The Trends of Pension Reform Strategies in the OECD

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Abstract

This thesis analyses pension reform strategies since the 1990s across the OECD using a new approach. The thesis utilises existing data available in *Pensions at a Glance* and *ISSA Country Profiles* to construct a new dataset which allows us to explore pension reforms both comparatively and historically among OECD countries. Using fuzzy-set ideal type analysis (FSITA), this thesis constructs a new categorisation that captures trends towards the socialisation and individualisation of social risks for pension reforms across the OECD from the 1990s to the mid-2010s.

Based on contextual and empirical analysis, this thesis reveals the following findings. First, the fuzzy-set analysis reveals that *individualisation reforms* were the most dominant trend for the last 25 years. However, this was not the whole story. Both the socialisation of social risks and stability was observed. Secondly, deterministic path-dependence was not observed in pension reforms as reform strategies converged regardless of regimes or pension typologies. Lastly, the relationship between old-age poverty and pension reforms are identified. Building up on Bonoli and Shinkawa's (2005) findings, the study indicates that the poverty levels of older people could be one of the influential factors that shape pension reforms within the prevailing pressure of fiscal austerity.

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Declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, university. All sources are acknowledged as References.

Chapter 1 : Introduction

Contemporary welfare states are facing a considerable challenge in balancing sustainability and adequacy in welfare support. The current period is clearly distinct from previous eras of welfare, commonly known as 'the golden age' and 'retrenchment' of welfare states. From the end of the Second World War to the 1960s, most welfare states experienced dramatic expansion and developed social insurance programmes. National variations existed, but the period was generally characterised by encompassing welfare support against social risks. However, such a high commitment to social risks was replaced by the discourse of austerity in the 1970s and 1980s. With new social risks and political pressure, most welfare states emphasised the responsibility of individuals in managing social risks. Benefit cuts, tightening eligibility criteria, and a residual approach were a common practice of this time. These eras of 'the golden age' and 'retrenchment' were succeeded by attempts to prevent poverty and unemployment through the expansion of social investment measures since the 1990s.

As the social investment approach has swiftly spread, considerable policy shifts can be seen in many welfare states. These welfare reforms go beyond the single dichotomy of expansion or retrenchment. They are often comprised of multiple policies that have different – even contradictory at times – aims and effects in securing economic participation and high-paid jobs. Package deals, combined reforms, and political exchange and social pacts are important terms that explain the pattern of welfare reforms of the time (Häusermann, 2012: 116). In other words, welfare retrenchment and restructuring have been co-present in various policy

areas. In pension reforms, for example, retrenchment measures such as benefit cuts, raising the pension age and changes in indexation have been introduced, but other types of reforms such as restructuring pension systems also have been widely witnessed (Clasen, 2005: 93-94). Such complexity can be also detected through poverty data from the Luxembourg Income Study, LIS. From 1990 to 2010, those countries showing high poverty rates in the total population also show high poverty rates among older people, and vice versa. However, some interesting cases can also be observed. For instance, Greece has significantly decreased poverty among older people since 2000, despite the moderate change in poverty rates in the overall population. Hungary, Norway, and Poland demonstrate poverty alleviation in the older population whilst poverty rates increased in the overall population. Conversely, some countries like Switzerland show increasing poverty in older people despite of the overall decrease in poverty in the total population. From this data, we can expect a variation in government interventions in pensions. In fact, a wide range of poverty-reduction effects is observed in social security transfers across OECD countries, ranging from 99% to 13% in 2010. This implies that pensions play a very different role in different welfare states.

These changing dynamics of welfare states thus demand a new approach and new concepts in analysing the complexity of welfare state development. As Kvist (2007: 200) argues, changes in welfare states since the mid-1990s cannot be captured by a unilinear, one-dimensional conception. Therefore, the prevailing terms of 'welfare state expansion' and 'welfare state retrenchment' are not sufficient to capture this complexity. A focus solely on these concepts could result in a narrow and restrictive approach (Clasen, 2005: 94) which might demonstrate the 'big picture' of welfare reform but not the underlying dynamics of change. In this regard, this thesis utilises two alternative concepts in analysing pension

reforms in recent decades: the socialisation and the individualisation of risks. Both concepts are interwoven with the economic principles of Keynesianism and neo-liberalism (Beck, 2002; Esping-Andersen, 1994; Esping-Andersen, 1999; Pierson, 2006; Taylor-Gooby, 2009) and highlight respectively ties with T.H. Marshall's work on social rights and libertarian approaches that emphasise individualism. Taking into consideration that among the main functions of welfare states is the 'management of social risks', and that social policy represents the public management of social risks (Esping-Andersen, 1999: 36), these concepts might be useful in capturing the dynamics of welfare state reform.

Applying this analytical framework, this thesis is devoted to analysing the trend of pension reforms since the 1990s. There are several reasons for this choice. First, the period of time is an interesting era for comparative study as the socialisation and individualisation of risks co-existed in many policy areas. The available literature on welfare state reform since the 1990s tends to focus on the trend of the individualisation of risks to indicate and capture the changes from the previous phase of 'embedded liberalism' (Ruggie, 1982). In doing so, the socialisation of risks has received much less attention among contemporary researchers. Social investment is widely discussed, but it is often represented by activation policies that foster labour market participation. This thesis shows that the trend of the socialisation of risks in current welfare states is far more extensive than this contemporary approach acknowledges, and has relevance to a broader range of policy areas, including pensions. In this sense, this thesis fills a gap in the existing literature.

In addition, the dynamics of pension systems since the 1990s are not fully explored in much of the comparative welfare states literature. With increasing budgetary stress, pensions have

become a critical issue in most welfare states. Many of them adapted retrenchment measures transferring responsibility from the state to individuals from the 1970s, and this trend of individualisation has continued to this day. On the other hand, the growing needs of old-age protection have been gradually observed in many countries. Emerging new social risks and the concerns over poverty among the older population have formed the ground for socialisation reforms, despite continued fiscal austerity. In this circumstance, the social investment perspective since the 1990s recognises pension systems as a part of 'flexicurity' (Hinrichs & Jessoula, 2012: 4-5). This means that pensions function as a final safety net for those who are not fully active under the social investment perspective. In this respect, pensions are a traditional passive income protection, but also serve to facilitate social investment. Therefore, a view that considers pensions just as the opposite concept of social investment is too simplistic (Hemerijck, 2013; Kvist, 2014). Social investment is no substitute for social protection, but they do complement each other (Hemerijck, 2013: 137). Nevertheless, much of the existing literature (Kuitto, 2016; Lister, 2004; Nikolai, 2012) on the social investment perspective does not seem to reflect these multi-dimensional aspects of pensions. In this vein, this thesis argues that it is necessary to pay attention to the complicated dynamics of pensions. For these reasons, this thesis explores pension reform since the 1990s. The scope of analysis is OECD countries, maximising the coverage of comparison. The analysis is based on data from 1990 to 2015 in order to include the most current data.

In this regard, this thesis aims at answering the following research questions.

▪ What are the trends in pension reforms among OECD countries since the 1990s?

▪ How can we categorise the variety of pension reform strategies adopted across the OECD since the 1990s?

▪ How do pension reform strategies compare with existing welfare and pension typologies?

▪ How can we explain reform pathways found across OECD countries?

Data and methodology

Very few data sources provide detailed comparative and historical information about pension systems. The OECD published the series *Pensions at a Glance* which provides a categorised summary of pension reforms since the early 1990s. Also, *ISSA Country profiles* provides comprehensive information on social security systems around the world. Despite the various benefits, employing these datasets for comparative research is challenging, as the data is spread over multiple volumes and criteria are not identical. Therefore, this thesis generates new criteria mainly based on *Pensions at a Glance*, and then carefully reshapes the data into a single comparative form. The *ISSA Country profiles* are applied as a complementary resource; cross-checking with *Pensions at a Glance* minimises the risk of missing information and errors in classification. This thesis then reclassifies all the data according to the unified category for pension reforms. In doing so, seven categories of subtypes of reforms are identified: *coverage, adequacy, financial and fiscal sustainability, economic efficiency, administrative efficiency, diversification* and *security of investment.*

As a methodology, this thesis employs fuzzy-set ideal type analysis (FSITA). FSITA is a relatively recently developed methodology based on fuzzy-set theory. Fuzzy-set social science was first introduced by Zadeh (1965) and its horizons were broadened by Ragin (2000). It uses set-theoretic language to understand diverse and intertwined attributes of the social phenomenon. The fuzzy-set approach is 'fuzzy' in terms of its capacity to express

subtle differences in the subject. In contrast to crisp-set, it permits 'shades of grey' (fuzziness) beyond a simple dichotomy (Hudson & Kühner, 2009: 36; Ragin, 2000: 154). When considering that the real world is far from black and white, fuzzy-set theory can reflect the reality that we try to capture. FSITA became popular in comparative studies for the following numerous benefits (Hudson & Kühner, 2009; 2013; Kvist, 1999; 2007; Lee, 2011; 2013; Vis, 2007).

First, fuzzy-set analysis functions as a bridge between variable- and case-oriented studies. It sees cases within a holistic perspective in the manner of the case-oriented approach, without forsaking objectivity in diversity like the variable-oriented approach. In fuzzy-set analysis, researchers are able to reflect their substantive case knowledge in analysing data. The process of setting fuzzy-sets that generate ideal types, calibration, and interpretation is closely tied with theory. This is a significant advantage for this thesis. As addressed above, the main analysis of this thesis begins with generating comparative reform data based on substantive case knowledge. In addition, the fuzzy-set method is apt for comparative study with a limited set of cases. As Ragin (2000: 25) pointed out, a quantitative study requires more than 50 cases to identify generic patterns across observations. In a qualitative study, however, the number of cases is limited to one or two cases due to its in-depth focus. The fuzzy-set approach can overcome problems of measurement validity and precision, situating it as a reliable alternative for analysis that explores 10 to 30 cases (Kvist, 2007: 199; Ragin, 2000: 23-25). Considering the subject of this thesis is 34 OECD countries, fuzzy-set analysis is the most appropriate method to analyse them. Furthermore, FSITA takes a configurational approach in recognition of social phenomena that consist of multiple conceptually rooted attributes. Researchers group cases into a relatively small number of configurations of

attributes and recognise each of them as different 'kinds' of cases. In doing so, it is possible to understand types of cases as different configurations of attributes (Ragin, 2000: 66). This attribute of FSITA allows us to accurately grasp complicated dynamics in pension reforms. This thesis argues that the dynamics of current welfare states are more complex than in previous eras, and consequently are difficult to understand with a single-dimensional approach. In this regard, this thesis suggests two dimensions of welfare dynamics in welfare states: the socialisation and individualisation of risks. By employing FSITA, we can recognise them as configurations that consist within pension reforms. The biggest advantage of FSITA is that it enables us to reflect the multi-dimensional attributes of pension reforms within the analysis. In this regard, this thesis generates typologies for pension reforms using FSITA, to answer the research questions.

Thesis structure

This thesis is structured as follows. It consists of two parts: a contextual part and an empirical analysis part. The first part is comprised of three chapters. It aims at providing contextual information on pension reforms across OECD countries based on a literature review and data analysis. Chapter Two (Changing welfare states) analyses the general trend of welfare state development. It begins with concern about the prevailing terms, 'welfare expansion' and 'welfare retrenchment'. Neither of these terms fully captures the complexity of changing welfare states as they employ a single-dimensional approach. As an alternative, this thesis suggests two concepts: the socialisation of risks and the individualisation of risks. These are two distinct flows observed in the development of welfare states in managing social risks. This thesis finds that the trend of socialising risks rose from the concept of citizenship and formed the bedrock of post-war welfare states. However, new social risks and pressures have

emerged since the 1970s. Neo-liberalism, combined with individualism and the individualisation of risks, became the dominant trend of the time. The next significant transition is witnessed in the 1990s with the introduction of the social investment perspective. The trend of individualisation has continued, but at the same time, the socialisation of risks is re-emphasised. The chapter concludes by arguing that this final phase requires more attention, as relatively little literature has explored the co-present nature of these different trends. Pensions are an interesting topic to analyse in particular, because of their significance in welfare states.

Chapter Three (Welfare states and pension institutions in comparison) aims at summarising our existing knowledge on systematic comparisons of welfare states and pension systems. This thesis focuses on typologies for their economy of explanation. The chapter begins with exploring welfare regimes. Among others, Esping-Andersen's (1990) work is considered as a modern classic. This chapter devotes space to examining his typology and relevant issues that surround it, including alternative regimes such as the Mediterranean, Antipodean, and East Asian models. In addition to this, this chapter will also explore contemporary debates in comparative welfare research such as the discussion on the social investment approach. The chapter then moves on to existing pension typologies, delineating the benefits and downsides of each. As these typologies function as a 'snapshot', this thesis explores the mechanisms of pension reforms in order to understand pensions within the passing of time. Earlier studies on the outcome of pension changes are also addressed. Finally, based on the understandings developed in this chapter, the chapter argues that it is necessary to generate a new typology to analyse pension reforms. Considering the research questions, the typology for this thesis needs to contain dimensions that acknowledge the socialisation and

individualisation of risks in order to accurately capture welfare dynamics. Also, the typology should be able to reflect specific institutional changes in pension systems, covering as many OECD countries as possible.

Chapter Four (Poverty in older people and the welfare states) is the final contextual chapter of the thesis, computing poverty levels of welfare states since the 1990s. It aims at providing a 'big picture' of the role of pension systems in managing old-age risks. This chapter compares the economic situation of older people and the entire population using various poverty indicators. First, the process of measuring poverty and selecting indicators is addressed. What to measure, which level to set, and how to measure are important issues in accurately computing poverty levels. Secondly, the poverty trends of OECD countries since the 1990s are computed based on LIS microdata. Relative poverty rates, the poverty gap, and the squared poverty gap are provided. Then, this chapter demonstrates the relative poverty rates based on a decomposed income: factor income, income after social security transfers, and disposable income. It demonstrates a wide range of poverty-reduction effects in social security transfers across OECD countries. This implies that each OECD country employs income security systems very differently. Income security plays a vital role to combat poverty among the older population in some countries, whilst being reduced to only an 'assistant' role in others. Lastly, the old-age poverty level is compared to welfare regimes and pension typologies. This provides us with insights into the role of income security systems in relation to welfare regimes and pension institutions.

The second part of this thesis covers the empirical analysis of pension reform strategies. It also consists of three chapters. Chapter Five (Capturing pension reform strategies) demonstrates the process for generating the dataset for the principle analysis of this thesis. Employing existing data is not easy for this study, as it is necessary for the data to provide highly detailed information on institutional changes in pension systems. Considering the long period of time and the number of countries, only a few data sources are appropriate for this study. In this regard, the thesis extracts single criteria using the *Pensions at a glance* dataset from the OECD, and then carefully reshapes the existing data into a single comparative form. The *ISSA Country profiles* dataset is applied as a complementary resource. By doing so, this thesis generates a comparative dataset of pension reforms between 1990 and 2015 that covers 34 OECD countries. The chapter then goes on to provide a descriptive analysis of the data. First, an overview of all the measures of pension reform for the last 25 years is provided. The period is then divided into halves: 1990-2003 and 2004-2015. The overview of subtypes for *coverage, adequacy* and *security of investment* follows.

Chapter Six (Categorising pension reform strategies: using fuzzy-set analysis) provides the main analysis of this thesis. Using the data from Chapter Five, this thesis generates typologies of pension reforms in order to analyse the trend of pension reforms. To begin, the research method, fuzzy-set ideal type analysis, is delineated. Then, the main analysis on pension reform is divided into two sections. The first section analyses the socialisation and individualisation of old-age risks in pension reforms. On the basis of the two dimensions from Chapter Two, two fuzzy-sets are identified. This gives us a total of four ideal types of pension reforms. The second section is an analysis of the three dimensions of socialisation. Compared to the literature on the trend of individualisation, only a few researchers have paid

attention to the socialisation of old-age risks in pension reforms. To fill this gap in knowledge, this thesis sheds light on the trend of the socialisation of old-age risks. Three elements – *coverage*, *adequacy* and *security of investment* – are employed as three dimensions and render a total of eight ideal types.

Chapter Seven (Analysing pension reform strategies) introduces the findings from the results of the fuzzy-set ideal type analysis. Four findings are delineated: First, the result confirms that pension reforms from the 1990s onward are diverse configurations of the socialisation and the individualisation of risks. As argued in the first part of this thesis, four theoretical configurations of pension reforms are empirically observed. The results confirm some key findings in earlier literatures; for example, it empirically supports the claim that *individualisation reform* was the most dominant trend for the last 25 years. *Socialisation reform* was the least dominant trend but can still be considered noteworthy when considering the prevailing pressure for fiscal austerity across countries. Secondly, the results do not match with Esping-Andersen's (2004) welfare regimes, Finch et al.'s (2017) social investment typology, or Bonoli & Shinkawa's (2005) pension typology. Rather, reform strategies converged regardless of welfare models or pension typologies. This suggests that path-dependency was not observed. Also, the direction of pension reform was not consistent in most of the countries over the 25 years. This does not necessarily mean, however, that there was convergence in welfare models or pension institutions. As this thesis measures the input of pension reforms, a county's regime shift or a pension system's institutional change are not confirmed in this thesis. Thirdly, this thesis finds a relationship between old-age poverty and pension reforms. Countries with higher poverty rates in the older population in the early 1990s were more likely to socialise old-age risks in the following 25 years. Building

on Bonoli & Shinkawa's (2005) findings, this thesis suggests the poverty levels of older people as one of factors that explain pension reform in addition to population ageing and pension institutions. Lastly, the configuration of the three elements of socialisation – *coverage, adequacy* and *security of investment* – did not match with welfare regimes, pension typologies, or old-age poverty rates. Instead, in each country, the pension reform strategy reflects a pragmatic mix of reform strategies designed to address the specific old-age poverty risks that have developed in their system.

Part 1: Contextual analysis of pension reform strategies

Prior to an empirical analysis on the trends in pensions across the OECD, the first section of this thesis is devoted to delineating contextual information relevant to pension reform. It spans the history of welfare states, welfare regimes, pension typologies and poverty for the last 25 years. As Esping-Andersen (1990: 80) highlighted in his regime theory, specific areas of social policy and welfare states are not separated, but tightly linked with each other. This means that pension systems do not exist in insolation but have developed under the influence of welfare regimes. Thus, pension reforms should be understood within the socio-economic context of welfare states. By taking a broader context, this thesis promotes a comprehensive analysis of the existing data on pension reforms in OECD countries. It allows us to accurately capture the trend of pension reforms and interpret the results, which are presented in Part Two of the thesis.

Part one is comprised of three chapters. Chapter Two begins with examining changing welfare states. It aims at exploring new concepts that effectively reflect the welfare dynamics of contemporary welfare states. As the management of social risks is one of the main functions of welfare states (Esping-Andersen, 1999: 36), Chapter Two begins with an examination of the concept of social risks. Based on Esping-Andersen's (1999) framework, the definition of social risks, the various types of social risks, particular risk groups, and the responsible subjects for managing social risks are delineated. Chapter Two then offers a brief history of post-war welfare states. Following Hemerijck (2013) and Garland (2016), this thesis classifies the post-war period into three eras: from the end of the Second World War

to the 1960s (first phase), the 1970s and the 1980s (second phase), and the 1990s onward (third phase). Whilst no single welfare state's development perfectly matches with this periodisation (Hemerijck, 2013: 118) it functions as an analytical framework for the following chapters. By closely examining these periods with an emphasis on social risks, the thesis highlights two concepts that reflect how social risks are managed; the socialisation and the individualisation of risks. Using these concepts, we reveal that the third phase is an interesting time for a comparative study, as the socialisation and the individualisation of risks co-exist in many policy areas. In this vein, Chapter Two highlights the importance of a multi-dimensional approach to analysing pension reforms from the 1990s onward.

Chapter Three is another contextual chapter that explores systematic comparisons of welfare states and pension systems. It pays attention to typologies as they are able to reflect the multi-dimensional characteristics of subjects, providing an economy of explanation at the same time. Based on literature reviews, we first explore Esping-Andersen's (1990) welfare regimes. As addressed above, this helps us to understand pension reform within a broader context. Chapter Three then moves on to pension typologies. It critically examines these typologies for the analysis of pension systems, beginning with the classical dichotomy of Beveridgean and Bismarckian pension systems that emphasise funding and coverage levels, before reviewing later works that developed from this dichotomy. This chapter also allocates space for the underlying mechanisms of pension reforms. This complements our understanding of pension reforms, as the earlier typologies focused on capturing institutional designs of pension as a 'snap shot'. In doing so, we reach the conclusion that existing typologies do not sufficiently fit the aims of this thesis, which attempt to capture the more

refined details of reform within a more complex social reality of pension systems. These reflections lead us into generating new pension typologies in Part Two.

The final chapter of Part One is devoted to exploring poverty across the OECD. Firstly, it aims at providing contextual information about the economic situation of older people. Taking into consideration that among the main functions of welfare states is the alleviation of poverty, this is a necessary step before undertaking empirical analysis. Furthermore, pensions are the bedrock of post-war welfare states. Very few countries can afford to neglect the need for old-age security through pensions. In this sense, exploring poverty levels among older people for the last 25 years over OECD countries provides us with an insight into the pension system in each country. Instead of referring to the poverty figures released by international organisations, we compute poverty levels of OECD members using the LIS microdata. LIS microdata allows us to get a more tailored picture for this thesis as we demonstrate relative poverty rates based on multiple indicators. Poverty rates are then computed using decomposed incomes. This makes it possible to compare poverty rates before and after social security transfers. It reveals that each OECD member employs an income security system very differently in terms of reducing poverty in the older generation. Lastly, by comparing poverty levels with welfare regimes and pension typologies from the previous chapter, Chapter Four demonstrates a more nuanced understanding of the role of pension systems across countries.

Chapter 2 : Changing Welfare States

'Changing welfare states' have attracted extensive research in comparative studies for over half of a century. Since the dramatic expansion of welfare states after the Second World War, impressive numbers of researchers have analysed their economic contexts, social configurations and institutions that explain the welfare expansion. The focus of research has shifted since then, as welfare states have faced completely different contexts of change. Following massive socio-economic changes since the 1970s, many mature welfare states seemed to turn away from welfare expansion to welfare austerity (Clasen & Siegel, 2007: 3-4). In this period of time, the retrenchment of welfare states was one of the most popular topics in welfare literatures (OECD, 1981; 1985). The situation changed again in the 1990s, when a social investment perspective was introduced and gradually developed as an alternative approach against old and new social risks in many welfare states. The starting point of this new phase is far from self-evident, but several researchers see the 1990s as the beginning of new era (Esping-Andersen, 2002; Garland, 2016; Hemerijck, 2013; Jenson, 2012; Lister, 2004). One of the distinguishing features of this phase is the complexity of welfare dynamics. It is welfare reform that goes beyond simple expansion or retrenchment. Policy makers increasingly attempt to satisfy both issues at the same time. They reorganise welfare programmes to reduce the financial burden, while strengthening social protection against old and new social risks, through multi-dimensional reform packages (Bonoli & Natali, 2012: 12). Political exchange and social pacts are a common practice to pursue reforms (Häusermann, 2012: 116). These changing dynamics of welfare states require a new approach to their analysis; a multi-dimensional approach. We need to examine "the combined reforms" (Häusermann, 2012: 116) as changes in welfare states since the 1990s

cannot be captured by a unilinear, one-dimensional conception (Kvist, 2007: 200). In this vein, the prevailing terms of 'welfare state expansion' and 'welfare state retrenchment' might not be good enough here. These approaches aimed to capture the dominant trajectory of welfare state development by highlighting expansion and retrenchment – with few studies highlighting that the trajectory comprises elements of both. Shifting attention from welfare states to a specific policy area verifies this complexity further. In pension systems, for example, neither of the terms is able to accurately reflect the recent changes, as pension reforms for the last twenty-five years include both aspects of retrenchment and expansion at the same time. The rising pension age and benefit cuts can be seen as retrenchment, but many countries extended pension credits for certain groups of people and protection for those on low-incomes at the same time. But then the question becomes whether the concepts of 'expansion' and 'retrenchment' can accurately capture the changes taking place in welfare states. As these indicators are of a narrow and restrictive nature (Clasen, 2005: 94), they might demonstrate the big picture of the status of changed welfare states, but not the underlying dynamics.

This thesis consequently pays attention to alternative concepts: the *socialisation and the individualisation of risks.* They are two distinct trends observed in the development of welfare states in managing social risks. The *socialisation of risks* ties with T.H. Marshall's (1992) social rights of citizenship and the *individualisation of risks* is embedded in the individualism formed in modern society. They are also interwoven with the economic thoughts of the time, such as Keynesianism and neo-liberalism (Beck & Beck-Gernsheim, 2002; Esping-Andersen, 1994; 1999; Pierson, 2006; Taylor-Gooby, 2009). This chapter will trace the two trends in welfare reforms with an emphasis on social risks. It is common to divide the post-war period into two: the golden age of welfare states (from the post-war period to the 1960s) and the period of fiscal austerity and retrenchment (from the

1970s to now). This chapter, however, will follow an alternative periodisation suggested by Hemerijck (2013) and Garland (2016) to highlight the trends of socialisation and individualisation. They suggest three distinctive periods of welfare states. The first is from the end of the Second World War to the 1960s, the period when socialisation is established as the core of post-war welfare states. The second phase is from the 1970s to the 1980s, when the trend of individualisation emerged. The third phase is from the 1990s to now, characterised by the spread of individualisation and re-emerging socialisation. As Hemerijck (2013) noted, no single country's experiences completely match with the periodisation. This is particularly true among the latecomers, such as East Asian countries, as they have different timeline of development (Kim et al., 2010). Nevertheless, their overall trajectories are not completely divorced from those of other welfare states. In this regard, the periodisation functions as a frame that demonstrates the overview of development, providing an insight for the following research design.

2.1 Social risks and welfare states

The main function of welfare states is the 'management of social risks', and in the same context, social policy is public management of social risks (Esping-Andersen, 1999: 36). The management of social risks is intrinsically tied up with the way welfare states distribute resources; to whom, by what means, for what aims, etc. (Esping-Andersen, 1999: 32-33). Therefore, it might be appropriate to take a close look at social risks before examining the three phases of welfare states.

Social risks are the universal risks that most people face during the life course, such old age, sickness, disability, unemployment. They are individuals' risks but become 'social' when welfare states recognise them as warranting public consideration. The underlying idea here

is that these risks are generally beyond the control of individuals, and have collective impacts on society (Esping-Andersen, 1999: 37). It legitimates government intervention into the realm of individuals for the greater good. In order to fully understand the concept of social risk, three things need to be addressed: its flexibility, the multiple actors within its management, and its sociological regularity.

First, the recognised territory of social risk is not a fixed concept; it changes across time. The need for protection against social risks also varies depending on the period of time. For example, in the 19th century Europe consisted mainly of rural societies. Sickness and disability were risks similar to industrial societies, but old-age and unemployment were not dominant risks of the time. The social risks throughout the 20th century have also been changed. Major social risks in the golden age were the interruption of income caused by retirement, unemployment, sickness, or disability. New social risks, however, have emerged with rapid changes in labour markets, family structures, and increased longevity (Taylor-Gooby, 2004b: 2-3). Another factor which influences the concept of social risks is the capacity of the society to deal with them. For example, due to the lack of infrastructure, most risks were not considered as social risks until the 19th century. Instead of the state, families pooled resources across generations to deal with risk (Esping-Andersen, 1999: 37). According to Wilensky (1974, as cited in Esping-Andersen, 1999: 33), the modern welfare state would not have existed if not for the development of public administration, statistical bookkeeping, and taxation.

Secondly, the management of social risks involves multiple actors. Esping-Andersen (1999) explains three sources that manage risk in welfare states: the state, markets, and family.

Social risks are “internalised in the family, allocated to the market, or absorbed by the welfare state” (Esping-Andersen, 1999: 40). They have different principles of risk management: the state allocates resources by the principle of authoritative redistribution; the markets distribute resources by monetary transactions; the family manages social risks based on reciprocity (Esping-Andersen, 1999: 35-36).The different expectations from the welfare triad led to different responses against social risks. For example, in some countries market-driven social protection is predominant whilst the state takes a residual approach. In other countries, the state provides comprehensive protection against social risk, constraining the role of markets. Also, the role of family could be emphasised as a primary welfare provider in some countries whilst social policies play an active role for de-familisation in others. In short, countries show various responses to social risks, even if the risks are similar. One might find dominant constellations of collective responses against social risks; welfare regimes. The various welfare regimes and their attributes will be addressed in detail in Chapter Three.

Lastly and most importantly, social risks must be understood within their social and economic contexts because of sociological regularity in social risks (Esping-Andersen, 1999: 40). The chances of facing social risks are not completely random. Social risks are highly stratified in their nature (Cantillon, 2011: 445); certain groups of individuals and certain points of the life course are more vulnerable to risk than others. As risk is not equally distributed among all citizens and throughout the life course, the management of those risks requires different logics and reasoning depending on their features. As a consequence, we can see the welfare triad plays different roles for different social risks. It is particularly clear when the role of the state is considered. For example, people may not welcome government

intervention based on general taxation when the social risks are not everyone's problem. In such situations, the different levels of solidarity of society would delineate the territory for each welfare triad to deal with the social risks.

In consideration of these factors, Esping-Andersen (1999) classified social risks into three different types: *class risks*, *life-course risks*, and *intergenerational risks*. First, *class risks* are social risks unevenly distributed across social strata. This reflects the fact that social risks are likely to occur in particular groups of citizens. Traditional high-risk strata may include labourers of hazardous work (e.g. mining), unskilled people, and lone-parent households. They are more at risk than others in terms of occupational injury, unemployment, in-work poverty, and social exclusion. For these high-risk strata, it is the state that plays a significant role. Markets are reluctant to provide protection to them because of the high risk and low returns, and families often do not have the capacity to provide protection as other family members often share a similar risk profile. Second, *life-course risks* are unequally distributed social risks across the life course. For example, it is a well-known fact that children and the elderly are particularly exposed to poverty. The risks are due to the mismatch of age-specific needs and earnings. In general, families with young children and the elderly have costly needs but earn less than other working generations. It is the family that traditionally provides protection towards those two life-course risks based on the intergenerational contract: the young care for the elderly in exchange for a transfer of wealth. Markets are able to manage social risks for the elderly but not for children. This is because most market provisions are fitted to the 'prime age' working generation, as they have surplus resources that enables them to join long-term contracts for private pensions or life insurance. The state also has covered life-course risks through traditional welfare programmes such as old-age pensions

and family benefits. As with other social risks, the risk groups of the life-course risks changes across time. It has been spread over the life-course with emerging new social risks. Lastly, *intergenerational risks* refer to the inherited social risks across generations. Social origin has a considerable impact on educational achievement and consequently occupational attainment. It indicates that some risks are primarily reproduced within families, and reinforced by markets, with poverty inherited from generation to generation. As family and markets are involved in producing the intergenerational risks, only the state is able to break the chain of risk transmission. Esping-Andersen (1999) pointed out that the role of the state to deal with this problem is more than social protection and income security based on the principle of equality. They are suited for class risks and life-course risks, but more explicit commitment to egalitarianism is required for intergenerational risks: e.g. equal opportunity policies. It can be interpreted as 'equity' achieved by universal and compulsory education. Or, if we take it as a broader concept, it would include new affirmative action programmes targeted to socially disadvantaged groups (e.g. 'Sure Start' in the UK) or public services to improve structural reproduction of inequalities (Esping-Andersen, 1999, pp. 40-43).

The three types of social risks classified by Esping-Andersen can be a useful framework for the analysis of welfare states. They have some drawbacks as many typologies do; they may not be mutually exclusive – e.g. lone-parent households can be classified in all three – and the definitions remain ambiguous about 'uneven distribution' and the 'inheritance' of social risks. It is meaningful, however, in terms of two things. For one, it shows the fact that social risks have various combinations of actors. At a glance, some might think social risks always involve all of the welfare triad. As we have seen above, it may not be true in dealing with class risks and intergenerational risks. Markets and the family may take some roles, but it is

the government which plays a dominant role to diminish those problems. In addition, the classification allows us to trace changes of dominant social risks in the time and the changes in managing actors. For example, the life-course risks for the elderly received attention at the early stages of the welfare state developments. Old-age pensions were introduced in many European countries before the First World War. Intergenerational risks, on the contrary, have been noticed more recently and social policies such as activation programmes have been adopted since 1990s. When considering those advantages, the decomposed notion of 'social risks' would be useful to highlight different features over time. In this context, this chapter will bring out the concept of three social risks to compare the dynamics of socialisation and individualisation during the three phases. The summary of the three types of social risks is in Table 2.1 below.

Table 2.1: Three types of social risks

Type	**Definition**	**Risk group**	**Management**
Class risks	Unevenly distributed social risks across social strata	High-risk strata e.g. hazardous workers, unskilled, lone parents, etc.	State
Life-course risks	Unequally distributed social risks across the life course	Children, the elderly, etc.	State Markets (only for the elderly) Family
Intergenerational risks	Inherited social risks across generations	Children of less privileged families e.g. children of low-income families	State

Source: Author based on Esping-Andersen (1999: 40-43).

2.2 Socialisation as the core of the post-war welfare state: The end of the Second World War to the 1960s

The highly encompassing welfare states were developed after the end of the Second World War in the developed capitalistic world. The prosperous welfare states were maintained for more than 20 years. Social insurance systems had already been introduced at an earlier stage throughout the developed capitalist world; health care, old-age pensions, compensation schemes for industrial accident, unemployment benefits, and family allowances had existed since before the post-war welfare state. The countries' commitment to the social risks, however, considerably varied in terms of social spending and funding criteria (Pierson, 2006: 110-112). Meanwhile, the general expansion in welfare provision occurred during the 'golden age' after the Second World War. Social insurance programmes were rapidly expanded to cover most of the population. For instance, only a half of the labour force in Western Europe was covered by accident, sickness, invalidity and old-age insurance, and merely a fifth of the labour force for unemployment insurance in the early 1930s. Coverage was significantly expanded by 1975; more than 90% of the labour force were covered for old-age, invalidity, and sickness insurance; 80% for accident insurance and 60% for unemployment insurance (Pierson, 2006: 131). Social services and subsidies for children, education and housing were also widely introduced. One point to note is the fact that social care was not the primary consideration of the time. As the family structure based on traditional gender roles provided most care services for children and the elderly, social care services remained a peripheral part of welfare expansion in most countries (Taylor-Gooby, 2004b: 3). The generosity and quality somewhat varied depending on the country, but it was a dominant trend in Europe to provide generous benefits. As a consequence, public

expenditure soared; it increased from 9.3% of GDP to 14.6% of GDP in major advanced countries in Europe between 1950 and 1970 (Flora, 1985: 19).

Multiple factors contributed to the expansion of the welfare states. Economically, Fordism became prevalent in the manufacturing systems. With the industrialised and standardised manufacturing process, mass production became available. It was then combined with Keynesian economic thought – capital investment to stimulate economic activity at levels securing full employment – and achieved unprecedented economic growth and price stabilisation, resulting in large and stable manufacturing sectors over the decades. The high economic growth and low level of unemployment were one of the key factors which enabled continuous government intervention in welfare programmes. As governments satisfied the opposing interests of capital and labour at the same time, a substantive commitment to welfare expansion was accepted by the societies (Pierson, 2006: 133). Also, politically, the working class and middle class were influential in their mobilisation. Wartime full employment enabled trade unions to effectively carry through society's welfare needs (Pierson, 2006: 132). Furthermore, the traditional family structure functioned as a reproductive sector by clearly divided gender roles; male breadwinners earned a family wage and housewives took care of dependent elderly relatives and children (Taylor-Gooby, 2004b: 1-2).

All of those economic, political and cultural backgrounds were a driving force behind the expansion of welfare states, but the most significant factor is arguably the expansion of citizenship. T.H. Marshall introduced the concept of citizenship through his famous essay "Citizenship and Social Class" in 1950. He divided citizenship into three parts: civil, political

and social rights. In fact, citizenship has been at the core of welfare states since their formation in the pre-war period. Pierson (2006: 112-113), in his explanation of the birth of the welfare state, argues that political rights of citizenship affected the introduction of social insurance in the pre-war welfare states. According to him, there is a correlation between the dates for the extension of suffrage and for the first social insurance in the developed countries. Countries that had achieved universal male suffrage earlier also had an earlier introduction of social insurance (Germany, France, Denmark, and New Zealand). New Zealand, which extended the suffrage to women in the very early stages of the movement, also adopted family allowance much earlier than any others. It is also observed that those which achieved suffrage in the early 20th century abolished the rules for disenfranchising benefit recipients during this period (UK, Norway, and Sweden). This implies that the development of political rights played a significant role in the formation of welfare states.

When it comes to the development of the post-war welfare states, it is the social rights that played a pivotal role. Marshall described social rights as "the whole range, from the right to a modicum of economic welfare and security to the right to share to the full in the social heritage and to live the life of a civilized being according to the standards prevailing in the society" (Marshall, 1992: 8). Historically, the concept of social rights was gradually developed. The early poverty studies of Booth and Rowntree and policies of the Royal Commission in the 19th century led to a change in approach towards both people in poverty and the solution to it. The Beveridge Report in 1942, the blueprint for post-war social security, was widely supported by citizens for the comprehensive state-run system of compulsory insurance (Baldock, 2012: 28-35). Social rights became the core idea of post-war welfare states. Marshall's social rights include two aspects: *socialising individuals' risks*

and *institutionalising state welfare*. First, *socialising individuals' risks* refers to externalising one's responsibility to protect one's self against social risks. Until the emergence of modern welfare states, individuals were solely responsible for social risks and state intervention was limited to residual and voluntary approaches. This was the social norm of the 19th century. Marshall's social rights, however, externalised those individuals' responsibility to the state by affirming citizen's rights to economic welfare and security. It is only a "modicum" of economic welfare and security "according to the standards prevailing in the society", which is far from a clear definition as Mishra (1977: 25-26) pointed out, but few can disagree that socialising individuals' risks is a defining feature of the era. It is in line with Esping-Andersen's writing that social protection introduced in the golden age was "firmly anchored in the explicit normative commitment of granting industrial and social rights" (Esping-Andersen, 1994: 712). He highlighted this aspect of social rights in relation to markets and the family through the concept of de-commodification and de-familisation. As social rights enable citizens to maintain a socially acceptable standard of living independent of pure market forces, it entails a de-commodification of individuals (Esping-Andersen, 1990: 3, 21). Also, as government intervention takes away social risks from the family, it strengthens de-familisation (Esping-Andersen, 1999: 45-46). In other words, social rights provided a firm ground for social protection in post-war welfare states by recognising the state's responsibility of *socialising individuals' risks*. Secondly, *institutionalising state welfare* refers to the granting of rights based on the status of citizens. Social rights are provided not through performance; they are inviolable status rights. State intervention before the war took a residual approach which mostly concentrated on the 'deserving poor'. The benefits were carefully designed to deter able-bodied persons (e.g. the principle of less eligibility).

Considering these facts, the 'institutionalising' of state welfare is a significant change which brought about the development of social protection. According to Marshall, it provided the new solidarity that modern societies require. It is "a direct sense of community membership based on loyalty of free men endowed with rights and protected by a common law" (Marshall, 1950 as cited in Mishra, 1977: 22). It is distinct from the traditional solidarity which is based on ascribed status (Mishra, 1977: 21-22). Social rights in citizenship delineated post-war welfare states, but it is a less stable concept compared to civil and political rights. As addressed above, the notion of social rights include unclear aspects. As "social rights do not tell us what their content at any time in a particular society would be" (Mishra, 1977: 26), it is inevitable that the scope and standards are affected by social changes. Also, social rights are concerned with the distribution of the social product, and there have been conflicts over distribution. Different understandings of social rights in the changing circumstances led to the transformation of welfare states in the late 20th and early 21st century.

After taking everything above into consideration, this thesis defines the socialisation of risks as institutionalised government intervention which socialises individuals' risks. In other words, it refers to the state actively absorbing social risks from individuals. It eventually results in de-commodification and de-familisation as those risks would have been internalised in the family or allocated to the market without state action. As addressed earlier, welfare provision was significantly expanded in the golden age. The period was marked by new and varied forms of government intervention (Pierson, 2006: 130). It is a distinctive trend of socialisation in this period of time; the general expansion in social insurance and services. If we look at the trend of socialisation with the frame of social risks (Table 2.1), it provides us with a more detailed view. First, the socialisation of the golden age was

concentrated on the life-course risks. The old-age pension was a major social insurance programme in most welfare states, and the coverage was fully expanded to cover the labour force during the period. Also, child benefits and universally systematised public education systems were introduced. Socialising risks for those two groups has been the typical government intervention in welfare states since then. The working family with care needs, however, was not the main concern of the time, as the post-war welfare states assumed male bread-winner families (Esping-Andersen, 1999: 41-42). Second, welfare states generally socialised class risks regardless of risk strata. The development of encompassing social insurance certainly alleviated class risks in general. It might be true that the high-risk strata benefited more from the expansion of the invalidity, sickness, and unemployment insurance than the low-risk strata, but they were not particularly targeted in the programmes. Lastly, the intergenerational risks received less attention in this era. The realisation of the consequences of unequal origins came after the period (Esping-Andersen, 1999: 43).

2.3 New pressures and new social risks

The favourable atmosphere for welfare states gradually changed. The developed countries in the world have faced internal and external challenges since the 1970s. First, there has been a shift of emphasis from manufacturing to service industries since the 1970s. The Fordism which sustained the golden age was not held any more for several reasons; its technical rigidity impeded efficiency as the production scale grew and the market began to require unique and customised products instead of mass production (Kim, 1996: 121-123). As a result, the massive employment in the service sector gradually replaced the manufacturing sector. This post-industrial transition is the natural consequence of successful economic

development (Pierson, 2001: 86), but the problem is the fact that service industries generally have limited productivity growth compared to manufacturing industries. Baumol (1967) highlighted that this is especially true for the labour-intensive service industries such as education, childcare, and health care (as cited in Pierson, 2001: 84). It eventually caused the slowdown in economic growth resulting in the stagnant growth of wages, and led to a decrease in welfare state revenues (Pierson, 2001; Taylor-Gooby, 2004b). Another problem of de-industrialisation is unemployment, particularly for low-skilled workers. Labour markets have become polarised; massive manufacturing jobs moved to developing countries and only high value-added industries and service sectors remained. As a result, jobs for semi-skilled and low-skilled workers have become scarce. They are often jobless or employed in precarious positions in a service sector (Garland, 2016: 118-121).

Secondly, demographic changes took place in most advanced countries. Low fertility rates and longevity resulted in ageing. In the OECD, the old dependency ratio (the age-population ratio of over 65 and 20) rose from 15.6% in 1960 to 19.5% in 1980 and continuously increased to 21.8% in 2010 (OECD.StatExtracts). This means the modern welfare societies have to shoulder double burdens: decreasing revenues and increasing welfare costs. The decreasing working population inevitably brings up shrinkage in tax revenue and contributions for welfare states. At the same time, the increasing elderly population creates fiscal pressure on the core programmes of modern welfare states (Pierson, 2001: 93-94; 2011: 7-9; Taylor-Gooby, 2004b: 2-3). For example, increasing life expectancy results in the longer receipt of pension benefits, which produce an additional increase in pension spending. In the UK, life expectancy was 48 years for men and 48 years for women whilst the pension age was 70 when the first public pension was implemented in 1907. When considering that

current life expectancies are 75 and 80 years in the UK, the rising concern of sustainability of public pension might be inevitable (Garland, 2016: 122).

Thirdly, family structure has changed. Dual earners in a household have become more common as women's labour participation rates rose. It is largely due to women's better access to education, but is also attributed to an economic reason; double earners are favoured to maintain a satisfactory family income as fewer men's wages can support a family (Taylor-Gooby, 2004b: 3). On the other hand, fragmented households are increasing. Single-parent households are increasing because of high divorce rates and out-of-wedlock births, and single households consisting of one elderly or an adult are also increasing. Welfare states have to face a new challenge as these new trends generate a mismatch between existing welfare programmes and reality (Pierson, 2001; 2011). Now welfare states need to externalise care services previously provided by the family and recalibrate traditional benefits based on the breadwinner model. In addition, welfare states need to provide further protection for fragmented households as they tend to be vulnerable to poverty.

Finally, globalisation is a major culprit in the suppression of welfare states. Globalisation has spread over the welfare states as technology has developed. Super-computers, electronic communications, advanced transportation and containerisation are all driving forces. In addition, a phenomena of the 1970s onwards, saw governments agree upon various regional trade agreements and economic integration. This introduced open markets to international trade with lower tariffs, deregulations, and free movement of goods, capital, and labour. In this circumstance, nation states now have much less capacity to intervene in a market. For the EU, for example, governments' capacity is limited to revenue rising, as the SGP requires

European member states to stay within the limits on government deficit (3% of GDP) and debt (60% of GDP). Furthermore, as high corporate tax rates and social expenditure might be 'punished' by international markets, nation states have difficulties in securing budgets to meet increased needs (Garland, 2016: 117-118). On the other hand, globalisation caused employment instability. Since the 1980s, corporate mergers and bankruptcy of international firms have led to massive layoffs, unstable incomes, and income inequality (Hirst, 1999; Song & Hong, 2006; Taylor-Gooby, 2004b). Meanwhile, some argue that globalisation is not a major reason for welfare austerity; governments blame globalisation for the difficulty in handling new emerging risks under budgetary stress (Pierson, 2001: 81). However, it is hardly deniable that globalisation has affected welfare states in terms of employment instability. Mishra (1999) also pointed out that globalisation causes unemployment through flexibilisation, downward pressure on wages, and deteriorating working conditions, eventually making welfare states spend more to meet those needs.

Much of the literature has focused on these new challenges in welfare states (Giuliano Bonoli, 2006; Pierson, 2011; Taylor-Gooby, 2004b). These new challenges have been named 'new social risks', which refer to social risks that individuals commonly face in their life course due to the socio-economic transition from an industrial society to a post-industrial society. Lacking adequate skills and knowledge in the labour sector, reconciling work and family life, and insufficient social provision are typical examples of emerging new social risks. Esping-Andersen's framework (Table 2.1) would be useful to highlight the further features of new social risks. First, when it comes to class risks, unskilled people and lone parents are newly added to the high-risk strata in the post-industrial society. They have been in the risky group since the post-war welfare states, but it drew less attention from society as they were

not profound problems. The number of lone parents was fewer due to the conservative attitude towards divorce and out-of-wedlock birth, and low-skilled workers still had a good chance to find steady, unionised job in the huge manufacturing industry (Garland, 2016). In current welfare states, however, both groups are much more vulnerable to social risks. The poverty rates in single parent households are particularly high because of the low household income and the lack of support for raising children. There is also a significant income gap between low-skilled and high-skilled individuals (especially in countries where market-driven forces are strong), and those lacking skills tend to be employed in the labour-intensive service sector with low wages, or fall into long-term unemployment. Secondly, the life-course risks have been spread over the entire lifetime. As addressed in the first section, children and the elderly are traditional risk groups as those periods of the life course have costly needs but fewer resources. In the post-industrial society, the risk is no longer limited to them as many prime-age workers have financial problems. Due to long-term unemployment, frequent in-and-out movement of the labour market, and the work-poor problem, an increasing number of the working generation is unlikely to have a stable income. It means the traditional generational contract might not properly function; those of working age might not be able to finance children and youth or the retired (Kvist, 2014: 135-137). It is directly linked to the third issue, the intergenerational risks. As social origin affects children's educational and occupational attainment, if their parents' poor economic status has set in, it might impede social mobility and inherit poverty over generations. The persistency of poverty in high-risk families is a new type of social risk observed in post-industrial welfare states. These new social risks have gradually emerged since the 1970s and have persistently impacted on welfare states up to the present day. Welfare states' responses to social risks have varied over time. Welfare states in the second phase were more inclined to rely on markets by reducing government intervention, whilst welfare states in the third

phase tried to adapt themselves to new social risks (Garland, 2016: 116). In the following two sections, we will take a look at the different responses to new social risks in the second and third phase of welfare states.

2.4 Emerging individualisation: 1970s – 1980s

Under the pressure of austerity, Keynesianism, the economic consensus of the golden age, showed its limited power to solve economic problems. The neoclassical approach, inspired by Hayek, took its place. Neo-liberals' main idea was favouring price stability, budgetary discipline, flexible labour markets, and retrenchment of welfare commitments. Neo-liberals believed government intervention produced ineffectiveness and inefficiency. They expected that competition in the free market would benefit all in two ways. It would improve economic efficiency in general, and more importantly, it would inspire people to bring out the best in them by stressing self-reliance, discipline, and individual responsibility. Therefore, government intervention should be minimised to facilitate the free market. Public services should run on the basis of business principles, resulting in them being contracted-out. For social security, means-testing for minimum support was implemented so as not to disturb work incentives (Hemerijck, 2013: 119, 126-128).

Neo-liberalism is certainly the dominant political ideology that delineates this period of time, but it might be unwise to clearly delineate the extent of its general impact on welfare states. According to Taylor-Gooby, most European countries showed the move towards greater liberalism in market institutions and left behind the Keynesian welfare state. The increase in the proportion of private services in the welfare mix was witnessed everywhere (Taylor-

Gooby, 2004a: 7-8). Taylor-Gooby concluded that EU policy-making accepted market freedom as essential for economic success, leaving room for possible government intervention for a social agenda in the future (2004a: 15). Esping-Andersen, however, argued that the neo-liberal idea did not succeed in dominating countries across the world. It was 'far too radical' even to the European right, and only limited countries embraced the idea: the UK, New Zealand, and the US (2002: 4). It is also in line with the continuous increase in spending on social protection in OECD countries by the 2000s. Hemerijck (2013: 133) argues that the neo-liberal attack on welfare states remained incomplete due to this fact. For the most frequently discussed issue, the resilience and retrenchment of welfare states, researchers also do not seem to reach an agreement. For example, Pierson (2011: 13-18) concludes that welfare programmes have been strikingly stable in the era of austerity based on the data of Scruggs (2007) and Korpi and Palme (2003), who contend that there was a significant rollback of welfare states. In short, "[a] judgement of what constitutes "major retrenchment" is in the eye of the beholder" (Pierson, 2011: 18). The difficulty surrounding its conceptualisation and the lack of empirical data make it far from a simple process.

Another major trend evidenced in this period of time is individualisation. This is the social-cultural process which is promoted by neo-liberalism (Dawson, 2012; Howard, 2007; Lazzarato, 2009). Neo-liberalism forms the most dominant discourse of individualisation, with it being the field of action of neo-liberalism (Dawson, 2012: 311-312). The trend of individualisation drew attention from scholars of various disciplines (Bauman, 2000; 2007; Beck & Beck-Gernsheim, 2002; Giddens, 1994). They attempt to theorise changes in social structure, family dynamics, fertility decisions, the politics of welfare states, and of course, the economy framed by neo-liberalism as addressed above. Based on the literature of

Bauman (2000; 2007) and Beck and Beck-Gernsheim (2002), Dawson (2012: 306) defines individualisation as "the way in which identity is transformed from a 'given' into a 'task' and that individuals are encouraged to take responsibility for this task". Individualisation is the spirit of the era. It should be seen as "designating a trend" of modern society (Beck & Beck-Gernsheim, 2002: 5). According to Garland (2016: 124-125), multiple factors contributed to this trend. It rose from the decades of peace and prosperity after the war as a counter reaction to the collectivist ethos. It was propelled by consumer capitalism and the neo-liberal economic school of thought. In addition to these influences, increased social differentiation weakened solidarity in societies; fragmented social classes, ethnic and religious diversity, and declining trade unions and political parties struck the welfare commitments of the golden age, which was premised on homogeneous needs. Garland (2016) argues that the trend of individualisation also stemmed from the development of welfare states. The encompassing welfare states in the golden age contributed to individuals' autonomy and choices through de-familisation and de-commodification. It is paradoxical, he says, that welfare states themselves are a powerful vehicle for the spread of individualism which contributed to the retreat of welfare redistribution.

The trend of neo-liberalism and individualisation led to the change in dealing with social risks: *individualising social risks*. This can be defined as "the shift towards an individualisation of responsibility for welfare outcomes" (Taylor-Gooby, 2009: 3). Social risks were in the realm of misfortune in the golden age, forming a ground for the government intervention. With the spread of individualisation, they have been transferred to the realm of self-responsibility. Considering *socialisation of risks* in the previous era, it is "a return to rugged individualism" of social protection seen before the creation of the post-war welfare

states (Esping-Andersen, 2002: 4). The individualism of modern society allows us more freedom than before; freedom from previously existing social forms such as class and social status, gender roles, family and neighbourhood. This freedom is, in fact, a 'precarious freedom' as Beck pointed out. "Your own life – your own failure" (Beck & Beck-Gernsheim, 2002: 24). As individuals are now free from the restrictions of the previous arrangements, all the responsibility to survive in modern society is being imposed on individuals' shoulders. As Beck & Beck-Gernsheim put it:

> "In the most public and the most private ways we are helplessly becoming high-wire dancers in the circus tent. And many of us fall. Not only in the West, but in the countries that have abruptly opened their doors to Western ways of life … The decisive feature of these modern regulations or guidelines is that, far more than earlier, individuals must, in part, supply them for themselves, import them into their biographies through their own actions" (Beck & Beck-Gernsheim, 2002: 2).

This process also results in stratification in the management of risks. Dawson (2000) explains the point of inequality in it using Bauman's literature. Risks are universally individualised to everyone, but there is only a limited group of people that have the resources to handle the risks effectively. As a result, some people are more likely to experience insecurity than others (Dawson, 2012: 307).

On the basis of self-responsibility, the most common type of welfare reforms in this period was simple cutbacks (Garland, 2016: 107-109). These took the form of reductions in benefits, the limiting of coverage, and tightening conditions. Targeting and residual approaches were widely applied. When it comes to class risks, individualism had a significant impact on the high-risk strata. This is because the cuts mostly targeted social assistance programmes rather

than pensions or healthcare, due to political acceptability. In order to reduce welfare dependency and to stress an individual's responsibility, social assistance programmes tightened eligibility conditions. They required single parents and the long-term unemployed to prove that they were actively seeking a paid job, attending job training, or receiving education. As a result, the high-risk strata became more vulnerable to extreme poverty and were forced to rely on private networks. Regarding the life-course risks, public pensions for the elderly was the biggest concern of this era due to the large expenditure. Based on neo-liberal thought, marketisation has been widely introduced in the public pension arena. To this end, contracting-out, the provision of tax incentives to join private pensions, and the reduction of the portion of public pension in the multi-tier system were introduced. In addition, various strategies for cutbacks – tightening the link between earnings and benefits, raising the pension age, introducing disadvantages for early-retirement, etc. – were widely applied to pension systems.

This distinctive flow of individualisation has resulted in the weakening of social rights. The shift towards individualisation through reforms succeeded in containing the level of welfare spending in exchange for the erosion of "the base of public support for inclusive state provision" (Taylor-Gooby, 2009: 3). Various benefits became a conditional right provided on the basis of an individual's appropriate conduct, rather than universally shared social rights (Lazzarato, 2009: 129). Ferge (1997) also argues that social rights are not considered real rights in this period of time. This especially affected poorer and less powerful groups resulting in the welfare cut in benefits. Meanwhile, civil and political rights in citizenship are emphasised instead, as they are "inexpensive" to pursue in a society. For example, minorities of the time – such as women, homosexuals, and the disabled – gained visibility

and a voice for civil and political rights in the period (Ferge, 1997: 26-28). In short, the social rights for the vulnerable seem to be damaged under the strong individualising trend, with the acknowledgement of civil and political rights gaining prominence. In addition, individualisation has made mobilisation for political movements increasingly difficult compared to the past (Beck & Beck-Gernsheim, 2002: 47-52). As more social risks are considered as individuals' responsibility, poverty is seen as a personal failure rather than a class experience. Consequently, it creates the images of two separated worlds – "us the taxpayers and them on benefits" – people pay less attention to inequality in a society (Sinfield, 2013: 220). The welfare consensus for Beveridge's 'good society' started to dissolve from the mid-1970s onwards. The collective responsibility for social risks and the enforced solidarity of the golden age was explicitly rejected in the individualised society (Ferge, 1997: 21-22).

Lastly, it might be appropriate to clarify the terminology to avoid confusion. This thesis has employed the 'individualisation of risks' as a term that refers to the shift towards an individualisation of responsibility for welfare outcomes. Many welfare literatures (Clarke, 2005; Ferge, 1997; Frericks, 2010; Frericks et al., 2007; Sinfield, 2013; Taylor-Gooby, 2009) have considered this trend, but they often used different terms which we dealt with in a similar context earlier. The most common term is the *individualisation of responsibility*. Taylor-Gooby (2009: 2-13) used this term to refer to the transition of welfare states under new social risks. Welfare states took the new approach to welfare which is "the shift towards an individualisation of responsibility for welfare outcomes" (Taylor-Gooby, 2009: 3). He sees individualisation as an outcome of the new social risks. As governments take a less commanding role, individualisation of responsibility begins to play a more significant role.

In a similar sense, Ferge (1997) employed 'individualised responsibility' for social reproduction, which is distinct from the collective responsibility of the welfare states in the 20th century. Sinfield (2013) addressed 'individualisation of unemployment' to describe the changing perspectives that transfers the risk of unemployment to individuals rather than society. Kelly (2001) also explained the youth-at-risk in the risk society using Beck's (2002) and Foucault's theories. Individualisation here refers to how the discourse of youth-at-risk seek to individualise the risks to the self. Other related terms are also found in the literature. Clarke (2005) used the term 'responsibilisation' to explain the process of New Labour's policy[1]. He used the term to emphasise citizens' responsibility to produce the conditions of their own independence in the neo-liberal discourse. According to him, the trend of 'responsibilisation' functions as "a smokescreen which the state is systematically divesting its responsibility" (Clarke, 2005: 453). In other words, it is the *individualisation of responsibility*, transferring state responsibility for social risks to individuals. On the other hand, Frericks (2007; 2010), who has analysed pension reform, used the term of 'individualisation' as self-responsibility in pension systems. The principle of neo-liberalism provides more individual choice for one's own future developments. It affected pension reforms through stronger individualisation of obligations and entitlements in public schemes. For example, derived rights, such as widow's pensions, are being cut or removed. DB pension has changed to DC, which links benefits much more strictly to one's contribution record. Benefits are calculated based on one's lifetime income rather than a few 'best' years. There are numerous examples of the *individualisation of responsibility* especially in the area of pensions, and they will be addressed in more detail in later chapters.

[1] Clarke (2005)'s research analysed New Labour's policy which is mainly focused on the third phase (1990s and onward). This paper introduced it here rather than in the next section, however, as the concept of 'responsibilisation' in Clarke's research is very close to 'individualisation of responsibility' which is embedded in neo-liberalism since 1970s.

2.5 The spread of individualisation and re-emerging socialisation: the 1990s – now

A new paradigm for welfare states has been observed since the 1990s. However, the third phase of reconfiguration in welfare states has a less clear starting point. The first and second phases of periodisation are associated with critical junctures. The Great Depression of the 1930s and the Second World War led to the new welfare consensus for 'good society' and created the golden age, the first phase of reconfiguration. Keynesianism was the ground theory for the encompassing welfare states, advocating substantive government interventions. The Great Stagflation of the 1970s is often considered the major cause that triggered the second phase of reconfiguration. The deep economic crisis raised questions around the effectiveness of a big government, and 'do-it-yourself welfare' based on neo-liberalism and individualism gained power. The government took a role of management of welfare pluralism, rather than management of social change using social policy (Ferge, 1997: 30). On the contrary to these two phases, the third phase is far from clear. It is associated with neither one unified body of economic thought nor an economic crisis (Hemerijck, 2013: 119). It is, however, a phase that is clearly distinct from the previous era. The 1980s were, according to Esping-Andersen, the period when "libertarians and neo-liberals spearheaded the call for a recast model", whilst the 1990s were "the arrival of a second ground formula for the post-industrial Good society" (Esping-Andersen, 2002: 17). Jenson (2012: 27-32) also states that welfare states since the mid-1990s should not be described as 'frozen' or under a period of 'permanent austerity'. Instead she argues that we are witnessing a new type of government intervention, and with a particular character of social investment. This is also in line with Hemerijck (2013) and Garland (2016)'s periodisation. They subdivided the post-golden age into two: the period since the oil shocks in the 1970s and the period since the

1990s. The social investment perspective is the most prevailing explanation for the third phase.

