimes. In particular, the fuzzy set ideal type analysis enables us to demonstrate the horizontal features of disability policy at the last available time point and also allows us to trace the multifarious change of disability policy with respect to different policy priorities or different institutional combinations.

4. Contribution to knowledge

Disability policy has not featured prominently within the 'welfare modelling business' (Abrahamson, 1999). Compared to welfare states or welfare regimes, much less is known about disability policy models. In this thesis, the conceptual disability policy models are constructed and fuzzy set ideal type analysis (FSITA) is applied for heuristic purposes. To depict the multidimensional characteristics of disability policy and its tendency to reflect recent welfare state change, the various attributes of disability policy identified by previous studies were combined into a single comprehensive framework. It is expected there to be several important theoretical and empirical implications, especially regarding the distance between different ideal types and between empirical cases. Moreover, one of the strengths of FSITA is that it provides clear and concrete policy implications for policy makers (Hudson and Kühner,

2013a). Therefore it is also expected the comparative analysis conducted in the thesis to have important policy implication.

In short, the contribution to knowledge made by this study is to analyse disability policy heuristically by applying a recently spotlighted methodology, FSITA, and employing a comprehensive range of disability policy attributes within their historical context.

5. Structure of the thesis

This thesis has six chapters in addition to the introduction (Chapter One). To provide an historical understanding of disability policy, Chapter Two reviews the literature about disability and disability policy. The term 'disability' is not an easy concept to define but its definition has become crucial for identifying eligibility for social provision in the modern welfare state (Stone, 1984). Therefore the issue about how to define or apply the concept of disability is very important. The historical conceptualisation of disability and the changes caused by industrialisation and the emergence of the welfare state are discussed in Chapter Two.

Chapter Three discusses the methodological approach of the thesis. As a broader concept, first the typology method is introduced and then fuzzy set ideal type analysis (FSTIA) is mapped as a procedure that has certain advantages over more traditional techniques for typologising.

Chapter Four describes the concrete process used to answer the research questions. For the empirical analysis, disability policy is operationalised and matched with the equivalent empirical data from individual countries. Key attributes from the previous studies to measure disability policy are extracted , as disaggregating disability policy into distinct dimensions could help to understand the different priorities and institutional combinations of countries.

Chapter Five provides conceptual disability policy models and maps the distribution of the empirical cases to show the distance between countries, in order to compare the similarities and differences. The chapter also discusses the over-time trajectories of countries. The construction of the property space for the disability policy models and the distribution of empirical cases could demonstrate the distance between countries.

Chapter Six discusses the findings and their theoretical and practical implications. Disability policy models and overtime change of disability policy will show some distance with welfare

state regime and its change. This thesis will be beneficial for policy makers seeking to develop efficient institutional combinations by comparing different countries and different time points.

Finally Chapter Seven, this thesis contributes to knowledge by employing a newly spotlighted method and by including more comprehensive and distinctive attributes of disability policy in the analysis than previous studies. The thesis is concluded by discussing lessons to be drawn and suggesting next steps for follow-up studies.

Chapter 2 History of disability and disability policy

1. Introduction

What is disability? It is not a concept that can be defined in a simple way. It is argued that disability has developed in a specific social and cultural context, so it needs to be approached broadly and include economy, culture, legitimation and philosophy (Barnes and Mercer, 2010). Moreover, the population group with disabilities includes diverse persons of different ages, sexes and ethnicities, as disability can happen at any time to anybody (Marks, 1999). Therefore it is not possible for one government department to manage the various issues related to disability, which is why several different departments including education, health care, employment and social welfare deal with disability issues.

Disabled people are generally more likely to be unemployed and in poverty than people without a disability. In fact the employment rates of disabled people are around 40 percent lower and the unemployment rates double that of people without disabilities (ISSA, 2012, p. 2). The disabled are also at greater risk of poverty and social exclusion. Thus, it is not surprising that they have become one of the most vulnerable groups in society.

This chapter will first examine how disability has been conceived of historically, an issue which is crucial to understanding disability policy and how it has changed. Disability policy, as a social and collective response to disability, varies depending on how disability is defined and understood in individual societies.

2. What is disability?

Disability is sometimes used as another name for impairment but it is not limited to individual experiences. Rather it has a broader meaning that is partly determined by the workings of social institutions. For example, disability has been used as the criteria for eligibility for disability benefits and the distribution of resources, which greatly affects the lives of disabled people as an administrative category (Stone, 1984). Disability is also regarded as a socially constructed concept perpetuated by a disabling society (Oliver, 1990).

To grasp the meaning of disability as a concept, it must be first focused on the disability discourses that have emerged out of theoretical developments within several disciplines and the political struggles of disabled people especially since the 1960s. Though the main three disability discourses may differ across different spaces and different times, they are not exclusive of each other; instead they affect each other and have a pervasive impact on disability policy and social perception.

2-1 Three important disability discourses

The normalisation model versus the segregation approach

'Normalisation' discourse, which was popularised by Scandinavian countries in the 1960s, argues that disabled people's lives should be as close as possible to the 'norm', hence their education and employment should take place within the community at large. The term 'normal' involves the patterns or lives in regular circumstances and communities (Lemay, 1995). Normalisation can be seen as a reaction against the predominant segregation discourse. Before the 1960s it was common for disabled people to be isolated within their families or segregated away from mainstream society into sheltered accommodation such as asylums or protection facilities. Though the causes of most disabilities had been explained by medical science and it was less likely to be seen as a 'curse', it was still common for disabled people to be regarded as dependent beings without workability, hence useless and valueless in the social production scheme (Flynn and Lemay, 1999).

The normalisation model originated from the Mental Retardation Act in Denmark in 1959, which stressed access to normal living conditions (Brown and Smith, 1992, p. 2). The advent of the normalisation discourse indicates opposition to the existing perception that disabled people unable to work deserved social assistance separately from mainstream society. The conceptual understanding and impact of normalisation was expanded to service development and legislation in Sweden and Norway during the 1960s, especially for people with learning disabilities. In Scandinavian countries the normalisation discourse covers humanistic, egalitarian values and rights to self-determination (Kristiansen, 1999).

Normalisation also began to influence the North American approach to disability in the 1970s when Wolfensberger developed a strand of the discourse known as Social Role Valorisation (SRV) (Osburn, 2006). SRV not only stresses the importance of physically integrating disabled people but also emphasises cultural integration, the interplay between societal values and the

ongoing devaluation of the disabled because valued roles is linked to positive life experience in SRV. The positive or good things in life foster dignity, respect, a sense of belonging, opportunities to participate in social and economic activities, a decent material standard of living, and so on. If people hold valued social roles, they will be more likely to experience good things. In this context, SRV aims to create or support valued roles through the enhancement of disabled people's social image as well as their competencies, especially those disabled people who are socially devalued or at risk of becoming devalued (Osburn, 2006).

With the expansion of normalisation discourse to North America, two schools of thought emerged: the Scandinavian tradition and the American tradition (Lemay, 1995; Solvang, 2000). The Scandinavian model focuses on access to a normal life, whereas the emphasis in the American model is on finding socially valued roles for all devalued groups who have been rejected, separated and excluded from society especially through enablement or enhancement of social role.

Normalisation is also linked to the deinstitutionalisation discourse, which argued for the dissolution of institutions to prevent institutionalisation. During the 1970s various scandals related with the asylums and welfare facilities, as well as concerns about increasing social protection expenditure, fuelled the discussion on deinstitutionalisation. Both normalisation and deinstitutionalisation emphasise integration in communities, but there is a fundamental difference between them. While normalisation focuses on substantive integration in communities through decent quality of social services, deinstitutionalisation provides a basis for the reduction of welfare expenditure despite starting from a different point i.e. the inhumanity of institutions (Bachrach, 1996; Thornicroft and Bebbington, 1989).

The main contribution of normalisation to disability history is the role it played in the development of social integration. This is because it stresses that people, regardless of whether they have a disability or not, should be treated equally to the normal standard in mainstream society (Kristiansen, 1999). In social services as well as education, normalisation has been used as an effective means of achieving greater integration. However, it is also noteworthy that there are critiques of imbalance among professionals and disabled people and the disabling society, which relate to the independent living model and social model. As it is seen in the following section, the independent living model emphasises the balance between professionals and disabled people and the social model focuses on the unequal social scheme.

The independent living model versus the rehabilitation approach

The independent living model is in disagreement with the predominant rehabilitation approach. In the rehabilitation approach, which focuses on the functional insufficiency of disabled people, the role of professionals such as physicians, physical therapists and vocational rehabilitation counsellors is to change or replenish individuals; the disabled are expected to simply follow the directions of professionals, as patients or clients (DeJong, 1979).

The independent living movement was led by a group of severely disabled people in America in the early 1970s. Influenced by the rehabilitation approach, medical professionals assumed that there would not be any major improvements in the lives of the severely disabled after they completed their rehabilitation. However, empirically visible evidence started to appear highlighting the independent lives led by many severely disabled people, if they were adequately supported by services such as personal assistance. Contrary to conventional wisdom, these people were flourishing outside of the medical environment and providing clear evidence that they were capable of independent living. The establishment of centres for independent living also helped to expand the movement. Eventually, the American government replaced the Vocational Rehabilitation Act with the Rehabilitation Act in 1973, which allowed for the provision of independent living services to severely disabled people (Williams, 1983).

Here it should be noted that the independent living model attempts to change the imbalance between professionals and disabled people in the service delivery scheme (DeJong, 1979). Its early proponents were influenced by contemporary social movements such as the civil rights, deinstitutionalisation, and self-help movements. They advocated for disabled people's right to choose and self-determine their own lives independently of professional supervision (ibid.).

The social model versus the medical or individual approach

The social model emerged in the UK in the 1970s, again as a reaction to the existing and predominant medical approach or individual model. The main feature of the medical or individual model is that disability, defined as a reduced physical, cognitive or sensory functioning compared to that of a typical able-bodied person, is regarded as a personal tragedy and private issue rather than a political or public one (Shakespeare, 2010). This model has cemented its status as common-sense regarding disability and provided grounds for the intervention of successive governments. Since the beginning of the modern welfare state, governments have developed and maintained institutional systems for the disabled based on

the perception that they have functional limitations and are unable to fully participate in paid work (Handley, 2003).

By contrast, the social model focuses on social structures rather than individual impairments and argues that disability is constructed by society. Indeed, it is a disabling society and not disability per se that is the cause of the problem. Proponents of the social model therefore stress the importance of empowering disabled people by providing opportunities for full participation in society, facilitating independent living and ensuring they have complete control over their own lives (Johnstone, 2001; Oliver and Barnes, 2010)

The social model developed out of the manifesto 'The Fundamental Principles of Disability' published in 1976 by the Union of Physically Impaired Against Segregation (UPIAS), a movement which was itself inspired by Marxism (Oliver, 1990). Along with the expansion of the disability movement, the effect of the social model and organisations representing disabled people on mainstream society has been exponential. The social model is now regarded not just as a theory but as a tool informed by comprehensive materialist accounts providing insight into the disabling tendencies of society (Barnes, 2007).

Though the social model reconceptualises disability as a socially constructed matter, there are critiques from proponents of the medical approach, as well as from within the social approach itself. The former criticises the social model's ignorance of impairment because practically it is never easy to distinguish the impact of impairment from social barriers (Grue, 2011). The latter concerns the rigid dogma of the social model, as the social model mainly relates to white, Western, and male wheelchair users, and its emphasis on participation in the labour market as a means to independent living might jeopardise the benefits of those who are unable to work (Marks, 1999; Shakespeare and Watson, 2001).

Official definitions of disability

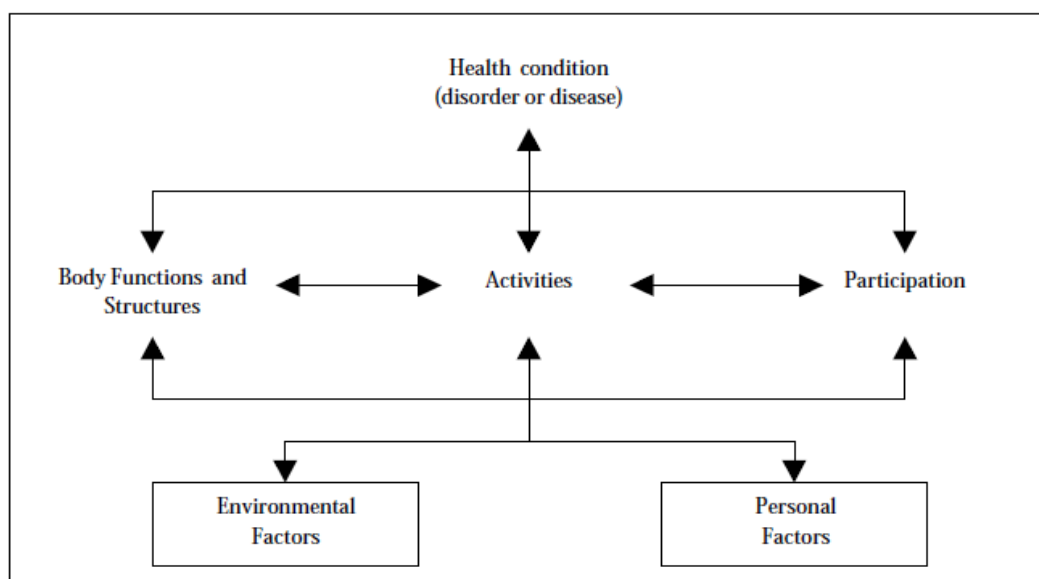
The advent of social, independent living and normalisation models generated a great deal of opposition to existing and predominant ways of thinking about and coping with disability. But it should be noted that the old models have not disappeared or been substituted by the new discourses. Instead, both sets of discourses have changed with reciprocal criticism. Hence there is an argument that the social model and medical model are not in conflict: the social model has no political value without medical knowledge; the medical approach alone cannot sustain a political project (Grue, 2011).

There have also been attempts made to incorporate the various discourses by international organisations such as the WHO (World Health Organisation) which published the 'International Classification of Functioning, Disability and Health (ICF)' in 2001 and suggested a definitional conceptualisation of disability covering both individual and social models. In fact, the ICF was actually an updated version of the 'International Classification of Impairments, Disabilities and Handicaps (ICIDH)' in 1980 and 'ICIDH-2' in 1997.

The ICIDH is important as it reflects the social disadvantages experienced by people with disabilities disregarded in the individual model. The ICIDH is described as a model of 'disease/disorder -> impairment->disability->handicap' (Gray and Hendershot, 2000). Here, the arrow involves a typical causal pattern: disease or disorder leads to impairments related to abnormalities of body structure; disability involves functional performance resulted by the consequences of impairment; and handicap is related to the disadvantage as a result of impairments and disabilities. Though the ICIDH reflects the interaction between individuals and their environments, there has been some criticism of the classification scheme, especially from social model supporters, as it is based on a one-way causal pattern and the perception of fixed environments and of disabled people as objects (e.g. Barnes, 2010).

The WHO decided to revise the ICIDH in the light of these criticisms, recognising that the scheme had several shortcomings: it paid insufficient attention to environmental influences; the distinction between impairment and disability, and between disability and handicap, was unclear; and there was a lack of clarity about the causal relationship between impairment, disability and handicap (Gray and Hendershot, 2000, p. S11). The WHO released the Beta-1 draft of the ICIDH-2 in June 1997 and Beta-2 in July 1999 after discussions with member nations and experts. Following systematic field trials and international consultation, the WHO finally published the 'International Classification of Functioning, Disability and Health (ICF)' in May 2001 (WHO, 2001). The revised drafts of ICIDH-2 already included environmental factors and used neutral terminology in order to integrate the individual and social models. As the final version of the ICIDH-2, the ICF suggested the unification of the 'biological approach' of the individual model with the 'social perspective' of social model, to create a 'biopsychosocial' approach (WHO, 2001, p. 20). In the ICF, disability is described as a result of the complex relationship between three contextual factors: a health condition, environmental factors and personal factors, and defines disability as 'an umbrella term for impairments, activity limitations and participation restrictions' (WHO, 2001, p. 213). See the figure below.

Figure 1 Interactions between components of the ICF



* International Classification of Functioning, Disability and Health (ICF) (WHO, 2001, p. 18)

Though the ICF has been criticised for failing to respect social attitudinal barriers and overlooking the subjective dimension and factors such as satisfaction (Hemmingsson and Jonsson, 2005; Ueda and Okawa, 2003; Wade and Halligan, 2003) it has nevertheless had a significant impact on disability policy. It has helped to put the intense debate about the medical versus the social approach on the political agenda and covers a wide range of functional areas related to health, lifestyle, activities and participation in broad domains such as education, self-care and work (Mitra, 2006).

In short, the three representative discourses of normalisation, the social model and independent living model are not limited to specific times or areas and are not mutually exclusive. All three are intricately linked within disability policy, practice and research and interact with organisations for disabled people. Proponents of each discourse share a common inclination for increasing the rights of disabled people. Of course the opposite models of segregation, individual model and rehabilitation model have not disappeared either, despite their decreasing impact. Many countries still provide benefits and services to disabled people using medical definitions of disability and by assessing disability in a predominantly medical process (WHO, 2011). Though the WHO suggests the official and comprehensive definition of disability, it is regarded as a complex concept to apply in practice, hence the ICF does not have status as a unifying concept in individual countries, but rather it provides a standard for statistics through the recommendations made by the United Nations Washington Group on Disability.

2-2 Understanding disability policy

How disability is defined is a crucial determinant on the characteristics of national policy as the definition of a problem decides the policy solutions (Jeon and Haider-Markel, 2001). Disability policy affects disabled people's lives directly, by deciding the criteria for disability benefits and in-kind provisions, as well as through the adjustment of barriers that could hinder or discriminate against disabled people as citizens with equal rights. Thanks to the endeavour of international organisations including the WHO and the development of disability movements, the definition of disability now covers a broader range of personal and environmental factors. But the medical definition of disability is still used as the criteria for benefits entitlement in many countries. For example, Barnes (2007) criticises the UK benefit scheme and Vedeler (2009) criticises the Norwegian system on precisely these grounds, and these criticisms are significant: the UK is the country where the social model was launched, and Norway is renowned for being a universal welfare state.

As with the definition of disability, defining disability policy is not simple. Here it is worth noting what Stone has to say about disability (1984) that it is 'an administrative category'. With an administrative category, the criteria for welfare provision are flexible and tend to reflect the change of social and economic circumstances (Stone, 1984). It is also worth noting the definition of social policy given by Kleinman and Piachaud (1993) who define social policy as 'government interventions that are designed to affect individual behaviour or command over resources or to influence the economic system in order to shape society in some way' (Kleinman and Piachaud, 1993, p. 3). In this context disability policy can be defined as 'administrative measure for government interventions that are designed to affect disabled people's behaviour or command over resources or to influence the economic system in order to shape society in some way' (Drake, 1999, p. 22).

The range of disability policy is diverse as it covers various population groups of different ages, sex and ethnicity. This thesis focuses on the working-age group as this group highlights the tension between social provision and participation in formal employment more than any other age group. Benefits, services and work are frequently mentioned as key dimensions of disability policy, or social policy and labour market policy are pointed to as key areas of disability policy in previous studies (Bolderson and Hvinden, 1994; Haveman and Wolfe, 2000; Maschke, 2004; OECD 2003; Semlinger and Schmid, 1985). Here it is briefly described representative disability policies and their contents.

Disability benefits typically include cash benefits and in-kind benefits. Cash benefits transfer money directly to disabled people through universal or contributory programmes. Specifically, disability benefit, sickness benefit and other allowances are provided for disabled people through social insurance or social security schemes. The main concerns regarding cash benefits for disabled people are similar to those with general welfare cash benefits i.e. benefit level, the criteria for eligibility including previous contribution or assessment, and the duration have received much attention from policy makers in order to control the numbers of beneficiaries (Autor and Duggan, 2003; De Jong et al., 2011; Green-Pedersen et al., 2001). Furthermore, the level of and eligibility for disability benefit are closely related to the benefits and eligibility for unemployment. This is because disability benefit is often used to regulate the labour market, for example, by easing unemployment (Stone, 1984) and disability benefit claims are often made by disguised unemployment applicants (Bratsberg et al., 2010; Staubli, 2011; Webster et al., 2010).

In-kind benefit involves providing services, especially care services. Care services, like social services per se, are a broad area catering for various user groups and not just the disabled but also children and the elderly. Care services are sometimes regarded as an independent policy area similar to health care. In addition care services are influenced by various discourses such as consumerism or contractualisation and involve gender as well as other social issues, as there are complex relations between institutional care suppliers, care workers and service users (Bettio and Plantenga, 2004; Gornick and Meyers, 2004; Green and Lawson, 2011; Ungerson, 2003).

Regarding work, various policy instruments have been used for employment of disabled people. The legislative approach includes anti-discrimination legislation and employment quotas. The employment quota is a moral or legal obligation for employers to employ disabled people at a fixed number or certain percentage of total employees, whereas anti-discrimination law is designed to prevent employers from making decisions based on a person's disability and also requires them to make the adjustments necessary for disabled people to perform their duties (Mont, 2004). Notably, anti-discrimination law includes not just regulations for the employment of disabled persons but also regulations for the general and comprehensive integration of disabled persons. It therefore amounts to a transfer of social responsibility for the implementation of disability policy to employers as well as individuals (Bergeskog, 2001).

Though there has been an observed shift from employment quotas to anti-discrimination legislation in Denmark, the Netherlands, the UK and US, there is still a need for careful

evaluation of the convergence and/or superiority of anti-discrimination legislation (Greve, 2009). Moreover the efficacy of anti-discrimination legislation for substantive employment of disabled people has not yet been proved by empirical studies. For instance, the employment rate of disabled people in the UK has decreased since the enactment of the Disability Discrimination Act (DDA) (Bambra, 2007); likewise, the American with Disabilities Act (ADA) also appears to have had a negative effect on the labour force participation rate of disabled people in the US (Beegle and Stock, 2003). These trends are no doubt related to the finding that enforcement of employer obligations has a significant impact on participation rates, regardless of whether employment quotas or anti-discrimination laws are used as the main policy tool (OECD, 2003).

Sheltered work programmes provide employment in segregated facilities. To assist disabled people's employment sheltered programmes assume that the employability of disabled people is different from people without disabilities. This assumption has been criticised for being segregationist and merely 'protecting' disabled people rather than furthering their equal rights. In response to these criticisms, sheltered employment has itself changed in an enterprising way and a general shift is also observed from sheltered employment programmes toward supported employment programmes (Hyde, 1998). Supported employment programmes involve job coaches, transportation services, assistive devices, specialised job training and individually tailored supervision. The goal of supported employment programmes is to help integrate disabled people better into the workplace.

Vocational rehabilitation and training programmes aim to increase the productivity and employability of disabled people by supporting their (re)entry into the labour market or ensuring their job tenure. Moving beyond the traditional rehabilitation approach, more attention is now paid to vocational rehabilitation and training emphasising activation (Holmqvist, 2010). Wage subsidies and other employer incentives, including tax exemption and credit for expense of making the necessary accommodations, are designed to boost the demand for disabled people.

It is important to note that these various policies are multiply combined across countries hence different countries have different institutional priorities.

3. Historical changes to disability policy

Regarding the periodisation in the historical development of disability policy, it is worth noting the analysis by Finkelstein (1980), which shows how social attitudes toward disability have changed by dividing developments into three phases based on the advent of industrialisation and the social model. Phase one, pre-industrialisation involved the integration of disabled people through traditional community mechanisms. Phase two, following the onset of industrialisation involved the segregation of disabled people away from mainstream society into institutions such as the asylum. More recently, in phase three, segregation and discrimination against disabled people came to be perceived as a kind of oppression under the development of social model (Finkelstein, 1980, pp. 6-8). Although the first phase also includes the segregated institutions which existed before industrialisation e.g. the Work House under the Poor Law (Oliver, 1986), Finkelstein's analysis is crucial starting point for understanding the evolution disability policy as it identifies two key events: industrialisation and disability movements. In the following, the historical development of disability policy is discussed in relation to these two phenomena.

3-1 The deserving poor in the pre-industrialisation era

Even before the Middle Ages, when religious beliefs were the predominant influenced on people's lives, disability received much attention. People with impairments who were unable to work, were treated as 'deserving poor' and eligible for assistance and charity (Stone, 1984). Being labelled 'deserving poor' was considered a privileged status because those who were legitimately unable to work were supported by the charity of the rich and the Church (Winance et al., 2007).

There is little dissent that the Poor Law in England in 1601 is important for understanding the deserving poor, state intervention in welfare and disability history as well (Barnes, 2010). As the first official intervention by the state on behalf of people with special needs or who had been rejected by their families, the Poor Law outlined criteria for eligibility for welfare provision and exemption from an ordinary citizen's obligations (Stone, 1984). Moreover, the Poor Law described the role of Poor Law Officials as professionals in social services as well as administrators (Davis, 1996). The definition of deserving poor in the Poor Law is instructive. It divided claimants into four groups (able-bodied males, able-bodied females, children, and the

aged and infirm) in order to deter able-bodied malingerers and infuse good work habits into convicts. The 'aged and infirm' were perceived as 'deserving poor' and eligible for support from the state or other people (Stone, 1984). They were then further divided by medical professionals into four subgroups – 'the sick', 'the insane', 'the defective', and 'the aged and infirm' - subgroupings which still inform contemporary definitions of disability. 'The sick' were people with severe disease and 'the insane' people with mental illness; 'defectives' were people with sensory impairments such as blindness or deafness, and 'the aged and infirm' group people with chronic illnesses or permanent impairments (Stone 1984, pp. 40-51).

This distinction between the 'deserving' disabled and 'undeserving' able-bodied has been at the heart of the distribution of resources ever since the Poor Law era. By stressing the division between vagrants who were unable to work legitimately and those who were capable of work, identifying disability became a crucial administrative means during the Poor Law era (Stone, 1984). One also needs to emphasise that the Poor Law established the origin of the stigma for disability, as its punitive approach through 'less eligibility treatment'³ in workhouses (Harris and Roulstone, 2011, pp. 7-8; Wright, 2000, p. 734). People who were divided into the deserving group without work capability could get assistance from local government or the church through traditional communities or custody in asylums and workhouse, but the treatment meted out to these people was very cruel (Barnes, 2010).

3-2 The able-bodied emphasis post-industrialisation

Since the end of the Nineteenth Century, disability policy has undergone many changes as a result of industrialisation and the two World Wars.

As Finkelstein (1980) notes, the advent of industrialisation marked an important turning point in the provision of state welfare for disadvantaged groups including disabled people. Urbanisation and industrialisation, and the inevitable spread of poverty had caused the breakdown of rural communities and the earlier form of state welfare. The restructuring of the production scheme and reorganisation of work shifted priorities toward maximising profit through mass production, which required the able-bodied group who had capability to work (see also Pierson, 2006). With the shift from agriculture and cottage-based industries to a

³ The principle of 'less eligibility' required that 'provision of food and wages would be lower than that earned by the poorest able-bodied labourers of the local community', and was one of the workhouse rules introduced by the Poor Law Amendment Act of 1833 (Wright 2000, p. 734).

large-scale factory-based production system, social relationships were also changed and people with functional limitations were segregated into institutionalised facilities. Until the development of the modern welfare state, people with disabilities were regarded as wanting of pity, support, charity, or institutional confinement.

As industrialisation expanded from light industries such as textiles toward heavy industries such as iron and steel, the criteria for physical fitness for jobs in these industries became stricter (Barnes, 2010). Unable to meet the requirements of able-bodied society, disabled people were instead relegated to living deserving but dependent lives while receiving charity or minimal state support. Disability was regarded as a personal tragedy and people with disabilities perceived as unable to work were excluded from society. The social position of disabled people in these times can be described as structurally weak and powerless (Johnstone, 2001). The most negative attitudes toward disability were expressed by the Eugenics movement, which developed out of Social Darwinism and was dominated by a fear of racial degeneration. Such sentiments became more pronounced during the 1920s and 1930s and eventually led to the catastrophic massacre of disabled people under the rule of the Nazis during the Second World War (Edwards, 2005).

The World Wars contributed to a change in social attitudes toward and perceptions of disability, partly because of the large number of war injuries and casualties, which left many of previously able-bodied population disabled. The necessity of providing social support for the war wounded, who sacrificed their workability for the sake of the war effort, was widely accepted (Winance and et al., 2007). At the same time, the fact that people with disabilities had been called upon to participate in the labour market during wartime due to the shortage of labour also contributed to this change in attitudes and perceptions (Barnes and Mercer, 2005). As a result, states institutionalised various systems such as pensions, rehabilitation and training, and exhorted for the employment of disabled people. In addition, people who were unable to work due to industrial accident were also included in similar welfare schemes. This is because the resultant disability from war or industrial accident was regarded not as the individuals' fault but as a collective responsibility (Winance et al., 2007). For example, based on the social consensus that society owed a duty to those who had served their countries, states such as Germany, Austria, Italy, Poland and France had enacted legislative employment quotas by the end of 1923 (Waddington, 1996).

To sum up, disabled people have experienced extremely disparate treatment since the dawn of industrialisation. At the beginning of the industrial period, disabled people who were unable to work were treated as 'inferior beings' in a mass production system; they either had to

depend on their families or were excluded in custody facilities. However, the growing amount of disability caused by war or industrial accident and the perception that society had a 'collective responsibility' for these people changed social attitudes toward disabled people and then provided grounds for the institutional welfare system.

3-3 Disability movements and disability policy

The development and expansion of disability movements made for another significant turning point in disability history. Though the modern welfare state had institutionalised plentiful legislation, policies and programmes based on Keynesianism and Marshallism, disabled people were locked into a benign but unequal hierarchy until the 1960s. This is partly explained by the fact that Marshallism was biased toward able-bodied males and did not give much attention to impairment and disability (Dwyer, 2010).

However, since the end of the 1960s progressive and resistant perceptions and action for disability have expanded noticeably. New models such as normalisation, independent living and the social model have been introduced and made significant impact on disability policy (see above). Meanwhile, the perception that disabled people have equal rights to participate in society has caused social policy to shift towards being more inclusive. Related to the expansion of disability movements, the involvement of disabled people in lobbying for the realisation of their needs has become more direct and more common since the 1970s (Johnstone, 2001).

On the strength of the worldwide movements sparked by the Disabled People's International (DPI), the United Nations (UN) proclaimed 1981 the International Year of Disabled People. The UN stressed the Standard Rules for full participation and equality and designated the period from 1983 to 1992 as the Decade of Disabled Persons. Following on from this, in 1993 the UN adopted the Standard Rules on the Equalisation of Opportunities for Persons with Disabilities by General Assembly (UN, 1994). The adoption of the Standard Rules was significant as it commits the UN and its member states to strong moral and political principles designed to encourage governments to take action to ensure equal opportunities for disabled people, although it is not a legally binding instrument. Regarding employment, the Rules emphasised governments' responsibility to provide the necessary services needed for the equal participation of disabled people in society 'such as vocational training, incentive-oriented quota schemes, reserved or designated employment, loans or grants for small business,

exclusive contracts or priority production rights, tax concessions, contract compliance or other technical or financial assistance for enterprises employing workers with disabilities', and it also stressed that the state should 'encourage employers to make reasonable adjustments to accommodate persons with disabilities' (UN, 1994, p. 16).

Following decades of exertions to change attitudes and approaches toward disabled people, the UN Headquarters eventually adopted the Convention on the Rights of Persons with Disabilities (CRPD) on December 2006. As the first comprehensive human rights treaty of the 21st Century, it was opened for signature on 30 March 2007. The CRPD highlights persons with disabilities as subjects with the right to take decisions about their own lives, as active members of society rather than mere objects of charity or social protection⁴.

Besides these endeavours at the supra national level, individual countries have also developed various ways of ensuring the equal participation of disabled people in society. Some countries have utilised existing social welfare schemes or special legislation for enhancing equal opportunities, whereas others have focused on comprehensive anti-discrimination legislation to define disability and regulate allied institutions to ensure equal participation. In the United States, the American with Disabilities Act (ADA) was enacted in 1990; prior to this the Civil Rights Act was legislated in 1964 and the Rehabilitation Act enacted in 1973 reflecting the independent living model (Williams, 1983). In Europe France, Germany, the United Kingdom and other countries first adopted anti-discrimination or protection against discrimination for disabled people at different legislative levels, prior to the enactment of comprehensive anti-discrimination law. For example, the United Kingdom drew upon its tradition of civil law while Germany chose constitutional law, whereas France opted for protection through the criminal law system (Waddington, 1996).

This rights-based approach to disability has also had a significant impact on the relationship between professionals and disabled people, which has become more equal than it was in the past, when the rehabilitation or medical model predominated and disabled people were regarded as clients or patients in need of professional direction (DeJong, 1979). However, the growing emphasis on human rights has contributed to a change in the perceptions of professionals and the roles of disabled people in their relationships with professionals (Harris and Roulstone, 2011).

⁴ See United Nations Enable, the official website of the UN for disability related issues, for details. <http://www.un.org/disabilities/index.asp>

At the same time, there is growing concern about providing individually tailored services, a concern which reflects the expansion of consumerism and contractualisation (Serrano Pascual, 2007). For the efficacy of limited volume of service and the rights as consumers or service users rather than clients or patients, disabled persons become able to require adequate services for their individually different circumstances. A representative example is the introduction of the cash-for-care scheme, which provides cash rather than services for enrichment of disabled persons' choices. The receipt of cash enables disabled persons to buy their favoured services and to play the role of employers who can choose the care giver (Arksey and Kemp, 2008; Gilbert, 2005; Pearson, 2004; Ungerson and Yeandle, 2007; Ungerson, 2004).

3-4 Welfare state austerity and disability policy

While disability movements have greatly affected disability policy since the 1970s, the global economic situation and change of welfare state have also had a significant impact. The oil shocks in 1973 and 1979 brought considerable change to global socioeconomics and welfare states (see e.g. Pierson, 2001). The New Right led by English speaking countries restored the values of liberalism and conservatism in a market-oriented way from the late 1970s. It advocated a more open and more competitive economy policy, but combined with a more conservative approach to traditional family roles and responsibilities. New Right governments developed new practices including privatisation, deregulation and contracting out, and paid more attention to moral matters such as family breakdown or welfare dependency in order to tackling spiralling welfare expenditures (Møller and Stone, 2012; Pierson, 2006; Roche, 2002; Torfing, 1999).

After the windstorm of New Right neoliberalism, which attacked the social democratic welfare state from several angles, a political countermovement occurred in the 1990s when left-leaning social democratic parties won elections in the US and UK as well as other European countries such as Germany, France and Italy (Danziger, 2001; Pollack, 2000). The New Left repudiated the Old Left approach to the welfare state and social citizenship, which was based on state control of industry, high taxation and public spending. However, it also rejected the New Right approach to dealing with the welfare burden, especially New Right antipathy to post-war welfare values such as universal rights. Instead, it advocated a middle or Third Way (Giddens, 1999; Pollack, 2000). Under this trend the welfare-to-work approach was

emphasised. To promote welfare-to-work, various reforms to welfare schemes as well as tax policy, labour market policy and macro-economic policy were undertaken (Green-Pedersen, Kersbergen and Hemerijck, 2001; Lipset, 2001). By emphasising sound public finance and a flexible labour market, personal responsibility to participate in paid job was stressed and other supports including tax credit or mandatory participation in training were adopted (Esping-Andersen, 1999; Hemerijck, 2012; King and Wickham-Jones, 1999; Lister, 2004; Pollack, 2000).

The tendency to focus on social investment is particularly noteworthy (Morel, Palier and Palme, 2012; Serrano Pascual, 2007). The 'social investment' approach can be distinguished from compensatory social policies, which have come to be regarded as supplementary and passive systems, and refers to measures that focus on investing in human capital in order to meet the needs of future generations, hence investment-related policies generally involve active labour market policies and family policies as well as education and training (Nikolai, 2012). But the details are complex due to the different origins and different priorities. For example, active labour market policies can be divided into four different types depending on the pro-market employment orientation and the degree of investment in human capital; there are occupation type policies such as job creation schemes; incentive reinforcement type policies involving in-work benefits, benefit reductions and benefit conditionality; employment assistant type policies covering job subsidies, counselling programmes; and finally, upskilling type policies including job-related vocational training (Bonoli, 2012).

The social investment approach reflects the trend towards debilitating and revising the neoliberal approach since the mid- 1990s. Here two things should be noted. First, opinion is divided about whether the social investment approach is a global paradigm shift, but paradigmatic change can happen depending on the decision for policy priorities and institutional context (Hall, 1993; Hemerijck and van Kersbergen, 1999). Second, regarding newness of social investment approach, though there were similar attempts in France and Sweden in the 1970s and 80s, there is a clear difference in terms of the social and economic circumstances, social risks faced, the goals and main targets of policy, and the relationship between labour policy and the social protection system (Barbier and Ludwig-Mayerhofer, 2004; Barbier, 2005; Elm Larsen, 2005). Although there is still controversy about whether there has been a radical change or merely some adjustment to existing trajectories, it is clear that change has happened in the welfare state and in disability policy as well. The pressures behind these changes involve the growing demand for welfare caused by high levels of unemployment, an increasing number of disability benefits applicants and ageing population, the growing financial burden of social expenditure on welfare benefits, the growth of population groups

outside the labour market, the slowdown in the growth of productivity in the post-industrial economy, the restructuring of households and the labour market, and the forces of economic globalisation (Pierson, 2001, pp. 82-99; Taylor-Gooby, 2002, pp.597-599). Again though, there are different opinions regarding the degree of influence of each of these pressures.

Regarding the increase in disability benefit claims, two things are noteworthy: one is the characteristics of disguised unemployment applicants (Bratsberg et al., 2010; Staubli, 2011; Webster et al., 2010); and the other is the deterioration of working conditions and the stress intensification in the service sector (Baumberg, 2012). In this context, it should be noted that endeavours toward reducing the number of disability beneficiaries have been criticised as biased towards focusing on tightening eligibility criteria, increasing compulsory work-related activities, and enhancing work incentives, while disregarding the destruction of jobs in traditional sectors and economic restructuring (Lindsay and Houston, 2013).

In discussions about the welfare state, various terms have been used to describe the features of renewal trends; cost-containment and activation by Taylor-Gooby (2002); and re-commodification, cost-containment and recalibration by Pierson (2001). 'Cost-containment' aims to contain current and future spending; 'activation' involves promoting (re)participation in the labour market of the employed, sick and disabled people and lone parents; 're-commodification' links to forcing people to participate the labour market; and, 'recalibration' includes a rationalisation and updating of institutional standards to meet contemporary social goals and needs (Pierson, 2001; Taylor-Gooby, 2002). Pierson argues that any effort to focus on one dimension may distort the grasp of the restructuring process (Pierson, 2001). Indeed these dimensions have been selected multiply rather than independently in the empirical policy reform process. For instance, the UK has actively reformed disability benefit schemes. The New Labour government launched the 'New Deal' under the catchphrase 'work for those who can, security for those who cannot', with a premise that 'paid work is the best route off benefits and out of poverty' (Walker and Wiseman, 2003, pp. 7-9). In order to increase the participation of disabled people and lone parents in the labour market, controversial measures such as tighter medical assessments of work capability, vocational rehabilitation and training, and tailoring consultation to individual circumstances have been employed (Holden, 2003; Roulstone, 2012). The key features of recent reforms reflecting the Work First approach include a tougher medical test, the re-testing of existing beneficiaries, new requirements to engage in work-related activity and time-limitations on entitlement to non-means-tested benefits (Beatty, Fothergill and Houston, 2013). In short, regarding the UK activation, the cost-containment, re-commodification and recalibration dimensions have been indicated.

If the spotlight is shifted to the concepts of 'activation' and 're-commodification', it is clear that these dimensions are closely linked to the labour market. Indeed, activation and re-commodification are not mutually exclusive concepts because they both include multidimensional features and share in common strands such as an emphasis on participation in the labour market. Further, they were often discussed together in empirical institutional distribution. For example, the New Deal offered by the New Labour government in the UK is sometimes described as a re-commodification approach (e.g. Holden, 2003) and sometimes as an activation approach (e.g. Eichhorst and Konle-Seidl, 2008).

'Activation' is an ambiguous concept, the specific meaning of which varies depending on the context. This broadness or vagueness is partly responsible for its attraction to policy makers, who use the ambiguity of the term to obscure different political standpoints (Geldof, 1999) but this also leads to a conflating of the terms of activation and workfare (Elm Larsen, 2005). Taylor-Gooby (2002) defines activation as measures 'aiming to reduce dependency on social provisions of unemployed, sick and disabled people, and sometimes lone parents through promoting employment or the use of private alternatives' (p. 601). Conversely, Heikkila (1999) conceives of the term more broadly and describes three core features: first, making work pay using taxes and benefits aimed at incentivising work as well as social protection; second, reintegration into the labour market using both a sanctions approach e.g. tightening access and an opportunities approach e.g. training or work experience; and third, the guarantee of a decent minimum income in order to achieve reintegration (pp. 10-11). Serrano Pascual (2007) offers a third interpretation, arguing that the activation approach is a new intervention paradigm involving: an individualised approach to inclusion stressing greater self-reliance, an emphasis on employment, and contractualisation focusing on the principle of reciprocity (Serrano Pascual, 2007). Regardless of the range of activation, it is noteworthy that it can be seen as a various mix of reforms that often show a high degree of re-commodification as well (Barbier and Ludwig-Mayerhofer, 2004). The crucial point of activation to be noted here is the explicit linkage between social protection and labour market participation (Barbier, 2005; Elm Larsen, 2005). With expanding target groups, the recipients of disability benefits and services have been enrolled into activation policies since the 1990s (Eichhorst and Konle-Seidl, 2008).

'Re-commodification' involves forcing people to participate in the labour market by tightening eligibility or reducing benefits to subsistence levels (Pierson, 2001). In other words, as the opposite of 'de-commodification', 're-commodification' involves 'a return to more market reliance for a decent living standard' (De la Porte and Jacobsson, 2012, p. 145). The concept of 'de-commodification' as put forward by Esping-Andersen (1990) refers to the extent to which a

person maintains a livelihood without reliance on the market, as a matter of right. Esping-Andersen mapped de-commodification by measuring access to benefits including eligibility rules, the income replacement degree, and the range of entitlements including cause (Esping-Andersen, 1990, Chapter 2). In this context, the empirical application of 're-commodification' resulted in making individuals more dependent on the market for their survival needs by way of restricting eligibility and reducing benefits, with the aim of increasing participation in the labour market (Kvist, 2003).

As described above, it is not easy to differentiate activation from either re-commodification or the related endeavour of reducing social expenditure (Barbier and Ludwig-Mayerhofer, 2004). In pursuit of activation or re-commodification, policy makers have tightened and modified benefit eligibilities and promoted participation in the paid labour market. Disabled people, like other disadvantaged groups, have been subjected to increasingly rigorous tests in order to qualify for benefits or determine their work capacity and are pressured to choose any opportunity to participate in the formal labour market rather than a life of passive dependence on benefits (Drake, 1999; Holmqvist, 2010; Houston and Lindsay, 2010). Though they can now receive services tailored to their individual circumstances and designed to increase their capacity or skills, which means they have a greater choice as consumers, they are also expected to take responsibility for their own lives independently (Lindsay and Houston, 2013).

In short, along with the changes to the welfare state there has been a shift in many developed countries towards activation or re-commodification policies designed to enhance participation in the labour market. Disabled people who maintain the status of deserving beneficiaries exempt from the duty of work have become the target of reforms within the trend of activation (Holmqvist, 2010). Based on the different historical and cultural contexts and the complex nexus behind policy making decisions in each country, it is expected to find various reform sets in the empirical cases. However, it is also true that there are concerns about the validity of these measures. In the case of the UK, for example, there are concerns that dwindling disability support and services will not be enough to remove the wider structural barriers that disabled people are experiencing (Harris, Owen and Gould, 2012). Another concern is the short- or medium-term perspective prioritising financial stability, rather than long-term productivity (De la Porte and Jacobsson, 2012).

4. Summary

This chapter discussed the definition of disability and the historical changes that concept of disability and disability policy have undergone in the modern era. In order to arrive at a more comprehensive understanding of disability, this chapter traced the development of three important discourses: the normalisation approach, the independent living model, and the social model. These discourses have emerged in tandem with each other, each influencing and mutually informing the other. Ultimately, the main impact of these models has been the popularisation of a more rights-based approach to disability; in opposition to existing and predominant discourses, these new discourses promoted by disability movements have contributed to the expansion of the equal rights approach in disability policy. Disability policy is a result of political and administrative means reflecting the historical context and covering the international socioeconomic situation.

As a result of the crucial turning points of industrialisation, the development of disability movements and changes to the welfare state, disability policy in recent years has tended towards activation or re-commodification. Based on the different historical context, it would be expected to see different institutional combinations regarding disability policy changes. In the following chapters, the identification of the differences and similarities of the empirical cases will be discussed.

Chapter 3 Methodological approach

1. Introduction

This chapter delineates the procedure used to seek answers to the research questions posed in the opening sections of the thesis. The main research question concerns identification of similarities and differences in the disability policies of different countries. As it was seen in the previous chapter, disability policy has been developed within the welfare state and is affected by the wider agenda of welfare reform and other social and political issues.

This thesis will use the typology approach to identify the distance within disability policy as a whole. Typologising is a means for explicating the similarities and differences suggested by comparative research. The brevity or conciseness of a typology is often described as weakness; but it has been also proposed as an advantage. Furthermore typologising can be used in conjunction with other more sophisticated methods. Therefore the typology approach has come to be regarded as a basic scientific way of sorting, ordering and comparing cases in comparative research. One of the more influential ideas in welfare state research is the 'welfare regime' approach popularised by Esping-Andersen, who argues that welfare states have developed in different historical and cultural contexts resulting in three different welfare regimes as a complex mix of state, market and family has appeared (Esping-Andersen, 1990). However, it is noteworthy that as an aggregated approach, welfare regime theory has some limitations as far as revealing the features of individual policies within a specific regime goes (Kasza, 2002). This is because there could be different opinions about the decisive power of dominant rules of a specific welfare state regime.

The following section map the reasons why the typology approach is chosen. For the disability policy analysis, the strengths and weaknesses of the regime approach are discussed. Then fuzzy set ideal type analysis is suggested as an appropriate method to examine the research questions of the thesis, because it is able to provide not just the conceptual and empirical distance between cases but also empirical and practical policy implications.

2. Typology approach and policy analysis

2-1 Why typology?

One could argue that typologising is ‘the lowest form of intellectual endeavour’ or just a precondition for more sophisticated pursuits (Baldwin, 1996, p. 29). However, historically in social science research, the typology or classification has traditionally been an important scientific tool for sorting, ordering and comparing processes (Böhm et al., 2012, p. 2). It has also been verified a useful tool for comparative research of welfare states, especially that based on ideal types and the Weberian method (Wendt et al., 2009, p. 70). Furthermore, one of the strengths of typologising is that it is able to facilitate generalisation and in this sense it can be seen as ‘the foundation of all science’ (Freeman and Frisina, 2010, p. 164).

In comparative welfare state research there is an extensive empirical literature on ‘welfare state typology’ or ‘welfare state regimes’ (Esping-Andersen, 1990), or in other names of ‘families of nations’ (Castles, 1993) and the ‘welfare modelling business’ (Abrahamson, 1999). Although this research has been criticised, the existence of such a comprehensive literature on welfare state regimes is strong evidence for the utility of typologising. More specifically, in individual policy areas typologies have been used to understand the commonality between and divergence of domestic policies. Representative examples includes healthcare (Bambra, 2005a; Böhm et al., 2012) and education (Beblavy, Thum and Veselkova, 2011) as well as pensions (Soede and Vrooman, 2008) and employment policy (Vis, 2007).

In conclusion, it would seem reasonable to suggest that typologising is a ‘fundamental heuristic tool’ both in comparative welfare state and individual policy research (Ferragina and Seeleib-Kaiser, 2011, p. 598). However, while there has been animated discussion on the welfare state and other social policy areas, there is not much discussion on typologising in research on disability policy. This thesis therefore aims to plug this gap in the literature by analysing disability policy using a typologising approach.

2-2 Welfare states and regime approach

In comparative welfare state studies, the extent of the similarities and differences between national welfare institutions is a controversial issue. As a nexus of specific institutional settings,

'regime' is an important concept in comparative welfare state and policy discussion. Though there is no consensus on the differences and similarities of regimes, it is generally agreed that there are a limited number of regimes globally (Arts and Gelissen, 2010). This section will now discuss *The Three Worlds of Welfare Capitalism* by Esping-Andersen in an attempt to vindicate the validity of the typology approach as a method for comprehensively grasping disability policy and linking it to the wider context of welfare state change.

Esping-Andersen and *The Three Worlds of Welfare Capitalism*

Although the typologising approach was utilised in welfare state studies before Esping-Andersen - namely in the analysis of two different welfare states, institutional and residual conducted by Wilensky and Lebeaux (1965) - it is clear that Esping-Andersen began a new chapter in welfare state typologising with his 'paradigmatic typology of welfare states' (Arts and Gelissen, 2010, p. 569). This is because unlike previous research, which focused on expenditure levels as a way of measuring societal concern for welfare, Esping-Andersen offered a 're-conceptualisation and re-theorisation' of the welfare state based on three different dimensions (Esping-Andersen, 1990, p. 2): the concept of de-commodification depicts the degree to which people can support themselves at a socially acceptable level without depending on the market; the public-private mix relates to the way in which social security is guaranteed by the state, market or family; and stratification infers the way and degree to which the welfare system affects social status or class differentiation and inequality.

As for the concept of regime, Esping-Andersen indicates that the term reflects the fact that 'a complex arrangement of legal and organisational features are systematically interwoven in the relation between state and economy' (Esping-Andersen, 1990, p. 2). More clearly the regime is defined as 'the combined, interdependent way in which welfare is produced and allocated between state, market, and family' (Esping-Andersen, 1999, p. 35). As ideal types rather than real types, Esping-Andersen suggests three different regimes. Though some critiques pinpoint that there are many hybrid cases in real world, it is worthy to note that Esping-Andersen himself revises the lack of purity in his typologies and emphasises that distinct regime types are explicitly verified by considering the equality of social rights, social stratification, and the relationship between state, market and family. In his earlier book Esping-Andersen argued explicitly that the objective of regime analysis is 'not to provide exhaustive comparisons across either time or societies, rather to identify ideal-type case' (Esping-Andersen, 1987, p. 7). Therefore it is reasonable that in the real world, real welfare states are likely to be a hybrid type rather than a pure ideal type, and that it is not possible to classify all cases into distinct

ideal type regimes when separating real types from ideal types as theoretically rooted typologies (Ferragina and Seeleib-Kaiser, 2011; Arts and Gelissen, 2002).

The details of each regime are as follows (Esping-Andersen, 1990, pp. 26-29). The liberal type of welfare capitalism emphasises the role of the market as well as reliance on market mechanisms. This regime is characterised by a low level of de-commodification as the state encourages the operation of the market, only guaranteeing a modest or minimum level of social benefits, which are predominantly provided through means-tested benefits. Moreover the social stratification in this regime divides the population into two groups: one is the small number of the dependants on low-incomes and supported by public provisions; and the other is people who can support themselves through the market with private social insurances. Typical countries of this regime include the US, Canada and Australia.

The conservative and continental regime highlights the role of the family and occupational status. Based on Catholic heritage and corporatism, various social insurance systems have been developed for different occupational groups. The de-commodification level is moderate as private insurance plays a limited role and the level of benefits is high based on compulsory contributions. The state intervenes especially when the family members cannot support their family. In terms of social stratification, occupational status and different occupational groups are important. Another distinguishing feature of this regime is that married women rarely participate in the labour market as they are committed to maintaining the traditional family. The archetypal examples are France, Germany, Switzerland and Italy.

The social democratic regime is characterised by universality and a high level of provisions. The level of de-commodification is high and the social democratic stratification is in the direction of equality for all citizens based on generous and universal collective provisions through taxation. Therefore the role of private insurances or individual contributions is minimal in this regime. The Scandinavian countries such as Sweden, Norway and Denmark are representative examples of this regime and Belgium and the Netherlands also have a degree of high de-commodification.

2-3 Critiques of regime theory, within and beyond

Since the publication of Esping-Andersen's book in 1990 there have been vigorous academic debates about welfare regime theory. The many critiques and discussions sparked off by

Esping-Andersen's research, verify the significance of the discussion around regimes, and furthermore much research has been centred on these debates (see Arcanjo, 2006; Arts and Gelissen, 200, 2010; Bambra, 2007; Ferragina and Seeleib-Kaiser, 2011). Here it is briefly summarised the key issues related to these debates.

Some researchers claim that the regime discussion ignores actual delivery services such as healthcare, education or social services (Bambra, 2005a; Kautto, 2002). Others argue that Esping-Andersen disregarded the role of women and paid little attention to family (Lewis, 1992; O'Connor, 1993; Sainsbury, 1999). Esping-Andersen admitted to the lack of a gender perspective, then in his follow-up book he employed the concept of de-familisation, which refers to the degree of autonomy or economic independence from the family (Esping-Andersen, 1999). There are also criticisms of the methodological approach and empirical data used to support welfare regime theory (Kangas, 1994; Ragin, 1994; Shalev, 1996).

However, possibly more serious are the critiques arguing that the analysis was limited to particular target countries or membership groups and consequently add another regime to the original three welfare capitalisms, according to the different locality: the Radical or Antipodean (Castles and Mitchell, 1993), Southern European or Mediterranean (Bonoli, 1997; Ferrera, 1996; Leibfreid, 1992), East Asian (Aspalter, 2006; Holliday, 2000; Kwon, 1997) and Post-communist or Central European type (Aspalter, 2006; Fenger, 2007) have been proposed as additional regimes. As the analytical cases of Esping-Andersen's work are limited to eighteen OECD countries, later researchers added more countries, arguing that their distinctive features could not be incorporated into the existing three welfare regimes framework. There is little agreement about the membership groups of specific countries and the degree of differences between these groups. Depending on which analytical dimensions and methods are used, the distance between different groups varies dramatically. In his follow-up book Esping-Andersen restates his confidence in the validity of the three welfare regimes rather than accepting the additions and alternatives proposed by his critics, emphasising the analytical parsimony and theoretical knowledge behind his theory (Esping-Andersen, 1999).

The aforementioned discussion on regime critiques has remained within the realms of the welfare regime concept, despite the refutations of its critics. However, the position adopted by Kasza is more deprecating of the regime concept (Kasza, 2002). For Kasza, it is less relevant whether there are three or four regimes and whether the analysis dimension includes income transfer or social services. Instead Kasza argues that the concept of regime itself cannot do justice to the complexity of welfare programmes in specific countries, where policies have been developed as disjointed sets and as a function of different historical contexts, with

different motivations or driving forces, and with the participation of various stakeholders. Therefore Kasza (2002) rejects two basic assumptions of regime analysis: first, that the regime concept can account for all social policy including income transfers, health care, unemployment and family support schemes, even though every policy does not need to conform to the same logic; second, that each regime reflects distinct norms or rationales that are coherent within the context of each country's welfare system - in most countries welfare programmes are constructed as a contradictory and disjointed set rather than a coherent package (Kasza, 2002, p. 272).

This is probably more easily understood by looking at the case of the UK. As Esping-Andersen admits, country-level regimes are not pure types such that a liberal regime can have social-democratic traits (Esping-Andersen, 1990). The UK belongs to the liberal regime category in terms of de-commodification and social stratification, but its healthcare system the National Health Service (NHS) puts the lion's share of responsibility for healthcare on the state rather than private insurance. Working along these lines, research conducted by Bamba classifies empirical cases of healthcare policy into different regimes than the original three welfare types (Bamba, 2005). The UK is grouped together with Sweden and Norway as well as New Zealand and Canada, while the US and Australia compose an outlier group. Thus, at least as far as healthcare in practice is concerned, it is far from clear where the boundaries of the liberal regime lie, a fact which lends credence to Kasza's argument that the regime concept conveniently exaggerates the internal coherence of welfare states (Bamba, 2005, p. 37; Kasza, 2002, p. 284).

The alternative approach suggested by Kasza is to focus on particular policies in order to avoid the pitfalls of comparing entire welfare systems through the regime approach. He forewarns the possible perils of focusing on individual policies, because there might be substitution between different policies functioning equivalently. He also mentions the possibility that there may be also contradictory principles even in one specific policy area. This suggests that comparative study of individual policy areas may create similar problems or be discordant with welfare state analysis through the regime approach. Moreover the importance of disaggregating the policy field is stressed along with careful consideration of the contextual framework (e.g. a specific country) (Beblavy et al., 2011). In particular, when considering successful policy reform, individual policy areas must be seen in the light of the underlying patterns of the welfare state in question. Otherwise, the invisible leverage behind individual policies may be missed. In conclusion, it is needed to approach to policy analysis with caution, taking into consideration the strengths and limitations of the welfare state regime.

3. Fuzzy set ideal type analysis (FSITA)

For the comparative analysis of disability policy, fuzzy set ideal type analysis (FSITA) is selected as it has certain advantages over other typologising methodologies. This section demonstrates the methodological strengths of FSITA then explain the logic and techniques in detail.

3-1 Why fuzzy set ideal type analysis?

The works of Esping-Andersen have not only brought about impassioned discussion of welfare state development; they have also inspired the employment of more sophisticated techniques such as z-score indexing and cluster analysis by researchers seeking to criticise the indices based numerical description used to support welfare regime theory in its original form. However, while these developments in methodology are welcome, such techniques also have some weaknesses when compared with FSITA. The following section briefly describes two methods.

The numerical description or z-score based additive index, arranges cases in order of statistically standardised scores then classifies them by a cut-off point (e.g. one standard deviation from the mean). Some regime theorists (e.g. Bambra, 2006) are concerned about the impact of borderline cases on welfare state research, because the statistical way of averaging and relying on standard deviation is not conducive to the use of qualitative hints between near borderline cases. Moreover, if there are outliers in cases or in one dimension, it can decisively affect the average value or standard deviation of cases, as the averaging process is not guaranteed to reflect all the value of cases or dimensions (Hudson and Kühner, 2010). The average value is representative of all cases or dimensions but at the same time conceals the distribution of or extreme values in cases. When the average value conceals the crucial information of cases, it may result in the misinterpretation of cases. Naturally this can be avoided through careful data cleaning, including the dropping of extreme values. Dropping outliers is problematic however, as there will be some loss of crucial information, especially in small N designs. This is important as the quantitative data from different countries or organisations are based on different concepts and contexts, so their intrinsic value or measurement criteria may be disregarded unless researchers factor in the conceptual and theoretical context beyond the numbers. Therefore, Hudson and Kühner (2013a) note that

crucial conceptual differences between quantitative data sets should be considered by priority especially when using additive indices, cluster analysis and fuzzy set analysis as well.

Cluster analysis has often been employed to support or refute Esping-Andersen's methodological approach (e.g. Kangas, 1994; Powell and Barrientos, 2004). It is more sophisticated than numerical z-score description, as it measures the physical distance between cases rather than depending on the ranking of cases. Hence it allows for the representation of relative distance where cases are grouped as different types (Kangas, 1994). However, the distance between cases or clusters is based on averaging values such as k-means and shows the relative and quantitative differences, rather than qualitative and conceptual ones. Therefore, like numerical description, cluster analysis is not well suited for controlling the impact of extreme values and providing qualitative ideas about cases.

By comparison, FSITA allows and extends qualitative thinking when dealing with quantitative data so that researchers can obtain comprehensive and theoretically convincing inferences from quantitative data, even when there is no qualified dataset, which is why FSITA has selected for this thesis. A brief explanation of FSITA of fuzzy set logic and ideal type analysis is given below.

3-2 Fuzzy set logic

FSITA is based on set theory and logic. In simple terms, fuzzy sets allow for partial membership, whereas traditional crisp sets divide cases according to a bivariate condition: membership or not, in other words 'in' or 'out' of a specific group. Before describing the differences between the fuzzy set and the crisp set, it must be first discussed the theoretical status of fuzzy set theory: its location as a middle path between qualitative and quantitative approaches and the perception of configurational comprehension of cases from different aspects or attributes. Thereafter gradated membership scores and the fuzzy set rules are described in more depth and detail.

Fuzzy-set theory was first introduced by Lotfi Zadeh in 1965 and has evolved as a useful methodology for comparative social research and way of mediating between qualitative and quantitative strategies under the influence of Charles C. Ragin (Ragin, 1987, 2000, 2008). Pointing out the polarised distribution of social research between the small-N-case-oriented side on the one hand and the large-N-value-oriented side on the other, Ragin proposes the

fuzzy set approach as a bridge between small N cases and large N cases, as well as a useful approach for intermediate N cases. He argues that fuzzy sets are a half-verbal-conceptual and half-mathematical-analytical interpretive tool that can also encourage dialogue between ideas and evidence in social research (Ragin, 2000).

Though most social research aims at affiliation between theory and data analysis, Ragin emphasises that fuzzy sets more accurately reflect theoretical knowledge. For example, when target countries are allocated into two groups of rich and poor a binary distribution should be constructed and this is never simple work. However, using fuzzy sets researchers can set up three break points based on theoretical and substantive knowledge: full membership, full non-membership, and the crossover point. These are neither neutral nor ready-made (Ragin, 2000, p. 310). It is important to choose quantitative break points carefully from theoretical and substantive knowledge because measuring the degree of concepts such as developed, rich, or generosity involves operationalising qualitative meanings. For example, to measure the generosity of benefits, an upper break point can be put on a replacement rate of 90% not on 100% because a 100% replacement rate of benefit is not feasible in the real world and realistically normal employees will spend 10% of their income on transaction costs (Kvist, 2007). In this context, fuzzy sets can be placed between quantitative and qualitative approaches and make possible amicable dialogue between theory and data analysis.