The social investment perspective emerged as an alternative way for welfare states to adapt to the changing needs of contemporary society. The neo-liberal paradigm in the previous phase tried to contain social expenditure by limiting government intervention. However, the market, which is expected to bring out the best in people, shows its limited capacity in facing new social risks without government intervention. It means the traditional social insurance mechanisms do not provide adequate protection for the present day. The system is still there, but the conditions for being recipients have become difficult to achieve because the system was not fit-for-purpose in modern society. In addition, the traditional programmes are less capable to deal with new demands, such as gender equality and the issue of reconciling work and family (Hemerijck, 2013: 135-136). In these circumstances, the social investment perspective was initiated by the UK in the 1990s and succeeded in catching the mood of the times (Esping-Andersen, 2002: 17). It swiftly spread across various countries. For example within the EU, two of the most important agreements that highlighted the need for a social investment approach were the Lisbon Strategy in 2000 and the Social Investment Package in 2013. International organisations also published reports such as the "Social Protection Strategy: From Safety Net to Springboard" (World Bank, 2001) and "Extending Opportunities: How Active Social Policy Can Benefit Us All" (OECD, 2005). According to Garland (2016: 128), social investment is now accepted as the official aim of welfare regimes everywhere. It is worth noting, however, that social investment has spread in different ways and at different paces. Depending on the welfare regime, the timing of the transition to post-industrial society and the level of economic performance, there are substantial national

variations. When it comes to the timing, Nordic countries adopted active labour market policies at an early stage (e.g. Sweden in the 1950s) whilst conservative countries such as Germany have stuck to the traditional breadwinner-oriented polices until recently. Compared to them, liberal countries including the UK have more actively embraced the social investment perspective with an emphasis on workfare programmes (Garland, 2016: 130-131). In East Asia, Korea, Japan and China have also introduced various activation policies since the 2000s (Kim et al., 2010). When considering the fact that they are 'latecomers' to welfare states and that the new social risks are relatively recent phenomena, their adoption of a social investment perspective implies its great influence over a wide range of countries. National variation is also observed in the preference of key dimensions of social investment. Welfare states share the principle idea of the social investment approach but when applying it to their policy arenas they usually concentrate on some dimensions more than others. For example, Nordic countries tend to emphasise human capital through constant learning. Liberal countries, however, focus more on orientation to the future through early education. Conservative countries attempt to enrich the entire community through an investment in individuals (Jenson, 2012: 29-32). Their social expenditure profiles also reflect these national variations (Nikolai, 2012: 97-105).

The main idea of the social investment perspective is future-focused discourse which provides a pragmatic response to new social risks (Lister, 2004: 157-158). It focuses on the redistribution of opportunity for social inclusion rather than income distribution for equality. It therefore emphasises an investment in human and social capital rather than passive income transfers. Social policy primarily plays an instrumental role to equip citizens to respond to social risks. It includes: continuing education; training and retraining; skills development;

work experience programmes; job search assistance; job creation schemes; the provision of public sector employment; and Earned Income Tax Credit (EITC) (Garland, 2016: 128). The social investment paradigm aims at integrating social and economic policy, but the latter holds a dominant position (Lister, 2004: 158). Social investment is, roughly speaking, an attempt to reconcile Keynesianism and neo-liberalism. It combines elements from each paradigm. One might think this kind of social investment thinking contradicts the idea of traditional social protection, but that would be a simplistic view. Certainly, their policy goals are different; the primary goal of social investment is labour market activation whilst social protection aims at providing protection outside of the labour market. In addition, the social investment perspective emphasises the shift from 'passive' social protection to 'proactive' investment in human capital (Lister, 2004: 157-158). However, a closer look at their relationship reveals that the social investment perspective complements rather than replaces traditional social protection. This is because they are interrelated through the labour market.

Pension systems provide a good example. One might think pensions are particularly far from social investment as they mainly cater to retirees who are less likely to be active in the labour market. Nevertheless, pensions have a high element of social investment as well as other social protection programmes (Kvist, 2014: 141) in two respects. First, a social investment strategy can contribute to securing old-age protection through pensions. In most countries, pension entitlement and benefit levels are decided by an individual's contribution record which is linked to their career profiles. A social investment approach can make an impact in this regard, as if more people are active in the labour market, the larger their contribution record is. This eventually leads to a higher level of pension benefit when they reach pension age. In social investment approach, all interventions in the life course are important,

including those in later life. For example, 'active ageing' is a catch phrase for social investment strategies that aim at activating older people. It refers to policies that delay retirement from the labour market and maintain an independent and healthy living (Kvist, 2014: 141). At a societal level, it contributes not only to general productivity but also the sustainability of pension systems, as it allows for the collection of more contributions whilst saving pension expenditure. At an individual level, it can increase the contribution records of individuals resulting in better old-age protection. It should be noted, however, that this kind of strategy – e.g. raising the pension age – does not necessarily mean the socialisation of old-age risks. On the contrary, it can be seen as the individualisation of risks in that it transfers the responsibility of protection to individuals. This thesis returns to this issue below.

Secondly, a social investment approach is linked to pensions through the concept of flexicurity. According to the EU's definition, flexicurity is an integrated strategy for enhancing, at the same time, flexibility and security in the labour market. Hinrichs and Jessoula (2012) argue that it has become a pivotal issue in public discourse in the EU countries with the rise of the social investment perspective. In general, flexicurity entails three factors. First, labour market flexibility is increased with decreased job protection and more atypical jobs. Second, high(er) levels of income security for the unemployed is arranged to compensate for the flexibility in the labour market. Lastly, activation policies promote employment and re-employment (Hinrichs & Jessoula, 2012: 4-5). In the social investment perspective, flexicurity gains legitimacy for several reasons. For one, welfare states need to provide a safety-net in case activation policies fail. Increasing flexibility in the labour market inevitably creates precarious and insecure positions. Activation policies are introduced to minimise those risks, but it might not work for some people. Welfare states

thus should prepare another measure for them (OECD, 2005: 7). In addition, flexicurity might contribute to further labour market flexibility. As it makes more flexible arrangements in employment feasible, it facilitates more atypical jobs, thereby more job creation (Garland, 2016: 128). In this circumstance, social protection facilitates active transitions in and out of work as people are more likely to take risks to equip themselves with new skills, which is favourable for a changing society (Kvist, 2014: 141). Moreover, social protection might function as the necessary condition for the effectiveness of social investment policies. For example, according to this thinking, the state needs to provide social protection to the long-term unemployed, because their poverty would negatively affect their children's development (Hemerijck, 2013: 137). Also, in the same context, strengthening old-age protection through pension reforms can be required. We will come back to this point in the below. In this respect, it is too simplistic to see social protection as the opposite concept of social investment. They are complementing rather than substituting each other. This relationship has been emphasised by many researchers (Esping-Andersen, 2002; Estevez-Abe et al., 2001; Hemerijck, 2013; Kuitto, 2016), saying "social investment is no substitute for social protection[2]" (Hemerijck, 2013: 137). It is also in line with OECD's stance on social investment; the proactive orientation of social policy does not imply neglecting traditional social protection, and existing commitments to pension benefits will be honoured (OECD, 2005: 1).

[2] Hemerijck (2013) uses 'social protection' for traditional social insurance and 'social promotion' for new types of protections under social investment. In his writing, the term 'social promotion' refers to various social policies including family, labour market, education, employment policies. However, they are, in fact, social protection in terms of the state protection against social risks. To avoid any confusion, this paper used 'social protection' elsewhere as a term for all kinds of state protection.

The welfare dynamics of this period involve aspects of both the socialisation and the individualisation of risks. Their attributes, however, might not be identical to those of the first and second phases. When it comes to the individualising risks, the trend in the third phase is in the continuum of the second phase. In general, it adopts the ways of neo-liberalism seen in the previous phase. Activation policies since the 1990s embraced the spirit of Do-It-Yourself in order to liberate the citizen from the state. Empowerment policies allowed citizens individualised choice. Individuals' responsibility towards their own condition are emphasised. More importantly, protections against market failures have been removed or reduced in order to make labour more flexible. Benefit systems have been redesigned to enhance work incentives. In short, individualisation has continuously spread from the 1990s onwards to make citizens into 'market ready' workers (Clarke, 2005: 448-453). In social protection, less government intervention has been encouraged for cost containment and increasing consumer choice over market products (Frericks, 2010: 720). In pensions, as addressed above, continued employment during older years of primed age has been promoted. Various strategies such as raising the pension age, disadvantaging early retirement, and increasing contribution years for full pensions have been widely introduced. This is in line with the general trend of individualising risks. They are, however, different from the neo-liberal approach in the 1970s and 1980s in two respects (Hemerijck, 2013: 140-141). First, the trend of individualisation since the 1990s does not "theoretically rule out the kind of social risks and market failures" (Hemerijck, 2013: 141) and allows government intervention to alleviate them. Second, whilst neo-liberalism only focuses on the public cost side of welfare states, individualisation under the social investment perspective does not agree with the trade-offs between economic growth and government intervention. On the contrary, the social investment paradigm believes in the positive effects of social policies on the economy.

On the other hand, the socialisation of risks has also gained attention. The expansion of welfare programmes can be seen in typical social investment areas such as education, family policy, and active labour market policies aimed at maximising human capital. In addition, expansions of traditional income security programmes can also be observed. This can be explained by flexicurity as addressed above. Socialising risks became more important in public pensions, for example, because increasing flexibility might cause incomplete entitlements for old-age pensions as well as lower benefit levels. It might lead to old-age poverty unless pension systems adapt to these new career profiles in the labour market (Hinrichs & Jessoula, 2012: 12-17). In this context, various measures to socialise old-age risks are observed in pension reforms over the last decades. For example, ensuring pension coverage through more than one pension scheme is a basic trend across countries (OECD, 2013: 20-21). All OECD members established multi-tier pension systems consisting of mandatory public pension scheme, mandatory or quasi-mandatory public / private occupational pension scheme, and voluntary private pension scheme. Then several measures are employed to increase participation rates in pension plans such as introducing automatic enrolment system, relaxing enrolment conditions for atypical workers, and providing tax privileges to encourage participation etc. One of the remarkable trends in pension reform is pension credit[3]. This is a policy that provides a publicly funded duration of insurance in his or her contributory record. It has been introduced for carers who take care of children, disabled, or relatives, the unemployed, students, or citizens who served mandatory military service. Some argue that this kind of reform is distinctive from social investment in terms of

[3] Pension credit here is a different to pension credit in the UK. The former is an element which gives credits to certain insured persons within the pension system, whilst the latter is a general public assistance programme of the UK.

"valuing tasks other than those related to the labour market" (Frericks, 2010: 734). This thesis argues, however, that pension credit could be seen as a means of flexicurity. It is a scheme for new risk groups in flexible labour markets. New risk groups are more likely to encounter an incomplete entitlement for their old-age pensions due to interrupted career profiles. In order to protect them against old-age poverty, pension credits are introduced by taking the concept of 'behaviour worth rewarding' (Frericks, 2010; Frericks, et al., 2008). By recognising socially valuable activities, it gained accountability to modify the actuarial principle of social insurance. This kind of view is also in line with Myles (2002). He argues that the pension credit is a "rationalisation of redistributive design" (Myles, 2002: 164). During the 1990s, cost reduction is the prevailing goal in many countries, but at the same time, "new interpersonal transfers for risk groups [are] now considered to have legitimate claims" (Myles, 2002: 164). He saw pension credit as a strategy to spread the cost for ageing by creating a separation between the contributory and solidaristic elements in pension systems. Including pension credits, various socialisation factors have been witnessed in pension reforms in the third phase. They may not be labelled 'social investment reform' at all times in the reforming process but in many cases, as addressed below, the underlying logic for socialising old-age risks through pension reforms is in line with the social investment concept of flexicurity. This thesis will examine the trend of the pension reforms of OECD countries in the following chapters.

The trend of socialising risks in this phase is one that is re-emerging after the golden age, but there is a clear change in its underlying logics. First of all, the 'aim' of social protection has been changed. The social investment perspective emphasised boosting human capital regarding socialising risks. It is even applicable to traditional income security systems based

on the concept of flexicurity as addressed above. Despite the wide range of reforms for cost reduction, it was not rare for socialisation factors to also be introduced with those retrenchments. The social investment perspective rationalised these attempts to improve social protection by targeting the 'deserving individual' (Myles, 2002: 164). Secondly, the underlying social rights for the socialisation of risks might not be identical. Social rights are still at the core of the re-emergence of the socialisation of risks from the 1990s onwards (Hemerijck, 2013: 138). The state responsibility for protection against social risks is emphasised as legitimated citizens' rights again after the golden age. The social rights in the third phase, however, are "not defined in terms of acquired status in a nation state, but as the possible contributions in a more open society" (Frericks, 2010: 735). In a similar context, Lister also pointed out that social investment in children is treating them as 'the future worker-citizen' rather than a 'democratic-citizen' (Lister, 2003: 433). Her argument mostly focused on children, but it would be applicable to all citizens. Under the social investment perspective, citizens tend to gain social protection not as a 'right bearer' but as a 'cipher for future economic prosperity' (Lister, 2003: 433). In short, similar to the first phase, the trend of the socialisation of risks has been observed in the third phase, but they are not identical in terms of their underlying logic. In the first phase, protection against risks was provided based on citizenship. Meanwhile, in the third phase, risks are socialised in expectation of boosting productivity, on the basis of potential utility to the society.

The specific differences in socialising risks between the first and third phase are as follows. First, regarding the class risks, the new paradigm focuses on the high-risk strata. It takes a targeting strategy rather than a universal approach: children, low-skilled adults, lone parents, carers, unemployed, and students. Targeting those citizens reflects the human capital

strategy. It is 'investment' for future workers who will bring a "future prosperous, cohesive, and inclusive society" (Lister, 2004: 157). Children are prioritised as the largest returns come from them. There are two aspects of its meaning; it is part of socialisation in terms of providing social protection toward citizens that need it. At the same time, however, it aims at cost containment – to use resources more efficiently and target those that need it more accurately (Taylor-Gooby, 2009: 13) – which is in line with the neo-liberal approach.

Secondly, it is spread over the life course as new social risks are not limited to children and the elderly anymore. It rests on the idea of the generational contract; those of working age finance children and the elderly; in return, children will finance the current working generation and their offspring in the future. Therefore, when the each generation does its best, utility will be maximised. The socialisation of risks in this period aims at making this happen by intervening in each stage of the life course. The welfare state introduces prenatal measures to secure a healthy development of the foetus, and child care services and parental leave to boost family investments in children. Study stipends and vocational training are provided to the youth. Unemployment benefits are provided to smooth the transition in and out of work for those of prime age (Kvist, 2014: 135-142). It is worth noting that the life-course risks are broadly covered by the state, but with targeting strategies; most of these protections tend to focus on less privileged families.

Lastly, intergenerational risks received attention from the state during this period of time. Based on human capital strategies, investment in children from less privileged families is regarded as a key measure to alleviate inequality in the future. The features of the

socialisation of risks in the first and third phases are summarised in Table 2.2 below using the previous frame for social risks (Table 2.1).

Table 2.2: The socialisation of risks in the first and third phases

Type	**Targets**	
	The first phase	**The third phase**
Class risks	All strata	High-risk strata e.g. children, low-skilled, lone-parents, carers, unemployed, students, etc.
Life-course risks	Children and the elderly	Whole life-course e.g. foetuses, children, youth, and the elderly
Intergenerational risks	N/A	Children of less privileged families

Source: Author based on Esping-Andersen (1999) and Kvist (2014).

2.6 Conclusion

Welfare states have been constantly changing since the establishment of the first encompassing welfare states after the Second World War. The changes are complicated and interwoven with the socio-economic contexts of the time. This chapter began with the concern that the prevailing terms, 'welfare expansion' and 'retrenchment', do not adequately acknowledge the complexity in the changes. As an alternative, this chapter considered the attributes in the changes: the '*socialisation of risks*' and the '*individualisation of risks*'. These concepts helped to trace changes more accurately; specifically, different

developments of social policies in different periods of time. This chapter found that socialisation arose on the basis of citizenship, and became the core of post-war welfare states. It led to encompassing social protections, such as social insurance and universal benefits for citizens. New risks and pressures have emerged since 1970s, however, bringing down the curtain on the golden age. Individualism is one facet of modern society. This trend, combined with neo-liberalism, caused rollbacks in government intervention. Market-oriented reforms took place in various areas, and re-commodification has strengthened. The next significant transformation has been observed since the 1990s with the social investment perspective. The trend of individualisation of risks has continued, but at the same time, the socialisation of risks has also been emphasised. The socialisation of risks in the third phase is distinctive from the first phase, in terms of its aim and underlying logic for providing protection to citizens.

This thesis will pay exclusive attention to the last phase. There has been relatively little research done in this area. In the literature on the third phase of welfare states, the trend of the individualisation of risks has received much more attention on the continuum of the previous era. Much of this literature focused, for example, on how the trend has affected social policies for at-risk youth (Kelly, 2001), disadvantaged people (Lymbery, 2014), and unemployment (Sinfield, 2013) since the 1990s. Compared to this, the socialisation of risks trend seems to have received much less attention. In the literature, this period of time tends to be represented by typical activation policies which facilitate entrance into labour markets (Hemerijck, 2013; Lister, 2004). This is not to say that they are unimportant, but they are not the whole story, especially for traditional social protection (Bonoli, 2000; Bonoli & Shinkawa, 2005; Frericks, 2010; Frericks et al., 2007; 2008; Leisering, 2012; Myles, 2002).

Various measures can be seen in social protection that aim to socialise risks against increasing flexibility in the labour market since the 1990s. Indeed, welfare dynamics of the period are associated with both of dimensions – the socialisation and individualisation of risks – and we need to analyse welfare states in a way that reflects their complexity. Also, the scope of this thesis is pension reform, among many other programmes. Pensions are "the bedrock of welfare states" (Hudson & Kühner, 2009: 38) and are the single largest item in social expenditures in every welfare state. As has been demonstrated in this chapter, it is also a very interesting subject in the period of social investment; it is one area that the trends of both socialisation and individualisation of risks are co-present. Considering the significance of pension schemes in welfare states, it is worth exploring the unique trajectory of the trend of socialisation and individualisation of risks in pension systems across countries since the 1990s.

In the following chapter, this thesis will focus on the 'frame' of analysis: typologies. Comparative studies require a specific frame to compare multiple subjects and typologies can be one of the most effective measures. The usefulness of typologies in systematic comparisons is well documented by the literature. Typologies help us to focus on the core of subjects by providing "analytical and explanatory parsimony" (Esping-Andersen, 1999: 88). Also, tracking changes using typologies helps us to reveal underlying mechanisms of change. In this regard, this thesis will explore welfare regimes and pension typologies. The reason for exploring welfare regimes first is that pension systems do not exist alone, but are shaped by institutional arrangements, rules and an understanding of the welfare state (Esping-Andersen, 1990: 80). By examining them, we seek to understand how to design comparative analysis of pension reforms across OECD countries for the last 25 years.

Chapter 3 : Welfare states and pension institutions in comparison

Building on the knowledge that welfare states are dynamic, and having identified two main and distinct flows of welfare reform – socialisation and individualisation of risks – this chapter aims at deepening the understanding of pension systems within a comparative perspective. Comparative research provides "a basis for making statements about empirical regularities and for evaluating and interpreting cases relative to substantive and theoretical criteria" (Ragin, 1989: 1). Therefore the main issue here is the comparative method in practice; how can we effectively compare different pension systems across countries? This chapter pays attention to typologies as they allow us to see the 'forest' rather than the myriad unique 'trees' (Esping-Andersen, 1997: 179).

Taking advantage of this economy of explanation, this chapter explores typologies seen within earlier studies. We begin with welfare regimes and will gradually move into pension-specific typologies. This review of both regime and policy typologies will provide us with a good chance to understand pension reform within a broader context. According to Esping-Andersen, welfare regimes can be defined as "the institutional arrangements, rules and understanding that guide and shape concurrent social policy decisions, expenditure developments, problem definitions, and even the response-and-demand structure of citizens and welfare consumers" (Esping-Andersen, 1990: 80). This shows that welfare regimes and specific programmes are not isolated, but tightly linked to each other. In this sense, we need to pay attention to the socio-economic context of welfare regimes to fully appreciate pension reform and respective typologies. In doing so, we can gain a comprehensive understanding

of pension systems, e.g. in what context and welfare dynamics are pension schemes introduced and reformed.

This thesis then moves on to pension typologies. Like welfare state typologies, pension typologies have been widely employed in many studies to compare pension schemes between countries. Considering that public pension schemes are "the most important in the overall package of social transfers" (Esping-Andersen, 1990: 79), and that "they represent the largest single item of social expenditure in every EU country" (Johnson, 1999: 597), it is a natural consequence that numerous attempts have been made to find unique attributes and trajectories within pension schemes. Whereas welfare regime typologies focus on outcomes, pension typologies are more interested in institutional design of pension systems and their historical development (Bonoli, 2000: 10). By critically examining earlier pension typologies, this thesis explores their benefits and shortcomings. Another important issue regarding pension institutions is concerned with the concept of time. As pension typologies capture the attributes of pension schemes at one point like a 'snapshot', a question is raised as to whether these attributes are maintained over time. By looking at the mechanisms of pension reforms, and the outcome of those reforms, this thesis attempts to understand pensions comprehensively. Finally, these explorations lead us to insights regarding a suitable pension typology for this thesis. This chapter reaches the conclusion that the existing pension typologies cannot adequately answer the research questions in this thesis and therefore sets the grounds for an alternative one.

3.1 Comparative welfare states

As many welfare states expanded in the 1960s and have gone through various changes since then, a considerable number of researchers have paid attention to typologies of welfare states. Based on various methodologies and perspectives, they have tried to compare quantitatively and qualitatively different aspects and programmes of the welfare state. They have also attempted to explain the formation of the present systems and forecast the future path of welfare states using the typologies. From Wilensky and Lebeaux (1965), who are considered as the first generation of comparative studies of welfare states, to Esping-Andersen (1990), who is renowned for his *Three Worlds of Welfare Capitalism*, there are notable studies on welfare state typologies.

Various typologies for welfare states

Wilensky and Lebeaux's (1965) typology is renowned for its distinction between residual and institutional welfare states. Their typology had a strong influence on many typologies that followed. The residual model makes the market and the family responsible for an individual's needs. The state only intervenes temporarily when the market or family do not function properly. The institutional model regards welfare services as 'normal' which are granted to everyone. It is "the organized system of social services and institutions" (Wilensky & Lebeaux, 1965: 139).

Titmuss (1974: 30-32) went a step further. He suggested three models: the residual welfare model, the industrial achievement-performance model, and the institutional redistributive model. The residual model echoes Wilensky and Lebeaux's (1965) categorisation. In the

industrial achievement-performance model, welfare benefits are provided in accordance with an individual's role in labour market. It emphasises that merit, work performance and productivity should be linked to social needs. The institutional redistributive model maintains universalism in welfare policies. The commitment to welfare is realised by institutionalised structures. The entire population can have their social needs fulfilled with welfare services outside the market.

Furniss and Tilton (1977: 14-21) classify welfare states into three categories based on forms of government intervention: the positive state, the social security state, and the social welfare state. The positive state's utmost goal is to protect capitalists from unregulated markets and potential redistributive demands. The government-business collaboration for economic growth is their basic policy orientation, and welfare services are only provided within the bounds of economic efficiency. The social security state, however, aims at guaranteeing a national minimum to citizens. It is given to them as of right, but they cannot count on it as their property. Also, it is based on the governing principle of 'equality of opportunity', not equality. Lastly, the primary goal of the social welfare state is equality and solidarity. It guarantees a general equality of living conditions beyond the national minimum. Welfare services are provided to all without any conditions, making no distinction among recipients. In the economic sector, cooperation between government and unions is strong. Also, environmental planning, which requires an effort to accept collective values into the liberty of the individual, is widely accepted. The power of unions is strong enough to set solidaristic wages.

Mishra (1984: 102-109) focuses on the relationship between the economy and welfare sectors. According to his typology, welfare states can be divided into differentiated welfare states (DWS) and integrated welfare states (IWS). In DWS, social welfare is considered as distinct from the economic sector, with little connection between them. Welfare policies are adopted by process of multiple interest groups such as organisations, parties, and parliament. As a consequence, welfare policies tend to be fragmented rather than integrated. On the other hand, the economy and social welfare are seen as interdependent and inter-relational within IWS. Therefore, welfare and economic policies have functional relations and trade-offs. Class cooperation and social consensus play a significant role in adopting policies, and welfare and economic policies are often well integrated and organised.

Esping-Andersen's *Three Worlds of Welfare Capitalism* (1990)

Esping-Andersen (1990)'s regime theory is considered the most significant work in recent years (Bonoli et al., 2000: 12). His typology is distinct from earlier typologies in terms of his systematic approach based on deep insight into the nature of welfare states. He argues that welfare states are not just the sum total of policies. He links together a state's political history and economic variables and analyses them with statistical measurements. Esping-Andersen's *Three Worlds of Welfare Capitalism* is intensively examined in this section.

Esping-Andersen's typology consists of three welfare-state regimes built on three dimensions: the de-commodification index, the stratification index, and the degree of public-private-family welfare mix. 'De-commodification' means the status that "a person can maintain a livelihood without reliance on the market", which is entailed through social rights

(Esping-Andersen, 1990: 21-22). It is measured using pensions, sickness, and unemployment cash benefits, the three most important welfare programmes. The stratification effect depends on social structures, and it is found in varied forms; some countries tend to create or maintain a social hierarchy and status, whereas others prefer universal approaches to social policies. The degree of stratification is measured by the degree to which social insurance is segmented into social status, welfare states' residualism, and universalism (Esping-Andersen, 1990: 58, 69). Lastly, the degree of public-private-family welfare mix is measured by the degree of dominance in managing social risks within the family, labour market, and the state (Esping-Andersen, 1999: 84). According to Esping-Andersen's empirical analysis (1990: 29-32), the indices of each dimension in 18 countries created three clusters, identifying three different regime types that Esping-Andersen called "ideal-types of welfare states".

The first ideal type is the *Liberal* type of welfare capitalism. Its manifest feature is the weight of residualism and of markets. They allow only limited state intervention to mitigate social risks, with a narrow definition of eligibility for welfare programmes. These characteristics stem from their basic stance that considers social risks to be an individual's responsibility. In this sense, they prefer needs-based social programmes to rights programmes. The de-commodification level is very low in Liberal regimes, as they emphasise the market's role. Other elements such as the family and the state, which obstruct the market's dominant role, are limited to marginal power. The UK, the US, and Australia are classified as Liberal regime (Esping-Andersen, 1999: 75-77). The second type is the *Social Democratic* type of welfare capitalism. These regimes commit to universalism and de-commodification. Their welfare programmes provide comprehensive risk coverage with generous benefit levels based on

egalitarianism. Their programmes are mostly rights-based and are attached to individuals. Unlike the Liberal type, needs-based assistance is marginalised. They are state-dominated welfare states, and the de-commodification level is surprisingly high compared to other types, to minimise or abolish an individual's market dependence. It should be noted that full employment and productivity in the labour market are important premises within the Social Democratic type. Only by making sure that as many people have a job as is possible is it tenable to maintain such a high-level solidaristic welfare system (Arts & Gelissen, 2002: 142; Esping-Andersen, 1999: 78-81). The model countries for the Social Democratic regime are Scandinavian countries such as Sweden and Norway. The final type is *Conservative* corporatist welfare states. Their key features are the tradition of strong family-oriented solidarity and status segmentation. Their familialism assumes that the standard family structure is composed of a male breadwinner and a housewife that takes care of the children and elderly. The family is primarily responsible for its members in crisis situations, while the state carries out a residual role. Welfare programmes also tend to create a high level of stratification. This is because corporatism and etatism have historically dominated in these countries. The occupational stratification is maintained by income maintenance benefits. Germany, Italy, and France are often regarded as representative cases of the Conservative corporatist regime. The overall features of the three ideal-types of welfare states are as below (Table 3.1).

Table 3.1: An overview of regime characteristics

	Liberal	**Social Democratic**	**Conservative**
Role of the family	Marginal	Marginal	Central
Role of the market	Central	Marginal	Marginal
Role of the state	Marginal	Central	Central
Dominant mode of solidarity	Individual	Universal	Kinship corporatism etatism
Dominant locus of solidarity	Market	State	Family
Degree of de-commodification	Minimal	Maximum	High (for breadwinner)
Model examples	USA	Sweden	Germany, Italy

Source: Esping-Andersen (1999: 85)

Even though Esping-Andersen's typology has had repercussions in welfare studies and become "a modern classic" (Arts & Gelissen, 2002: 138), it has also faced significant criticisms. One criticism argues that Esping-Andersen's work neglected the importance of gender and the existing debates on the gender dimension in social policy (Bambra, 2004; Daly & Lewis, 2000; Lewis, 1992; Sainsbury, 1999; Sainsbury & Ebrary, 1994). It points out that Esping-Andersen's original typology did not pay attention to the family's role in the provision of welfare and care, but only the state and the market. According to Lewis (2000), Esping-Andersen's welfare regime theory only concerns 'paid work' in delineating de-commodification. The problem is that "the crucial relationship is not just between paid work and welfare, but […] between paid work and unpaid work and welfare" (Lewis, 1992: 160). She argues that Esping-Andersen's de-commodification does not consider people undertaking unpaid work and as a consequence, it is misleading with regard to the structure of welfare regimes. This issue is closely linked to gender, because of the gender stratification in paid and unpaid work. Women, who are more likely to take unpaid caring work than men,

disappear from the welfare regime discourse despite the fact that they play a role in the mechanism of other people's de-commodification (Lewis, 1992: 160-161). In this vein, the additional concept of de-familisation has been demonstrated to reflect gendered aspects of welfare states. As Bambra defines, it is "the extent to which the welfare state enables women to survive as independent workers and decreases the economic importance of the family in women's lives" (2004: 327). The subject of the analysis also attracted criticism. Esping-Andersen created the three worlds using data on pensions, sickness, and unemployment cash benefits, arguing that they are the most important welfare programmes in welfare states. However, there are other programmes that might be important indicators for regime classification. For example, Uzuhashi (2011: 24-27) expects that welfare service sectors and tax-related programmes will be expanded, rather than cash benefits, in the future. This is due to the worldwide trend of minimising cash benefits which will have negative effects on work incentives. Care services for children and the elderly, social work, and refundable tax credits are often promoted instead. In a similar context, Daly and Lewis (2000: 288-291) demonstrate the concept of care as an analytical tool. They argue that paying attention to the concept of social care helps us to understand welfare state variation; welfare states play different roles in shaping social care and this results in differences within welfare state change and development.

Another argument, the most common among critics, concerns his misspecification of countries. That is, "too little attention had been given to cross-national differences in welfare state structures" (Arts & Gelissen, 2002: 138). From this perspective, alternative welfare state typologies have been forwarded since Esping-Andersen's *Three Worlds*. Arts and Gelissen (2002) summarise the relevant arguments of this: the Mediterranean welfare states,

and the Antipodes. Firstly, the academic debate on the Mediterranean model stems from the argument that Esping-Andersen's work fails to include Mediterranean countries systematically. Esping-Andersen does not cover Spain, Portugal or Greece in his original discourse of welfare regimes in 1990. He admits some distinguishing characteristics of Mediterranean countries, but does not treat them systematically in his typology (Arts & Gelissen, 2002: 142). Ferrera (1996) addresses this point in his work; not only Esping-Andersen, but also a majority of existing studies simply see Latin countries as late-comers similar to other continental, conservative-corporatist nations. He argues that the Mediterranean model is based on common traits between Italy, Spain, Portugal, and Greece. He identifies four dimensions for classifying welfare states: the rules of access, the conditions under which benefits are granted, the financial regulations, and the administration of social security programmes. According to Ferrera (1996: 19-29), the Mediterranean countries are distinct from others in terms of the highly fragmented and corporatist income maintenance systems, universal NHS systems, the low level of state intervention in welfare and highly mixed public and non-public actors and institutions, and finally, the persistence of clientelism and selectivity with regard to cash subsidies. Bonoli (1997) also identifies the Mediterranean regime in classifying welfare states using a new two-dimensional approach to categorising welfare states. Bonoli particularly criticises the Esping-Andersen's concept of de-commodification, arguing that it does not effectively capture the difference between the Bismarckian and the Beveridgean approaches to social policy (Arts & Gelissen, 2002: 145). As an alternative, he classifies welfare states according to the quantity of welfare they provide – through social expenditure as a proportion of GDP – and their positioning between the Bismarck and the Beveridge dimension – the percentage of social expenditure financed through contributions (Bonoli, 1997: 359-360). With these two dimensions he classifies welfare states into four types: the British countries, the Continental European countries, the

Nordic countries and the Southern countries. The Southern countries score low on social expenditure and high on the percentage of social expenditure financed through contributions. Italy, Spain, Greece, Portugal, and Switzerland belong to the Southern model in his study (Bonoli, 1997: 360-364). Secondly, Arts and Gelissen (2002) also draw attention to the debate surrounding the Antepodes model. Whilst Esping-Anderson classifies Australia and New Zealand into the Liberal regime, Castles (1998) argues that these countries are characterised by their particular and inclusive approach to social protection compared to other countries of the Liberal regime (Arts & Gelissen, 2002: 146). For instance, according to Castles (2001) and Deeming (2014), Australia delivered welfare 'by other means' than those used in Europe; wage controls through arbitration were the primary measure for guaranteeing a decent level of life. As a result, waged poverty was significantly lower than other welfare states, even though public expenditure in traditional welfare programmes was far lower than others (Castles, 2001; Deeming, 2014). Castles notes that policy changes in Australia since the 1980s have gradually undermined these aspects (Castles, 2001: 537-543), but the overall features as outlined above are major reasons to argue for a separate welfare regime that contains the Antepodean nations (Arts & Gelissen, 2002: 146).

In addition to the discourses regarding Mediterranean and Antipodean regimes, there is another regime worth noting: the East-Asian model. The East-Asian model has been extensively explored by various researchers (Chung, 2007; Goodman et al., 1998; Holliday, 2000; 2005; Jones, 1993; Lee & Takegawa, 2006). As this thesis covers OECD members including Sounth Korea and Japan, this chapter allocates a space for the classification of East Asian welfare states. South Korea and Japan tend to be peripheral in comparative studies on welfare states. Most of the welfare typologies introduced in this chapter are Europocentric

or North America oriented; they are mainly created through observation of the researcher's society. As a natural consequence, when it comes to Eastern countries, those typologies do not fit well. In this context, several researchers (Takegawa, 2006; Walker & Wong, 2005) have argued that East Asia has been regarded as a homogeneous group in welfare state studies because they are analysed by European or American standards. They argue the differences among East Asian countries are greater than those among European countries. There is a wide variety in language, culture, religion, industrial development processes and political institutions within East Asian countries. Therefore, it might be appropriate to take a careful look at these countries in a comparative context. There have been numerous attempts to place Korea and Japan into Esping-Andersen's three worlds of welfare capitalism. In the following section, earlier findings on East Asia are critically examined.

East Asian countries?

One of three worlds

Esping-Andersen has analysed Japan as a representative case of East Asia, which triggered debate. His stance on Japan changed between 1990 and 1999. He initially classified Japan as a Conservative welfare state in his first book (1990), then "hesitate[d] to draw any conclusions at all" in his later study (1997: 187). However, he reversed his temporary conclusion and finally set on "assigning Japan squarely to the conservative regime" (1999: 92).

His long consideration over where to place East-Asian countries – "Japan, possibly with Korea and Taiwan" (1999: 90) –is derived from their unique version of capitalism, which different from European capitalism as he noted in his book (1999: 90).

> "...sustained full employment, highly regulated internal labour markets and industrial structure, compressed earnings, and a relatively egalitarian distribution of income, all overlaid by rather authoritarian employment practices, a conservative 'one-party' democracy, and 'corporatism without labour'" (Pempel, 1989 as cited in Esping-Andersen, 1999: 90).

Esping-Andersen claims that Japan has combined features of the Liberal and the Conservative regimes; the de-commodification level is moderate and social insurance schemes stemming from continental Europe are segmented into occupations. He was reluctant to label the Japanese welfare state because of these hybrid characteristics in 1997, but in 1999, he stated that Japan is closer to the Conservative regime type rather than the Liberal for several reasons. First, social insurance programmes are the core of social security systems and they are segmented with social status. Second, strong familialism consists of a male breadwinner and ample family support which takes responsibility for family needs instead of the state. Third, unlike the United States, Japanese occupational welfare is provided as a paternalistic practice, which belongs to the Conservative regime. Lastly, the corporatist social insurance system will be mature in decades and the social insurance expenditure will occupy a large part of total social expenditure. This means that Japan is expected to further strengthen its Conservative attributes (Cho, 2006: 168-169; Esping-Andersen, 1999: 91-92).

Esping-Andersen's claim provoked a number of controversies. First, there is a view that East Asian countries – even though Esping-Andersen mostly confined his examination to Japan– are mis-classified in his typologies. Paradoxically this view agrees that Esping-Andersen's typologies are still provide a useful frame for analysing East Asia, but it sees his selection of independent variables for classification as inaccurate. For example, Cho (2006: 173-181) argues that Esping-Andersen misunderstood Japanese corporatist elements. According to his findings, Japan does not encourage familialism with regard a lack of social services for family. Also, occupational welfare has developed in Japan, not because of paternalistic efforts, but due to the fragmented labour movements and retarded state welfare. As a consequence, Cho argues that Japan should be classified in the Liberal category. On the other hand, Shinkawa (2001: 7) argues that Japan is hybrid of the Conservative and Liberal categories, albeit much closer to the Conservative approach. His claim is similar to Esping-Andersen's with respect to the status-segmented social insurance, male breadwinner family structure, and quasi-familiar occupational welfare, but he concludes that the Japanese welfare state has developed in both of the Liberal and Conservative ways. Uzuhashi (2011: 18-19) also states that Japan is a hybrid of the Conservative and Liberal models. According to him, the de-commodification level is in the middle, conservative stratification is high, and the private sector is dominant. In the Korean case, Nam (2002: 192) introduced Korea as a Conservative regime, by using empirical data that were collected according to Esping-Andersen's criteria after the economic crisis in 1997. He found that here the de-commodification level is low to medium, trends of conservative stratification have strengthened, and familialism is very high. On the other hand, others have suggested a new regime model for East Asian countries beyond Esping-Andersen's Three Worlds. They argue that the East Asian model is unique and cannot be understood through the standard conceptual tools of Esping-Andersen (Chung, 2007; Goodman et al., 1998; Holliday, 2000,

2005; Jones, 1993; H. K. Lee & Takegawa, 2006). The details of these representative theories are examined in the next section.

East Asian Model

One author who considers East Asia as a unique welfare state that is explicitly different from the Europe and North America in the early stages is Jones (1993). She notices a cultural uniqueness in East Asia. She asserts that the most significant factor that forms a different welfare development transaction in East Asia is Confucianism, which historically dominated in these countries. Confucianism is "hierarchy, duty, consensus, order, harmony, stability and staying power" (Jones, 1993: 202). Based on these observations, Jones came to a conclusion: the Confucian welfare state. That is, "conservative corporatism without worker participation; subsidiarity without the Church; solidarity without equality; laissez-faire without libertarianism" (Jones, 1993: 214). Her analysis is meaningful as the first Asian model and received positive reviews in terms of analysing the private sector as well as the public, and as an appropriate explanation for the foundation of society (Lee, 1998: 193; Na, 2010: 9; Shim, 2004: 62). However, her work was also criticised because of its cultural approach to explaining welfare states. Confucianism is lacking in empirical standards to analyse the evolution of East Asian welfare systems due to the abstractness of its definition. In addition, it is misleading to consider varied East Asian countries as one homogenous model (Goodman et al., 1998: 15-16; Holliday, 2000: 706; Na, 2010: 9-10; Shim, 2004: 62-63; Takegawa, 2006: 350-351). It is also claimed that the so-called virtues of Confucianism are found in other worlds too; Victorian values, American values, the Protestant work ethic, and even the 'Third way' of the Labour Party in the UK share very similar characteristics to Confucianism, such as an emphasis on the work ethic, self-reliance, the entrepreneurial spirit

and the care role of the family (Digby, 1989; Giddens, 1999; Lipset, 1990; Walker & Wong, 2005). This demonstrates that Confucianism is difficult to define as an exclusive driving force that establishes a particular Asian model.

Goodman at al. (1998) introduced the concept of a 'development state' to explain East Asian countries, which sheds light on the internal dynamics and rational choice of political actors rather than cultural attributes. They contend that East Asian countries had state-sponsored development, and that welfare policies are imposed as a means to achieve the strategic priority of rapid industrialisation. The welfare systems were led by political forces and institutions which consisted mostly of conservative elites under authoritarian political regimes. The general public's demand for welfare policies did not make a positive impact. Also, the relatively well-developed occupational welfare is not a paternalistic practice as Esping-Andersen insisted (Esping-Andersen, 1999: 91). It is more of an employers' strategy to wield strong influence over employees. Moreover, it was state-fostered ideology to prevent strong unions and a greater demand for welfare (Goodman et al., 1998: 14-17). Contrary to Jones (1993: 215), Goodman at al. (1998: 18-19) have a negative outlook on the persistence of East Asian welfare model due to upcoming changes in economic and political situations, as well as rapid ageing trends. A considerable amount of research has applied this theory to explain Korea's welfare policy development in the 1960s to the 1990s, the era of the economic miracle (Choi, 2011; Chung, 2007; Na, 2010; Shim, 2004; Yang, 2008). Yang (2008) states that Korea has consistently pursued 'self-reinforcement' in line with the developmental welfare systems undertaken in 1960s. Similarly, Chung and Na agree that the developmental welfare system still has an influence in Korea (Chung, 2007: 297-298; Na, 2010: 22). On the other hand, Choi argues that the developmental state perspective, or to be

specific, the productivist nature of the developmental state perspective is no longer an accurate frame to analyse Korea after the Asian economic crisis in 1997, as income security systems were extensively expanded (Choi, 2011: 35-36).

Holliday (2000; 2005) goes one step further. He suggests 'productivist welfare capitalism' as a more sophisticated theory to explain social policy in East Asia. Productivist welfare capitalism is a theoretical combination of developmental state theory and the Esping-Andersen's *Three Worlds* (Kim, 2008: 110). Holliday states that the most crucial feature of productivist welfare capitalism is the subordination of social policy to economic growth. This can explain all other factors, as he claims, such as "minimal social rights with extensions linked to productive activity, reinforcement of the position of productive elements in society, and state-market-family relationship directed towards growth" (Holliday, 2000: 708-709). It is worth noting that he paid attention to differences in five East Asian countries despite keeping single productivist perspective; "within the productivist world, it is possible to identify distinct clusters" (Holliday, 2000: 710). He classified East Asia into three clusters: Facilitative (Hong Kong), Developmental-universalist (Japan, Korea, and Taiwan), and Developmental-particularist (Singapore).

This perspective helps us to understand the relationship between economic policy and social policy in depth. It has descriptive power in understanding state power under development. Also, it demonstrates how growth-oriented social policies have formed in East Asia (Kim, 2008: 111). However, there are sceptical responses too. Many studies indicated that unlike Holliday's assertion, efforts to enhance productivity through welfare programmes are not only evidence in East Asia, but also in other countries (Bonoli & Shinkawa, 2005: 21; Kim,

2008: 111-113). In addition, it is a shared pattern among welfare states to extend the coverage of welfare programme from industrial works to others; it is not a distinctive feature of East Asia (Kim, 2008: 113; Pierson, 2006: 111). Also, according to Hudson and Kühner's (2009) empirical study using data from 23 OECD countries, protective and productive features are not exclusive. East Asian countries have protective features, with or without productive features. They demonstrate, in contrast with Holliday's argument, that Korea belongs to the weak-productive-protective hybrid type and Japan belongs to the weak protective type (Hudson & Kühner, 2009: 41-44). Kim (2008) also casts doubt on the reliability of productivist welfare capitalism. Holliday reconfirmed Korea as 'clearly developmental' even after the 1997-1998 Asian economic crisis, based on the productivist elements he observed (Holliday, 2005: 156). Kim (2008) refutes that Holliday's perspective loses its theoretical usefulness in interpreting East Asian social policy, since Korea has shifted its policy goal from productivity to welfare state consolidation over the past decade. Major welfare programmes were reformed to extend their coverage based on citizenship, and the top-down policy making tradition was weakening due to emerging new welfare coalitions (Kim, 2008: 113-118). Choi (2011: 35-36), like Kim, states that Korea can be explained as a productivist model between the 1960s and the 1990s, but it has been dismantled since the late 1980s. With the new socio-economic and demographic changes since the late 1990s, the Korean regime has deviated from the productivist welfare regime and strengthened liberal elements instead.

Accuracy versus parsimony

So far, we have explored heated debates on welfare state typologies. Esping-Andersen's *Three Worlds* (1990) became a modern classic, but his work was criticised for the fact that

some welfare states did not fit within his model. The debates over additional welfare regimes in fact stems from two values within the typologies: analytical and explanatory *accuracy* and *parsimony*. Both values are essential to comparative research, but in reality, it is hard to satisfy them both at the same time. This is due to the simplistic nature of typologies; diverse characteristics of nations are hard to consider thoroughly, because typologies are generated to highlight similarities and differences among nations through simplification. Therefore, as Arts and Gelissen address (2010: 581), there is a trade-off between refinement and explanatory power. Highly complex models have the advantage of realistic descriptiveness, but they are analytically less powerful. In this context, researchers are only able to put relative emphasis on one or another – accuracy or parsimony – as long as "the peculiarities of cases are within a distinct overall logic" (Esping-Andersen, 1999: 92).

Some researchers who emphasise the accuracy of typologies contrive alternative or modified typologies to Esping-Andersen's *Three Worlds* (1990). As seen in the previous section, researchers who argue for the Mediterranean model (Bonoli, 1997; Ferrera, 1996) point out peculiar traits of southern countries such as fragmented social protection, a low level of social services, but with sometimes very generous benefits. For Antipodean nations (Castles, 1998; Deeming, 2014), the residual but comprehensive welfare systems and achievements of equality in pre-welfare stages are their distinguishing features as a separate regime. When it comes to East Asian cases, the Confucian model (Jones, 1993), the developmental welfare system (Goodman et al., 1998) and productivist welfare capitalism (Holliday, 2000; 2005) were established to reflect the uniqueness of the region. The Confucian model analyses it through cultural factors whilst the developmental welfare system insists on authoritarian state-sponsored development. The productivist perspective focuses more on policy-making

processes to achieve the objective of economic growth. However, the Confucian perspective has been subject to significant critical review (Holliday, 2000: 706; Na, 2010). Both the developmental and productivist perspectives have also been criticised; specifically their theoretical weakness which fails to capture the nature of the recent developments in East Asia (Choi, 2011; Kim, 2008).

On the other hand, Esping-Andersen was the one who emphasised the parsimony of typologies. He is reluctant to add more regime types to his original three (Esping-Andersen, 1999). He acknowledges the distinct features of the Mediterranean, Antipodean, and East Asian countries and positively reacted to the idea of alternative regime in the beginning (Arts & Gelissen, 2002: 153-154). However, he eventually concludes that those country variations are within the overall logic of the three welfare regimes (Esping-Andersen, 1999: 92). Also, he raises a question about the utility in adding a fourth, fifth, or six regime cluster. It might bring a greater refinement of analysis, but it would lose explanatory power because of the complexity. In this regard, Esping-Andersen emphasises more the value of "analytical and explanatory parsimony", and states that we should weigh "the relative importance" of different attributes in typologies (1999: 88, 92). "The principal value of Esping-Andersen's three ideal-types of welfare regimes is that it provides abstract models, so that deviations from the ideal types can be noted and explained" (Arts & Gelissen, 2010).

This thesis agrees with Esping-Andersen's point. Three welfare regimes are sufficient to capture welfare state characteristics in this thesis. It does not to mean to say that the discourses for alternative regimes are unimportant. Verifying all the arguments on alternative regimes is beyond the scope of this study. Instead, we focus here on the practical

utility of adding more regimes. In this thesis, the aim of employing welfare typologies is not to analyse the welfare state itself, but to examine the welfare state as an influence on pension systems. Welfare regimes will be considered as a landmark at interpreting pension reforms in a later chapter. More diversified welfare regime clusters might allow us a more accurate understanding about regime characteristics, but analytical and explanatory parsimony will be the primary goal in this thesis. If it was a debate over pension typologies, we could have weighed the value of accuracy more. Considering these facts, the usefulness of additional regimes might be less apparent here. In this context, this thesis decides to use Esping-Andersen's three welfare regimes as a basic framework in understanding pension reform. The following section takes a more direct approach to the thesis topic; the institutional design of pensions.

Social investment model of welfare states

Alongside Esping-Andersen's three worlds classifications, this section sheds lights on alternative welfare typologies and in particular those stemming from the social investment approach. Esping-Andersen's work is highly useful to highlight the differences and similarities among welfare states but it might not be enough to capture the current or perhaps most recent developments in contemporary welfare states as evidenced with the 'social investment turn' (Nikolai, 2011: 91). In this regard, researchers have paid attention to generating social investment typologies that reflect welfare states' social investment orientation (Nikolai, 2011; Morel, Palier, and Palme, 2012; Finch, Horsfall, and Hudson, 2017). By exploring two social investment typologies, this thesis aims at having a better scope to interpret pension reforms and contextualise the research findings in a later chapter.

Firstly, Nikolai (2011) constructs social investment typologies based on public social expenditures. She employs disaggregated programme expenditures from OECD SOCX and the Education Spending Database. The expenditures for families, active labour market policies, and education systems represent 'investment policies' whilst the expenditures for old-age and passive labour market policies indicate 'compensatory policies'. Using the statistical mean of these expenditures, she classifies 25 OECD members into four categories. The first cluster is defined as countries with high expenditures for investment related social policies with low or rather modest levels for compensatory social policies. The second cluster refers to countries with high expenditures for investment and compensatory social policies but focusing more on social investment policies. The third cluster is characterised by countries with low expenditures for investment related social policies as well as for compensatory social policies. Lastly, the fourth cluster is countries with low expenditures for investment related social policies as well as for compensatory social policies.

She traces the changes in memberships between the mid-1980s and 2007. The latest version (2007: 109) shows fairly even distribution of countries across clusters. The first cluster has five countries: Norway, the UK, New Zealand, Ireland and the Netherlands. The second cluster consists of six countries: Sweden, Finland, Hungary, Belgium, France and Austria. Denmark is in the middle of the first and the second cluster. The third cluster is comprised of six countries: Australia, Canada, the USA, Slovakia, Switzerland and the Czech Republic. Finally, the last cluster has seven countries: Greece, Spain, Italy, Portugal, Poland, Germany, and Japan. The summery of the result is seen in Table 3.2 below.

Table 3.2: Nikolai's social investment model

	Definition	Representative countries
Cluster 1	High expenditures for investment related social policies, with low or rather modest levels for compensatory social policies	Norway, the UK, New Zealand, Ireland and the Netherlands (Denmark)
Cluster 2	High expenditures for investment and compensatory social policies, but focusing more on social investment policies	Sweden, Finland, Hungary, Belgium, France and Austria (Denmark)
Cluster 3	Low expenditures for investment related social policies as well as for compensatory social policies	Australia, Canada, the USA, Slovakia, Switzerland and the Czech Republic
Cluster 4	High expenditures for compensatory social policies, with low or rather modest levels for investment related social policies	Greece, Spain, Italy, Portugal, Poland, Germany, and Japan

* The classification of countries is based on public social expenditures in 2007.

Source: Nikolai (2011: 105-110)

On the other hand, Finch et al. (2017) provides similar social investment typologies with more recent data. They adapt a similar approach to Nikolai (2011) in generating typologies. Based on the expenditures for investment policies and compensatory policies, four categories of welfare states are constructed. Compared to Nikolai (2011)'s typology, some methodological differences have appeared. For example, the median scores of expenditures are applied instead of mean scores. Also, as a research method, Fuzzy-Set Ideal Type Analysis is employed to classify countries. Most importantly, it uses the expenditure data in 2011 providing more updated results on social investment turn. When it comes to coverage of nations, Nikola (2011)'s typology covers 25 OECD countries whilst Finch et al. (2017)'s typology covers 23 OECD countries. The former does not have data of Korea, and the latter does not include East European countries.

The classification based on the data 2011 is as follows. The first type is 'hidden welfare states' referring to countries with low spending on both of investment and compensatory social policies. It has five membership countries: Australia, Canada, Korea, Switzerland, and the USA. The second type is 'traditional compensatory welfare systems'. It means countries with high expenditures for compensatory social policies, but low for social investment policies. Six countries belong to this type: Germany, Greece, Italy, Japan, Portugal, and Spain. The third type is countries for 'investing in human capital and low protection'. In these countries, the expenditures for investment related social policies are high, but the expenditures for compensatory social policies are low. Iceland, Ireland, the Netherlands, New Zealand, Norway, and the UK belong to this type. Lastly, the fourth type is called 'social investment with double liability' or 'heavy social investment model'. It refers to countries with high social expenditures for investment related social policies as well as for compensatory social policies. Austria, Belgium, Denmark, Finland, France, and Sweden are classified into this type. The summary of the result is shown in Table 3.3 below.

Table 3.3: Finch et al.'s social investment model

	Definition	**Representative countries**
Type 1	Hidden welfare state	Australia, Canada, Korea, Switzerland, and the USA
Type 2	Traditional compensatory welfare systems	Germany, Greece, Italy, Japan, Portugal, and Spain
Type 3	Investing in human capital and low protection	Iceland, Ireland, the Netherlands, New Zealand, Norway, and the UK
Type 4	Social investment with double liability	Austria, Belgium, Denmark, Finland, France, and Sweden

* The classification of countries is based on public social expenditures in 2011.

Source: Finch et al. (2017)

Two social investment typologies above use different categories, but they share similar definitions. In fact, the cluster 3 in Nikolai (2011)'s typology is similar to the type 1 in Finch et al. (2017)'s typology. Also, the cluster 4 is equal to the type 2. The cluster 1 is similar to the type 3 and the cluster 2 fits to the type 4. The country memberships to each cluster and type are also similar. Despite the different time points (2007 and 2011) and some differences in research method, all countries belong to the same category throughout the time except those that are only covered by either of typologies. For example, the UK is classified to the cluster 1 in Nikolai's typology and the type 3 in Finch et al.'s typology. It means the UK shows the characteristics of 'investing in human capital and low protection' in 2007 and 2011 data meaning high expenditures for investment related social policies, with low or rather modest levels for compensatory social policies. In this way two typologies are similar, and this thesis cites Finch et al. (2017)'s typology in the below as it reflects more recent data on social investment.

Compared with Esping-Andersen (1990; 1999)'s three worlds, the country memberships of Finch et al. (2017)'s social investment typology show some similarities and differences. First, English speaking countries that often represent the Liberal type show low spending on compensatory policies being classified to the type 1 or 3. The UK and New Zealand emphasized expenditures for education, families and active labour market policies but less for old-age and passive labour market policies. On the other hand, Australia, Canada, and the USA devoted for neither of policies. Secondly, the Social Democratic countries mostly belong to the type 4. Sweden, Finland, and Denmark spend remarkable share on investment-related social policies without neglecting expenditures for compensatory policies (Nikolai,

2011: 110). Norway is an exception belonging to Type 3. Thirdly, the Conservative welfare states spend high on the traditional compensatory policies. Some of them only devoted to the compensatory policies (Germany, Italy, Japan, and Spain), whilst others emphasised the compensatory policies and investment-related policies altogether (Austria, Belgium, and France). These facts show that Esping-Andersen's three worlds and Finch et al.'s social investment model are not entirely separated, even though they highlight different aspects of welfare states. Nikolai (2011: 110) argues that Esping-Andersen's regime analysis no longer represents a valid framework for contemporary analysis based on his typology. It does not seem to be true here. Employing both typologies would benefit us by providing better scope for welfare states in the era of social investment. Considering these facts, this thesis will employ Finch et al. (2017)'s social investment typology in the following chapters. Alongside Esping-Andersen's work, it will be used as background knowledge in analysing the trend of pension reforms.

3.2 Comparative pension institutions

Typologies of welfare states can serve different purposes and focus on variables related to cause, institutions, and/or outcomes (Korpi & Palme, 1998: 665). There are several typologies of pension schemes. For example, Overbye (1996) classifies pensions by their coverage. Nimela and Salminen (1995) suggest a four-type classification based on pension entitlement for benefits. However, typologies for pensions have predominantly focused on the institutional design of pensions and their evolution in a historical perspectives (Bonoli, 2000: 10). This is because these variables are not only useful to compare pension schemes, but also provide good insights about their confronting issues (Bonoli & Shinkawa, 2005: 7).

In this sense, this section pays attention to pension institutions. Since the late 19th century and the first public pension in Germany, public pension schemes have developed differently reflecting changing circumstances. The following section critically examines earlier studies on pension typologies; the classical dichotomy and later works spinning off from it. Based on this understanding, I go on to examine if they are suitable to analyse pension reforms across OECD countries. Finally, I move on to the underlying mechanism of pension systems. In doing so, this thesis attempts to understand pensions in the flow of time.

Pension typologies

The origin of pension dichotomies

There have been several classifications for pensions, but a dichotomy is the most frequently utilised form. The terms 'Bismarckian' and 'Beveridgean' refer to the original models of pension policy at the end of the 19th century. The Bismarckian pension was first introduced in Germany as a contribution-based financing scheme. The primary policy goal was not only to socialise old-age risks, but also to prevent the rise of the labour movement and to obtain workers' loyalty to the state. Consequently, it was applied only to industry workers resulting in status maintenance. It guaranteed retirees a certain level of income related to their previous earnings. The Bismarckian pension scheme gradually spread to Italy, France, the United States, and Switzerland. The Beveridgean pension model, however, was first adopted in Denmark as a tax-financed scheme. It aimed at alleviating poverty across the whole population by providing flat-rate benefits through means-testing. It took an ameliorated form of the existing traditional poor laws in Denmark at the time. New Zealand, the UK, Sweden, and Norway followed the Beveridgean model in subsequent years with some variations (Bonoli, 2000: 10-13). It is worth noting that the term 'Beveridgean pension model' came

from the Beveridge report published in the UK in 1942, emphasising the overall objective of Beveridgean social policy such as poverty prevention. However, in fact, the pension model was introduced in Denmark far before than the report and the features of Beveridgean pension model are not entirely identical to Beveridge's idea for pension (Bonoli, 2000: 11).

Developed pension typologies

Most studies agree that modern welfare schemes have their origins in Bismarckian and Beveridgean models. Developed forms of typologies stem from this understanding: the 'Bismarck/Beveridge' from Bonoli (2000: 10-13), 'social insurance/multi-pillar systems' from Bonoli's other dichotomy (2003: 400-401), 'mature systems/latecomers' from Pierson's classification (2001: 307) and 'social Insurance/latecomers' from Hinrichs (2001: 83). Bonoli and Shinkawa (2005: 6) developed another traditional dichotomy, adding the pension type 'Bismarckian lite' to Bonoli's earlier 'social insurance/multi-pillar systems' model.

Differences do exist between those typologies, but their similarities are far greater. For instance, most attributes of the 'social insurance' and 'mature systems' models are identical to the Bismarckian pension scheme outlined above. In the same manner, 'Multi-pillar systems' and 'latecomers' have their roots in the Beveridgean pension scheme. It is in line with the multipillar system suggested by World Bank (1994)[4]. They are comprised of three

[4] World Bank (1994) argues that multipillar pension systems are the most efficient and effective way for old-age security and stable financing. They suggest that the first pillar could take a form of means-tested, minimum pension, or universal flat benefit, but not earning-related scheme. For the second pillar, it could be mandatory privately personal saving accounts or occupational plans but not publicly managed. By doing so, the World Bank argues, the redistribution and saving functions in pension scheme can be separated whilst the insurance function can be better provided.

pillars, in principle, consists of two different mandatory pillar and one voluntary pillar. The first mandatory pillar takes the basic form of Beveridgean pension scheme – publicly managed and tax financed alleviating poverty among older population. The second mandatory pillar is privately managed fully funded scheme that carries out the saving function. On top of these two pillars, people who want more income can get additional protection through the third pillar, the voluntary occupational or personal savings.

Despite of some developments, the major characteristics of Bismarckian and Beveridgean pension schemes have clearly remained in these classifications above. They stem from the initial models and transformed or added historical perspectives in the various studies. One difference is seen in 'Bismarckian lite', which was added to the traditional dichotomy by Bonoli and Shinkawa (2005: 6). The Bismarckian lite type includes earnings-related basic public pensions which provide only a moderate level of benefits. It is a contribution-based pension and has lower replacement rates than the social insurance type. It is also often supplemented by a second pillar. The second pillar is an occupational/corporate or a personal pension. But this is neither compulsory nor widespread because of collective agreements. The features of the main pension typologies are as follows (Tables 3.2, 3.3 and 3.4).

Table 3.4: Features of the Bismarckian and Beveridgean pension schemes

	Bismarckian pension	**Beveridgean pension**
Goal	Containing the rise of labour power	Poverty reduction
Target	Industrial workers	The poor
Benefits	Earnings-related A level of income related to one's earnings while in work	Flat-rate Moderate level
Entitlement	To have paid contributions	Means-tested
Finance	Contributions by employers and employees	Tax
Representative states	Germany, Italy, France, US, Switzerland	UK, Sweden, Denmark, New Zealand, Norway

Source: Author based on Bonoli (2000: 10-13).

Table 3.5: Features of the 'social insurance' and 'latecomers' pension schemes

		Social insurance	**Latecomers**
2nd tier	**Goal**	Similar to the Bismarckian pension scheme	Income continuity during the life time
	Target		Nearly all employees
	Benefits		Earnings-related benefits
	Entitlement		Via occupational pension by law or collective agreements
	Finance		Contributions, funded system
1st tier	**Goal**	Minimum protection	Similar to the Beveridgean pension scheme
	Target	Elderly whose contribution record is insufficient for adequate benefits	

	Benefits	-	
	Entitlement	-	
	Finance	Tax /Contribution,	
Representative States		Germany, Italy, France, US, Japan, Sweden, Finland, Norway, Canada	UK, Denmark, Netherlands, Australia, Switzerland

Source: Author based on Hinrichs (2001: 80-84).

Table 3.6: Features of the 'social insurance', 'multi-pillar systems' and 'Bismarckian lite' pension schemes

	Social insurance	**Multi-pillar systems**	**Bismarckian lite**
Goal	Similar to Hinrichs's social insurance pension scheme	Similar to Hinrichs's latecomers Pension scheme	
Target			40-60% of workforce (2nd pillar)
Benefits			Subsistence level of benefits (1st pillar) Earnings-related, but modest level (2nd pillar)
Entitlement			Having paid contributions Via occupational pension by collective agreements
Finance			Contribution / Tax
Representative States	Germany, Italy, France, Sweden (pre-1990s), Korea	UK, Sweden (post-1990s), Switzerland	Canada, US, Japan

Source: Author based on Bonoli and Shinkawa (2005: 5-8)

Revisiting earlier studies on pension typologies

There is no doubt that the pension typologies introduced above are a usuful tool to compare overall pension designs across the countries. As they highlight significant differences in pension structures, researchers can analyse the attributes of pension schemes within the big picture. They are also useful to trace the trajectory of pension development. With the bifurcated pension typologies, researchers are able to pass little details and simplify transitions in pension structure. Despite of all these benefits, however, there are several downsides of using them. These concerns are spelt out from a critical point of view in this section.

First of all, a dichotomy has limited explanatory ability inherent in its nature. Except Bonoli and Shinkawa's (2005) typology, all the typologies are composed of a dichotomy that might overlook subtle systematic details and policy changes. For instance, in comparing the pension schemes of Japan and South Korea, classic dichotomies would suggest they belong to same category; both of them historically stem from the Bismarckian model, so they are classified within the Bismarckian or social insurance type. However, if we scope out both pension schemes, we can notice many differences between them as well as many similarities, such as structural design, consolidation issues, replacement rates, etc. (Kim & Kim, 2005: 208-211; Shinkawa, 2005: 158-160). In this regard, the pension systems in Japan and Korea can be more accurately captured by Bonoli and Shinkawa's (2005) typology. It has three types of pension schemes, and sorts Japan to Bismarckian lite and Korea to the social insurance type. Japan's basic public pension schemes situates it within the social insurance style, but the pension amounts are significantly lower than other countries classified within this type. On the other hand, Korea fits exceptionally well to the social insurance type

(Bonoli & Shinkawa, 2005: 5-6). As we have seen from this case, a bifurcated approach might not be suitable for a comparative study that focuses on detailed systematic features.

Secondly, the standard of classification for the social insurance type and the multi-pillar pension type might be problematic. The key dimension that distinguishes the two in Bonoli (2003), and Bonoli and Shinkawa's (2005: 5) typologies is the relative weight of the two main pillars of pension policy; public expenditure and the financial assets of pension funds. According to Bonoli (2003: 401), whilst social insurance countries spend a large amount of their GDP on public pensions and have a small private pension sector, multi-pillar countries spend less on public pensions but significantly more on private pensions. On the other hand, regarding the financial assets of pension funds, social insurance countries have small pension funds since they mostly operate PAYG systems, while multi-pillar countries have larger pension funds accumulated by their funded private pension sectors (Bonoli, 2003: 401-402). However, this classification might be less reliable as it is based on pension spending. As many studies have argued (Choi, 2009: 319; Esping-Andersen, 1990: 19-20; Hinrichs, 2001: 80; Johnson, 1999: 597-598), comparing countries on pension expenditure can be misleading because the size of expenditure does not necessarily reflect the precise characteristics of pensions; expenditure is influenced by the ageing population, government subsidies, or tax privileges. Also, this approach is difficult to apply to premature pension schemes. For instance, the pension expenditure is very low in Korea although it is within the social insurance type and the current replacement rate is 60-70%, because it was implemented in 1988 and has not yet matured.

Also, the standards for Bismarckian lite are not clear enough. Bonoli and Shinkawa's (2005) typology tries to ameliorate the classic dichotomy by adding one more category; Bismarckian Lite. In short, it is in between the social insurance and multi-pillar systems. However, it is obscure as well as a classification standard. First, Bonoli and Shinkawa state that the benefit of the first pillar in Bismarckian lite is at a 'modest level' (Bonoli & Shinkawa, 2005: 6). Since there is no sufficient explanation on this level, it is difficult to put other countries into this typology. We can only make an assumption that it would be at around 40-50% of earnings, based on indirect information in their study; they sort the USA (40% of earnings), Canada (45% of earnings) and Japan (50% of earnings) into Bismarckian lite. On the other hand, the benefit of first pillar in the social insurance type should be at least 60% of earnings (Bonoli & Shinkawa, 2005: 6). So if countries have benefit levels very close to 60% of earnings, to which type do they belong? Are there grounds for this? It shows that classifying countries through the level of pension benefits might not be very clear. A similar problem is also found in the second pillar. The second pillar in Bismarckian lite is an occupational / corporate or a personal pension, which is "neither compulsory nor widespread" (Bonoli & Shinkawa, 2005: 6). Again, it is very vague concept. The Japanese occupational pension is claimed to be "not too widespread", because slightly over 50% of people receive a proper pension, despite more than 90% of companies offering some form of retirement benefits (Bonoli & Shinkawa, 2005: 15). To clarify the concept, it is required to define a 'proper occupational pension' as well as the level of 'widespread'. Whereas it has a decided advantage in catching subtle systemic changes compared to the previous dichotomies (Jung, 2010: 338), the absence of description of the required standards and a lack of a systematic understanding may lead to confusion.

Considering these facts, we can tell that all three pension typologies have different weak points when comparing pension schemes. The typologies of Bonoli (2003) and Hinrichs (2001) have difficulty in capturing specific national variations in pension institutions, as they are dichotomous. Bonoli and Shinkawa's (2005) typology could be a better option as it has a third type, Bismarkian lite. It is, however, not free from criticism as the criteria for classification is less clearly addressed in their description. Also, the fact that their typology classifies pensions based on the size of pension spending and funds is another concern. As pension expenditure is influenced by multiple external factors such as demographic changes, taxation, and the maturity of the pension scheme, it does not accurately reflect the features of pension systems. This is not to say that they are unimportant, but it is necessary to think carefully about their usefulness in applying them to this thesis. They might be very useful to understand major differences and generalise overall development, but less useful in capturing detailed systematic changes.

Changes in pension systems

The majority of pension typologies reviewed in the previous section mostly capture a single point in time. Contrary to this, pension systems can be understood within a longer period of time. This entails an approach that focuses on changes in pensions and tracks the trends of pension systems over time. Therefore, this approach is closely related to analysing pension reforms, which is the main aims of this thesis. In this section, two issues are addressed: the mechanisms of pension reform and path-dependence / convergence. It can be said that the former is about the processes of change in pensions, whilst the latter is about the outcome of those changes.

Mechanisms of pension reform

A growing literature has explored the mechanisms of changing welfare states (Bonoli et al., 2000; Bonoli & Natali, 2012; Hinrichs, 2001; Pierson, 1998; Pierson, 1994, 2001). For example, Pierson (1994; 2001) argues that a new perspective is required to understand the dynamics of the contemporary welfare state that takes into account 'the new politics of welfare'. As a part of welfare states, pension dynamics share many aspects in common with welfare politics, but it is necessary to develop a pension-specific approach and typology that can give clear insights into understanding pension reforms. For example, as seen previously, countries have various pension institutions which might create distinctive dynamics within pension changes. Several studies have centred on pensions' institutional designs, but they are mostly focused on revealing the different levels of effectiveness within pension systems (Hong, 2005; Johnson, 1999; Kim, 2000; Korpi & Palme, 1998) or the outcomes of pension changes such as convergence and divergence (Bonoli, 2000; Hinrichs, 2001; Overbye, 1994; Scruggs, 2007).

Among many others, Bonoli and Shinkawa's (2005: 1-21) research is particularly worth attention, for its systematic approach to understanding the process of pension change. They classified pension institutions into three types as seen in the previous section. They then explain the mechanisms of pension reforms based on case studies of 11 welfare states. They argue there are two main factors – demographic change and a pension's institutional characteristics – which shape pension reform. These interact with each other and exert influence on pension politics, which leads to pension reform (see Figure 3.1 below).

Figure 3.1: The mechanisms of pension reforms

Source: Author based on Bonoli and Shinkawa (2005: 5-8)

Let us examine the process step by step. Firstly, two factors have an impact on pension politics: demographic change and pension institutions. Population ageing is a common issue but occurs at a different pace and from different starting points. Differences in demographic change generate different pressures on pension sustainability. Consequently, the effects of population ageing on pension politics varies depending on the pattern of demographic change. For instance, Western Europe pursued gradual retrenchment reforms as ageing is occurring at a moderate pace, whilst North America has not seen any major reforms thanks to a stable demographic situation (Bonoli & Shinkawa, 2005: 3). When it comes to East Asia, Japan is under pressure to retrench as its ageing pace is faster than Western Europe, whilst Korea expanded its pension system as its ageing is not at a concerning level. At the same time, the different infrastructures of pension systems generate different incentives for pension politics. For example, the social insurance type is under pressure to retrench because its earning-related pension is sensitive to population ageing. There is strong resistance, however, against retrenchment due to double payment problems as well as a strong sense of entitlement. On the other hand, different pressures co-exist within the multi-pillar system. The first pillar, the basic pension, is under moderate pressure for sustainability. Meanwhile the second pillar, mandatory/quasi-mandatory private pensions, has some room for

expansion due to its limited coverage. Bismarckian lite is located in the middle of the two types. The first pillar has a sustainability issue but this is relatively moderate due to its smaller size. In the second pillar, reforming occupational pensions is less politicised due to the absence of an explicit commitment to replace them for middle-class earners. As a result, policy drift does not lead to significant political controversy. In this context, the interplay between demographic change and pension institutions "determines the kind of politics that is likely to surround pensions … by affecting patterns of political competition in the electoral and in the policy-making arenas" (Bonoli & Shinkawa, 2005: 21).

The kind of politics here refers to blame avoidance and credit claiming (Bonoli & Shinkawa, 2005: 21). According to Pierson (1994: 18), blame avoidance is one of the distinguishing attributes in the new politics of welfare states. Government leaders generally have two goals; re-election and implementing their policy agendas. However, they face a dilemma when they pursue cutbacks in welfare programmes, since their two goals seem to be mutually exclusive. As examined in Chapter Two, the post-war welfare states expanded welfare programmes in terms of coverage and generosity. This generated massive support from welfare beneficiaries, their family members, and potential beneficiaries. Politicians who favour retrenchment of welfare states come up against bitter opposition. In addition, whilst the beneficiaries of welfare cutbacks are generally diffused and invisible, welfare losers are often a visible group of people, who have a concentrated interest in it. Furthermore, voters often have 'negativity bias', namely the tendency of voters on the losing side of reforms to respond more proactively and exercise the right to vote compared to those on the winning side (Bonoli, 2012: 94-95). This means policy makers who advance retrenchment policies are likely to suffer political retaliation from welfare supporters. Blame avoidance is the policy makers'

strategy for minimising these risks. In the era of the golden age, politicians favoured credit claiming for their 'give away' policies. Welfare states fully enjoyed prosperous economic and demographic support at that time. Politicians were able to proclaim welfare expansions to voters, which proved to be useful for re-election. However, the situation has changed. Policy makers have limited capacity for popular policies, but pursue retrenchment despite the views of voters. They pursue reforms while avoiding public blame as much as possible, using several strategies. Obfuscation is the most commonly used, providing deliberately indirect and insufficient information about policy changes. Strategies of division isolate subgroups of large organised opposition to diminish their potential power. Suggesting a trade-off as a compensation for potential losers of particular reforms is also widely employed (Pierson, 1994: 19-24). In this way, Pierson (1994: 18) considered blame avoidance as a key mechanism to understand welfare politics. According to him, policy makers present blame-avoidance strategies in order not to lose votes in elections. Also, according to Pierson, credit claiming is no longer used because little room remained for popular policies, unlike in previous eras. In addition, even if a government carries out unpopular reforms using blame-avoidance strategies, it limits the range of application.

However, several instances that point to the contrary were observed over the decade. There are three anomalies observed (Bonoli, 2012: 96-100). One is the case that credit claiming is used for propaganda; politicians or government leaders promote their ability to carry out unpopular but necessary retrenchment for the nation. In this case, they can claim credit even though significant cutbacks have damaged voters. One another instance is a radical reform with blame avoidance. This is not unexpected, considering governments pursue strategies to make reforms nearly imperceptible. However, radical reforms have adopted over time,

especially in pensions, including increasing the pension age and replacement rates;in the early 1990s, Germany, France, and Italy cut the replacement rates from around 70% to 40-50% (Bonoli, 2012: 98). Lastly, there has been welfare expansion in policies targeting new social risks. In the perspective of blame avoidance, policy makers would have chosen minimising welfare cutbacks rather than spending for new programmes, if they have spare cash. Bonoli (2012: 100-107) explains that these anomalies can take place when welfare states are in major crisis situations; specifically, when voters are convinced that they are in major crisis. In that case, "retrenchment does not need to be performed by stealth" (pp. 106-107), and politicians can even claim credit. Also, politicians prefer 'affordable credit claiming' which is achievable through high visibility and low-cost reforms. Even so, to minimise risks, they look for the most vulnerable groups to be veto players when they cut benefits, such as the young and marginal workers.

Bonoli and Shinkawa (2005: 2) note that there are other relevant factors to pension reforms, but they have less systematic effects. For example, several studies on welfare politics consider veto points as one of the elements that explain institutional changes in welfare states (Huber & Stephens, 2001; Mahoney & Thelen, 2010; Pierson, 2001; Tsebelis, 2002). They argue that the number and the location of veto points show policy stability, or difficulty in changing the status quo. If they are individuals (a president or a monolithic political party), decisions are easily made based on their preferences. If they are collectives (a parliament or a weak political party), it depends on the internal decision-making rule (unanimity, qualified or simple majority) and who controls the agenda (Tsebelis, 2002: 17-18). However, Bonoli and Shinkawa (2005) argue that political institutions and the political orientation of the government have an impact on the process to adopt pension reforms rather than reform

contents. They claim that the processes are related to the content, but that the link between them does not emerge systematically. This is of course an important consideration in understanding pension reforms, but it "tells us little about the actual policy measures that are likely to be adopted under different configurations of political institutions" (Bonoli & Shinkawa, 2005: 2).

Convergence of pension systems?

In comparing the results of pension reforms, one of the frequently discussed issues is if the pension systems have converged across countries. Sceptical standpoints argue that significant differences still remain after major pension reform in many countries. This is because the strong power of path-dependence has worked in pension trajectories for a long time. Path-dependence is the concept that explains how the initial policy course limits consequent decision-making; individual and organisational adaptations are rarely able to reverse the initial course set in the past, even though past circumstances may no longer be relevant (Pierson, 2001: 414). The notion of path-dependence has been widely applied to institutional studies. Pierson (1994; 2004; 2011) elaborated how and why a policy choice at one point continuously influences subsequent choices, and Esping-Andersen (1990) demonstrated how attributes of welfare regimes are maintained over time are examples (Steinmo, 2008: 127). Pierson illustrates the 'lock-in' effects of institutions. Institutions have a tendency to reinforce existing pathways due to this effects. This means that the initial set-up cost, emerging social networks, and learning effects all create strong incentives to stay within the previous setting. As North (1990: 95) said, "the interdependent web of an institutional matrix produces massive increasing returns". As a consequence, path-dependence becomes an obstacle to the pursuit of reforms making them an unattractive

option (Pierson, 2001: 414-416). The mechanism of 'punctuated equilibrium' explains how the first path is initiated in institutions. It is the idea that institutions are stable because path-dependence works until they face exogenous shocks. When the impact on institutions is great enough, they choose an alternative instead of the existing path at 'critical juncture' moments (Steinmo, 2008: 129-130; Streeck & Thelen, 2005: 6-7). To sum up, long "path-dependent equilibrium is periodically ruptured by radical change, making for sudden bends in the path of history" (Pempel, 1998: 3, cited in Streeck & Thelen, 2005: 7).

According to this perspective, "starting points matter" (Bonoli & Shinkawa, 2005: 5). Initial institutional designs of pension system have developed for more than 100 years, sustaining the original shape without much deviation. This is because the different infrastructures of the initial pensions create different incentives and pressures for policy makers. Consequently, pension schemes are not likely to make drastic changes (Bonoli, 2000: 13; 2003: 400; Bonoli & Shinkawa, 2005: 5-8; Jung, 2010: 335). Pierson also addresses pension reforms may slow down the rate of spending growth, but hardly reverse it. Policy makers are only able to choose options constrained by institutional and programmatic designs inherited from the past. Furthermore, veto points can be a formidable obstacle for pension reform. As pension reforms involve the alteration of an existing distributional equilibrium, potential losers from such reforms are likely to exploit veto points where available, to defend their interests. Although policy makers seek a consensual solution to overcome veto players, it is exceptionally difficult to devise fully consensual pension reforms. As a result, the tendency towards reform is centrist, rather than radical (Pierson, 2001: 305-306, 330-333). However, there is room for the possibility of future retrenchment; "[p]erhaps the real era of retrenchment begins now" (Pierson, 2011: 21). As Pierson himself said, the definition of

major retrenchment is up to the researcher's perspective (Pierson, 2011: 18). Johnson (1999: 616) empirically supports this view; there has been increased variance rather than convergence in the outcomes of public pension schemes across countries since the mid-1980s.

On the other hand, one theory that supports the convergence of pension systems suggests the 'opened; approach of path-dependence as its underlying mechanism. The 'opened' approach holds the view that welfare policies are changeable without path-breaking, gradually and incrementally. Initial settings of welfare programmes have an influence on the decisions of policy makers and voters, but it is not deterministic all the time. The 'opened' approach grew from a questioning of 'closed' – the traditional perspective of path-dependence – approach. According to the 'closed' approach, institutional changes heavily rely on exogenous shocks. This perspective has been criticised as it "gives human beings no agency" in institutional change, and regards institutional changes as "a product of fate" (Steinmo, 2008: 129). The closed perspective also emphasises the role of critical junctures, but does not give a full explanation as to what causes critical junctures other than wars and economic crises. Overall, the traditional perspective on path-dependence is "overly deterministic" (Thelen, 1999: 396) to apply to changing welfare states (Steinmo, 2008: 129-130; Thelen, 1999: 396-399). As Streeck & Thelen (2005) argue, even radical changes occur gradually and those changes are frequently unobserved, making them unlikely to disrupt electoral incentives. Ebbinghaus (2005) takes a similar point of view. He divides path-dependence into a 'trodden path' (unplanned and diffusive) and a 'branching path' (chosen and developmental). He stresses the latter, the more open development approach. According to his study, pathways can be developed through three steps: an institution emerges at a critical juncture (step one), it then

becomes institutionalised through self-reinforcement (step two), then it structures the alternatives of later pathways (step three). The range of the alternatives depends on the timing of previous institutions, the subsequent degree of institutionalisation, and the juncture's situation (Ebbinghaus, 2005: 15-17). He argues that the nature of path-dependence is neither simple nor necessarily deterministic. Path development has the possibility to transform. It might not experience any changes despite of environmental changes. It might go through partial renewal sometimes, or even end the initial path and start a new path.

In this vein, Hinrichs (2001: 96) argues that "substantial path changes were thus indeed possible and have occurred" in pensions. His study shows that Beveridgean countries with universal top-ups gradually moved towards the Bismarck model as their relative weights of the 'basic pension pillar' declined or even vanished. Sweden, Finland, Norway, and Canada are examples. According to his article, these four countries established a second pillar in the 1960s, aiming at income continuity during the life course. As time passed, they have become similar structures to the social insurance model, with a matured second pillar (Hinrichs, 2001: 78, 80-84). Hinrichs named these countries 'new social insurance countries', distinguishing them from 'traditional insurance countries' (the Bismarckian model). The UK is a good example to demonstrate the path-break theory. The UK was the representative Beveridgean country in the early 20th century but moved to become a social insurance country in 1978 with the introduction of SERPS. However, reforms for retrenchment in their pension systems under the Thatcher government reversed this course, thus the UK is now classified to 'Latecomers', meaning two-tiered pensions. His study agrees that public pension systems have moved towards the direction which their original diversity has been diminished. However, for the most part, they have taken a different form (Hinrichs, 2001: 77).

Various researchers support this view on path changes. For example, Bonoli (2000) observed a trend in pension reforms since the early 1980s. According to his research, the initial pension systems, whether Bismarckian or Beveridgean, converged towards a two-tiered pension system in most countries. The first tier exists to guarantee a minimum income to the whole population, whilst the second tier is designed to maintain a similar level of living standards as experience during their working lives (Bonoli, 2000: 13). Overbye (1994) also states that the dual structural design has developed similarly in most countries because of risk exposition, political institutions and actor strategies. Hall (1993: 278) found the trend of convergence in standard retirement ages, pension credits for unpaid care work in the family, and benefit formulas tightening the relationship between contributions and benefits. Scruggs (2007) analysed replacement rates, coverage, and other eligibility conditions of pensions, unemployment, and sickness benefits using the Comparative Welfare Entitlements Dataset (CWED). According to his study, the general level of benefits has converged upwards since the 1970s, and then downwards after the mid- to late-1980s. Even though social insurance coverage has gradually converged towards full coverage and been maintained over time, Scruggs argues that there are clear signs of retrenchment since 1980 based on analysis of his generosity index (Scruggs, 2007: 149-161). Similarly, Goldberg (2002) claims that retrenchment has occurred and converged towards a liberal model among welfare states. He points out that despite GDP increasing in eight countries by an average of 30% between 1980 and 1995, only two countries (Sweden and Canada) spent their extra wealth on welfare. He also analysed changes in welfare programmes, levels of poverty and inequality, and other economic indicators. According to his case studies, the common trend is "toward reduction of whatever employment guarantees there were, as well as toward greater selectivity or

means testing, more restrictive unemployment insurance policies, tightening of work requirements, privatization, and lower benefits" (Goldberg, 2002: 342).

3.3 Application to the thesis

This chapter has examined key literatures that focus on welfare regimes and pension typologies. The mechanisms of changes in pension schemes and the outcome of those changes were delineated. Building on this knowledge, this section critically examines their application to this thesis. It examines whether existing typologies can be employed to answer the research questions posed in this thesis regarding the trend of pension reforms across OECD countries.

Section 3.1 explored welfare state typologies. Welfare regimes provide us with analytical and explanatory parsimony in comparing welfare states. Among many other welfare state typologies, Esping-Andersen's (1990) work has contributed to our understanding of differences among welfare states. He argues three core elements distinguish welfare states: de-commodification, stratification and the public-private-family welfare mix. His findings on welfare regimes are important to understand pension reforms, as pension systems do not exist alone but are shaped by institutional arrangements, rules and an understanding of welfare states (Esping-Andersen, 1990: 80). In this sense, a welfare regime can serve as a key to interpreting the trend of pension reforms. It is, however, an unsuitable typology to directly apply to pension reform analysis. The most obvious reason is that Esping-Andersen's welfare state typologies concentrated more on outcomes than on the institutional design of pension systems (Bonoli, 2000: 10). As this thesis aims to analyse the institutional

changes of pensions rather than the outcomes of those changes, welfare state typologies are not a suitable option. In addition, current welfare states have contextual differences than those seen within Esping-Andersen's model. He identifies three welfare regimes based on the degree of their protective social rights in 1990, but since then, many welfare states have been increasingly affected by the new wave of welfare reform, encapsulated in the social investment perspective. In this respect, we explored social investment typologies in Section 3.1 in addition to Esping-Andersen's work. Finch et al. (2017)'s social investment typology is useful to understand the social investment orientation across countries. However, it does not adequately capture specific dynamics in pension systems as it classifies countries based on two big categories of expenditure, investment related policies and compensatory policies. In this regard, analysing pension reforms since the 1990s requires a new typology that reflects these changing dynamics (Hudson & Kühner, 2009: 34).

Secondly, this chapter examined three existing pension typologies: Bonoli's (2003), Hinrichs' (2001) and Bonoli and Shinkawa's (2005). They offer several benefits to comparative studies. First, they are best suited to comparing pensions as they exclusively focus on pension institutions. Typologies for pensions are generally focused on pensions' institutional designs and their evolution in an historical perspective (Bonoli, 2000: 10). Therefore, pension typologies are directly associated with the thesis topic; the changes in pension institutions. In addition, they serve to highlight major similarities and differences among pension schemes. By simplifying small changes, researchers can easily compare the development of pensions over time. However, it is crucial to examine whether they are applicable to this thesis. The pension typology for this thesis must reflect particular elements of pensions in order to answer the research questions. Are these typologies useful in

classifying countries in a way that highlights reform trends such as socialisation and the individualisation of old-age risks? Is it possible to compare the variety of pension reform strategies adopted across countries? Are they sufficient to cover as many OECD countries as possible?

When considering these questions, neither of the three pension typologies appear to be appropriate to this thesis. This thesis aims to look into trends in pension reforms among OECD countries since the 1990s. This requires a comparison of the specific changes in pension systems of each country. Existing pension typologies are not suitable for comparing these details of pension systems, as they focus more on overall structural designs. They primarily focus on the institutional design in one moment as a 'snapshot'; it is hard to trace the specific changes in pensions over 25 years. This is not to say that they are unimportant, but less effective to analyse pension trends. Considering these facts, this thesis argues that a new pension typology is required. The pension typology for this thesis must contain dimensions of socialisation and the individualisation of old-age risks in a way that reflects changing welfare states. The elements within the typology should be measurable with clear standards. Also, it should categorise OECD countries effectively according to the distinct attributes of pension reform strategies. In the next section, we explore what kind of indicators can cover these aspects.

3.4 Conclusion

Comparing welfare states is a common debate among researchers. There have been numerous attempts to compare their unique institutions and histories. Many of these

approaches have employed typologies since Wilensky and Lebeau (1965). This is mainly due to the beauty of typologies; they offer analytical and explanatory parsimony. Esping-Andersen's (1990) regime theory is considered the most significant work which maximised those benefits. This chapter devoted significant attention to examining his typologies. He linked together states' political histories and economic variables and statistically analysed them. Esping-Andersen's theory demonstrates that the 18 countries he analysed have unique attributes but can be classified into three clusters: the Liberal model, the Social Democratic model, and the Conservative model. Although his theory offers great insight into understanding welfare states, it has been the subject of much debate and criticism. This thesis paid particular attention to the issue of alternative regimes: the Mediterranean, the Antipodes, and the East Asian country model. They might provide us better chance of greater refinement of analysis. However, giving more weight to the explanatory parsimony - "the relative importance" (Esping-Andersen, 1999: 92) of different attributes - rather than explanatory accuracy will be more suitable for the aim of this thesis. It means Esping-Andersen's original classifications will be employed as background knowledge in the remainder of this thesis. In addition to this, this thesis also explored social investment typologies. Social investment typologies aim at highlighting the different extent of social investment turn across welfare states. By examining typologies of Nikolai (2011) and Finch et al. (2017), this thesis chose to employ the latter for the analysis of pension reforms in a later chapter.

The second section of this chapter focused on pension typologies. Most studies agree that Bismarckian and Beveridgean typologies are the origin of modern pension schemes, and the original form and major characteristics of pension dichotomies has remained in the recent developed typologies. This chapter examined the four most frequently cited pension

typologies including Bismarckian and Beveridgean types. Each model has its own attributes, but none were adequate for this thesis. Existing pension typologies are less effective in capturing the details of institutional change in pension systems as they were created to highlight major differences and similarities among pension structures. By focusing on a few dimensions – e.g. funding and coverage – they aimed at simplifying the characteristics of pension institutions and presenting them as a 'snapshot'. Tracing pension reforms for 25 years in detail does not correspond to the utilisation of existing pension typologies.

As a consequence, this chapter concludes that it is necessary to generate a new typology of pension reforms. In order to answer the research questions, the pension typology for this thesis must reflect the following features. First, it must reflect the dynamics of current welfare states. As addressed in Chapter Two, welfare states have shown distinctive dynamics since the 1990s. The social investment approach has been widely accepted across countries resulting in complex trends of socialisation and the individualisation of risks. In order to more accurately capture the trend of pension reforms, it is necessary to have a typology that reflects these changing dynamics. Esping-Andersen's *Three Worlds* are, for example, generated on the basis of "the varying strength of their protective social rights" (Hudson & Kühner, 2009: 34). His typology is very useful in terms of the surrounding influences on pension system in this thesis, but it has limited explanatory power due to its 'snapshot' approach, that is now outdated. Secondly, the new typology must exclusively focus on pensions, rather than welfare states. The aim of this thesis is to analyse the trend of pension reforms across OECD countries, not the general changes in welfare states. Pensions are the core programme of welfare states, but we cannot equate pension dynamics to welfare states dynamics. In addition, this thesis aims at analysing pension reforms, not the results of

reforms. It means indicators of reform outcomes – e.g. pension expenditures and poverty rates – are not suitable in constructing a typology for this thesis. The important consideration to keep in mind is that generating such a pension typology is not an easy task, due to the limited data and the difficulty in operationalising the variables. We will return to this issue in Chapter Five. Before generating a new pension typology, this thesis explores another relevant issue in the following chapter; poverty among older people.

Chapter 4 : Poverty in older people and the welfare states

Pension reforms in a country can be closely interrelated with the prevalence of pensioner poverty. Depending on the level of old-age risks in a country, along with many other factors, welfare states choose their strategies in shaping pension reforms. Retirees often do not have any income from the labour market or assets and rely solely on their pensions, and pensions can be a decisive factor on poverty among older people. Welfare states might have different policy goals with their pension systems, as seen in the previous chapter – e.g. poverty reduction or income continuity during the life time – but it is hard to refute that the central function of pensions is intervention in old-age risks. Consequently, any reforms in pension systems impact poverty rates among older people. The reforms that socialise or individualise old-age risks might result in changes to poverty among the older population. In this context, this final contextual chapter attempts to reach a more nuanced understanding of poverty in older people and welfare states. We aim at providing a 'big picture' of the poverty situation across OECD countries before turning to the empirical analysis on pension reforms.

Measuring poverty requires adequate data in terms of detail and quality. Whilst the sheer volume of information is now much greater (Atkinson, 1995: 64-65), a definitive measure of poverty is not possible (Barr, 2012: 114). We should bear in mind that even a researcher's single choice over the various indicators and measures may greatly affect the result of poverty rates. Therefore, it is important to fully understand the process of measuring poverty, and select indicators that are appropriate to one's research. From this perspective, this chapter begins with examining the three steps of measuring poverty: poverty indicators, poverty lines, and poverty measures. This thesis then compares the three most commonly

used international datasets on poverty. Based on an understanding of the strengths and weaknesses of each dataset, the LIS microdata is selected for the analysis of poverty in this chapter. This chapter demonstrates the poverty situation in OECD countries between the early 1990s and the late 2000s using various indicators: multiple income thresholds, relative poverty rates, the poverty gap, the squared poverty gap, and decomposed incomes. Finally, poverty levels are compared with welfare regimes and pension typologies. Through this process, this chapter attempts to understand the poverty situation more precisely and gain insights on national variations in the role of income security systems on poverty alleviation.

4.1 Defining and measuring poverty

What to measure: poverty indicators

The first step for measuring poverty is to conceptualise it. This is a crucial step for all research, and most importantly, for comparative studies. Building a common framework to analyse poverty across countries implies that a framework must be equally applicable to all countries and give consistent results (OECD, 2008: 98). It is not, however, that simple a process. Researchers face various problems in conceptualising poverty as it consists of multiple factors that researchers must carefully define within the limits of their data. Every factor can significantly affect the results of poverty computations. There are a number of indicators to which we should pay attention, but the central issues are as follows.

Consumption / income

It can be said that someone is poor when their income does not match their consumption needs to live. In this case, income is a proxy for living standards; we can assume that people with income would spend their money to maintain their living. Or as a more direct way, we may use a person's consumption data; someone is said to be poor if their total amount of consumption is below the specific standard. The latter could be a more accurate indicator as it is more closely related to current basic needs. For example, researchers are able to understand someone's real living conditions when they are going through seasonal unemployment or fluctuating incomes, as consumption data reflect one's access to credit markets or savings even though they do not have enough income at the moment (Klugman, 2002: 30; World Bank, 2008: 67). However, consumption indicators are not always available. Due to the difficulty of data collection, income indicators tend to be utilised in international research including that undertaken by the UN, the OECD, and the World Bank.

A more detailed breakdown is also required when researchers choose to use income data. The OECD (2008: 98-99) outlines four components of income: *factor income* (wages and salaries + self-employed income + property income), *market income* (factor income + occupational and private pensions), *gross income* (market income + social security cash benefits + private transfers + other cash income), and *cash disposable income* (gross income – income tax and employee social security contributions). Among them, *cash disposable income* is the most frequently employed indicator in measuring poverty. Meanwhile, it is worth noting that the UK also publishes data on disposable income net of housing costs (*after deduction of housing costs, AHC*). It treats housing costs as unavoidable outlays, and detach them from other general consumptions (Atkinson, 1995: 84). *AHC* is able to capture living

standards more accurately as it reflects regional differences and personal preferences within housing costs. However, it is not commonly used in international comparisons of poverty as most OECD countries prefer *disposable income* to *AHC* (except Australia). Also, when the variety of housing systems across countries is considered, it is particularly challenging to employ the concept of *AHC*. Some countries, for instance, address poverty risks by subsidising housing costs, which makes international comparisons difficult.

Annual / current

Data can be collected annually, monthly, or weekly. Most datasets specify current consumption or income as a monthly or weekly amount. In general, annually based indicators are more effective in reflecting real poverty than current indicators, because they cover seasonal fluctuations. Accordingly, the figures measured by current incomes would be higher than those by the annual incomes. Atkinson (1995: 83), however, points out that short-term indicators might be more accurate, if the nation has a 'minimum rights' standpoint. In this case, people are guaranteed not to fall below a certain level of income regardless of seasonal fluctuations, and even weekly income may be a sufficient indicator.

Household / family

It is more common to analyse poverty through the household or family unit rather than through individuals. The underlying assumption here is that people living together would share broadly equal levels of living regardless of any individual's income. For example, consider an unemployed man who is 20 years old. If he lives independently and is reliant on Jobseeker's Allowance, he is likely to be categorised as poor. On the other hand, if he lives

with parents who receive sufficient pensions, he would be much better off than if living independently. This demonstrates that the concept of 'residence' may be an important factor in analysing poverty. As Atkinson (1995: 86-88) describes, residents might be comprised of friends or lodgers in addition to blood or marital relationships. He defines the *household* as "those resident in a dwelling and sharing some degree of common housekeeping" (Atkinson, 1995: 87). Consequently, this is the most extensive unit of analysis. He also defines *family* as blood or marital relationships, and further subdivides it into *inner family,* a single person or couple with dependent children. The most common unit in poverty studies is the *household*, mainly because of practical difficulties. It should be noted that the choice of unit significantly changes the result of poverty rates.

Adjustment

Once researchers have made a choice over household or family units, the next step in the process is adjustment. This is based on the fact that the total amount of family need does not necessarily increase with the number of family members. Larger households may have more opportunity to purchase goods for a wholesale price, and cut down expenses for consumer durables. Thus, poverty should be considered together with the economies of scale in the household. Also, researchers need to take account of the age of household members. For example, the overall cost of basic needs for a child is less than the cost for an adult (Klugman, 2002: 31). From this perspective, there are two points to consider: the size and composition of one unit. An equivalence scale is set by researchers to reflect this. As these decisions largely depend on a researcher's assumptions, there is a wide range of variation in scales. In Atkinson's observation on nine references, the scale for a couple ranged from 1.25 to 2.0, and for a child varied between 0.15 and 0.75, when a single adult is 1 (1995: 89). The

equivalence scale employed in the OECD's statistical studies is the square root of the household size, and the modified OECD scale for Eurostat gives a weight of 1 to the first person, 0.5 for each additional adult and 0.3 for each additional child (OECD, 2008: 153-154). However, there is a debate that surrounds the adoption of such equivalence scales. An EC report (2011: 54) argues that necessities budgets do not have the large economies of scale that are assumed in the modified OECD scale. The report argues it has no basis in science and that the EU needs an alternative scale that reflects economies of scale and equivalent needs for the budget standard (EC, 2011: 6-14).

Which level to set: poverty lines

The second step for measuring poverty is deciding on the standard that will delineate 'the poor' from others. What level of income or consumption can be regarded as insufficient? There are two concepts that influence this decision: absolute poverty and relative poverty. Both of them are widely employed to measure poverty in the world. According to the UN's *Global Survey on Poverty Measurement*, 40% of 60 countries employ an absolute poverty line, 30% use a relative poverty line, and the remaining 30% employ a combination of the two. Whilst the concept of absolute poverty is more widely used in Asia, Africa, and the USA, the relative poverty concept is dominant in Europe (UN, 2005: 397-406).

Absolute poverty line

Absolute poverty is "deprivation in an absolute sense, i.e., the value of a set level of resources deemed necessary to maintain a minimal standard of well-being" (UN, 2005: 32). The measurement of absolute poverty was introduced by Rowntree (1901). He attempted to

define poverty objectively in subsistence terms. In his study of town life, he calculated what income level was necessary to acquire the food, clothing, and shelter necessary to maintain physical health. He also considered the size of household, the age of its members, work type, etc. (Rowntree, 1901: 86-87). With systematic and scientific multiple assumptions, he aimed to suggest the universally applicable standard for absolute poverty. His approach laid the foundation of measuring absolute poverty but was criticised for its unrealistic and arbitrary attributes. For example, the question of what items were 'necessary' was not critically considered in his study. It is also unrealistic to expect people to spend money efficiently only for assigned items (Barr, 2012: 109; Townsend, 1954: 131-133).

The measurement of absolute poverty has been developed since Rowntree's first study. The core principle is similar to his initial method, which is to estimate the cost of 'necessary' goods for a minimum standard of life, but the modern process is much more sophisticated and is designed to reflect what is necessary in more detail (Klugman, 2002: 33-34; OECD, 2008: 130). The concept is widely employed in many countries and organisations, including the USA and the World Bank. Employing absolute poverty in comparative studies requires extra care, as incomes or expenditures in different countries need to be translated into a common currency (Barr, 2012: 114). For example, the World Bank uses a common dollar figure, adjusted by purchasing power parities to compare the poverty rates of developing countries. The current international poverty line in local currency is the international poverty lines of $1.25 and $2.00 a day in 2005 prices, converted to local currency using the purchasing power parities conversion factors estimated by the International Comparison Programme (World Bank, 2014: 25). Meanwhile, researchers may rather convert absolute poverty data to a relative standard to compare poverty rates for cross-country comparisons.

In these cases, a relative threshold in a base year, which is kept unchanged in real terms in later years, may be used (OECD, 2008: 130).

Relative poverty line

Adam Smith (1776) is often cited as the first person to describe relative deprivation. He explains that the necessities for life are "not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without" (Smith, 1776: book 5, part 2, article 4). He refers to a linen shirt as an example; linen shirts are not a necessity of life but "a creditable day-labourer would be ashamed to appear in public" without one, at his time of writing (Smith, 1776: book 5, part 2, article 4). The point made here is that the concept of poverty should be considered in the context of the relative society. Townsend (1979: 31) also conceptualised poverty as "the living conditions and amenities which are customary, or are at least widely encouraged or approved, in the societies to which they belong". This means that at the core of poverty is the relative deprivation. In this perspective, the definition of poverty changes over time and space. Similarly, just as the absence of a linen shirt is no longer a source of shame in the present day, the standard of poverty relies on the culture and the economic development of a society.

The OECD and the EU widely employ the relative poverty line in their statistical studies. The OECD provides poverty rates at 40%, 50% and 60% of median income thresholds. As the EU sets a benchmark at the threshold of 60%, and the absolute poverty line in the USA is close to 40% of median income, the OECD mainly focuses on 50% of median income, the

mid-point between the EU and the USA (OECD, 2008: 148). The threshold may also be decided in relation to certain welfare benefits. For example, the level of social assistance was often the basis for defining low incomes in Europe in the post-war era. It is worth noting that poverty rates may be affected by social policies if they are designed to guarantee a certain level of income, and if a large portion of the population is clustered around the poverty line threshold (OECD, 2008: 126); as Atkinson describes, poverty rates employing a 50% of income threshold might be significantly different in two countries, if the social minimum wage is set at 47.5% of average income in Country A and at 52.5% in Country B (Atkinson, 1995: 86). Researchers should be aware of this possibility to mislead when measuring poverty.

How to measure: poverty measures

The final step for measuring poverty entails choosing a statistical measure to estimate the extent of poverty. There have been several practices of calculating poverty statistics, but measures described in the below section have been the most commonly employed measures over the past 20 years. These provide the process for answering two questions: "how many poor people are there in a region?" (headcount index) and "how deep is their deprivation?" (poverty gap) (UN, 2005: 52-53). Since these measures shed light on the different aspects of poverty, it is common to use them simultaneously.

Headcount index

A headcount index is defined as "the share of the population whose income or consumption is below the poverty line" (Klugman, 2002: 34). It is the simplest way to grasp poverty rates

as it literally counts how many people fall below the poverty line. Because of its analytical and explanatory parsimony, it is the most common measure used to compute poverty levels and is often employed as the basis for policy making.

However, there are shortcomings. First, headcount measures do not provide detailed information on poverty. For example, researchers cannot estimate the depth of poverty; how far on average people are from the poverty line. A headcount index can help to grasp the extent of poverty – how many people are under the poverty line – but not the degree of seriousness. In the same manner, it cannot capture any changes under the poverty line. We cannot observe any change in headcount index when people become even poorer, as long as they remain below the poverty line. It thus may not provide us with insights into the implications for poverty alleviation, for instance. Second, a headcount measure is vulnerable to manipulation; as it only focuses on the size of populations above and below the poverty line, the index can be instantly fluctuated by policy interventions. For instance, policy makers are able to input resources solely to people who sit just below the poverty line in order to boost them over the threshold. In this instance, the poverty headcount would be dramatically decreased in a very short time, but it would be difficult to argue that poverty is alleviated in real terms (Barr, 2012: 113; UN, 2005: 59). In this regard, the UN suggests that researchers should create a sub-poverty headcount index in addition to the total poverty index. By calculating poverty at lower thresholds than the overall poverty line, researchers might get a more accurate picture of poverty (UN, 2005: 60).

Poverty gap / squared poverty gap

A poverty gap reflects the depth of poverty as well as its incidence. It is "the mean shortfall from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line" (World Bank, 2014: 25). In other words, a poverty gap demonstrates what is required to raise all the people in poverty to the poverty line. It calculates the total amount of the gap between the poor and the poverty line, and then divides it by the total population (Klugman, 2002: 35). A squared poverty gap is introduced to show income differences. By squaring the poverty gap, it weights the value of the poorest individuals, since their initial resource gap is largest (UN, 2005: 67). It provides us clearer picture of distributions of poverty as it shows not only the distance separating the poor from the poverty line, but also the inequality between them (Klugman, 2002: 35). However, it lacks intuitive appeal and is not easy to interpret. As a result, it is not widely applied to comparative studies despite being the measure that takes into account inequality among the poor (World Bank, 2005: 73-74). It can be more useful as a complementary measure to the headcount measure.

4.2 Poverty trends in the 1990s and 2000s

Comparing poverty measures of the OECD, Eurostat and LIS

Building on our understanding of poverty as detailed in the previous section, it is now necessary to compute poverty levels across OECD countries in the 1990s and 2000s. Three of the most commonly used data sources are the OECD, Eurostat, and the Luxembourg

Income Study (LIS)[5]. As mentioned earlier, the conceptualisation of poverty is a complicated process. The choice among various indicators takes on particular importance in international comparisons, since they require further adjustments to take into account differences such as currency, income concepts, weighting, etc. The OECD, Eurostat, and LIS generally take a similar approach to calculating poverty; they compute poverty rates based on annual disposable equivalised median income by household units. However, some differences do exist.

First of all, the coverage is different. Whilst the OECD covers 34 countries, LIS collects data from 43 countries as of 2015. Eurostat mainly analyses EU countries, whilst some indicators are also provided for non-member countries such as Iceland, Norway, Switzerland and Turkey. Second, the concept of income is slightly different in their macro-level summary figures. For example, the OECD classifies occupational and private pensions into market income, whilst LIS regards it as capital income. As factor income is defined as the sum of labour income and capital income in the LIS microdata, occupational and private pensions belong to 'factor income', whilst they belong to 'market income' in the OECD data. However, this is not problematic when comparing disposable income. Also, as the LIS and Eurostat data can be accessed in micro-level form, researchers can operationalise them any way they require. Thirdly, they show distinctions in their equivalence scales. When it comes

[5] These three datasets are generated by independent sources of microdata. The OECD data is from Income Distribution and Poverty data which is directly collected from member countries via questionnaires (https://www.oecd.org/statistics/data-collection/).

EU statistics on income and living conditions (EU-SILC) are collected on the basis of an agreement between Eurostat and member states (http://ec.europa.eu/eurostat/statistics-explained/index.php/Income_distribution_statistics.)LIS acquires microdata from data providers based on surveys then harmonise it into a common template in order to make the datasets comparable (http://www.lisdatacenter.org/).

to the OECD and the LIS microdata, equivalised income is equal to unadjusted household income divided by the square root of the number of household members (equivalised income = unadjusted household income / √household size). All members of a given household have the same equivalent income, regardless of age, gender, or relationship to the household head (LIS website[6]). On the other hand, the Eurostat employs the modified OECD equivalence scale which gives a weight of 1 to the first person, 0.5 for each additional adult and 0.3 for each additional child (OECD, 2008: 154). Fourth, whilst the OECD mainly focuses on a poverty threshold of 50% of median income, the Eurostat adopts a threshold of 60% of median income as a benchmark for at-risk-of-poverty. However, it is not a significant problem when comparing poverty levels as they generally provide three types of income thresholds (60%, 50%, and 40% of the median income). Also, there are some minor differences, such as weighting, bottom and top coding.

Table 4.1 shows a comparison of the main estimates among the OECD, the Eurostat, and the LIS. It shows poverty rates for the entire population at 50% and 60% of median income thresholds and child poverty rates at 50% of the median income threshold. As we can see, differences in poverty rates of the three sources are minor. This confirms the reliability of the three datasets when comparing poverty levels across countries. Researchers can choose between them according to the aim of their studies, coverage of countries, and time period, as long as they are aware of the precise definitions of poverty indicators the dataset has employed. From this perspective, and considering various advantages, this thesis examines poverty levels based on the LIS dataset; the LIS covers a relatively large sample of countries

[6] http://www.lisdatacenter.org/

and provides subdivided income concepts that allow researchers to compare various poverty rates. Further background information of the LIS microdata is explained in the following section.

Table 4.1: Comparisons of main estimates in the OECD, Eurostat, and LIS datasets

	Reference years (incomes)			Poverty rates: 50% median			Poverty rates: 60% median			Child poverty rates: 50% median		
	OECD	Eurostat	LIS	OECD	Eurostat	LIS	OECD	Eurostat	LIS	OECD	Eurostat	LIS
Australia	2004	-	2003	12	-	12	20	-	20	12	-	14
Austria	2004	2004	2000	7	6	8	13	12	13	6	6	8
Belgium	2004	2004	2000	9	8	8	16	15	16	10	9	7
Canada	2005	-	2000	12	-	12	19	-	19	15	-	16
Czech Republic	2004	2004	-	6	5	-	11	10	-	10	9	-
Denmark	2004	2004	2004	5	6	6	12	12	13	3	5	4
Finland	2004	2004	2004	7	5	7	15	12	14	4	3	4
France	2004	2004	2000	7	6	7	14	13	14	8	6	8
Germany	2004	2004	2000	11	7	8	17	12	13	16	6	9
Greece	2004	2004	2000	13	13	14	20	20	21	13	13	13
Hungary	2005	2004	1999	7	7	6	12	13	13	9	11	8
Iceland	2004	2004	-	7	5	-	12	10	-	8	6	-
Ireland	2004	2004	2000	15	11	16	23	20	22	16	15	16
Italy	2004	2004	2000	11	12	13	20	19	20	16	16	17
Japan	2000	-	-	15	-	-	21	-	-	14	-	-

Korea	2005	-	-	15	-	-	21	-	-	10	-	-
Luxembourg	2004	2004	2000	8	7	6	13	13	12	12	10	9
Mexico	2004	-	2002	18	-	20	25	-	27	22	-	25
Netherlands	2004	2004	2000	8	6	5	14	11	11	12	9	6
New Zealand	2003	-	-	11	-	-	23	-	-	15	-	-
Norway	2004	2004	2000	7	7	6	12	11	12	5	5	3
Poland	2004	2004	1999	15	15	13	21	21	19	22	22	18
Portugal	2004	2004	-	13	13	-	21	19	-	17	17	-
Slovak Republic	2004	2004	-	8	8	-	14	13	-	11	12	-
Spain	2004	2004	2000	14	13	14	21	20	21	17	16	15
Sweden	2004	2004	2000	5	5	7	11	9	12	4	5	4
Switzerland	2001	-	2002	9	-	8	12	-	14	8	-	7
Turkey	2004	2002	-	18	18	-	24	26	-	25	-	-
UK	2005	2004	1999	8	12	12	16	19	21	10	13	17
US	2005	-	2005	17	-	17	24	-	24	21	-	21

Source: OECD (2008: 154).

Analysing poverty rates with the LIS microdata

The Luxembourg Income Study Database (LIS) provides household- and personal-level data on market and government income, demography, employment, and expenditures at regular intervals. As the LIS microdata covers a relatively broad range of countries and has subdivided numerous variables, it is often used to analyse the relationship between economic and social policies and their outcomes. In particular, the LIS microdata is apt for comparing the effect of social policies on poverty across countries, since it provides separated household and individual data for specific transfer incomes. For example, researchers who analyse policies for older people are able to track the effect of a particular social policy such as mandatory individual pensions, old-age universal pensions, and old-age assistance pensions. Researchers are able to select variables for their research models and operationalise them. Of course, a comparison based on the LIS microdata does have limitations. Despite the dataset covering a broad range of countries that share a good number of variables, some variables are missing for some countries. For instance, all country datasets have variables for major aggregates and upper concepts, but variables for their subcomponents are not always available. Consequently, researchers may have difficulty when comparing countries using those variables. This thesis returns to this issue below.

In this section, this thesis computed poverty rates using the raw LIS microdata. The results are shown in three steps to grasp poverty changes in OECD countries for the last two decades. First, this section shows relative poverty rates for different income thresholds; poverty rates at 40%, 50%, and 60% of the median disposable income are analysed. Then, as the next step, the poverty gap and the squared poverty gap will be shown to complement the headcount index. This highlights hidden changes under the poverty line. The ‘50% of median

disposable income' rate is employed for this step. Finally, this section shows relative poverty rates based on decomposed income: factor income, income after social security transfers, and disposable income. This allows us to track poverty changes according to government interventions. All of the analysis in this section is based on household income and is analysed from 1990 to 2010 at ten-year intervals. As the LIS provides datasets at slightly different intervals depending on the country, the closest available data are used in the analysis.

Employed poverty indicators and variables for analyses

As examined in the previous section, researchers have various options when measuring poverty. The result might vary depending on poverty indicators and the method that researchers employ. This thesis computed poverty rates mainly using the guidelines from the LIS. The LIS website[7] provides "Inequality and poverty key figures", which are generated by LIS staff and are widely employed in numerous studies. It shows multiple inequality measures (e.g., Gini and Atkinson coefficients, percentile ratios), relative poverty rates for various demographic groups, and median and mean disposable household income. In this section, similar measures to the LIS key figures are used for the first and the second steps. Based on them, this thesis breaks down relative poverty rates in the third step for an in-depth analysis of poverty.

In the key figures, poverty lines are calculated based on the total population, and a subgroup of the population for children and the elderly at a threshold of 40%, 50%, and 60% of the

[7] http://www.lisdatacenter.org/.

disposable median income. The disposable income is divided by the square root of the number of household members to adjust for different family size (equivalence scale). Extreme values of each variable were eliminated by bottom and top coding. The bottom is coded at 1% of equivalised median income and the top is coded at 10 times the median of the non-equivalised income. The major indicators that this thesis employed to compute poverty rates are as seen in Table 4.2.

Table 4.2: Basic Information for the LIS Inequality and Poverty Key Figures

Indicators	LIS inequality and poverty key figures
Countries covered	43 countries (Europe, North America, Latin America, Africa, Asia, and Australasia)
Period covered	1971-2013, at regular intervals
Poverty line	A threshold of 40%, 50%, and 60% of disposable equivalised median income
Unit of analysis	Household
Equivalence scale	Equivalised Income = unadjusted household income / √household size
Weighting	For the total population: person-level adjusted weights
Bottom and top coding	Bottom-coded at 1% of equivalised median income and top-coded at 10 times the median of non-equivalised income
Treatment of currency	Median equivalised income expressed in the units of national currency that were in use at the time of data collection

Source: Author based on LIS website, http://www.lisdatacenter.org/

The major variables for income used in the analysis are in Table 4.3 as follows. *Disposable household income* is current net income after income taxes and social security contributions.

Factor income means market income, which is the sum of labour income and capital income. This represents the original income before any type of redistribution. *Social security transfers* are the sum of social security transfers which cover work-related insurance transfers, universal benefits and assistance benefits. In the analysis in step three, *income after social security transfers* are used, which is the sum of *factor income* and *social security transfers.*

Table 4.3: LIS variable definitions

Name	Label	Definition
DHI	Disposable household income	Total monetary and non-monetary current income net of income taxes and social security contributions. (HI – HXIT)
FACTOR	Factor income	Total current monetary and non-monetary income from labour and capital. (HIL + HIC)
HITS	Social security transfers	Monetary and non-monetary transfers that result from an institutional arrangement between the recipient and the government and/or the employer, with the explicit intention to relieve household and individuals of the burden of a defined set of risks or needs; these transfers may be paid either directly from public bodies, or through private bodies representing the institutional arrangement as defined above. Social security universal transfers in kind defined as government-provided services that benefit individuals, but are provided with the primary objective of meeting the general needs of the overall population, rather than that of assisting the poor (typically these include non-monetary transfers in the areas of housing, care (including child care), education, or health) are not considered as current income and hence not included among the LIS variables. (SOCRED)
HI	Total household income	Total monetary and non-monetary (goods and services) payments received by the household or its individual members at annual or more frequent intervals, that are available for current consumption and that do not reduce the net worth of the household.

HIL	Labour household income	Monetary and non-monetary payments received in counterpart for labour.
HIC	Capital household income	Monetary payments received in counterpart for providing capital (including financial and non-financial assets).
HXIT	Income taxes and social security contributions	Monetary expenditures (i.e. paid directly by the household and/or its members) and non-monetary expenditures (paid on behalf of the household and/or its members) on income taxes and social security contributions.

Source: LIS website, http://www.lisdatacenter.org/.

Relative poverty rates for different income thresholds

As the first step of analyses in this section, relative poverty rates are computed at 40%, 50%, and 60% of the median disposable income. The results are shown in Table 4.4. It shows poverty rates of the total population and of people aged 65 and over between 1989 and 2010.

The poverty rates of the total population generally show similar results, regardless of income thresholds. For example, countries that show the highest poverty rates at 40% of the income threshold also show the highest poverty rates at 50% and 60% of the income threshold. Regardless of income thresholds and years, poverty rates in the total population are consistently high in Mexico, the USA, Spain, and South Korea, roughly in this order, for the last two decades. At the other end of the spectrum, the Netherlands, Sweden, Luxembourg, the Czech Republic, Finland and Denmark are consistently the lowest group in the same period. When it comes to changes in poverty rates, Belgium, the Czech Republic, Italy, Luxembourg, Norway, Poland, and the Slovak Republic show a gradual increase in poverty

from 1990 to 2010. The UK, Greece, and Austria, on the other hand, show continuous decreases in poverty during the same period.

Despite the general trend, it is worth noting that the relative severity of poverty may vary depending on the income threshold. For example, Sweden generally scores low on poverty rates for 20 years, but the ranking in total is different depending on the income threshold. Sweden is the country with the lowest poverty at 40% of the income threshold (4.1% in 1992 and 2.6% in 2005), but the second lowest at 50% of the income threshold (6.7% in 1992 and 5.6% in 2005) and the fourth lowest at 60% of the income threshold (12.1% in 1992 and 12.0% in 2005). As another example, Australia does not sit among the countries with high poverty rates at 40% (6.0% in 1989 and 5.9% in 2010) and 50% (12.2% in 1989 and 13.9% in 2010) of income, but it is the fourth highest at 60% of the income threshold (19.0% in 1989 and 21.2% in 2010). It is very close to Spain (17.1% in 1990 and 22.4% in 2010) and South Korea (20.6% in 2006), which have had consistently high poverty rates for the last two decades. These cases show different income clusters across countries. In the earlier example, we can imagine that the poverty population is clustered between 40% and 50% of the median income in Australia and above 50% of the median income in Sweden, whilst risk of poverty is more prevalent across all income thresholds in Spain and South Korea. This demonstrates that the choice of income threshold can greatly affect poverty rates, and additional measures are required to gain a fuller understanding of the actual situation.

The overall features are similar in the older population. The countries that show high poverty rates in the total population also show high poverty rates in the older population, and vice versa. There are, however, some distinct features. First, there is one country that stands out

in the poverty rates of older people: South Korea. It is impossible to observe changes in poverty as the LIS provides only one dataset for South Korea (2006), but the older poverty rates in 2006 are remarkably high at all income thresholds (30.5% at 40% of the income threshold, 41.4% at 50% of the income threshold, and 51.7% at 60% of the income threshold). They are much higher than those of total population (9.2% at 40% of the income threshold, 14.0% at 50% of the income threshold, and 20.6% at 60% of the income threshold) and the older population in other countries. Second, some countries show significantly higher poverty levels at 50% and 60% of the income threshold compared to those at 40% of the income threshold. For example, poverty rates of older people in Australia at 40% of the income threshold are at a moderate level (5.6% in 1989 and 8.0% in 2010) compared to other countries, but Australia marks the second highest poverty rates at 50% (24.2% in 1989 and 33.7% in 2010) and 60% (46.1% in 1989 and 50.3% in 2010) of income thresholds. Sweden also shows similar features. Third, poverty trends in the older and total population are quite varied in some countries. There are cases where the poverty rates of the older population have decreased whilst those of the total population have increased over the last 20 years. For instance, Greece shows significant poverty alleviation among older people, especially since 2000 (26.8% in 2000 to 11.6% in 2010 at 50% of the income threshold), despite poverty changes in the overall population remaining moderate (14.3% in 2000 to 13.5% in 2010 at 50% of the income threshold). Similarly, Hungary, Norway, and Poland show a decrease in the poverty rates of older people whilst increases in those of the total population. Meanwhile, some countries show an increase in poverty in the older population despite an overall decrease in poverty in the total population, such as Switzerland. Overall, all this implies that there are certain different interventions which affect the income level of the older population across countries. It is also fairly predictable that the interventions would be social security transfers, the largest body in transfers, especially for retirees.