Ragin locates fuzzy set logic on the middle path between quantitative and qualitative approaches, but it can also be conceived of as closer to the qualitative side of the fence because cases are regarded as configurations of aspects or dimensions (see Ragin, 2000, Chapter 3). While conventional value-oriented research is inclined to pay less attention to the context in which the values of key variables are generated, case-oriented study is fundamentally configurational and aims to show set memberships as configurations of aspects. Emphasising the significance of the configurational perception of cases and its aspects, Ragin evokes the notion of a house-of-cards. The key concept of configurational perception is that the nature or character of cases may change when one their aspects is changed. In other words, differences on a single aspect can have a decisive effect on the kind as well as the degree of cases (Kvist, 1999).

Furthermore, the perception of cases as aspects makes it easier to identify the number of types of cases. For example, if a researcher perceives that three variables or aspects constitute a case then he/she can identify eight configurations; logically, the three variables can be combined into eight configurations of types of cases. Hence as Ragin emphasises, variables should be seen not as independent aspects of cases but as the components of configurations.

This perception of cases as configurations of aspects also makes it possible to construct a 'property space' of the variables or dimensions of cases (Bailey, 1994). The location of each case in the property space in turn allows for representation of the degree to which cases belong to a type. For example, if there is a property space like a cube composed of three axes or attributes, each corner matches eight types and the closer a case is to a corner, the greater the degree of belonging to a type.

Consequently, one of the strengths of fuzzy set theory is its ability to show partial membership. Ragin highlights the significance of sets and set relations in social science, wherein verbal or qualitative expressions such as 'developed' or 'rich' are inevitable. But it is not always easy to divide empirical cases into two clear different sets. For example, while some cases are clearly either developed or rich countries, there are also many cases that fall between these two categories. The explicit nature and strength of fuzzy sets can thus be said to be its capacity to incorporate ambiguity. Contrary to conventional crisp sets, fuzzy-sets can explain not just present or un-present, namely 'in' or 'out' of a specific set, but also the degree of membership of a specific set. In this sense, Ragin regards fuzzy set logic as a systematic solution for the uncertainty and inaccuracy generated by verbal ambiguity.

In conventional crisp sets, there are two polarities, 0 (false or non-membership) and 1 (true or full membership) based on Boolean algebra. Fuzzy sets, however, give a partial membership score from the interval between 0 and 1 through a calibration process transforming raw data into fuzzy membership scores. The benefit of calibrating partial membership is that it minimises the loss of information. For example, when it is difficult to decide whether a country is rich or not, fuzzy set membership scores make it possible to identify an exact location between rich and not-rich, which can then be translated into back into qualitative statements such as 'more rich than not rich' or 'more or less in rich'. In this way, researchers do not need to abandon vague cases as calibration allows for partial membership scores reflecting the grey zone between 'in' and 'out' of a set through concrete value labelling. The difference between crisp sets and fuzzy sets can be easily understood by comparing interval or continuous values in the following table. It should be noted that there are limited value fuzzy sets for seven or nine values and so on.

Table 1 Crisp versus fuzzy sets and verbal labels

Crisp set	Four value fuzzy set	Six value fuzzy set	Continuous fuzzy set
1 = fully in	1 = fully in	1 = fully in 0.8 = mostly but not fully in	1 = fully in
	0.67 = more in than out	0.6 = more or less in	0.5 < < 1 : degree of membership is more in than out
		0.4 = more or less out	0.5 = cross over : neither in nor out (maximum ambiguity)
	0.33 = more out than in	0.2 = mostly but not fully out	0 < < 0.5 : degree of membership is more out than in
0 = fully out	0 = fully out	0 = fully out	0 = fully out

(See Ragin, 2008, p 31)

Continuous fuzzy sets can be calibrated by first a making qualitative decision about where the three crucial break points (full membership, full non-membership, and maximum ambiguity) are, then translating the data into fuzzy values using a software programme for fuzzy set analysis such as FSITA or R⁵. As for the specific number of fuzzy values, researchers can allocate cases based on the result of qualitative assessment, which is a more indirect way of calibrating than the continuous way. Indeed, when Ragin compares the results of direct and indirect calibration using the same data sets, although there are similarities between the membership scores, there are also notable differences produced by the two types of estimation process. Thus, whereas limited value fuzzy sets are a way of bridging the worlds of language and quantitative allocation, continuous fuzzy sets are helpful when more precise measurement is needed (Vis, 2007). It is also worth noting that when researchers have difficulty deciding the qualitative break points based on theoretical and substantive knowledge, indirect calibration can contribute to better estimation of the membership scores of fuzzy sets (see Ragin, 2008, Chapter 5).

Moving on to the rules of fuzzy sets, in their operation there are three common principles similar to conventional crisp sets: set negation, set intersection, and set union. First the

⁵ See <http://www.u.arizona.edu/~cragin/fsQCA/>

principle of negation involves the repudiation of fuzzy membership scores. The negation of fuzzy membership can be determined by subtracting the fuzzy membership score from 1 and is normally denoted by a \sim signal or small letter. For example, when a specific country has 0.7 membership score for the rich group (set R), its membership score of the not-rich group is 0.3 ($= 1 - 0.7$).

Membership score of negation of set R: $\sim R$ or $r = 1 - R$

The second principle is set intersection or 'logical and'. As with compound sets, set intersection means the common area of two or more combined sets. In the fuzzy set membership score 'logical and' can be achieved by the minimum membership score of each case in combined sets and is denoted by an * or \bullet signal. For example, the intersection of rich group (set R) 'and' democratic group (set D) the area in which a person or thing can be regarded as a member of rich group as well as the democratic group, can be expressed as $R \cdot D$ or $R \bullet D$, and the membership score will be the smallest of the two scores.

Third and finally, set union namely 'logical or' means combined sets hence a membership of a union set is either one 'or' another set of the union. The signal for a union set is + and the membership score of the union set is the maximum value of all subsets of union. If a specific country has a rich group membership score of 0.3 and a democratic group score of 0.8, its membership score for the union of rich and democratic sets is 0.8 because it has to be placed in either the rich 'or' the democratic set.

In order to elaborate the rules of fuzzy sets, the process for calculating fuzzy membership scores is described in more detail below. For example, social risk can be conceptualised by the set intersection of each set of unemployment, non-standard employment, and poverty condition. And set unemployment can be regarded as the union of general unemployment and long-term unemployment. The membership score of sets can be determined as follows (Lee, 2013b).

Set Unemployment = unemployment + long-term unemployment
= max (unemployment, long-term unemployment)

Set Risk = unemployment(U) * non-standard employment(N) * poverty condition(P)
= min (unemployment, non-standard employment, poverty condition)

When the membership score of each set is $U=0.4$, $N=0.6$, and $P = 0.8$, the membership score of a case that belongs to the set of high unemployment, high non-standard employment, and low poverty condition can be computed as 0.2 ($= U \cdot N \cdot \sim P = \min (0.4, 0.6, 1-0.8)$).

In conclusion, these three principles make it possible to produce membership scores for specific fuzzy sets through the materialisation of theoretic and substantive knowledge. By combining sets-theory and calibration process, fuzzy sets analysis can quantify theoretical concepts. The notion 'balance the breadth of analysis provided by quantitative data with the depth of case study knowledge provided by qualitative analysis' (Hudson and Kühner, 2013b) well describes the nature and strength of the fuzzy set approach.

3-3 Fuzzy set ideal type analysis (FSITA)

Although Ragin emphasises the importance of causal complexities in a later publication (Ragin, 2008) he remains committed to a configurational approach to studying cases (Ragin, 2000). Likewise, many other researchers including Kvist and Vis have demonstrated the value of configuring ideal types through 'fuzzy set ideal type analysis (FSITA)'. Ideal types are helpful for measuring the similarities and differences between individual cases (Kvist, 2007, p. 474) although it is worth noting that they cannot always be matched with empirical cases. Rather, they show the theoretically and substantively possible types revealed by conceptual analysis of the aspects and attributes of cases (Ragin, 2008).

The process of FSITA

The FSITA process used by researchers (e.g. Hudson and Kühner, 2009, 2012, 2013b; Kvist, 1999, 2006, 2007; Lee, 2013a; Ragin, 2000, 2008; Rihoux and Ragin, 2009; Schneider and Wagemann, 2010; Vis 2007) to construct ideal types and evaluate the homogeneity and heterogeneity of cases can be summarised as follows.

The first step of FSITA is to define the aspects or attributes of the ideal types. Based on substantive and theoretical knowledge, key elements of the analytical target are qualitatively conceptualised. The number of attributes decides the number of ideal types using Boolean algebra. In other words, with k attributes, there are 2^k possible combinations in the property space. For example, if the three aspects of a developed welfare state are defined as generosity (G), universality (U) of cash benefits and high quality of services (Q), eight ideal type welfare states can be constructed such as G^*U^*Q , $G^*U^*\sim Q$ and so on. Here fuzzy set theory helps to construct concepts by combining attributes and making use of the spaces between sets and subsets, which thus allows researchers to measure verbal and theoretical concepts in

a precise way. It is also worth noting that the ideal types do not need to be consistent with the empirical cases and even though some ideal types may lack real cases, researchers can nevertheless obtain an overall and holistic view of what is theoretically possible as well as the gap between theory and the empirical world.

Second, calibration for the scoring of membership is a crucial procedure in fuzzy set analysis.

Calibration allows for the translation of qualitative concepts into comparable quantitative criteria (Lee, 2013a). The prerequisite of calibration is to decide qualitative breakpoints based on theoretical and substantive knowledge for the translation of raw data. The reason why substantive and theoretical knowledge are crucial is that they affect the decision of fuzzy membership scores. The three qualitative break points are particularly important: the upper limits for 'fully in', the lower limits for 'fully out', and the cross-over points for maximum ambiguity. 'Fully in' means completely belonging to a specific group and can be expressed as a score of '1', while 'fully out' is complete non-belonging and can be expressed as a score of '0'. The range between 0 and 1 covers partial membership scores and the 'cross-over' point determines the most ambiguous degree of membership, namely 'neither more in nor more out'. This cross-over point is especially crucial as it determines whether a case belongs to a specific ideal type or not. It should be noted that researchers can determine membership scores based on theoretical, historical and contextual considerations reflecting their own particular research priorities or values (Vis, 2007). When continuous scores are preferred, the fuzzy scores can be calculated from raw data based on the three qualitative break points that are pre-specified. But it is also possible to apply various interval scales of fuzzy scores, especially when there is not enough theoretical or substantive knowledge to make a qualitative decision about the break points. In short, the calibration process allows for the translation of qualitative verbal concepts into quantitative membership scores, as well as the comprehensive understanding of cases without the loss of crucial information.

Finally, researchers can assess the coordinates of cases in configurational space or measure the distance between cases or overtime changes.

Identifying partial membership scores can also be helpful when it comes to configuring or holistically comprehending the cases. Different attributes of cases can be assigned to different locations in analytical property spaces. This in turn enables researchers to understand how the different aspects fit together and function as a whole as well as independently. Property spaces can be used to demonstrate the similarities and differences of cases in graphic form, therefore making it possible to measure the distance between cases as well as between ideal types. Different kinds of cases can be distinguished depending on their distance from a specific ideal type, as well as the degree to which cases of

the same kind can be said to belong to an ideal type, based on their partial membership scores. By making full use of the differences between aspects, both the qualitative and quantitative differences and similarities between cases can be observed. Researchers and even policy makers can obtain an overall view of cases and the concrete policy implications, especially when graphics such as Venn diagrams are employed.

The fuzzy set approach can also be used to examine change over time. Like all other social phenomena, the welfare state and social policy have changed over time, and in ways that differ across countries. There has been change from one ideal type to another ideal type and change within ideal types. As for the latter, it is difficult to identify the precise degree of change when focusing on different kinds of welfare state or social policy. The fuzzy set approach, however, makes it possible to measure both types of change through the partial membership scores for each aspect. Hence it becomes possible to measure the change precisely, both quantitative changes in degree of membership, for example, and qualitative changes between different ideal types. Indeed, Kvist suggests that this new methodological approach will enable researchers to make 'nuanced judgements on the (shifting) character' of national welfare states (Kvist, 2006, p. 183).

The strengths of FSITA

Though FSITA cannot substitute conventional qualitative and quantitative approaches, it has distinct power as an analytic instrument for overcoming the weakness of both approaches. Firstly, FSITA can help to minimise the arbitrariness of research as theoretical and substantive knowledge is heavily emphasised. When identifying basic concepts, including the various aspects necessary to decide qualitative break points, researchers should rely on substantive and theoretical knowledge about cases and contexts (Ragin, 2008, 2010). By taking a holistic view of cases rather than independent variables, FSITA helps to get comparative recognition of a wide range of cases through qualitative measuring. This is because cases are best understood 'as distinct and differing configurations of multiple conceptually rooted dimensions' (Hudson and Kühner, 2010, p. 169).

Second, the partial membership scores of specific types from FSITA can be useful for capturing the hybrid types that normally exist in the real world. Because of the limits of diversity in the real world, cases do not always match ideal types; rather they locate somewhere in the middle of different ideal types. Lee (2013a) notes this merit of FSITA as allowing for a 'degree of flexibility in terms of the way a case is characterised' (p.1912). Namely FSITA contributes to

explaining peripheral domains that have been excluded in most empirical studies of welfare states, including Asian or other developing countries. For instance, Hudson and Kühner have applied FSITA to identify the productive and protective characters of a broad range of countries not just OECD but also East Asian, East European or South American countries (Hudson and Kühner, 2009, 2011, 2012). Beyond traditional compensational dimension they combine productive characters of social policy and impugn Holliday's (2000) productive welfare regime argument. While Holliday argues for the mutual exclusivity of productive and compensational characters and the distinctiveness of the East Asian welfare regime (Holliday, 2000), Hudson and Kühner draw a different conclusion, that productive and protective elements harmonise in Scandinavian countries and that East Asia is not a prototype of the productive welfare regime (Hudson and Kühner, 2009, 2011, 2012). They also recognise the multidimensionality of welfare states or diversities within neighbouring countries without losing important information, unlike researchers using typical one-dimensional league tables, which tend to miss out crucial information for ease of classification.

Finally, FSITA provides plentiful explanations for applied policy analysis (see the summary in Hudson and Kühner, 2013b; Lee, 2013a; Rihoux et al., 2011). Researchers can tease out the multidimensionality of cases by exploring the various analytical aspects of cases through FSITA while partial membership scores allows for assumption of the precise coordinates of each case in analytical space, rather than simple allocation omitting important information. The holistic overview of cases can help policy makers to understand the specific strengths as well as weaknesses of cases by comparing them with ideal types. This is explicitly verified in empirical studies. For example, when taking a close look at child policy Hudson and Kühner (2013a) exposed the detailed characteristics of policy in a specific country within various dimensions, rather than one-dimensionally ranking child well-being across countries, and concluded that there were clear-cut policy implications of recognising the practical outcomes of child policy and lessons from other cases.

4. Summary

In this chapter, the efficacy of the typology approach for analysing disability policy and the strengths of fuzzy set ideal type analysis (FSITA) have been discussed. The typology approach and the scientific value of sorting, ordering and comparing processes across countries have been vindicated. Many comparative studies have drawn upon the typology approach since the

publication of *The Three Worlds of Welfare Capitalism* by Esping-Andersen (1990) and a number of elaborative critiques, both positive and negative, have emerged. One strand of research involves the suggestion of new regimes of countries not included in Esping-Andersen's original analysis, such as the Southern European and East Asian regime, although there is no agreement about how many other countries need to be assessed before regime theory is complete. Instead, doubts continue to be expressed about the value of regime approach. Indeed, Kasza (2002) argues that regime theory is not capable of fully grasping the complexities of welfare programmes in a single country and suggests an alternative approach analysing individual policies but the typology approach has been rarely used to analyse disability policy. In this context, a comprehensive analysis of disability policy using the typologising approach will shed new light on the changes that have taken place to welfare states, as well as the trajectory of disability policies themselves.

It has also been described the methodological choice informing the research, namely fuzzy set ideal type analysis (FSITA), which allows to quantify qualitative description so that the diversity of disability policy can be assessed, not just in kind but also by degree. Taking into considering the limitations of unified data sets for analysing disability policy, FSITA opens up new possibilities for researchers by bridging the worlds of languages and empirical analysis. In the next chapter, disability policy will be operationalised and the empirical data will be matched with a series of ideal types.

Chapter 4 Operationalising and empirical data

1. Introduction

This chapter tackles the difficult task of deciding how to measure disability policy. As described before, disability is a complex and multidimensional concept, and the way it is defined has become the centre of a fierce controversy as welfare states have developed and disability movements expanded. Although a broad and official conceptualisation of disability was published in 2001 by the WHO in an attempt to encompass the medical model and social model together through the 'biological' approach (see Chapter Two), there is still a discrepancy in the identification of disability or criteria of welfare provisions across countries as well as across programmes. Most governments identify disability through their own administrative and medical assessment process for the benefit or service provisions, and this is why Stone's argument (1984) that disability is an administrative category remains persuasive.

Given this context, one needs to be extremely careful when attempting to measure disability policy, hence the focus here on the substantive functioning of disability policy, rather than how it is administratively or medically defined. There are various disability policies to meet the diverse needs of people with disabilities. This chapter summarises the four attributes of disability policy especially for working-aged people: protective functioning in social policy, protective functioning in the labour market, activation approach emphasising participation in the paid labour market, and legislative regulations for equal rights of disabled people. Thereafter the four attributes are coordinated with empirical data.

2. Operationalising disability policy

2-1 Previous research on disability policy

In order to determine the degree of similarity or difference in disability policy across time and place, it is important to explore the features of disability policy first. Table 2 shows the summary of the review of the previous literature on the attributes of disability policy.

One of the earliest theoretical frameworks was developed by Semlinger and Schmid (1985) and is cited in Bergeskog (2001) and Mont (2004). It focuses on labour market interventions for disabled people and three dimensions of disability policy are suggested: 'regulation' involved institutions such as quotas, anti-discrimination legislation and protection against dismissal; 'compensation' or 'counterbalance'⁶ including financial or other human resources as well as vocational rehabilitation and supported employment; and 'substitutions' involving the creation of specially arranged jobs for disabled people, for example, in sheltered employment. An additional dimension, 'voluntaristic approaches' is added by Bergeskog (2001). This refers to measures aimed at influencing employers through persuasion such as guidelines or financial incentives rather than regulations. Though this framework focuses more on the integrationist objectives of disability policy, the authors also mention that income maintenance objectives have received less attention from social policy makers. In other words, Bergeskog (2001) argue that labour market integration took priority over income maintenance in most countries during the 1990s. Likewise, Mont (2004) also argues that most developed countries have shifted towards integrative policies aimed at the economic integration of disabled people.

The theoretical framework developed by Bolderson and Hvinden (1994) cited in Van Oorschot (1998) and Dropping, Hvinden and Van Oorschot (2000) included basic institutional tools as well as ideal types of disability policy. Based on different policy assumptions, they suggested five ideal types: market-led, incentive-led, integration-led, choice-led, and rights-led types. Here the terms 'market', 'incentive', 'integration', 'choice' and 'rights' reflect different policy assumptions such as the responsibilities of actors and roles of financial incentives. For instance, 'choice' refers to whether individuals are free for work or not and 'incentive' is related to the obligation imposed on all members of society to work. These five types showed how disability policy was constructed in different institutional arrangements for benefits, services and work, which were identified as the three basic components of disability policy. The institutional settings in specific countries may be seen as a mixture of elements from these models showing the dominance of one or more models over others, furthermore the dominant element is likely to change over time (Dropping et al., 2000). 'Integration-led' and 'choice-led' Norway, for example, shifted towards the 'incentive-led' type from the end of the 1970s (ibid) while the Netherlands moved from 'choice-led' to 'incentive-led' (Van Oorschot, 1998). These movements reflect the increasing work focus of welfare in Norway and the Netherlands, along with stricter qualifying criteria, shorter provision duration and more emphasis on rehabilitation

⁶ Indeed, the term 'compensation' used by Semlinger and Schmid (1985) and Bergeskog (2001) is different from the term 'compensation' used for the traditional benefit system by OECD (2003, 2010). This is why Mont (2004) selected the term 'counterbalance' (see the note of Table 3).

(Dropping et al, 2000; Van Oorschot, 1998). However, though these shifts were in the same direction, the details were different due to the different degree of emphasis on the role of employers and authorities, and social equity and welfare. Therefore, the Netherlands was evaluated as a case of fundamental reconstruction (Van Oorschot, 1998) whereas Norway was regarded as a case of maintaining initiatives for social equity and welfare rather than financial concern (Dropping, Hvinden and Van Oorschot, 2000).

A third framework, developed Haverman and Wolfe (2000) describes disability policy as the provision of a safety net to encourage work and to reduce the probability of disablement. Three dimensions of disability policy are suggested: 'income support' involving social insurance or other cash transfers to maintain the level of well-being of disabled people; 'return to work' measures to enable disabled workers to return to economically productive and normal lives through rehabilitation or training programmes; and 'regulations' for equality in wage rates, provision of accommodations and prevention of discrimination in labour market. Though Haverman and Wolfe's main focus was on the disability policy of the US, they emphasise that most developed countries have measures in place to support the return to work of disabled people, regardless of their different national priorities. Interestingly, prioritising vocational policies did not seem to lead to substantive increases in the employment of disabled people (Haveman and Wolfe, 2000).

Fourthly, the OECD (2003, 2010) has recently simplified the dimensions of disability policy into two - compensation and integration - by employing twenty sub-dimensions to encompass the range of contemporary disability policy. The compensation dimension involves income support through social policies; and the labour market related integration dimension is linked to employment policies. Regulations for rights or equalities were not considered as a separate dimension. The OECD made qualitative decisions about the five points scores of each of the twenty sub-dimensions based on the qualitative and quantitative information of national reports or surveys, and employed cluster analysis for the typologising. It suggests three distinct disability policy models, somewhat similar to the three welfare state regimes of Esping-Andersen but with one notable difference: some countries such as Germany were placed in different regimes/types. The report by the OECD concluded that most countries have moved towards more emphasis on the integration approach. Here it should be noted that contradictory characteristics were put together into one dimension: the compensation dimension included both traditional social protection functions, such as linking to de-commodification, and newly adopted activating or work-fare approaches, such as stringent assessment schemes attempting a contraction of beneficiaries; the integration dimension also

involved the use of traditional labour market institutions to support the employment of disabled people, as well as the latest activation measures such as those which emphasis rehabilitation and work incentives.

Finally, Maschke (2004) cited in Waldschmidt (2009) suggests that disability policy is a 'policy mix' of social protection, labour market integration and civil rights policy: 'social protection' involves income support including social insurance or cash transfers; 'labour market integration' is linked to the encouragement of economic participation in formal employment in order to promote independent living as well as increase the productivity of disabled people; and 'civil rights policy' involves anti-discrimination legislation aimed at ending unequal treatment for disabled people (Waldschmidt, 2009, p. 9). Waldschmidt (2009) argues that through conceptual analysis these three dimensions were combined differently depending on the representative three welfare regimes. For example, in the liberal regime, social protection is at a minimum level; civil rights is at a maximum level; and labour market integration is at a medium level. The social democratic regime combines a maximum level of social protection, a medium level of civil rights and a minimum level of integration in disability policy. In the conservative regime, integration policy is at maximum level; social protection is at medium level; and civil rights is at minimum level. The clear implication from Waldschmidt (2009) is that different welfare regimes involve different disability policy configurations.

Table 2 Research on the dimensions of disability policy

Researcher	Attributes of disability policy	Summary	Cases	Time points	Ideal or empirical types	Methods
1 Semlinger and Schmid (1985) ¹	Regulation, Compensation or Counterbalance², and Substitutions	Most countries prioritise labour market integration rather than income maintenance (Bergeskog, 2001)	11 country reports and add existing literatures	Generally 1990s	No suggestion	Descriptive statistics and qualitative institution analysis
		Middle income countries have relatively less integrative policies than OECD countries (Mont, 2004)	21 OECD countries		No suggestion	
2 Bolderson and Hvinden (1994) ³	Benefits, Services, and Work	Shift toward incentive-led type (low benefits and services, and expected to work)(Van Oorschot, 1998; Dropping et al., 2000)	The Netherlands and Norway	1960s~1990s	Five (market-led, incentive-led, integration-led, choice-led, and rights-led types) ⁴	Qualitative institution analysis
3 Haveman and Wolfe (2000)	Income support and Return to work Regulation	Disability policy seeks to provide a safety net, to encourage work, and to reduce the probability of disablement.	US	1960s~1990s	No suggestion	Qualitative institution analysis
4 OECD (2003, 2010)	Compensation (10 sub) and Integration (10 sub) ⁵	Move away from a compensation approach towards an integration approach	OECD countries	1980s~2000s	Three distinct models similar to welfare regime but membership are different	Cluster analysis
5 Maschke (2004) ⁶	Social protection, Labour market integration, and Civil rights policy	The Three welfare regime show different combination of social protection, labour market integration and civil rights policy (Waldschmidt, 2009)	EU countries	1970s~1990s	No suggestion	Qualitative institution analysis

- 1) The original literature about three attributes was written in German, therefore Semlinger and Schmid (1985) is referred to through Bergeskog (2001) and Mont (2004).
- 2) 'Compensation' in Bergeskog (2001) and 'Counterbalance' in Mont (2004) refer to the same functional attribute of employment policy in the disability area, which means not just financial resources but also services, especially those aimed at improving working capacity or productivity. 'Compensation' in OECD terminology (2003, 2010) involves income security policies rather than employment policies. Hence it is necessary to be careful when using the same or similar terms with several different meanings in the research literature.
- 3) The original literature about the three attributes could not be accessed, therefore Bolderson&Hvinden (1994) is referred to through Van Oorschot (1998) and Dropping, Hvinden and Van Oorschot (2000).
- 4) The 'market-led' type presupposes disabled people to be unproductive or only marginally productive, therefore market-led policies are linked to a preference for benefits rather than services and show little interest in work. The 'incentive-led' type posits that work has an important societal value and that all members of society should participate in gainful employment, so incentive-led policies are characterised by subsistence-level benefits and minimal services and work is expected. The 'integration-led' types see work as a part of a process of normal living in which people with disabilities should participate, so integration-led policies provide adequate benefits and services and work is expected and linked to services. 'Choice' means that individuals should be free to choose whether or not they wish to work, therefore choice-led policies link to adequate benefits and services and work is not demanded. Lastly the 'rights-led' type proposes that disabled people have a right to services and employment, so rights-led policies regard the demand for work as a matter of citizenship rights and non-discrimination is emphasised more than benefits and services. (Bolderson and Hvinden, 1994) – cited in Van Oorschot (1998, p7-9) and Dropping, Hvinden, and Van Oorschot (2000, p50-53)
- 5) The 'compensation' dimension includes ① population coverage, ② the minimum required disability or work incapacity level, ③ disability or work incapacity level for full benefit, ④ maximum disability benefit payment level, ⑤ permanence of benefit payments, ⑥ medical assessment criteria, ⑦ vocational assessment criteria, ⑧ sickness benefit payment level, ⑨ sickness benefit payment duration, ⑩ sickness absence monitoring. The 'integration' dimension included ① consistency in coverage rules across supports, ② complex benefits and supports systems, ③ employer obligations to their employees and new hires, ④ supported employment programmes, ⑤ subsidised employment programmes, ⑥ sheltered employment programmes, ⑦ comprehensiveness of vocational rehabilitation, ⑧ timing of vocational rehabilitation, ⑨ disability benefit suspension option, ⑩ work incentives for beneficiaries (OECD, 2010, pp. 99-100).
- 5) The original literature about the three attributes was written in German therefore Maschke (2004) is referred to through Waldschmidt (2009).

2-2 Lessons from previous research

Regarding the different attributes of disability policy, traditionally how to support disabled people has been a crucial issue in social policy as well as labour market policy. Disability social policy involves income support to supplement loss of earnings from the labour market and care services for supporting disablement in the self-management of ordinary lives. Disability labour market policy involves creating work opportunities and work related institutions such as accommodations or adjustments, support services at workplaces and anti-discrimination laws. It is noteworthy that the labour market related policies show the nuanced strands: first, work is regarded as an equal right for both people with disabilities and people without disabilities; second, disabled people are under the same obligation as non-disabled people to participate in economic activities. This is similar to the distinction between workfare policies and enabling policies made by Dingeldey (2007): enabling policies include training programmes, placement services and supply for childcare facilities; whereas workfare policies involve benefit cuts, tightening eligibility criteria, mandatory labour market programmes and work requirements (Dingeldey, 2007). Hence it should be considered that the growing international interest in labour market integration may contain differently nuanced programmes.

Next regarding the discussion on ideal or empirical types of disability policy and methodological approaches, the typology of disability policy has not been studied much; but the discussion will benefit from the five ideal types based on the conceptual framework developed by Bolderson and Hvinden (1994) and the three empirical disability policy models suggested by the OECD (2010). The ideal types developed by Bolderson and Hvinden (1994) through a conceptual construction process distinguish different institutional combinations of work, benefit and services. Van Oorschot (1998) and Dropping, Hvinden and Van Oorschot (2000) analysed two empirical cases, which showed that ideal types could differ across countries and change over time. Waldschmidt (2009) has also suggested that different countries have different combinations of disability policies, especially depending on the type of welfare state regime. The OECD (2010) conducted a cluster analysis to identify disability policy models based on empirical data from 28 countries and proposed three different models that were similar to the three welfare state regimes. But, there were some differences: for instance, Germany belonged to the social-democratic model, while Japan belonged to the liberal model. The models suggested by the OECD are significant due to the empirical analysis of middle-

range cases and the analysis of over-time change. However, it is necessary to note some limitations: two dimensions of this model are too simple to capture the diversity of disability policy; two dimensions contain contradictory characteristics within each dimension; and, cluster analysis is of limited use for incorporating crucial information due to its dependence on the averaging value.

A third issue is time points. Most previous studies do not include the period after the 2000s except for the one done by the OECD (2010). For a better understanding of disability policy, it will be necessary to update and include more recent policy changes.

In summary, what can be deduced from previous studies can be summarised as follows. First, it is necessary to reflect at least three basic attributes of disability policy: social protection through income support, labour market integration, and regulations for disabled equality. Furthermore, given the growing interest in the 'return to work' of disabled people (see Chapter Two) it is important to differentiate traditional protective functioning from recent activation or workfare approaches, both in social policy as well as in labour market policy.