Table 4.4: Relative poverty rates for different income thresholds, 1990s and 2000s

Country	Year	Total population			Older population		
		At 40% of income	At 50% of income	At 60% of income	At 40% of income	At 50% of income	At 60% of income
Australia	2010	5.9	13.9	21.2	8.0	33.7	50.3
	2001	5.5	13.0	21.6	4.7	23.0	46.7
	1989	6.0	12.2	19.0	5.6	24.2	46.1
Austria	2004	3.4	7.1	13.4	2.0	9.4	17.8
	2000	3.6	7.7	13.4	5.8	13.6	21.4
	1994	4.6	8.7	14.7	5.2	11.9	22.3
Belgium	2000	3.7	8.1	16.1	5.8	15.4	35.9
	1992	1.8	5.1	10.4	4.1	12.1	24.6
Canada	2010	7.0	12.5	20.2	2.3	9.8	22.4
	2000	7.2	12.4	18.9	1.4	5.4	16.2
	1991	6.3	11.0	16.6	1.3	5.8	19.4
Czech Republic	2010	2.9	6.3	11.3	0.5	3.3	12.1
	2002	1.6	4.2	9.8	0.1	1.9	9.5
	1992	0.7	2.4	6.8	0.3	5.7	19.5
Denmark	2010	3.2	6.3	13.5	0.8	6.6	24.0
	2000	2.0	5.4	13.1	0.8	12.1	36.9
	1992	3.8	7.2	14.6	3.6	11.0	35.7
Finland	2010	2.8	7.2	15.0	1.8	9.7	24.3
	2000	2.2	5.5	12.7	1.2	8.8	25.8
	1991	2.5	5.5	10.7	3.4	14.1	30.6
France	2010	4.7	9.1	15.5	2.0	5.2	11.7
	2000	2.8	7.3	13.8	3.0	8.5	16.2
	1989	4.8	8.9	15.5	7.2	14.7	25.6
Germany	2010	4.6	9.5	16.4	4.5	10.6	20.2
	2000	4.1	7.6	12.7	3.7	10.0	17.9
	1989	3.0	5.6	11.8	4.9	10.4	21.6
Greece	2010	7.6	13.5	20.9	4.6	11.6	20.2
	2000	8.6	14.3	21.4	17.0	26.8	38.3

	1995	10.2	15.4	21.5	19.1	27.3	35.6
Hungary	2009	4.3	7.9	15.2	0.5	1.8	6.3
	1999	3.1	6.8	13.6	1.3	4.4	14.0
	1991	4.3	7.8	14.4	4.1	13.6	28.2
Iceland	2010	3.2	6.1	11.5	2.1	3.3	11.8
	2004	2.9	5.3	11.2	1.3	3.5	15.9
Ireland	2010	4.6	9.4	16.6	5.3	8.2	21.5
	2000	7.4	16.2	22.5	15.2	36.8	54.9
	1994	2.6	11.9	20.4	3.4	17.3	32.9
Italy	2010	7.5	12.5	19.1	3.8	8.8	16.6
	2000	7.5	12.7	20.0	6.1	14.4	22.9
	1991	4.5	10.4	19.1	5.5	15.7	27.4
Japan	2008	6.6	10.9	17.6	8.9	13.6	22.1
Luxembourg	2010	2.8	6.1	13.1	1.0	1.6	6.9
	2000	1.4	5.9	12.3	1.1	3.7	10.5
	1991	0.8	4.5	12.2	2.6	11.8	23.1
Mexico	2010	14.3	19.9	25.9	18.7	26.3	33.9
	2000	15.2	21.3	28.2	21.7	29.4	37.8
	1992	13.3	18.9	25.4	18.0	25.6	32.7
Netherlands	2010	2.7	5.2	11.1	1.8	2.2	7.4
	1999	2.5	4.9	11.1	0.4	1.6	15.0
	1990	3.8	6.3	12.2	2.2	3.2	19.4
Norway	2010	4.3	7.4	12.9	0.8	5.5	16.2
	2000	3.0	6.4	12.3	1.3	12.2	28.9
	1991	2.3	6.4	12.1	0.9	14.0	29.4
Poland	2010	4.9	9.5	16.2	2.7	7.1	14.9
	1999	4.7	9.1	15.2	2.1	5.0	10.8
	1992	2.4	5.7	12.3	4.0	10.9	23.0
Slovak Republic	2010	4.5	8.0	13.4	0.8	4.4	12.2
	2004	4.6	8.0	14.2	2.0	6.0	17.8
	1992	0.7	2.0	6.3	0.4	2.2	14.8
South Korea	2006	9.2	14.0	20.6	30.5	41.4	51.7

Spain	2010	9.8	15.2	22.4	5.3	13.2	25.5
	2000	7.6	14.2	20.8	9.3	23.3	33.8
	1990	5.1	10.0	17.1	4.1	12.0	25.1
Sweden	2005	2.6	5.6	12.0	1.5	6.6	20.6
	2000	3.8	6.6	12.3	2.2	8.0	21.4
	1992	4.1	6.7	12.1	1.5	6.4	19.8
Switzerland	2004	4.3	8.0	14.8	8.0	15.1	30.7
	2000	3.7	7.5	13.8	4.9	13.5	28.3
	1992	6.7	9.3	14.6	4.7	8.4	19.0
United Kingdom	2010	5.3	9.8	17.4	4.6	10.3	19.9
	1999	5.9	13.2	21.8	8.3	18.2	33.9
	1991	6.7	14.6	22.8	8.2	24.1	43.6
United States	2010	10.9	16.9	23.9	11.5	19.8	28.8
	2000	10.4	16.6	23.5	14.4	24.1	33.3
	1991	11.2	17.5	23.9	12.2	21.5	30.2

Source: Author based on LIS Microdata.

The poverty gap and the squared poverty gap

A headcount index, often synonymously used with poverty rates, is useful to make comparisons of poverty levels across countries, but it does not provide sufficient evidence about poverty changes below the poverty line. As a headcount index only informs us about the relative size of the population based on the poverty line, we cannot estimate the depth of poverty. In this regard, the poverty gap is a useful measure to grasp "how deep their deprivation is" (UN, 2005: 52-53). The squared poverty gap more vividly highlights the deprivation by squaring the poverty gap. Therefore, this thesis computed the poverty gap index and the squared poverty gap index using the raw LIS microdata as the second step to explore poverty rates across the OECD. It aims at complementing the headcount index as

observed above. The results are shown in Table 4.5. The 50% of median disposable income threshold is used here to make a simple comparison. Also, the poverty gap and the squared poverty gap mean the average normalised poverty gap and the average squared normalised poverty gap. The figures are the average of the ratio of the poverty gap to the poverty line (World Bank, 2005: 72).

Overall, Table 4.5 shows a similar trend across relative poverty rates (headcount index), the poverty gap index and the squared poverty gap index. Countries with a higher incidence of poverty rates also record higher poverty gaps and squared poverty gaps. Similarly, countries belonging to the group of low poverty rates show low poverty gaps and squared poverty gaps. For example, three indicators are high in Mexico, the USA, and South Korea in both the total and the older population. Meanwhile, the Netherlands, Luxembourg, and Sweden show the lowest scores in all three indicators.

The general trends in poverty changes during the selected 20 years are also similar. When the relative poverty rates increased in one country, the poverty gap and the squared poverty gap similarly increased during the same period. There are, however, some exceptions. First, the poverty gap and the squared poverty gap decrease whilst poverty rates increase in some countries. In Germany, the relative poverty rates in older people slightly increased from 10.4% (1989) to 10.6% (2010). However, over the same period the poverty gap decreased from 0.027 (1989) to 0.022 (2010). The change in the squared poverty gap also shows clear poverty alleviation. It decreased from 0.013 (1989) to 0.007 (2010). It indicates that the extent of poverty in older people increased, but the depth of poverty was alleviated during the period. France is a similar case. Whilst the relative poverty rates in the total population

increased from 8.9% (1989) to 9.1% (2010), the poverty gap dropped from 0.032 (1989) to 0.026 (2010) and the squared poverty gap decreased from 0.02 (1989) to 0.013 (2010). Second, there are cases where the poverty gap and the squared poverty gap increased whilst poverty rates decreased over the 20 years. Ireland shows a significant decrease in relative poverty rates in older people from 17.3% (1994) to 8.2% (2010). However, the poverty gap increased from 0.025 (1994) to 0.037 (2010) and the squared poverty gap also rose from 0.009 (1994) to 0.026 (2010). Similarly, the USA shows overall decreases in relative poverty rates in the total population, but increases in the poverty gap and the squared poverty gap. The poverty rates slightly decreased from 17.5% (1991) to 16.9% (2010), whilst the poverty gap increased from 0.058 (1991) to 0.059 (2010) and the squared poverty gap rose from 0.029 (1991) to 0.031 (2010). Third, there are cases where the poverty gap and the squared poverty gap show different trends. In the UK, despite the alleviation of relative poverty rates and the poverty gap in the total population, the squared poverty gap was aggravated for 20 years. Poverty rates significantly dropped from 14.6% (1991) to 9.8% (2010) and the poverty gap also decreased from 0.036 (1991) to 0.031 (2010). Contrary to this trend of poverty alleviation, the squared poverty gap increased from 0.017 (1991) to 0.018 (2010).

Table 4.5: Poverty headcounts, the poverty gap, and the squared poverty gap at 50% of the median income threshold, 1990s and 2000s

Country	Year	Total population			Older population		
		Relative poverty rates	Poverty gap index	Squared poverty gap index	Relative poverty rates	Poverty gap index	Squared poverty gap index
Australia	2010	13.9	0.036	0.017	33.7	0.059	0.022
	2001	13.0	0.034	0.019	23.0	0.038	0.015
	1989	12.2	0.034	0.017	24.2	0.042	0.016

Austria	2004	7.1	0.019	0.009	9.4	0.014	0.005
	2000	7.7	0.022	0.011	13.6	0.029	0.012
	1994	8.7	0.027	0.015	11.9	0.029	0.015
Belgium	2000	8.1	0.019	0.008	15.4	0.028	0.010
	1992	5.1	0.010	0.004	12.1	0.023	0.008
Canada	2010	12.5	0.037	0.018	9.8	0.015	0.005
	2000	12.4	0.038	0.020	5.4	0.010	0.005
	1991	11.0	0.031	0.014	5.8	0.008	0.002
Czech Republic	2010	6.3	0.015	0.006	3.3	0.004	0.001
	2002	4.2	0.008	0.003	1.9	0.002	0.000
	1992	2.4	0.004	0.001	5.7	0.005	0.001
Denmark	2010	6.3	0.020	0.012	6.6	0.008	0.003
	2000	5.4	0.012	0.005	12.1	0.011	0.002
	1992	7.2	0.023	0.014	11.0	0.028	0.018
Finland	2010	7.2	0.015	0.006	9.7	0.011	0.003
	2000	5.5	0.011	0.004	8.8	0.011	0.003
	1991	5.5	0.013	0.006	14.1	0.019	0.005
France	2010	9.1	0.026	0.013	5.2	0.013	0.006
	2000	7.3	0.016	0.007	8.5	0.018	0.007
	1989	8.9	0.032	0.020	14.7	0.049	0.032
Germany	2010	9.5	0.023	0.009	10.6	0.022	0.007
	2000	7.6	0.019	0.008	10.0	0.021	0.008
	1989	5.6	0.016	0.008	10.4	0.027	0.013
Greece	2010	13.5	0.042	0.023	11.6	0.023	0.009
	2000	14.3	0.044	0.021	26.8	0.078	0.033
	1995	15.4	0.055	0.031	27.3	0.097	0.048
Hungary	2009	7.9	0.022	0.010	1.8	0.004	0.002
	1999	6.8	0.016	0.007	4.4	0.008	0.003
	1991	7.8	0.024	0.012	13.6	0.025	0.010
Iceland	2010	6.1	0.017	0.008	3.3	0.011	0.005

	2004	5.3	0.015	0.008	3.5	0.005	0.001
Ireland	2010	9.4	0.028	0.015	8.2	0.037	0.026
	2000	16.2	0.037	0.014	36.8	0.069	0.021
	1994	11.9	0.020	0.007	17.3	0.025	0.009
Italy	2010	12.5	0.042	0.024	8.8	0.017	0.006
	2000	12.7	0.041	0.021	14.4	0.034	0.014
	1991	10.4	0.024	0.010	15.7	0.029	0.008
Japan	2008	10.9	0.034	0.017	13.6	0.044	0.022
Luxembourg	2010	6.1	0.016	0.008	1.6	0.007	0.006
	2000	5.9	0.009	0.002	3.7	0.006	0.001
	1991	4.5	0.006	0.002	11.8	0.015	0.003
Mexico	2010	19.9	0.082	0.049	26.3	0.103	0.057
	2000	21.3	0.076	0.038	29.4	0.120	0.069
	1992	18.9	0.066	0.033	25.6	0.100	0.057
Netherlands	2010	5.2	0.016	0.009	2.2	0.010	0.007
	1999	4.9	0.014	0.008	1.6	0.003	0.001
	1990	6.3	0.026	0.018	3.2	0.013	0.008
Norway	2010	7.4	0.026	0.015	5.5	0.006	0.003
	2000	6.4	0.019	0.010	12.2	0.015	0.004
	1991	6.4	0.016	0.008	14.0	0.015	0.003
Poland	2010	9.5	0.028	0.015	7.1	0.016	0.008
	1999	9.1	0.027	0.015	5.0	0.014	0.008
	1992	5.7	0.012	0.004	10.9	0.021	0.007
Slovak Republic	2010	8.0	0.025	0.012	4.4	0.006	0.002
	2004	8.0	0.022	0.010	6.0	0.010	0.003
	1992	2.0	0.004	0.001	2.2	0.003	0.001
South Korea	2006	14.0	0.049	0.026	41.4	0.158	0.082
Spain	2010	15.2	0.058	0.035	13.2	0.030	0.013
	2000	14.2	0.039	0.019	23.3	0.042	0.013
	1990	10.0	0.027	0.012	12.0	0.022	0.008

Sweden	2005	5.6	0.015	0.008	6.6	0.009	0.003
	2000	6.6	0.021	0.011	8.0	0.012	0.004
	1992	6.7	0.025	0.014	6.4	0.010	0.003
Switzerland	2004	8.0	0.026	0.016	15.1	0.044	0.023
	2000	7.5	0.021	0.012	13.5	0.029	0.014
	1992	9.3	0.050	0.040	8.4	0.033	0.024
United Kingdom	2010	9.8	0.031	0.018	10.3	0.023	0.009
	1999	13.2	0.034	0.017	18.2	0.038	0.013
	1991	14.6	0.036	0.017	24.1	0.039	0.010
United States	2010	16.9	0.059	0.031	19.8	0.056	0.025
	2000	16.6	0.054	0.028	24.1	0.070	0.031
	1991	17.5	0.058	0.029	21.5	0.061	0.027

* The poverty gap is the average normalised poverty gap and the squared poverty gap is the average squared normalised poverty gap.

Source: Author based on LIS Microdata.

Relative poverty rates based on decomposed incomes

In previous sections relative poverty rates, the poverty gap and the squared poverty gap have been examined. This has been helpful in understanding the overall situation of OECD countries, but it offers a mere glimpse at the big picture of poverty. As the third step, therefore, it is necessary to compare poverty levels across countries in detail, considering the effect of government transfers on poverty. In this sense, this thesis employs the raw LIS microdata again, and computed poverty rates based on decomposed incomes. To be specific, poverty rates are calculated based on three different incomes: income before any taxes and government transfers (*factor income*), income after social insurance, universal benefits, and assistance benefits (*factor income + social security transfers*), and income after taxes and all transfers including social security transfers and private transfers (*disposable income*).

This thesis uses *social security transfers* among many other concepts, mainly due to the limited data. Because each dataset has different coverage of variables, highly decomposed concepts result in more missing values in comparative analysis. For example, the dataset of the UK 2010 has a variable for old-age insurance public pensions (ITSILEPO), but other datasets do not cover the same variable, such as Japan 2006. The Japan 2006 dataset has a variable for occupational pensions (ITSILO) instead, but it is an upper concept of ITSILEPO and the content does not match. The incidence of unmatched variables is more likely to occur when using highly decomposed concepts with a large number of datasets. Researchers therefore have to choose between using highly decomposed variables or analysing a large number of datasets. When considering the fact that this thesis focuses on pension systems, the best way of using this data might be to look at the most relevant variables such as old-age transfers (IATOLD), old-age insurance public pensions (ITSILEPO), and old-age universal pensions (ITSUPO). However, datasets that cover those variables are very limited and it is difficult to make clear comparisons among OECD countries. As a consequence, the upper concept of all public redistribution, the variable for *social security transfers* (ITS), is used to analyse government intervention in this section. In doing so, it is possible to get useful insights into the effect of income security systems on poverty, even though it is not exclusive to the topic of this thesis.

The basic approach here is similar to that taken within the "Inequality and poverty key figures" data provided by the LIS (see Table 4.2). The poverty line is set at 50% of the median disposable income, and the same poverty line is applied to the other two types of income. The top- and bottom-code value which are generated based on disposable income

are also applied to both of the other two incomes. Meanwhile, the approach to zero incomes needs some careful consideration. Although all households where disposable income is missing or exactly equal to zero are excluded from the analysis, households where *factor income* or *factor income + social security transfers* is zero are not excluded. In doing so, we can analyse households in extreme poverty or households that do not receive any public transfers.

The results are shown in Table 4.6. It is worth noting that the figures for poverty rates based on disposable income are slightly different to those in Table 4.4 and Table 4.5. This is due to the data cleaning process which is conducted in this thesis. When we analyse poverty rates based on three types of decomposed incomes, households where at least one in three variables have a missing value are excluded from the analysis. Therefore, the total number of households is reduced compared to the previous cases. This results in slightly different poverty rates despite the figures originating from same dataset, and the same poverty line. In the strict sense, the figures in Table 4.4 and Table 4.5 are more accurate since they are calculated based on larger observations, but the difference is very small. This chapter shows both sets of data in this respect.

Table 4.6 shows the large drop in poverty rates after social security transfers. It shows the poverty rates we have seen in the previous stages were largely shaped by the government intervention. For example, when it comes to the total population, the gap between poverty rates based in *factor income (A)* and poverty rates based in *factor income + social security transfers (B)* is a 21 point average, whilst the gap between *(B)* and poverty rates based in

disposable income (C) is only a 1.4 point average[8]. Also, whilst the former shows positive changes in poverty rates, the latter shows a mix of positive and negative changes in poverty rates. This is because the latter covers private transfers and taxes and social security contributions; if the amount of taxes and social security contributions is larger than private transfers, the gap between *(B)* and *(C)* is a negative value. One other point to note is that poverty rates based on *disposable income (C)* are not relative to those based on *factor income (A)*. As an example, let us compare the poverty rates based on two income concepts in the last year. When it comes to *(A)*, poverty rates are relatively severe in Hungary (55.5% in 2009), France (40.9% in 2010), Poland (37.5% in 2010), and the UK (38.7% in 2010). Their poverty rates based on *(C)* are, however, not particularly high compared to the others; Hungary (9.2% in 2009), France (9.1% in 2010), Poland (9.5% in 2010), and the UK (9.8% in 2010). On the other hand, Mexico (19.9% in 2010), the USA (16.9% in 2010), and South Korea (14.0% in 2006) are the highest poverty countries in *(C)*, but their poverty rates in *(A)* are moderate (Mexico: 30.9% in 2010, the USA: 32.3% in 2010, South Korea: 22.3% in 2006). Meanwhile, poverty rates based on *disposable income* are proportional to those based on *factor income + social security transfers*. Mexico (19.9% in 2010), the USA (16.9% in 2010), and South Korea (14.0% in 2006) are the highest poverty countries in *(C)*, in the latest year. They also show the highest poverty levels in *(B)* (Mexico: 25.4% in 2010; the USA: 16.1% in 2010; South Korea: 19.5% in 2006). To sum up, the factor that seriously affects final poverty rates are social security transfers, although we do not know which programmes have the greatest effects on poverty reduction through this analysis. When considering the small gap between poverty rates based on *B* and *C* (on average 1.4 points), the effect of

[8] These figures are from the data in Table 4.6. The average gap between *(A)* and *(B)* is 21 points, computed by taking the average of (A-B) of every row. The average gap between *(B)* and *(C)* is 1.4 points in the same way. It is computed by taking the average of (B-C) of every row in the table.

private transfers on poverty might be limited to marginal, even though it is not clearly observed in this analysis as its effect can be offset by income taxes and social security contributions.

Table 4.6: Relative poverty rates at 50% of the median income threshold for different income compositions, 1990s and 2000s

		Total population			Older population		
Country	**Year**	Factor income (A)	Factor income + social security transfers (B)	Disposable income (C)	Factor income (A)	Factor income + social security transfers (B)	Disposable income (C)
Australia	2010	30.0	15.0	13.9	78.4	34.6	33.7
	2001	30.3	13.6	13.0	80.5	23.3	23.0
	1989	23.4	12.1	12.2	74.6	24.1	24.2
Austria	2004	28.2	5.7	7.1	79.4	6.4	9.4
	2000	33.1	8.4	7.7	81.0	13.8	13.6
	1994	33.6	9.7	8.7	83.4	12.6	11.9
Belgium	2000	36.1	8.3	8.1	94.8	14.4	15.4
	1992	28.2	4.7	5.1	89.0	12.1	12.1
Canada	2010	32.3	12.5	12.5	79.5	10.1	9.8
	2000	28.5	11.6	12.4	77.0	5.1	5.4
	1991	25.9	10.5	11.0	72.5	6.1	5.8
Czech Republic	2010	29.7	6.8	6.3	83.7	4.0	3.3
	2002	29.5	4.7	4.2	85.0	2.1	1.9
	1992	26.1	2.7	2.4	84.4	5.8	5.7
Denmark	2010	30.8	3.8	6.3	85.9	1.0	6.6
	2000	28.0	2.3	5.4	88.7	1.1	12.1
	1992	30.1	5.3	7.2	86.0	8.7	11.0
Finland	2010	33.1	5.5	7.1	88.8	6.6	9.4
	2000	30.7	4.2	5.4	87.7	6.6	8.7
	1991	25.7	4.6	5.5	88.6	12.8	14.1

France	2010	40.9	10.5	9.1	89.3	5.6	5.2
	2000	37.2	7.9	7.3	89.0	9.0	8.5
	1989	35.8	9.2	8.9	86.2	14.4	14.7
Germany	2010	35.5	8.3	9.5	86.4	7.5	10.6
	2000	29.5	6.8	7.6	86.7	7.5	10.0
	1989	24.9	4.9	5.6	86.4	8.2	10.4
Greece	2010	33.9	9.9	13.2	77.2	7.0	11.3
	2000	32.0	14.6	14.3	76.6	27.2	26.8
	1995	33.2	16.3	15.4	77.0	28.2	27.3
Hungary	2009	55.5	16.7	9.2	91.0	6.9	2.3
	1999	44.0	7.6	6.8	86.4	4.7	4.4
	1991	39.6	8.5	7.8	77.9	14.1	13.6
Iceland	2010	22.8	5.5	6.1	67.9	2.6	3.3
	2004	17.2	4.5	5.3	67.6	1.6	3.5
Ireland	2010	43.5	9.8	9.4	84.5	8.0	8.2
	2000	29.8	16.3	16.2	81.5	36.3	36.8
	1994	35.7	12.3	11.9	79.7	17.4	17.3
Italy	2010	37.8	13.0	12.5	84.6	8.9	8.8
	2000	34.0	13.0	12.7	77.7	14.6	14.4
	1991	27.9	10.7	10.4	74.0	15.8	15.7
Japan	2008	20.0	8.8	10.9	45.6	11.5	13.6
Luxembourg	2010	31.2	3.8	6.1	81.5	1.3	1.6
	2000	33.5	6.2	5.9	86.1	3.7	3.7
	1991	25.5	4.7	4.5	75.3	11.8	11.8
Mexico	2010	30.9	25.4	19.9	55.4	38.5	26.3
	2000	27.9	25.8	21.3	49.9	38.7	29.4
	1992	23.7	21.8	18.9	43.0	33.2	25.6
Netherlands	2010	28.2	3.4	5.2	90.4	1.0	2.2
	1999	26.5	3.7	4.9	92.9	0.8	1.6
	1990	29.0	4.7	6.3	92.6	2.6	3.2

Norway	2010	28.8	5.7	7.4	82.0	3.8	5.5
	2000	26.0	5.4	6.4	85.7	9.1	12.2
	1991	23.4	6.1	6.4	78.3	12.7	14.0
Poland	2010	37.5	11.3	9.5	81.5	7.0	7.1
	1999	37.7	8.9	9.1	80.2	3.5	5.0
	1992	38.4	11.5	5.7	81.8	17.8	10.9
Slovak Republic	2010	28.8	6.7	8.0	77.8	4.3	4.4
	2004	28.3	7.0	8.1	84.9	6.1	6.1
	1992	28.8	1.9	2.0	80.2	2.3	2.2
South Korea	2006	22.3	19.5	14.0	63.3	55.4	41.4
Spain	2010	35.6	13.8	15.2	79.7	13.3	13.2
	2000	13.2	14.8	14.2	75.8	23.9	23.3
	1990	28.9	10.7	10.0	73.1	13.1	12.0
Sweden	2005	31.8	4.0	5.6	87.3	1.4	6.6
	2000	31.3	5.1	6.6	88.4	5.1	8.0
	1992	34.6	5.2	5.2	91.6	5.2	6.4
Switzerland	2004	23.4	3.8	8.0	87.1	3.0	15.1
	2000	20.7	3.5	7.5	81.9	3.1	13.5
	1992	22.4	8.8	9.3	73.8	8.1	8.4
United Kingdom	2010	38.7	9.6	9.8	88.5	10.4	10.3
	1999	36.1	10.5	13.2	84.7	13.2	18.2
	1991	32.2	12.0	14.6	79.4	15.5	24.1
United States	2010	32.3	16.1	16.9	68.9	19.5	19.8
	2000	26.3	15.5	16.6	70.9	23.8	24.1
	1991	27.9	16.3	17.5	69.7	21.5	21.5

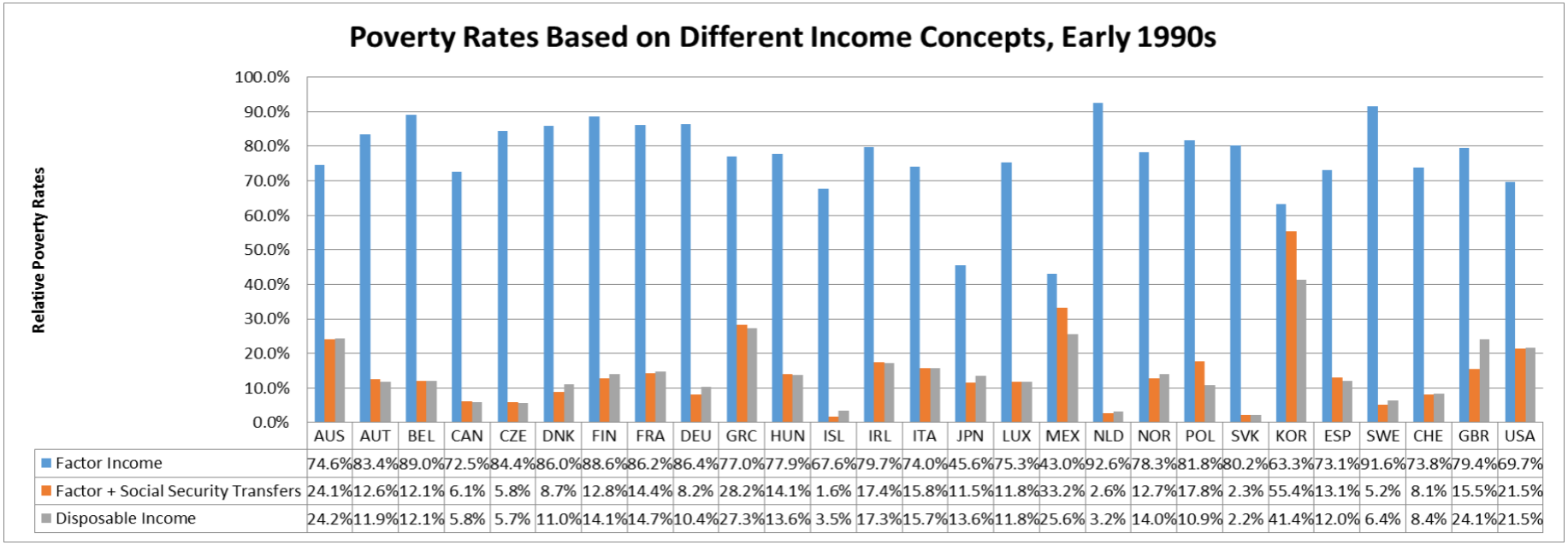
Source: Author based on LIS Microdata.

The overall trend is similar in the older population. For a clear comparison, Figure 4.1 highlights the case of the older population in the early 1990s. Each country's dataset from the early 1990s or the late 1980s are employed except Austria (1994), Greece (1995), Iceland (1994), Ireland (1994), Japan (2008), and South Korea (2006). The bar graph shows clear contrasts in poverty rates before and after social security transfers, and the final poverty rates. Compared to those in the total population, the first thing to notice is the strikingly severe poverty rates in factor income. The poverty rates among older people based on factor income are more than 90% in Sweden and Netherland. Also, a third of 27 countries record more than 80% poverty rates (Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Poland, and the Slovak Republic). However, such high poverty levels are dramatically decreased after social security transfers. Most countries record lower than 15% poverty rates after social security transfers, except for six countries (South Korea, Greece, Mexico, Australia, the UK, and the USA). This implies the massive influence of government intervention for poverty reduction in the older population.

When it comes to disposable income, the effect of poverty reduction is moderate or even negative, compared to income after social security transfers. This is because of the moderate effects of private transfers and the offset of taxes and social security contributions, as explained above. However, two exceptions can be observed here: South Korea and Mexico. Both countries show the great effects of poverty reduction between disposable income and income after social security transfers. In South Korea, the gap of the poverty rates between the two incomes is 14 points, and in Mexico it is 7.6 points. Interestingly, the poverty rates among the older population based on income after social security transfers are at the top level in both countries, as seen above. This implies two possibilities. The first is that private

transfers play a significant role in reducing older people's poverty in South Korea and Mexico, rather than social security systems. The second is that the level of income taxes and social security contributions is very low in these two countries. The latter is highly likely to be true, but more in-depth information is required to examine this theory.

Figure 4.1: Relative poverty rates at 50% of the median income threshold for different income compositions, early 1990s, older population



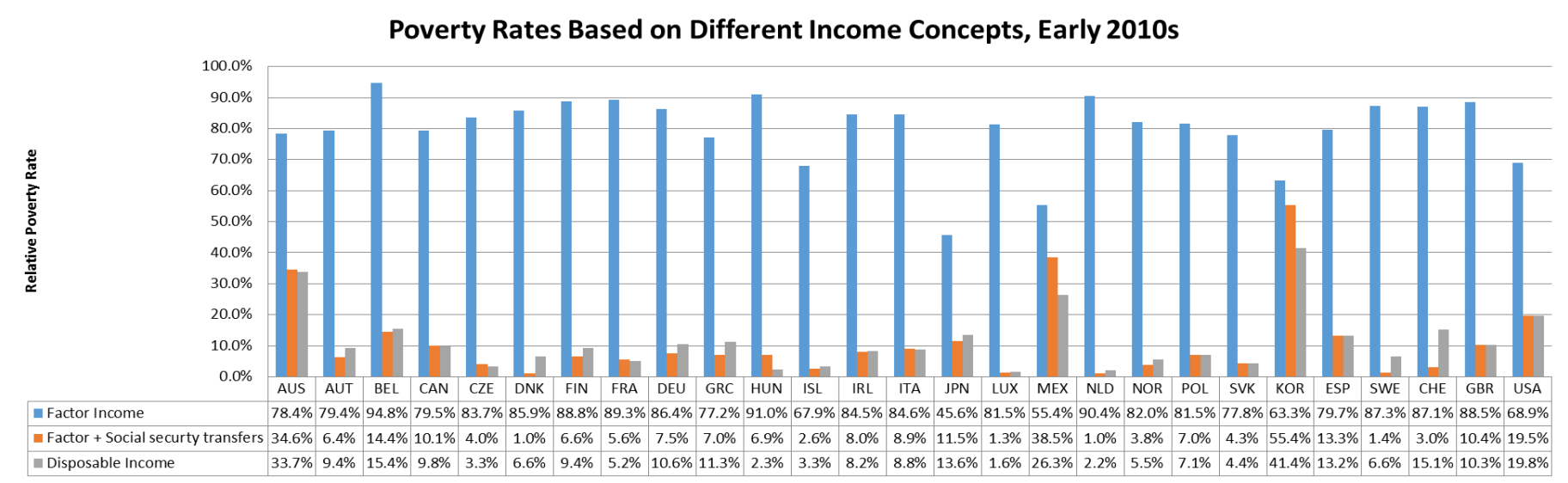
	AUS	AUT	BEL	CAN	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	JPN	LUX	MEX	NLD	NOR	POL	SVK	KOR	ESP	SWE	CHE	GBR	USA
Factor Income	74.6%	83.4%	89.0%	72.5%	84.4%	86.0%	88.6%	86.2%	86.4%	77.0%	77.9%	67.6%	79.7%	74.0%	45.6%	75.3%	43.0%	92.6%	78.3%	81.8%	80.2%	63.3%	73.1%	91.6%	73.8%	79.4%	69.7%
Factor + Social Security Transfers	24.1%	12.6%	12.1%	6.1%	5.8%	8.7%	12.8%	14.4%	8.2%	28.2%	14.1%	1.6%	17.4%	15.8%	11.5%	11.8%	33.2%	2.6%	12.7%	17.8%	2.3%	55.4%	13.1%	5.2%	8.1%	15.5%	21.5%
Disposable Income	24.2%	11.9%	12.1%	5.8%	5.7%	11.0%	14.1%	14.7%	10.4%	27.3%	13.6%	3.5%	17.3%	15.7%	13.6%	11.8%	25.6%	3.2%	14.0%	10.9%	2.2%	41.4%	12.0%	6.4%	8.4%	24.1%	21.5%

Source: Author based on LIS Microdata.

Figure 4.2 below shows the poverty rates of the older populations based on the data in the latest available datasets. Each country's 2010 dataset is employed except Austria (2004), Belgium (2000), Hungary (2009), Japan (2008), South Korea (2006), Sweden (2005), and Switzerland (2004).

The overall features are similar to the previous figure. First, poverty rates in factor income are strikingly severe. The poverty rates based on factor income are more than 90% in Belgium, Hungary, and the Netherlands. Also, half of the 27 countries record more than 80% poverty rates. Compared to the data from the early 1990s, the poverty rates based on factor income became aggravated in most of the countries. Secondly, also similar to the previous figure, the high poverty levels significantly dropped after social security transfers. Twenty-three out of the 27 countries record less than 10% poverty rates after social security transfers. Four countries are the exception: South Korea, Mexico, Australia, and the US. When it comes to disposable income, the poverty rates moderately decreased or slightly increased, as addressed in Figure 4.1. South Korea and Mexico demonstrate further anomalies. South Korea here is based on a single dataset (2006), so it is necessary to look at Mexico. Compared to the previous graph, the gap between the poverty rate based on disposable income and income after social security transfers is 12.3 points, which is significantly improved from 7.6 points in the early 1990s. However, for the selected 20 years, the poverty rate based on disposable income was aggravated from 25.6% to 26.3% in Mexico due to the increase in poverty rates based on factor income and the relatively small effects of social security transfers on poverty.

Figure 4.2: Relative poverty rates at 50% of the median income threshold for different income compositions, latest available data, older population



	AUS	AUT	BEL	CAN	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	JPN	LUX	MEX	NLD	NOR	POL	SVK	KOR	ESP	SWE	CHE	GBR	USA
Factor Income	78.4%	79.4%	94.8%	79.5%	83.7%	85.9%	88.8%	89.3%	86.4%	77.2%	91.0%	67.9%	84.5%	84.6%	45.6%	81.5%	55.4%	90.4%	82.0%	81.5%	77.8%	63.3%	79.7%	87.3%	87.1%	88.5%	68.9%
Factor + Social security transfers	34.6%	6.4%	14.4%	10.1%	4.0%	1.0%	6.6%	5.6%	7.5%	7.0%	6.9%	2.6%	8.0%	8.9%	11.5%	1.3%	38.5%	1.0%	3.8%	7.0%	4.3%	55.4%	13.3%	1.4%	3.0%	10.4%	19.5%
Disposable Income	33.7%	9.4%	15.4%	9.8%	3.3%	6.6%	9.4%	5.2%	10.6%	11.3%	2.3%	3.3%	8.2%	8.8%	13.6%	1.6%	26.3%	2.2%	5.5%	7.1%	4.4%	41.4%	13.2%	6.6%	15.1%	10.3%	19.8%

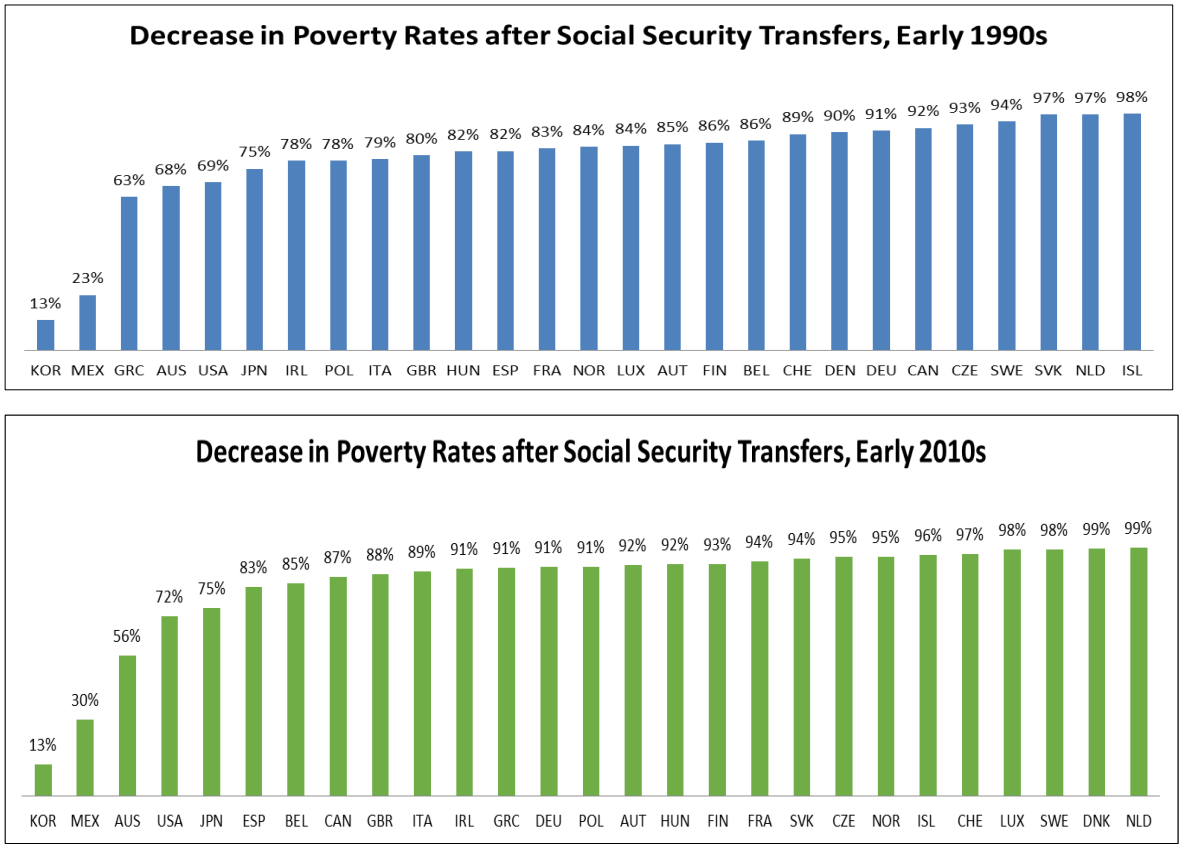
Source: Author based on LIS Microdata.

Figure 4.3 shows the percentage of reduced poverty rates by social security transfers compared to the poverty rates based on factor income. For a clear comparison, this thesis provides two graphs together. The first bar graph illustrates the early 1990s and the second illustrates the latest available data, the early 2010s. According to the bar graphs, there is a wide range of poverty reduction effects in social security transfers across OECD countries. In the first graph, Iceland, the Netherlands, and the Slovak Republic decrease poverty among older people by 98% and 97% through social security transfers. At the other end, however, South Korea only eliminates 13% of old-age poverty. This implies that each OECD country employs income security systems very differently. They play a vital role in combatting poverty in older people in some countries, whilst only playing an 'assistant' role in other countries. When we look at the figures at 10%, the levels of poverty reduction effects cluster together. Despite the long spectrum, two thirds of the countries (the UK, Hungary, Spain, France, Norway, Luxembourg, Austria, Finland, Belgium, Switzerland, Denmark, Germany, Canada, the Czech Republic, Sweden, the Slovak Republic, the Netherlands, and Iceland) are distributed between the range of 80% to 98%. There are four countries (Japan, Ireland, Poland, and Italy) in the range of 75% to 79%, and three countries (Greece, Australia and the USA) between 63% and 69%. Lastly, there are two countries where poverty reduction effects are less than 30%; South Korea and Mexico.

The overall characteristics are also applicable to the second graph. The Netherlands, Denmark, Sweden and Luxembourg decrease poverty in the elderly by almost 99% through social security transfers. Additionally, when we look at figures at 10%, two thirds of the countries (Ireland, Greece, Germany, Poland, Austria, Hungary, Finland, France, the Slovak Republic, the Czech Republic, Luxembourg, Sweden, Denmark and the Netherlands) are

distributed in the range of 91% to 99%. There are five countries (Spain, Belgium, Canada, the UK, and Italy) in the range of 83% to 89%, and two countries (Japan and the US) are around 70%. Lastly, there are three countries where poverty reduction effects are less than 60%; South Korea, Mexico, and Australia. Compared to the first graph, the decrease in poverty rates after social security transfers improved in general. This implies changes to social security transfer systems since the early 1990s. As addressed above, we do not know which specific programmes made these impacts on the poverty rates. However, considering that pensions are the largest single item in welfare expenditure in welfare states, it might be reasonable to expect pensions to play a significant role in the changes in poverty alleviation for the period.

Figure 4.3: Decrease in poverty rates after social security transfers, early 1990s and early 2010s, older population



Source: Author based on LIS Microdata.

4.3 Poverty rates and welfare regimes and pension typologies

As a last step to building a background knowledge on pension reforms, this section compares poverty rates with welfare regimes and pension typologies. Poverty is an issue that is closely associated with welfare states and pensions. Since the golden age, social protection has been "firmly anchored in the explicit normative commitment of granting industrial and social rights" (Esping-Andersen, 1994: 712). Most welfare states have a long history of commitment to combatting old-age risks through pensions. In the previous chapter, this thesis examined them in order to understand pension reform within a broader context. After

reviewing various existing typologies, the chapter concluded that Esping-Andersen's (1990) welfare regimes and Bonoli and Shinkawa's (2005) pensions typology are applicable to this thesis as contextual information. Therefore, this section compares poverty rates among older people in the early 1990s and 2010s with Esping-Andersen's (1990)'s welfare regimes and Bonoli and Shinkawa's (2005) pension typology. The comparison offers only a partial result, as neither typology covers all OECD countries. This section attempts a rather simple comparison using countries that are explicitly referred to in their original research. Also, as addressed in the previous section, some countries have limited data. For example, LIS microdata provides only 2006 data for South Korea and 2008 for Japan. It also provides only 2000 data for Belgium, 2005 for Sweden, and 2004 for Switzerland, instead of data from the early 2010s.

Table 4.7 below is the result of the comparison between poverty rates among older people and welfare regimes. First, the poverty rates among older people are lowest in the Social Democratic regime. They were 9.8% on average in the early 1990s and 7.6% in the early 2010s. Conversely, the welfare regime with the highest poverty rates for 20 years is the Liberal regime. The rates were 18.6% in the early 1990s and then 16.4% in the early 2010s. The Conservative regime is in the middle of two regimes; its rates were 17.4% in the early 1990s and 15.8% in the early 2010s. It is worth noting, however, that the Conservative regime has one outlier in its membership countries: South Korea. The poverty among older people in Korea is 41.4% (2006), by far the highest level[9] compared to other Conservative countries. If we remove South Korea, the poverty rate of the Conservative regime is 12.6%

[9] The poverty rate among older people in South Korea is the highest level in all OECD countries. See Table 4.5 and Table 4.6 for more information.

in the early 1990s and 10.7% in the early 2010s, on average. This average decreases about five percentage points if South Korea is removed, but still comes second to the Social Democratic regime. Secondly, poverty rates decreased in all welfare regimes from the early 1990s to the early 2010s. There are a few exceptional cases – e.g. Canada, Germany, Switzerland, and Belgium – but more than half of the welfare states alleviated poverty or maintained the similar level of poverty in their older populations for the selected 20 years. The reduction varies depending on the welfare regime. In the Liberal and the Social Democratic regimes, poverty rates drop 2.2 percentage points. In the Conservative regime it is slightly lower, at 1.6 percentage points.

Table 4.7: Welfare regimes and poverty rates of older people (early 1990s and early 2010s)

Welfare regime		Poverty rates	Average	Poverty rates	Average
		Early 1990s		Early 2010s	
Liberal	Australia	24.2	18.6	33.7	16.4
	Canada	5.8		9.8	
	USA	21.5		19.8	
	New Zealand	-		-	
	Ireland	17.3		8.2	
	UK	24.1		10.3	
Conservative	Italy	15.7	17.4	8.8	15.8
	Japan	13.6		13.6	
	France	14.7		5.2	
	Germany	10.4		10.6	
	Switzerland	8.4		15.1	
	Korea	41.4		41.4	
Social Democratic	Austria	11.9	9.8	9.4	7.6
	Belgium	12.1		15.4	
	Netherlands	3.2		2.2	
	Denmark	11.0		6.6	
	Norway	14.0		5.5	
	Sweden	6.4		6.6	

* The classification of countries is based on Esping-Andersen (1990; 1999). The cases of South Korea and Japan follow Nam's (2002) and Shinkawa's (2001) view.

Source: Author based on LIS Microdata.

Table 4.8 below shows the results of a comparison between poverty rates among older people and pension typologies. It is a very limited comparison as the original research (Bonoli & Shinkawa, 2005) only includes ten countries. First, on average, poverty rates are highest in the social insurance type and lowest in their multi-pillar type throughout the period. The former is 20.6% in the early 1990s and 16.5% in the early 2010s. When it comes to the latter, it was 13.0% in the early 1990s and then 10.7% in the early 2010s. Secondly, similar to Table 4.7 above, all types reduced poverty rates for the selected 20 years. The social insurance type showed the largest drop in poverty rates with 4.1 percentage points, whilst Bismarckian lite showed the smallest drop with 0.1 percentage points. The multi-pillar type is in the middle, with a 2.3 percentage point drop. If we remove South Korea from the comparison, the average poverty rate is 13.6 percentage points in the early 1990s and 8.2 percentage points in the early 2010s. It is however, difficult to generalise this trend to the characteristics of each type. Despite the fact that the general trend of poverty in each pension type was maintained for 20 years – highest in the social insurance type and lowest in the multi-pillar type – their membership countries do not show common trends in poverty changes. For example, the average poverty rate in the social insurance type dropped largely because Italy and France significantly reduced poverty rates during the period. Germany, on the other hand, slightly increased poverty rates in the same period. Also, when it comes to the multi-pillar type, the average poverty rate decreased because the UK dramatically reduced poverty over the 20 years. Poverty rates in Sweden and Switzerland, however, increased in the same period. This suggests that the association between poverty among older people and pension type needs to be explored further using a more detailed research design. This will be delineated in the following empirical chapters on pension reforms.

Table 4.8: Pension typology and poverty rates of older people (early 1990s and early 2010s)

Pension typology		Poverty rates	Average	Poverty rates	Average
		Early 1990s		Early 2010s	
Social insurance	Germany	10.4	20.6	10.6	16.5
	Italy	15.7		8.8	
	France	14.7		5.2	
	Korea	41.4		41.4	
Multi-pillar	UK	24.1	13.0	10.3	10.7
	Sweden	6.4		6.6	
	Switzerland	8.4		15.1	
Bismarckian lite	Canada	5.8	14.5	9.8	14.4
	US	24.1		19.8	
	Japan	13.6		13.6	

* Classification of countries is based on Bonoli and Shinkawa (2005).

Source: Author based on LIS Microdata.

4.4 Conclusion

This chapter aimed to explore the poverty situation across OECD countries between the early 1990s and the early 2010s. A comprehensive understanding of poverty is an indispensable step in this thesis, as the core element of a pension system is protection against poverty in later life. Welfare states introduced pension systems in order to mitigate old-age risks. Pension systems have had a direct impact on poverty among older people, as they are often big parts of retirement income; according to OECD Family Resources Data, the share of public pensions in retirement income reaches 81.6% for single household in Germany, 71.1% in Sweden, 60.8% in the UK and 52.4% in Japan (Boersch-Supan & Reil-Held, 1998:

18). Considering these facts, an understanding of the poverty situation since the early 1990s can be a foundation for an analysis of the trends in pension reforms.

Considering this, this chapter has attempted to view the poverty situation from various angles. Using LIS microdata, poverty levels were computed across OECD countries based on relative poverty rates with three types of income thresholds; the poverty gap, the squared poverty gap, and decomposed income concepts. The chapter allocates significant space to comparing relative poverty based on decomposed incomes. Poverty rates are computed separately on the basis of factor income, income after social security transfers, and disposable income. In doing so, poverty rates were compared from before and after the social security transfers. The results showed a wide range of poverty reduction effects in social security transfers across OECD countries. Considering the fact that public pensions are the largest segment of social security transfers, this implies that each country employs pension systems very differently. They play a vital role in combatting poverty among older people in some countries, whilst it is only an 'assistant' role in others. Lastly, poverty rates among the older population are compared with Esping-Andersen's (1990) welfare regimes and Bonoli and Shinkawa's (2005) pension typology. This revealed that poverty rates are lowest in the Social Democratic regime and highest in the Liberal regime. Also, poverty rates among older people decreased in all three regime types over the selected 20 years. When it comes to Bonoli and Shinkawa's pension typology, poverty rates are lowest in the multi-pillar type and highest in the social insurance type. The Bismarckian lite type lay in the middle. These trends were maintained throughout the 20 years, but caution must be taken when generalising it to the characteristics of each pension type. The association between poverty and pension design requires further discussion based on a more sophisticated

research design. Pension reforms that socialise or individualise old-age risks generate impacts on poverty among older people. Thus poverty might be closely related to pension reforms as the reason and the result of pension reforms. In Chapters Two to Four, this thesis has delineated the context of pension reforms. Building on the knowledge from these three chapters, the following empirical analysis chapters will demonstrate the process for analysing the trend in pension reforms.

Part 2: Empirical analysis of pension reform strategies

Building on the contextual chapters, the second part of this thesis pursues an empirical analysis of pension reform strategies. The following three chapters are comprised of methodological reflections, empirical analysis and discussion. The second part includes the process for sourcing data, the research method and empirical analysis, and the interpretation of the results. This thesis aims at answering the following research questions.

▪ What are the trends in pension reforms among OECD countries since the 1990s?

▪ How can we categorise the variety of pension reform strategies adopted across the OECD since the 1990s?

▪ How do pension reform strategies compare with existing welfare and pension typologies?

▪ How can we explain reform pathways found across OECD countries?

The first step for the analysis is to source data. Very few data sources provide detailed comparative and historical information about pension systems or pension reforms. This is a factor that makes comparative research on pensions challenging. Therefore, in Chapter Five, we utilise existing data available in *Pensions at a Glance* and *ISSA Country Profiles* to construct a new dataset. In doing so, the benefits of both data sources of maximised; a well-categorised summary of pension reforms in *Pensions at a Glance* and comprehensive information on social security systems in *ISSA Country Profiles.* Due to limited space, the time-consuming process and the final data set are only briefly presented in the chapter. The full version of the final data is available in the appendix of this thesis. The new dataset allows

us to explore pension reforms both comparatively and historically across OECD countries, beyond a simple 'snapshot'.

The second step requires categorising pension reform strategies using the data. First, a research method is required. This thesis does not have separate methods chapter, but introduces the method within this analysis chapter. In doing so, it aims at highlighting the continuity of empirical analysis. In Chapter Six, the research method that maximises the benefits of the generated data is explored. Fuzzy-set ideal type analysis (FSITA) is employed, as it is apt for comparative study for middle-N cases without forsaking objectivity in diversity. Most importantly, FSITA allows the generation of typologies that reflect both the *socialisation* and *individualisation* of risks in pension reforms. In this regard, we categorise pension reform strategies using FSITA. From the first analysis four ideal types are constructed from two dimensions, the *socialisation* and *individualisation* of risks. This is then followed by a second analysis, the categorisation of the *socialisation of risks*, based on three elements: *coverage*, *adequacy*, and *security of investment*.

The final step of empirical analysis is the interpretation of the results. Chapter Seven delineates three findings from the results of the FSITA. First, four types of configuration in pension reform strategies are analysed. Country memberships and their conformity to each type are addressed in detail. Case commentaries for each type are also provided to support the result of the empirical analysis. It reveals that *individualisation reforms* were the most dominant trend over the last 25 years, but it was not the whole story. Both the socialisation of social risks and stability was observed. Secondly, the pension reform strategies are compared with existing welfare and pension typologies. The result from the FSITA matches

with neither Esping-Andersen's (1990) welfare regimes nor Bonoli and Shinkawa's (2005) pension typologies. Rather, it shows the general trends in pension reform strategies regardless of regimes and pension institutions. The result is interpreted with reflections on the path departure for pension systems across the OECD. The second finding leads us to the last finding, namely the factors that have shaped pension reforms over the last 25 years. Building up on Bonoli & Shinkawa's (2005) findings, this thesis argues that the poverty level in older people is a factor that shapes pension reform in addition to population ageing and pension institutions. We confirm the relationship between old-age poverty and the trend of pension reform strategies. The relationship between the decrease in old-age poverty after social security transfers and the trend of pension reform strategies are also confirmed. Reflecting the findings from the data used in previous chapters, the role of poverty in shaping pension reform strategies in the time of continuing prevalence of austerity is highlighted.

Chapter 5 : Capturing pension reform strategies

This chapter aims at delineating the first step for the empirical analysis: sourcing data. It is the most basic step for any kind of research, but is not an easy or straightforward process for this study. The chapter confronts several issues – conceptualising pension dynamics, securing appropriate data and converting the data for analysis. The process is outlined in the following sections step by step.

The first task is to establish how to capture pension reform strategies in the 34 OECD countries. The aim is to go beyond simple statistics and a literature review. A comparison of pension reforms must engage national policies in considerable detail (Hinrichs, 2000: 80). This means that the data must contain highly detailed information that outlines specific changes in pension components. Researchers often use social expenditure or legislative change as they are widely employed data sources in comparative research (Castles, 2004; Goldberg, 2002; Huber & Stephens, 2001; Kuitto, 2016; Scruggs, 2007). By examining them, this thesis argues that tracing legislative change can provide greater benefits than a focus on social expenditure.

The issue that follows is sourcing such data. Considering the long period of time and the number of countries, a few data sources are appropriate for this study: *Pensions at a Glance*

by the OECD and *ISSA Country Profiles*[10]. They have a significant amount of information on pension reforms, but it is necessary to generate a single consolidated dataset. This dataset also needs to be transformed into a comparable form for the analysis. In this vein, this chapter allocates considerable space to describing the procedures of reshaping the existing data. It consists of four steps: creating an identical standard, reclassifying all the data, extracting common elements and identifying reform subtypes, and assigning a code.

Lastly, two overviews of patterns and trends in pension reforms are provided based on the generated data. The first is a simple overview that shows which reform measures were taken in each country between 1990 and 2015, echoing the format used in *Pensions at a Glance*. This provides us with a quick overview, but it is insufficient to capture an accurate trend of pension reforms. To supplement this overview, the chapter provides a more detailed picture by analysing the frequency of reforms. This allows us to explore the intensity of reforms in each country.

5.1 How to capture: legislative changes in pensions

Analysing the dynamics of pensions is not a simple and clear process, due to the difficulty of conceptualisation. Like many other concepts in social science, 'pension change' is hard to define. What is the evidence for expansion or retrenchment? What degree of changes can

[10] The Organisation for Economic Co-operation and Development (OECD) is an international economic organisation of 34 countries. It uses its information on a broad range of topics to help governments foster prosperity and fight poverty through economic growth and financial stability (http://www.oecd.org/).

The International Social Security Association (ISSA) is the principal international institution bringing together social security agencies and organisations. It provides access to information, expert advice, business standards, practical guidelines and platforms for members to build and promote dynamic social security systems worldwide (http://www.issa.int/).

be considered meaningful? The absence of a universal definition may result in different interpretations of the circumstances in different studies. Securing an appropriate indicator is another problem; results may differ depending on the indicators that a researcher chooses. Therefore, it is necessary to carefully consider what measures to use in order to accurately capture pension dynamics. In the welfare literature, analysing welfare states based on welfare expenditure is a frequently applied method (Castles, 2004; Goldberg, 2002; Huber & Stephens, 2001; Kuitto, 2016). This is due to the assumption that welfare spending indicates the level of welfare efforts of welfare states. However, a growing number of researchers have highlighted several concerns over this approach, and explored possible alternatives instead (Allan & Scruggs, 2004; Bonoli et al., 2000; Esping-Andersen, 1990; Hinrichs, 2000; Scruggs, 2007). This section examines frequently used indicators in order to seek the most appropriate approach for this thesis.

Social expenditure

Since the first generation of comparative studies, many researchers have assumed welfare spending as a reliable barometer of a state's commitment to welfare (Esping-Andersen, 1990: 19). This is because spending data is relatively easy and handy to make comparisons among countries. International organisations including the OECD and the ILO provide information on social expenditure, collected by each government according to universal criteria. Also, in many cases expenditure datasets have wide coverage in terms of time and countries, and they are updated frequently. For instance, the OECD have provided data for 36 countries from 1980 to 2016, which is segmented into 39 types of welfare programmes. Moreover, social spending appears to be a representative indicator of welfare states at first glance, when we consider the simple fact that more generous welfare programmes cost more.

Consequently, the data on welfare spending such as total public social expenditure, total transfer payments, and programmatic expenditure have been enthusiastically employed by various studies (Castles, 2004; Goldberg, 2002; Huber & Stephens, 2001; Kuitto, 2016).

However, despite its multiple advantages, expenditure data might mislead on welfare dynamics (Allan & Scruggs, 2004; Bonoli et al., 2000; Esping-Andersen, 1990; Hinrichs, 2000; Scruggs, 2007). First, growth in social spending can be caused by increased recipients, not by increased coverage or benefit levels. For example, social expenditure in the UK under the Thatcher government was increased despite the government reducing benefits and reinforcing selectivity, because unemployment rates skyrocketed (Esping-Andersen, 1990: 20). Similar cases are possibly happening within rapidly ageing societies; social expenditure rises regardless of welfare expansion or cuts, due to an increased population of older people which cause rises in social expenditure on old-age pensions and health care services. Second, different economic growth rates may distort the picture of welfare spending. Welfare literatures often use total social spending as a ratio of GDP as social expenditure. As the GDP of each welfare state increases or decreases at a different speed, the spending ratio (spending / GDP) may mislead on inflation-adjusted welfare expansion (Scruggs, 2007: 137). Third, social expenditure does not capture changes in tax policy. Governments can increase the disposable income of their citizens by changing tax rates (Allan & Scruggs, 2004: 498), or they can attach tax privileges to certain programmes such as private insurance plans (Esping-Andersen, 1990: 20). As these tax treatments are not included in social expenditure indicators, a gap may exist between the actual commitment to welfare states and their welfare expenditure. Lastly, changes in welfare programmes may take a long time to be seen in the expenditure data (Hinrichs, 2000: 80). This is particularly the case for pensions. Policy

makers often employ delaying tactics when implementing unpopular reforms. For instance, raising the pension age to around 65 is a universal trend across most countries, but in most cases a fairly long phasing-in period was set. Policy makers in South Korea decided to raise pension age from 60 to 65 in 2007, but the process has been gradual and it will not be completed until 2033. Additionally, in some cases the full effect of reforms remains uncertain until the benefits are handed to recipients. A pension formula that reflects economic and demographic changes is a fair example. The benefit level depends on the country's circumstances over a long period, and its total expenditure will not be seen until the end of that (Bonoli et al., 2000: 36). When considering these facts, analysing pension expenditure might not be the best way to capture pension dynamics.

Social citizenship and legislation

Social citizenship has been widely applied to measuring welfare efforts instead of social expenditure. The concept of social citizenship was first introduced by T. H. Marshall, as a core idea of welfare states (1977: 106). According to him, social citizenship includes "the whole range, from the right to a modicum of economic welfare and security to the right to share to the full in the social heritage and to live the life of a civilized being according to the standards prevailing in society" (Marshall, 2006: 30). Esping-Andersen (1990: 21) put flesh on Marshall's concept of social citizenship and derived his ideas of de-commodification and social stratification from it. The concept of social citizenship can be a useful parameter to analyse the dynamics of welfare states. As it represents the core value of welfare states, we can tell the extent of welfare state expansion or retrenchment based on the changes in the status of social citizenship.

When analysing social citizenship, the problem that arises is how to conceptualise it. It is not easy especially when we consider the availability of comparable data which cover such variables. In this vein, earlier studies (Esping-Andersen, 1990; Scruggs, 2007; Kvist, 2007) have chosen a few indicators that represent social citizenship in social insurance and compared them across countries. The replacement rates for benefits, the size of the insured population (coverage), the qualifying condition, the take-up rates, and the funding ratio are considered as indicators that represent welfare state commitments to social insurance. For example, Scruggs (2007: 139) conceptualises social citizenship with the generosity and universalism of social insurance. The former is measured by the replacement rates for unemployment and sickness benefits, and pension. The latter concept is measured by the unemployment and sickness insurance coverage and pension take-up rates using the Comparative Welfare Entitlements Dataset (CWED). Similarly, Kvist (2007: 206-207) conceptualises social citizenship in unemployment insurance with three concepts: accessibility, generosity, and obligations. An index for the various eligibility criteria, the net replacement rates, and an index of negative sanctions imposed on claimants refusing to accept job and active labour market policy are used to operationalise each concept.

This method – selecting a few representative indicators for social citizenship and comparing them across countries – can be an alternative method to analysing social spending. With this approach, researchers can explore multi-dimensional characteristics of welfare commitments in the respective programme. Also, this method allows us to trace changes in the key elements such as the entitlement of the programme across time. However, it also has limitations. First of all, the selected indicators may not be sufficient enough to capture the

trend of pension reforms across countries. Comparing a few representative indicators of pension schemes could be efficient to capture the major features of pension in each country but it has a limited scope to understand the whole and in fact the complexity of pension reforms. For example, it is difficult to examine distributional effects of pension systems across income and social strata as indicators are limited. Capturing dynamics in multi-tier pension systems is also challenging with this approach for the same reason. These concerns could be alleviated if there is a dataset which covers the complexity and character of pension reforms. It is, however, as Scruggs (2007: 139-140) illustrated well in his study[11], not easy to find datasets that contain the variables that researchers are interested in, with a comparable period covering various countries. Datasets may not contain the welfare programmes that researchers want to observe. Also, they may not take into account many of the important features of benefits. Or, they might not offer variables that are adequately operationalised to serve a researcher's purpose.

Against this backdrop, Bonoli et al. (2000: 29-49) suggest legislation data as an ideal indicator to reflect social citizenship. They argue that tracking legislative changes allow us to capture a clear view of welfare dynamics. In doing so, researchers are able to "assess the likely implications for the coverage, level and quality of welfare provision" (2000: 29). This provides an important insight into seeking an appropriate method to compare pension reforms; legislation changes in pension schemes in each OECD country. If we comparatively analyse the entire legislation changes in pension systems between 1990 and 2015 in each

[11] The Comparative Welfare Entitlements Dataset, SOFI's Social Citizenship Indicators Project, The Nordic Social Statistical Committee's Social protection in the Nordic Countries are considerable dataset when we analyse social citizenship in social insurance systems across countries. However, mostly the number of indicators are limited, and the coverage of nations and the time period do not fit to this thesis.

country, we could capture the complexity of pension dynamics among them. Comparing them using typologies might be the most plausible way to accurately analyse the trend of pension dynamics. It can satisfy two goals of comparative research; analytical and explanatory accuracy and parsimony. This approach has, however, one challenging problem: the availability of the data source that covers the whole legislative information in pension reforms in the OECD for the last 25 years. In the following section, we will explore the availability of such dataset.

5.2 Overview of the data: Pensions at a Glance and ISSA Country Profiles

The OECD and ISSA have collected data on pension reforms for decades and released them in different ways and formats. The series *Pensions at a Glance* from the OECD and *Country Profiles* from ISSA have unique features and advantages. *Pensions at a Glance* is a series of books published by the OECD since 2005, which present a framework to compare pension systems across OECD members and G20 countries. The books are issued every other year. So far, the OECD has published books in 2005, 2007, 2009, 2011, 2013 and 2015. As *Pensions at a Glance* covers a wide range of countries and collects data directly from each government based on the common format, researchers are able to compare various pension systems across the world. It is particularly useful when exploring pension components rather than the 'big picture' of the system. A variety of pension parameters – e.g. indicators for coverage, benefit levels, and contributions – are rare to see in other sources of this kind. Additionally, the dataset has also included data on special policy issues such as pension reform, retirement, and private pensions since 2007.

On the other hand, the *ISSA Country Profiles* dataset provides comprehensive information on social security systems around the world. It covers more than 200 countries including OECD members, and has been compiled since 1995; the data for 2014 has recently been updated. ISSA collects data from various sources: government documents, press releases, relevant websites, the series of *Social security programs throughout the world*, etc. It provides narrative descriptions about reforms based on those resources. This helps in our understanding of how and why a certain reform was undertaken as it offers descriptive data from the moment the bill was announced. This allows researchers to understand reforms beyond simple summaries. All things considered, both *Pensions at a Glance* and *ISSA Country Profiles* provide very useful information to capture pension reform strategies across countries. Operationalising these datasets, however, involves several challenges. This section carefully examines the features of *Pensions at a Glance* and *ISSA Country Profiles* and considers if they can be applied to this thesis.

Pension reforms in *Pensions at a Glance*

Pensions at a Glance 2007, 2009, 2013 and *2015* provide categorised summaries of pension reforms which took place in OECD countries since the early 1990s. When examining this data, the criteria used in each book are an important point to consider. As the series of books categorised pension reforms using similar but not identical criteria, it causes challenges in analysing the data altogether. For example, whilst some of books classified data according to the 'objectives' of the reforms, others classified it in accordance with 'measures' for those objectives. Therefore, we need to examine each criterion prior to beginning any analysis.

The 2007 book covers pension reforms in 30 OECD countries from 1990 to 2003. Reforms are classified based on six measures of change. The first measure is *pension eligibility age*: how was the pension eligibility age increased and equalised for men and women? The second measure is *adjusted retirement incentives*: how were penalties for early retirement or incentives for delayed retirement introduced? How was the number of contribution years to receive a full pension increased? The third measure is *change of years in benefit formula or qualifying conditions*: how was the period over which earnings were measured to calculate benefits changed? The fourth measure is the *link to life expectancy and/or financial sustainability*: how were defined contribution (DC) schemes or mechanisms that adjust benefits or the pension age to increasing life expectancy implemented? The fifth was *DC scheme*: how were DC plans introduced as a substitute for part of the public, earnings-related pension scheme? Lastly, *other* includes introducing pre-funded public pensions, and changing the valorisation or the indexation of pensions in payment.

The 2007 book also explains four impacts of pension reforms in connection with its criteria for changes. Changes in *pension eligibility age* and the *link to life expectancy and/or financial sustainability* result in *financial impact* and *work incentives*. Also, changes in *adjusted retirement incentives* are connected to *financial impact* and *distributional impact*. C*hange of years in benefit formula or qualifying conditions* affects *financial impact.* Lastly, *DC scheme* is related to *structure of pension system and work incentives*. The example of the UK which summarised pension reform in *Pensions at a Glance 2007* is shown in Table 5.1.

Table 5.1: Reforms summarised in *Pensions at a Glance 2007*, the case of the UK (1990–2003)

Country	Pension eligibility age	Adjusted retirement incentives	Change of years in benefit formula or qualifying conditions	Link to life expectancy and/or financial sustainability	DC scheme	Other
UK	*Women's pension age and eligibility for guarantee credit rising from 60 to 65.*	*Increment for deferring pension claim increased. Lump-sum option added.*			*Employers required to provide access to DC pension.*	*Increase in basic pension. Extension of means-tested supplement. Increased progressivity of earnings-related pension.*

Source: OECD (2007: 60).

Pensions at a Glance 2009 covers pension reforms which took place from 2004 to 2008 in the same 30 OECD countries. It classified reforms into six categories similar to the previous book, but the criteria were completely different. *Pensions at a Glance 2009* presented "six objectives of retirement income provision" on the premise that "there are clear objectives and principles that all well designed pension systems share" (2009: 85). They are as follows: *coverage* of the pension system, by both mandatory and voluntary schemes; *adequacy* of retirement benefits; *financial sustainability and affordability* of pensions to taxpayers and contributors; *economic efficiency* to minimise the distortions of the retirement-income system on an individual's economic behaviour; *administrative efficiency* such as keeping the cost of collecting contributions, paying benefits and managing investments as low as

possible; and *security* of benefits in the face of different risks and uncertainties (2009: 85). The example of the UK classified by categories above is shown in Table 5.2.

Table 5.2: Reforms summarised in *Pensions at a Glance 2009*, the case of the UK (2004–2008)

Country	Coverage	Adequacy	Financial sustainability	Economic efficiency	Administrative efficiency	Security
UK	*National pension savings scheme from 2012: automatic enrolment of 22-65 year olds without an OP or PP; employee contribution of 4%, employer of 3% and government of 1% phased in. Reduction in number of years required for full basic pension to 30.*	*Basic pension to be indexed to average earnings from 2012; increases 2004-08 in line with earnings. Acceleration of change of state second pension from an earnings-related to a flat-rate scheme, with initial benefits indexed to average earnings; improved credits for carers.*		*Increment for late retirement raised from 7.4% to 10.4% a year; increment now payable as a one-off bonus.*	*Central clearing house for new national pension savings scheme; aim to have costs of 0.5% of balance initially, falling to 0.3%. New Pensions Regulator established in 2005, combing previous agencies.*	*Pension Protection Fund, to insure defined-benefit plans, established in 2004. Premiums paid by plans, related to measures of risk, double the originally predicted level. Tightening of recovery rules for plans in deficit. Extension of financial assistance Scheme for insolvent OPs, covering 140,000 extra workers.*

Source: OECD (2009: 94)

Pensions at a Glance 2011 does not provide summaries for pension reforms, but the 2013 book presents pension reforms from 2009 to September of 2013 instead. In the 2013 book, 34 OECD countries are covered as four countries (Chile, Estonia, Israel, and Slovenia) had recently joined the OECD. Regarding classifications, *Pensions at a Glance 2013* presents "six key goals of pension reform", which are similar to those of *Pensions at a Glance 2009*. However, the criteria are somewhat changed and there are actually seven categories of reform, not six, as a category for "other" is added. The seven categories are as follows: *coverage, adequacy, financial and fiscal sustainability, work incentives, administrative efficiency, diversification and security,* and *other.* Compared to the six categories of the 2009 book, *economic efficiency* has changed to *work efficiency*, and *security* has changed to *diversification and security*. In addition to these changes, a category for *other* has been included to cover other types of change such as temporary measures and those designed to stimulate economic recovery. The example of the UK classified by the seven categories is shown in Table 5.3.

Table 5.3: Reforms summarised in *Pensions at a Glance 2013*, the case of the UK (2009–Sep 2013)

Country	Coverage	Adequacy	Financial and fiscal sustainability	Work incentives	Administrative efficiency	Diversification and security	Other
United Kingdom	*Large employers (12, 000 plus employees) must automatically enrol workers in company scheme or state-run National Employment Savings Trust (NEST) from Oct 2012; medium-sized employers (50 plus) from June*	*One-off payment of GBP 60 to pensioners (Jan 2009). Increase basic State Pension by higher of CPI earnings growth or 2.5% from Apr 2011.*	*Contribution rates increase of 1% to 2% for both employer and employee in 2012-16. A1% contribution - related tax credit introduced. In Oct 2017, the employer will pay 3% and the employee will pay 4% (Pensions Act 2011).*	*Equalise pension ages at 65 by 2018. Bring forward pension age to 66 by 2020 and increase from 66 to 67 by 2026. Removal of the default retirement age (DRA) of 65 to provide workers greater opportunities*	*New NEST scheme planned in 2010 and implemented in 2012. It aims at reducing investment – management charges significantly, compared to current DC plans.*	*New NEST scheme planned in 2010 and implemented in 2012.*	*In Jan 2013, the DWP published a draft bill introducing STP to replace the existing multi-tier State Pension. The STP will be implemented in Apr 2016. The reform is expected to particularly benefit people who*

	2013, and small employers (fewer than 50) from May 2015. Contributions will be increased from total of 2% of earnings in 2012 to 5% in 2016 and 8% in 2017.			*to remain in the labour market afterwards. From Oct 2011, employers cannot compel employees to retire using DRA.*			*were expecting a low amount of Addition Pension due to their work history. It will represent a significant simplification of the state system and be a clear foundation for retirement saving. The government has also legislated to accelerate increase in State Pension age and introduced a regular review process to set Spa based on the principle that a fixed proportion of adult life should be spent in retirement. Increase contribution rates of public sector workers and amend the DB plan for Members of the Parliament 2010).*

Source: OECD (2013: 40).

Pensions at a Glance 2015 covers 34 OECD countries for the period from September 2013 to September 2015. It has similarly used different criteria for reforms, as in the previous three books. Firstly, the book 2015 clearly separates the objectives and measures of reforms for the first time. Regarding pension effects, enhancing the *financial sustainability* and *income adequacy* are two objectives of reform. For measures for the objectives, seven types are suggested: *coverage, diversification and security, pension benefits, taxes and defined*

benefit contributions, indexation, work incentives, administrative efficiency, and *other*. It then classifies pension reforms that took place over the last two years according to the seven measures. Compared to previous categories in 2007 and 2013, the criteria contain subdivided elements that comprise pension reforms. The newly added terms *taxes and defined benefit contributions* and *indexation* were considered subordinate concepts of *sustainability* previously. The example of the UK using the new criteria is shown in Table 5.4.

Table 5.4: Reforms summarised in Pensions at a Glance 2015, the case of the UK (Sep 2013 – Sep 2015)

Country	Coverage	Diversif-ication and security	Pension benefits	Taxes and DB contrib-utions	Indexati-on	Work incentives	Administra-tive efficiency	Other
United Kingdom	*The National Employment Savings Trust (NEST) is being extended to small employers from January 2016.*	*New rules for defined contribution pension withdrawals were legislated in May 2014 and will enable large lump-sum withdrawals.*	*From 2016, a new state pension (single-tier pension, STP) will replace at a higher level both the basic pension and the minimum income guarantee (Pension Credit).*	*Taxes on withdrawals from pension accounts were lowered and tax-free amounts were increased in 2015.*		*Bring forward pension age to 66 by 2026 and to 67 by 2028. Gradually increasing the private pension savings age from 55 to 57 in 2028. Private pension will be available for withdrawal from*	*NEST scheme will create economies of scale compared to current DC plans. Pension providers and trust-based managers must offer DC members free and impartial face-to-face advice. Small DC plans are automatically transferred to the new pension*	

						10 years before the normal pension age.	*plan when workers change jobs. The government ́s authority to introduced minimum governance standards, fees, etc. have been strengthened to mitigate excessive charges and to increase standards.*	

Source: OECD (2015: 43).

Pension reforms in *ISSA Country Profiles*

ISSA Country Profiles provide rich explanations on reforms compared to *Pensions at a Glance*. The data on reforms are descriptive and displayed in chronological order on the ISSA website. As they are descriptive, it is easier to understand the context of reforms and it minimises the risks of misunderstanding. They also have data for Chile, Estonia, and Slovenia from 1995 to 2008, which the books of *Pensions at a Glance* do not cover[12]. It is, however, challenging to apply *ISSA Country profiles* solely to a comparative study because of their data format and narrative nature. First, they provide a 'chunk' of information. *ISSA Country Profiles* include all reforms in social security systems and display them together.

[12] Israel is not covered by *ISSA Country profiles* as well as *Pensions at a Glance 2007 and 2009*.

The data on social security reforms for 34 OECD members from 1995 to 2014 reaches almost two thousand entries. Thus, the sorting process is an essential precondition for using the data. Also, they lacks comparative standards because of their narrative nature. As seen in Table 5.5 below, each entry is a story of reform and it is difficult to extract a standard for comparison among countries.

Table 5.5: Examples of entries about pension reforms in ISSA Country profiles, the case of the UK in 2006

Pension education initiative *The Pensions Education fund offers short-term funding for not-for-profit organisations to set up and manage initiatives to increase the awareness and importance of planning for retirement amongst people of working age. The aim is to fund initiatives that provide both employed and self-employed people with the range of information they need to make their own decisions about their retirement, including understanding the potential consequences of early retirement on their retirement scheme.* *Implementation date: 06.2005* *Source: Department for Work and Pensions, Ministerial initiative to increase savings for retirement.*
Financial assistance when pension schemes wind up *The Financial Assistance Scheme offers help to some people who have lost out on their occupational pension because their scheme was under funded and their employer has been unable to make up the deficit (see entry no. 3346). It provides assistance to members of defined benefit schemes which began winding up between 1 January 1997 and 5 April 2005, and whose employer becomes insolvent by 28 February 2006. To be eligible, members must belong to a qualifying scheme and be within three years of their scheme's normal retirement age, or older, on 14 May 2004. Those eligible could see their pension topped up to 80 per cent of the core pension benefits for life, up to a maximum pension of GBP 12,000 per year.* *Legislation date: 11.2004 11.2004* *Implementation date: 09.2005* *Source: Department for Work and Pensions.* *Reference: Pension Act 2004 (Chapter 35, Part 6).*
Two retirement pension deferral options now available *The State Pension age is currently 60 for a woman and 65 for a man. The age at which persons retire from employment does not affect when they can start drawing their State Pension. From 6 April 2005, there are two deferral options available to clients who delay claiming their State*

Pension:
- an increased retirement pension for life; or
- a one-off taxable lump sum payment.

The extra State Pension is calculated at 10.4 per cent for every year a member defers claiming their pension (before April 2005, persons could receive 7.5 per cent extra per year of deferral).Moreover, the maximum time limit of 5 years that persons could defer claiming their State Pension to earn extra State Pension has been removed. This means that since April 2005, persons can put off claiming their State Pension for as long as they want and will be able to earn extra State Pension or a lump sum. The lump-sum alternative is made up of the State Pension the member has not claimed plus interest at the rate calculated at 2 per cent above the Bank of England base rate. Persons will also receive their State Pension when they claim it paid at the normal rate. In order to receive the lump sum, persons must have delayed claiming their State Pension for a minimum of 12 consecutive months.

Legislation date: 11.2004 11.2004
Implementation date: 04.2005
Source: Department for Work and Pensions.
Reference: Pension Act 2004 (Part 8).

Source: ISSA Country Profiles (2006).

As we have seen above, both *Pensions at a Glance* and *ISSA Country profiles* provide summaries of pension reforms across OECD countries from 1990 to 2015. They contain vast and detailed information about pension reforms, which is hard to find in other kinds of data when the wide coverage of countries and the time period are considered. On the other hand, they contain weaknesses that are problematic for comparative studies. Analysing patterns and trends of pension reforms using one of them might be challenging as the criteria for classification are not identical in four books of *Pensions at a Glance*, and the *ISSA Country Profiles* are too long and descriptive to identify patterns and trends over 34 countries. All things considered, it is logical to combine the two resources to optimise the advantages that each one offers. This thesis, therefore, extracts a single criteria using *Pensions at a Glance*, and then reshapes the existing data into a single comparative form. *ISSA Country Profiles* are applied to the process as a complementary resource, and then cross-checked with *Pensions at a Glance*; this minimises the potential for missing information and errors in

classification. This goes beyond a simple process of merging and requires several steps. In the following section, the four steps that were taken to analyse the patterns and trends of pension reforms with *Pensions at a Glance 2007, 2009, 2013* and *2015* and the *ISSA Country Profiles* are addressed in detail.

5.3 Reshaping and coding the data

Two elements of data preparation are required to analyse the patterns and trends of pension reforms using *Pensions at a Glance* and *ISSA Country Profiles.* The first is creating a single consolidated dataset, and the second is transforming it to an easily comparable form. This section introduces the four steps that were undertaken in data-preparation process. Steps One and Two are the processes for creating a single set of data, and Steps Three and Four are the processes to turn it into a comparable form.

• Step One: Create an identical standard to compare pension reforms.

• Step Two: Reclassify all the data according to the unified category for pension reforms.

• Step Three: Extract common elements from the summaries of pension reforms and simplify them to identify reform types.

• Step Four: Assign a code to summaries of pension reforms using the reform types.

Step One: Create a unified category for comparison

As mentioned in the previous section, four books of *Pensions at a Glance* used *objectives* of pension reforms mixed with *measures* of reforms in classifying data. As seen in Table 5.6 below, the 2009 book classified pension reforms based on what they aimed to achieve through the reform, whilst the 2007 and 2015 books categorised reform cases by essential measures for reforms. The book 2013 mixed these two approaches[13].

Considering the aim of this thesis, *Pensions at a Glance 2009* is the most appropriate dataset for this study as it is based on clear objectives of pension reforms. In light of this, this thesis generates new criteria based principally on *Pensions at a Glance 2009*, but with small amendments. The new criteria encapsulate eight measures for pension reform: *coverage, adequacy, financial and fiscal sustainability, economic efficiency, administrative efficiency, diversification, security of investment,* and *other*. In brief, *coverage* refers to reforms that aim to increase the number of insured people. *Adequacy* captures reforms that raise the level of pension benefits. *Financial and fiscal sustainability* is general retrenchment in pension benefits through changes in pension mechanisms. *Economic efficiency* puts a stronger focus on the labour market; it tries to minimise the distortions of pension systems influenced by factors outside of these systems. Reforms related to *administrative efficiency* aim at increasing the cost efficiency of the administrative processes. *Diversification* captures reforms that diversify retirement income sources by generating more options to individuals.

[13] As a result, researchers might confront difficulties when analysing all the data together. For instance, it would be very confusing when comparing the categories in 2009 and 2013. The 2009 book describes that "improving *retirement incentives* comes under the heading of *economic efficiency*" (2009: 87) along with other measures to reduce the distortions to the labour market. It implies *work incentives* are one of the subordinate components of *economic efficiency*. In the 2013 book, however, *work incentives* are used as one of the "key goals of pension reforms" (2013: 18), and all the measures used to prevent labour market distortion are classified into this category.

Security of investment is a response to the increasing need for systematic guidelines for security as retirement income is diversified. Lastly, *other* includes measures to stimulate economic recovery and structural reforms. The criteria and definitions are outlined in Table 5.7 below.

Table 5.6: Summary of pension reforms in Pensions at a Glance

	2007	2009	2013	2015
Number of countries	30	30	34	34
Periods	1990 – 2003	2004 – 2008	2009 – Sep 2013	Sep 2013 – Sep 2015
Categories of change	- Pension eligibility age - Adjusted retirement incentives - Change of years in benefit formula or qualifying conditions - Link to life expectancy and/or financial sustainability - DC scheme - Others	- Coverage - Adequacy - Financial sustainability - and affordability - Economic efficiency - Administrative efficiency - Security	- Coverage - Adequacy - Financial sustainability and affordability - Work incentives - Administrative efficiency - Diversity and security - Others	- Coverage - Diversity and security - Pension benefits - Taxes and defined benefit contributions - Indexation - Work incentives - Administrative efficiency - Others

Source: OECD (2007, 2009, 2013, and 2015).

Table 5.7: New categories for pension reforms

Categories	Definition
Coverage	Increasing the coverage of pension systems by both mandatory and voluntary schemes
Adequacy	Increasing retirement income adequacy
Financial and fiscal sustainability	Improving long-term financial sustainability to taxpayers and contributors
Economic efficiency	Minimising the distortions of the retirement income system on individuals′ economic behaviour, such as labour supply and savings outside of pension plans
Administrative efficiency	Keeping the cost of collecting contributions, paying benefits and managing investments as low as possible
Diversification	Diversifying retirement income sources across providers, the three pillars, and financing forms by allowing greater options to individuals
Security of investment	Improving security of pension funds against investment failure
Other	Taking measures to stimulate economic recovery and changing pension structures

Source: Author based on OECD (2009: 85; 2013: 18; 2015: 18-19).

Step Two: Reclassify the data

Reclassifying the data into the new categories is not easy an process, as, first of all, elements of reforms often have more than one objective. Trade-offs and synergies occur between the objectives. For instance, widening the coverage of occupational pensions improves the *adequacy*, and contributes to *diversification* by easing pressure on the state budget (OECD, 2013: 19). Therefore, researchers must have sufficient knowledge of the reforms and classify them based on their main function. Secondly, reclassifying might be challenging as *Pensions at a Glance* only provides summarised information about reforms. Individual researchers therefore need to check related references to understand reforms precisely. As *ISSA Country Profiles* provide this information in detail, they are applied in this study to confirm the classification when there is uncertainty in the data from *Pensions at a Glance*. In addition to

the ISSA profiles, country profiles in the final chapter in each of the *Pensions at a Glance* books (2007, 2009, 2013, and 2015), and *Social Security Programmes throughout the World* (2013, 2014a, 2014b) are useful to fill the gap in knowledge.

The process for reclassification began with *Pensions at a Glance* followed by *ISSA Country Profiles.* Reclassifying *Pensions at a Glance* 2009 and 2013 was a relatively simple process as the categories within them closely reflect the new categories developed for this study. On the other hand, the 2007 and 2015 books required much more attention, since they utilise very different categories. Every element of the 2007 and 2015 books was consequently carefully examined and assigned to the new categories. Then data from the *ISSA Country profiles* was employed to complement them. In short, the ISSA data was collected and merged from the website (about 2,000 entries) and the entries that possibly related to pension reforms were picked based on their titles (about 600 entries). These were compared to the data from *Pensions at a Glance*, and checked to see if they were either already covered by *Pensions at a Glance*, irrelevant to the analysis, or needed to be added. Here, 'irrelevant' entries means reforms irrelevant to pensions, or reforms that have not yet been legislated. The entries that needed to be added were classified by the new criteria as outlined in Table 5.7. An example of the process is shown in Table 5.8. By the end more than 250 entries had been supplemented by *ISSA Country Profiles*. As pension reforms often span across numerous policy areas, it was not easy to collect relevant information without omission. This highlights the importance of cross-checking when employing data on pension reforms in comparative studies. There are overlapping descriptions in some cases and they are eliminated to avoid confusion. Entries that refer to ongoing processes are also eliminated.

Table 5.8: Reforms summarised in ISSA Country Profiles, the case of the UK (1995–2014)

	Entries in the *ISSA Country profiles*	**Comparison with *Pensions at a Glance***
2014	*Overhaul of the pension system*	Irrelevant
	More choice in accessing pension saving introduced	Covered
2013	*A single-tier pension to replace the multi-tier public pension system*	Irrelevant
2012	*Proposal to change the state pension system*	Covered
	Measures to improve the financing of the pension system	Covered
2011	*Encouraging people to work longer*	Covered
	Major changes to public-sector pensions	Irrelevant
2010	*The Pensions Regulator´s Corporate plan released*	Irrelevant
	New government´s agenda on public pension provision	Irrelevant
2009	*Pension quality mark" award for defined contribution employer schemes"*	**Security of investment**
2007	*Another raft of pension reform proposals*	Irrelevant
2006	*Changes to tax credits*	Irrelevant
	Pension education initiative	**Security of investment**
	Financial assistance when pension schemes wind up	**Security of investment**
	Two retirement pension deferral options now available	Partly covered. **Economic efficiency**
2005	*Second Pensions Commission report released*	Irrelevant
	New funding requirements for defined benefit schemes	**Security of investment**
	Employer Task Force on Pensions publishes its report	Irrelevant
2004	*The Pensions Act approved*	Partly covered. **Coverage, administrative efficiency, security of investment**
	Modernized network of services for older persons being developed	Irrelevant
	The first report of the Pensions Commission submitted	Irrelevant
	New pension and benefit rights for same sex couples	**Coverage**
	Pensions Bill introduced in Parliament	Irrelevant
2003	*Annual illustrations of future pension benefits required under law*	Irrelevant
	State Pensions Credit Act implementation	**Adequacy**
	Employer task force on pensions established	Irrelevant

	New measures to protect members of occupational schemes	Partly covered. **Administrative efficiency, security of investment**
2002	*Measures to simplify the regulatory framework for pensions introduced*	**Adequacy, administrative efficiency**
	State Second Pension implemented	**Others**
	Pension credit proposed	Irrelevant
2001	*A new Department for Work and Pensions created*	**Administrative efficiency**
	Stakeholder pensions	Covered
	New tele-claim service for pensioners	**Administrative efficiency**
	Measures for pensioners	Irrelevant
2000	*Bill provides for reform in the area of old-age provision*	Irrelevant
1998	*Pilot projects to help poorest pensioners*	Irrelevant
	Procedure to claim retirement pension over the phone is being tested	Irrelevant
1997	*Minimum funding requirement for salary-related pension schemes*	**Security of investment**
1996	*New rules for contracted-out occupational pension schemes*	**Security of investment**
	Third tier of pension provision to be encouraged	Irrelevant
	Changes to National Insurance Contributions	**Economic efficiency**
	Equal Access to Pension Schemes for Men and Women	**Coverage**
	New Compensation Scheme for Occupational Pensions	**Security of investment**
1995	*Pensions Bill*	Irrelevant

* Irrelevant: the entry is not relevant to pension reforms, or is not yet legislated.

* Covered: the entry is covered by Pensions at a Glance.

* Coverage, Adequacy, Financial and fiscal sustainability, Economic efficiency, Administrative efficiency, Diversification, Security of investment, and Other: See Table 5.7 for definitions.

Source: ISSA Country Profiles.

Table 5.9 below shows the results for the UK after the process of reclassification for *Pensions at a Glance* and *ISSA Country Profiles*. The five sources used for the process are put in different colours in the table. In doing so, the original sources are easily traceable, and above all, an analysis with a time dimension becomes possible. They sources are as follows:

the entries in blue are from *Pensions at Glance* 2007 showing reforms that took place from 1990 to 2003. The entries in brown are from *Pensions at Glance* 2009 showing reforms from 2004 to 2008. The entries in orange are from *Pensions at Glance* 2013 showing reforms from 2009 to September 2013. The entries in green are from *Pensions at Glance* 2015 showing reforms from September 2013 to September 2015. Lastly, the entries in red are from *ISSA Country Profiles* showing reforms of the total period, from 1990 to 2015. As seen in the table, only the entries in red contain the specific year of each reform as only the *ISSA Country Profiles* provides the year for each reform. *Pensions at a Glance* only provides data in large clusters of time. See the Appendix for the whole result.

Table 5.9: Reclassified pension reforms, the case of the UK (1990 – 2015)

Country	Coverage	Adequacy	Sustainability	Economic efficiency	Administrative efficiency	Diversification	Security of investment	Other
United Kingdom	Employers required to provide access to DC ("stakeholder") pension. Extension of means-tested supplements. Equal access to pension schemes for men and women (1996). New pension and benefit rights for same sex couples. Periods of adoption and paternity leave are treated in the same way as those of normal work for the purpose of employment-related pension schemes (2004). Reduction in number of years required for full basic pension to 30. Large employers (120 000 plus employees) must automatically enrol workers in company scheme or state-run National Employment Savings Trust (NEST) from October 2012; medium-sized employers (50 plus) from June 2013,	Increased progressivity of earnings-related pension. Increase in basic pension. People who are unmarried at the time they purchase a pension annuity no longer have to take out a pension that provides for survivor benefits (2002). State pension credit is introduced (2003). Vesting rights to those who leave OPs early (2004). Basic pension to be indexed to average earnings from 2012; increases 2004-08 in line with earnings. Improved credits for carers. One-off payment of GBP 60 to pensioners (January 2009). Increase basic State Pension by higher of CPI, earnings growth or 2.5% from April 2011 (triple lock guarantee). Contributions will	Employee contribution of 4%, employer of 3% and government of 1% phased in. Contribution rates increase of 1% to 2% for both employer and employee in 2012-16. A 1% contribution-related tax credit introduced. In October 2017, the employer will pay 3% and the employee will pay 4% (Pensions Act 2011). Indexation of private-sector OPs is changed from the retail price index to the consumer price index (2011).	Employers who take on someone who has been unemployed for two years are able to take 'contributional holiday'. The main rate of employers' NICs is cut. The rate for self-employed is cut (1996). Increment for late retirement raised from 7.4% to 10.4% a year; increment now payable as a one-off bonus. The maximum time limit of 5 years to defer State pension is removed (2006). Equalise pension ages at 65 by 2018. Bring forward pension age to 66 by 2020 and increase from 66 to 67 by 2026 (October 2010 and amendments in January 2011 and 2012 that accelerated the pace of reform). Removal of the default retirement age (DRA) of 65 to	A new department for Work and Pensions created. New tele-claim service for pensioners (2001). Measures to simplify the regulatory framework: pension schemes are no longer required to produce actuarial certificates every three years; provision for the commutation of equivalent pension benefits prior to normal pension age providing that certain conditions are met (2002). Legislation regarding tax and contracting-out is simplified (2003). The rules on limited price indexation have been changed to make the regulation simpler (2004). Central clearing house for new national pension savings scheme; aim to have costs of 0.5%	A reduction in the amount of information that must be provided by an employer electing to contract-out or vary the contracting-out certificate (2002). New NEST scheme planned in 2010 and implemented in 2012.	Contracted-out occupational pension schemes need to meet a benchmark by providing a pension broadly equivalent to, or better than the statutory standard. New compensation scheme for occupational pensions as measures to safeguard pension funds (1996). Minimum funding requirement for salary-related pension scheme (1997). Measures to safeguard the rights of members of Ops: introduction of a Pensions Protection Fund; full buy out policy for a solvent company who winds up its pension scheme; revision of the priority order which applies on wind-up; introduction of a new system of private pension regulation with a Pensions Regulator; requirement that employers consult before making changes to pension schemes (2003). Premiums paid by plans, related to measures of risk, double the originally predicted level. Tightening of recovery rules for plans in deficit. Extension of Financial Assistance Scheme for insolvent OPs, covering 140 000 extra workers. Pension Protection Fund, to insure DB plans, established in 2004.The Pensions Regulator to assist in protecting members' benefits (2004). New funding requirements for DB schemes: preparing a statement of funding principles; obtaining regular actuarial valuations and reports; putting in place a recovery plan addressing any funding shortfall; and keeping scheme members informed about their scheme's funding position (2005). Pension education initiatives. Financial assistance when pension schemes wind up (2006). Pension quality mark "award for DC employer	S2P replaces SERPS (2002). Acceleration of change of state second pension from an earnings-related to a flat-rate scheme, with initial benefits indexed to average earnings. In January 2013, the Department for Work and Pensions published a draft bill introducing a flat-rate single-tier pension (STP) to replace the existing multi-tier State Pension system. The STP will be implemented in April 2016. The reform is expected to particularly benefit people who were expecting a low amount of Addition Pension due to their work history. It will represent a significant simplification of the state system and be a clear foundation for retirement saving. The government has also

	and small employers (fewer than 50) from May 2015. The National Employment Savings Trust (NEST) is being extended to small employers from January 2016.	be increased from total of 2% of earnings in 2012 to 5% in 2016 and 8% in 2017. Taxes on withdrawals from pension accounts were lowered and tax-free amounts were increased in 2015.		provide workers greater opportunities to remain in the labour market afterwards. From October 2011, employers cannot compel employees to retire using DRA. Bring forward pension age to 66 by 2026 and to 67 by 2028. Gradually increasing the private pension savings age from 55 to 57 in 2028. Private pension will be available for withdrawal from 10 years before the normal pension age.	of balance initially, falling to 0.3%. New Pensions Regulator established in 2005, combing previous agencies.		schemes" (2009). NEST scheme will create economies of scale compared to current DC plans. Pension providers and trust-based managers must offer DC members free and impartial face-to-face advice. Small DC plans are automatically transferred to the new pension plan when workers change jobs. The government's authority to introduced minimum governance standards, fees, etc. have been strengthened to mitigate excessive charges and to increase standards. New rules for defined contribution pension withdrawals were legislated in May 2014 and will enable large lump-sum withdrawals.	legislated to accelerate increase in State Pension age and introduced a regular review process to set Spa based on the principle that a fixed proportion of adult life should be spent in retirement. Increase contribution rates of public sector workers and amend the DB plan for Members of the Parliament (2010). From 2016, a new state pension (single-tier pension, STP) will replace at a higher level both the basic pension and the minimum income guarantee (Pension Credit).

*Blue: pension reforms from 1990 to 2003

Brown: pension reforms from 2004 to 2008

Orange: pension reforms from 2009 to Sep 2013

Green: pension reforms from Sep 2013 to Sep 2015

Red: pension reforms from 1995 to 2014

Source: Reclassified by author, based on OECD data (2007, 2009, 2013, 2015) and ISSA Country Profiles.

Step Three: Generating subtypes of pension reforms

The third step is generating the list of reform types. Since the data generated in the previous stage is too descriptive, it may not be easy to make comparisons across countries. Therefore, common elements in each category are extracted and simplified to improve efficiency. For the process, the descriptions and the analysis of criteria in *Pensions at a Glance* are referenced as the 2009 book (pp. 85-89) and 2013 book (pp. 20-26) provide summarised features of each category. For example, the 2013 book addresses the three main types of measure that were adopted to improve *coverage*: private pension provisions in addition to public schemes, the introduction or extension of mandatory occupational pensions, and automatic enrolment in voluntary schemes. When it comes to *adequacy*, it addresses its features such as new means-tested benefits, higher benefits to the elderly, improving the progressive nature of social security systems, one-off payments, and so on (pp. 20-21). This thesis uses this information as a basic frame and then fleshes it out by close examination of previous work (see Appendix).

The following Table 5.10 is the output: subtypes of pension reforms in OECD countries from 1990 to 2015. It has seven categories, which are identical with those in Table 5.7 and each category consists of different elements of pension reforms, which are named ‘subtypes of reforms’. *Coverage*, for example, has ten subtypes of pension reforms. This means that OECD countries employed ten types of measures to improve coverage in pension schemes.

Table 5.10: Subtypes of pension reforms in OECD countries from 1990 to 2015

Category	Type of reforms
Coverage	① Introduction or extension of public pensions (1st tier)
	② Relaxing qualifying conditions for public pensions
	③ Credit or subsidy for targeted groups
	④ Introduction or extension of mandatory public pensions (2nd tier)
	⑤ Introduction or extension of mandatory private pensions (2nd tier)
	⑥ Automatic enrolment in voluntary pensions (3rd tier)
	⑦ Tax privileges or subsidies for voluntary pensions
	⑧ Introduction or extension of voluntary pensions
	⑨ Conversion of severance-pay into pension plans
	⑩ Other
Adequacy	① Increases in the benefit levels for all pensioners
	② Guarantee of the benefit levels / favourable treatments for low-income seniors
	③ Additional benefits / favourable treatments for carers
	④ Additional benefits / favourable treatments for other targeted groups
	⑤ One-off payments / Occasional transfers
	⑥ Tax reduction for pensioners
	⑦ Changes in indexation mechanisms
	⑧ Increases in the contribution rates
	⑨ Easing conditions for claiming benefits
	⑩ Allowing early retirement for targeted groups
	⑪ Other
Financial and fiscal sustainability	① Changes in indexation mechanisms / valorisation
	② Changes in pension formula (accrual rates, automatic mechanism, reflection of life expectancy etc.)
	③ Best years to lifetime average / longer years
	④ Direct cut in benefits
	⑤ Taxation of pension benefits or contributions / Abolition of favourable tax treatment
	⑥ Increases in the contribution rates / Tightening the conditions for benefits
	⑦ Minimising the government's financial obligations in pensions
	⑧ Introduction of Mandatory DC

	⑨ Pre-funding
	⑩ Introduction of notional account schemes or point system
	⑪ Diversion from private pensions to public pensions
	⑫ Other
Economic efficiency	① Equalising normal pension ages for men and women
	② Increases in the pension age
	③ Increases in the statutory retirement ages / Abolition of compulsory retirement age
	④ Disadvantages for early retirement or no early retirement schemes
	⑤ Financial incentives to work beyond retirement age
	⑥ Regulations to protect aged employees
	⑦ Increases in contributed years for full pensions
	⑧ Financial incentives to save
	⑨ Incentives to hire aged workers to employers / Disadvantages for fire aged workers to employers
	⑩ Abolishing age limit to contribute / Allowing to receive pensions while working
	⑪ Reducing employers' contributions
	⑫ Other
Administrative efficiency	① Making public pension schemes cost efficient
	② Merging pension schemes
	③ Setting up information systems for managing social security systems
	④ Limiting operational costs
	⑤ Other
Diversification	① Voluntary pension plans to improve investment options for workers
	② Regulations that allow workers greater choice over the way their savings are invested in private pensions
	③ Relaxing of restrictions on investment options
Security of investment	① Action to improve pension funds' solvency rates
	② Governance, education and risk management of pension plans to improve security
	③ Other
Other	① Measures to stimulate economic recovery
	② Other (structural change, etc.)

Source: Reclassified by author, based on OECD (2007, 2009, 2013, 2015) and ISSA Country profiles.

Step Four: Codify the data

The last step is assigning a code to the summary of pension reforms using the subtypes of pension reforms. This is the process that converts the previous work taken in the second step into a comparable form. During the second stage, the types of pension reforms are derived from summaries of pension reform, and now the original work is coded using these new types. Therefore, coding is not technically difficult in principle, but where there are grey areas the *ISSA Country Profiles* are referenced. Table 5.11 shows how the original description in *Pensions at a Glance* (merged and reclassified by the author) is coded using the new subtypes of pension reforms. Table 5.12 is an example of the coding process for the UK case.

Now, the process for analysis and data preparation using *Pensions at a Glance* and *ISSA Country Profiles* are completed. We have a single consolidated dataset ready for comparison. The following section provides an overview and analyses patterns and trends of pension reforms within it.

Table 5.11: An example of the coding process for Coverage, the case of the UK

Country	Coverage	
	Original description	**Code**
United Kingdom	*Employers required to provide access to DC ("stakeholder") pension.*	⑤ Introduction or extension of private pension in addition to public pensions
	Extension of means-tested supplements.	③ Credit or subsidy for targeted groups
	Equal access to pension schemes for men and women (1996).	① Introduction or extension of public pensions
	New pension and benefit rights for same sex couples.	① Introduction or extension of public pensions
	Periods of adoption and paternity leave are treated in the same way as those of normal work for the purpose of employment-related pension schemes (2004).	① Introduction or extension of public pensions
	Reduction in number of years required for full basic pension to 30.	② Relaxing qualifying conditions for public pensions
	Large employers (120,000+ employees) must automatically enrol workers in company scheme or state-run National Employment Savings Trust (NEST) from October 2012; medium-sized employers (50 plus) from June 2013, and small employers (fewer than 50) from May 2015.	⑥ Automatic enrolment in voluntary pensions (3rd tier)
	The National Employment Savings Trust (NEST) is being extended to small employers from January 2016.	⑧ Introduction or extension of voluntary pensions

Source: Reclassified and coded by author, based on OECD data (2007, 2009, 2013 and 2015) and ISSA Country Profiles.

Table 5.12: An example of the coding process, the case of the UK

Country	Coverage	Adequacy	Financial and fiscal sustainability	Economic efficiency	Administrative efficiency	Diversification	Security of investment	Other
United Kingdom	① Introduction or extension of public pensions (1st tier) ② Relaxing qualifying conditions for public pensions ③ Credit or subsidy for targeted groups ⑤ Introduction or extension of mandatory private pensions (2nd tier) ⑥ Automatic enrolment in	① Increases in the benefit levels for all pensioners ② Guarantee of the benefit levels / favourable treatments for low-income seniors ③ Additional benefits / favourable treatments for carers ④ Additional benefits / favourable treatments for other targeted groups ⑤ One-off payments /	① Changes in indexation mechanisms / valorisation ⑥ Increases in the contribution rates / Tightening the conditions for benefits	① Equalising normal pension ages for men and women ② Increases in the pension age ③ Increases in the statutory retirement ages / Abolition of compulsory retirement age ⑤ Financial incentives to work beyond retirement age ⑪ Reducing employers' contributions	① Making public pension schemes cost efficient ③ Setting up information systems for managing social security systems ⑤ Other	① Voluntary pension plans to improve investment options for workers ③ Relaxing of restrictions on investment options	① Action to improve pension fund's solvency rates ② Governance, education and risk management of pension plans to improve security ③ Other	② Other

	voluntary pensions (3rd tier) ⑧ Introduction or extension of voluntary pensions	Occasional transfers ⑥ Tax reduction for pensioners ⑦ Changes in indexation mechanisms ⑧ Increases in the contribution rates						

Source: Reclassified and coded by author, based on OECD data (2007, 2009, 2013 and 2015) and ISSA Country Profiles.

5.4 Data analysis

This section uses overview tables to show the data at a glance. Firstly, this thesis shows simple overview tables that check the use of each reform measure. They are made based on the coded data in the previous section, and the basic format of the tables comes from *Pensions at a Glance* (OECD, 2013: 19). They are changed and updated to reflect the purpose of this thesis. The overview of all types of reform package is provided first, followed by two tables which reflect the time dimension. Secondly, this thesis also provides a more detailed view using 'frequency of reform' measures. This demonstrates the intensity of pension reforms in each OECD country. The frequency tables are also displayed with a time dimension.

An overview of all measures for pension reforms

Table 5.13 is an overview of the seven types of reforms in pension systems: *coverage, adequacy, financial and fiscal sustainability, economic efficiency, administrative efficiency, diversification,* and *security of investment*. The table shows which measures were taken in each of the 34 OECD member countries between 1990 and 2015. If a measure was taken at least once during a period of time, the box is marked. A blank space indicates that the relevant measure was not employed in that country. At the bottom of the table, the total frequency that the measure was adopted in the 34 countries is provided.

First of all, it is evident that most OECD countries adopted most of the measures to reform pension systems over the last 25 years. If we leave *other* out of the analysis, 13 out of the 34

countries employed all seven types of reform measure, and 18 countries adopted five or six measures. In other words, more than 85% of the OECD countries reformed pensions evenly using most of the reform packages between 1990 and 2015. The frequency of each measure is also shown. Except for *security of investment*, the frequency of all measures is in the range of 24 to 33. This result is noteworthy given that the period of time is often called "the era of austerity". It shows that most of the OECD countries carried out reforms with multiple aims; they paid attention not only to retrenchment, but also to protection, despite of the fiscal distress. On the other hand, two countries turned out to be less active in reforms compared to most of the other OECD countries; specifically, Iceland and Israel. Both only adopted three types of measures. Considering the fact that Israel was not covered by *ISSA Country Profiles* nor *Pensions at a Glance* 2007 and 2009, Iceland might be the only country where pension reforms took place for limited purposes over the last 25 years.

Table 5.13: Overview of pension reform measures in OECD countries, 1990–2015

	Coverage	Adequacy	Financial and fiscal Sustainability	Economic efficiency	Administ-rative efficiency	Diversifica-tion	Security of investment
Australia	o	o	o	o	o	o	o
Austria	o	o	o	o			
Belgium	o	o	o	o		o	
Canada	o	o	o	o	o	o	o
Chile	o	o			o	o	o
Czech Republic	o	o	o	o	o	o	
Denmark	o		o	o	o	o	
Estonia	o	o	o	o	o		o
Finland	o	o	o	o	o	o	o
France	o	o	o	o	o	o	o
Germany	o	o	o	o	o	o	

Greece	o	o	o	o	o		
Hungary	o	o	o	o		o	o
Iceland		o	o				o
Ireland	o	o	o	o	o	o	o
Israel	o	o				o	
Italy	o	o	o	o	o	o	o
Japan	o	o	o	o	o	o	o
Korea	o	o	o	o	o	o	o
Luxembourg	o	o	o	o	o		
Mexico	o	o	o		o	o	
Netherlands		o	o	o	o		o
New Zealand	o	o	o	o			o
Norway	o	o	o	o		o	
Poland	o	o	o	o	o	o	o
Portugal	o	o	o	o	o	o	o
Slovak Republic	o	o	o	o		o	o
Slovenia	o	o	o	o		o	
Spain	o	o	o	o	o	o	
Sweden		o	o	o	o		o
Switzerland	o	o	o	o		o	o
Turkey		o	o	o	o	o	
United Kingdom	o	o	o	o	o	o	o
United States	o	o	o	o	o	o	o
Total	**30**	**33**	**32**	**30**	**24**	**26**	**21**

Source: Author.

Regarding the trend analysed above, one might be curious about its consistency; 25 years is not a short period of time for any policy. Were the trends in reform measures maintained over the years? If not, were there any remarkable changes during the years? Tables 5.14 and 5.15 below provide insights on changes over the 25 years. They provide the same overview

of reform packages as the previous table, but add in a time dimension. They separately illustrate what measures each country adopted over two periods of time: between 1990 and 2003, and between 2004 and 2015[14].

As shown in Table 5.14 below, less diverse reform measures were employed in the first time period. If we leave *other* out of discussion as in the previous table, France is the only country out of the 34 that employed all seven types of measure, and eight countries adopted five or six of them. Two countries, Iceland and Israel, did not undertake any reform during this period. On the other hand, despite the overall decrease in frequency, two measures were significantly preferred in many countries: measures for *financial and fiscal sustainability* and *economic efficiency*. Both measures were employed in 25 of the countries, whilst other measures were in the range of 8 to 21 countries. This differs significantly from the previous analysis that considered the total period, which indicates that all measures of reform were relatively evenly adopted in most countries.

[14] Because of the limitations of the original data sources, there is little room for dividing the period of time further. *Pensions at a Glance* does not provide a specific year for each reform, while the *ISSA Country Profiles* provides a data basis for every year. *Pensions at a Glance* only provides data in large clusters of time; reforms between 1990 and 2003 (OECD, 2007), 2004 and 2008 (OECD, 2009), 2009 and September 2013 (OECD, 2013), and September 2013 and September 2015 (OECD, 2015). Considering the limits of this data, this study divided the total period of time into halves: reforms that took place between 1990 and 2003, and between 2004 and 2015.

Table 5.14: Overview of pension reform measures in OECD countries, 1990–2003

	Coverage	Adequacy	Financial and fiscal Sustainability	Economic efficiency	Administra-tive efficiency	Diversifi-cation	Security of investment
Australia	o	o	o	o			
Austria	o	o	o	o			
Belgium	o	o	o	o			
Canada	o		o	o	o	o	o
Chile		o					o
Czech Republic	o	o	o	o	o		
Denmark	o		o				
Estonia	o	o					
Finland		o	o	o	o	o	
France	o	o	o	o	o	o	o
Germany	o	o	o	o		o	
Greece		o	o	o	o		
Hungary	o	o	o	o			o
Iceland							
Ireland	o	o	o				o
Israel							
Italy			o	o			
Japan	o		o	o		o	
Korea	o	o		o		o	
Luxembourg	o	o	o		o		
Mexico	o				o	o	
Netherlands			o	o	o		
New Zealand			o	o			
Norway			o				
Poland			o	o			
Portugal		o	o	o			
Slovak Republic		o	o	o			
Slovenia	o	o	o	o		o	
Spain		o		o		o	
Sweden			o	o			
Switzerland	o	o	o	o			o
Turkey			o	o		o	
United Kingdom	o	o		o	o	o	o
United States		o		o	o		o
Total	**18**	**21**	**25**	**25**	**10**	**11**	**8**

Source: Author.

Meanwhile, the latter time period (2004–2015) shows similar trends to the results for the total period. According to Table 5.15 below, reform measures were diversified compared to the first period; seven of the 34 countries employed all of seven types of measure, and 14 countries adopted five or six of them. Chile, Norway and Poland, all of whom did not make many reforms in the first period, adopted five measures or more in the second period. The frequency of each measure is shown. All measures appear between 19 and 30 times. This indicates that many OECD countries tried to enhance pension systems throughout this period, but not necessarily to tighten budgets, as mentioned above with Table 5.13. Another finding to note is the fact that the number of countries that adopted measures for *coverage, adequacy, administrative efficiency, diversification,* and *security of investment* considerably increased during this period. Whilst only 8 to 21 countries adopted these measures in the first period, 19 to 30 countries employed them in the second. *Financial and fiscal sustainability* and *economic efficiency* saw a relatively moderate increase during the same period; the number of countries that used *financial and fiscal sustainability* increased from 25 to 30, and those using the measure of *economic efficiency* increased from 25 to 27.

Table 5.15: Overview of pension reform measures in OECD countries, 2004–2015

	Coverage	Adequacy	Financial and fiscal Sustainability	Economic efficiency	Administra-tive efficiency	Diversifica-tion	Security of investment
Australia	o	o	o	o	o	o	o
Austria	o	o	o	o			
Belgium		o		o		o	
Canada	o	o	o	o	o	o	o
Chile	o	o			o	o	o
Czech Republic	o		o	o		o	
Denmark				o	o	o	
Estonia		o	o	o	o		o
Finland	o	o	o	o	o	o	o
France	o	o	o	o	o		
Germany	o	o	o	o	o	o	
Greece	o	o	o	o	o		
Hungary	o	o	o	o		o	
Iceland		o	o				o
Ireland	o	o	o	o	o	o	o
Israel	o	o	o			o	
Italy	o	o	o	o	o	o	o
Japan	o	o	o	o	o		o
Korea	o	o	o	o	o		o
Luxembourg	o	o	o	o			
Mexico	o	o	o		o	o	
Netherlands		o	o	o			o
New Zealand	o	o	o				o
Norway	o	o	o	o		o	
Poland	o	o	o	o	o	o	o
Portugal	o	o	o	o	o	o	o
Slovak Republic	o		o			o	o
Slovenia	o		o	o			

Spain	o	o	o	o	o		
Sweden		o	o	o	o		o
Switzerland	o	o	o	o		o	o
Turkey		o		o	o	o	
United Kingdom	o	o	o	o	o	o	o
United States	o	o	o			o	o
Total	**27**	**30**	**30**	**27**	**20**	**21**	**19**

Source: Author.

An overview of the frequency of pension reforms

We turn now to a more detailed overview of the data: the frequency of reforms. Previously, we examined the data to ascertain whether a certain type of reform measure had been employed by countries. It provided a quick overview to provide insights into the overall trend. *Pensions at a Glance* (OECD, 2013: 19) used the same format for its description of the reform data. It is, however, difficult to show more than a general understanding of available reform trends from this approach. Too much information from the original data is lost. This is the nature of a crisp-set in the simple overview tables; a 'yes or no' format cannot hold profound information on the original data (see Appendix).

This thesis consequently presents the frequency of pension reforms to supplement our understanding. Counting each reform measure permits us to explore the intensity of reforms in each country. In times of economic hardship, the allocation of limited resources to social provisions is politically contentious (Kuitto, 2016: 447), and pensions are not immune. In such situations, each country is forced to take a strategic choice over reform measures to

achieve policy goals within their limited capability. This leads them to focus on particular measures to cover the priority issues in pension systems. If a country has an issue of insufficient pension benefits, for example, the government might gain political traction to increase pension adequacy despite the general trend of austerity. In the same sense, if a pension system has been criticised for its growing budgetary stress, it would be reasonable for the government to focus on sustainability measures. One point to note is the fact that these changes are not associated with major structural reforms in most cases (Ebbinghaus, 2012: 184-196). This can be explained by path-dependent inertia and the mechanisms of welfare politics as addressed in Chapter Three. Radical reforms – especially radical cut-backs – are likely to be avoided by vote-seeking politicians and gradual path-developments are more likely to happen (Ebbinghaus, 2005; Streeck & Thelen, 2005). As a result, changes in pension systems nowadays often occur "through multiple smaller public policy interventions, sometimes through non-decisions by public actors, and by subterranean adaptations by non-state actors such as employees, unions, and individuals" (Ebbinghaus, 2012: 200).

In this context, the frequency of the seven types of reform measures indicates the emphasis of governments and their general welfare orientation in pensions. Calculating the frequency provides us with a greater capacity to grasp patterns of pension reforms, beyond simple analysis of a 'yes or no' format. This does raise concerns over the different sizes of impact of each reform. Counting the frequency of reform measures indeed does not reflect the size of the impact of the measure; a significant systematic reform and a small parametric reform are counted as one frequency for each. This thesis, however, has demonstrated that the majority of reforms in OECD countries for the last 25 years can be classified into 97

subtypes[15] (see Table 5.10). As addressed in the previous sector, those subtypes are mainly based on *Pensions at a Glance*. This indicates that most of the pension reforms took a similar form, specifically that of small interventions, which is in line with Ebbinghaus' s (2012: 200) argument above. Considering these facts, measuring the frequency of pension reforms as a proxy of reform intensity is reliable. Still, there may be information that is not captured by using a frequency measure. Such a loss of information is inevitable in processing descriptive data into quantitative form, and it can be considered as an acceptable margin in this thesis.

Table 5.16 below is an overview of the frequencies of pension reform measures. The figures in the tables are the frequency of reform measures employed in each country. For example, the table shows Australia is 4 in *coverage*, meaning Australia employed measures to expand coverage of pension systems in their pension system through four reforms between 1990 and 2015. A blank space indicates that the relevant measure was not employed in that country. The total frequency of measures adopted in the 34 countries is provided at the bottom of the table. Also, the total frequency of measures adopted in each country is provided at the right end of column.

As was revealed in Table 5.13, many OECD countries employed most of the seven measures. Table 5.16 forwards a more accurate view of their preferences. Firstly, the most frequently adopted measures for the last 25 years are *financial and fiscal sustainability* (197) and *economic efficiency* (191). They account for almost half of the total frequency (804). This

[15] This is the sum of all subtypes of pension reforms in Table 5.10 except the subtypes 'other'. The total number of subtypes including 'other' is 105.

supports earlier research on welfare austerity in many welfare states. Changes in indexation mechanisms and pension formulae, best years to lifetime average or longer year, abolition of favourable tax treatment, and tightening the conditions for benefits were commonly employed to increase pension *financial and fiscal sustainability*. For *economic efficiency*, equalising and raising the pension age, limiting early retirement and encouraging longer working are observed in the majority of member countries.

The next common measures are *adequacy* (132) and *coverage* (115). They account for 30% of all the reforms. Considering the economic hardship of the period, such an intensity of pension expansion is surprising. For *adequacy*, the most preferred method was a universal rise in pension amounts. Tax reduction for pensioners also aims at a general increase in pension amounts. Other subtypes are more focused on targeted groups; specifically, those who are unlikely to have a sufficient contribution record for full a pension such as carers, the unemployed, students, and others who rely on benefits. The reforms are adopted to fill the insufficient contribution record of those people, so that they are entitled to a full pension when they reach pension age. *Coverage* was expanded in all tiers of the income security system. An introduction or extension of the 1st tier was dominant, but the 2nd and 3rd tiers also expanded their coverage. Crediting targeted groups was also frequently employed. The targeted groups are mostly carers, students, and unemployed. The reforms aimed to help them to receive a full pension when they reach the pension age. This is a response to emerging new risks in the era of austerity, as pointed out in many studies[16] (Bonoli, 2006: 6-11; Pierson, 2011: 8-11; Taylor-Gooby, 2004: 3-7). Finally, *security of investment* (68),

[16] As described in Chapter Two.

administrative efficiency (57), and *diversification* (44) were the three least commonly employed reforms.

Table 5.16 also shows country variations in frequency, which ranges from 3 to 63. The average number of measures for all countries is 23.6. The least intensively reformed country is Iceland (3), followed by Israel (5). The most intensively reformed countries are the UK (63) and France (57). They have pursued pension reforms very frequently, but their preferred reform measures were different. The UK was dedicated to improving *security of investment* (21), and increasing the *adequacy* of pension benefits (11). *Financial and fiscal sustainability* (4) and *diversification* (2) did not received much attention. France's major concern, however, were *economic efficiency* (17). *Adequacy* (13), *coverage* (10), and *financial and fiscal sustainability* (10) were also intensively reformed. On the other hand, *diversification* (1) and *security of investment* (1) were the least common measures in France.