In this context, four different attributes of disability policy are selected: protective income support, protective employment policy, activation approaches, and regulations for disabled equality. Secondly, it is necessary to progress simultaneously an ideal type analysis based on conceptual processes and an empirical verification including as many cases as possible. This will help bridge the gap between theoretical and conceptual knowledge and empirical evidence. And finally, the analysis needs to reflect recent disability policies by employing a new methodology that has some advantages over cluster analysis.

One more thing: social care services are not included. The reason for this is the difficulty of measuring of social care services, as it covers the whole range of the disabled population group from the old aged and to the young. The range of care services for disabled people is extensive, as the basic role of care services is to cater for the various needs of disabled people, from personal support for daily living and movement to rehabilitation programmes. As interests of this thesis are mainly in the working-age population group, it is decided not to include general social care services. However, the impact of care services on the lives of disabled people is never marginal. Furthermore, care policy covers issues to do with the female workforce and the grey market of immigrants, and highlights issues such as consumerism and contractualisation. This is why there is so much research focusing on care services in particular.

3. Measuring disability policy

3-1 Case selection

The inclusion of as many cases as possible should provide a comprehensive overview of the differences, similarities and over-time changes of disability policy. But, few unified data sets about disability policy exist, especially at international level. Thus the focus will be put on 10 OECD countries representing the prototypes of Esping-Andersen's three regimes and other countries that can be grouped into the East Asian regime and Southern European regime.

Norway, Denmark and the Netherlands have traditionally been regarded as social democratic regime countries. The UK and the US represent the liberal regime. Both countries also have a symbolic significance in disability policy history, as birthplaces of disability movements and because they were among the first to enact anti-discrimination laws. Germany and France are categorised as conservative regimes. Korea and Japan are chosen as East-Asian regimes, and Italy as a Southern European regime.

The results of the FSITA of the four attributes of disability policy in these ten countries could also be valuable for policy makers, who will be able to compare the characteristics of their country's current disability with other countries, as well as with previous domestic policies. The findings of this thesis could even potentially be used to develop better disability policies in the future, as FSITA is well suited to conducting cross-country comparisons with practical as well as theoretical implications (Hudson and Kühner, 2013a).

As for the criteria used to determine the time points, it is necessary to consider the significance of the mid-1990s when employment-oriented policies, including activation or return-to-work initiatives, began to be expanded. Hence the three time-points selected as central reference points for disability policy analysis are: 1990 or the earliest available time; 2000 or around that time; and 2010 or the last available time.

The empirical data matching the four attributes of disability policy has been collected from national administrative and legislative information, as well as from existing literatures. The details are as follows.

3-2 Empirical data on disability policy

The task of this section is to measure the four attributes of disability policy using empirical data from 10 countries. Data availability is critical to the measuring process but there are not many uniformed international data sets on disability policy. Although the WHO publishes the ICF as the universal criteria for disability definition, many countries employ different definitions of disability depending on their different domestic programmes. And even though the Washington Group organised by the UN in 2002 has proposed criteria for national surveys for the assessment of disability and function at the individual level⁷, compiled statistics about disability similar to the OECD SOCX database have not appeared yet. Due to this lack of international datasets, comparative studies on disability policy have been conducted in two ways: by focusing on the national or international level survey data (e.g. Anema et al., 2009; Autor and Duggan, 2003; Marie and VallCastello, 2012); and conducting in-depth case studies on a small number of countries (e.g. Bound and Burkhauser, 1999; Morris, 2011; Waddington, 2010).

The data employed from the OECD dataset including SOCX is as follows: the extent to which incapacity-related benefit expenditure, as well as supported employment expenditure reflects the population group; anti-discrimination legislation information is also collected from national statistics.

This thesis employs parts of the OECD disability policy indicators, which are included in the reports published in 2003 and 2010 by the OECD. Both reports focus on the two dimensions of compensation and integration, and each includes ten sub-dimensions with three time points: 1985, 2000 and 2007 (OECD, 2003, 2010). Being equally weighted, the twenty sub-dimensions show the protective and active approaches both in benefit programmes and employment policy. Though the twenty sub-dimensions are not completely the same in both reports, OECD analyses over-time change by comparing the total scores of the two dimensions. However, comparing non-identical dimensions may be problematic and moreover, different features in the same dimension may conceal crucial information on changes, as well as on similarities and differences. For instance, supportive employment policy involving subsidised and sheltered programmes, and competitive and activation approaches, indicate different purposes and

⁷ See details of the Washington Group at:
http://www.cdc.gov/nchs/washington_group/wg_meeting13.htm#summary

different impacts on disabled people. To grasp all the policy implications of cross-country data, it is necessary to disaggregate the compensation and integration dimensions into protective measures and activation measures.

One thing should be noted here, that the data included did not always correspond exactly with the same time points. The beginning point is 1990 or the earliest available time, which ranged from 1985 to 1998 due to the different data sources. The description of the empirical data for the four attributes of disability policy is as follows.

The protective benefit attribute of disability policy

Regarding the protective function of social policy for disabled people, it needs to revisit the concepts of 'de-commodification' put forward by Esping-Andersen (1990) and 'welfare generosity' by Castles (2004). De-commodification means the degree to which people can maintain socially acceptable standards of living regardless of their dependence on the market; hence it involves income support for those who cannot join the labour market due to their impairments or disabilities. In general, de-commodification involves the net income replacement rate of benefits, qualifying conditions such as waiting periods, benefit duration and previous contribution, and a coverage rate as well; but some researchers employ only 'net replacement rate of benefits' to indicate the capacity of de-commodification in welfare policy due to the limited data available (see Hudson and Kühner, 2009, 2012). 'Welfare generosity' is a simpler way to measure the degree of social expenditure as a proportion of GDP on different coverage groups such as the old and unemployed people (Castles, 2004). Horsfall (2011) employs 'welfare generosity' to measure a welfare state's responsibilities by separating old age generosity and unemployment generosity, and contributes to solving the problem of reflecting demographic coverage.

The expenditure degree provides simple and clear information about welfare spending and the will of governments. Furthermore, the reflection of coverage population is important as the expenditure degree itself may give different information to the empirical realities. For example, the Thatcher government's high degree of spending on unemployment benefits does not indicate generous spending (Esping-Andersen, 1990; Scruggs and Allan, 2006). In this context, empirical data for the protective benefit scheme involves an incapacity related benefits expenditure degree and the number of recipients of disability benefit of working age is calculated by weighting the related population group covered by the benefit scheme.

From the OECD disability policy indicators, benefit level related sub-dimensions are added: disability benefit level; sickness benefit level; and sickness benefit duration. In general, public disability benefits involve contributory insurance as well as non-contributory benefits, and the sickness benefits are related to the duration of the sickness leave period (OECD, 2003, pp. 64-65).

The sub-dimensions of the protective benefit attribute are expected to be correlated with each other. The generosity of benefit is strongly associated with the extent of social expenditure, and indeed, incapacity related expenditure degree was strongly correlated with disability benefit levels (the Spearman's rho is 0.702) and also with sickness benefit level (the Spearman's rho is 0.642) in 2010 or the last available time⁸.

The details of the empirical data on the protective benefit attribute are displayed in Table 3. The notable thing is the difference of expenditure degree before and after weighting by the related population group. For instance, incapacity related benefit expenditure in the Netherlands was 6.3% of GDP in 1990, the highest expenditure level, but after being weighted by the number of disability beneficiaries of working age, it became just 0.73% of GDP, which is the same as the mean value. In 2000 and 2010 the expenditure value before being weighted by population group was bigger than the mean value, but after being weighted the value became similar to the mean value. This is because the size of the population group neutralises the extent of expenditure, showing the substantive support level for beneficiaries. As for the case of Korea, the low benefit expenditure level became higher than the mean value after reflecting the related population group because the portion of beneficiaries was very small.

There were no big changes in the distribution of the expenditure degree per GDP except for the Netherlands, which showed a rapid decrease. Most countries showed mild increases, especially between 2000 and 2010.

The proportion of disability beneficiaries of working age showed increases in all countries except the Netherlands and UK. The Netherlands showed a continuous decrease, while the UK showed a rapid increase in 2000 but decrease in 2010. There was a sudden jump in Korea in 2010 and the gap between Korea and the other countries reduced. The distribution of the expenditure degree did not change much in Germany and Italy.

⁸ Correlation is significant at the 0.05 level (2-tailed) through SPSS Statistics ver.21. In 2000 and 1990, only disability benefit level showed significant correlation with expenditure degree.

With reflecting the proportion of beneficiaries to the expenditure degree, the expenditure level decreased in most countries except Denmark and Japan, and the gap between countries became smaller except in Korea. Korea showed an extreme value in 1990 and then remained relatively high in 2000.

Here it should be noted the extreme value or outlier problem due to its significant impact on the averaging process. Indeed, when the adjusted mean value is calculated after excluding the outlier, the mean of the expenditure degree is changed from 2.16 to 1.70 in 1990. Using the statistical programme SPSS, the Netherlands was identified as an outlier of expenditure degree in 1990. Regarding the expenditure degree reflecting population group, Korea was classified as an outlier in 1990. Hence, the mean value of expenditure degree weighted by related population group changed from 0.73 to 0.44 when excluding the outlier.

From the fourth to sixth column of Table 3, the numbers ranging from 0 to 5 reflect the relative generosity level of benefits: higher scores mean a higher degree of generosity. This is based on the qualitative decision of the OECD. 5 points of disability benefit level means the replacement rate of disability benefit is higher than 75 %, while 0 points means the level is less than 50% of the replacement rate. 5 points of sickness benefit level involves 100% of the replacement rate, both in short-term and long-term sickness benefit, whereas 0 points represents a replacement rate of less than 50% in both short-term and long-term sickness benefit. 5 points of sickness benefit duration involves a one year or more time period, while 0 points equals less than six months (OECD, 2010, pp. 99-100) (see Appendix for details of the coding).

In general, disability benefit levels maintained a steady state but there were decreases in the Netherlands and Norway in 2010. The Netherlands' replacement rate in particular decreased from 75% to 50% in 2010. It is notable that only social democratic countries (Denmark, Norway and the Netherlands) showed decreases but even then their disability benefit levels remained higher than other countries. The gap between social democratic countries and other countries became narrower as the disability benefit levels of other countries did not change much. Regarding Denmark, the replacement levels of disability benefit and sickness benefit did not change at the same rates. Disability benefit level decreased from 2000 to 2010, while the sickness benefit level increased during the same period and the duration of sickness benefit rallied in 2010 after a decrease in 2000 when there was also an increase in Korea.

Regarding the sickness benefit level, the Netherlands showed a decrease in 2000, whereas Denmark and the US showed increases in 2010. The UK maintaining at 1 point and Korea remaining at 0 points were relatively low scoring countries.

The duration of sickness benefit in Denmark, Korea and the UK showed decreases in 2000, whereas Italy, the Netherlands and Norway showed increases in 2010. The US maintained at 0 points meaning less than 6 months of sickness benefit duration.

One important thing is that it is not easy to compare the general level of protective benefit of each countries, as the units of four sub-dimensions are different without allowing to aggregate, average or compute. Calibration process, which will be discussed later, is one solution to solve this problem with transferring different units into standardised values .

Table 3 Empirical data matching of protective benefit attribute

	Incapacity related benefit expenditure/GDP ¹⁾			Proportion of disability beneficiaries of working age			Benefit expenditure degree weighted by related population ⁴⁾			Disability benefit level ⁵⁾			Sickness benefit level ⁵⁾			Sickness benefit duration ⁵⁾		
	1990	2000	2010	1990 ²⁾	2000 ²⁾	2010 ³⁾	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010
DEN	2.6	2.6	3.4	6.85	7.00	7.53	0.38	0.37	0.45	4	4	3	2	2	4	4	2	3
FRA	1.7	1.6	1.8	3.98	4.40	5.06	0.43	0.36	0.36	3	3	3	2	2	2	5	5	5
GER	1.3	1.6	1.4	4.18	4.45	4.47	0.31	0.36	0.31	2	2	2	4	4	4	4	4	4
ITA	1.9	1.5	1.9	3.25	3.25	3.26	0.58	0.46	0.58	3	3	3	3	3	3	3	3	5
JAP	0.53	0.60	0.68	1.87	1.87	2.08	0.28	0.32	0.32	..	..	1	..	..	2	..	..	5
KOR	0.27	0.28	0.43	0.08	0.34	1.57	3.32	0.82	0.27	0	1	1	0	0	0	2	1	1
NET	6.3	3.7	2.7	8.64	8.59	8.07	0.73	0.43	0.33	5	5	3	5	3	4	3	3	4
NOR	4	3.8	4.1	7.78	9.11	10.25	0.51	0.42	0.40	5	5	4	5	5	5	2	2	4
UK	2	2.2	2.5	4.47	7.51	6.69	0.45	0.29	0.37	1	1	1	1	1	1	3	2	2
US	1	1.1	1.5	3.62	5.10	7.19	0.28	0.22	0.21	3	3	3	2	2	3	0	0	0
mean	2.16	1.90	2.04	4.47	5.16	5.62	0.73	0.41	0.36	2.89	3.00	2.40	2.67	2.44	2.80	2.89	2.44	3.30

1) Public expenditures as a proportion of GDP includes contributory and non-contributory disability benefits plus work injury benefits. OECD Social Expenditure data (OECD SOCX data) extracted on 11 May 2014.

2) Disability benefit recipients aged 20-64 as a share of the working-age population (20-64) from OECD (2010) Sickness, Disability and Work. The data from the Netherlands covers 15-64 year olds. The middle term baseline year is 2000 except for Japan where it is 2003. 1990 or the earliest available year is: 1995 for France, Germany and Korea; 2000 for Italy; and 2003 for Japan.

3) Disability benefit recipients rate. 2010 or last available year data from OECD (2014) Economic Policy Reform: Going for Growth Interim Report. The last available year is different: for France and Italy (2007); for Japan and Korea (2008); for Germany, the Netherlands, Norway and the US (2009); and the United Kingdom (2012).

4) Incapacity related benefit expenditure is divided by the proportion of disability beneficiaries of working age weighted by related population group.

5) Data on OECD disability indicators from the OECD (2003, 2010). The earliest available year is 1985 for all cases and the last available year is 2007. Information on the case of Japan is not provided for 1985 and 2000. Disability benefits include contributory disability insurance and non-contributory benefits, of which the level is evaluated as the degree of replacement rate (RR) compared with average income and whether a reasonable minimum level is specified. OECD distinguishes short-term (normally less than one year) and long-term sickness benefit, and the duration is included in short-term sickness benefit.

* The points mean qualitative decisions from 0 to 5. A high score means a more generous benefit level and long-term duration. See Appendix for details of the coding.

The protective employment attribute of disability policy

The protective employment attribute includes protective supports for the labour market participation of disabled people via subsidised employment, supported employment, sheltered employment, and rehabilitation and training programmes. These supportive employment programmes are based on the civil right to work and aim to assist with job searches and improve job tenure. As described in Chapter Two, there is some distance between supportive programmes and the activation approach. A few words should be said here about rehabilitation and training programmes. In general, the rehabilitation and training is a supportive and protective approach. However, as being noted above, growing emphasis on vocational rehabilitation and training is regarded as a reflection of activation tendencies (Holmqvist, 2010). Therefore, vocational rehabilitation and training are categorised as an activation approach rather than protective employment attribute.

The endeavour of looking for empirical data on supported employment programmes also starts from the expenditure issue. The OECD dataset provides public expenditure degrees on supported employment as percentages of GDP, which consists of subsidies for the productive employment of persons with a permanently (or long-term) reduced capacity to work. These measures typically provide ongoing support and have no planned duration⁹. It was also possible to get information on the number of participants as a percentage of labour force in supported employment policy. However, there are some missing countries such as US, Korea and Japan in the participation stocks. In this context, it is necessary to choose whether or not to reflect demographic coverage in expenditure on supported employment programme. As the value of supported employment expenditure in Japan and US could have nil value when being weighted by participation stocks. However for the case of Korea the value of supported employment expenditure weighted by participant stocks cannot be calculated as the value of participant stocks is not provided. To avoid the loss of crucial country information, namely about Korea, it is decided to employ the degree of public expenditure on supported employment programmes without weighting by participation stocks (see Table 4).

Three sub-dimensions are also added: on the intensity of subsidised employment, sheltered employment, and supported employment programme from the OECD disability policy

⁹ OECD classification of labour market programmes. Available at: <http://www.oecd.org/els/emp/42116566.pdf>

indicators (OECD, 2003, 2010). 5 points indicates a strong programme with permanent option, while 0 points means no exit of the programme.

A correlation between the sub-dimensions of the protective employment attribute is expected, as expenditure on supported employment includes subsidies to increase the productive employment of disabled people. And indeed, the extent of expenditure on supported employment and the intensity of subsidised employment programmes are significantly correlated (Spearman's rho of 0.693) in 2010¹⁰.

Regarding the expenditure on supported employment, Denmark showed a rapid increase in 2010. The Netherlands showed continuous decreases, but still maintained its extremely high value compared to other countries. Italy, Japan and US showed very low values of less than 0.005 or zero. But the impact of demographic coverage on expenditure level should be noted. The reflection of participation stock could neutralise the expenditure levels. For instance, the Netherlands would be located near the mean value when weighted by participant stocks.

Most countries had low scores of 0 or 1 points in 1990 regarding the intensity of their supported employment programmes. This means that supported employment programmes existed in a few countries such as Germany, the UK and US at weak levels. In 2000 rapid strengthening appeared in Denmark, Germany and the US. But Denmark and the US did not maintain their strong supported employment programmes, showing decreases in 2010. Subsidised employment programmes had become stronger by 2000 and were maintained at the same levels in 2010 in most countries. Norway and Germany maintained high levels for the duration of the research period, whereas the US maintained a low level. Regarding sheltered employment programmes, Denmark, the UK and US maintained a level of 2 points meaning a very limited degree of programme. Other countries showed increases in 2000 or 2010 but the Netherlands showed a decrease in 2010 to the same level of 1990, hence showed an increase only in 2000. Regarding the mean value of the intensity of these three supportive programmes, the supported employment programme underwent rapid increase and strengthening in 2000. The subsidised employment programme and sheltered employment programme also underwent increases in 2000 but the extent was smaller than the supported employment programme. The intensity of the three sub-dimensions of protective employment programme was different across countries and across time-points. For instance, Denmark and France were focused on subsidised employment in 2010, whereas Germany, the UK and the US prioritised

¹⁰ However, no correlation was apparent in either 1990 or 2000.

supported employment and the Netherlands paid more attention to sheltered employment programmes than the other sub-dimensions.

Table 4 Empirical data matching for the protective employment attribute

	Supported employment expenditure/GDP ¹⁾			Participant stocks as a percentage of the labour force ²⁾			Supported employment expenditure weighted by participant stocks ³⁾			Supported employment programme ⁴⁾			Subsidised employment programme ⁴⁾			Sheltered employment programme ⁴⁾		
	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010
DEN	0	0.12	0.57	0	0.47	2.00	..	0.26	0.29	0	5	3	3	5	5	2	2	2
FRA	0.06	0.06	0.07	0.40	0.41	0.54	0.15	0.15	0.13	0	2	3	3	5	5	2	2	4
GER	0.01	0.01	0.01	0.04	0.05	0.03	0.25	0.20	0.33	1	5	5	4	4	4	2	3	3
ITA	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	2	2
JAP	0	0	0	..	..	..	0	0	0	..	..	3	..	..	3	..	..	2
KOR	0.03	0.03	0.03	..	..	..	..	..	..	0	2	2	1	3	3	1	2	2
NET	0.49	0.44	0.39	1.16	1.15	1.17	0.42	0.38	0.33	0	2	2	0	1	2	4	5	4
NOR	0.04	0.04	0.13	0.19	0.22	0.49	0.21	0.18	0.27	0	2	2	4	4	4	2	3	4
UK	0.01	0.01	0.00	0.02	0.02	0.01	0.50	0.50	0.00	1	3	3	0	1	1	2	2	2
US	0	0	0	..	..	..	0	0	0	1	5	4	1	1	1	2	2	2
mean	0.064	0.071	0.120	0.259	0.331	0.606	0.307	0.278	0.224	0.33	3.00	2.80	1.78	2.78	2.90	1.89	2.56	2.70

1) Dataset from OECD public expenditure as a percentage of GDP for supported employment programme. Does not include expenditure on rehabilitation and '0' equals 'Nil or less than 0.005'. The earliest available year is 1998: 2000 for Korea; 2001 for the USA; 2002 for Japan. The middle baseline year is 2000: 2001 for the USA; 2002 for Japan; 2004 for UK. (OECD SOCX data extracted on 22 May 2014)

2) Dataset from OECD participant stocks as a percentage of the labour force for supported employment programme. '0' means 'Nil or less than 0.005'. Japan, Korea and US are not provided. The earliest available year is 1998 and the last available year 2011 except for the UK (2009).

3) The extent of expenditure for supported employment weighted by participant stocks cannot show the value when dividing by zero or empty cells.

4) Data from OECD disability indicators from OECD (2003, 2010). Supported employment means personal assistance in the workplace such as on-the-job coaching or training for employee as well as employers. Subsidised employment involves financial subsidies or other economic incentives to compensate for the lower productivity of people with disabilities. Both reflect duration i.e. the permanency or temporariness of employment supporting programmes such as wage subsidies and on-the-job support. Sheltered employment means to employ disabled people in a segregated environment or in a job protected from the open labour market e.g. in special workshops or social enterprises. This reflects the strong focus on duration in employment in protected or separated environments. The points mean qualitative decisions from 0 to 5. The earliest available year is 1985 for all cases and the last available year is 2007. Information is not provided for Japan in 1985 and 2000. See the detailed coding in Appendix.

Activation approach attributes of disability policy

The competitive and activating approach involves encouraging the economic participation of disabled people in the formal labour market, which has been strongly associated with the activation or workfare approach in discussions about the welfare state. Due to growing concerns about the burden of incapacity related benefit expenditure and the reduction of labour force participation, activating disability beneficiaries who are able to work or retain work capability has become an imperative for policy makers (see Chapter Two).

This kind of approach combines labour market policies such as mandatory vocational rehabilitation or training programme with more rigorous social benefit eligibilities such as stringent assessment rules or re-testing procedures.

Regarding expenditure degree or similar information, the OECD data set provides information about expenditure on vocational rehabilitation as a percentage of GDP. The related participation stock information is similar to the previous attribute as there is no information on Japan, Korea and the US. Hence expenditure degree is employed without weighting by demographic coverage. Almost half the countries scored less than 0.005 or nil. But Denmark and Germany revealed a relatively high expenditure degree. Norway and the US also scored higher values than the mean, while Denmark maintained outlier status at every time point. Hence, when the mean value is calculated again excluding Denmark, it changes from 0.046 to 0.02 in 1990. See Table 5 for details.

Then some information from the OECD disability policy indicators are added (OECD, 2003, 2010). The 'retesting of benefit eligibility', 'medical assessment rules', and 'vocational assessment rules' are selected to reflect a raising of the threshold for benefit schemes. As these were parts of the compensation dimension in the OECD framework, it is necessary to recode the scores reversely to reflect the degree of harshness or stringency of eligibility rather than the generosity of schemes (see details in Table 5 and Appendix). Therefore 5 points equates to strict rules for benefit eligibilities or payments and 0 points to more generous rules of benefit accessibility.

The encouragement of participation in the labour market includes the 'compulsion of vocational rehabilitation programmes' and 'work incentives' or compensation. These two features are likely to be regarded as the stick and the carrot. A 5 point score on 'compulsion of vocational rehabilitation' means big spending on and compulsory conditions for vocational

rehabilitation programmes, whereas 5 points on 'work incentives' means an almost permanent period of in-work benefit.

The correlation between the sub-dimensions of the activation approach attribute is statistically significant, especially that between the expenditure degree and medical assessment rules (Spearman's rho of 0.688 at the 2-tailed 0.05 level) and between the expenditure degree and compulsion of vocational rehabilitation programme (Spearman's rho of 0.849 at the 2-tailed 0.01 level)¹¹. But it should be noted that these sub-dimensions of the activation approach also show different institutional purposes, meaning that each country shows different intensities in different sub-dimensions. For instance, in Denmark eligibility for benefits is permanent and medical assessment rules are relatively generous but vocational assessment is applied relatively strictly. Participation in the vocational rehabilitation programme is compulsory, while work incentives are at a medium level. Korea, on the other hand, has relatively strict eligibility rules regarding benefit provision while interest in vocational rehabilitation seems to be weak. In this context, it is noteworthy that two-way strategies for activation adjusting benefit provision schemes and enhancing labour market programmes can show the different policy priorities across countries.

Regarding retesting for benefit eligibility, Korea was exceptionally strict about the temporary benefits offered, while Germany, Italy and the US changed rapidly from de facto permanent benefit to a strictly temporary benefit scheme. On the other hand, Denmark has kept a de facto permanent benefit scheme.

As for the countries' medical assessment criteria, Korea, Italy and the Netherlands scored relatively highly suggesting more strict assessment such as two-step procedures, while Denmark, Germany, the UK and US scored relatively lower, relying on doctors' decisions, for example.

In terms of vocational assessment criteria, Korea scored highest while the Netherlands propelled rapidly towards a comprehensive workability evaluation. France and Germany scored relatively lowly reflecting their tradition of strict occupational division. Most countries have expanded their vocational assessment criteria and had relatively high scores in vocational assessment compared with medical assessment, except for France and Italy.

¹¹ In 2000 and 1990, there was a similarly strong correlation pattern between expenditure degree and the two sub-dimensions of medical assessment rule and compulsion of vocational rehabilitation programme.

Regarding the compulsion of vocational rehabilitation, the gap between the countries is big. France, Korea, the UK and the US scored 1 or less, whereas Denmark, Germany and Norway scored 4 or more, indicating compulsory rehabilitation with large spending.

In the work incentive dimension, the Netherlands and UK paid more attention after 1990 providing long-term in-work benefits, while Denmark weakened this policy in 2010. Apart from Denmark and Germany, most countries have strengthened their work incentive policy since 1990.

Table 5 Empirical data matching the activation approach attribute

	Vocational rehabilitation expenditure/GDP ¹⁾			Retesting of benefit eligibility ²⁾			Medical assessment rules ³⁾			Vocational assessment rules ⁴⁾			Compulsion of vocational rehabilitation programme ⁵⁾			Work incentives ⁵⁾		
	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010	1990	2000	2010
DEN	0.28	0.33	0.13	1	1	1	1	2	1	3	4	3	4	5	5	5	5	3
FRA	0	0	0	4	4	4	3	3	3	1	1	1	1	1	1	2	3	3
GER	0.1	0.12	0.03	1	4	4	1	2	2	0	1.5	3	5	5	5	3	3	2
ITA	0	0	0	1	4	4	3	4	4	0	2	2	0	0	0	1	2	2
JAP	0	0	0	..	..	3	..	..	3	..	..	5	..	..	2	..	..	3
KOR	0	0	0	5	3	3	5	4	4	5	5	5	0	1	1	1	3	3
NET	0	0	0	0	2	3	4	4	4	1	4	5	0	2	4	2	4	5
NOR	0.05	0.04	0.04	0	0	3	0	0	1	0	3	3	5	5	5	0	0	0
UK	0	0	0	3	3	3	2	2	2	0	3.5	4	0	1	1	2	5	5
US	0.03	0.03	0.03	1	1	3	1	1	1	4	4	5	0	1	1	4	4	4
mean	0.046	0.05	0.023	1.78	2.44	3.10	2.22	2.44	2.50	1.56	3.11	3.60	1.67	2.33	2.50	2.22	3.22	3.00

1) Dataset from OECD public expenditure as a percentage of GDP for vocational rehabilitation programmes extracted on 22 May 2014. '0' means 'Nil or less than 0.005'. The earliest available year is 1998: 2000 for Korea; 2001 for the USA; 2002 for Japan. The middle baseline year is 2000: 2001 for the US; 2002 for Japan. And the last available time point is 2011 (The participation stock information is omitted here, as the distribution is similar to the supported employment programme with showing missing information of some countries).

2) Retesting of benefit eligibility links to the permanence of benefits, hence 5 points means strictly temporary whereas 0 points means strictly permanent. Therefore, high scores mean more a stringent and strict procedure to qualify for benefits

3) 5 points on the medical assessment criteria means a more strict and comprehensive assessment procedure reflecting the various features of disability, whereas 0 points means exclusively doctor's decision.

4) 5 points on the vocational assessment criteria means being considered comprehensive workability for all jobs, while 0 points means narrowing workability to own occupation.

5) Vocational rehabilitation refers to the reduced working capacity of disabled people; social and medical rehabilitation are not included here. Vocational rehabilitation programme includes both compulsory and voluntary programmes. Being bound to the potential prospect for another job. Furthermore the OECD index shows the degree of spending on vocational rehabilitation mixed with the mandate. And work incentive involves the possibility to combine work and benefit receipt. High scores on both compulsion of vocational rehabilitation and work incentive mean strong mandatory participation in vocational rehabilitation and long-term in-work benefit to incentivise work incentive. See details of the coding in Appendix.

Legislative regulation attributes of disability policy

The legislative regulation approach to ensuring equal rights for disabled people involves regulation at the national level and at an international level, given that international rules and norms can affect the policy choices made in each country by domestic political actors (Risse et al., 1999). Regulation at the national level includes regulation for equality in the employment process in areas such as recruiting, promotion and dismissal, responsibility for adequate adjustments to the workplace, as well as comprehensive anti-discrimination regulation based on equal civil rights. Regulation at the international level, meanwhile, is subject to conventions or agreements at the supra national level such as the United Nations (UN) Convention on the Rights of Persons with Disabilities (CRPD). As the first comprehensive human rights treaty of the 21st Century, the CRPD was opened for signature on the 30th March 2007. Following decades of exertion to change attitudes and approaches to disabled people, the convention highlights persons with disabilities as active members of society with rights who are able to decide for their own lives rather than as objects of charity and social protection¹².

To explore regulation of the labour market, the focus is put on legislative measures. The representative types include 'employment quotas' and 'anti-discrimination legislation'. While 'employment quotas' are criticised as unequal treatment, as they separate disabled people from people without disabilities, 'anti-discrimination legislation' is regarded as a more comprehensive approach to equal treatment not just in the labour market but also in other areas of society (see Chapter Two). Moreover, comprehensive anti-discrimination legislation helps put disability issues on the social and political agenda, although it transfers social responsibility for implementation of disability policy to employers as well as individuals (Bergeskog, 2001). In some countries such as Denmark, the Netherlands, Norway, the UK and US employment quotas have been replaced by anti-discrimination legislation, whereas other countries including France and Germany still maintain employment quotas for disabled people (Greve, 2009). Though there is no clear convergence or agreement about the shift from employment quotas towards anti-discrimination, anti-discrimination will be employed as it provides comprehensive support for equal participation.