Table 5.16: Frequencies of pension reform measures in OECD countries, 1990–2015

	Coverage	Adequacy	Financial and fiscal sustainabi-lity	Economic efficiency	Administra-tive efficiency	Diversifi-cation	Security of investment	*Total*
Australia	4	11	5	12	3	1	1	*37*
Austria	6	5	4	6	0	0	0	*21*
Belgium	1	2	1	13	0	1	0	*18*
Canada	7	3	8	6	2	3	4	*33*
Chile	5	4	0	0	2	3	3	*17*
Czech Republic	3	2	6	8	2	1	0	*22*
Denmark	3	0	1	4	1	1	0	*10*
Estonia	3	2	3	2	2	0	1	*13*
Finland	2	6	9	15	2	2	1	*37*
France	10	13	10	17	5	1	1	*57*
Germany	4	7	11	3	2	2	0	*29*
Greece	2	9	9	13	7	0	0	*40*
Hungary	4	2	9	5	0	1	1	*22*
Iceland	0	1	1	0	0	0	1	*3*
Ireland	5	8	10	3	1	1	8	*36*
Israel	1	3	0	0	0	1	0	*5*
Italy	1	1	10	10	1	1	2	*26*
Japan	8	4	11	2	2	2	2	*31*
Korea	8	3	3	4	1	1	1	*21*
Luxemburg	3	6	4	2	1	0	0	*16*
Mexico	4	1	1	0	5	6	0	*17*
Netherlands	0	1	5	5	1	0	2	*14*
New Zealand	4	3	6	1	0	0	2	*16*
Norway	1	1	6	3	0	1	0	*12*
Poland	4	1	7	6	2	3	2	*25*
Portugal	3	2	12	8	1	1	1	*28*
Slovak Republic	3	2	7	1	0	1	4	*18*
Slovenia	2	1	8	3	0	1	0	*15*
Spain	1	6	4	11	1	1	0	*24*
Sweden	0	3	9	6	3	0	2	*23*
Switzerland	4	2	9	4	0	3	4	*26*
Turkey	0	2	2	5	1	2	0	*12*
United Kingdom	8	11	4	9	8	2	21	*63*
United States	1	4	2	4	1	1	4	*17*
Total	**115**	**132**	**197**	**191**	**57**	**44**	**68**	**804**

Source: Author.

Tables 5.17 and 5.18 below are overviews of the same frequency data, but divided into the two periods of time, 1990-2003 and 2004-2015. The first thing to note is the large gap in the number of measures between the two periods. The total frequency has more than doubled, from 263 (1990-2003) to 541 (2004-2015). Greece, for example, was relatively inactive in the first period, with only six reform measures. In the second period, however, Greece turned to intensive reforms, recording 34 during this time. Similarly, Australia pursued reforms eight times in the first period and 29 times in the second period. The frequency in the UK has also doubled from 21 to 42 between the two periods. Most countries therefore increased their pursuit of pension reforms in the second period, but there are three countries that are exceptions. The frequency of reform decreased in the second period in Austria, Luxembourg, and Slovenia.

The preferences for reform measures are also different between the two periods. Compared to the first period, all seven measures were increasingly employed in the second period. However, some of them were preferred in particular. The use of *security of investment* has tripled. The frequencies of *diversification, economic efficiency*, and *adequacy* have more than doubled. Nevertheless, the most frequently adopted measures in both periods were steadily *financial and fiscal sustainability* and *economic efficiency*, which account for almost half of the total frequencies for each period. *Adequacy* and *coverage* were the third and fourth most popular measures in both periods.

Table 5.17: Frequencies of pension reform measures in OECD countries, 1990-2003

	Coverage	Adequacy	Financial and fiscal sustainabil-ity	Economic efficiency	Administ-rative efficiency	Diversifi-cation	Security of investmen t	*Total*
Australia	2	1	1	4	0	0	0	*8*
Austria	4	2	3	5	0	0	0	*14*
Belgium	1	1	1	5	0	0	0	*8*
Canada	1	0	5	1	1	1	1	*10*
Chile	0	1	0	0	0	0	2	*3*
Czech Republic	2	2	1	3	2	0	0	*10*
Denmark	3	0	1	0	0	0	0	*4*
Estonia	3	1	0	0	0	0	0	*4*
Finland	0	1	6	4	1	1	0	*13*
France	4	6	4	3	3	1	1	*22*
Germany	2	1	6	2	0	1	0	*12*
Greece	0	1	1	2	2	0	0	*6*
Hungary	1	1	4	3	0	0	1	*10*
Iceland	0	0	0	0	0	0	0	*0*
Ireland	4	4	1	0	0	0	1	*10*
Israel	0	0	0	0	0	0	0	*0*
Italy	0	0	4	2	0	0	0	*6*
Japan	1	0	7	1	0	2	0	*11*
Korea	2	2	0	2	0	1	0	*7*
Luxembourg	2	5	2	0	1	0	0	*10*
Mexico	2	0	0	0	1	1	0	*4*
Netherlands	0	0	3	1	1	0	0	*5*
New Zealand	0	0	1	1	0	0	0	*2*
Norway	0	0	2	0	0	0	0	*2*
Poland	0	0	4	1	0	0	0	*5*
Portugal	0	1	3	4	0	0	0	*8*
Slovak Republic	0	2	3	1	0	0	0	*6*
Slovenia	1	1	6	2	0	1	0	*11*
Spain	0	2	0	2	0	1	0	*5*
Sweden	0	0	6	1	0	0	0	*7*
Switzerland	2	1	1	1	0	0	2	*7*
Turkey	0	0	2	1	0	1	0	*4*
United Kingdom	3	4	0	1	5	1	7	*21*
United States	0	2	0	4	1	0	1	*8*
Total	***40***	***42***	***78***	***57***	***18***	***12***	***16***	***263***

Source: Author.

Table 5.18: Frequencies of pension reform measures in OECD countries, 2004-2015

	Coverage	Adequacy	Financial and fiscal sustainabi-lity	Economic efficiency	Administra-tive efficiency	Diversifi-cation	Security of investmen t	*Total*
Australia	2	10	4	8	3	1	1	*29*
Austria	2	3	1	1	0	0	0	*7*
Belgium	0	1	0	8	0	1	0	*10*
Canada	6	3	3	5	1	2	3	*23*
Chile	5	3	0	0	2	3	1	*14*
Czech Republic	1	0	5	5	0	1	0	*12*
Denmark	0	0	0	4	1	1	0	*6*
Estonia	0	1	3	2	2	0	1	*9*
Finland	2	5	3	11	1	1	1	*24*
France	6	7	6	14	2	0	0	*35*
Germany	2	6	5	1	2	1	0	*17*
Greece	2	8	8	11	5	0	0	*34*
Hungary	3	1	5	2	0	1	0	*12*
Iceland	0	1	1	0	0	0	1	*3*
Ireland	1	4	9	3	1	1	7	*26*
Israel	1	3	0	0	0	1	0	*5*
Italy	1	1	6	8	1	1	2	*20*
Japan	7	4	4	1	2	0	2	*20*
Korea	6	1	3	2	1	0	1	*14*
Luxembourg	1	1	2	2	0	0	0	*6*
Mexico	2	1	1	0	4	5	0	*13*
Netherlands	0	1	2	4	0	0	2	*9*
New Zealand	4	3	5	0	0	0	2	*14*
Norway	1	1	4	3	0	1	0	*10*
Poland	4	1	3	5	2	3	2	*20*
Portugal	3	1	9	4	1	1	1	*20*
Slovak Republic	3	0	4	0	0	1	4	*12*
Slovenia	1	0	2	1	0	0	0	*4*
Spain	1	4	4	9	1	0	0	*19*
Sweden	0	3	3	5	3	0	2	*16*
Switzerland	2	1	8	3	0	3	2	*19*
Turkey	0	2	0	4	1	1	0	*8*
United Kingdom	5	7	4	8	3	1	14	*42*
United States	1	2	2	0	0	1	3	*9*
Total	***75***	***90***	***119***	***134***	***39***	***32***	***52***	***541***

Source: Author.

5.5 Conclusion

The six overviews provided in the previous sections allow us to draw some conclusions. First, OECD countries generally shared common goals for pension reforms despite their different circumstances. Most of OECD countries adopted most of the following seven measures between 1990 and 2015: *coverage, adequacy*, *financial and fiscal sustainability*, *economic efficiency, administrative efficiency, diversification,* and *security of investment*. These measures are broadly shared across countries despite the variety in maturity and functions of their pension systems, and different levels of fiscal distress and poverty rates in each country. For example, France introduced public pensions in the early 20th century and stabilised them many years ago, whilst South Korea introduced its first pension in the 1980s. The level of fiscal distress caused by demographic factors is very severe in Japan, but not in the US. Poverty rates[17] in people aged 65 and over reached 33.6% in Australia, but 9.7% in Canada in 2010. This shows that they shared common goals and employed similar measures to achieve them regardless of their circumstances over the last 25 years.

Second, OECD countries' common goals for reforms were not limited to retrenchment in pensions. Despite the fact that welfare states are "facing a context of permanent austerity" (Pierson, 2001: 411), pension reforms were implemented to strengthen protection (measures for *coverage*, *adequacy*, and *security of investment*) as well as to cut costs (*sustainability*, *economic efficiency*, and *administrative efficiency, diversification*). This might be explained by the theory of credit claiming, even though Pierson (2001) argues that it no longer occurs

[17] The relative poverty rates are calculated by the author based on LIS data. See Chapter Four for more information.

due to the limited space available for popular policies nowadays. We will return to this topic in later chapters.

Third, retrenchment measures were the most preferred reform types throughout the whole period. The trend of employing *sustainability* and *economic efficiency* was consistent in many countries. However, an increase in the adoption of other measures since 2004 is noteworthy. Compared to the first period, the increase in frequency of other measures is much higher than *financial and fiscal sustainability*. Particularly, reforms to improve *security of investment* received significant attention. *Diversification*, *adequacy*, and *coverage* have also been widely adopted since 2004. This could be a counter-action to the pension retrenchment in the first period, or could have resulted from changes in other circumstances. This is beyond the limit of this thesis and in-depth case studies are required to understand this in more detail.

It is noteworthy that the analysis here is limited to understanding what types of measures were used in pension reforms. The goals of these reforms, such as poverty reduction and cost cutting, could be inferred through the measures, but we do not know the actual effects of the reforms from this analysis. Also, we cannot analyse the size of the impact of each measure. Therefore, it could be possible that reform measures taken place in a country have different weights between them. This means that the data here does not provide information about whether each reform was major or minor. Instead, this chapter shows us the emphasis of governments and their general welfare orientation regarding pensions by capturing pension reform strategies for the last 25 years across OECD countries. Based on this understanding,

this thesis attempts to produce a more accurate picture of the trends in pension reforms in the following chapter.

Chapter 6 : Categorising pension reform strategies: using fuzzy-set theory

The previous chapter examined the available data on pension reforms across OECD countries between 1990 and 2015. *Pensions at a Glance* and *ISSA Country Profiles* were combined and transformed to a comparative single dataset. There are multiple ways of using this dataset, but establishing the frequency of pension reforms is an appropriate approach for this thesis as it permits us to explore the intensity of reforms. It provides a better capacity to grasp patterns of pension reforms, beyond a simple analysis of whether or not a certain type of reform took place. In this context, the data on the frequency of reforms is analysed to answer the major research questions: what are the general trends in pension reforms adopted across the OECD from the 1990s to the mid-2010s? How can we categorise the variety of pension reforms? What are the trends in the socialisation of risks in pension reforms in particular? As a research method, Fuzzy-Set Ideal Type Analysis (FSITA) is employed. FSITA is a relatively new method for policy analysis with various benefits. t allows researchers to assess qualitative and quantitative changes of policy preventing outlier effects. As a result, FSITA has been widely introduced in comparative studies. There have, however, been relatively few attempts to analyse pension reforms with FSITA. Choi (2009) classifies pension schemes in the OECD based on the pension replacement rates and de-commodification index, but most of the existing literatures focused on other programmes: unemployment insurance (Kvist, 2007), child well-being (Hudson & Kuhner, 2013), parental leave (Ciccia & Verloo, 2012), and childcare services (Ciccia & Bleijenbergh, 2014). Or, researches that classify welfare states using FSITA (Finch et al., 2017; Hudson & Kuhner, 2009; Vis, 2007; Kvist, 1999) limitedly include old-age pension scheme as one of the core

programmes that characterise welfare states. Thus, employing the extensive pension reform data and identifying the trends in pension reforms based on FSITA would be significant methodological contribution to existing knowledge.

The chapter begins with an explanation of the research method. Two analytical sections follow. For a primary analysis, the chapter identifies the general trends in the socialisation and individualisation of old-age risks for the last 25 years. It then separates the data into the two periods of time to reveal if the trend was consistent or disruptive for a period. As a second analysis, the socialisation of old-age risks is highlighted further. The trends in three elements of the socialisation in pension reforms are analysed.

6.1 Research method

Fuzzy-set social science was first introduced by Zadeh (1965), but it has only recently became popular in comparative studies. Among others, Ragin (2000) articulated fuzzy-set theory and contributed the broadening of its horizons. By applying it to Qualitative Comparative Analysis (QCA), he suggested a new approach for the conceptualisation and measurement of cases using the Boolean method. It has numerous benefits for comparative studies with a medium number of cases, such as bridging diversity and in-depth understanding. Of course, like any other research method, fuzzy-set QCA has its weaknesses; some argue that it is unable to capture the randomness and error in data unlike conventional quantitative methods (Lieberson, 2004: 13-14). Also, its operationalisation could be subjective as the calibration process reflects the researcher's own knowledge. However, researchers are able to cope with these shortcomings by familiarising themselves

with empirical evidence and substantive case knowledge. As Ragin has highlighted several times in his work, QCA is a method to formalise case-oriented analysis. It is based on the premise that the researcher has built substantive case knowledge before the application of the method. Therefore, as long as researchers meet this assumption, they are able to recognise problems in their data during the operationalisation, and as such should be able to justify their selection on qualitative anchors (Ragin & Rihoux, 2004: 22-23). In this section, a general explanation of fuzzy-set theory and the specific process of fuzzy-set ideal type analysis (FSITA) is outlined.

Fuzzy-set theory

One of the most distinctive features of fuzzy-set theory is its use of set-theoretic language. As most social phenomena are comprised of diverse and intertwined attributes, set-theory has a strong power in comparative study; it specifies objects to compare and reduces ambiguity. The concept of 'fuzzy' set is best understood in contrast to crisp set. In crisp set analysis ('classic' or 'conventional' set), an object dichotomously belongs to a set: it is either 'in' or 'out' of a set (Ragin, 2000: 6). For example, assume a researcher analyses the change in pension adequacy in South Korea. The possible outcome could be complex, but the crisp set only allows a binary variable with two values, 1 ('in') and 0 ('out'). Thus, when it comes to the concept of 'pension adequacy', South Korea could be a member of a specific set, 1 (pension adequacy was reinforced) or 0 (pension adequacy was not reinforced). Contrary to this, fuzzy-set theory allows categorical and continuous variables with scores between 0 and 1. Using the previous example, a fuzzy-set is able to assign a score of 1.0 ('fully in', i.e., pension adequacy was *strongly* reinforced), .9 ('almost fully in', i.e., pension adequacy was reinforced), .5 (neither 'more in' nor 'more out', i.e., it is difficult to say whether pension

adequacy was reinforced or not), .45 ('barely more out than in', i.e., pension adequacy was *almost not* reinforced), and 0 ('fully out', i.e., pension adequacy was not reinforced). In this way, fuzzy-set provides much more room for researchers to express subtle differences on a spectrum. This demonstrates why fuzzy-set theory was named 'fuzzy'; it permits 'shades of grey' (fuzziness) to analyse whereas the crisp set is constrained to simple dichotomy (Hudson & Kühner, 2009: 36; Ragin, 2000: 154). When considering that the real world is far from black and white, fuzzy-set is designed to accurately reflect the reality that researchers are trying to capture.

Comparative studies using fuzzy-set theory have various advantages. First, fuzzy-set analysis functions as a bridge between variable- and case-oriented studies. Variable- and case-oriented studies are different in terms of their goals, strategies, number of cases, and of course, methods. Whilst variable-oriented research focuses on 'breadth', 'extensive', 'large-N', and 'quantitative', case-oriented studies are more apt for 'depth', 'intensive', 'small-N', and 'qualitative' (Ragin, 2000: 21). Both approaches have strengths and weaknesses. For example, it could be said that variable-oriented work is scientific but less sensitive to reflect heterogeneous cases in the analysis (Ragin, 2000: 34). One the other hand, case-oriented study might be "rich and emancipatory but soft and subjective" (Ragin, 2000: 22). A fuzzy-set approach is the middle ground of the dual diversity. It sees cases in a holistic perspective in the manner of a case-oriented approach, without forsaking objectivity in diversity such as in the variable-oriented approach.

Second, the fuzzy-set method is apt for a comparative study that contains a limited set of cases. As Ragin (2000: 25) pointed out, numerous comparative studies have been published in the field of social science, but most of them are either large-N quantitative studies or small-N qualitative studies. When he drew a graph of the frequency distribution of studies in comparative sociology and politics, a clear U-shaped pattern appeared; there were many studies at the small-N end of the horizontal axis and the large-N end of this axis; the frequency in the middle of the axis was, however, very low. This shows the difficulty in conducting middle-N comparative studies. In quantitative studies, more than 50 cases are usually required to identify generic patterns across the observations. In qualitative studies, however, a researcher's goal is to interpret phenomena in detail, making it difficult to examine more than one or two cases. The fuzzy-set approach can overcome problems of measurement validity and precision and be a reliable alternative for analysis with 10 to 30 cases (Kvist, 2007; 199; Ragin, 2000; 23-25). As the number of OECD members is 34, the fuzzy-set method is a good option to analyse trends in the OECD.

Third, the fuzzy-set method minimises the gap between theory and data analysis. Because fuzzy-set theory requires researchers to establish two or three qualitative breakpoints to determine when a case is 'fully in' or 'fully out', researchers must pay careful attention to the data and concepts that they employ (Kvist, 2007: 204-205; Ragin, 2000: 180; Vis, 2007: 108). Suppose we analyse pension adequacy using levels of benefits. We might say that 60% of the replacement rate is the upper cut-off point, which represents 'fully adequate' in the research. When it comes to the lower cut-off point, we might say that 30% of the replacement rate is considered 'fully inadequate'. This means that countries which provide a level of pension benefit above the upper cut-off point are analytically indistinguishable; two

countries that have replacement rates of 70% and 80% respectively will be treated equally as both fall within the 'fully adequate' level. Similarly, two countries at a 15% and 25% replacement rate respectively are both categorised within the 'fully inadequate' level. In this way, fuzzy-set analysis allows researchers space to reflect their case knowledge upon the process of operationalisation.

Lastly and the most importantly, fuzzy-set analysis takes a configurational approach in recognition of the fact that social phenomena consist of multiple conceptually rooted attributes. The fuzzy-set approach focuses on the combinations of these attributes. Researchers group cases into a relatively small number of configurations of attributes and recognise each of them as different 'kinds' of cases. In doing so, it is possible to understand types of cases as different configurations of attributes (Ragin, 2000: 66). This is a holistic perspective which examines all aspects of cases as packages. Accordingly, a single difference between cases may constitute different kinds of cases, beyond simple difference in their degree (Kvist, 1999: 234). The configurational approach therefore has an advantage which variable- and case-oriented research does not. For example, variable-oriented studies treat cases as independent, analytically separable aspects. Since cases are not understood within their context, it masks the real extent of diversity such as in the case of an additive index (Hudson & Kühner, 2009: 37-38; 2013: 303-304). Case-oriented researchers, on the contrary, could lose sight of the larger context, because their focus is limited to very specific cases that have special significance. Fuzzy-sets are able to compensate for these shortcomings; they show 'variation' without losing the core emphasis on type and kinds of cases (Ragin, 2000: 5-6, 87). This characteristic of fuzzy-set analysis is especially valuable in analysing post-industrial welfare reforms. Governments often introduced policies as

'reform packages' these days, and it has become a pattern of welfare reform in many countries. Thus we need to look at the combined reforms to accurately capture the dynamics of post-industrial welfare reform (Häusermann, 2012: 116). In this sense, the configurational approach of fuzzy-set analysis allows us to understand the complex combined features of reforms.

There are two ways of applying fuzzy-set theory to comparative social policy. One is Fuzzy-set/Qualitative Comparative Analysis (Fs/QCA) which reveals multiple conjunctural causal configurations of cases and investigates their relations (Lee et al., 2013b: 1911). This method was developed based on QCA, mainly by Ragin (1989; 1994; 2000). The second approach is Fuzzy-Set Ideal Type Analysis (FSITA). This uses the basic idea of assigning membership scores reflecting differences in both kind and degree at the same time. It makes it possible for researchers to construct ideal type of cases and measure the conformity of cases to a particular ideal type (Kvist, 1999: 234). The latter method is applied in this thesis to create a new typology for pension reforms. The following section addresses the four basic steps of analysis.

Fuzzy-Set Ideal Type Analysis

Kvist (1999: 2007) explains the process of FSITA through four steps: *empirical indicators*, *calibration of sets*, *scoring cases* and *identifying the memberships of ideal types*.

Empirical indicators

The first step requires setting empirical indicators and constructing property space. Researchers identify attributes of an ideal type and relations within them. These can be described as sets. When empirical indicators which reflect these attributes are chosen, theoretical and substantive knowledge should support them (Kvist, 1999: 234; Ragin, 2000: 169). This is the most important step in FSITA, even without any element of fuzzy-set theory, because the property space for the fuzzy-set is determined by indicators that the researcher chooses at this stage. Suppose we are concerned with 'benefit adequacy in pensions'. We might have various options for indicators which reflect the concept, such as 'pension replacement rates', 'benefit formula', 'indexation mechanism', or a combination of the three. The property space and further analysis significantly vary depending on the indicators. Accordingly, researchers should pay close attention to empirical indicators to minimise the gap between theory and reality.

Calibration of sets

The second step sets the standard for the transformation of empirical data. It should be done in a way that reflects the theoretical concepts. Kvist (2007: 206-208) suggests two steps within it. First, establish qualitative breakpoints for 'fully in' and 'fully out'. Then, fine-tune the set by describing how it looks within the range of the two breakpoints. Similar to the previous step, all calibrations should be based on an explicit rationale. As an example, Vis (2007: 110-112), who analysed welfare state changes from welfare towards workfare, calibrated three empirical indicators: *generosity*, *protection*, and *activation*. She employed

logics, existing research, and the range of the index of the empirical indicator in selecting qualitative breakpoints.

Scoring cases

The third step computes the membership of each case in the ideal-typical model (Kvist, 1999: 234). Formal set theory axioms are applied to identify configurations of sets. The most frequently applied three principles to calculate membership scores are *minimum principle*, *maximum principle*, and *principle of negation* (Ragin, 2000: 171-180). When two or more sets are brought together to form compound sets, the *minimum principle* is applied. It is also called logical *and.* This means taking the minimum membership score of each case in the sets that are intersected. In the case of a union of sets, the *maximum principle*, also called logical *or*, is applied taking the maximum value of the case's membership. Lastly, *the principle of negation* is described as ~A (*not* A). This means subtracting its membership in set A from 1. With these principles of sets, researchers are able to calculate the case's membership of ideal types. Suppose there is a case scoring 0.2 on dimension A and 0.6 on dimension B. The case would have 0.2 membership of the ideal type if the *minimum principle* (A *and* B) is applied. In the same case, it would have 0.6 membership if the *maximum principle* (A *or* B) is applied instead. On the other hand, the case scoring 0.2 on dimension A would score 0.8 if *the principle of negation* (~A) is applied.

Identifying the memberships of ideal types

The final step identifies the memberships of ideal types and evaluates the homogeneity of cases within each ideal type. Researchers reveal explicit configurational attributes of ideal

types. At this stage, researchers employ their substantive case knowledge to check the conformity of each case to the ideal-typical instance (Kvist, 1999: 234). In doing so, researchers might find a further need to clarify their concepts, to refine the calibrating, or to deepen case knowledge. It is therefore completely acceptable to go back to the earlier steps to solve such problems. This 'back-and-forth' manner is encouraged during FSITA, as it allows researchers intensive dialogue between the idea and the evidence (Ragin, 2000: 317). It thus minimises the gap between theory and analysis. This 'back-and-forth' manner is illustrated in the following section. In particular, it shows how to reflect case knowledge on the calibration when heterogeneity of some of the cases is observed.

6.2 Analysis on the socialisation and individualisation of risks

Empirical indicators

This thesis has argued that there are two ways of dealing with social risks: through *socialisation* or *individualisation*. As addressed in Chapter Two, the *socialisation of risks* refers to institutionalised government intervention which socialises individuals' risks. It is state activity that absorbs these social risks from individuals. It therefore eventually results in de-commodification and de-familisation, as the risks would have been internalised in the family or allocated to the market without any state action. Meanwhile, the *individualisation of risks* refers to the shift towards an individualisation of responsibility in handling social risks. It is the transference of the responsibility for protection on individuals. It allows more choice to individuals for their own future development by imposing more responsibility on them for the outcome. This thesis applies these two distinctive dimensions to pension reforms using fuzzy-set ideal type analysis.

Two fuzzy-sets are identified with these two dimensions. This generates a total of four ideal types in our property space (Table 6.1). First, countries that score highly for both socialisation and individualisation are the *socialisation-individualisation reform* ideal type. These countries have intensively reformed their pension schemes to provide further state protection that aims at externalising old-age risks from individuals to the state. At the same time, however, they have also partly transferred responsibility for protection from the states onto individual pensioners in order to reduce budgetary stress. Secondly, countries that score highly on socialisation but low on individualisation belong to the *socialisation* reform ideal type. These countries have placed a high importance on government interventions to absorb old-age risks within their pension reforms, but less on self-responsibility. Thirdly, countries which score highly on individualisation but low on socialisation belong to the *individualisation reform* ideal type. Pension reforms have taken place to facilitate self-responsibility for old-age risks, but social protection for old-age has been treated with less importance within reforms in these countries. Finally, *stable* ideal types score low on both socialisation and individualisation, meaning the capacity of countries to make pension reforms was low in terms of strengthening state protection and self-responsibility for old-age risks.

Table 6.1: Socialisation-individualisation reform fuzzy-set ideal types

	Socialisation (S)	*Individualisation* (I)	Model
Socialisation-individualisation reform	IN	IN	S*I
Socialisation reform	IN	OUT	S*~I
Individualisation reform	OUT	IN	~S*I
Stable	OUT	OUT	~S*~I

Source: Author.

The next step entails finding empirical indicators that represent the *socialisation* and *individualisation of risks* in pension reforms. In the previous chapter, this thesis examined the vast amounts of data on pension reforms across OECD countries. In doing so, seven categories of subtypes of reforms were identified: *coverage, adequacy, financial and fiscal sustainability, economic efficiency, administrative efficiency, diversification* and *security of investment* (Table 5.7)[18]. It might be appropriated to explore whether they fit to the empirical indicators here.

Let's begin with the *socialisation of risks*. In old-age, disrupted income due to retirement is one of the most serious social risks. The state thus intervenes in retirement income to reduce these risks by reinforcing pension systems. As examined in the previous chapter, *socialisation* appears in pension reform in various respects. First, pension systems need to cover as many people as possible in order to protect them from old-age poverty. Expanding coverage is therefore one of the primary tasks for public mandatory pensions. This is especially true for earnings-related pension schemes. As these schemes require long-term

[18] See Table 5.10 for subcategories of Table 5.7.

contributions in order to gain entitlement, those with irregular jobs or the unemployed tend to be excluded by the scheme. Universal pension schemes, however, are relatively free from this issue. In addition, many countries have introduced voluntary schemes on top of the existing mandatory scheme as fiscal pressure has continued to rise. As a result, the expansion of coverage is no longer limited to public pensions, but includes mandatory private pensions or voluntary pension schemes[19]. In this context, this thesis would select *coverage* from the reform categories as an indicator for the *socialisation of risks*. Secondly, an adequate benefit level is directly related to the socialisation of risks. If the pension benefit is set at a marginal level, it is hard to say that the pension system effectively socialises old-age risks, even if it has a wide range of coverage. There are various ways to improve benefit levels. Increasing general benefit levels would benefit all pensioners, but a targeting strategy has been more frequently observed since the 1990s. This is because certain groups of people are revealed to be more vulnerable to old-age risks. For example, the average poverty rate in older people in the OECD is much higher among women (12.5%) than men (8.6%)[20] (OECD, 2015: 171). Under the mood of austerity, many countries have chosen to spend their limited resources on providing extra-favourable treatment to the most vulnerable. Considering this, this thesis would include *adequacy* among the seven categories as an indicator for the *socialisation of risks*. *Adequacy* is the category for reforms aimed at increasing retirement income adequacy by favourable treatment for targeted groups, tax reduction, and increasing benefit levels. Finally, introducing security measures against investment risks in pension funds is a new type of protection. This type of socialisation of old-age risks was less common before the

[19] The introduction or expansion of voluntary pensions is classified into *coverage* if it aims at increasing the coverage of a pension system. It is classified into *financial and fiscal sustainability* if the voluntary pension is introduced or expanded in order to replace existing public pension scheme. See *Table 5.10* for more information.

[20] It is percentage with incomes less than 50% of median household disposable income, based on 2012 or latest available data.

1990s. It has emerged since then as a counteraction against increasing investor choice in pension systems. Since the 1990s, various countries have promoted mandatory and voluntary private pensions to reduce the financial burden on public pensions. The spread of private provision in old age was also accompanied with a shift from DB to DC pensions for workers in the private sector. The benefit level of DC pensions depends on an individual's contributions and investment returns, resulting in an increase in risk for individuals due to investment failures and the lack of a contribution record. In this regard, government actions for risk management and governance are now required (OECD, 2015: 31). On the one hand, improving a pension fund's solvency rates is necessary, on the other various measures such as education and risk management plans are needed. Considering this, *security of investment* would belong to the *socialisation of risks* as it is a state activity that absorbs old-age risks from individuals. It is a new type of protection against a new type of old-age risk which is distinct from *coverage* and *adequacy*, the protections against traditional risks.

The *individualisation of risks*, the second dimension, can also be explained in a similar context. It is the process that transfers the state's responsibility to individuals in the pension arena. It allows individuals to have more freedom to plan their retirement income, but at the same time it exposes them to old-age risks as they have to rely on their own assets and income rather than public transfers. The reform category of *financial and fiscal sustainability* fits this dimension, as it refers to reforms that cut life-time pension benefits. It aims at improving long-term financial sustainability by tightening conditions for benefits, minimising the government's financial obligations, and introducing mandatory defined contribution (DC) scheme or notional defined contribution (NDC) replacing the existing defined benefits (DB) scheme. As seen in Chapter Two, this has been a continuous trend

since the 1970s in many developed countries due to gloomy long-term fiscal projections. It is worth noting, however, that the extent to which the benefit level has been reduced varies depending on the fiscal stress and ideological differences in each country. Secondly, increasing pension age and discouraging early retirement is one of the clear trends in the *individualisation of risks* since the 1990s. This aims at increasing individuals' working periods. It encourages people to maintain their lives through work as long as possible, so that the state can reduce its old-age protection for the period. The category for *economic efficiency* refers to reforms that minimise the distortions of the retirement income system in order to facilitate a longer working period. This thesis therefore would select it as an indicator for the *individualisation of risks.* This category consists of various measures to increase the working period, including abolishing the age limit to contribute, and financial incentives to save. Lastly, diversified investment options in pension plans could be considered as a new type of *individualisation of risks* in pension systems. This is a measure that aims to increase individuals' control over their pension fund and to provide opportunities to make better returns for their future benefit. At the same time, it might result in detrimental investment failures due to individuals' myopic behaviours and insufficient financial literacy (OECD, 2015: 31). It thus implies a shift towards an individualisation of responsibility in handling old-age risks. This thesis would consequently include the category for *diversification* to the indicator of the *individualisation of risks*. It refers to diversifying investment options to maximise individuals' choice for their retirement. These reforms have relaxed restrictions on investment and promoted private voluntary pension plans.

In summary, this thesis uses these six categories as key components of the two dimensions: *coverage, adequacy,* and *security of investment* for the *socialisation of risks*, and *financial*

and fiscal sustainability, economic efficiency, and *diversification* for the *individualisation of risks*. This thesis has dropped, however, the other category outlined in Table 5.7 – *administrative efficiency* – from further analysis. *Administrative efficiency* is similar to *financial and fiscal sustainability* and *economic efficiency* in terms of reducing the financial burden of the state, but it is less related to *individualisation*; it refers to measures taken to minimise the cost of the programme through enhancing the efficiency of the government, not transferring the burden to individuals.

Before we turn to operationalising these categories, it is necessary to acknowledge that some of the countries in the new dataset do not have enough information to analyse here. The original source for the data was principally the OECD dataset, which provides limited data for countries that have only recently joined the organisation. It means the data in this thesis only has information on reforms after 2010 for four countries (Chile, Estonia, Israel, and Slovenia) and after 2000 for the Slovak Republic. This thesis has consequently decided to exclude these five countries due to this paucity of data. Four countries (the Czech Republic, Hungary, Poland and the Republic of Korea), which joined the OECD between 1995 and 1996 are included however, as the lost data is relatively small. Additionally, this thesis has decided to remove Mexico, Turkey, and Iceland in order to reduce heterogeneity in the data. The GDP per capita is particularly low in Mexico and Turkey, and the current pension system has only been recently developed in Iceland. As a result, the total number of OECD countries subject to the analysis is 26.

Calibration of sets

After defining the fuzzy-sets, it is necessary to determine whether the sets are continuous or with a limited number of values. This should be on the basis of the definition of the set in question, and the type of available data (Ragin, 2000: 158). This thesis uses continuous values as it enables more accurate analysis on the reform changes between 1990 and 2015 (Vis, 2007: 110). Moreover, as the data in this thesis was measured by the frequencies of reforms, it is possible to peg fuzzy membership scores to the existing ratio-scale measure (Ragin, 2000: 167).

The next step is setting the qualitative breakpoints. The researcher might select three anchors – upper cut-off point, cross-over point, and lower cut-off point – to calibrate the raw data to a fuzzy-set score. In continuous fuzzy-sets, however, the cross-over point is less important as the researcher is able to designate the point of maximum ambiguity (fuzzy-set score = .5) by selecting the upper cut-off point (fuzzy-set score = 1) and lower cut-off point (fuzzy-set score = 0). This is one of the advantages of continuous sets, as Vis (2007: 111) highlighted, because there is a significant difference between the assessment of whether a case is 'fully in (1)' or 'fully out (0)' and the assessment of whether it is 'neither in nor out (.5)'. The different nature of these two assessments might be an additional challenge to a researcher in selecting and justifying qualitative breakpoints. It is particularly a problem when the data are interval- and ratio-scale measures that reveal only the relative positions of cases in a distribution (Ragin, 2000: 317). In this case, explicit evidence for three breakpoints may be harder to source due to the nature of the data. With continuous fuzzy-sets, however, the researcher is able to reduce these burdens, keeping the basic rationale.

Selecting and justifying qualitative anchors are a difficult, but very important, step. As addressed above, it minimises the gap between theory and data. It also prevents the possibility that an exceptionally high or low score skews the overall data upwards or downwards. The majority of the literature (Kvist, 1999; 2007; Ragin, 2000; Rihoux & Ragin, 2008; Vis, 2007) has emphasised the researcher's empirical and substantive knowledge when setting the cut-off points, in order to avoid arbitrary decisions. However, researchers might encounter practical challenges here. There are many cases where relevant objective knowledge has not yet been built, or where the concept is inadequate to apply empirical logics to set cut-off points. Ragin himself addressed this issue regarding conventional interval- and ratio-scale measures: "They rarely indicate how much is 'a lot' or how much is 'a little' " (Ragin, 2000: 317). This is the case with this study. How can we identify how many reforms in a country should be considered to be 'fully in' the *socialisation* set? How many times is adequate to be a standard, and on what grounds? In such cases, some arithmetic compromises are likely to be necessary without affecting the qualitative nature of fuzzy-set analysis. Echoing the existing literature (Hudson & Kühner, 2009; 2013; Lee, 2013; Lee, et al., 2013a), this thesis applies the mean ± one standard deviation as the upper and lower cut-off points. This method was also illustrated by Ragin in calibrating the data with little objective knowledge. He used the mean ± 1.5 standard deviation as "a more mechanistic approach" (Ragin, 2000: 317-318). In calibrating raw data into fuzzy-set scores, using the mean ± one standard deviation and the mean ± 1.5 standard deviation results in an identical outcome for ideal type membership. This thesis follows the more commonly used approach in the literature, the mean ± one standard deviation.

Figure 6.1 below shows the frequencies of reforms for the *socialisation of risks*. This study calculated the frequencies of the dimension by taking the sum of frequencies of *coverage*, *adequacy*, and *security of investment*. As seen in the orange bars of Figure 6.1, the distribution of the frequencies is concentrated around 10, and relatively equally distributed between 3 and 15. Three outstanding values were 21, 24 and 40. The mean of the *socialisation of risks* is 10.62, with a standard deviation of 5.53. The mean ± one standard deviation is therefore 16.14 and 5.09.

In the first attempt, this thesis operationalised the data using the mean ± one standard deviation above as the upper and lower cut-off points. It then revealed the heterogeneous cases in memberships: Austria and Germany. Their frequency of *socialisation* reform is 11 and they are barely 'IN' the fuzzy-set of the *socialisation of risks*, scoring 0.56. This means that they belong in the same group as Korea, Japan, Canada, Greece, Australia, Ireland, France and the UK. Based on the case knowledge and evidence presented in the previous two chapters, this thesis noticed that Austria and Germany are qualitatively different from the rest of the group. It is especially so when we examine them with other countries with similar frequencies in the group, South Korea and Japan. Whilst the socialisation reforms in Korea and Japan aimed at fundamental changes bringing about the general improvement of pension system, those in Austria and Germany were rather peripheral; the socialisation reforms in Austria and Germany tend to have limited scope for the general impact as they mainly focused on targeted groups or small reforms.

For example, the frequency of socialisation reforms in South Korea is 12, which is very close to the 11 seen in Austria and Germany, but the level of socialisation was significantly different. South Korea introduced their first public pension in 1988 and the utmost goal since then was the expansion of its coverage. As its coverage was initially limited to workplaces with 10 or more employees in urban area, reforms continued to extend its mandatory coverage to the whole working-age population since 1995. The immature pension system has caused the old-age poverty issue; the poverty rates among older people was the highest level (41.4% in 2006) in the OECD. However, Korea was yet demographically the fourth youngest country in the OECD (OECD, 2015: 159) and socialisation reforms extensively took place in South Korea throughout the 1990s and 2000s. During this period, three-tier pension system was established with the introduction of tax-based basic pension and quasi-mandatory occupational pension. With the rapid increase in the old-age dependency ratio, Korea also introduced several retrenchment measures since the late 2000s but the dominant trend in pension reforms was the general expansion in pension system. Japan can be explained in a similar context. Again, the frequency of the socialisation reforms in Japan is 13, which is not substantially higher than Austria and Germany but the traits of their socialisation reforms are significantly different. For Japan, pension sustainability was concerned due to the demographic change in an earlier stage. As a result, individualisation reforms continued since the mid-1980s. However, at the same time, Japan had a growing concern over the limited coverage of pension system. The actual coverage of the first-tier basic pension was nearly 60% of the mandatory population (MHLW, 2015) due to the strict qualifying conditions and deep mistrust of public pension scheme. The second-tier mandatory occupational pension also had a coverage issue. It did not fit the changing employment patterns in the labour market generating massive risk groups. As such, the socialisation reforms in Japan continuously aimed at easing qualifying conditions for

participating pension schemes since the 2000s. Students, atypical workers, carers, and low-income earners are actively covered by socialisation reforms. In Japan, targeting strategy was often employed in improving benefit adequacy while the coverage was extended in a general form.

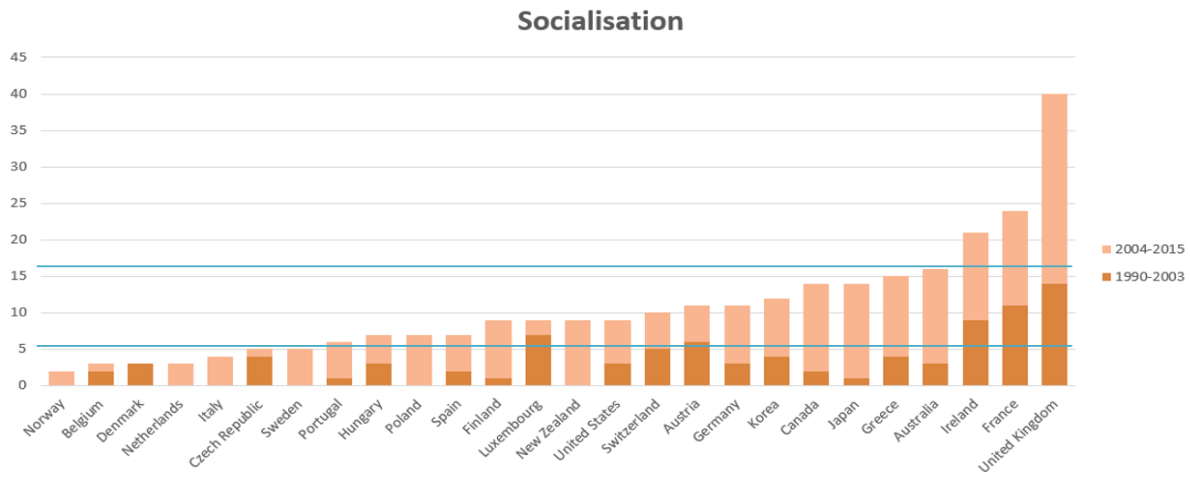
Meanwhile, the traits of socialisation reforms in Germany and Austria were significantly different with them. Especially the situation in Germany in the 1990s and 2000s was exactly opposite to the one in South Korea. Pension system in Germany was fully matured and expanded before the 1990s. Public pension promised generous replacement rates and encouraged to take up the early retirement scheme to promote employment (Boersh-Supan & Wilke, 2003: 18-21). Due to the well-developed old-age protection system, the poverty level among older population remained lower (10.0% in 2000) than the average OECD level. Thus, the major concern in Germany in the 1990s and the 2000s was not socialisation reforms, but individualisation reforms. Pension sustainability received much more attention due to the top level of dependency ratio (26.2% in 2000 and 35.3% in 2015) across the OECD (OECD, 2015: 159). The economic downturn and increasing unemployment rates in the 2000s also exacerbated the situation. In these circumstances, the socialisation reforms in Germany are characterised by the targeting strategy for the risk groups and the slight increases in benefit levels. The latter especially explains half of the socialisation reforms; pensions were adjusted in line with the rate of inflation rather than with the net wage development since 2000 and the rates of increase were counted as the socialisation reforms for several times.

Austria is also a similar case. Austria was demographically the oldest OECD country in 1975 and has remained as one of the oldest countries even in 2015. The old-age dependency ratio was 27.3% in 1976 and reached 30.3% in 2015 (OECD, 2015: 159). Like the German case, the pension system in Austria was implemented at an early stage and covered, in principle, all people in gainful employment (EC & SPC, 2015: 253). In this circumstance, the most important pension reforms for the last 25 years were a series of individualisation reforms in 2001-2004 and 2010-2013. They were large-scale reforms that included the changes in pension formula and benefit calculation base, resulting in the decreases in the accrual rate. Socialisation reforms, on the other hand, took place through the early 2000s, but they "intended to soften the possible negative consequences of the (retrenchment) pension reforms" (EC & SPC, 2015: 255). As a result, they were mainly limited to targeting the risks groups, especially women.

In this way, the traits of socialisation reforms in these countries are qualitatively different despite the frequency of socialisation reforms are not so different (11 in Austria and Germany, 12 in South Korea, and 13 in Japan). When considering the differences in these cases, it seems that Austria and Germany belong more to 'OUT' than 'IN' in the *socialisation of risks* set. The 'OUT' set consists of 15 countries including Switzerland, Luxembourg, Finland, New Zealand, and the USA. Besides, there is only a slight difference between the fuzzy scores of Austria and Germany (0.53) and the cross-over point (0.5), whilst other members of 'IN' scored much higher than (0.63, 0.81 or 1). This implies that these two countries are already located on the boundary of 'IN' and 'OUT' when we employed the mean ± one as cut-off points on the first try. Taking these considerations into account, it might be reasonable to slightly adjust the cut-off points to assign Austria and Germany to

'OUT' in the set. Thus, this thesis uses 5.97 as the lower cut-off point instead of 5.09, the original lower cut-off point[21]. This gives Austria and Germany a score of 0.49 rather than 0.53 in the set. As noted previously, such a 'back-and-forth manner' in the course of assigning fuzzy membership scores is not only common but also a strength of fuzzy-set analysis. It enables rich interplay between an idea and the evidence. Ragin emphasised that the operationalisation of FSITA is "not linear or step-by-step anyway" (2000: 166), and researchers need to work in a back-and-forth manner (2000: 317). In Figure 6.1 below, the two blue lines indicate the cut-off points. The modified lower cut-off point is set at 5.97 and the upper cut-off point is not changed from the original figure, 16.14.

Figure 6.1: Frequencies of the socialisation of risks and the two cut-off points

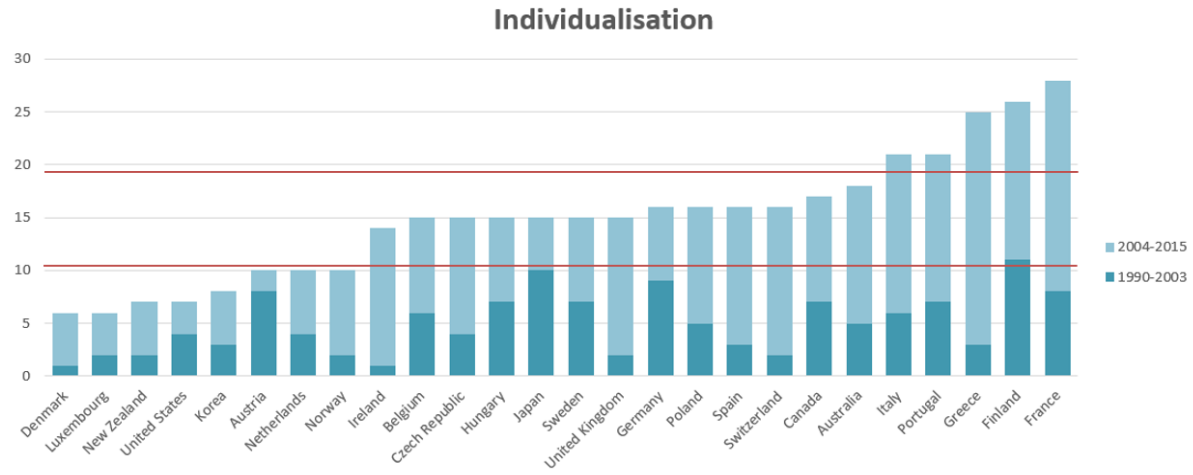


Source: Author.

[21] See Appendix 2 for the results of FSITA with the original lower cut-off point, 5.09.

Figure 6.2 shows the distribution of frequencies of the *individualisation of risks.* The frequencies were calculated in the same way as those of the *socialisation of risks* above. The mean is 14.92, and standard deviation is 4.33. The value is concentrated around 15; 21, 26, and 28 are outstanding values. The mean ± one standard deviation is 19.25 and 10.59. They are the upper and lower cut-off points indicated by the red lines in Figure 6.2 below.

Figure 6.22: Frequencies of the individualisation of risks and the two cut-off points



Source: Author.

There are various approaches to calibration (Ragin, 2008: 86-96). This thesis follows Vis (2007: 111) and Ragin (2000: 319) to assign the remaining scores within the cut-off points, which is the most straightforward method to compute a continuous scale of values (Hudson & Kühner, 2009: 17). It consists of three steps. First, recode all raw data below the lower cut-off point to the lower cut-off point. Recode all raw data above the upper cut-off point to

the upper cut-off point. Second, take the transformed raw data and subtract the lower cut-off point from each score. Lastly, divide the result by the [upper cut-off point – lower cut-off point]. The formula is as follows (Vis, 2007: 111):

> fuzzy-set score = [transformed raw data – lower cut-off point] / [upper cut-off point – lower cut-off point]

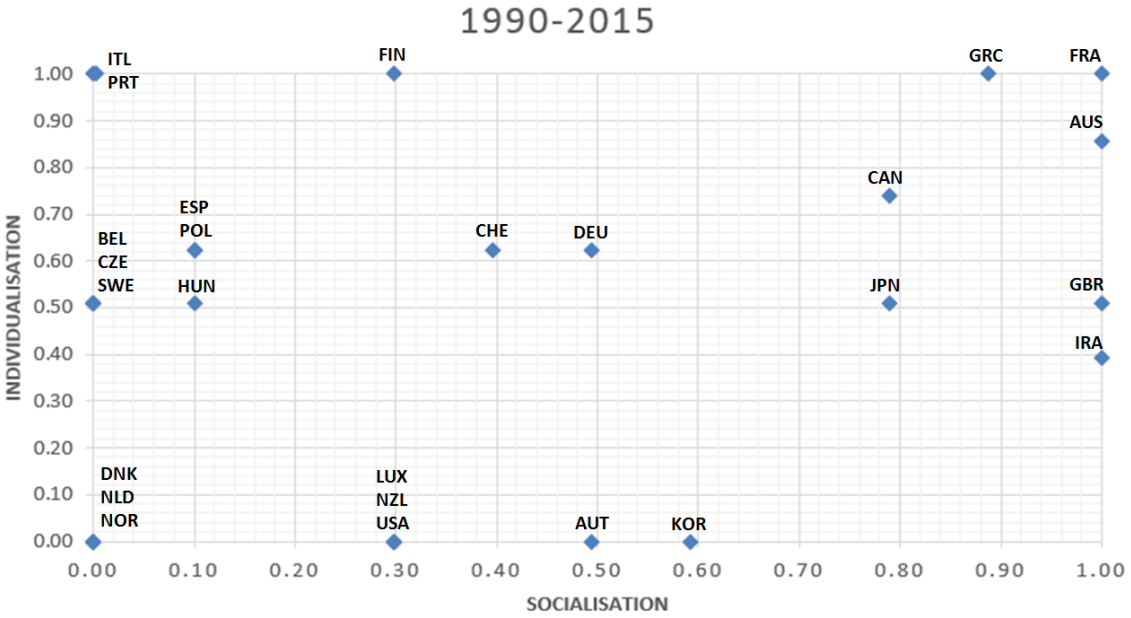
The outcome is shown in Table 6.2 and Figure 6.3 below.

Table 6.1: Frequency and fuzzy-set score of the socialisation-individualisation of risks, total period

1990 - 2015				
	Frequency		Fuzzy-set score	
	Socialisation	Individualisation	Socialisation	Individualisation
Australia	16	18	1.00	0.86
Austria	11	10	0.49	0.00
Belgium	3	15	0.00	0.51
Canada	14	17	0.79	0.74
Czech Republic	5	15	0.00	0.51
Denmark	3	6	0.00	0.00
Finland	9	26	0.30	1.00
France	24	28	1.00	1.00
Germany	11	16	0.49	0.62
Greece	15	25	0.89	1.00
Hungary	7	15	0.10	0.51
Ireland	21	14	1.00	0.39
Italy	4	21	0.00	1.00
Japan	14	15	0.79	0.51
Korea	12	8	0.59	0.00
Luxembourg	9	6	0.30	0.00
Netherlands	3	10	0.00	0.00
New Zealand	9	7	0.30	0.00
Norway	2	10	0.00	0.00
Poland	7	16	0.10	0.62
Portugal	6	21	0.00	1.00
Spain	7	16	0.10	0.62
Sweden	5	15	0.00	0.51
Switzerland	10	16	0.40	0.62
United Kingdom	40	15	1.00	0.51
United States	9	7	0.30	0.00

Source: Author.

Figure 6.3: Scatterplot for the fuzzy-set score of the socialisation-individualisation of risks, total period



Source: Author.

This study also analysed the same data separately over two periods of time. The first period is 1990 to 2003 and the second period is 2004 to 2015. This periodisation reflects the shape of the original data sources. As addressed in Chapter Five, the data for pension reforms was collected from *Pensions at a Glance* and the *ISSA Country Profiles.* Because the first *Pensions at a Glance* book (2007) covers pension reforms from 1990 to 2003 as a big 'chunk', it is impossible to break it down further. The later books (2009, 2013, and 2015) cover a shorter period for each issue, but dividing the 25 years into two, almost in equal halves, is enough to provide good insights into the changes of the time. In doing so, we are able to know if the trend of reforms was consistent or disruptive for the last 25 years.

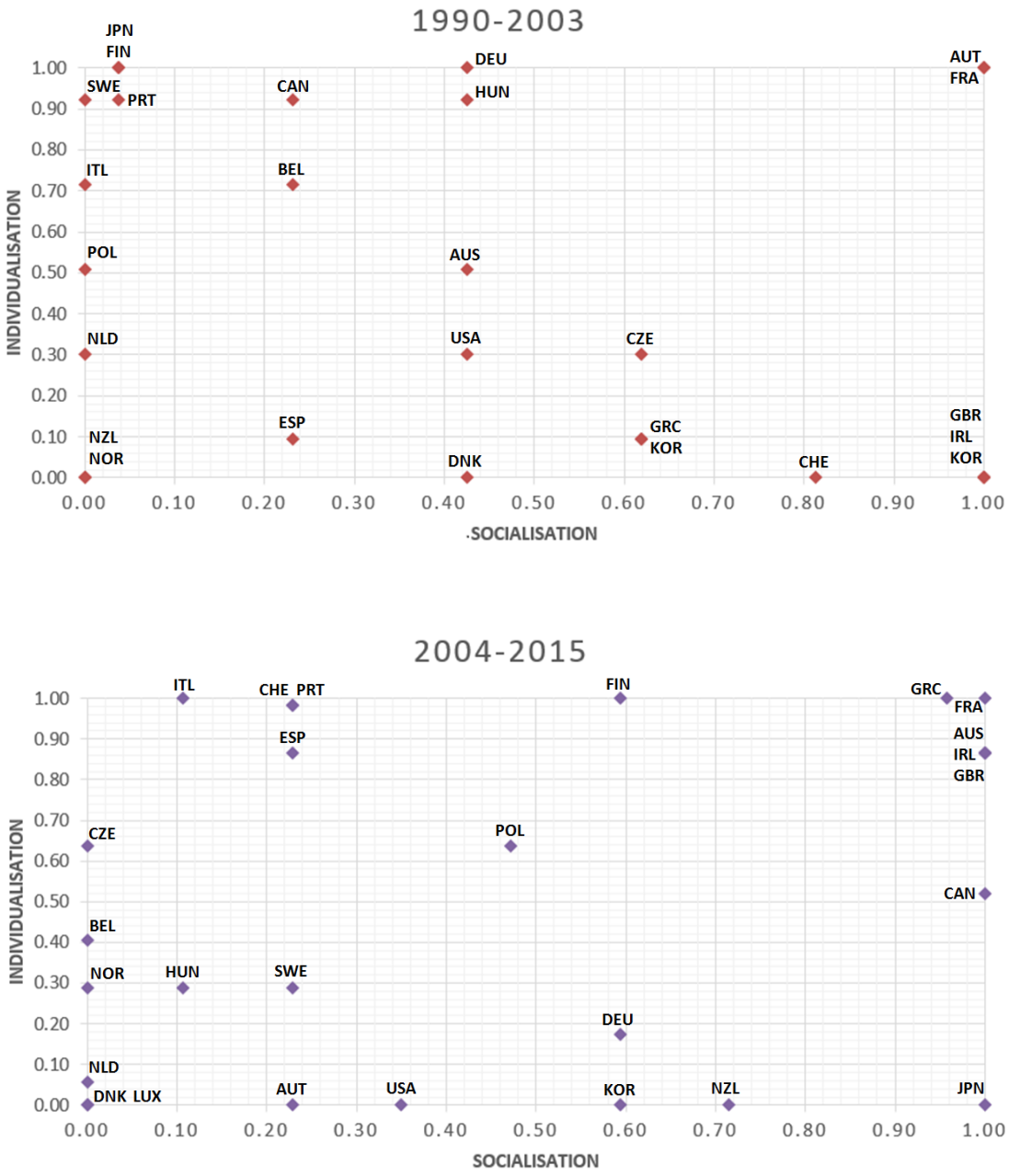
The same approach to selecting cut-off points and assigning the scores is undertaken. The upper and lower cut-off points for the *socialisation of risks* are 5.96 and 0.8 respectively in the first period, and those for the *individualisation of risks* are 7.38 and 2.54 respectively. For the second period, the upper and lower cut-off points for the *socialisation of risks* are 11.34 and 3.12 respectively. When it comes to the *individualisation of risks,* the mean ± one standard deviation were originally 14.15 and 5.77. These were initially the cut-off points; however, once the calibration process had been completed with these figures, it was revealed that Canada scored 0.5 in the *individualisation* set. This means Canada (frequency = 10) is neither IN nor OUT of the fuzzy-set. In order to maximise the scope of the analysis, the 0.5 value should be avoided in practice (Schneider & Eggert, 2014: 318). This thesis thus slightly moved the lower cut-off point from 5.77 to 5.5. This did not affect any other countries' membership. As a result, the upper cut-off point for the *individualisation of risks* is 14.15 and the modified lower cut-off point is 5.5. The fuzzy-set scores are seen in Table 6.3 and Figure 6.4 below.

Table 6.2: Frequency and fuzzy-set score of the socialisation-individualisation of risks, 1990–2003 and 2004–2015.

	1990-2003				2004-2015			
	Frequency		Fuzzy-set score		Frequency		Fuzzy-set score	
	Socialisa-tion	Individua-lisation	Socialisa-tion	Individua-lisation	Socialisa-tion	Individua-lisation	Socialisa-tion	Individua-lisation
Australia	3	5	0.43	0.51	13	13	1.00	0.87
Austria	6	8	1.00	1.00	5	2	0.23	0.00
Belgium	2	6	0.23	0.71	1	9	0.00	0.40
Canada	2	7	0.23	0.92	12	10	1.00	0.52
Czech Republic	4	4	0.62	0.30	1	11	0.00	0.64
Denmark	3	1	0.43	0.00	0	5	0.00	0.00
Finland	1	11	0.04	1.00	8	15	0.59	1.00
France	11	8	1.00	1.00	13	20	1.00	1.00
Germany	3	9	0.43	1.00	8	7	0.59	0.17
Greece	4	3	0.62	0.10	11	22	0.96	1.00
Hungary	3	7	0.43	0.92	4	8	0.11	0.29
Ireland	9	1	1.00	0.00	12	13	1.00	0.87
Italy	0	6	0.00	0.71	4	15	0.11	1.00
Japan	1	10	0.04	1.00	13	5	1.00	0.00
Korea	4	3	0.62	0.10	8	5	0.59	0.00
Luxembourg	7	2	1.00	0.00	2	4	0.00	0.00
Netherlands	0	4	0.00	0.30	3	6	0.00	0.06
New Zealand	0	2	0.00	0.00	9	5	0.72	0.00
Norway	0	2	0.00	0.00	2	8	0.00	0.29
Poland	0	5	0.00	0.51	7	11	0.47	0.64
Portugal	1	7	0.04	0.92	5	14	0.23	0.98
Spain	2	3	0.23	0.10	5	13	0.23	0.87
Sweden	0	7	0.00	0.92	5	8	0.23	0.29
Switzerland	5	2	0.81	0.00	5	14	0.23	0.98
United Kingdom	14	2	1.00	0.00	26	13	1.00	0.87
United States	3	4	0.43	0.30	6	3	0.35	0.00

Source: Author.

Figure 6.4: Scatterplot for the fuzzy-set score of socialisation-individualisation of risks, 1990–2003 and 2004–2015.



Source: Author.

Scoring cases

The next step for fuzzy-set ideal type analysis is computing the cases' membership of each set. As explained above, there are several principles of fuzzy logic and two of them are employed here: *the minimum principle* (logical AND) and *the principle of negation* (logical NOT). *The minimum principle* is indicated by the symbol '*' implying the use of the lowest scores for each of the sets combined. Meanwhile, *the principle of negation* is written as '~', meaning one minus the score in a given set (1-n). Table 6.4 and 6.5 below shows the outcome of the calculation with these two principles. Whilst the fuzzy-scores of the *socialisation* and *individualisation* sets were presented in Tables 6.2 and 6.3 earlier, here we capture all the possible combinations of both sets. The highlighted score in each country in Tables 6.4 and 6.5 designates membership of a particular ideal type. The fuzzy membership scores are interpreted as follows:

fuzzy-set score 1	= 'fully in'
fuzzy-set score $.5 < \chi_i < 1$	= more 'in' than 'out'
fuzzy-set score .5	= neither 'in' nor 'out' (crossover point)
fuzzy-set score $0 < \chi_i < 0.5$	= more 'out' than 'in'
fuzzy-set score 0	= 'fully out'

Table 6.3: Fuzzy membership scores of the *socialisation-individualisation of risks*, total period

	Socialisation-individualisation reform	***Socialisation reform***	***Individualisation reform***	***Stable***
	(S*I)	**(S*~I)**	**(~S*I)**	**(~S*~I)**
Australia	**0.86**	**0.14**	**0.00**	**0.00**
Austria	**0.00**	**0.49**	**0.00**	**0.51**
Belgium	**0.00**	**0.00**	**0.51**	**0.49**
Canada	**0.74**	**0.26**	**0.21**	**0.21**
Czech Republic	**0.00**	**0.00**	**0.51**	**0.49**
Denmark	**0.00**	**0.00**	**0.00**	**1.00**
Finland	**0.30**	**0.00**	**0.70**	**0.00**
France	**1.00**	**0.00**	**0.00**	**0.00**
Germany	**0.49**	**0.38**	**0.51**	**0.38**
Greece	**0.89**	**0.00**	**0.11**	**0.00**
Hungary	**0.10**	**0.10**	**0.51**	**0.49**
Ireland	**0.39**	**0.61**	**0.00**	**0.00**
Italy	**0.00**	**0.00**	**1.00**	**0.00**
Japan	**0.51**	**0.49**	**0.21**	**0.21**
Korea	**0.00**	**0.59**	**0.00**	**0.41**
Luxembourg	**0.00**	**0.30**	**0.00**	**0.70**
Netherlands	**0.00**	**0.00**	**0.00**	**1.00**
New Zealand	**0.00**	**0.30**	**0.00**	**0.70**
Norway	**0.00**	**0.00**	**0.00**	**1.00**
Poland	**0.10**	**0.10**	**0.62**	**0.38**
Portugal	**0.00**	**0.00**	**1.00**	**0.00**
Spain	**0.10**	**0.10**	**0.62**	**0.38**
Sweden	**0.00**	**0.00**	**0.51**	**0.49**
Switzerland	**0.40**	**0.38**	**0.60**	**0.38**
United Kingdom	**0.51**	**0.49**	**0.00**	**0.00**
United States	**0.00**	**0.30**	**0.00**	**0.70**

Source: Author.

Table 6.4: Fuzzy-set scores of the *socialisation-individualisation of risks*, 1990–2003 and 2004–2015

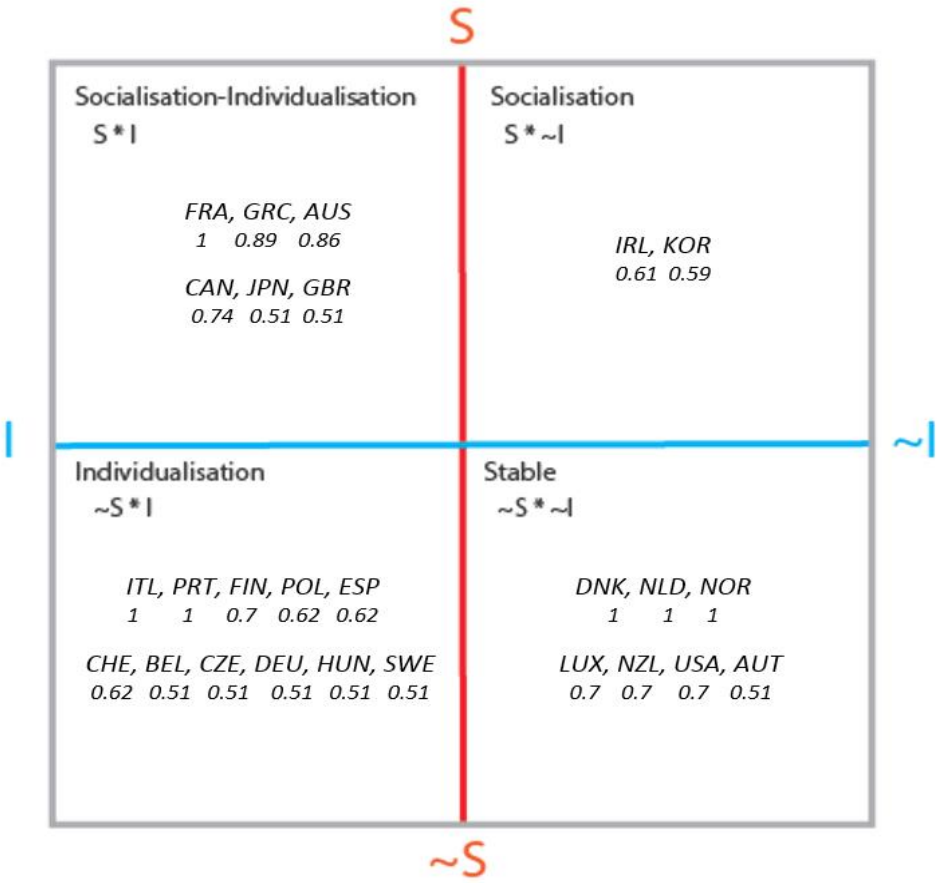
	1990-2003				2004-2015			
	Socialisation-Individualisation	*Socialisation*	*Individualisation*	*Stable*	*Socialisation-Individualisation*	*Socialisation*	*Individualisation*	*Stable*
	(S*I)	(S*~I)	(~S*I)	(~S*~I)	(S*I)	(S*~I)	(~S*I)	(~S*~I)
Australia	0.43	0.43	0.51	0.49	1.00	0.13	0.00	0.00
Austria	1.00	0.00	0.00	0.00	0.00	0.23	0.00	0.77
Belgium	0.23	0.23	0.71	0.29	0.00	0.00	0.40	0.60
Canada	0.23	0.08	0.77	0.08	0.52	0.48	0.00	0.00
Czech Republic	0.30	0.62	0.30	0.38	0.00	0.00	0.64	0.36
Denmark	0.00	0.43	0.00	0.57	0.00	0.00	0.00	1.00
Finland	0.04	0.00	0.96	0.00	0.59	0.00	0.41	0.00
France	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Germany	0.43	0.00	0.57	0.00	0.17	0.59	0.17	0.41
Greece	0.10	0.62	0.10	0.38	0.96	0.00	0.04	0.00
Hungary	0.43	0.08	0.57	0.08	0.11	0.11	0.29	0.71
Ireland	0.00	1.00	0.00	0.00	0.87	0.13	0.00	0.00
Italy	0.00	0.00	0.71	0.29	0.11	0.00	0.89	0.00
Japan	0.04	0.00	0.96	0.00	0.00	1.00	0.00	0.00
Korea	0.10	0.62	0.10	0.38	0.00	0.59	0.00	0.41
Luxembourg	0.00	1.00	0.00	0.00	0.00	0.00	0.00	1.00
Netherlands	0.00	0.00	0.30	0.70	0.00	0.00	0.06	0.94
New Zealand	0.00	0.00	0.00	1.00	0.00	0.72	0.00	0.28
Norway	0.00	0.00	0.00	1.00	0.00	0.00	0.29	0.71
Poland	0.00	0.00	0.51	0.49	0.47	0.36	0.53	0.36
Portugal	0.04	0.04	0.92	0.08	0.23	0.02	0.77	0.02
Spain	0.10	0.23	0.10	0.77	0.23	0.13	0.77	0.13
Sweden	0.00	0.00	0.92	0.08	0.23	0.23	0.29	0.71
Switzerland	0.00	0.81	0.00	0.19	0.23	0.02	0.77	0.02
United Kingdom	0.00	1.00	0.00	0.00	0.87	0.13	0.00	0.00
United States	0.30	0.43	0.30	0.57	0.00	0.35	0.00	0.65

Source: Author.

Identifying the memberships of ideal types

Figure 6.5 below is the outcome of the fuzzy-set ideal type analysis. It is the visualised outcome of Table 6.4 above. There are four ideal types with different country memberships. First, the *socialisation-individualisation reform* ideal type has six member countries: Australia, Canada, France, Greece, Japan and the UK. While belong to the same ideal type, there are some differences among them. Whilst France is fully-in, Japan and the UK barely passed the cross-over point. Australia, Canada and Greece are in the middle, scoring between 0.74 and 0.89. Secondly, the *socialisation reform* ideal type has only two membership countries: Korea and Ireland. This is a relatively homogeneous group. Both countries are close to the cross-over point. Thirdly, the *individualisation reform* ideal type has 11 membership countries, making it the biggest group: Belgium, the Czech Republic, Germany, Finland, Hungary, Italy, Poland, Portugal, Spain, Sweden, and Switzerland. This group is roughly divided into three parts by membership degree. Whilst Italy and Portugal are fully in, Belgium, the Czech Republic, Germany, Hungary, Poland, Sweden barely passed the cross-over point. Finland, Poland, Spain and Switzerland are located in the middle, with scores ranging from 0.62 to 0.7. Finally, the *stable* ideal type has seven member countries: Austria, Denmark, Luxembourg, Netherland, New Zealand, Norway and the USA. Denmark, Netherland and Norway are fully in, whilst the others are distributed between 0.51 and 0.7.

Figure 6.5: Country memberships of the *socialisation-individualisation* fuzzy-set ideal types, total period

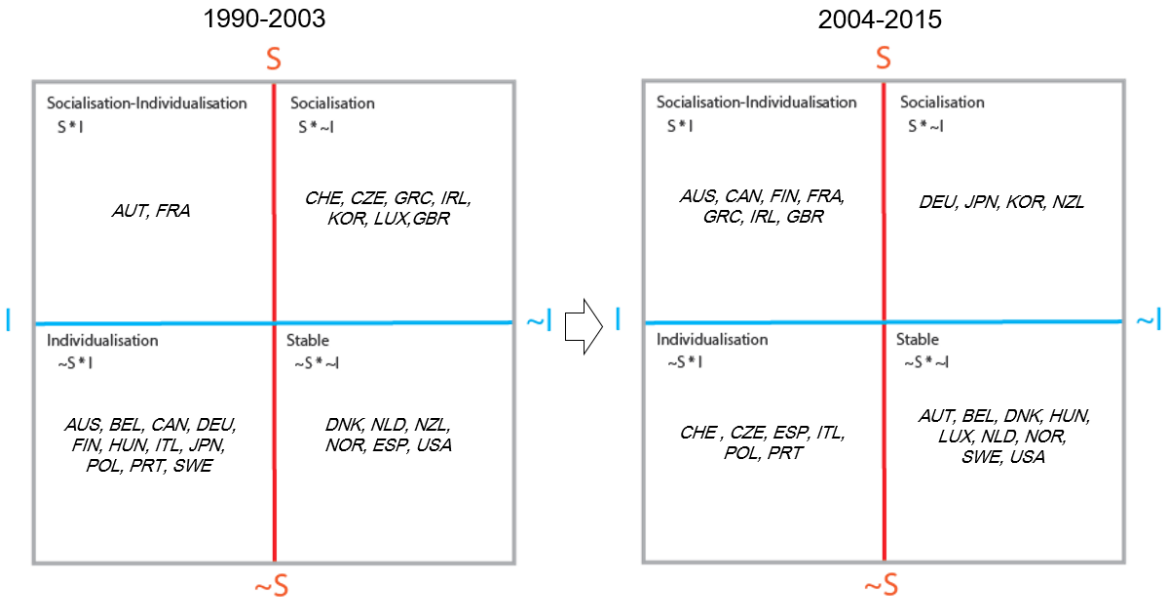


Source: Author.

Figure 6.6 below shows changes in fuzzy-set ideal type country membership during the same period. It is also visualised based on Table 6.5. There are clear shifts in most of the countries from the first period (1990–2003) to the second period (2004–2015). First, only nine out of the 26 countries stayed in the same ideal type over the total period: France, Korea, Italy, Poland, Portugal, Denmark, Netherlands, Norway, and the USA. This means only one third of OECD countries intensively pursued pension reforms in the same direction over the 25 years. The majority of countries changed their focus on pension reform. It is interesting that

some countries even show a shift in the opposite direction. For example, Austria belonged to the *socialisation-individualisation reform* ideal type in the first period, but then shifted to the *stable* type in the second period. Germany and Japan were in the *individualisation reform* ideal type in the first period, then shifted to the *socialisation reform* ideal type in the second. On the other hand, Switzerland and the Czech Republic moved from the *socialisation reform* ideal type to the *individualisation reform* ideal type during the period. Another point to note is the change in overall intensity within socialisation reforms. The *socialisation* reform ideal type has seven membership countries in the first period, but it was reduced to four in the second period. On the other hand, the number of countries that intensively pursued both socialisation and individualisation reforms increased from two to seven. Also, countries that belong to the *stable* type significantly increased from six to nine.

Figure 6.6: Changes in country memberships of the *socialisation-individualisation* fuzzy-set ideal types



Source: Author.

6.3 Analysis on the three dimensions of *socialisation*

Under the mood of austerity, much of the pension literature has focused on how welfare states have managed to improve pension sustainability. Only a few researchers have paid attention to the socialisation of old-age risks in pension reforms (Bonoli, 2003; Hinrichs, 2000; Hinrichs & Jessoula, 2012; van Vliet et al., 2012). As this thesis reveals, however, pension reforms took place to socialise old-age risks as well as to individualise them in OECD countries. The intensity of these reforms varied depending on the country, but every single country reformed their pension system to socialise risks. Clearly, this has not been the dominant trend of pension reform for the last 25 years; socialisation reforms took place 10.6 times whilst individualisation reforms took place 14.9 times on average for the total period (Table 6.2). This indicates that OECD countries were mostly concerned with the sustainability of pension systems, but also continued to pay attention to socialisation during the period. It is worth noting that the difference of intensity is not remarkable. It might be too arithmetic to argue, but for reference, the frequency of socialisation reforms is equal to 71% of individualisation reforms for the period. Considering that, it may be appropriate to highlight the aspect of socialising risks in pension reforms further in order to fill the gap in the literature. In this respect, this section sheds light on the three elements of socialisation of old-age risks.

Empirical indicators

This section solely pays attention to the socialisation of old-age risks. As demonstrated in the first analysis, the *socialisation of risks* refers to institutionalised government intervention which socialises individuals' risks. In old-age, the major risk is disrupted income due to retirement. In this regard, the state aims at reinforcing the role of pensions in order to

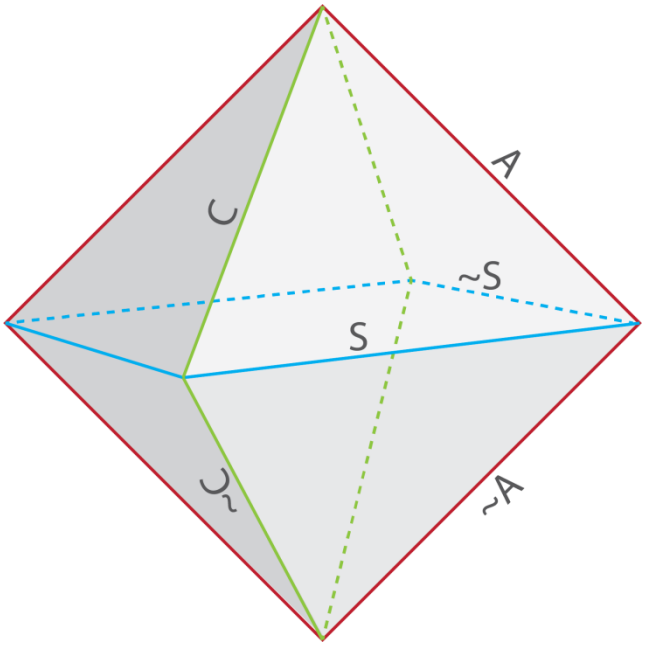
collectively reduce individuals' risks. Previously, this thesis has identified three empirical indicators for the *socialisation of old-age risks* in the data: *coverage, adequacy,* and *security of investment*. In brief, *coverage* is the reform category for expanding pension coverage to protect as many people as possible through public, mandatory private and voluntary pensions. *Adequacy* refers to reforms aimed at providing adequate level of benefits to all, or vulnerable groups of people who need additional favourable treatment. Whilst *coverage* and *adequacy* are traditional forms of protection in pension systems, *security of investment*, the last dimension, is a new type of protection since circa 1990. It entails security measures against investment risks in pension funds. It stems from the growing role of private pensions in old-age provision which allows more investment choice for individuals in pension funds. As increased choice may result in inadequate benefits for pensioners, the government has introduced measures to protect people from investment failures and excessive administrative cost. This type of socialisation is a new phenomenon as it is a counteraction against the new type of risks in pension systems seen since the spread of individualisation from the 1990s. In this regard, *coverage, adequacy,* and *security of investment* form the three dimensions of the *socialisation of risks* in this section. It can be illustrated as a triangle, as seen in Figure 6.7.

Figure 6.7: The three dimensions of the *socialisation of risks*

Source: Author.

Three fuzzy-sets are identified using these three dimensions. This generates a total of eight types in our property space. In order to facilitate a better understanding, this thesis visualised it as an octahedron comprised of eight triangles (Figure 6.8).

Figure 6.8: Property space for the three dimensions of the *socialisation of risks*



Source: Author.

This thesis labelled the eight ideal types on the basis of the dimensions that each ideal type scored highly on: *all-inclusive*, *coverage-and-adequacy-focused*, *coverage-and-security-focused*, *adequacy-and-security-focused*, *coverage-focused*, *adequacy-focused*, *security-focused*, and *stable*. First, countries which scored highly on all three dimensions belong to the *all-inclusive* reform type. Then there are countries that scored highly on only two dimensions. For example, the *coverage-and-adequacy-focused* reform type is for countries that score highly on both *coverage* and *adequacy*, but not on *security of investment*. The *coverage-and-adequacy-focused* reform type is for countries that score highly on *coverage* and *security of investment* but low on *adequacy*. The *adequacy-and-security-focused* reform type refers to countries that score highly on *adequacy* and *security of investment* but low on *coverage*. On the other hand, some countries only scored highly on one dimension. The

coverage-focused reform type refers to countries that score highly on *coverage*, but low on *adequacy* and *security of investment*. The *adequacy-focused* reform type is for countries that score highly on *adequacy*, but low on *coverage* and *security of investment*. The *security-focused* reform type is for countries that score highly only on *security of investment*. Lastly, the *stable* type refers to countries which scored low on all three dimensions. The summary of models of these ideal types is shown in Table 6.6 below. The subject of the analysis is the 26 OECD countries that were used in the first analysis in this chapter.

Table 6.5: Property space for the three dimensions of the *socialisation of risks*

Fuzzy-set ideal type	*Coverage* (C)	*Adequacy* (A)	*Security of Investment* (S)	Model
All-inclusive	IN	IN	IN	C*A*S
Coverage & Adequacy-focused	IN	IN	OUT	C*A*~S
Coverage & Security-focused	IN	OUT	IN	C*~A*S
Adequacy & Security-focused	OUT	IN	IN	~C*A*S
Coverage-focused	IN	OUT	OUT	C*~A*~S
Adequacy-focused	OUT	IN	OUT	~C*A*~S
Security-focused	OUT	OUT	IN	~C*~A*S
Stable	OUT	OUT	OUT	~C*~A*~S

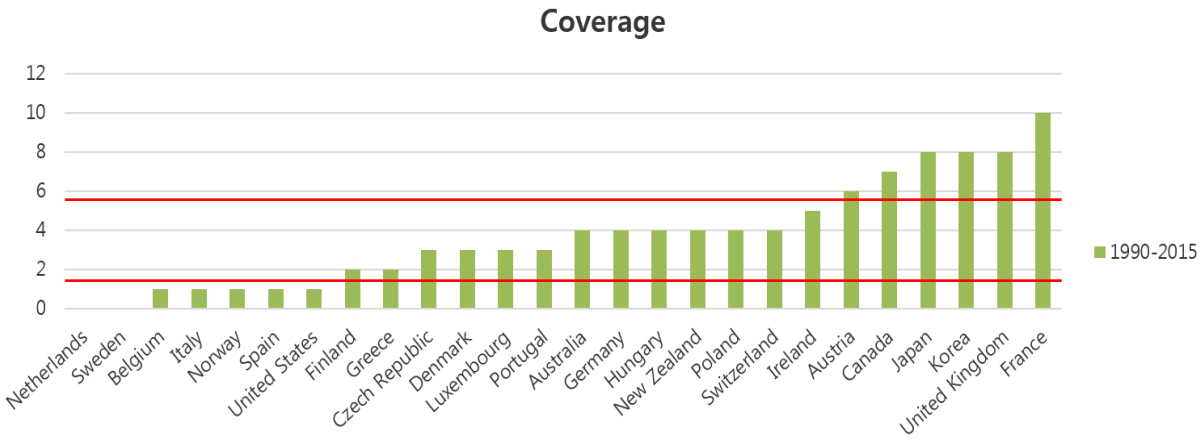
Source: Author.

Calibration of sets

This section takes the same approach to calibration as the first analysis. It uses continuous values to capture subtle variations in countries, taking advantage of the ratio-scale of the data. Then an arithmetic method is applied to select breakpoints, as neither objective knowledge nor empirical logics have been established in this area. In accordance to existing studies (Hudson & Kühner, 2009; 2013; Lee, 2013; Lee et al., 2013a), this thesis uses the mean ± one standard deviation as the upper and lower cut-off points in the calibration.

First, Figure 6.9 below shows the frequencies of reforms in the category of *coverage* between 1990 and 2015. All the figures come from the dataset created in Chapter Five. As the bars show, the frequencies are evenly distributed between 0 and 8. is are, however, one outstanding value: 10 in the France. The mean of *coverage* is 3.73 and the standard deviation is 2.12. The two red lines indicate the two cut-off points; the upper cut-off point is set at 5.85 and the lower cut-off point is set at 1.62, the mean ± one standard deviation.

Figure 6.9: Frequencies of *coverage* and the two cut-off points

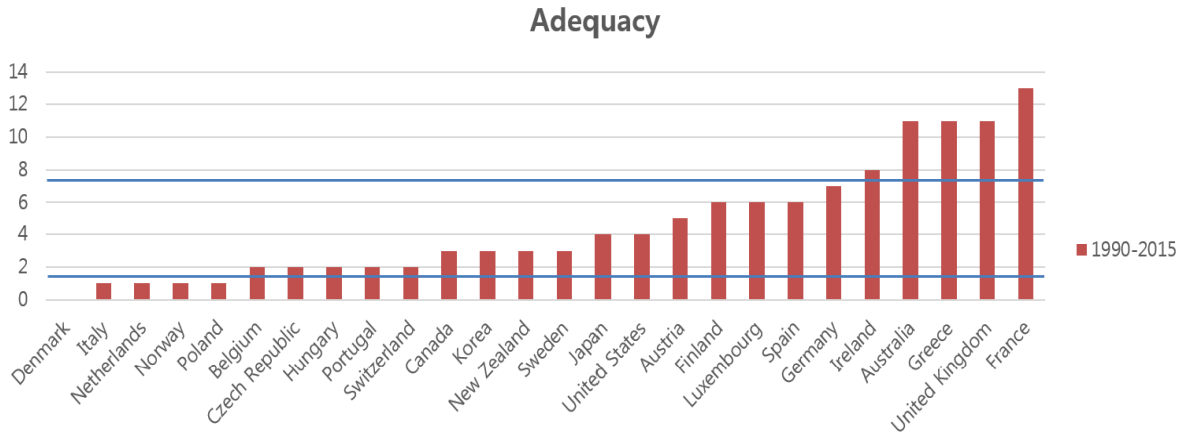


Source: Author.

The second dimension is *adequacy*. The red bars in Figure 6.10 below show the frequencies of reforms in the category of *adequacy* for the last 25 years. As seen in the figures, the distribution of the frequencies is concentrated between 1 and 8. Twenty-one out of the 26 countries are located within this range and most of them are evenly distributed; four countries for 1, five countries for 2, four countries for 3, two countries for 4, one county for

5, and three countries for 6. Meanwhile, France shows an outstanding value of reform frequency scoring 13, much higher than the next highest group at 11 (Australia, Greece, and the UK). The mean of *adequacy* is 4.54 and the standard deviation is 2.97. The two blue lines in Figure 6.10 indicate the two cut-off points. The upper cut-off point is set at 7.51 and the lower at 1.57, the mean ± one standard deviation

Figure 6.10: Frequencies of *adequacy* and the two cut-off points

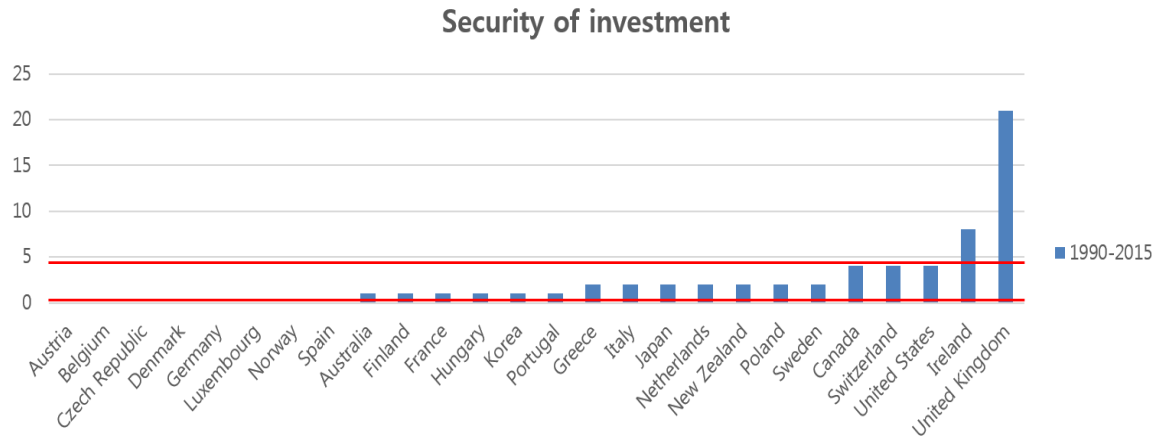


Source: Author.

Lastly, Figure 6.11 below shows the frequencies of *security of investment*. It is clearly distinct from those of *coverage* and *adequacy* above. Whilst the frequencies are evenly spread over between countries in *coverage* and *adequacy*, reforms for *security of investment* is observed in only 18 countries, less than 70% of all countries. When considering that 13 countries pursued reforms once or twice, the values of the UK and Ireland are unique. The frequency is 21 in the UK and 8 in Ireland. Then Canada, Switzerland and the US followed

scoring 4. The mean of *security of investment* is 2.35 and standard deviation is 2.25. The two red lines in Figure 6.11 indicate the two cut-off points. The upper cut-off point is set at 4.6 and the lower at 0.09, the mean ± one standard deviation

Figure 6.11: Frequencies of *security of investment* and two cut-off points



Source: Author.

Similar to the first analysis in the previous section, the calibration here follows the most straightforward method for a continuous scale of value. It is represented by the following formula[22] (Vis, 2007: 111):

> fuzzy-set score = [transformed raw data – lower cut-off point] / [upper cut-off point – lower cut-off point]

[22] See the previous section for an explanation of the formula.

The outcome is shown in Table 6.7 below. Unlikely the first analysis, the scatterplot for the fuzzy-set score is not provided here as a three-dimensional chart is difficult to illustrate.

Table 6.6: Frequency and fuzzy score of the socialisation of risks

	1990–2015					
	Frequency			**Fuzzy-score**		
	Coverage	**Adequacy**	**Security of investment**	**Coverage**	**Adequacy**	**Security of investment**
Australia	4	11	1	0.56	1.00	0.20
Austria	6	5	0	1.00	0.58	0.00
Belgium	1	2	0	0.00	0.07	0.00
Canada	7	3	4	1.00	0.24	0.87
Czech Republic	3	2	0	0.33	0.60	0.00
Denmark	3	0	0	0.33	0.00	0.00
Finland	2	6	1	0.09	0.75	0.20
France	10	13	1	1.00	1.00	0.20
Germany	4	7	0	0.56	0.91	0.00
Greece	2	11	2	0.09	1.00	0.42
Hungary	4	2	1	0.56	0.07	0.20
Ireland	5	8	8	0.80	1.00	1.00
Italy	1	1	2	0.00	0.00	0.42
Japan	8	4	2	1.00	0.41	0.42
Korea	8	3	1	1.00	0.24	0.20
Luxembourg	3	6	0	0.33	0.75	0.00
Netherlands	0	1	2	0.00	0.00	0.42
New Zealand	4	3	2	0.56	0.24	0.42
Norway	1	1	0	0.00	0.00	0.00
Poland	4	1	2	0.56	0.00	0.42
Portugal	3	2	1	0.33	0.07	0.20
Spain	1	6	0	0.00	0.75	0.00
Sweden	0	3	2	0.00	0.24	0.42
Switzerland	4	2	4	0.56	0.07	0.87
United Kingdom	8	11	21	1.00	1.00	1.00
United States	1	4	4	0.00	0.41	0.87

Source: Author.

Scoring cases

As a next step, the membership of each set is computed. The same principles of fuzzy logic used in the first analysis are applied: *the minimum principle* (logical AND) and *the principle of negation* (logical NOT). The symbol '*' is used for the former principle and '~' for the latter. Table 6.8 below is the computed outcome. As can be seen in the table, the fuzzy-set in which each country scored highest is filled in with a grey colour to show the country's designated ideal type. For example, Australia belongs to the *coverage-and-adequacy-focused* reform type, with a score of 0.56. It is the highest score that Australia gained out of the eight ideal types. It means Australia is 'IN' the ideal type showing the best conformity to it among the ideal types

Table 6.7: Fuzzy membership scores of the *socialisation of risks*

	All-inclusive	Coverage & adequacy -focused	Coverage & security -focused	Adequacy & security -focused	Coverage -focused	Adequacy -focused	Security -focused	Stable
	C*A*S	C*A*~S	C*~A*S	~C*A*S	C*~A*~S	~C*A*~S	~C*~A*S	~C*~A*~S
Australia	0.20	0.56	0.00	0.20	0.00	0.44	0.00	0.00
Austria	0.00	0.58	0.00	0.00	0.42	0.00	0.00	0.00
Belgium	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.93
Canada	0.24	0.13	0.76	0.00	0.13	0.00	0.00	0.00
Czech Republic	0.33	0.33	0.00	0.00	0.33	0.60	0.00	0.40
Denmark	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.67
Finland	0.09	0.09	0.09	0.20	0.09	0.75	0.20	0.25
France	0.20	0.80	0.00	0.20	0.00	0.00	0.00	0.00
Germany	0.00	0.56	0.00	0.00	0.09	0.44	0.00	0.09
Greece	0.09	0.09	0.00	0.42	0.00	0.58	0.00	0.00
Hungary	0.07	0.07	0.20	0.07	0.56	0.07	0.20	0.44
Ireland	0.80	0.00	0.00	0.20	0.00	0.00	0.00	0.00
Italy	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.58
Japan	0.41	0.41	0.42	0.41	0.58	0.00	0.42	0.00
Korea	0.20	0.24	0.20	0.20	0.76	0.00	0.20	0.00
Luxembourg	0.00	0.33	0.00	0.00	0.25	0.67	0.00	0.25
Netherlands	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.58
New Zealand	0.24	0.24	0.42	0.24	0.56	0.24	0.42	0.44
Norway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Poland	0.00	0.00	0.42	0.00	0.56	0.00	0.42	0.44

Portugal	0.07	0.07	0.20	0.07	0.33	0.07	0.20	0.67
Spain	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.25
Sweden	0.00	0.00	0.00	0.24	0.00	0.24	0.42	0.58
Switzerland	0.07	0.07	0.56	0.07	0.13	0.07	0.44	0.13
United Kingdom	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
United States	0.00	0.00	0.00	0.41	0.00	0.13	0.59	0.13

Source: Author.

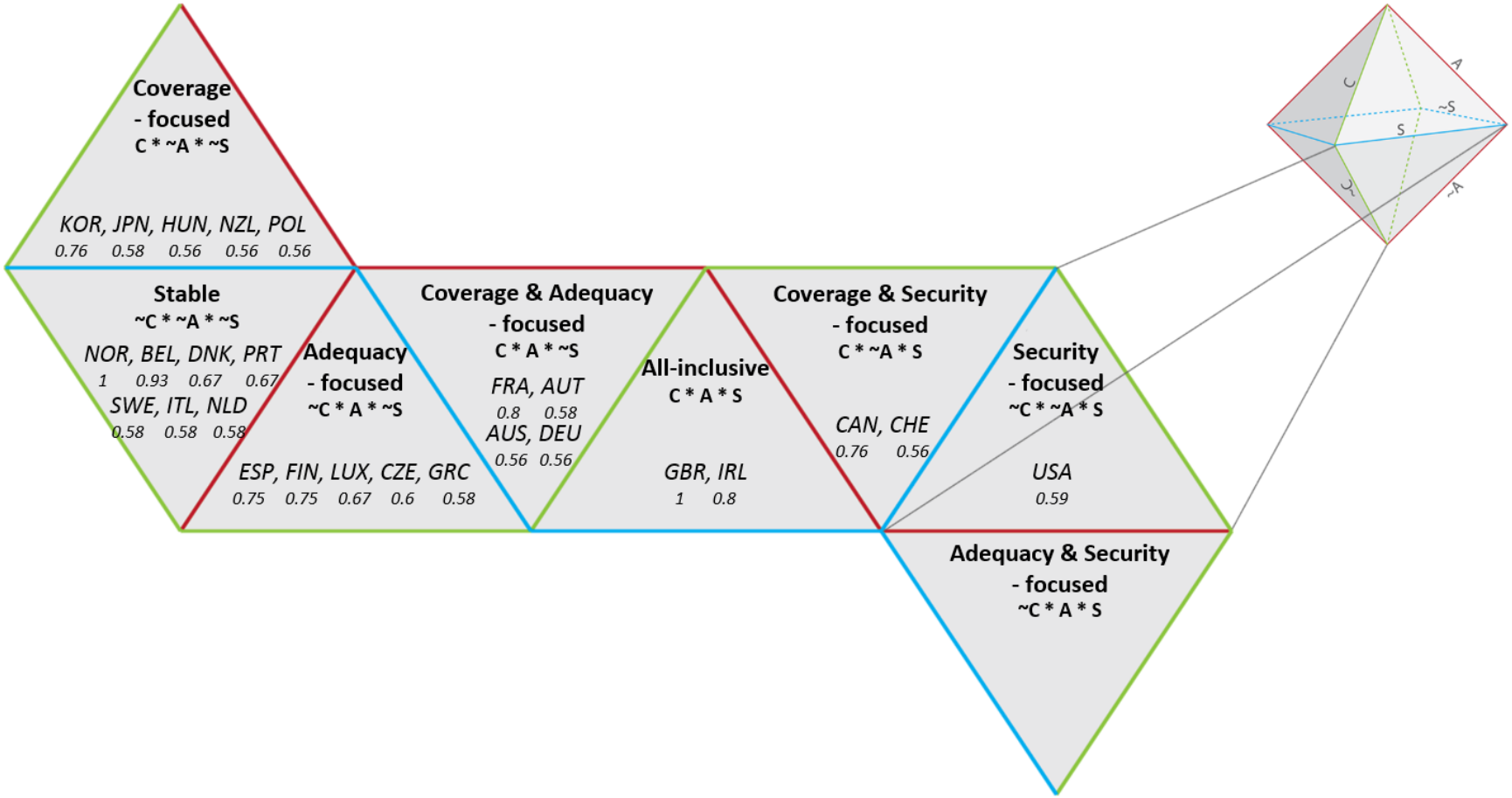
Identifying the membership of the ideal types

As seen earlier, this thesis has visualised three dimensions and the property space to promote a better understanding of the data. The three dimensions of the *socialisation* of old-age risks construct a triangle (Figure 6.7) and it forms property spaces, an octahedron (Figure 6.8). The eight faces of the octahedron represent eight ideal types of reforms for the socialisation of old-age risks. Figure 6.12 below is a plane net of the octahedron in Figure 6.8. It shows the country membership of each ideal type. It consists of eight triangles, and three sides of each triangle are linked to three dimensions: C or ~C, A or ~A, and S or ~S. Country names with their membership scores are provided in each face.

First, the *all-inclusive* reform type has only two membership countries: the UK and Ireland. Their conformities to the ideal type are high as the UK is fully in and Ireland scored 0.8. Secondly, the *coverage-and-adequacy-focused* reform type has four membership countries: France, Austria, Australia, and Germany. While these four countries belong to the same ideal type, their conformities vary; France scored 0.8, meaning full membership of the ideal type, whilst the other three countries scored between 0.56 and 0.58. Third, the *coverage-and-security-focused* ideal type consists of two membership countries: Switzerland and Canada. Their membership scores are 0.56 and 0.76 respectively. Meanwhile, there are no matching membership countries for the fourth ideal type, *adequacy-and-security-focused*. No countries scored higher than the cross-over point (fuzzy membership > 0.5) in this ideal type. This implies that the *adequacy-and-security-focused* reform type might exist in theory, but not in the 26 OECD countries in this dataset. Fifth, the *coverage-focused* reform type has five countries: Korea, Japan, Hungary, New Zealand, and Poland. It is a relatively homogeneous group as their membership scores are in the range of 0.56 to 0.76. The sixth,

the *adequacy-focused* reform type, has five countries (Spain, Finland, Luxembourg, the Czech Republic, and Greece) and they are distributed between 0.58 and 0.75. The seventh, the *security-focused* reform type has only one member country: the USA. It is the smallest group except the *adequacy-and-security-focused* reform type, the theoretical ideal type. The last ideal type is *stable*. It is the biggest group among the eight ideal types. Seven countries belong to it: Norway, Belgium, Denmark, Portugal, Sweden, Italy and the Netherlands. Whilst the membership scores of Norway and Belgium are fully in or almost fully in, the rest of group are in a range of 0.58 to 0.67, just above the cross-over point.

Figure 6.12: Country memberships of the fuzzy-set ideal types for reform strategies for the *socialisation of risks*



Source: Author.

6.4 Conclusion

This chapter has analysed pension reforms across OECD countries between 1990 and 2015. The design of the analysis was gradually developed through the findings of previous chapters. Previously, Chapter Two identified two distinctive streams in dealing with social risks: socialisation and individualisation. These two trends have coexisted since the 1990s, with the rise of the social investment perspective. This thesis therefore has employed them as two dimensions that explain pension reforms that deal with old-age risks for the last 25 years. One of the effective ways to compare pension reforms might be typologies. They enable a systematic comparison among countries by "analytical and explanatory parsimony" (Esping-Andersen, 1999: 88). In Chapter Three, we examined frequently used typical models in earlier studies, but they did not serve the purpose of this thesis; most existing typologies were designed to classify pension structures or reform outcomes, not the contents of those reforms. When it comes to the data for analysis, it must contain highly detailed information on specific changes in pension systems. Therefore, considering the long period of time and the number of countries, Chapter Five combined two secondary sources from international organisations: the *Pensions at a Glance* series and *ISSA Country Profiles*. With the data, this chapter created new typologies for pension reform using FSITA, an innovative method for typologies.

The analysis consists of two parts. The first analysis is on the two dimensions: the *socialisation* and *individualisation* of old-age risks. For the last 25 years, the most dominant ideal type has been the *individualisation* reform type. Eleven out of the 26 countries belong to it. Meanwhile, the *socialisation* reform type has only two member countries. This might reflect the prevalent concern in most countries about fiscal stress, as many earlier researchers

have argued. On the other hand, more than a quarter of the countries belong to the *stable* reform type. In FSITA, this does not mean that these countries did not pursue any pension reforms, but that any reforms they did pursue were not intensive enough to be classified to any other ideal type. Nevertheless, it reflects that the prevailing view of austerity and the increase in needs for old-age protection do not necessarily lead to pension reform in some countries. This may be due to welfare politics and institutional characteristics. On the other hand, the *socialisation-individualisation* reform type was less common, with only six member countries. This chapter also divided the overall time period into two halves. It revealed the trends of pension reform were disrupted rather than continuous. Most countries did not maintain their focus in any particular direction in pension reform over the 25 years. This might indicate that path dependency plays a limited role within a series of pension reforms in a country over a long period. Path development in pension reform demonstrates complexity and we will return to this issue in the following chapter. In the second analysis, the *socialisation* of old-age risk was explored further. Eight ideal types were created through three dimensions: *coverage*, *adequacy*, and *security of investment*. The *stable* reform type had seven membership countries. It is the biggest group among the eight ideal types, but it indicates that the other 19 countries socialised old-age risks despite of the prevailing pressure for fiscal austerity. The *all-inclusive* reform type, however, only had two member countries. This means only a few countries reformed pensions in a comprehensive manner. Instead, a considerable number of countries chose one or two elements to socialise risks in pension systems. This may imply the lack of capacity to expand pension systems in many countries during the period.

Finally, it is important to keep in mind that the analysis here is on reform intensity, not on the pension system or the reform outcome. Therefore, the label of each ideal type does not represent the features of membership countries' pension systems. For example, the *all-inclusive* reform type in the second analysis must be interpreted as meaning that countries within it intensively pursued pension reforms in a comprehensive manner. It does not necessarily mean their pension system is robust in terms of socialising risks. In the following chapter, we will closely examine each ideal type of the first and the second analysis and interpret them.

Chapter 7 : Analysing pension reforms

This chapter comprehensively reviews earlier chapters and draws implications from them. The previous chapter explored the trend of pension reforms across OECD countries for the last 25 years. The first part of the analysis looked at general trends in the *socialisation* and *individualisation* of old-age risks for the period. Then the period was divided into halves to examine changes over the 25 years. The second part of the analysis looked at the three measures of socialisation reforms. Based on three empirical indicators that represent the socialisation of old-age risks, the chapter analysed the trends of measures for socialisation reforms. With this background in mind, this chapter begins by looking closely at the trend of pension reforms. It explores four types of configuration in pension reforms, paying attention to the characteristics of each ideal type. It produces insights into dominant and less dominant trends in pension reform over the last 25 years. It then moves on to the relationship between pension reforms and earlier typologies. In doing so, it reflects on whether the trends of pension reform can be seen as regime characteristics or as a pension's institutional features. The chapter also engages with the arguments on path dependency in pension systems and explores similarities and differences in their development. Finally, the relationship between pension reforms and the level of poverty in older people is compared. Based on earlier evidence, this chapter suggests old-age poverty as an additional factor that shapes pension reforms along with the pattern of demographic change and pension institutions.

7.1 Pension reforms in the era of social investment

Social investment and pension systems

Welfare states have considered social risks to be their main concern since their establishment. This thesis has argued that two streams exist in dealing with social risks in welfare states. The first is the *socialisation of risks*, which means institutionalised government intervention absorbing risks from individuals. It results in the de-commodification and de-familisation of risks, as they would have been handled by market or family if the state had not intervened. Meanwhile, the *individualisation of risks* is on the other end of the spectrum. It refers to the shift towards an individualisation of responsibility in managing social risks. It imposed more responsibility on individuals for the outcome whilst providing more room for choice. These distinctive streams have been emphasised differently in the history of welfare states, depending on the economic thought or philosophy of the time. This thesis has addressed Keynesianism, neo-liberalism and the social investment perspective as the major ideologies that are tied with the two streams. These phases are not mutually exclusive as they have co-existed at some points. Nevertheless, this thesis sees the 1990s onwards as the phase of the social investment perspective based on earlier studies (Garland, 2016; Hemerijck, 2013; Jenson, 2012; Nikolai, 2012). The territory of social risks is also not a fixed concept, but old-age has been recognised as one of the major risks across time and countries. Individuals generally experience a loss of income due to retirement in this stage of life. Without government intervention, this would cause a high level of poverty among older people. Welfare states therefore introduced pension systems to socialise those risks, which formed the bedrock of poverty protection in old age.

This thesis has argued that pension reforms from the 1990s onward show diverse configurations of the *socialisation* and the *individualisation of risks.* As this is the period of

time when the social investment perspective has been widely accepted (OECD, 2005: 7), pension reforms during this period should be understood in its context. The social investment perspective was introduced as an alternative way for welfare states to adapt to the changing needs of contemporary society. Traditional income security systems showed limited capacity in providing adequate protection against new social risks. Furthermore, the dominant trend of the *individualisation of risks* due to budgetary stresses was criticised as it created an increase in poverty and inequality. From this standpoint, the social investment perspective recognises pension systems as part of 'flexicurity' (Hinrichs & Jessoula, 2012: 4-5). The social investment perspective supports a network of labour market measures that promote labour flexibility along with a series of activation policies. For older people, a pension is a last safety-net for those who are not fully activated. In this respect, it is too a simplistic view to place pensions on the opposite side of the productive social investment perspective. Pensions are a traditional protective programme, but they are not necessarily contrary to the social investment perspective. Rather, they function complementarily to the social investment perspective, reducing the risks of the flexible labour market. This complementary relationship between traditional income security systems and social investment policies has been stressed in previous research (Esping-Andersen, 2002; Estevez-Abe et al., 2001; Hemerijck, 2013; Kuitto, 2016; OECD, 2005). Reforming pensions in this era thus reflects both dimensions. For one, retrenchment should continue to improve the sustainability of pension systems in an ageing society. At the same time, however, further protection is required from the flexible labour market. As Bonoli and Natali (2012: 12) address, it is "the emergence of policy objectives unrelated to austerity". It may result in reform packages that meet multiple – even contradictory – objectives. Therefore, the analysis on welfare states in the era of social investment requires multi-dimensional indicators to accurately capture welfare dynamics. Retrenchment, the prevailing indicator for welfare states in austerity, may

not be sufficient because of its narrow and restrictive nature (Clasen, 2005: 94). In this context, this thesis has argued that pension reforms since the 1990s can be classified into four ideal types on the basis of two dimensions, the *socialisation* and *individualisation of risks*.

One thing to note is the substantial national variation in the social investment perspective. It has spread over welfare states since the 1990s, but the timing of its adoption varied in each country. Garland (2016: 130-131) states that welfare regimes, the timing of the transition to a post-industrial society and the level of economic performance affect the pace and the degree to which the social investment perspective is accepted. For example, liberal and social-democratic welfare states embraced the social investment approach at an early stage, whilst conservative welfare states and East Asian countries were late-comers. According to Jenson (2012: 29-32), the social investment perspective is now widely shared across regions and welfare regimes, but countries show different preferences in social investment strategies. Social-democratic countries emphasise human capital through lifelong learning, whilst liberal countries focus more on the orientation to the future. Conservative countries prefer the notion that investment in individuals enriches the entire community. Nikolai's (2012: 97-105) research on social expenditure profiles also shows a large variation across OECD countries in social investment. She demonstrated spending on family policies, active labour market policies, and education as investment-related expenditures contrasting compensatory expenditures. First, spending on family policy was continuously increased between 1980 and 2007, but a large variation is observed across countries. Family spending was over 3% of GDP in the UK, Sweden, Denmark and Hungary in 2007, whilst it was less than 1% of GDP in Japan and the USA. When it comes to active labour market policies, the spending during the time was stable. However, if we take a closer look at country profiles, extreme levels of

cross-national variation exist ranging from 0.1% of GDP in the USA to 1.3% of GDP in Denmark in 2007. Also, on average, education spending has decreased from 5.67% in 1980 to 4.88% in 2007. This is an interesting finding, but exceptional cases are also observed such as Belgium, Denmark, France, and the UK. Considering these earlier studies, it would be reasonable to expect country variation in pension reforms under the social investment perspective. As will be discussed in more detail later, however, it may not follow regime theory since pension reforms are influenced by a variety of factors.

As explored in the previous chapter, this thesis has analysed the pension reforms of 26 OECD countries between 1990 and 2015. Two fuzzy-sets were identified against two dimensions, generating four ideal types of pension reform. First, the outcome of the fuzzy-set ideal type analysis shows that all of four ideal types have member countries. This means that all the theoretical combinations are empirically observed. The outcome confirms the variety of configurations in pension reforms that is constructed from the *socialisation* and *individualisation of risks,* as this thesis has argued. The details of the membership of each ideal type are identified in the following section.

Four types of configuration in pension reforms

The analysis shows us a landscape of pension reforms in the OECD. First, it reveals that the dominant reform type is the *individualisation reform*. More than 40% of countries committed to individualising old-age risks through their pension systems. This is not a surprising result as various earlier studies have demonstrated the retreat of old-age protection under the pervading pressure for fiscal austerity (Bonoli et al., 2000; Bonoli & Shinkawa, 2005; Ebbinghaus, 2005; 2012; Goldberg, 2002; Scruggs, 2007). As Goldberg (2002: 342) addresses, the common trend is “toward reduction of whatever employment guarantees there

were, as well as toward greater selectivity or means testing, more restrictive unemployment insurance policies, tightening of work requirements, privatisation, and lower benefits". The empirical evidence of this research confirms that the austerity trend can be clearly observed in pension reforms over the last 25 years.

Germany is a fair example of the trend. Germany is a member of the *individualisation* reform type. The biggest concern over the German pension system was its sustainability, for several reasons. First, population ageing began at an early stage (OECD, 2015: 159). The dependency ratio was already 26.3% in 1975, the second highest among the 34 OECD countries (OECD, 2015: 159). The ageing pace was moderate then but reached 35.3% in 2015, the third highest in the OECD, increasing the financial burden on the public pension. Early retirement schemes to maintain high levels of employment and generous replacements of the public pension (Boersch-Supan & Wilke, 2003: 18-21) aggravated this financial burden. Germany also experienced an economic downturn in the 2000s, imposing further fiscal pressure on the pension system. A high level of fiscal deficits and mass unemployment were persistent, and GDP per capita declined below the EU average for the first time since the 1980s (Clasen, 2005: 4). The pension system was projected to be economically unsustainable and pension reform became a major focus of attention. Meanwhile, the poverty level among older people was steadily maintained throughout the 1990s and the 2000s[23]. For the older population, the relative poverty rates at 50% of the median income threshold were 10.4% (1989), 10.0% (2000) and 10.6% (2010), lower than the average of the OECD. The poverty rates for total population, however, gradually increased during the same period from 5.6% (1989) to 9.5% (2010). Consequently, the socialisation of old-age risks was not the

[23] See Chapter Four for the poverty rates of OECD countries.

priority for Germany at the time, but individualisation reforms were.

Pension reforms in the 1990s and the 2000s therefore took place mainly to improve the financial sustainability of the German pension system. Various measures were taken such as: including a demographic factor within the pension formula, the abolition of the favourable tax treatment for pension income, a reduction in replacement rates, benefit cuts for disability and survivor pensions, a tightening of the conditions for benefits, and an increase in the contribution rates for employees (OECD, 2007: 58-60). A new environment tax on energy consumption was also introduced. Some of these revenues were channelled into the social insurance budget that aimed at covering the expenditure on non-contributory benefits and facilitating a lower contribution rate (Hinrichs, 2005: 58). However, they were proved to be insufficient measures in terms of pension sustainability, and the Schröder government attempted a structural reform which would allow significant savings in 2001 (Clasen, 2005: 104-131). However, its overall scale was smaller than originally intended; replacement rates were dropped by three percentage points rather than six, and a funded private pillar was introduced based on voluntary contributions rather than mandatory, and tax incentives were added to the collectively agreed pension plans as a concession to trade unions. A few years later, attention was drawn to pension adequacy during the 2013 federal election. Future old-age poverty was projected to increase due to the individualisation reforms undertaken since the 1990s (EC & SPC, 2015: 70-72). As a result, the Pension Improvement Act introduced multiple adequacy measures, such as extended pension credits for caring children, and contribution cuts for disability pensions. The retirement age was also lowered from 65 to 63 for people with 45 years of contributory years (OECD, 2015: 34-43).

Reflecting these circumstances, the prevailing type of pension reforms in Germany for the

last 25 years were *individualisation* reforms. Reforms for *financial and fiscal sustainability* were particularly intensive, reaching a frequency rate of 11 for the total period. *Economic efficiency* and *diversification* received far less attention. However, when the period is divided into two halves, Germany belonged to the *individualisation* reform type in the first period, transitioned to the *socialisation* reform type for the second. This shift reflects the change of mood that occurred with the 2013 federal election, and the rising concern over inadequate old-age protection. It is worth noting that the major trend in Germany continued to be *individualisation* in the second period, despite of this change in reform type; Germany pursued reforms for *socialisation* relatively more frequently than other OECD countries, but the overall frequency was still higher in *individualisation* (16) than *socialisation* (11).

The second most common reform type is the *stable* type. More than a quarter of the countries were rather inactive or less intensive in introducing pension reforms. This does not mean that no reforms took place, but rather that the frequency rate of reforms was too low to be classified into any of the other ideal types. When considering the fluctuations of the world economy and dynamic changes in societies over the last 25 years, it is surprising that seven out of 26 OECD countries did not intensively engage in pension reforms. This result may stem from the way this thesis operationalised the reform data. It analysed the trend of reforms using the frequencies of six categories in the raw data. These frequencies allow us to understand each country's overall actions in a specific direction, but as addressed in Chapter Five, they do not represent the significance of each reform. Therefore, it is possible that countries that belong to the *stable* type actually pursued pension reforms that brought about a significant impact, such as structural reforms. Aside from this possibility, there may be two other possible explanations: (1) pension reforms were not their primary concern; or (2) pension reforms were required, but discouraged by pension politics.

The Netherlands is an example of the former. The Netherlands established a very robust multi-pillar pension system early on. It consisted of a flat-rate state pension (AOW), funded occupational pensions, and individual savings. As the first and second pillar pensions already provided adequate protection to older people before the 1990s, further socialisation of old-age risks was not a major concern in the Netherlands (EC & SPC, 2015: 245). The broad coverage and high replacement rates of the first and second pillar pensions did not necessitate reform. AOW, the first pillar pension, is a tax-financed state pension that covers all residents who have lived in Netherlands for 50 years. On top of this, the second pillar occupational pension is a quasi-mandatory pension covering 91% of employees (OECD, 2015: 310). The pension scheme is negotiated by collective agreements between employers and unions. The benefit level is also very generous. The flat rate of benefit of the AOW is linked to the minimum wage, and the total replacement rate reaches 70% when combined with occupational pensions, after 40 years of employment (EC & SPC, 2015: 241). When it comes to the third pillar, individual savings were not highlighted as the first and the second pillar pension were extensive enough. Therefore, it is a natural consequence that the Netherlands had the lowest level of poverty among older people. The old-age poverty rate in 1990 was 3.2%, and this low level has been sustained until the present day. The old-age poverty rate was 2.2% and the poverty reduction effects of the pension system reached 99% in 2010[24].

Like many other countries, the sustainability of pensions was raised in the Netherlands. According to the OECD (2015: 159), old-age dependency increased from 19.5% (1975) to 21.9% (2000), but this reflected the average among OECD countries. The Netherlands had

[24]All statistics are computed using LIS microdata. See Chapter Four for more information.

undertaken sustainability measures since the 1980s. The law on AOW indexation was moderated several times, and reserve funds were introduced for financial stability. The trend of *individualisation* reform has continued through the 1990s and the 2000s, but at a basic level; there has been a gradual increase in the pension age, the introduction of disadvantages for early retirement, and the reduction of favourable tax treatments for occupational pension (EC & SPC, 2015: 243).

Considering these facts, the Netherlands did not intensively pursue pension reforms mainly because their pension systems were functioning soundly in terms of the socialisation and individualisation of old-age risks, and partly due to the ability of social partners to engage and review these issues early on. As a result, the Netherlands belongs to the *stable* type throughout the period from 1990 to 2015. The reform frequency of each category also supports this view. Pension reforms did not take place for improving *coverage* at all and only twice for *adequacy*, as their first and second pillar pensions already had "a very strong record concerning pension adequacy because of the relative generosity of the AOW pension and the wide coverage of second pillar pensions" (EC & SPC, 2015: 245). Notably, *security of investment* was not the prevailing concern throughout the time under research here. Occupational pensions are quasi-mandatory and 94% of covered employees had a DB scheme in 2011 (OECD, 2015: 310). Also, the third pillar private pension was underdeveloped in the Netherlands, accounting for only 5% of all pension savings in the second half of the 2000s (EC & SPC, 2015: 243). Nevertheless, the 2008 financial crisis damaged pension funds. According to *ISSA Country Profiles,* the coverage ratios dropped from an average of 144% in 2007 to 95% by the end of 2008. As a result, measures for *security of investment* were introduced twice. When it comes to the individualisation reforms, *diversification* did not receive any attention. Whilst five pension reforms took place in order

to improve both *financial and fiscal sustainability* and *economic efficiency,* they were less intensive compared to other OECD countries.

On the other hand, it was less common to undertake intensive reforms for both the socialisation and individualisation of risks at the same time. There are also important differences among countries that adopted socialisation reforms. This might be due to the fiscal pressures of public finance and the politics of welfare austerity. By no stretch of the imagination, countries would have had strong motivation when they decided to strengthen old-age protection under growing budgetary pressure. This might be related to their 'starting point'. If a pension system did not sufficiently socialise old-age risks in the beginning of the 1990s, there might be a motivation to improve protection since then. On the other hand, countries that had already achieved a high level of socialisation of old-age risks in the beginning of the 1990s might feel less urgency to socialise pension systems further.

In this regard, Korea serves as an interesting example of the *socialisation* reform type. As the pension system played a marginalised role in socialising old-age risks before the 1990s, Korea witnessed the continued expansion of its pension systems over the last 25 years. Korea introduced its first public pension in 1988. It was a social insurance system that provided a benefit level equal to 70% of life-time average earnings after 40 years of contributions. The benefit level was generous but the coverage of the scheme was limited to employees working at large firms. As a result, since the 1990s, a series of pension reforms took place to extend pension coverage. The expansion was remarkably rapid; it took only 11 years to expand the mandatory coverage from employees working at firms with ten or more workers to the whole working-age population in urban and rural areas (Kim, 2012: 76-78). Parallel to its public pension, Korea established a multi-tier pension system in the 2000s. A severance pay system

has gradually transformed into an occupational pension as a second pillar pension. It became mandatory for firms with five or fewer workers from 2010. Additionally, a tax-financed basic pension was introduced in 2008. It granted 60% of those who are over 65 a monthly fixed amount of pension benefits. It then extended its coverage to 70% of older people, and the benefit was doubled from 5% to 10% of average earnings in 2013 (OECD, 2009: 90-94).

These continuous socialisation reforms stem from the extremely high poverty rates in the older population in Korea[25]. The relative poverty rate at 50% of the median income threshold reached 41.4% in 2006, the highest level in the OECD. It is worth noting that the poverty rate in the total population was 14%; far lower than the poverty rate in the older population. This is mainly because of the marginalised role of the income security system in Korea. In 2006, the poverty rate among the older population based on factor income was 69.3%, the second lowest level in OECD countries. However, social security transfers reversed this. The poverty rate after social security transfers was 55.4%, the highest level in the OECD. This means the old-age risks was only decreased by 13% by social security transfers. It then dropped further, to 41.4%, after private transfers. This is a distinctive feature of Korea, as the majority of countries reduced old-age poverty by 60–90% through social security transfers (see Figure 4.3). Consequently, these pressures exerted the government to keep on the path of socialisation reforms to alleviate the problem; pension reforms took place intensively to improve *coverage* and *adequacy* over the last 25 years.

Meanwhile, the concern about financial stability has risen with the rapid population ageing since the 2000s. The dependent ratio was 7.5% in 1975 but increased to 19.6% in 2015

[25] See Chapter Four for more information.

(OECD, 2015: 159). This would be considered is moderate level now, but due to the rapid ageing pace (the highest in the OECD), Korea is projected to have the oldest population in the OECD by 2075, reaching 77.2% of dependency ratio (OECD, 2015: 158). As a result, individualisation reforms have received attention since the late 1990s. There were three pension reforms during 1998-2007 that introduced a variety of sustainability measures for the public pension, including changes in the replacement rate from 70% to 40%. The reform process was very controversial. Considering the pension system was only introduced in 1988, the "confidence in the scheme's continuity and stability" (Hinrichs, 2005: 49) had not been firmly anchored in the broader public conscience at this point. Consequently the radical individualisation reforms since the late 1990s were met with resistance, and even anti-pension movements emerged on a nationwide scale. The introduction of a tax-financed basic pension in 2009 was the countermeasure against these concerns.

Despite the several reforms to improve the sustainability of pensions, the overall reform trend in Korea for the last 25 years remained as socialisation reform. In terms of frequency, reforms for expanding *coverage* were most intensively pursued and *adequacy* measures followed. Reforms for *financial and fiscal sustainability* and *economic efficiency* also took place, but their frequencies were under the average level for the OECD. Reforms for the *security of investment* and *diversification* took place only once. Some might argue that Korea is an exceptional case as its pension system is immature. However, Ireland also belongs to the *socialisation* reform type, and if we expand the scope to the *socialisation and individualisation* reform type, six other countries were also engaged in old-age protection. Certainly, it was not the dominant trend, but still a trend worth noting when considering the continued fiscal pressure of the time.