¹² See details at United Nations Enable, which is the official website of the UN for disability related issues. <http://www.un.org/disabilities/index.asp>. Though the signature and ratification of the convention is a relatively recent matter, the UN did designate 1981 the International Year of Disabled People and publish standardised rules for full participation and equality against the background of a worldwide disability movement.

When selecting empirical data on anti-discrimination legislation, enactment year is a good starting point. This is because the legislation has inertia (Emmenegger, 2011) even though it tends to be strengthened gradually in scope and eligibility over time (OECD, 2010). There is a temporal variation problem however, as the anti-discrimination legislation and the convention (CRPD) are relatively recent issues around 2000s. Without conducting in-depth case studies, it is difficult to compare the effectiveness of regulation through the extent of employers' obligations or penalty clauses. Alternatives are employed: the duration from the year anti-discrimination legislation was introduced and the ratification year of the CRPD.

As it is seen in Table 6 and Table 7 the UK and US stand out because of their long history of legislation in the anti-discrimination area, which could be due to their historical background of development of disability movement. But the gap in the ratification of CRPD is smaller as a more recent matter since 2007. Here it should be noted that long duration does not necessarily indicate stronger advocacy for equal rights for disabled people because the substantive efficacy of these regulations are not reflected.

Table 6 Empirical data on the legislative regulation attribute

Country	Enactment year of anti-discrimination law	Ratification year of CRPD	Duration of anti-discrimination law	Duration of CRPD
DEN	2004	2009	11	6
FRA	2005	2010	10	5
GER	2002	2009	13	6
ITA	2006	2009	9	6
JAP	2013	2014	2	1
KOR	2007	2008	8	7
NET	2003	..	12	0
NOR	2008	2013	7	2
UK	1995	2009	20	6
US	1990	..	25	0
mean			11.7	3.9

* Duration is calculated by subtraction from 2014.

Table 7 Brief description of anti-discrimination legislation and ratification of the Convention on Rights of Persons with Disabilities (CRPD)

Country	Enactment of anti-discrimination legislation	Ratification of CRPD
DEN	<p>Anti-discrimination legislation in Denmark does not consist of one single piece of legislation. The Act on the Prohibition of Discrimination in the Labour market etc. (Consolidated Act No. 1349 of 16 December 2008) was first adopted in 1996, and covered age and disability on 22 December 2004. But, persons with disabilities cannot enjoy protection outside the labour market in civil law and criminal law does not cover disability¹⁾</p> <p>==> (2004.12.22)</p>	2009.7.24
FRA	<p>Orientation law in favour of disabled persons applied to all disabled persons in 1975, and has been replaced by a new 'law on the equal rights and opportunities, the participation and the citizenship of disabled persons' on 11 February 2005²⁾</p> <p>==> (2005.2.11)</p>	2010.2.18
GER	<p>BGG (Equal Opportunities for Disabled People Act) became effective on 1 May 2002 providing equal rights for disabled people such that no person may be discriminated against on the grounds of disability.</p> <p>Thereafter, the General Equal Treatment Law was enacted on 18 August 2006, which reshaped anti-discrimination policy in Germany considerably³⁾</p> <p>= => (2002.5.1)</p>	2009.2.24
ITA	<p>Decree 216/2003 applies to discrimination based on religion and belief, sexual orientation, disability and age within the field of employment.</p> <p>A 2006 act extends the prohibition of direct and indirect discrimination on the ground of disability beyond the field of employment, but it does not address reasonable accommodation for disabled people¹⁾</p> <p>==> (2006)</p>	2009.5.19
JAP	<p>Disabled Persons' Employment Promotion Act of 1960 is about employment quota but not about discrimination law. Until 2008 Japan had only an employment policy approach for disabled people, treating discrimination as an object of employment policy approach because 'freedom of contract' principle is a priority⁴⁾</p> <p>But, on 19 June 2013 the parliament passed the Act on the Elimination of Disability Discrimination, banning the direct discrimination and obligating the provision of reasonable accommodation. The Act will be effective in April 2016⁵⁾</p> <p>==> (2013.6.19)</p>	2014.1.20
KOR	<p>The Welfare of Persons with Disabilities Act was enacted in 1989 to provide social benefits for disabled people. The Anti-Discrimination Against and Remedies for Persons with Disabilities Act was enacted on 10 April 2007 and became effective on 11 April 2008⁶⁾</p> <p>==> (2007.4.10)</p>	2008.12.11
NET	<p>The General Equal Treatment Act (GETA) of 1994 provides protection against discrimination but does not cover disability.</p>	.. ⁸⁾

	The Equal Treatment (Disability OR Chronic Illness) Act (ETA Disability) or Disability Discrimination Act (DDA) in 2003 prohibits discrimination based on disability or chronic illness ⁷⁾ => (2003)	
NOR	Discrimination legislation is separated into different statutes including the Gender Equality Act (GEA-gender), Anti-Discrimination Act (ADA-ethnicity, national origin, descent, skin colour, religion or belief and language), Working Environment Act (WEA – age, sexual orientation, political views, part-time and temporary work and membership of trade union) and other specialised legislation. The Anti-discrimination and Accessibility Act (AAA-disability) was enacted on 20 June 2008, and came into effect on 1 January 2009. Therefore before 2009 the only legal protection for disabled people against discrimination was in employment. On the other hand, in 2009 the need for a comprehensive anti-discriminatory legal framework was presented to the legislature but no agreement was reached about its contents. ¹⁾ => (2008)	2013.6.3
UK	The Disability Discrimination Act was enacted in 1995 and has been absorbed into the general and comprehensive anti-discrimination laws of the 'Equality Act' in 2010. => (1995)	2009.6.8
US	The Americans with Disabilities Act was enacted in 1990 => (1990)	.. ⁸

1) Data from European network of legal experts in the non-discrimination field (<http://www.non-discrimination.net/>) accessed on 23 May 2014

2) Data from European network of legal experts in the non-discrimination field and Winance et al. (2007)

3) Data from European network of legal experts in the non-discrimination field and Kock (2004)

4) Sakuraba (2008)

5) Information from the Inclusion International website (<http://inclusion-international.org/act-on-the-elimination-of-disability-discrimination-in-japan/>) and The Japan Times news (http://www.japantimes.co.jp/opinion/2013/07/25/editorials/fair-treatment-of-the-disabled/#.U3_BjPldUmM)

6) Information from the Korean government website (<http://www.law.go.kr/lsInfoP.do?lsiSeq=129347#0000>)

7) Data from the European network of legal experts in the non-discrimination field and from Lauwers and van der Wal (2008)

8) Not ratified at present (23 May 2014)

4. Summary

This chapter conceptualised disability policy in terms of the four attributes of protective benefit scheme, protective employment programme, activation approach and legislative regulation for equal rights. Thereafter the empirical data was assessed in order to measure disability policy.

Although there are few comprehensive international disability policy data sets, this thesis managed to employ expenditure related information and their participation stocks from the OECD SOCX data set, further selected parts of the OECD disability policy indicators to reflect specific institutional contents. The reflection of demographic coverage is important for analysing expenditure degree, but regarding the supported employment attribute and activation approach attribute this thesis did not reflect the participation stocks as there were some missing values for Korea, Japan and the US.

Distinguishing the activation approach from the protective function of the benefit scheme and employment programme is valuable as it could reflect different policy priorities and the recent tendency towards the activation approach. In this context, the partial recoding of OECD indicators is notable as well.

The distribution of empirical data showed some differences across countries. Individual countries belonging to specific welfare state regime showed different policy priorities in each attribute. The next chapter will attempt to elicit the substantive meaning of the distribution of the empirical data through fuzzy set analysis, which has some advantages over other typology methods.

Chapter 5 Fuzzy set ideal type analysis (FSITA)

1. Introduction

This chapter aims to identify the substantive distribution of the empirical data through fuzzy set ideal type analysis (FSITA). Fuzzy set analysis and its strengths have already been discussed in Chapter Three: FSITA is a useful for bridging the gap between qualitative and quantitative approaches; also as a half-verbal-conceptual and half-mathematical-analytical interpretive tool, FSITA encourages dialogue between ideas and evidence in social research (Ragin, 2000). Through a calibration process, which involves transferring raw data into fuzzy scores, FSITA allows for the retrieval of substantive and conceptual ideas from empirical information.

This chapter first calibrates the empirical data for fuzzy membership scores, then analyse the distribution of cases based on the ideal types of disability policy and their property space. The calibrating procedure involves the mix of conceptual decision and statistical techniques due to the limitations of substantive knowledge and information. Membership scores from the calibration contribute to identifying the membership of specific attributes and ideal types. Thereafter, empirical cases are identified on the property space showing the intensity of four attributes and the membership of ideal types. The distribution of empirical cases and ideal types could reveal similarities and differences in disability policy. Moreover, the over time change of membership scores could disclose qualitative change towards different ideal types and quantitative change in the same type as well.

2. Calibration of empirical raw data

Calibration is crucial in fuzzy set analysis as it decides membership scores from raw data. With calibration it is feasible to translate qualitative verbal concepts into quantitative membership scores as well as different quantitative data level into comparable consistent scores ranging from 0 to 1. Fuzzy scores show the degree of membership. Ragin (2008) and his proponents emphasise that the calibration process should be based on substantive and theoretical knowledge (Kvist, 2006, 2007; Ragin, 2008). However, arithmetic techniques can be also used

to avoid arbitrariness as well as to avoid having to review every dimensions in depth, especially in policy analysis (Hudson and Kühner, 2013a).

Regarding the empirical quantitative data such as the extent of expenditure, this thesis employs an indirect calibration rather than direct continuous fuzzy scores: this is because of the difficulty in deciding the qualitative break point theoretically; also the priority for bridging words and quantitative allocation over precise measurement (Vis, 2007; Ragin, 2008). The decision of upper and lower cut-off points are based on an arithmetic way using mean value and standard deviation. But the outlier effect, which can dramatically affect the value of mean and deviation, should be controlled.

In this context, this thesis follows the procedure proposed by Hudson and Kühner (2013a). First, by drawing box-plots using SPSS Statistics ver.21 software, outlier or extreme cases are identified, then the adjusted mean and deviation values are computed excluding outliers. Thereafter, to designate the upper and lower limits of raw materials, this thesis uses the adjusted mean plus or minus standard deviation as upper or lower cut-off points.

This thesis applies four value fuzzy scores as the distribution of the bar graphs of raw data suggested similar to four group divisions. The data that is equal to or higher than the mean and standard deviation is allocated into '1' meaning 'fully in', and the opposite case is '0' meaning 'fully out'. After deciding upper and lower points, middle range indicators can be allocated into fuzzy scores of 0.67 or 0.33 with comparing adjusted mean value. The bar graphs of raw data are helpful for dividing cases into different membership score groups: for 1 fully in membership; for 0.67 more in than out; for 0.33 more out than in; and for 0 fully out.

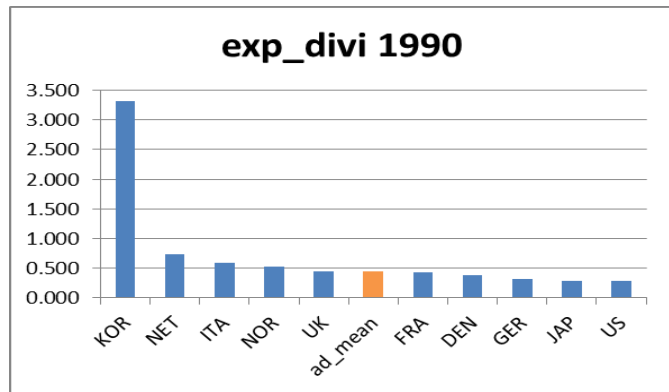
This method of calibrating is applied to the expenditure data on incapacity related benefits, supported employment programme and vocational rehabilitation programme. The legislative regulation attribute is also calibrated in this way.

First, the process of calibrating the expenditure data is as follows: 1) after reviewing the distribution through bar graphs of raw data in 1990 or the earliest available time point, four value fuzzy scores were applied; 2) with identifying outliers from the box-plots in SPSS Statistics ver.21 software, the adjusted mean and deviation were calculated excluding outliers; 3) upper and lower break points were selected based on the adjusted mean value \pm standard deviation, then allocated 0.67 and 0.33 depending on the value.

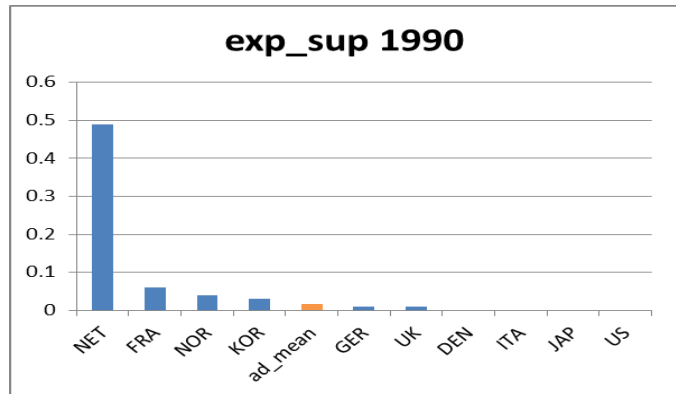
The following figure shows the bar-graphs of expenditure on incapacity related benefit, weighted by portion of beneficiaries and on supported employment programme in 1990.

Figure 2 Bar graphs of empirical expenditure data distribution

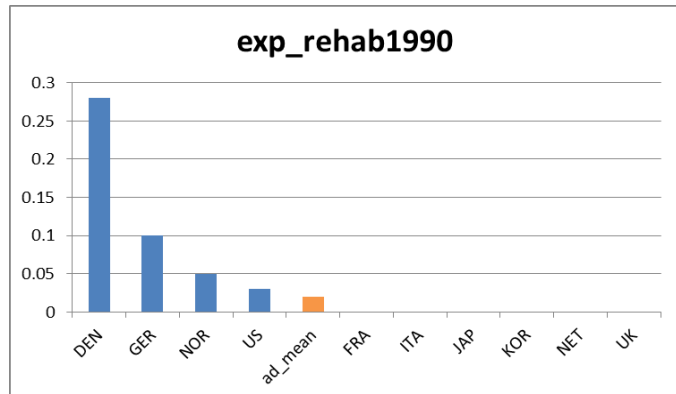
- Expenditure on incapacity related benefit/GDP weighted by portion of beneficiaries in 1990



- Expenditure on supported employment programme/GDP in 1990



- Expenditure on vocational rehabilitation programme/GDP in 1990



Regarding the ‘incapacity related benefit expenditure degree weighted by the portion of beneficiaries in working age population group’ in 1990, the extreme case is Korea hence the adjusted mean value and standard deviation are calculated excluding Korea. Of course the identification of outliers is based on the box-plots in SPSS Statistics ver.21 software. Then, it was possible to decide the other two fuzzy scores of 0.67 and 0.33 by considering the distribution of values through the bar graph. The result is as follows.

Table 8 Decision of upper and lower break points of expenditure data

	Benefit expenditure degree weighted by related population	Supported employment expenditure/GDP	Vocational rehabilitation expenditure/GDP
	1990	1990	1990
DEN	0.380	0	0.28
FRA	0.427	0.06	0
GER	0.311	0.01	0.1
ITA	0.585	0	0
JAP	0.282	0	0
KOR	3.318	0.03	0
NET	0.729	0.49	0
NOR	0.514	0.04	0.05
UK	0.448	0.01	0
US	0.276	0	0.03
mean	0.727	0.064	0.046
outlier	KOR	NET	DEN
ad_mean	0.439	0.017	0.02
ad_sd	0.151	0.022	0.035
ad_mean+sd	0.590	0.038	0.055
ad_mean-sd	0.288	-0.005	-0.015

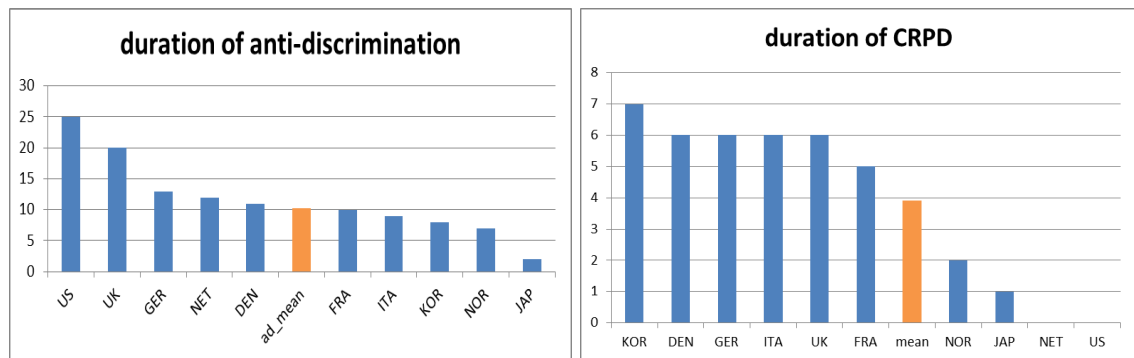
The criteria of 1990 or earliest available time point is used as the criteria for other time points to identify over time change based on the comparability. The result of calibrating the expenditure data is as follows.

Table 9 Specification of expenditure data and translation into fuzzy membership scores.

Fuzzy membership scores	Verbal labels	Benefit expenditure degree weighted by related population	Supported employment expenditure/GDP	Vocational rehabilitation expenditure/GDP
1	Fully in	≥ 0.58	≥ 0.038	≥ 0.055
0.67	More in than out	$0.44 \leq < 0.58$	$0.017 \leq < 0.037$	$0.02 < < 0.055$
0.33	More out than in	$0.29 \leq < 0.43$	$0 < < 0.016$	$0 < < 0.02$
0	Fully out	$0 < < 0.28$	0	0

As for legislative regulation for equal rights, this thesis follows the same process used to analyse the expenditure data. The following figure is a bar-graph of the duration of anti-discrimination legislation and CRPD.

Figure 3 Bar graphs of duration of legislative regulation



After identifying outliers, the upper and lower break points of legislative regulations were determined. The results were as follows.

Table 10 Decision of upper and lower break points of legislative regulations

	Duration of anti-discrimination		Duration of CRPD
DEN	11	DEN	6
FRA	10	FRA	5
GER	13	GER	6
ITA	9	ITA	6
JAP	2	JAP	1
KOR	8	KOR	7
NET	12	NET	0
NOR	7	NOR	2
UK	20	UK	6
US	25	US	0
outlier	US	outlier	-
ad_mean	10.2	mean	3.9
ad_sd	4.9	sd	2.8
ad_mean+sd	15.1	mean+sd	6.7
ad_mean-sd	5.3	mean-ad	1.1

The identification of both break points and the distribution of bar graphs help to decide fuzzy membership scores.

Table 11 Specification of legislative regulations and traslation into fuzzy membership scores

Fuzzy membership scores	Verbal labels	Duration of anti-discrimination	Duration of CRPD
1	Fully in	≥ 15	≥ 6.7
0.67	More in than out	$10 \leq < 15$	$4 \leq < 6.7$
0.33	More our than in	$5.4 < < 10$	$1.1 \leq < 4$
0	Fully out	$0 < < 5.3$	$0 < < 1.1$

As for the empirical data from the OECD disability policy indicators, it should be remembered that accessing the original raw data set was not possible. Furthermore, the OECD made qualitative decisions when they composed indicators aggregating national survey data and reports. For instance, regarding disability benefit level, the OECD allocated six value scores from 0 points to 5 points. 5 points represent levels of more than 75% of replacement rate, 0 points less than 50% of replacement rate. In other words, this is not a result of automatic allocation but of qualitative decision-making reflecting the generosity of disability benefit level. In this context, the OECD indicators were decided to link to six value fuzzy scores substituting the calibration procedure.

The values from 0 to 5 points in OECD indicators were transferred as six value fuzzy set scores from 0 to 1: 0 for 0 meaning ‘fully out’; 1 for 0.2 meaning ‘mostly but not fully out’; 2 for 0.4 meaning ‘more or less out’; 3 for 0.6 meaning ‘more or less in’; 4 for 0.8 meaning ‘mostly but not fully in’; and 5 for 1 meaning ‘fully in’.

Table 12 Translation of OECD indicators into fuzzy membership scores

OECD disability policy indicators	Fuzzy membership scores	Verbal labels
5 points	1	Fully in
4 points	0.8	Mostly but not fully in
3 points	0.6	More or less in
2 points	0.4	More or less out
1 points	0.2	Mostly but not fully out
0 points	0	Fully out

Calibration intensifies the comparability and combinability of empirical data but it is not easy to compare and combine data from different units. The averaged fuzzy scores show the membership degree of each attribute. If the score is equal to or higher than 0.5, it is classified as ‘in’ membership, and in the opposite case the membership is ‘out’. Here the score 0.5 is a break point meaning ‘neither in nor out’, namely ‘maximum ambiguity’.

Here one thing needs to be noted that this thesis decides to use the averaged fuzzy scores of sub-dimensions as the representative value of each attribute, in other words the averaged scores of sub-dimensions contribute to constructing each attribute as a set. Though there is a critique that averaging or aggregating of sub-dimensions scores for composing sets in FSITA is not meaningful as it is not enough to show the real meaning of fuzzy scores of each dimensions as well as the strength of fuzzy set analysis for avoiding compensation effects

(Horsfall, 2011), it is worthwhile to composing sets through mathematical way especially when there is not enough information to decide qualitatively the relationship between sub-dimensions or the share or effect of each dimensions. For example, four sub-dimensions compose protective benefit attribute: benefit expenditure degree weighted by related population, disability benefit level, sickness benefit level, and sickness benefit duration. Table 13 shows the result of calibrating the protective benefit attributes of disability policy, and the last column of table represents the final fuzzy membership scores of this attribute. As for Denmark in 1990, each sub-dimension showed 'out', 'in', 'out', 'in' membership in the order named. It is very ambiguous to decide whether the protective benefit attribute of Denmark in 1990 is 'out' or 'in' membership as this thesis does not cover qualitative information or historical knowledge about different character of disability programmes in Denmark. There is also risk of an arbitrary decision of a researcher when there is not enough information to make well-grounded qualitative decision. This is why this thesis compromises with mathematical way for ideal types of disability policy.

In the Table 13, none of the countries change membership from 'in' to 'out' except Denmark, each staying in one group and most just moving slightly within that group between 1990 and 2010. The membership score of Denmark has changed from 0.58 -> 0.48 -> 0.67, indicating the change of membership as 'in' ->'out' ->'in' of protective benefit scheme. France, Germany, Italy, the Netherlands and Norway have maintained 'in' membership. Italy especially has moved towards 1 indicating that it is becoming closer to 'fully in' membership, whereas the Netherlands has moved close to the crossover point of 0.5 and is possibility moving into 'out' membership. Korea and UK shifted toward 0 becoming closer to 'fully out' membership. Korea and the Netherlands showed a relatively clear decrease, but most other countries remained at a similar position or increased moderately.

The increase or decrease of mean values is particularly notable. Italy and the US showed an increase between 2000 and 2010, and the similar increase in Denmark followed a decrease between 1990 and 2000. France and Germany maintained the same scores continuously due to the impact of same raw values from the OECD disability policy indicators. The extent of expenditure showed changes but did not affect the mean value decisively. The Netherlands' continuous decrease indicates a weakening in protective benefit level. Denmark, Norway and the UK showed a decrease between 1990 and 2000, and Korea between 2000 and 2010.

Regarding the expenditure degree, Korea, the Netherlands, UK and US showed decreases, whereas other countries maintained the same level or moderately increased spending. The

degree of decline in Korea was particularly dramatic from 1 in 1990 and 2000 to 0 in 2010, and the Netherlands moved from '1' in 1990 to '0.33' in 2010. Italy is the only country that has maintained 'in' membership continuously in the expenditure degree sub-dimension.

Subsequently, the disability benefit levels of Denmark, the Netherlands and Norway showed decreases during in 2010, but the sickness benefit level increased or maintained at the same level at the same time point. In general, disability benefit level and sickness benefit level did not move together, although Italy showed similarly high degrees of both benefits and the UK showed low degrees of both benefits. Taken into consideration benefit levels and sickness benefit duration, Italy, the Netherlands and Norway had the more generous benefit schemes.

Table 13 Calibration of protective benefit attribute and fuzzy membership scores

		Benefit expenditure degree weighted by related population		Disability benefit level		Sickness benefit level		Sickness benefit duration		Fuzzy mean
		Raw	Fuzzy	Raw	Fuzzy	Raw	Fuzzy	Raw	Fuzzy	
DEN	1990	0.380	0.33	4	0.8	2	0.4	4	0.8	0.58
	2000	0.371	0.33	4	0.8	2	0.4	2	0.4	0.48
	2010	0.451	0.67	3	0.6	4	0.8	3	0.6	0.67
FRA	1990	0.427	0.33	3	0.6	2	0.4	5	1	0.58
	2000	0.364	0.33	3	0.6	2	0.4	5	1	0.58
	2010	0.356	0.33	3	0.6	2	0.4	5	1	0.58
GER	1990	0.311	0.33	2	0.4	4	0.8	4	0.8	0.58
	2000	0.359	0.33	2	0.4	4	0.8	4	0.8	0.58
	2010	0.313	0.33	2	0.4	4	0.8	4	0.8	0.58
ITA	1990	0.585	0.67	3	0.6	3	0.6	3	0.6	0.62
	2000	0.462	0.67	3	0.6	3	0.6	3	0.6	0.62
	2010	0.582	1	3	0.6	3	0.6	5	1	0.80
JAP	1990	0.282	0	..	..	..	..	..	..	0.00
	2000	0.320	0.33	..	..	..	..	..	..	0.33
	2010	0.324	0.33	1	0.2	2	0.4	5	1	0.48
KOR	1990	3.318	1	0	0	0	0	2	0.4	0.35
	2000	0.820	1	1	0.2	0	0	1	0.2	0.35
	2010	0.273	0	1	0.2	0	0	1	0.2	0.10
NET	1990	0.729	1	5	1	5	1	3	0.6	0.90
	2000	0.431	0.67	5	1	3	0.6	3	0.6	0.72
	2010	0.335	0.33	3	0.6	4	0.8	4	0.8	0.63
NOR	1990	0.514	0.67	5	1	5	1	2	0.4	0.77
	2000	0.417	0.33	5	1	5	1	2	0.4	0.68
	2010	0.400	0.33	4	0.8	5	1	4	0.8	0.73
UK	1990	0.448	0.67	1	0.2	1	0.2	3	0.6	0.42
	2000	0.293	0.33	1	0.2	1	0.2	2	0.4	0.28
	2010	0.373	0.33	1	0.2	1	0.2	2	0.4	0.28
US	1990	0.276	0	3	0.6	2	0.4	0	0	0.25
	2000	0.216	0	3	0.6	2	0.4	0	0	0.25
	2010	0.209	0	3	0.6	3	0.6	0	0	0.30

Table 14 shows the results of calibrating the protective employment attribute of disability policy. Similar to the protective benefit attribute, the last column for average fuzzy value determines the final membership degree of the protective employment attribute.

In 2010 some countries including Italy, the UK and US showed 'out' membership, whereas most other countries showed 'in' membership. Qualitative change from 'out' to 'in' occurred in Denmark, Germany, Korea, and the Netherlands between 1990 and 2000.

It is noteworthy that there is no decrease of mean values between 1990 and 2010. Especially between 1990 and 2010, all countries showed increases in means values. Between 2000 and 2010, France and Norway increased continuously; whereas Denmark, the UK and US showed decline; while the other countries retained same values. As for France, it needs to be noted that its fuzzy mean score of protective employment attribute is 0.5 in 1990, which means the membership of France in this attribute is ambiguous whether 'in' or 'out', and which also may affect the final ideal type of France.

Regarding the expenditure degree, only Denmark and UK showed change of membership scores whereas most other countries maintained the same expenditure level. Denmark showed an increase in 2000, while UK showed a decrease in 2010.

The intensity of three supportive labour market programmes increased in some countries and other countries maintained the same level. However, no country has made these programmes weaker except Denmark and the US, both of which showed rapid increases up to 2000 but decreased in 2010.

Table 14 Calibration of protective employment attribute and fuzzy membership scores

		Supported employment expenditure/GDP		Supported employment programme		Subsidised employment programme		Sheltered employment programme		Fuzzy mean
		Raw	Fuzzy	Raw	Fuzzy	Raw	Fuzzy	Raw	Fuzzy	
DEN	1990	0	0	0	0	3	0.6	2	0.4	0.25
	2000	0.12	1	5	1	5	1	2	0.4	0.85
	2010	0.57	1	3	0.6	5	1	2	0.4	0.75
FRA	1990	0.06	1	0	0	3	0.6	2	0.4	0.50
	2000	0.06	1	2	0.4	5	1	2	0.4	0.70
	2010	0.07	1	3	0.6	5	1	4	0.8	0.85
GER	1990	0.01	0.33	1	0.2	4	0.8	2	0.4	0.43
	2000	0.01	0.33	5	1	4	0.8	3	0.6	0.68
	2010	0.01	0.33	5	1	4	0.8	3	0.6	0.68
ITA	1990	0	0	0	0	0	0	0	0	0.00
	2000	0	0	1	0.2	1	0.2	2	0.4	0.20
	2010	0	0	1	0.2	1	0.2	2	0.4	0.20
JAP	1990	0	0							
	2000	0	0							
	2010	0	0	3	0.6	3	0.6	2	0.4	0.40
KOR	1990	0.03	0.67	0	0	1	0.2	1	0.2	0.27
	2000	0.03	0.67	2	0.4	3	0.6	2	0.4	0.52
	2010	0.03	0.67	2	0.4	3	0.6	2	0.4	0.52
NET	1990	0.49	1	0	0	0	0	4	0.8	0.45
	2000	0.44	1	2	0.4	1	0.2	5	1	0.65
	2010	0.39	1	2	0.4	2	0.4	4	0.8	0.65
NOR	1990	0.04	1	0	0	4	0.8	2	0.4	0.55
	2000	0.04	1	2	0.4	4	0.8	3	0.6	0.70
	2010	0.13	1	2	0.4	4	0.8	4	0.8	0.75
UK	1990	0.01	0.33	1	0.2	0	0	2	0.4	0.23
	2000	0.01	0.33	3	0.6	1	0.2	2	0.4	0.38
	2010	0	0	3	0.6	1	0.2	2	0.4	0.30
US	1990	0	0	1	0.2	1	0.2	2	0.4	0.20
	2000	0	0	5	1	1	0.2	2	0.4	0.40
	2010	0	0	4	0.8	1	0.2	2	0.4	0.35

Table 15 shows the calibration and fuzzy scores of the activation approach attribute of disability policy. Most countries showed increases in the mean value of their fuzzy scores, except Denmark, Germany and Korea. Denmark increased in 2000 but decreased in 2010 to less than the value of 1990. Germany showed a similar pattern to Denmark but the score in 2010 was higher than in 1990. Korea maintained the same scores continuously.

Germany as well as Italy and Norway strengthened retesting benefit eligibility, medical and vocational assessment rules. The Netherlands focused on the retesting of benefit eligibility and vocational assessment as the criteria of medical assessment was already strict. The UK focused on vocational assessment rules, whereas the US focused on the retesting of benefit eligibility. In France, the impact of changes to work incentives contributed to the change of membership in the activation attribute category, but other countries focused on the retesting of benefit eligibility or vocational assessment rules. Regarding the compulsion of vocational rehabilitation programmes, Denmark, Germany, and Norway showed high degrees continuously, while the Netherlands showed a rapid increase in this sub-dimension. Denmark and Italy increased the retesting of benefit eligibility in 2000, whereas Korea decreased it.

Regarding the change of membership, the Netherlands, Norway, and US shifted clearly from 'out' membership to 'in' membership of the activation approach suggesting a clear tendency towards a strengthened activation approach. But, other countries showed same membership during 1990 and 2010. One notable thing is that the fuzzy mean value of German in 1990 and of UK in 2010 show 0.5, which means the membership of these countries in this attribute are ambiguous whether 'in' or 'out', and which also may affect the final ideal type of Germany in 1990 and UK in 2010.

Table 15 Calibration of activation approach attribute and fuzzy membership scores

		Vocational rehabilitation expenditure/GDP		Retesting of benefit eligibility		Medical assessment rules		Vocational assessment rules		Compulsion of vocational rehabilitation programme		Work incentives		Fuzzy mean
		Raw	Fuzzy	Raw	Fuzzy	Raw	Fuzzy	Raw	Fuzzy	Raw	Fuzzy	Raw	Fuzzy	
DEN	1990	0.28	1	1	0.2	1	0.2	3	0.6	4	0.8	5	1	0.63
	2000	0.33	1	1	0.2	2	0.4	4	0.8	5	1	5	1	0.73
	2010	0.13	1	1	0.2	1	0.2	3	0.6	5	1	3	0.6	0.6
FRA	1990	0	0	4	0.8	3	0.6	1	0.2	1	0.2	2	0.4	0.37
	2000	0	0	4	0.8	3	0.6	1	0.2	1	0.2	3	0.6	0.4
	2010	0	0	4	0.8	3	0.6	1	0.2	1	0.2	3	0.6	0.4
GER	1990	0.1	1	1	0.2	1	0.2	0	0	5	1	3	0.6	0.5
	2000	0.12	1	4	0.8	2	0.4	1.5	0.3	5	1	3	0.6	0.68
	2010	0.03	0.67	4	0.8	2	0.4	3	0.6	5	1	2	0.4	0.65
ITA	1990	0	0	1	0.2	3	0.6	0	0	0	0	1	0.2	0.17
	2000	0	0	4	0.8	4	0.8	2	0.4	0	0	2	0.4	0.4
	2010	0	0	4	0.8	4	0.8	2	0.4	0	0	2	0.4	0.4
JAP	1990	0	0											
	2000	0	0											
	2010	0	0	3	0.6	3	0.6	5	1	2	0.4	3	0.6	0.53
KOR	1990	0	0	5	1	5	1	5	1	0	0	1	0.2	0.53
	2000	0	0	3	0.6	4	0.8	5	1	1	0.2	3	0.6	0.53
	2010	0	0	3	0.6	4	0.8	5	1	1	0.2	3	0.6	0.53
NET	1990	0	0	0	0	4	0.8	1	0.2	0	0	2	0.4	0.23
	2000	0	0	2	0.4	4	0.8	4	0.8	2	0.4	4	0.8	0.53
	2010	0	0	3	0.6	4	0.8	5	1	4	0.8	5	1	0.7
NOR	1990	0.05	0.67	0	0	0	0	0	0	5	1	0	0	0.28
	2000	0.04	0.67	0	0	0	0	3	0.6	5	1	0	0	0.38
	2010	0.04	0.67	3	0.6	1	0.2	3	0.6	5	1	0	0	0.51
UK	1990	0	0	3	0.6	2	0.4	0	0	0	0	2	0.4	0.23
	2000	0	0	3	0.6	2	0.4	3.5	0.7	1	0.2	5	1	0.48
	2010	0	0	3	0.6	2	0.4	4	0.8	1	0.2	5	1	0.5
US	1990	0.03	0.67	1	0.2	1	0.2	4	0.8	0	0	4	0.8	0.45
	2000	0.03	0.67	1	0.2	1	0.2	4	0.8	1	0.2	4	0.8	0.48
	2010	0.03	0.67	3	0.6	1	0.2	5	1	1	0.2	4	0.8	0.58

Table 16 shows the fuzzy scores of legislative regulations for the equal rights attribute. Though the enactment of anti-discrimination legislation and the ratification of CRPD are recent matters, the distribution of fuzzy scores showed countries can already be divided into ‘in’ and ‘out’ groups. Regarding the mean value, Japan, the Netherlands, and Norway showed clear ‘out’ membership. The Netherlands has a relatively long history of anti-discrimination laws but ‘fully out’ membership for the duration of the CRPD neutralised the mean value. Japan showed ‘fully out’ membership in both sub-dimensions. It also needs to note the break point of 0.5 as maximum ambiguous point. The mean value of France, Italy, and US shows 0.5, so it is not clear to decide whether ‘in’ or ‘out’ membership of these countries for legislative regulation attribute.

In France, Italy and Korea, the long duration of the CRPD offsets the short duration of anti-discrimination legislation. On the contrary, in the Netherlands and US, the long duration of anti-discrimination legislation compensates for the short duration of CRPD.

Table 16 Calibration of legislative regulation attribute and fuzzy membership scores

	Duration of anti-discrimination legislation		Duration of CRPD		Fuzzy mean
	Raw	Fuzzy	Raw	Fuzzy	
DEN	11	0.67	6	0.67	0.67
FRA	10	0.33	5	0.67	0.50
GER	13	0.67	6	0.67	0.67
ITA	9	0.33	6	0.67	0.50
JAP	2	0	1	0	0.00
KOR	8	0.33	7	1	0.67
NET	12	0.67	0	0	0.34
NOR	7	0.33	2	0.33	0.33
UK	20	1	6	0.67	0.84
US	25	1	0	0	0.50

Table 17 summarises the fuzzy scores on the four attributes and the membership of each attribute: 0 indicates 'fully out'; 1 indicates 'fully in'; and 0.5 indicates 'ambiguity' of 'in' or 'out'. In the following Table, fuzzy score 0.5 of each attribute is transferred to into '1(0)' to show its ambiguity or flexibility. Over time, the membership of each country has changed. For example Denmark belonged to the fully 'in' group on all four attributes in 2010 but not before 2010.

It should be noted that this thesis employed only three attributes in 2000 and 1990 because the legislative regulation attribute is a time constrained matter due to its temporal variation problem. When applying four attributes of disability policy, Denmark and Germany showed strong membership of the 'in' group on all four attributes in 2010. Whereas, when applying three attributes of disability policy, Denmark, Germany, the Netherlands, and Norway showed strong membership of the 'in' group on all three attributes in 2010. But, in 1990 and 2010 these four countries showed different memberships suggesting that each individual country took a different path.

The next section arranges empirical cases on the property space of the ideal types of disability policy, which are based on the logical combination of attributes.

Table 17 Summary of fuzzy membership scores

		Protective benefit (B)	Protective employment (E)	Activation approach (A)	Legislative regulation (L)	Membership (1=in, 0=out)			
						B	E	A	L
2010	DEN	0.67	0.75	0.60	0.67	1	1	1	1
	FRA	0.58	0.85	0.40	0.5	1	1	0	1(0)
	GER	0.58	0.68	0.65	0.67	1	1	1	1
	ITA	0.8	0.2	0.40	0.5	1	0	0	1(0)
	JAP	0.48	0.4	0.53	0	0	0	1	0
	KOR	0.1	0.52	0.53	0.67	0	1	1	1
	NET	0.63	0.65	0.70	0.34	1	1	1	0
	NOR	0.73	0.75	0.51	0.33	1	1	1	0
	UK	0.28	0.3	0.50	0.84	0	0	1(0)	1
	US	0.3	0.35	0.58	0.5	0	0	1	1(0)
2000	DEN	0.48	0.85	0.73		0	1	1	
	FRA	0.58	0.7	0.40		1	1	0	
	GER	0.58	0.68	0.68		1	1	1	
	ITA	0.62	0.2	0.40		1	0	0	
	JAP								
	KOR	0.35	0.52	0.53		0	1	1	
	NET	0.72	0.65	0.53		1	1	1	
	NOR	0.68	0.7	0.38		1	1	0	
	UK	0.28	0.38	0.48		0	0	0	
	US	0.25	0.4	0.48		0	0	0	
1990	DEN	0.58	0.25	0.63		1	0	1	
	FRA	0.58	0.5	0.37		1	1(0)	0	
	GER	0.58	0.43	0.50		1	0	1(0)	
	ITA	0.62	0	0.17		1	0	0	
	JAP								
	KOR	0.35	0.27	0.53		0	0	1	
	NET	0.9	0.45	0.23		1	0	0	
	NOR	0.77	0.55	0.28		1	1	0	
	UK	0.42	0.23	0.23		0	0	0	
	US	0.25	0.2	0.45		0	0	0	

3. Ideal types of disability policy

3-1 Ideal types from four attributes

The FSITA allows researchers to conceptualise the analytical target into distinct dimensions by analysing the concept of the analytical target as a whole, as well as examining each dimension separately (Vis, 2007). Applying set-logic to the conceptualisation of disability policy, four dimensions were chosen as necessary attributes of the conceptualisation of disability policy. However, there was a temporal variation problem with the legislative regulation attribute, which is only available for 2010. Therefore, it was necessary to consider another combination of three attributes for broad application both in 1990 and 2000, excluding the legislative regulation attribute.

The mathematical set-logic of 'logical and' was chosen for the conceptualisation of disability policy. Hence, disability policy can be understood as a comprehensive institution aiming for social protection 'and' labour market integration 'and' activation 'and' encouragement of civil rights especially for disabled people.

Disability policy = Protective Benefit (B) * Protective Employment (E) * Activation (A) * Legislative regulation (L)

$$D = B * E * A * L$$

There are sixteen logical combinations in all using four attributes as 2^4 equals to 16. Not all combinations would automatically match-up with the empirical cases, as logical combinations show all ideally and theoretically possible types. As being noted before, substantive functioning is more important than different institutional types. Therefore, this thesis focuses on the substantive functioning of policy: its protection functioning, activation and legislative regulation.

Table 18 summarises the ideal types and different institutional combinations. Four members under the name of ideal types mean the membership of each sub-dimensions. In other words '1011' means 'in' membership of the protective benefit scheme, 'out' membership of the protective employment programme, 'in' membership of the activation approach and 'in' membership of the legislative regulation attribute.

Table 18 Ideal types from sixteen logical combinations of four attributes

Ideal types	Protective benefit (B)	Protective employment (E)	Activation approach (A)	Legislation regulation (L)	Combination	(1=in, 0=out)
Protective, Active and Legislative	IN	IN	IN	IN	$B^*E^*A^*L$	1111
Weak	OUT	OUT	OUT	OUT	$\sim B^*\sim E^*\sim A^*\sim L$	0000
Purely Protective	IN	IN	OUT	OUT	$B^*E^*\sim A^*\sim L$	1100
Protective oriented	IN	OUT	OUT	OUT	$B^*\sim E^*\sim A^*\sim L$	1000
	OUT	IN	OUT	OUT	$\sim B^*E^*\sim A^*\sim L$	0100
Purely Active	OUT	OUT	IN	OUT	$\sim B^*\sim E^*A^*\sim L$	0010
Active oriented	IN	OUT	IN	OUT	$B^*\sim E^*A^*\sim L$	1010
	OUT	IN	IN	OUT	$\sim B^*E^*A^*\sim L$	0110
Purely Legislative	OUT	OUT	OUT	IN	$\sim B^*\sim E^*\sim A^*L$	0001
Legislative oriented	IN	OUT	OUT	IN	$B^*\sim E^*\sim A^*L$	1001
	OUT	IN	OUT	IN	$\sim B^*E^*\sim A^*L$	0101
Protective and Active	IN	IN	IN	OUT	$B^*E^*A^*\sim L$	1110
Protective and Legislative	IN	IN	OUT	IN	$B^*E^*\sim A^*L$	1101
Active and Legislative	OUT	OUT	IN	IN	$\sim B^*\sim E^*A^*L$	0011
Active and Legislative oriented	IN	OUT	IN	IN	$B^*\sim E^*A^*L$	1011
	OUT	IN	IN	IN	$\sim B^*E^*A^*L$	0111

The representative and extreme ends types are two: ‘Protective, Active and Legislative’ type ($B^*E^*A^*L$) indicates fully ‘in’ on all four attributes, whereas the ‘Weak’ type ($\sim B^*\sim E^*\sim A^*\sim L$) involves fully ‘out’ in all four attributes. Next, three pure types of ‘Purely Protective’ ($B^*E^*\sim A^*\sim L$), ‘Purely Active’ ($\sim B^*\sim E^*A^*\sim L$) and, ‘Purely Legislative’ ($\sim B^*\sim E^*\sim A^*L$) mean the cases that have a strong membership only in one dimension. Subsequently ‘Protective oriented’ ($\sim B^*E^*\sim A^*\sim L$, $B^*\sim E^*\sim A^*\sim L$), ‘Active oriented’ ($\sim B^*E^*A^*\sim L$, $B^*\sim E^*A^*\sim L$) and ‘Legislative oriented’ ($\sim B^*E^*\sim A^*L$, $B^*\sim E^*\sim A^*L$) type are similar to the pure types, but there is a change of the membership in the other two dimensions. Especially protective benefit and protective employment dimensions which compose protective functioning show midium level between all strong(B^*E) and all weak($\sim B^*\sim E$) degree. The fourth type can be characterised as two strong core dimensions and one weak dimension, such as ‘Protective and Active’ ($B^*E^*A^*\sim L$), ‘Protective and Legislative’ ($B^*E^*\sim A^*L$) and ‘Active and Legislative’ ($\sim B^*\sim E^*A^*L$). Lastly, there is an ‘Active and Legislative oriented’ ($\sim B^*E^*A^*L, B^*\sim E^*A^*L$) type that involves the

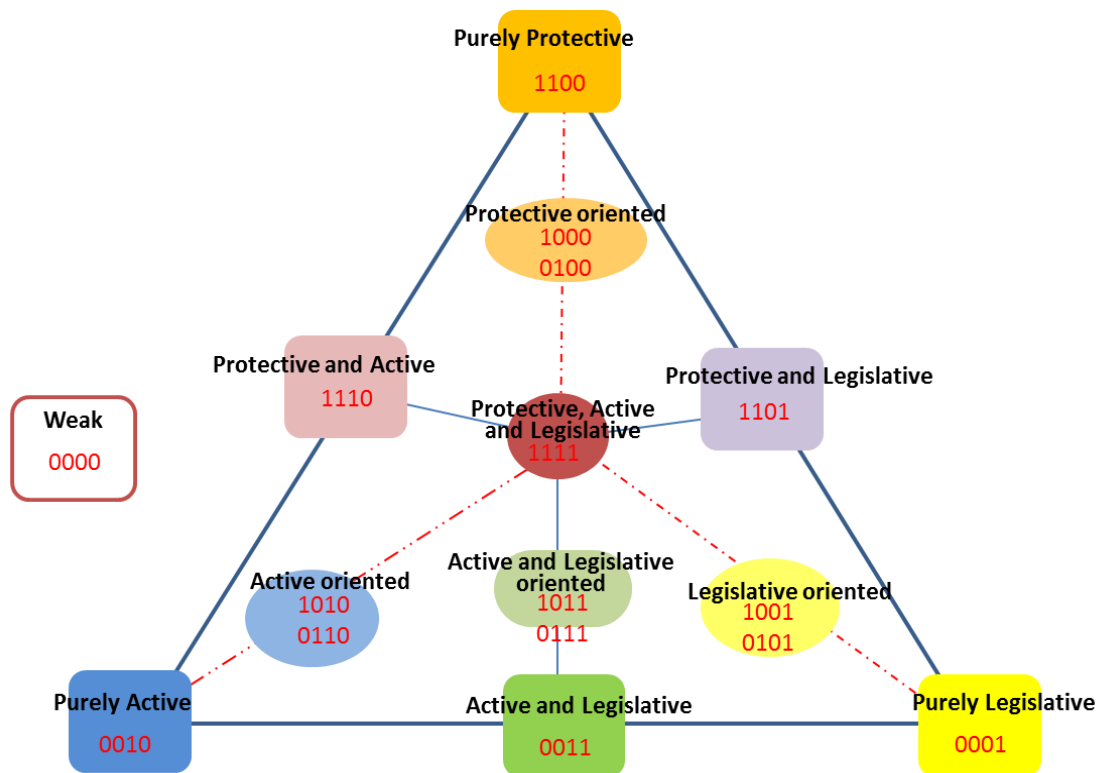
change of membership in protective dimension while maintaining strong membership in both the active and legislative dimensions.

Here, it is important to grasp meaning of the term 'oriented'. The reason the term 'oriented' has been chosen is to indicate the possibility of potential change, rather than the directionality of change. For example, the difference between the 'Active and Legislative' type and the 'Active and Legislative oriented' type is the degree of protective function of the benefit scheme and employment programme. If the protective dimension of the 'Active and Legislative oriented' type moved towards stronger membership, it could become the 'Protective, Active and Legislative' type. However, if the protective dimension became totally 'out', the 'Active and Legislative oriented' type would move to the 'Active and Legislative' type. Therefore, the term 'oriented' indicates the potential possibility of change rather than the directionality.

Figure 4 shows the property space of these ideal types of four attributes. Focusing on the function of institutional combinations, protective benefit scheme and protective employment programme coalesce as a protective functioning dimension. Therefore it is feasible to draw a triangle: three vertices of which involve the protection dimension, activation dimension and legislative regulation dimension of the disability policy. At the vertices, three ideal types emphasising only one dimension are located: 'Purely Protective', 'Purely Active', and 'Purely Legislative' type. Another three ideal types emphasising two dimensions are located at the middle points of each side of the triangle: 'Protective and Active', 'Protective and Legislative' and 'Active and Legislative'.

There are two extreme types: one is fully 'in' and the other is fully 'out' of the four attributes. The former, the 'Protective, Active and Legislative' type, is located at the core of triangle that can be reached from everywhere, whereas the latter called as 'Weak' type is located outside of the triangle. On the lines linking the core point and vertices, another three ideal types are located: 'Protective oriented', 'Active oriented' and 'Legislative oriented'. The features of these three types are combined with weak degree in the protective dimension and reflect the choice of active or legislative. Lastly, the 'Active and Legislative oriented' type is located on the line connecting the 'Protective, Active and Legislative' and 'Active and Legislative' type.

Figure 4 Property space of ideal types employing four attributes



3-2 Ideal types from three attributes

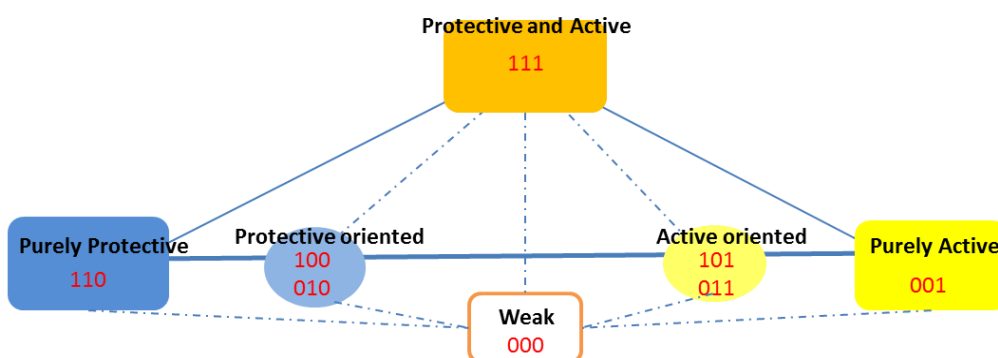
As being noted before there was a temporal variation problem with the legislative regulation attribute, which is only available for 2010. Therefore, here this section discusses the logical combinations of three attributes for broad application both in 1990 and 2000: protective benefit, protective employment and the activation approach. Similar to the application of the four attributes, protective benefits and protective employment programme are considered together. 'Protective and Active' (B^*E^*A) type has a strong membership both in protective and active dimension, whereas 'Weak' ($\sim B^*\sim E^*\sim A$) type has 'out' membership in both dimensions. 'Purely Protective' ($B^*E^*\sim A$) type is strong only in the protective dimension but not in the active dimension, whereas 'Purely Active' ($\sim B^*\sim E^*A$) type is strong in the active dimension but weak in the protective dimension. Therefore the 'Protective oriented' ($\sim B^*E^*\sim A, B^*\sim E^*\sim A$) and 'Active oriented' ($\sim B^*E^*A, B^*\sim E^*A$) types can be understood as types that maintain their core dimension but change in the other dimension.

Table 19 Ideal types from eight logical combinations of three attributes

Ideal types	Protective benefit (B)	Protective employment (E)	Activation approach (A)	Combination	(1=in, 0=out)
Protective and Active	IN	IN	IN	B^*E^*A	111
Weak	OUT	OUT	OUT	$\sim B^*\sim E^*\sim A$	000
Purely Protective	IN	IN	OUT	$B^*E^*\sim A$	110
Protective oriented	IN	OUT	OUT	$B^*\sim E^*\sim A$	100
	OUT	IN	OUT	$\sim B^*E^*\sim A$	010
Purely Active	OUT	OUT	IN	$\sim B^*\sim E^*A$	001
Active oriented	IN	OUT	IN	$B^*\sim E^*A$	101
	OUT	IN	IN	$\sim B^*E^*A$	011

The property space of the ideal types of three attributes is seen in Figure 5. The protective functioning dimension also involved the protective benefit scheme and protective employment programme. At both ends of the horizontal line connecting the protective and active functions of disability policy, two ideal types are located: ‘purely protective’ and ‘purely active’. Under the line the ‘weak’ type is located, which indicates ‘out’ membership in both the protective and active dimension. The combination with the middle degree of protective functioning makes two different types of ‘protective oriented’ and ‘active oriented’. The ‘protective and active’ type, which involves strong memberships in both protective functioning and activation approach, is located at the upper section of the horizontal line. For example, ‘011’ means ‘out’ membership of protective benefit scheme, ‘in’ membership of protective employment programme, and ‘in’ membership of activation approach.

Figure 5 Property space of ideal types employing three attributes



4. Findings from the analyses

Now this section can match the empirical cases with the ideal types based on the fuzzy membership scores and examine the discrepancy between the ideal types and empirical cases. This also contributes to identifying the substantive similarities and differences in disability policy across countries over time.

4-1 Disability policy in 2010

As Table 20 shows, the ten empirical cases correspond to ten ideal types. In other words, there are two ideal types that do not have corresponding empirical cases: Active oriented and Weak types. There are also hybrid types due to the break point value in sub-dimensions.

Denmark and Germany correspond with the 'Protective, Active and Legislative' type showing fully 'in' membership of four attributes. Both countries had fully 'in' membership of the protective benefit scheme, protective employment programme, activation approach and legislative regulation approach dimensions.

Japan corresponds with the purely strong type only in one dimension, 'Purely Active', suggesting a focus on the activation approach rather than other protective policies and legislative regulation. The Netherlands and Norway correspond with the 'Protective and Active' type with showing 'in' membership in protective functioning and activation approach, and 'out' membership in activation approach. Korea matches the 'Active and Legislative oriented' type.

France, Italy, UK and US belong to hybrid types as one of their fuzzy score for four attributes meet the break point value. Due to the ambiguity, the break point can be allocated to 'in' or 'out' group. The ideal types just in *Italic* mean that the break point is interpreted as 'in' membership, and the ideal types in brackets of these countries show that the break point is accepted as 'out' membership. The membership of legislation approach can change ideal types of France and Italy. France can be allocated into the 'Protective and Legislative' type as well as Purely Protective type depending on its membership for legislation approach, and Italy also can be the member of 'Legislative oriented' type as well as 'Protective oriented' type. UK and US which show same membership of 'Active and Legislative' type when the break points are interpreted as 'in' membership, belong to different ideal types when their activation approach and legislation approach are regarded as 'out' membership.

Table 20 Ideal types of disability policy in 2010

	Protective Benefit (B)	Protective Employment (E)	Activation approach (A)	Legislation approach (L)	Ideal type
DEN	IN	IN	IN	IN	Protective, Active and Legislative
FRA	IN	IN	OUT	<i>IN (OUT)</i>	Protective and Legislative <i>(Purely Protective)</i>
GER	IN	IN	IN	IN	Protective, Active and Legislative
ITA	IN	OUT	OUT	<i>IN (OUT)</i>	Legislative oriented <i>(Protective oriented)</i>
JAP	OUT	OUT	IN	OUT	Purely Active
KOR	OUT	IN	IN	IN	Active and Legislative oriented
NET	IN	IN	IN	OUT	Protective and Active
NOR	IN	IN	OUT	OUT	Purely Protective
UK	OUT	OUT	<i>IN (OUT)</i>	IN	Active and Legislative <i>(Purely Legislative)</i>
US	OUT	OUT	IN	<i>IN (OUT)</i>	Active and Legislative <i>(Purely Active)</i>

Figure 6 illustrates the correspondence between ideal types and empirical cases. When empirical cases are allocated to the property space, it becomes feasible to clearly identify the distribution of and distance between cases and between ideal types.

In the centre of the triangle, Denmark and Germany are located in 'Protective, Active and Legislative' type showing all strong membership in four attributes. Whereas, there is no empirical case to match the 'weak' type which show all 'out' membership in four attributes. 'Active oriented' type also does not match any empirical case.

At vertices, there are located ideal types emphasising only one dimension: 'Purely Protective', 'Purely Active', and 'Purely Legislative' types. Japan belongs to the 'Purely Active' type. As hybrid types, France and UK can be members of 'Purely Protective' type and 'Purely Legislative' type when their break points are interpreted as 'out' membership in legislative and activation approach.

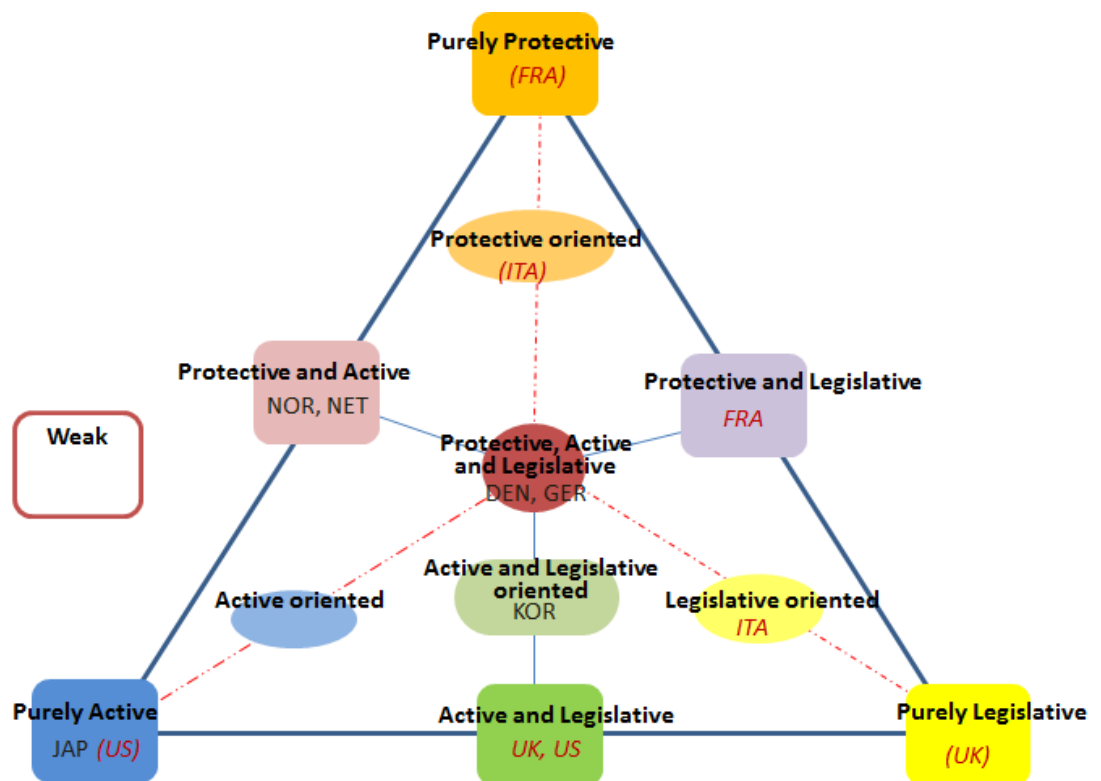
The location of the types involving two strong dimensions such as 'Protective and Active', 'Protective and Legislative', and 'Active and Legislative' type corresponded with the middle points of each side of the triangle in the property space. These countries showed relative weakness in one dimension. The Netherlands and Norway are located in the 'Protective and

Active' type, and their legislative regulation attribute was relatively weak in the institutional combination of disability policy. France belongs to the 'Protective and Legislative' type when its fuzzy scores for legislative attribute are regarded as 'in' membership. The members of 'Active and Legislative' type, UK and US, show same membership especially when their activation approach and legislative approach are regarded as 'in' membership.

Italy corresponds to the 'Legislative oriented' type, with a strong membership in the legislative regulation attribute, a weak membership in activation and medium degree of protective function of benefit scheme and employment programme. But at the same time, Italy can be a member of 'Protective oriented' type with a weak membership in legislation approach.

The case of Korea belongs to the 'Active and Legislative oriented' type such that the activation approach and legislative regulation attribute show strong membership of 'in' but the protective function of benefit scheme and employment programme is relatively weak.

Figure 6 Ideal types of disability policy in 2010



* Italy, France, UK and US show hybrid types depending on the break points of their attributes.

Figure 6 also shows the distance between ideal types and the similarities and differences between the empirical cases. It is relatively easy to identify which form of functioning is prioritised in each country. Countries focusing on only one form of functioning are located far from the centre. In other words, the distance between the 'Purely Active' and 'Protective, Active and Legislative' types is greater than the distance between the 'Protective and Active' and 'Protective, Active and Legislative' types. As an intermediate meaning the type involving 'oriented' term has a relatively short distance between other types. Furthermore, it should be noted that every empirical case would be able to move if their institutional combinations changed. For example, Denmark and Germany could move in any direction if their institutional functioning became weak even in one dimension. Korea and Italy could possibly move towards both directions depending on their policy choice. Finally it is clear that our 10 empirical cases show a slightly different distribution in terms of welfare state regime membership, according to their different priorities in individual policy areas. Norway, Denmark and the Netherlands were located at difference places reflecting their different disability policy models. France and Germany also showed different membership.

Taken the temporal variation problem of the legislative regulation attribute into consideration, there are different ideal types and member countries when applying three attributes (see Table 21). By combining protective benefit scheme and protective employment programme in the protective dimension, all six ideal types correspond to empirical cases.

Denmark, Germany, the Netherlands and Norway showed strong membership in both protective and active attributes corresponding to the 'Protective and Active' type. While France belonged to the 'Purely Protective' type with strong memberships only in protective benefit and employment programme, Japan, UK and US belonged to the 'Purely Active' type with strong membership only in the active approach. However, UK show hybrid type so it can be also a member of 'Weak' type when its activation approach is interpreted as 'out' membership. Italy and Korea were part of the 'Protective oriented' type and 'Active oriented' type due to the middle degree value in protective function.

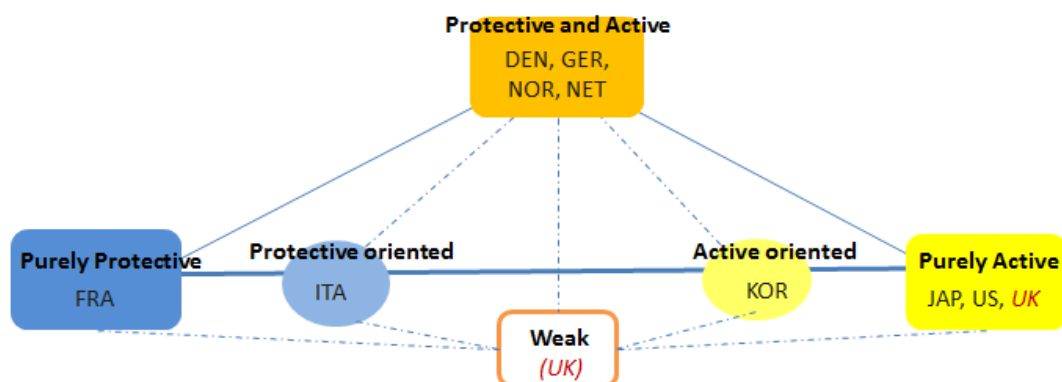
Table 21 Ideal types of disability policy in 2010 when employing three attributes

	Protective Benefit (B)	Protective Employment (E)	Activation approach (A)	Ideal type
DEN	IN	IN	IN	Protective and Active
FRA	IN	IN	OUT	Purely Protective
GER	IN	IN	IN	Protective and Active
ITA	IN	OUT	OUT	Protective oriented
JAP	OUT	OUT	IN	Purely Active
KOR	OUT	IN	IN	Active oriented
NET	IN	IN	IN	Protective and Active
NOR	IN	IN	OUT	Purely Protective
UK	OUT	OUT	<i>IN (OUT)</i>	<i>Purely Active (Weak)</i>
US	OUT	OUT	IN	Purely Active

The distribution of empirical cases is considerably different from the ideal types of the four attributes (see Figure 7). Without considering the legislative regulation attribute, the UK and the US belonged to same group as Japan, where the active approach is strong while the protective function is weak. Of course UK can belong to 'Weak' type when its activation approach is interpreted as 'out' membership. Germany joined the 'Protective and Active' type along with Denmark, Norway and the Netherlands showing a strong protective function and an active approach.

Regarding the distance to welfare state regime, the variance between disability policy model and welfare state regime became narrower. In Figure 6, only Liberal regime countries joined together even if the break points are interpreted as 'in' membership of activation approach and legislation approach, whereas Social Democratic and Conservative countries were classified differently. But, in Figure 7, when legislation approach is not considered, Social Democratic countries show strong ties. And Liberal countries show close fellowship especially when activation approach of UK is interpreted as 'in' membership. Whereas, Conservative countries were located separately.

Figure 7 Ideal types of disability policy in 2010 employing three attributes



4-2 The over time change of disability policy from 1990 to 2010

Based on the fuzzy membership scores of the three attributes, it becomes feasible to trace the over time change in disability policy. Fuzzy set analysis allows us to identify the change between different memberships and to test the extent of change within specific memberships. Indeed, there appeared to be two types of change from 1990 to 2010: only one country, Italy, stayed in the same ideal type with maintaining the same membership vigorously; while, most countries shifted towards different ideal types in 2000 or in 2010. Figure 8 and Figure 9 are the different versions of visualising these changes. Japan, of which empirical data is not accessible for 2000 and 1990, is not included in the over time change analysis.

Some countries changed their membership in 2000. The Netherlands and Germany moved toward the 'Protective and Active' type though their starting points were different in 1990. The Netherlands strengthened its protective employment programme and activation approach, and Germany intensified its protective employment programme (and activation approach especially when it was regarded as 'out' membership). Korea shifted from 'Purely Active' towards 'Active oriented' in 2000 strengthening its protective function. Other countries moved in 2010. Norway shifted from 'Purely Protective' to 'Protective and Active' strengthening its activation approach. Denmark moved from 'Active oriented' to 'Protective and Active' intensifying protective benefit schemes. The UK and the US made the same movement from 'Weak' to 'Pure Active' intensifying their activation approaches. Of course it should be noted that UK could be seen as staying in 'Weak' type especially when the break point of activation approach was interpreted as 'out' membership. It was same to the case of France which could

stayed in 'Purely Protective' type when its protective employment was interpreted as 'in' membership in 1990.

Figure 9 shows more clearly the change of memberships of hybrid types: Germany, France and UK. The solid lines meant the movement of the cases when the break points were interpreted as 'in' memberships, while the dotted lines showed the movement of the cases when the break points were interpreted as 'out' memberships.

Shifting to another type happened when membership scores crossed over the threshold point and changed from below 0.5 to scores above 0.5 or vice versa. However, even countries which stayed the same type showed changes to their membership scores. Moving within one specific type is known as quantitative change, whereas a change of membership is qualitative change.

The quantitative change that took place in the different countries is clearly identified in Table 22. Italy continually increased its membership scores on each attribute; however, the membership scores did not reach the cross-over point. For instance, the Italian score on the activation attribute changed from 0.17->0.40 between 1990 and 2000.

The countries showing qualitative changes also changed their membership scores. In other words, qualitative change and quantitative change occurred simultaneously. In Denmark, the intensity of the activation approach became weaker in 2010 relative to 1990, whereas the protective benefit and protective employment programmes became stronger. In Korea, the membership scores show that the protective benefit scheme moved from 0.35 in 1990 and 2000 to 0.1 in 2010 indicating weakening protective benefit generosity. The Netherlands underwent drastic institutional changes, with the weakening of its protective benefit scheme and strengthening of its activation approach happening quite rapidly between 1990 and 2010. The UK and US showed increases only in activation approach.

Figure 8 Over time change of locations in property space from 1990 to 2010

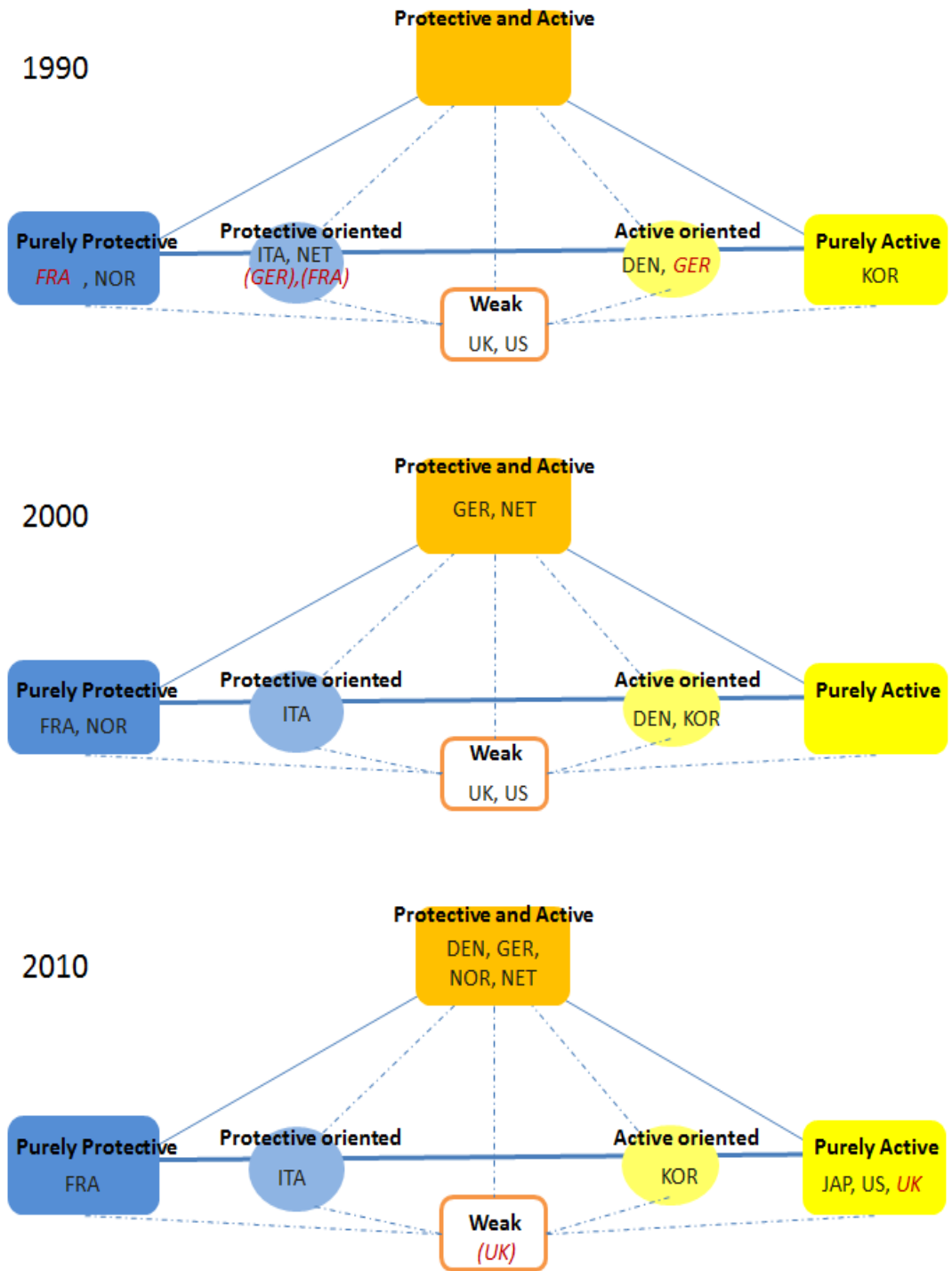
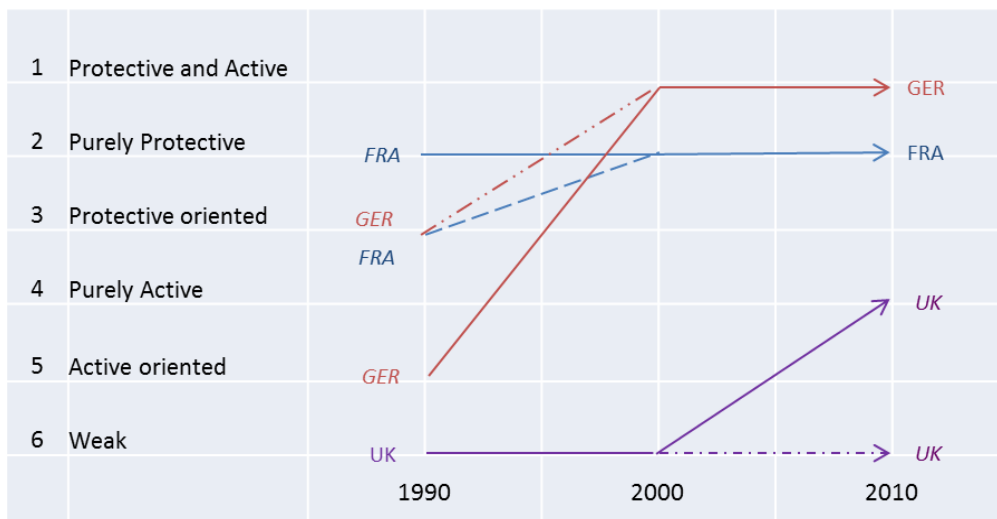
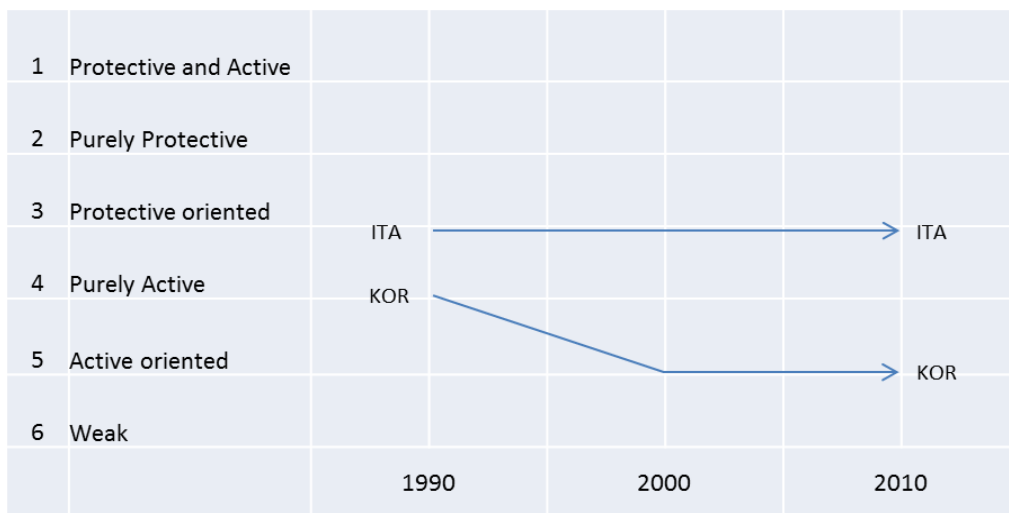
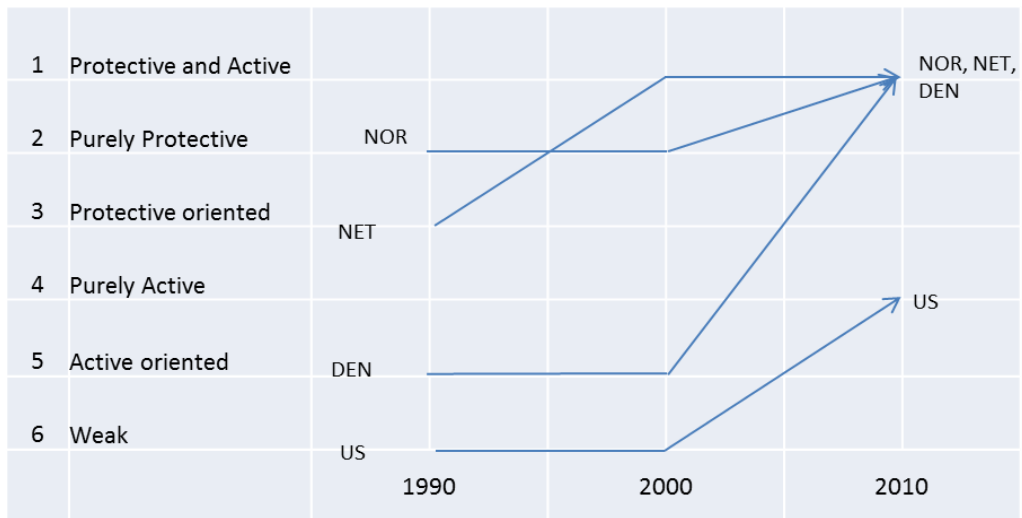


Figure 9 Over time change of ideal types from 1990 to 2010



It also needs to be noted that some countries showed no change in specific attributes. Regarding protective benefit schemes, France and Germany showed the same fuzzy membership scores during 1990 to 2010. This can be explained by the degree of the raw data. The expenditure on incapacity-related benefits showed changes but other sub-dimensions of both countries showed steady scores which were selected from OECD disability policy indicators (OECD, 2003, 2010). The activation approach in Korea also showed the same scores, due to the rules of medical assessment and vocational assessment remaining relatively stringent (see Chapter Four).

Individual countries invested in different institutional areas. Denmark made changes to its protective benefit programme, whereas Korea invested in their protective employment programmes. The Netherlands and Germany paid more attention to protective employment and activation, while the US simply intensified its activation approach, leaving protective functioning at a weak level. The UK similarly intensified its activation approach but it was not enough to cross the break point.

To conclude, the general trend in protective benefit schemes is towards decrease or maintenance; whereas in protective employment programmes and activation the general trend is towards increase or maintenance. This adds persuasive power for the interpretation that the break points can be seen closely as 'in' membership along with the over time change despite of the maximum ambiguity. Moreover this result is closer to the theory of contingent convergence (Eichhorst and Konle-Seidl, 2008; Hall 1993; Hemerijck and van Kersbergen, 1999; Morel et al., 2012; Serrano Pascual, 2007) than it is to that of regime specific trajectories (Esping-Andersen, 1990, 1996, 1999; Pierson, 1996, 2001) or convergence towards labour market integration (OECD, 2010).

Table 22 Over time fuzzy membership scores of three attributes

		Protective benefit	Protective employment	Activation approach	Membership (1=in, 0=out)		
		(B)	(E)	(A)	B	E	A
DEN	1990	0.58	0.25	0.63	1	0	1
	2000	0.48	0.85	0.73	0	1	1
	2010	0.67	0.75	0.60	1	1	1
FRA	1990	0.58	0.5	0.37	1	<i>1(0)</i>	0
	2000	0.58	0.7	0.40	1	1	0
	2010	0.58	0.85	0.40	1	1	0
GER	1990	0.58	0.43	0.50	1	0	<i>1(0)</i>
	2000	0.58	0.68	0.68	1	1	1
	2010	0.58	0.68	0.65	1	1	1
ITA	1990	0.62	0	0.17	1	0	0
	2000	0.62	0.2	0.40	1	0	0
	2010	0.8	0.2	0.40	1	0	0
JAP	1990						
	2000						
	2010	0.48	0.4	0.53	0	0	1
KOR	1990	0.35	0.27	0.53	0	0	1
	2000	0.35	0.52	0.53	0	1	1
	2010	0.1	0.52	0.53	0	1	1
NET	1990	0.9	0.45	0.23	1	0	0
	2000	0.72	0.65	0.53	1	1	1
	2010	0.63	0.65	0.70	1	1	1
NOR	1990	0.77	0.55	0.28	1	1	0
	2000	0.68	0.7	0.38	1	1	0
	2010	0.73	0.75	0.51	1	1	1
UK	1990	0.42	0.23	0.23	0	0	0
	2000	0.28	0.38	0.48	0	0	0
	2010	0.28	0.3	0.50	0	0	<i>1(0)</i>
US	1990	0.25	0.2	0.45	0	0	0
	2000	0.25	0.4	0.48	0	0	0
	2010	0.3	0.35	0.58	0	0	1

5. Summary

In this thesis a calibration process has been used in an arithmetic way in order to obtain additional theoretical knowledge about four attributes of disability policy and to compromise lack of qualitative information. Though the procedure does not show all the advantages of FSITA, the conceptual construction of ideal types of disability policy has been valuable. Based on the results of the calibration, membership of each attribute and sub-dimension were decided, thereby enabling to identify ideal types amongst the empirical cases and trace the over time change across each country.

In 2010 or the last available time, the ten countries selected could be divided into ten different ideal types when employing four attributes, and six ideal types when employing three attributes excluding legislative regulation. The distribution of the empirical cases in property space showed some distance with welfare state regimes. But the gap became narrower when focusing on the three attributes of protective benefit, protective employment and activation approach. This may implicate that legislative regulation attribute made some discordance within welfare state regimes. For instance, Denmark showed 'in' membership in legislative regulation attribute, whereas Norway and the Netherlands showed 'out' membership. Hence, Denmark was located in the 'Protective, Active and Legislative' type, while Norway and the Netherlands belonged to 'Protective and Active' type.

Regarding over time change, tracing membership scores over time has contributed to identifying both qualitative change and quantitative change. None of the empirical cases stayed in the same type with the same membership scores. Instead they each moved dynamically between different ideal types or within the same types. In general, most countries have focused more on labour market participation. The UK and US have strengthened their activation approaches, whereas Denmark, Germany and Korea have tried to fortify their protective employment programmes. Meanwhile the Netherlands has attempted to build up both its protective employment programme and its activation approach. Protective benefit schemes received either stronger or weaker attention depending on the different policy priorities of the empirical cases. But the protective employment programme or activation approach either became strengthened or maintained the same degree of strength.

One thing is clear: there has been no convergence towards a specific direction, although several countries have intensified their activation policies or protective employment programmes. The next chapter will discuss the implications of the findings from the fuzzy set ideal type analysis.

Chapter 6 Discussion

1. Introduction

This thesis aims to identify the differences and similarities in disability policy across countries and overtime change. Previous research on the welfare state suggests that there are different welfare models or regimes. The number or kinds of regimes, as well as the direction or degree of change has been the subject of intense debate. Some argue that the welfare states have shifted toward the Schumpeterian Workfare regime or competition state (Cerny and Evans, 2000; Jessop, 1999) while others disagree with the convergence thesis and propose that welfare states have continued to move along their own particular historical paths or within a specific regime trajectory (Esping-Andersen, 1996; Pierson, 2001). Yet another group of researchers have proposed that convergence is contingent on institutional settings and the dynamics therein (Hall, 1993; Hemerijck and van Kersbergen, 1999). This last school of thought focuses on various policy domains within welfare states and discusses paradigmatic change in terms of policy priorities, which puts it broadly in line with the position taken by Kasza (2002) who emphasises the need to go beyond welfare regime discussion. Regime discussion, he argues, is not capable of embracing the various welfare programmes under the same logic or rubric, as each specific policy has its own development history resulting in a contradictory and disjointed set with other policies (Kasza, 2002). Indeed, an empirical study on healthcare shows the discordance between healthcare policy models and welfare state regimes based on the degree of de-commodification (Bambra, 2005).

By choosing the typology approach to analyse disability policy, this thesis identified similarities and differences in disability policy models, moreover examined whether there are common features in or discrepancies between disability policy models and welfare state regimes. The typology approach is a basic intellectual and analytical tool for comparing different cases. Among several versions of the typology approach, this thesis decided to use fuzzy set ideal type analysis (FSITA) due to its advantages. As the middle way between the qualitative approach and the quantitative approach, the FSITA is appropriate for connecting a conceptual and theoretical knowledge based framework with empirical data. Thereby the empirical cases are corresponded to the ideal types derived from the conceptual framework using four

different attributes of disability policy, which include protective benefit scheme, protective employment programme, activation approach, and legislative regulation approach.

This thesis assigned fuzzy membership scores to the empirical data collected from existing literature and OECD data using a calibration procedure that enables empirical data to be translated into verbal expressions. The fuzzy membership scores, which range from 0 meaning 'fully out' to 1 meaning 'fully in', show the degree of membership of a specific group and make it possible to trace qualitative changes toward a different group, as well as quantitative change within specific groups. This thesis analysed ten OECD countries at three time points: 1990 or the earliest available time, 2000 or the nearest available time and 2010 or the last available time.

The results of the analysis demonstrate the differences and similarities in disability policy, as well as how policy has changed over time in the ten countries. Interestingly, there appeared to be some distance between the disability policy models and welfare state regimes, and neither was the over time change in disability policy convergent towards a specific direction, although most of the countries seem to be putting more emphasis on protective employment programmes and activation than they have in the past. The next section will discuss the findings and the implications in more detail.

2. Typology of disability policy

The typologising approach is not often utilised in disability policy research but, by using a newly spotlighted methodology and employing more comprehensive attributes, this thesis has been able to construct some plausible disability policy models. The four attributes of disability policy that this thesis focused on include 'protective benefit schemes' such as income support through cash benefits, 'protective employment programmes' including support for participation in labour market, 'activation' which combines contraction of the benefit scheme and compulsory conditionality with a competitive approach, and 'legislative regulations' regarding the equal rights of disabled people. The 'activation' attribute is especially important as it reflects the changes that have taken place in many welfare states since the 1980s. 'Legislative regulation' is also important as it reflects increasing social recognition of equal rights but there are temporal variation problems with this attribute because the enactment of anti-discrimination legislation and ratification of the CRPD by the UN occurred after the mid-

2000s except in the UK and US. Thus, at the time points of 2010 or last available time, this thesis had to analyse disability policy in two ways: in terms of four attributes and using three attributes only. For the other time points, this thesis used just three attributes excluding 'legislative regulation' to grasp the over time changes.

First, ten ideal types of disability policy corresponding to the empirical cases were identified when employing four attributes. Especially three of them corresponded to the hybrid types of France, Italy, and UK. The reason that not all ideal types met empirical cases could be due to the small number of empirical cases included in the thesis and it should also be noted that theoretical ideal types do not always correspond to real cases.

This thesis constructed the property space of disability policy as a triangle, coalescing protective benefit scheme and protective employment programme into protective functioning dimension. This is why the substantive function of institutions took priority over the division of social policy and labour market policy, furthermore this study aimed to visualise for clear intuitive grasp. As being suggested in the previous chapter, the triangle showed three vertices corresponding to pure strong membership in one dimension to the other two dimensions. Again, it is worth reiterating that this thesis used the term 'oriented' to reflect the in-between level of the protective functioning dimension, which has an intermediate meaning. Therefore, 'oriented' does not indicate directionality; rather it reflects the potential for shifting in one direction or another. For example, the 'active and legislative' and 'active and legislative oriented' types are different in terms of the amount of functional protection their benefit schemes and employment programmes offer. But if the 'active and legislative oriented' type acquired 'out' membership status in protective functioning, it could move toward the 'active and legislative' type. It could also shift to the 'protective, active and legislative' type by obtaining 'in' membership in protective functioning.

The thesis shows clear differences between disability policy models and the welfare state regimes. It also highlights the persuasive power of the argument whereby the logic behind individual policies may differ from the overall logic behind a specific welfare state regime. In other words, the empirical cases were selected because they were supposed to represent specific regimes: Norway, Denmark and the Netherlands belong to the social democratic regime; Germany and France are Conservative regime countries; the UK and US the represent liberal regime; Italy the Southern European model; and Korea and Japan the East Asian model. However, the distribution of the ten countries on the property space was broad distinction from the memberships of welfare state regime. Relatively Liberal countries showed closer tie

of 'active and legislative' type especially when the break point of activation approach in UK was interpreted as 'in' membership and that of legislation approach in US was interpreted as 'in' membership. The 'active and legislative' type has characteristics similar to the 'liberal regime', which has a low de-commodification level as the state guarantees a modest or minimum level of social benefits instead encourages the operation of market. Of course one clear thing is that 'purely legislative type' and 'purely active' types also can go close to the liberal regime as they show weak protective functioning, and as the membership of activation approach for UK and the membership of legislation approach for US could have been interpreted as 'out' membership in the hybrid types.

The other countries were grouped or clustered together in less predictable ways. Although Denmark, Norway and the Netherlands shared in common a strong focus on protective functioning and activation, the degree of legislative regulation was greater in 'protective, active and legislative' Denmark type than it was in 'protective and active' Norway and the Netherlands. Hence three social democratic countries showed different memberships in disability policy models. The Conservative regime countries dispersed into the different ideal types of disability policy. Germany displayed all strong membership of four attributes identical to Denmark, while France showed a weak membership in activation approach so belonged to 'protective and legislative' type or 'purely protective' type depending on the membership of legislative regulation approach. Korea and Japan also displayed different memberships in disability policy models, but the distance between them and the liberal regime was not huge. Hence the findings of this thesis show differences between welfare state regimes and add to persuasive power of the arguments put forward by Kasza (2002) on the necessity of individual policy analysis or a disaggregated approach to welfare states.

The impact of the legislative regulation attribute is worth noting here. Legislative regulation through the enactment of anti-discrimination legislation and ratification of the UN Convention on rights for disabled people (CRDP) made some distinction between countries. The social democratic countries including Denmark, Norway and the Netherlands could be clustered together as their protective and active functioning was same, but adding the legislative regulation attribute separated Denmark from Norway and the Netherlands. Conversely, Japan can be placed with the UK and US if this attribute is excluded. This is because Norway, the Netherlands and Japan showed 'out' membership of legislative regulation, whereas most other countries showed 'in' membership of this attribute. Of course, the break points could make 'out' membership in France, Italy and US. The spread of the ratification of CRPD may neutralise

the gap between the duration of anti-discrimination legislation. This is because the ratification of CRDP is relatively recent matter showing a little difference. However, it needs to be remembered that this thesis considered only the nominal value of legislative regulations by the duration after enactment or ratification. Considering the duration itself is valuable as the legislation process could reflect differences or similarities in social recognition and political perception. But equally, it is also true that the intrinsic value of legislative regulation can be gauged by examining its detailed contents such as the degree of mandatory provisions or penalty clauses, for example. Further studies along these lines are needed.

A second major finding was the six ideal types of disability policy when applying three attributes, excluding legislative regulation attribute and coalescing the protective benefit scheme and protective employment programme as the protective functioning dimension. Two ideal types were located at either end of a horizontal line connecting the protective and active functioning of disability policy: 'purely protective; and 'purely active'. The 'weak' type was located under the midpoint of the line, which showed 'out' membership in both protective and active dimension. The combination with the middle degree of protective functioning made two different types of 'protective oriented' and 'active oriented' type. The 'protective and active' type, which involved strong memberships in both protective functioning as well as activation approach, was located at the upper section of the horizontal line. The empirical cases matched with six ideal types: Denmark, Norway, the Netherlands and Germany corresponded to the 'protective and active' type; France to the 'purely protective' type; US and Japan to the 'purely active' type; Italy to the 'protective oriented' type; and Korea to the 'active oriented' type. As a hybrid type, the UK corresponded to the 'purely active' type and 'weak' type depending on the membership of activation approach. Note: the term 'oriented' indicates potential to shift rather than specific directionality. For instance, an 'active oriented' type can become either a 'purely active' or a 'protective and active' type, depending on whether the degree of protective functioning becomes weaker or stronger.

The distribution of the empirical cases on the property space was closer to their welfare state regime classifications than it was when analysing the countries in terms of the four attributes. Though conservative regime countries showed mixed grouping, social democratic and liberal regime countries maintained stable nexus. Japan and Korea did not display commonality as East-Asian regimes but revealed clear pro-liberal characteristics with weak protective functioning. Italy belonged to the protective oriented type revealing a pro-continental character rather than liberal or Scandinavian features. Social democratic and continental

countries strongly emphasised the protective functioning of disability policy, although the intensity of their activation approaches was different. On the other hand, liberal regime countries showed a clear tendency towards neglecting the protective functioning of disability policy and emphasising the activation approach despite of the ambiguity of UK. Here it should be noted that the development of workfare or the punitive activation approach has mainly occurred in English spoken countries.

To summarise, the disability policy models constructed in this thesis reveal differences within welfare state regimes. Social democratic countries and conservative countries showed mixed grouping, mainly depending on membership of the activation approach and legislative regulation attribute, whereas liberal states formed a relatively strong nexus despite of the ambiguity of activation and legislation approach in UK and US. Hence this thesis adds persuasive power to arguments for the necessity of a disaggregating approach to welfare state research or individual policy analysis, like as the questions about regime theory raised by Kaza (2002) who argues that regime theory is not comprehensive enough to grasp the complexity of welfare programmes.

Regarding typology of disability policy model, it needs to discuss the relevance to regime logic. Indeed findings of this research showed some distance between welfare state regime and disability policy model, hence it is able to confirm the limited explanatory power of the regime approach for individual policy. Therefore, it would appear reasonable to state that this thesis reveals distinction with the conceptual analysis by Waldschmidt (2009), who argues that the different institutional features of disability policy depend on the different welfare state regimes.

One notable thing is that liberal regime countries showed relatively strong fellowship in the empirical analysis despite of the ambiguity of UK. One possible explanation is that the common history of the advent of New Rights and New Lefts or the tradition of liberalism may function as shackles of their policy decision. This is also related to the concerns regarding the activation approach as a substitution for traditional protective functioning (Esping-Andersen et al., 2002) or the concerns about the trade-off between equity and efficiency (Davies, 2012; Hudson and Lowe, 2009; Roche, 2002). In contrast, some Scandinavian countries and Conservative countries such as Denmark, the Netherlands and Germany prioritise both protective functioning and activation approach according to the empirical analysis. In this context, it is noteworthy the productive welfare discussion, which involves the exclusive application of

productive and protective elements (Holliday, 2000), and the counter argument of combination of protective and productive features (Hudson and Kühner, 2009).

3. Over time change of disability policy

The welfare state has been changing in recent years and this has led to vigorous discussion on the nature of the changes. The previous chapter analysed the over time change of disability policy using three time points. The legislative regulation regarding disability rights is a relatively recent matter, so it is difficult to conduct past time analysis on this aspect of policy. Hence, this thesis employed only three attributes to compare overtime change: protective benefit scheme, protective employment programme and activation approach. Japan, for which empirical data was not accessible for 2000 and 1990, was not included in the over time change analysis. The distribution of empirical cases varied at different time points and there was no converging movement in a single direction.

In 1990 or the earliest available time, five ideal types could be discerned from the empirical cases and no country belonged to the 'protective and active' type. However, this had changed by 2000. Germany and the Netherlands had enhanced their protective functioning and activation approaches and had shifted to the 'protective and active' type, and were continuing to do so in 2010 or the last available time. Between 2000 and 2010, Denmark and Norway started to move towards the 'protective and active' type, while the UK and the US began moving in the same direction in 2010 by strengthening their activation approaches. Of course it should be remembered that the increasing of activation approach in UK was not enough to cross over the break point.

The shift from one type to another involves a qualitative change in emphasis, which can be also identified through an indices based methodology and cluster analysis. However, there is the possibility of quantitative change in the degree of membership within the same type. Quantitative change can be identified especially through the partial membership, namely detailed membership scores in the fuzzy set analysis. By virtue of the FSITA, it is possible to identify not just movement 'in' and 'out' of membership groups but also within 'in' or 'out' membership.

Italy was the only country which stayed in the same ideal types but the degree of its memberships was not static, rather they moved within the same type. In other words, Italy remained 'fully in' the protective benefit attribute, but the detail scores were changed. Though

the scores moved within under 0.5 or over 0.5, which is cross over point, there were changes. Of course it might be possible for Italy to make qualitative changes to different types when the scores go through the point of 0.5.

The other countries showed that both qualitative and quantitative changes occurred simultaneously. For instance, Korea shifted from a 'purely active' to an 'active oriented' type and at the same time its membership scores of protective benefit scheme and protective employment programme changed in different directions. It is feasible that Korea could shift towards the purely active type in the future, when the membership scores of protective employment decline to less than 0.5; but if Korea chose to enhance its protective benefit scheme thereby pushing its membership score over 0.5, it would shift towards the 'protective and active' type. The movements of hybrid types of France, Germany and UK could show different trajectories depending on the ambiguity of break points. However, the growing interest of employment policy in protective side as well as activation was similar to other countries.

A few words need to be said about the regime specific trajectory of the welfare states analysed. The findings of this thesis showed some distance between welfare state regimes and disability policy models in 2010. Moreover, the over time change of disability policy models showed discordance with model specific trajectory. Though the liberal regime countries showed relatively strong nexus over time, other countries revealed qualitative and quantitative changes showing different trajectories. The reason for this might be that the logic behind a specific regime does not cover all individual policies in the same way, or that different institutional settings are decided by different policy priorities across countries.

Though there was not clear convergence, the general trends in each of the attributes showed that: protective benefit schemes were weakened or maintained; whereas protective employment programmes and activation were strengthened or maintained between 1990 and 2010. This fact lends some support to contingent convergence arguments regarding a modification of policy goals and policy instruments (Eichhorst and Konle-Seidl, 2008; Hall 1993; Hemerijck and van Kersbergen, 1999; Morel et al., 2012; Serrano Pascual, 2007).

Moreover the time point of 2000 was evident as the change of scores made inflection points in some countries. As for the protective benefit attribute, UK made decrease in 2000 and then increase in 2010 whereas Germany made increase in 2000 whereas decrease in 2010. As for the protective employment attribute, Denmark, UK and US made increase in 2000 whereas

decrease in 2010. About the activation approach, Denmark and Germany firstly made increase in 2000 and then decrease in 2010. Though in some countries, the time point 2000 showed just as a midpoint of decrease trends – protective benefit in the Netherlands –, or increase trends – protective employment programmes in France and Norway, and activation approach in the Netherlands, Norway and US –, it contributed to changing direction in the trajectories of each attribute. With reminding the reason why this thesis emphasised the significance of the mid-1990s regarding employment-oriented policies, future studies can explain valid contingent convergence of disability policy change in individual countries when focusing the change before and after the time point of 2000 .

4. Policy lessons

This section discusses on policy lessons or policy implications, as policy makers could be able to extract some important policy implications from this study.

One of the strengths of FSITA is that it is able to show different combinations of attributes. The disaggregated analysis is capable of showing specific changes of institutional combinations: to catch not just the big changes but also a small change only in one attribute. This therefore allows policy makers to decide policy priorities bearing in mind that strengthening or weakening of one attribute can change the present institutional combinations. Policy makers can also get lessons from the features of other countries on the property space by comparing with separate outcomes such as poverty rate, employment rate or substantive satisfaction of disabled people. For the intermediate types such as those including ‘oriented’ term in their name, the policy implication is clearer. Due to its potential possibilities, a change of specific attribute membership is likely to cause a qualitative change to another type not just quantitative change.

For instance, it is feasible that Korea, which belonged to the ‘active and legislative oriented’ and ‘active oriented’ type in 2010 or last available time, will move towards the ‘purely active’ type or ‘protective and active’ type depending on whether it weakens or strengthens its protective functioning. Policy makers in Korea can consider the movement of Korea on the property space depending on the distance to neighbouring ideal types. In the property space of four attributes, Korea is located between Denmark and Germany of the ‘protective, active and legislative’ type and the UK and US of the ‘active and legislative’ type. The decision on

which attributes should be strengthened or how institutional combinations should be mixed, could be discussed by considering the current policy outcomes of Germany or the UK on issues such as the poverty rate or employment rate of disabled people.

When operationalising disability policy, this thesis chose four attributes from previous studies as they reflect the multidimensional characteristics of disability policy and the important tendency related to the welfare state change and the disability policy change. The four attributes implicate different characteristics as well as different priorities in disability policy area. The role played by the legislative regulation attribute is especially noteworthy. The underlying thrust of legislative regulation is equal rights for disabled people. Liberal countries focused on legislative regulation, and this may be related to the development of civil movements and disability movements in UK and US. Moreover, it accords with the analysis of Waldschmidt (2009) who notes the emphasis on civil rights in liberal countries. However, it needs to be remembered that the substantive efficacy of legislative regulation was not considered in this thesis. The thesis focused on relatively nominal value of legislative regulation rather than substantive analysing aspects of the law such as fine-clauses or compulsion. Hence, analysing the substantive features of legislative regulations would be one the tasks of future studies, as the intrinsic nature of rights has to be considered alongside enforceable structure and related resources (Plant, 1998).

While the legislative regulation attribute is invaluable for charting how social recognition of equal rights of disabled people has developed, the activation attribute is equally meaningful when it comes to measuring the degree of societal interest in promoting disabled participation in the labour market plus the accompanying stringent benefit eligibilities. Indeed, between 1990 and 2000 there appeared to be a general increase in activation policy, supporting arguments made for an activation tendency in the welfare state discussion. Most countries obtained higher scores on the activation approach attribute in 2010 than 1990. Only Denmark showed a slight decrease but maintained a high score over 0.5. The score of the Netherlands in particular changed dramatically from 0.23 to 0.70, which can be evaluated as an extreme case as there was also a rapid decrease in the protective benefit scheme score. Other countries such as Norway and the US also moved from under 0.5 to over 0.5. These changes also contributed to the distinction between different ideal types.

Though future studies for individual cases could show details of the change of policy priorities behind of the change of fuzzy scores in this thesis, the distribution of the empirical cases revealed different policy priorities across the 10 countries. The case of Germany is noticeable

as it reached the protective and active type with social democratic countries. Germany is also grouped with social democratic countries in OECD research (OECD, 2010). As a representative case of the conservative regime, Germany revealed different groupings to other conservative countries, focusing on activation approach as well as protective functioning of disability policy. Germany has propelled activation or work-first approach for disabled people but the noticeable thing is the sophisticated understanding of variations in work capabilities of individuals with scrutinising suitability for no-work, part-time or full-time work (Brussig and Knuth, 2013).

The Netherlands, which is classified as an anomalous case in welfare state discussions, is also a notable case. The findings of this thesis support previous studies arguing for the existence of a strong tendency towards the activation approach in the Netherlands. The thesis also identified strong memberships in both protective functioning and activation approach. Though protective employment programmes were strengthened, the radical increase in activation approach and rapid decrease in protective benefit scheme suggest a drastic activation turn. In other words, the Netherlands showed a clear tendency towards showing more interest in participation in the labour market and less interest in traditional protective functions. However, despite obtaining the highest scores on activation approach, the scores of the Netherlands on protective benefit and protective employment were still higher than those of any other countries including the UK and US. Hence the reform of the Netherlands' disability policy is not likely to be harsh on disabled people. Indeed, it has been noted several times that the Netherlands has enhanced the role of employers in accommodation or health support (Burkhauser et al., 2013; Lauwers and van der Wal, 2008; Oorschot and Abrahamson, 2003; van Berkel, 2013).

To conclude, policy makers could draw direct or indirect implications from this thesis. As for Denmark and Germany, three attributes of disability policy showed balanced development with strengthening protective employment programmes. Italy put priority on the protective benefit attribute rather than employment related policies including activation approach, whereas Korea, the UK and US showed the complete opposite priorities. If policy makers would like to find some directionality for future policy, they could investigate more the outcomes of disability policy or satisfaction of disabled people in comparable countries then could decide where put the priority on disability policy area.

5. Differences with previous studies

It is valuable to note that this thesis made some important differences to the previous studies. Table 23 is a re-arranged version of Table 2 in Chapter Four. In previous studies, Bolderson and Hvinden's (1994) conceptual framework of five ideal types of disability policy was applied empirically to Norway and the Netherlands by Van Oorschot (1998) and Dropping, Hvinden and Van Oorschot (2000); Waldschmidt (2009) suggested only conceptual analysis of the different features of disability policy in different welfare state regimes; and the OECD (2010) provided an empirical analysis of 27 countries based on the compensative and integrative features of disability policy.

However, this thesis has constructed conceptual ideal types of disability policy and also applied ideal types to empirical cases. The different ideal types can be explained as the different employment of conceptual attributes. Bolderson and Hvinden (1994) focused on policy assumptions such as choice, integration and incentive, whereas this research focused on the substantive functions of disability policy and the historical context including activation trends and equal rights initiatives. And as discussed above, the analysis based on the regime theory by Waldschmidt (2009) also generated different empirical evidence. The labour market integration dimension especially showed clear distances with empirical cases.

Regarding the results of the empirical analysis, two things need to be discussed: the different memberships suggested by the findings; and the direction of over time change. The results of the OECD (2010) study in particular yielded a different typology than the results of this thesis. But, the UK and US showed a similarly strong nexus. The pro-liberal features of Korea and Japan found by the OECD are also similar to this study. Furthermore, the placement of Germany in the social democratic group was broadly in line with our research in some respects. It is also worth noting the direction of over time change. The Netherlands and Norway have shifted towards an 'incentive-led' type since the 1990s (Dropping et al, 2000; Van Oorschot, 1998) which means that more political interest has been paid in both countries to work focused approaches as well as related issues such as tighter qualifying criteria, shorter provision duration and rehabilitation. The OECD (2010) study argued for a shift towards integration rather than compensation, that countries were emphasising labour market participation and weakening traditional protective functions. This thesis revealed more interest in protective employment programmes and activation, with relatively less interest in protective benefit schemes. Therefore, there appeared to be a common trend towards more

emphasis on labour market issues in disability policy, though the institutional combinations of protective functions and activation approaches showed variances across countries.

Table 23 Typology of disability policy and empirical analysis

Researcher	Typology	Analysis																														
Van Oorschot (1998)	Five ideal types from Bolderson & Hvinden (1994) * Based on five policy assumptions such as incentive, choice and integration, using conceptual analysis	Empirical analysis (one country) The Netherlands: 'choice-led' type -> 'incentive-led' type * the change happened especially since 1990s																														
Dropping, Hvinden and Van Oorschot (2000)	ditto	Empirical analysis (two countries) The Netherlands: 'choice-led' type -> 'incentive-led' type Norway: 'integration-led' and 'choice-led' type -> 'incentive-led' type * The change has happened mostly since the 1990s																														
Waldschmidt (2009)	Three *Based on the framework from Maschke (2004)	Conceptual analysis (describing the features of the representative three welfare regimes) <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Regime</th> <th>Social democratic</th> <th>Conservative</th> <th>Liberal</th> </tr> </thead> <tbody> <tr> <td>Social protection</td> <td>Maximum</td> <td>Medium</td> <td>Minimum</td> </tr> <tr> <td>Labour market integration</td> <td>Minimum*</td> <td>Maximum*</td> <td>Medium*</td> </tr> <tr> <td>Civil rights</td> <td>Medium</td> <td>Minimum*</td> <td>Maximum</td> </tr> </tbody> </table> * The marking of '*' shows differences to the findings of this thesis	Regime	Social democratic	Conservative	Liberal	Social protection	Maximum	Medium	Minimum	Labour market integration	Minimum*	Maximum*	Medium*	Civil rights	Medium	Minimum*	Maximum														
Regime	Social democratic	Conservative	Liberal																													
Social protection	Maximum	Medium	Minimum																													
Labour market integration	Minimum*	Maximum*	Medium*																													
Civil rights	Medium	Minimum*	Maximum																													
OECD (2010)	Three *Similar to the welfare state regimes, but each model has two or more additional sub-groups * Based on two dimensions of disability policy using cluster analysis	Empirical analysis (27 countries) <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tbody> <tr> <td>Social democratic</td> <td>Mostly Northern European countries</td> <td>A: DEN, NET, Switzerland* B: GER*, NOR, Finland, Sweden</td> </tr> <tr> <td>Conservative</td> <td>Mostly continental European countries</td> <td>A: Austria, Belgium, Hungary B: FRA, Greece, Luxembourg, Poland C: ITA*, Portugal, Spain, Ireland*, Czech Republic, Slovak Republic</td> </tr> <tr> <td>Liberal</td> <td>OECD Pacific and English-Speaking countries</td> <td>A: UK, New Zealand, Australia B: US, KOR*, JAP, Canada</td> </tr> </tbody> </table> * There was a big shift in policy orientation towards a more employment-oriented approach * The marking of '*' indicates different countries to the membership of typical welfare state regimes, and the membership of the disability policy models of this thesis.	Social democratic	Mostly Northern European countries	A: DEN, NET, Switzerland* B: GER*, NOR, Finland, Sweden	Conservative	Mostly continental European countries	A: Austria, Belgium, Hungary B: FRA, Greece, Luxembourg, Poland C: ITA*, Portugal, Spain, Ireland*, Czech Republic, Slovak Republic	Liberal	OECD Pacific and English-Speaking countries	A: UK, New Zealand, Australia B: US, KOR*, JAP, Canada																					
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Conservative	Mostly continental European countries	A: Austria, Belgium, Hungary B: FRA, Greece, Luxembourg, Poland C: ITA*, Portugal, Spain, Ireland*, Czech Republic, Slovak Republic																														
Liberal	OECD Pacific and English-Speaking countries	A: UK, New Zealand, Australia B: US, KOR*, JAP, Canada																														
This thesis	12 ideal types and 6 ideal types * Not all matching with empirical cases * Based on four comprehensive attributes of disability policy using FSITA	Conceptual analysis and empirical analysis (10 countries) <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th>Ideal types</th> <th>Empirical cases</th> </tr> </thead> <tbody> <tr> <td rowspan="6">Applying four attributes in 2010</td> <td>Protective, active and legislative</td> <td>DEN, GER</td> </tr> <tr> <td>Protective and active</td> <td>NOR, NET</td> </tr> <tr> <td>Protective and legislative</td> <td>FRA</td> </tr> <tr> <td>Active and legislative</td> <td>UK, US</td> </tr> <tr> <td>Active and legislative oriented</td> <td>KOR</td> </tr> <tr> <td>Legislative oriented</td> <td>ITA</td> </tr> <tr> <td rowspan="5">Applying three attributes in 2010</td> <td>Purely active</td> <td>JAP</td> </tr> <tr> <td>Protective and active</td> <td>DEN, GER, NOR, NET</td> </tr> <tr> <td>Purely protective</td> <td>FRA</td> </tr> <tr> <td>Protective oriented</td> <td>ITA</td> </tr> <tr> <td>Purely active</td> <td>UK, US</td> </tr> <tr> <td></td> <td>Active oriented</td> <td>KOR</td> </tr> </tbody> </table> * There have been changes such as increases in the protective employment and activation attributes.		Ideal types	Empirical cases	Applying four attributes in 2010	Protective, active and legislative	DEN, GER	Protective and active	NOR, NET	Protective and legislative	FRA	Active and legislative	UK, US	Active and legislative oriented	KOR	Legislative oriented	ITA	Applying three attributes in 2010	Purely active	JAP	Protective and active	DEN, GER, NOR, NET	Purely protective	FRA	Protective oriented	ITA	Purely active	UK, US		Active oriented	KOR
	Ideal types	Empirical cases																														
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* This table links to the discussion on previous studies in Chapter Four.

Chapter 7 Conclusion

1. Reflection on the thesis

There is growing concern about disability policy and disabled people as a group, especially those of working-age. The reasons for this include the ever-expanding number of disability beneficiaries as well as increasing expenditure on disabled people. International organisations note the necessity for an expansion of 'return-to-work' programmes for disabled people, to narrow the economic inactivity rate, which is also related to an aging society (ISSA, 2012; OECD, 2010). In line with convergence theories in discussions of the welfare state, the OECD (2010) argues that disability policy has moved towards focusing on integration characteristics rather than the compensation function. The integration aspect of disability policy involves labour market programmes while the compensation dimension relates to the benefit schemes of disability policy. But, despite the growing concern with activation and social investment, there is no strong evidence of a substantive increase in the employment rate of disabled people or improvement in their quality of life (OECD, 2010). An effective policy outcome in this area is a complicated problem requiring in-depth discussion. Here this thesis only notes a critique whether the analysis of causes and the treatment is adequate or not, which involves that the increase of disability beneficiaries is not just from individuals poor work incentives, but also from structural problems with the labour market such as limited availability of jobs due to economic restructuring and the destruction of traditional sectors of the economy, or from the expansion of disability from intensification of work and occupational hazards in service sectors (Baumberg, 2012; Lindsay and Houston, 2013).

The findings of this thesis partly agree with those of the OECD. During the period from 1990 to 2010 some countries shifted towards more emphasis on protective employment and activation, while others stayed within the same ideal type. Clearly the outcome of this study is different from the convergence argument, but it shows some tendency towards more emphasis on labour market programme, including protective and active institutions. Therefore it is possible to conclude that there appears to be growing interest in employment programmes in some countries, but the institutional combinations vary. Some counties have strengthened both protective functioning and activation, while other countries have merely strengthened their activation programmes. In this context, it is worth noting that the thesis has significance as transitional research towards more in-depth case studies, and suggests relevant policy

implications for policy makers. As being seen in the previous chapter, the distribution of disability policy models on the property space is able to show the aftermath of policy decisions on priorities. In other words, policy makers can predict the likely results of choosing to weaken or strengthen specific institutions by taking into consideration the developmental direction indicated by the property space.

2. Contribution to knowledge

This thesis can be differentiated from previous studies in several ways. The thesis analysed disability policy empirically using the typology method. Though typologising is a favoured method in welfare state study, there is not much research in the disability policy area based on typology analysis.

To comprehend the distinction with previous studies, the outcomes of the three studies of Bolderson and Hvinden (1994), Waldschmidt (2009) and the OECD (2003, 2010) should be considered. As being discussed above, these studies are valuable for their conceptual and empirical analyses of disability policy. The former two studies suggested the different institutional combinations of disability policy in different ideal types or in different welfare state regimes. The construction process of ideal types in this thesis is based on four different attributes of disability and their logical combinations. The roles of attributes of disability policy contributed to the explanation of different disability policy models, as well as the construction of disability policy models. But, in the research by Bolderson and Hvinden (1994) and Waldschmidt (2009) the role of attributes in disability policy was limited to explaining the different policy models and attributes were not used as analytical tools; the three attributes of 'benefits', 'services' and 'work' in Bolderson and Hvinden (1994); and the three attributes of 'social protection', 'labour market integration' and 'civil rights policy' in Waldschmidt (2009) were the end points of rather than basis for analysis. The empirical application of the framework developed by Bolderson and Hvinden (1994) is limited to the Netherlands and Norway (Van Oorschot, 1998; Dropping, Hvinden and Van Oorschot, 2000), and Waldschmidt (2009) did not suggest empirical cases.

The OECD (2010) classified the disability policy models of membership countries through cluster analysis. Although the OECD study contributed to our knowledge of the empirical realities of disability policy in different countries and how policies have changed over time, it

simplified the dimensions of disability policy into two aspects, compensative and integrative elements - a strategy which did not include enough of the historical context of disability policy. Furthermore, these two dimensions included some contradictory features within one dimension i.e. protective support and competitive pressure, while the methodology, cluster analysis, has some limits due to the averaging values.

This thesis extracted four different attributes of disability policy based on previous studies, reflecting the division between social policy and labour market policy in the disability area, as well as the tendency to emphasise (re)-participation in paid jobs, which has been achieved largely through punitive measures. Furthermore, the four attributes reflected the historical significance of disability movements in terms of promoting disabled people's rights. The features of the attributes are as follows: first, protective benefit scheme involves the degree of benefit level and duration, and the extent of expenditure; second, protective employment programme relates to supportive programme for participation in the labour market; third, activation approach involves labour market policy but focuses more on competitive measures through stringent interventions to control benefit receipt and mandatory participation in rehabilitation or training for work; and fourth, legislative regulation is operated at national level and supranational level as well.

The distinction of four attributes allows for the differentiation of supportive or protective measures, both in benefit provision scheme and employment policy, from punitive activation approaches. The term of activation is used in various ways. It can mean a comprehensive policy paradigm emphasising human capital value and social investment, but it can also be used for harsh benefit reform and encouraging work in a similar way to workfare. Therefore, the division of activation approaches combining change of benefit scheme and employment policy is able to highlight the role of the harsh side of the activation strategy. Furthermore, the distinction of protective employment programme allows for a practical approach based on the substantive functions of institutions. Protective employment aims to support the participation of disabled people in the labour market but is based on a different logic to the activation approach. Protective employment programmes depart from policies emphasising the right to work and acknowledge real differences in the workability of the disabled, while activation employment programmes depart from the duty to work and focus on encouraging workability (see Chapter Two). Therefore, this thesis contributes to revealing the various domains of disability policy through its analysis of four different attributes and specific priorities of different countries.

In order to achieve this, the thesis employs a newly spotlighted methodology, FSITA. The calibration process of fuzzy set analysis allows for greater control over the effects of extreme cases and the production of detailed membership scores contributes to deciding the exact degree of membership or belonging to specific attributes or types. This goes beyond the dichotomy of membership or not, so that analysis is able to aggregate the value of different attributes without losing crucial information.

To conclude, this thesis constructed ideal types of disability policy based on four comprehensive attributes reflecting historical context, and analysed over time change in empirical cases through fuzzy set ideal type analysis. The findings of this thesis added persuasive power to the argument for a disaggregated approach to individual policies, and questioned the argument that there has been a convergence of disability policy. The ten empirical cases showed different policy priorities and institutional combinations. Hence this thesis provides policy implications, especially for policy makers, who could use the findings to decide the future direction of policy based on the outcomes of neighbouring countries on the property space.

3. Next steps

Though this thesis makes some contributions academically, it lacks sufficient depth in terms of information on the empirical cases. The next step of this research project will be an in-depth case study of disability policy, in order to explain of the hidden side of multi-dimensional institutional composition. This could help to uncover some of the reasons behind the similarities and differences in the disability policies of different countries. One of the advantages of FSITA is that it allows for the translation of qualitative descriptions into quantitative membership scores, so that it is able to decide the degree of belonging to a specific attribute or type based on substantive and theoretical knowledge of cases. If more in-depth case studies are conducted, it should be possible to maximise the advantages of FSITA by including information on the substantive efficacy of legislative regulation, thereby adding to our store of knowledge of the historical and political context of specific policy decisions.

Appendix

A-1 The coding details of the OECD disability policy indicators

Dimension	Coding details (OECD, 2003, 2010)						
Protective benefit		<i>5 points</i>	<i>4 points</i>	<i>3 points</i>	<i>2 points</i>	<i>1 point</i>	<i>0 points</i>
	Maximum disability benefit payment level	<i>RR ≥ 75%, reasonable minimum</i>	<i>RR ≥ 75%, minimum not specified</i>	<i>75 > RR ≥ 50%, reasonable minimum</i>	<i>75 > RR ≥ 50%, minimum not specified</i>	<i>RR < 50%, reasonable minimum</i>	<i>RR < 50%, minimum not specified</i>
	Sickness benefit payment level	<i>RR = 100% also for long-term sickness absence</i>	<i>RR = 100% (short-term) ≥ 75% (long-term) sickness absence</i>	<i>RR ≥ 75% (short-term) ≥ 50% (long-term) sickness absence</i>	<i>75 > RR ≥ 50% for any type of sickness absence</i>	<i>RR ≥ 50% (short-term) < 50% (long-term) sickness absence</i>	<i>RR < 50% also for short-term sickness absence</i>
	Sickness benefit payment duration	<i>one year or more, short or no wage payment period</i>	<i>one year or more, significant wage payment period</i>	<i>six-twelve months, short or no wage payment period</i>	<i>six-twelve months, significant wage payment period</i>	<i>less than 6 months, short or no wage payment period</i>	<i>less than 6 months, significant wage payment period</i>
Protective employment		<i>5 points</i>	<i>4 points</i>	<i>3 points</i>	<i>2 points</i>	<i>1 point</i>	<i>0 points</i>
	Supported employment programmes	<i>strong programme, permanent option</i>	<i>strong programme, only time-limited</i>	<i>intermediary, also permanent</i>	<i>intermediary, only time-limited</i>	<i>very limited programme</i>	<i>not existent</i>
	Subsidised employment programmes	<i>strong and flexible programme, with a permanent option</i>	<i>strong and flexible programme, but time-limited</i>	<i>intermediary, either permanent or flexible</i>	<i>intermediary, neither permanent nor flexible</i>	<i>very limited programme</i>	<i>not existent</i>
	Sheltered employment programmes	<i>strong focus, with significant transition rates</i>	<i>strong focus, but largely permanent employment</i>	<i>intermediary focus, with some 'new' attempts</i>	<i>intermediary focus, 'traditional' programme</i>	<i>very limited programme</i>	<i>not existent</i>

Dimension	Coding details (OECD, 2003, 2010)						
Activation approach		<i>5 points</i>	<i>4 points</i>	<i>3 points</i>	<i>2 points</i>	<i>1 point</i>	<i>0 points</i>
	<i>Adjusted scores</i>	<i>0 points</i>	<i>1 points</i>	<i>2 points</i>	<i>3 points</i>	<i>4 points</i>	<i>5 points</i>
	<i>Permanence of benefit payments</i>	<i>strictly permanent</i>	<i>de facto permanent</i>	<i>self-reported review only</i>	<i>regulated review procedure</i>	<i>strictly temporary, unless fully (= 100%) disabled</i>	<i>strictly temporary in all cases</i>
	<i>Medical assessment criteria</i>	<i>treating doctor exclusively</i>	<i>treating doctor predominantly</i>	<i>insurance doctor predominantly</i>	<i>insurance doctor exclusively</i>	<i>team of experts in the insurance</i>	<i>insurance team and two-step procedure</i>
	<i>Vocational assessment criteria</i>	<i>strict own or usual occupation assessment</i>	<i>reference is made to one's previous earnings</i>	<i>own-occupation assessment for partial benefits</i>	<i>current labour market conditions are taken into account</i>	<i>all jobs available taken into account, leniently applied</i>	<i>all jobs available taken into account, strictly applied</i>
<p>* This thesis recoded the original OECD (2003,2010) scores to show the activation trend rather than compensation character.</p>							
		<i>5 points</i>	<i>4 points</i>	<i>3 points</i>	<i>2 points</i>	<i>1 point</i>	<i>0 points</i>
	<i>Comprehensiveness of vocational rehabilitation</i>	<i>compulsory rehabilitation with large spending</i>	<i>compulsory rehabilitation with low spending</i>	<i>intermediary view, relatively large spending</i>	<i>intermediary view, relatively low spending</i>	<i>voluntary rehabilitation with large spending</i>	<i>voluntary rehabilitation with low spending</i>
	<i>Work incentives for beneficiaries</i>	<i>permanent in-work benefit provided</i>	<i>benefit continued for a considerable (trial) period</i>	<i>income beyond pre-disability level allowed</i>	<i>income up to pre-disability level, also partial benefit</i>	<i>income up to pre-disability level, no partial benefit</i>	<i>some additional income allowed</i>
(OECD, 2003,2010)							

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