7.2 Pension reforms and welfare regimes and pension typologies

This thesis explored earlier studies on welfare regimes and pension typologies in Chapter Three. For welfare regimes, Esping-Andersen (1990) classified welfare states into three ideal types: Liberal, Social Democratic, and Conservative regimes. For pension typologies, Chapter Three introduced Bonoli and Shinkawa's (2005) model. It classifies countries into three types: social insurance, multi-pillar systems, and Bismarckian lite. This section looks at the relationship between pension reforms and welfare regimes or pension typologies. Considering the fact that a pension system does not exist alone but is shaped by institutional arrangements, rules and an understanding of the welfare state (Esping-Andersen, 1990: 80), we might expect certain relationships between pension reforms and welfare regimes or social investment models; countries might have reacted differently in managing old-age risks depending on the weflare models. Or, they might have chosen similar measures in pension reforms regardless of their welfare models. Pension typologies, on the other hand, directly focus on a pension's institutional design. Bonoli and Shinkawa (2005: 1-22) argue that pension institutions and the pattern of population ageing best explain pension reforms as they shape the problems and affect the logic of pension policy. Clasen (2005: 93-95) holds a similar point of view. According to his case studies on Germany and the UK, the feasibility of pension reforms highly depends on existing national pension systems. If this is true, pension reforms for the last 25 years would be associated with a pension's institutional design. We could also expect country variation in the trend of pension reforms depending on pension typologies.

Another issue relating to welfare regimes and pension typologies is path development in the pension system. As addressed in Chapter Three, path dependence has attracted significant attention from welfare researchers over the last decades. Chapter Three reviewed the relevant

literature and introduced two of the main streams of theory on path dependence: the 'closed' – traditional and deterministic – approach, and the 'opened' – transformative and developmental – approach. Esping-Andersen's regime theory is based on the assumption that countries keep their regime characteristics across time. The 'closed' approach of path dependence expects persistent diversity or divergence among welfare regimes unless they experience a critical juncture (Bonoli & Natali, 2012: 10-11). This view forwards the resilience of welfare states as evidence; major programmes are resilient and welfare states have maintained their regime-specific attributes even under austerity (Pierson, 2006; Pierson, 1994, 2001). Meanwhile, those who takes the 'opened' approach to path dependence argue that the path can be gradually and incrementally changeable without path-breaking. Such gradual adaptations to the changing environment might even be a necessary condition for institutions for their long-term survival (Ebbinghaus, 2005: 11). As supporting evidence, they argue that path-departure has been observed, resulting in convergence across countries that face similar challenges (Allan & Scruggs, 2004; Bonoli & Natali, 2012; Bonoli & Shinkawa, 2005; Goldberg, 2002; Scruggs, 2007). In this section, this study verifies which argument demonstrates the most validity concerning the trend of pension reforms; to establish if the path development in pension reforms was either deterministically path-dependent or transformative over the last 25 years. In this context, this section compares the country membership of socialisation and individualisation in pension reforms with Esping-Andersen's welfare regimes and Bonoli and Shinkawa's pension typologies.

Table 7.1 below shows the combined results of the four typologies. The results of the fuzzy-set ideal type analysis on pension reform in this thesis does not match with Esping-Andersen's welfare regimes. No link between them can be identified; no particular reform type is dominant in any welfare regime type. Likewise, the pension reform ideal types do

not match with Finch et al. (2017)'s social investment typology. Also, the ideal types do not fit into Bonoli and Shinkawa's pension typologies. This means the trend of pension reforms cannot be explained by regime theory or by a pension's institutional designs. That is not to say that they are unimportant factors in pension reforms, but a systematic relationship is not confirmed in this thesis. This result might lead us to search for other factors that explain the reform trends. We will return to this subject in the following section. The comparison attempted here is only a partial result, as neither of typologies covers all 26 of the OECD countries covered in this study. Nevertheless, it is possible to confirm that there is no particular trend in pension reforms that depends on welfare typologies or pension typologies. Rather, it shows general trends in pension reforms over regimes, social investment models and a pension's institution. Individualisation reforms took place in more than 40% of OECD counties, whilst socialisation reforms were less prevalent over the 25 years, as addressed earlier. It might be appropriate to classify this as convergence in the direction of pension reforms.

Table 7.1: Country memberships and welfare regimes (1990–2015)

Socialisation and individualisation reform typology		**Welfare regime** (Esping-Andersen, 1999)	**Social investment typology** (Finch et al., 2017)	**Pension typology** (Bonoli and Shinkawa, 2005)
Socialisation-individualisation	France	Conservative	Type 4	Social insurance
	Greece	-	Type 2	-
	Australia	Liberal	Type 1	-
	Canada	Liberal	Type 1	Bismarckian lite
	Japan	Conservative	Type 2	Bismarckian lite
	UK	Liberal	Type 3	Multipillar
Socialisation	Ireland	Liberal	Type 3	-
	Korea	Conservative	Type 1	Social insurance
Individualisation	Italy	Conservative	Type 2	Social insurance
	Portugal	-	Type 2	-
	Finland	Social Democratic	Type 4	-
	Poland	-	-	-
	Spain	Conservative	Type 2	-
	Switzerland	-	Type 1	Multi-pillar
	Belgium	Conservative	Type 4	-
	Czech Republic	-	-	-
	Germany	Conservative	Type 2	Social insurance
	Hungary	-	-	-
	Sweden	Social Democratic	Type 4	Multi-pillar
Stable	Denmark	Social Democratic	Type 4	-
	Netherland	Liberal	Type 3	-
	Norway	Social Democratic	Type 3	-
	Luxembourg	-	-	-
	New Zealand	Liberal	Type 3	-
	USA	Liberal	Type 1	Bismarckian lite
	Austria	Conservative	Type 4	-

* The classification of welfare regimes is mainly based on Esping-Andersen (1999: 74-94). As Esping-Andersen did not clearly reveal every country membership of each regime, this thesis only addresses countries that he named as examples in describing the characteristics of three regimes. The classification of Korea and Japan followed Nam (2002) and Shinkawa (2001)'s view (see Chapter Three).

* The classification of pension typologies is from Finche et al. (2017).

* The classification of pension typologies is from Bonoli and Shinkawa (2005: 6).

Source: Author.

This result leads us to the second issue, that of path development. The converging trend across countries toward individualisation reforms hints at a path-deviant development in some countries. Regardless of regime characteristics or pension structure, the individualisation of old-age risks was the dominant trend. This means that the reform path was not on the continuum of their regime or pension development for some countries. Also, the path of pension reform has been unsteady for 25 years in most countries. The trend of pension reforms has not continued in one direction. As seen in the previous chapter, there are clear shifts in the path of many countries from the first period (1990–2003) to the second (2004–2015). Seventeen out of 26 OECD countries changed their strategies in managing old-age risks during the time (Figure 6.6), a total of 65% of the countries. Some of them even showed a complete path-deviation by taking the opposite direction. For example, Japan pursued individualisation reforms in the first period then took measures for socialisation in the second. Austria also intensively reformed pension systems for both the socialisation and individualisation of risks in the first period, but belong to the *stable* in the second. From this result, it can be said that there was no clear persistent path in pension reforms. These results contradict the closed approach of path dependence – that policy choices at one point continuously influence the subsequent choices – in pension reforms. Rather, in this thesis, path deviance is observed in a twofold way: the overall convergence in reform strategies regardless of regime, and the discontinuity of reform strategies in each country.

This result supports the 'opened' approach of path dependence, which argues for more openness to change path. Ebbinghaus explains the mechanisms of open developmental path dependence in three steps (2005: 15-16). First, an institution emerges at a critical juncture as a consequence of political conflicts and power relations. Second, it is institutionalised

through self-reinforcement. The newly established institution is accepted into society by positive feedback. Finally, the institutionalised path structures the alternatives at the sequential juncture, and collective actors choose which pathway they will follow to the next juncture. This last step is particularly distinct from the closed approach of path dependence. The opened approach is open to the possibility of changes at every juncture, whilst the traditional closed approach assumes chance events will have long-term consequences without interruptions until they experience a significant exogenous shock. However, the opened approach does not mean limitless changes of path, as actors' "decisions are bound by past and current institutions" (Ebbinghaus, 2005: 14). According to Ebbinghaus, path development follows one of three scenarios (2005: 17): path *stabilisation*, path *departure*, and path *cessation or switching*.

Among these, the concept of path *departure* explains the path-deviant cases in this study well. It refers to "gradual adaptation through partial renewal of institutional arrangements and limited redirection of core principles" (Ebbinghaus, 2005: 17). Ebbinghaus (2005: 15-16) explains that path *departure* occurs when an institution faces environmental changes and the self-reinforcing mechanism of the institution allows enough resources to gradually adapt to the changed environment. This mechanism explains the UK case in this thesis, for example. It can be said that the UK showed path departure in pension reforms when we consider that the UK is a representative case of the Liberal regime. The Liberal regime is characterised by limited state intervention for social risks with a narrow definition of eligibility for welfare programmes. It is also well known that the UK continuously individualised old-age risks throughout the 1980s under the Thatcher premiership. It can be said that the trend of individualisation was selected and institutionalised through self-reinforcing process in the UK until the early 1990s. This process then structured the alternatives toward socialisation

reforms, and path departure commenced during the last 25 years. The shift to socialisation was not, however, associated with a radical improvement in social protection. In terms of de-commodification, it was still within the boundary of the Liberal welfare regime characteristics. Nevertheless, it can be seen as path departure from the previous path under the Thatcher premiership. Ebbinghaus (2005: 16) explains that how the alternatives are structured is dependent on multiple factors: the timing of the previous institutions, their subsequent degree of institutionalisation, and the circumstances of the juncture. Identifying the specific events that generated the alternative path is beyond the scope of this thesis. However, we might think of several factors that affect the emergence of the trend of socialisation in the UK, such as high pensioner poverty and rising concerns about pension adequacy since the 1990s[26]. We return to the case of the UK in the following section. It indicates the pathway of pension reforms in the UK over the last 25 years was transformative, rather than deterministic. Also, 65% of OECD countries that changed their pension strategies from the first period to the second period could also be argued to be influenced by path departure.

It is worth noting that such path departure does not necessarily mean convergence in regimes or a pension's institution. The convergence that we have confirmed in this thesis is the converging trend in managing old-age risks in pension reforms. In other words, it is the convergence in input – legislation – rather than output – the effects of legislation – in pensions. As this thesis does not measure the size of the effects of pension reforms, its finding is only limited to reform itself. Therefore, regime specific characteristics or a pension's institutions can be maintained despite of the converging trend in pension reforms. In the case

[26] Refer to the case commentary about the UK in the following section for further information.

of the UK above, this thesis only shows the direction of reforms that the UK chose for the last 25 years. The pension reforms indicated path departure from the previous path, but the outcome of those reforms might not be path-breaking. Also, discontinuity of reform strategies in each country might contribute to maintaining the original regime characteristics. For instance, in the examples of Japan and Austria above, the direction of reform strategies changed over the 25 years. The attempt to change direction followed by a return to the earlier approach might result in the status quo. As a result, their pension's original characteristics might be maintained despite the reforms. This is in line with Bonoli and Natali's (2012) findings on country variation under the social investment perspective. They noted that "countries have adopted policies that broadly go in the same direction, but maintain substantial differences" (Bonoli & Natali, 2012: 14). This implies that even path-deviant pension reforms might only result in changes within the designated regime or pension typology. Vis (2007: 113-118) labelled such change as a 'regime-specific change' in contrast to a regime shift in her analysis on welfare and workfare states. In short, the trend in pension reforms over the last 25 years converged on individualisation reforms across welfare regimes or a pension's institution, but a country's regime shift or a pension's institutional change are not confirmed in this thesis.

Finally, it is worth remembering that the findings in this section do not deny the influence of regimes and pension institutions on pension reforms. The comparative result – that pension reforms for the last 25 years do not match with welfare regimes and pension typologies – does not mean that institutional characteristics do not play a role in delineating pension reforms. Rather, when considering earlier findings on pension institutions, it indicates the fact that institutional characteristics might affect pension reforms, but they are not the single decisive factor that shapes pension reforms. These are outlined in the following section, with

a particular focus on Bonoli and Shinkawa (2005)'s literature.

7.3 Factors shaping pension reforms

Demographic change and pension institution

Various researchers have attempted to understand the underlying mechanisms of pension reform. The infrastructures of pension systems have received particular attention, as different pension systems cope with old-age risks differently. This has been well documented by the growing literature on pension institutions; different institutions explain country variation in reforms, expenditures, poverty rates, the ways in which risks are transferred over generations and so on (Barr & Diamond, 2009; Bonoli & Shinkawa, 2005; Hong, 2005; Korpi & Palme, 1998; Whitehouse, 2003). This thesis paid particular attention to Bonoli and Shinkawa (2005) in Chapter Three. Their findings on the factors that shape pension reforms helps us to understand the analysis results in this thesis. They introduced three categories within their pension typology – social insurance, multi-pillar system, and Bismarckian lite (see Chapter Three). Using the typology, Bonoli and Shinkawa argue that there are two factors that best explain pension reforms. The first is the pattern of population ageing. Demographic change has occurred within most welfare states, but Bonoli and Shinkawa focus on the different global patterns of change. They argue that population ageing takes place at different speeds depending on regions. For instance, it is progressing at a moderate pace in Western Europe and North America, but at a much faster pace in East Asia. The population of people older than 65 is unlikely to reach an extreme level in North America, whilst in Western European countries the over-65 population is projected to exceed 25% of the total population by 2040 (Bonoli & Shinkawa, 2005: 3-4). East Asia, Bonoli and Shinkawa argue, will not face the

same severe population ageing by 2040 due to the lower starting point, the one exception being Japan (2005: 3). This does not seem to be correct, however, when the recent trend of extremely low fertility rates in Korea and Taiwan are considered. These patterns of population ageing have a powerful impact on pension reforms as it indicates the fiscal pressure on pension sustainability in the future (Bonoli & Shinkawa, 2005: 3).

The second factor is the institutional structure of pension systems. Bonoli and Shinkawa (2005: 7) argue that a pension's structural design is "a powerful determinant of the kind of pension problems a country has". They explain that each of the three pension types has different pension problems and different possibilities to resolve those problems. First, the social insurance type has a severe sustainability problem due to the PAYG based system. It is the most resistant type to change, according to Bonoli and Shinkawa (2005: 7-9), because of the double payment issue and a strong sense of entitlement. Secondly, the Bismarckian lite type is the least likely to face severe sustainability problems thanks to the small size of the state pension. As its occupational pension and voluntary pension is generally not considered to be the direct responsibility of the state, austerity measures are likely to be taken without electoral punishment (Bonoli & Shinkawa, 2005: 7). Finally, the multi-pillar type has less of a sustainability issue for the first pillar due to the relatively small basic pension. The second pillar is mainly run by the private sector, although people still have a strong sense of rights. As a result, austerity measures are difficult to implement (2005: 7). Bonoli and Shinkawa argue that these two factors – demographic change and pension institutions – interact with each other. They interact and influence pension politics by affecting the logic of pension policy. This eventually leads to pension reforms.

Bonoli and Shinkawa are sceptical about other factors that shape policy change in pensions;

"[t]his is not to say that other variables are unimportant, but they tend to emerge less as systematically related to policy change" (Bonoli & Shinkawa, 2005: 2). They argue that political institutions affect the processes of adopting pension reforms, not the contents of the reforms. For instance, they say that political institutions shape the interactions between actors and facilitate reforms in a given direction by limiting the politically feasible options. This means that political institutions have an impact on pension reforms, but it tells us little about the actual policy measures that countries adopt. Similarly, Bonoli and Shinkawa argue that the political orientation of the government does not systematically influence the macro decisions for pension policy. They conclude in their analysis that there is no evidence for any systematic effects on pension reforms apart from through the two factors of demographic change and institutional structure (Bonoli & Shinkawa, 2005: 2).

Bonoli and Shinkawa (2005)'s findings, however, are insufficient to explain the trend of pension reform that is revealed in this study. As seen in the previous section, the type of pension institution does not account for the variation in pension reform strategies of OECD countries over the last 25 years. Their assertion that demographic factors are influential also does not match with these findings on pension reform strategies. This could be attributed to the fact that their analysis is based on pension reforms before 2000, targeting only 11 countries (France, Germany, Italy, Sweden, Switzerland, the UK, Canada, the USA, Japan, South Korea and Taiwan). Alternatively, we might think of another factor that has affected pension reforms over the last 25 years: poverty in older people. In the following sections, this thesis explores the influence of poverty as one possible additional piece of the jigsaw, which perhaps helps explain those cases that are not fully explained by previous typologies.

Possible additional factor: poverty among older people

The level of poverty among older people might have an impact on shaping pension reforms in addition to demographic change and pension institutions. This idea stems from the context where pensions have been placed in the contemporary welfare states. First, income security systems form the bedrock of welfare states and public pensions were introduced as an essential safety net. This is accepted within the social rights of citizenship, as social citizenship includes "the right to economic welfare and security" as well as "the right to share social heritage and to live the life of a civilized being" (Marshall, 2006: 30). As social citizenship is a core value of welfare states, the damage to social citizenship is regarded as a significant retreat of welfare states (Scruggs, 2007: 139-143). Furthermore, pensions are one of the programmes that can create strong interest groups. As welfare states matured, interest groups linked to social provision have been prominent political actors. They exercise political leverage to convince policy makers that they can take action to reward or punish them (Pierson, 1994: 30). As pensions are contribution-based benefits and enjoy a high degree of legal protection, current and future recipients expect them to be honoured (Clasen, 2005: 93). Therefore, they wield mobilised power as welfare defenders; pension reforms involve an alteration of the existing distributional equilibrium, and potential losers from such reforms are likely to exploit veto points where available to defend their benefits (Pierson, 2001: 305-306, 330-333).

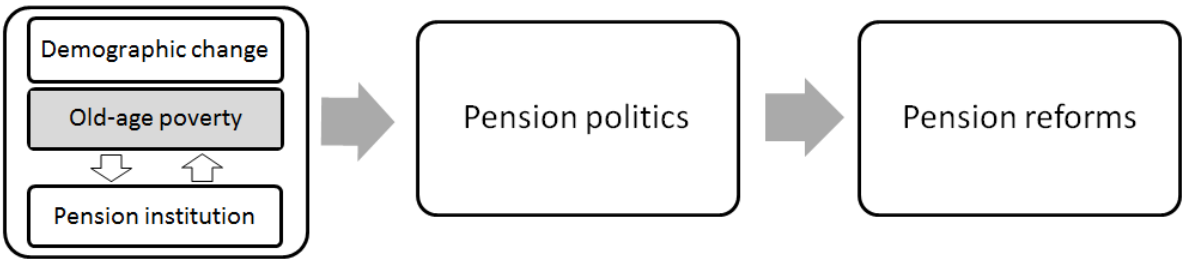
Also, the empirical evidence from Chapter Four implies the link between poverty and pensions. Previously this thesis demonstrated the national variation in poverty using the LIS microdata. This showed a wide range of poverty rates in older populations across countries. For example, the relative poverty rate in the Netherlands was the lowest level (3.2% in 1990), whilst Korea was the highest (41.4% in 2006) out of the 26 countries of the OECD. Also,

when the decrease in poverty rates after social security transfers were compared across countries, they ranged from 13% to 97% in the early 1990s. As addressed in Chapter Four, this indicates the different role of social security systems – mainly pension systems – in each country. Some countries intervene deeply in old-age risks, whilst other countries rely more on individuals to tackle poverty in later life. This empirical evidence from Chapter Four leads us to consider poverty in older people as an additional factor that influences the variation in pension reforms.

In this regard, and building on Bonoli and Shinkawa's (2005) findings, we can expect that the level of poverty in older people plays a role in shaping pension reforms in a particular direction, in addition to population ageing and pension institutions. Different levels of poverty among older people might generate different incentives and pressures for pension politics. When old-age poverty is severe, incentives for pension politics might be generated to expand the pension system and block pension cuts. This may not have a straightforward impact on pension expansion, however, as such demand is constrained by the fiscal concerns of the period. In fact, as seen in Chapter Five, many countries employed targeting strategies rather than a universal approach. Additional benefits or favourable treatment for those on low incomes, carers, or other vulnerable groups are commonly observed in pension reforms over the last 25 years. However, it certainly represents "the emergence of policy objectives unrelated to austerity" (Bonoli & Natali, 2012: 12). It is therefore quite logical to expect that there would be a growing need for *socialisation* in the pension arena when a country has experienced severe poverty rates in older people. On the other hand, if the poverty rates were not severe, the country would not necessarily focus on the *socialisation* of risks but is more likely to adopt *individualisation* when under growing budgetary stress. Previously, Bonoli and Shinkawa (2005: 18) argue that the interplay between population ageing and pension

institutions delineate political confrontation in pension systems. In addition to them, this thesis suggests old-age poverty as another factor that affects pension reforms. It interacts with pension institutions, along with demographic change, to generate pressure and incentives on pension politics. These factors subsequently determine the direction of pension reforms taken by policy change (Bonoli & Shinkawa, 2005: 21) (Figure 7.1 below).

Figure 7.1: Factors that shape pension reforms



Source: Revised by author based on Bonoli and Shinkawa (2005).

There are several studies on the impacts of pension designs and structures on the poverty level in a country (Hong, 2005; Kim, 2000; Korpi & Palme, 1998; Seok, 2010; Whitehouse, 2003; Yamada, 2002). There are also various studies on pension reforms and income inequality (Oshio & Shimizutani, 2005; van Vliet et al., 2012). However, researchers have not explored the specific content of pension reforms in relation to old-age poverty in as much detail. Furthermore, *individualisation* seems to be a more attractive topic than *socialisation* in pension research (Hinrichs, 2000: 84-90). Also, relatively little attention has been paid to poverty rates as a motive for pension reforms. This might be because the causal relationship between poverty and pension reforms is not easy to capture. As there are various factors that affect decision making in the policy arena, and the timing of the introduction of certain reforms varies depending on each circumstance, it is unlikely to be possible to analyse this quantitatively. Alternatively, one might consider qualitative research, but then it would be

limited to small-N. In this context, this thesis attempts a rather simple comparison of poverty among older people and pension reforms. It seems to be intuitive and may not serve as a conclusive empirical evidence that proves the link between poverty and pension reform strategies. However, it possibly shows the 'big picture', as the data used here is highly sophisticated and has rich information. It provides us with a good insight about the link between pension reforms and old-age poverty.

The correlation between poverty and pension reforms

Based on the arguments above, it can be hypothesised that higher poverty rates in people aged 65 and over in the early 1990s has led to more socialisation within pension reforms in the period 1990-2015. This thesis computed the poverty rates of OECD countries in the early 1990s in Chapter Four. Poverty rates for those aged 65 and over – calculated as 50% of the median income using the LIS microdata – has showed wide variation across countries (Table 4.6). The poverty rates are combined here with the country memberships of ideal types from Chapter Six (Figure 6.5). Because of data paucity Portugal and New Zealand are excluded, and poverty rates in Korea and Japan are based on figures in the middle of the 2000s instead of the early 1990s. Nevertheless, as shown in Table 7.2 below, there is a loose relationship between ideal types and poverty rates. The average poverty rates tend to be higher in countries that belong to the *socialisation reform* ideal type (29.4% on average) and the *socialisation-individualisation reform* ideal type (18.3% on average). Compared to these two, the countries in the *stable* type (12.2% on average) and *individualisation reform* ideal type (10.9% on average) show relatively lower poverty rates among older people. Some exceptions are also observed. The poverty rate was relatively high (21.5%) in the USA, but pension reforms did not intensively take place for 25 years for either *socialisation* or *individualisation*. On the contrary, Canada pursued pension reforms for both *socialisation*

and *individualisation*, even though the poverty rates among older population were at a relatively lower level (5.8%).

Table 7.2: Country memberships and poverty rates (1990–2015)

		Old-age poverty rates (early 1990s)	**Average of old-age poverty rates (early 1990s)**
Socialisation	Korea	41.4	29.4
	Ireland	17.3	
Socialisation-individualisation	Greece	27.3	18.3
	Australia	24.2	
	UK	24.1	
	France	14.7	
	Japan	13.6	
	Canada	5.8	
Stable	USA	21.5	12.2
	Norway	14	
	Austria	11.9	
	Luxembourg	11.8	
	Denmark	11	
	Netherland	3.2	
	New Zealand	-	
Individualisation	Italy	15.7	10.9
	Finland	14.1	
	Hungary	13.6	
	Belgium	12.1	
	Spain	12	
	Poland	10.9	
	Germany	10.4	
	Switzerland	8.4	
	Sweden	6.4	
	Czech Republic	5.7	
	Portugal	-	

* Relative poverty rates at 50% of the median income threshold, aged 65 and over.
* Poverty rates in Korea and Japan are based on figures from the mid- 2000s.
* Portugal and New Zealand are not covered in the LIS Microdata.

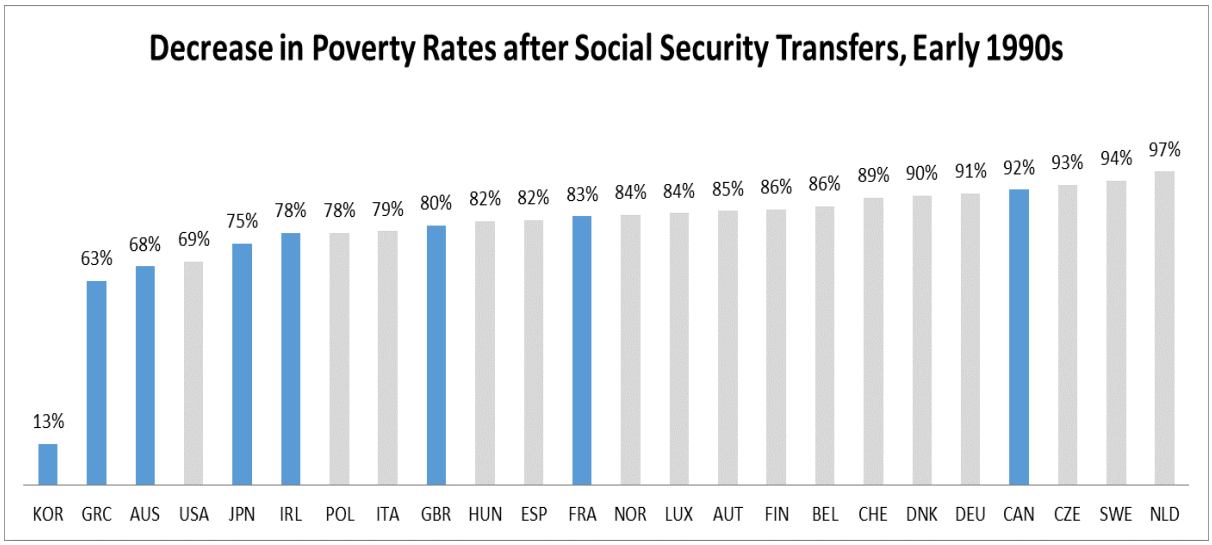
Source: Author based on the LIS Microdata.

This thesis has also showed the size of the effects of social security transfers on poverty in Chapter Four (Figure 4.2). This demonstrated a wide variation across countries. Income security systems – mainly pensions – play a vital role to combating poverty in old age in some countries, whilst they only play an 'assistant' role in others. Figure 7.2 below is the combined result of this data (Figure 4.2) and the country memberships of ideal types (Figure 6.5). For a clear comparison, this thesis eliminated Mexico, the Slovak Republic and Iceland from the original graph. The graph also does not include Portugal and New Zealand, as the LIS microdata does not cover them. The blue bar indicates countries that scored highly in *socialisation*; they belong either to the *socialisation-individualisation reform* ideal type or the *socialisation reform* ideal type. The grey bar indicates countries that scored low in *socialisation*; they belong either to the *individualisation reform* ideal type or the *stable* type. The result is similar to the result on poverty rates above. There is a moderate overall association between the size of the effects of social security transfers and the trend of *socialisation*.

The correlation is relatively clear in the left end and the right half of the graph. It indicates that pension reforms to socialise individual's risks were likely to occur in countries where the social security transfers played a minimal role in combating poverty. On the other hand, those reforms did not intensively take place in countries where social security transfers already played a significant role. The middle part of the graph is a mix of colours, which implies that the association between the two factors is rather vague. Some outliers are also observed; like Table 7.2 above, the USA did not pursue socialisation in pensions even though their social security transfers did not contribute effectively to reducing poverty rates. Poland and Italy are also similar cases. Canada is another anomaly; pension reforms in socialisation intensively took place in Canada even though their pension system functions relatively well

in reducing poverty. These anomalies might indicate the possible influence of other factors that shape pension reforms such as the pattern of demographic change and pension politics.

Figure 7.2: Decrease in poverty rates after social security transfers and the distribution of countries scoring high in *socialisation*



* Countries represented by blue bars scored high in the set of socialisation.

Source: Author based on the LIS microdata.

In summary, as we hypothesised at the beginning, higher poverty rates in people aged 65 and over in the early 1990s led to more socialisation in pension reforms in the period 1990 - 2015. The relationship between the trend and the size of the effects of poverty reduction of social security transfers is also clear; socialisation reforms took place in countries where the size of the poverty reduction effect of income security systems was relatively small in the early 1990s. This result implies that old-age poverty plays a role in shaping pension reforms; when poverty rates in older people are severe, pension reforms are likely to take place to socialise old-age risks. It could be an additional piece that explains pension reform strategies in this era, in addition to demographic change and pension institutions; old-age poverty and

population ageing interact with pension institutions, exerting influence on pension politics which decide the direction of pension reform. As addressed in the previous section, further sophisticated empirical evidence would be required to clearly confirm their relationship. However, despite its limited capabilities, it is still an interesting finding considering that only limited research has paid attention to the aspect of socialisation reforms. In fact, "the term pension reform is increasingly used as a synonym for cuts in old age pension" over the last two decades (Bonoli et al., 2000: 30). To fill the gap in existing knowledge, the following section explores this finding further.

Further analysis

This thesis shed light on socialisation reforms in pensions in the previous chapter. The second fuzzy-set analysis in Chapter Six was based on the three dimensions of the socialisation of risks, based on three empirical indicators*: coverage, adequacy*, and *security of investment*. These three dimensions give us a total of eight ideal types in pension reforms. The outcomes of the fuzzy-set ideal type analysis (Figure 6.12) revealed seven ideal types, as examples of the *adequacy-and-security-focused* reform type were not observed. This means it is a theoretical combination but does not exist in the observed data. The 26 countries were relatively evenly distributed over all the other ideal types. The *stable* type was revealed as the biggest group, with seven membership countries. The *coverage-focused* and *adequacy-focused* types followed with five membership countries. The *coverage-and-adequacy-focused* type has four countries. The *all-inclusive* and *coverage-and-security-focused* type have two countries each. Lastly, the *security-focused* type has only one.

A dominant trend was not identified from the above outcome, but there are three important findings derived from the analysis. First, the outcome of this analysis indicates that the

socialisation of old-age risks has continued despite fiscal austerity. Aside from the seven that belonged to the *stable* type, all countries belonged to other reform types that focused on at least one of the three aspects of socialisation, *coverage*, *adequacy*, and *security of investment*. The majority of OECD countries took reforms to socialise old-age risks at some point over the last 25 years. This finding show that the retrenchment of pension systems does not provide the whole picture. Secondly, the majority of countries made a strategic choice to address urgent concerns rather than comprehensive improvement. There are only two countries that reformed pensions in a comprehensive manner (the *all-inclusive reform* type). Instead, a considerable number of countries chose one or two elements to enhance protection in old-age. This result might indicate the lack of capacity for comprehensive socialisation in most countries for the last 25 years. Seven countries are classified as *stable*, but it should be noted that this does not mean that they did not strengthen old-age protection. It means they pursued reforms, but the intensity of reform was not enough to be classified as 'IN' the sets of socialisation of old-age risks. Thirdly, traditional types of protection received attention rather than new types of protection. Traditionally, *coverage* and benefit *adequacy* are barometers of old-age protection in pensions. On the other hand, *security of investment* is a new type of protection that appeared since circa 1990s. It has been implemented as a countermeasure to the risks of prevalent private pensions. The outcome shows, however, that *security of investment* did not receive much attention for the over the last 25 years. There is only one country that focused on *security of investment.* Instead, the number of countries that focused on *coverage* and *adequacy* (*coverage-focused, adequacy-focused*, and *coverage-and-adequacy-focused* types) was far greater. This result shows that traditional protections were prioritised despite of the growing role of private pensions across countries over the last 25 years.

In light of the case knowledge from Chapter Five, the result seems to reflect each country's practical necessities in pension systems. Previously, this thesis showed the correlation between old-age poverty and socialisation reforms. Countries come under pressure to socialise old-age risks when the poverty level among older people is severe. This then interacts with pension institutions together with the pattern of demographic change, and this in turn affects pension politics. Within this process, countries choose their own strategies to compensate for the weaknesses in their pension institutions, which are responsible for old-age poverty. For example, the coverage of private pensions does not reach 100% in any multi-pillar system (Bonoli & Shinkawa, 2005 13). Thus, multi-pillar countries with high old-age poverty might consider measures for expanding coverage as their strategy to combat poverty. In this way countries seek effective combinations from various measures for *coverage*, *adequacy*, and *security of investment* that complement the weak points in their pension system. As each country's strategy is shaped by the interplay of multiple factors – old-age poverty, ageing patterns, and pension institutions, as well as pension politics – the result is not necessarily associated with a particular welfare regime or pension typology, or even old-age poverty rates.

The case of Japan illustrates this well. Japan belongs to the *coverage-focused* reform type. Japan introduced their mandatory public pensions at an early stage in East Asia (the Employees' Pension in 1940 and the National Pension in 1961) and expanded them as the economy flourished. Pension reforms between the 1960s and the 1980s mostly aimed at socialising old-age risks. However, this favourable situation changed gradually as Japan faced a recession. Furthermore, the pace of population ageing grew faster than in any other country in the OECD due to prolonged increases in life expectancy and a decrease in fertility rates. The old-age dependency ratio was 13.0% in 1975, a moderate level within the OECD,

but had more than doubled by 2000, when it reached 27.6% (OECD, 2015: 159). As a result, pension sustainability has become a major concern. Since the mid-1980s, individualisation reforms have continued, with blame-avoidance strategies becoming repeatedly used (Shinkawa, 2005: 164-174).

In the circumstances, socialisation reforms to improve coverage have appeared. The frequency of *coverage* in Japan reaches 8, far greater than the OECD average, 3.5. First, pension coverage was expanded to reflect the change in society. According to Bonoli and Shinkawa (2005), Japan belongs to the Bismarkian lite type, consisting of a flat-rate basic pension and a moderate earnings-related occupational pension. Despite these pensions being mandatory schemes, both had coverage issues. For the basic pension, the legal coverage is residents aged 20 to 59 regardless of income. However, the participant rate dropped from 84.7% in 1990 to 62.8% in 2012 (MHLW, 2015), as some people – mostly those who did not have withholding obligations from wages, such as self-employed and mature students – increasingly refused to pay contributions. The strict entitlement conditions for benefits and the changing labour market were criticised for these reasons. The basic pension system neither provided benefits nor returned the contributions that people had made if people did not satisfy the qualification criteria within the period. The qualifying period was 25 years and there was a growing number of people who were not expected to meet the conditions due to the increases in atypical jobs and the frequent in-and-out movements of the labour market. In addition, the existing contribution exemption system did not effectively cover low-income people. Low-income earners could claim a non-contributory period so that they could receive benefits without fully satisfying the 25 years. However, it was criticised for its low take-up rate and exposing people to poverty in later life (Kenzoh & Kenzoh, 2004: 114-122). Regarding the earnings-related occupational pension, its coverage was limited to

secure jobs in the private sector. As a result, a growing number of people with irregular jobs were excluded from the second pillar pension. Altogether, the mismatch of the pension systems within the changing society was highlighted as a serious problem. As a result, in response to increasingly flexible labour market, both public pensions extended their coverage to part-time workers. Low-income earners, students, and women on maternity leave were also exempted from contribution payments, or allowed to delay their payments. Most importantly, the basic pension shortened the qualifying period for pension benefits from 25 years to only 10 years. This had a substantial impact on the increase in the number of people qualified for receiving pension benefits. Secondly, the voluntary private pension system was promoted. Japan has eased the conditions to join occupational pensions to promote both DB and DC pensions on top of mandatory public pensions.

It is worth noting that other measures of socialisation – *adequacy* and *security of investment* – were also employed in Japan. Their frequencies were at the average level for the OECD, 4 and 2 for each. When it comes to benefit *adequacy*, a general increase for all pensioners was not preferred due to the pressure of pension sustainability. Instead, favourable treatments for people with low incomes were introduced. For example, the reforms aimed at boosting the pension amount by allowing workers of different categories to make up contribution records retroactively. Another way of socialising the old-age risks was to improve pension *security*. The basic pension and the earnings-related occupational pension were previously managed by a public institution, the Social Insurance Agency (SIA). It was criticised for its inefficiency and incompetence due to the scandal of missing pension records in 2007; the SIA failed to identify nearly 51 million public pension accounts. In addition to the scandal, the falsification of pension records by SIA staff was discovered in 2008. As a result, a non-public independent agency was established in 2010 that replaced the SIA. Also, pension

reforms took place to secure fund management in the 2000s. They especially targeted Employee's Pension Funds (EPFs), the private occupational pension that substitutes benefits from the earnings-related part of public pensions and can provide additional benefits. This was favoured by large employers, but was raising concerns about persistently poor investment returns by the early 2000s. To secure pension funds, a pension reform in 2014 prohibited the establishment of new EPFs, and encouraged existing EPFs to dissolve and convert to other types of pension plans.

In terms of pension politics, these socialisation reforms can be understood as part of a reform package that contained retrenchment measures. Häusermann (2012: 116) notes that combining different types of policy reforms as a package deal is now a necessary condition for retrenchment in continental pension politics. They can be even a combination of reform measures that go in opposite directions. Japanese pension reforms confirm this argument. Japan continued to face rapid population ageing beyond the expected level, and the government repeated retrenchment reforms – cuts in replacement rates, increases to the pension age and contribution rates, etc. – in every actuarial revaluation (Uzuhashi, 2011: 97-99). These repeated retrenchments led to public distrust in the Japanese pension system, showing the limitations of blame-avoidance politics (Shinkawa, 2005: 174-176). As a result, with the landslide election victory for the Democratic Party of Japan in 2009 for the first time in 55 years, the government proposed a structural reform of pension systems. It aimed at consolidating the segmented second pillar pensions into a single earnings-related DB scheme. It also planned to raise consumption tax from 5% to 10% by 2015 (this was recently extended to 2019). It was one of the most fundamental reforms seen in decades. In this instance, a variety of socialisation reforms were introduced as a reform package, "Comprehensive reform of tax and social security". This can be seen as a strategy to

minimise the negative consequences of retrenchment. In short, practical necessity relating to pension institutions and pension politics contributed to the implementation of socialisation reforms under the growing sustainability issue in Japan.

As another example, the UK belongs to the *all-inclusive* reform type. Pension reforms in the UK over the last 25 years span across *coverage, adequacy*, and *security of investment*. However, this is not to say that the UK did not individualise old-age risks in the period. As shown in the previous chapter, the UK pursued pension reforms in both directions. This section aims at highlighting the socialisation aspect in particular. In terms of socialisation the UK is surprising, especially considering that the UK is a model country of the Liberal welfare regime. Contrary to the regime's typical preference for the market, the UK pursued socialisation reforms intensively and inclusively. It is also deviated from the general trend of OECD countries – taking the strategic choice rather than comprehensive approach.

In order to clearly trace the trajectory of pension reforms in the UK over the last 25 years, it is necessary to understand the situation prior to the 1990s. Looking at the demographic factors, the old-age dependency ratio in the UK was at a substantially high level from an early stage. It reached 25.4% in 1975, which was the fourth highest among the 34 OECD countries (OECD, 2015: 159). In line with the increase in the ageing population, pension expenditure was projected to rise significantly in the future, despite ungenerous benefits by international standards (Pierson, 1994: 58). Under these circumstances, the Thatcher premiership in the 1980s proclaimed "the free economy and the strong state" (Gamble, 1994: 38-45). During the 1980s, the Conservative government tried to contain public expenditure by promoting market provision. The rhetoric of individualism, self-reliance, and Victorian virtues were dominant in social policy at this time, replacing Beveridgean values (Clarke,

1987: 189-190; Digby, 1989: 126-131). According to Pierson (1994: 58-64), this trend was reflected in the approach to pensions. First, the Conservative government limited the Basic State Pension through the 1980 Social Security Act. This changed the basis for indexing the benefits; it had been uprated in line with higher prices or earnings, but was changed to be in line with only prices. Secondly, the 1986 Social Security Act lowered the benefit level of State Earnings Related Pension Scheme (SERPS) and promoted private pensions by deregulating private providers instead. The government tried to make private pensions the dominant form of provision for the whole population, rather than just higher earners (Taylor-Gooby, 2005: 116). This policy stance was continued by the New Labour government in the 2000s. After the successive electoral defeats, the Labour party had changed their strategy to embrace middle-class voters (Taylor-Gooby, 2005: 126-127). They abandoned the state pension centred idea and followed the overall trend of the former government; the state pension focused on the poor whilst private pension was encouraged for the rest of the population. Consequently, the benefit level of the basic pension declined and SERPS was phased out. Many occupational pensions have shifted from a DB to a DC scheme, with reduced employers' contributions (Taylor-Gooby, 2005: 124-135). This was not accompanied by an explicit blame-avoidance strategy, according to Taylor-Gooby, due to the weak mobilisation of interest groups and the British constitutional system that allows significant authority to the government (Taylor-Gooby, 2005: 133).

This is not, however, the whole picture of pension reform in the UK. Pension reforms that socialised old-age risks were observed since the 1990s together with individualisation reforms. There may be two explanations. First, the high level of pensioner poverty called the public and politicians' attention to the need to socialise old-age risks. According to the Institute for Fiscal Studies, pensioner poverty increased significantly during the 1980s. It

was about 16% in 1984 and reached 43% in 1989. It then gradually dropped to about 26% by 1998[27] (McGuinness, 2016: 16). Also, as seen in Chapter Four, the UK shows an 80% rate of poverty reduction effects of social security transfers in the early 1990s, and the poverty rate in older people was the fourth highest in 27 OECD countries. It might be difficult to argue that the consistent reform trend that individualised old-age risks since the 1980s was a decisive factor on high poverty among older people, as multiple factors influence the relative poverty rates (Shephard, 2003: 1-4). Nevertheless, pensioner poverty clearly gained attention from political parties. For example, the Labour party's manifesto in 1997 emphasised the need for adequate pensions as "for today's pensioners Conservative policies have created real poverty, growing inequality and widespread insecurity" (Labour party, 1997). The Liberal Democrats also promised "a decent standard of living in your retirement" (Liberal Democrats, 2010). Secondly, several issues raised concerns about the individualisation reforms that had taken place. The pensions mis-selling scandal happened in the early 1990s and the pension policy that allowed the private pension industry to sell personal pensions to individuals without security measures were examples of these issues (Taylor-Gooby, 2005: 124-135). These triggered the need for better regulation to protect pension benefits against investment failure in funded pensions. Also, the '75p pension rise' in 1999 created anger among pensioners' about pension benefits. This was because the September's inflation figure was only 1.1% in 1999, and the pension's uprating had been tied with inflation since the 1980 reform. The Liberal Democrats were critical: "ever since Mrs Thatcher broke the link between pensions and earnings in 1980, successive Labour and Conservative governments have allowed the state pension to decline" (Liberal Democrats,

[27] The poverty rate is at 60% of the median income using data compiled from the Family Resources Survey and Family Expenditure Survey, whilst the poverty rate in Chapter Four was computed at 50% of median income using the LIS microdata.

2010).

Consequently, several socialisation reforms have taken place in the UK since the late 1990s. The UK introduced a series of regulations for the investment of pension funds, such as minimum requirements of solvency on pension funds and annual reporting of assets and liabilities in the 1990s. Compensation schemes for occupational pensions as measures to safeguard pension funds were also implemented. When it comes to *coverage* and benefit *adequacy*, the UK moved towards greater protection that targeted low earners in the 2000s. A state pension credit was introduced. Also, periods of adoption, paternity leave, and caring for family members with disabilities were treated in the same way as normal work in pension histories. The pension triple lock in 2011 is also worth noting. By reversing the indexing reforms of the 1980 Social Security Act, the state pension rises every year by the highest of price inflation, earnings growth or 2.5%. This was promised by the manifesto of Liberal Democrats in the 2010 General Election, and was introduced by the coalition government of the Conservatives and Liberal Democrats. When considering it was a restoration of the uprating rule that was abolished by the Conservative government in the 1980s, it is a meaningful shift for socialisation.

When considering the UK's liberal policy-making tradition, such all-inclusive socialisation reforms over the last 25 years might be surprising. Regarding this point, Bonoli and Shinkawa (2005: 13-14) explain the political chances to claim credit in the multi-pillar system. According to their argument, the second pillar, private pension, attracts policy makers for two reasons. For one, the second pillar pension is relatively free from sustainability issues compared to the first pillar, the PAYG public pension. Also, it has room for expansion as the coverage of private occupational pensions tends to be limited to stable

jobs. In this context, policy makers try to expand the scheme for those who are excluded from the current system as an electoral strategy. They also employ it as political exchange when they pursue retrenchment reforms in the first pillar pension. Bonoli and Shinkawa's argument is partially applicable to the case of the UK. It can be argued that the government utilised socialisation reforms as credit claiming, but it was not limited to the second pillar pension. In the UK, improving *security of investment* was for the second pillar, but expanding *coverage* and *adequacy* were observed in both the first and second pillars. In this way, the UK socialised old-age risks since the late 1990s as countermeasures against earlier changes that had individualised old-age risks in order to alleviate old-age poverty. This may not mean that there has been a fundamental change in policy stance in the UK, but it supports our view that the interplay between poverty and pension institutions might delineate pension reforms.

7.4 Conclusion

This chapter has addressed the findings and their implications. First, pension reforms between 1990 and 2015 reflect the characteristics of the social investment perspective of the time. This can be understood as a diverse configuration of the socialisation and the individualisation of risks. The most dominant trend was *individualisation reform*, whilst the least prevalent trend was *socialisation reform*. Secondly, the trend of pension reforms over the last 25 years did not match with Esping-Andersen's (1990) welfare regimes, Bonoli and Shinkawa's (2005) pension typologies, or Finch et al. (2017)'s social investment typologies. Deterministic path dependence was not observed in pension reforms as reform strategies converged regardless of regimes or pension typologies. Also, the path of pension reform was not consistent in most of countries for the 25 years. Thirdly, this thesis compared the level

of old-age poverty and the trend of pension reforms. Countries with higher poverty rates in people aged 65 and over in the early 1990s tend to pursue more socialisation reforms between 1990 and 2015. The relationship between the size of the effects of poverty reduction of social security transfers and pension reform also showed similar trend. Countries that less effectively decreased old-age poverty through social security programmes in the early 1990s tend to pursue more socialisation reforms for the last 25 years. These findings imply that the level of poverty among older people could be an additional piece that shapes pension-reform strategies in addition to demographic change and pension institutions. Lastly, the configuration of three types of socialisation measures – *coverage, adequacy,* and *security of investment* – did not match with welfare regimes, pension typologies, or old-age poverty rates. Based on case knowledge, this thesis concluded the pension reform strategy in each country reflects a pragmatic mix of reform strategies designed to address the specific old-age poverty risks that have developed in their system.

Goldberg (2002) predicted that the trend of retrenchment will be maintained in the future as welfare states become less popular and less supportive since they are consistently costly. He argues that it will force welfare states to be restructured in the direction of poor-law states, widening the gap between recipient and provider. This thesis, however, identifies contrasting evidence. The trend of individualisation might be continued, but at the same time, the need for the socialisation of old-age risks will be highlighted in the future. As this thesis has examined, the dominant trend of pension reforms for the last 25 years was strengthening individualisation. Furthermore, increased flexible contracts in the labour market will reduce protection further, as more people will not be able to satisfy the long contribution record criteria. This will severely hit social at-risk groups, as they will fall into 'outsiders' in a dualised labour market. These changes together will weaken old-age protection resulting in

increases in old-age poverty and inequality. All things taken together, severe poverty among older people will impose pressure on socialisation reforms in pension systems, just as it has affected pension reforms for the last 25 years. This is in line with Ebbinghaus' (2012: 202) view on the future of pensions; "the retreat of the state from its old-age protection may ironically increase the political pressure for its increased role in securing and regulating old-age income provision". The socialisation of old-age risks will not be easily forsaken in pension systems, despite the continuing prevalence of austerity.

Chapter 8 : Conclusion

Balancing sustainability and adequacy in welfare support is one of the most crucial challenges faced by most contemporary welfare states. In the stylised periodisation of welfare state histories, the eras of the 'golden age' and 'retrenchment' were succeeded by attempts to prevent poverty and unemployment through the expansion of social investment measures. The latter is comprised of multiple policies that have different – at times even contradictory – aims and effects in securing economic participation and high paid jobs. As earlier literature on changing welfare states addresses, social policy at this time often took the form of multi-dimensional reform packages (Bonoli & Natali, 2012: 12) and political exchange and social pacts are common practices within the introduction of reforms (Häusermann, 2012: 116). Due to this complexity, the prevailing terms of 'welfare expansion' and 'welfare retrenchment' are no longer sufficient to reflect welfare dynamics. A new approach is required to analyse the changing dynamics of welfare states beyond a unilinear, single-dimension conception (Kvist, 2007: 200). Reflecting this, this thesis presents two alternative concepts in analysing welfare dynamics in recent decades: the *socialisation* and the *individualisation* of risks. These concepts reflect how social risks are managed in welfare states. Considering that the management of social risks is one of the main functions of welfare states, and that social policy is the public management of social risks (Esping-Andersen, 1999: 36), these concepts are a useful frame that captures the multi-dimensional dynamics of welfare states.

Applying this analytical framework, this thesis focused on pension reforms across the OECD since the 1990s. This particular period of time was chosen because it is an interesting era for

comparative study. It is when the socialisation and individualisation of risks co-existed in many policy areas. Despite it not being associated with one unified body of economic thought or a particular economic crisis (Hemerijck, 2013: 119), this phase is distinctive from the previous eras (Esping-Andersen, 2002; Garland, 2016; Hemerijck, 2013; Jenson, 2012). The spread of the social investment perspective across countries was a factor in the generation of interesting dynamics (Garland, 2016: 128). This period of time has attracted extensive comparative research, but they tend to pay attention to the trend of the individualisation of risks to highlight the change from the previous era of 'embedded liberalism' (Ruggie, 1982). In doing so, the socialisation of risks has received much less attention from contemporary researchers. This gap in the existing literature on welfare dynamics is particularly noticeable in the area of pensions. Pensions are often considered just as a traditional passive income transfer, situated at the end of the spectrum of the social investment approach. This is, however, too simplistic a view regarding the pension dynamics of the time. Social investment is no substitute for pensions, but they are complementary (Hemerijck, 2013: 137). Pension reforms of the time thus reflect multi-dimensional aspects. On the one hand, reducing state responsibility should continue to improve the sustainability of pension systems in an ageing society. On the other hand, further protection is required from the flexible labour market, as pensions are the final safety-net for those not active in the labour market. It can be seen as "the emergence of policy objectives unrelated to austerity" (Bonoli & Natali, 2012: 12).

In this regard, this thesis analysed pension reforms between 1990 and 2015 to understand the trends of pension reform strategies in the OECD. Specifically, this thesis answered four research questions. The first asked: how can we categorise the variety of pension reform

strategies adopted across the OECD since the 1990s? Summarising the answer to this research question is not easy, as it involves several steps. Before commencing, it should be noted again that the reason that attention was paid to the 'categorisation' of pension reform strategies was because it allows researchers systematic comparisons of welfare states, taking advantage of analytical and explanatory parsimony (Esping-Andersen, 1999: 88, 92). Categorising social phenomena using typologies is thus widely employed in comparative research. In this regard, this thesis generated typologies that highlight the variety of pension reform strategies across countries.

Answering the first research question followed three steps. We began with sourcing data, as very few data sources were suitable for this study. Data was required that presented detailed comparative and historical information about pension reforms, and which reflected the changes in the socialisation and individualisation of risks over the last 25 years. Existing data available in *Pensions at a Glance* and *ISSA Country Profiles* was utilised to construct a new dataset. Then, the descriptive data was converted to a continuous form by counting the frequencies of reforms. The second step applied the research method, employing FSITA within the new dataset. FSITA is a relatively recently developed methodology which has received attention from various comparative researchers. It functions as a bridge between variable- and case-oriented studies, taking a configurational approach that recognises social phenomena as combinations of multiple attributes. FSITA was particularly appropriate for this thesis as it is optimised for mid-N cases, and as such was suitable to apply to the OECD country cases in this study. Considering these benefits, this thesis employed FSITA as the research method. The third step analysed the data using FSITA. This step provided the direct answer to the first research question. FSITA provides us ideal types and country

memberships of each ideal type. In doing so, this thesis categorised the variety of pension reform strategies across 26 OECD countries between 1990 and 2015.

This thesis has two streams of empirical analysis. As the first main analysis, we constructed a property space of FSITA based on two concepts, the *socialisation* and *individualisation* of risks. Using these two dimensions, four ideal types of reform trends were identified. They are as follows. First, the *socialisation-individualisation reform* ideal type refers to countries that score highly in both socialisation and individualisation. This means they intensively reformed their pension schemes in both directions; further state protection was provided that externalised old-age risks from individuals to the state, whilst the responsibility for protection was also partly transferred from the state onto individual pensioners, mostly in order to improve the sustainability of pensions. Secondly, the *socialisation reform* ideal type refers to countries that score highly on socialisation but low on individualisation. These countries aimed at increasing government intervention to absorb old-age risks in pension reforms rather than promoting self-responsibility against old-age risks. Thirdly, the *individualisation reform* ideal type refers to countries that score highly on individualisation but low on socialisation. Contrary to the *socialisation reform* type, they facilitated self-responsibility for old-age risks, and treated social protection for old age as less important within their reforms. Lastly, the *stable* ideal type scores low on both socialisation and individualisation, meaning that countries were less active in making pension reforms toward either the socialisation or the individualisation of risks.

The first categorisation of pension reform strategies was followed by the second empirical analysis, the variety of pension reform strategies for the socialisation of risks. This thesis

argued that the socialisation of risks in pension reforms received less attention in earlier literature due to the principle academic focus that addressed how welfare states manage to improve pension sustainability. In order to fill the gap in the literature, this study categorised welfare states based on three elements of the socialisation of risks, *coverage, adequacy*, and *security of investment*. These three dimensions generated eight ideal types. First, the *all-inclusive* reform type refers to countries that scored highly on all three dimensions. These countries inclusively employed three types of measures to socialise old-age risks in pension reforms. Then there are countries that scored highly on only two dimensions. The *coverage-and-adequacy-focused* reform type refers to countries that placed importance on improving the *coverage* and *adequacy* of pensions, but focused less on the *security of investment* in socialising old-age risks. Similarly, the *adequacy-and-security-focused* reform type refers to countries that employed strategies to improve *adequacy* and *security of investment*, but not for *coverage*. The *coverage-and-security-focused* reform type refers to countries that gave priority to *coverage* and *security of investment* over *adequacy*. On the other hand, some countries only scored highly on one dimension. The *coverage-focused* reform type refers to countries that exclusively focused on improving pension coverage among their reform strategies. The *adequacy-focused* reform type refers to countries that pursued reforms that improved pension adequacy. The *security-focused* reform type refers to countries that almost exclusively focused on *security of investment*. Lastly, the *stable* type refers to countries that scored low on all three dimensions. These countries did not show a particular emphasis on any strategies for the socialisation of risks in pension reforms.

Let us move on to the second research question: what are the trends in pension reforms among OECD countries since the 1990s? This thesis answered this question by reflecting on

the previous two fuzzy-set ideal type analyses. First, this thesis addressed the trends in the overall pension reforms across countries. Previously four ideal types of pension reforms were identified using two dimensions; the socialisation and individualisation of risks. The results from the FSITA empirically confirmed all four ideal types. They revealed that the dominant reform type over the last 25 years is *individualisation reform*. It has 11 membership countries making it the biggest group: Belgium, the Czech Republic, Germany, Finland, Hungary, Italy, Poland, Portugal, Spain, Sweden, and Switzerland. Such high commitment to the individualisation of old-age risks is in line with various earlier studies that argued the retreat of old-age protection under austerity (Bonoli, George, & Taylor-Gooby, 2000; Bonoli & Shinkawa, 2005; Ebbinghaus, 2005; 2012; Goldberg, 2002; Scruggs, 2007). It reflects the prevailing pressure for fiscal austerity. The thesis empirically confirmed this trend even in cases like Germany, where the pension system was projected to be economically unsustainable at an early stage.

The second most common reform type is the *stable* type. It has seven membership countries: Austria, Denmark, Luxembourg, the Netherlands, New Zealand, Norway and the USA. This means that more than a quarter of the countries in the study showed a significantly lower frequency of reforms, to the extent that they could not be categorised into any of the other ideal types. It is a surprising result when the fluctuations of the world economy and dynamic changes in societies over the last decades are considered. The reason that these countries did not intensively engage in pension reforms might stem from two possibilities; pension reforms were not a primary concern, or pension reforms were required but discouraged by pension politics. This thesis highlighted the former case using a short case study on the Netherlands.

Meanwhile, socialisation received less attention in pension reforms over the last 25 years. It was less common to undertake intensive reforms in both socialisation and individualisation at the same time. The *socialisation-individualisation* reform type has six membership countries: Australia, Canada, France, Greece, Japan and the UK. Also, the *socialisation* reform type has only two membership countries: Korea and Ireland. The reason that it was the least preferred reform type might be in line with the fiscal pressures of public finance and the politics of welfare austerity. Taking into consideration the growing budgetary stress in many countries, countries would have had particular reasons to strengthen old-age protection. This thesis argued that it might be related to their 'starting point'; countries that did not sufficiently socialise old-age risks in the beginning of the 1990s might have a strong motivation to improve pension protection since then, whilst countries that highly socialised old-age risks in the beginning of the 1990s might feel less urgency to socialise pension systems further in the following fiscal austerity. This thesis shed lights on the case of Korea as an example.

As a second empirical analysis, this thesis delineated the trends in socialisation reforms across countries. Previously eight ideal types were generated from the three dimensions of the socialisation of old-age risks, *coverage, adequacy*, and *security of investment*. The results from the FSITA confirmed only seven ideal types out of the eight; the *adequacy-and-security-focused* type was not empirically observed in this thesis. This means that the *adequacy-and-security-focused* type is a theoretical combination but does not exist in the data generated from *Pensions at a Glance* and *ISSA Country Profiles.* However, the empirical analysis showed a relatively even distribution of country membership between the

other seven ideal types. The *stable* type formed the biggest group, with seven member countries. Meanwhile, the *security-focused* reform type was the least common, with only one member country. The other ideal types had between two and five member countries.

Consequently, this thesis did not find any particular dominant trend in socialisation reforms across countries over the last 25 years. Nevertheless, three interesting findings were delineated from the empirical results. Firstly, the trend of the socialisation of risks has continued in most countries during the period. As addressed above, this thesis revealed that the *stable* type has seven membership countries, forming the biggest group among the eight. This means, however, that the other 19 countries strengthened government protection within their pension systems, using at least one of the three measures (*coverage*, *adequacy*, and *security of investment*). It is an interesting finding as it shows that retrenchment does not represent the whole story of the period. The result indicates that socialising old-age risks through pension reforms was quite a common practice across countries, despite the prevailing pressure for fiscal austerity over the last 25 years. Secondly, the empirical result shows that making a strategic choice was much more common rather than pursuing comprehensive improvement. For example, the *all-inclusive* reform type has only two membership countries; the UK and Ireland. The remaining countries belong to other reform types, which represent the configuration of one or two measures. This result might be indicative of limited capacity in the socialisation of old-age risks through pension systems, due to fiscal pressure. This pressure might lead the majority of countries to focus on a pragmatic mix of reform strategies that target issues specific to each country, rather than comprehensive improvement. Lastly, this thesis revealed that the traditional types of protection – improving pension *coverage* and *adequacy* – were preferred over the new type

of protection, *security of investment*. With the increase in private pensions, the need for security of investments in pension funds has gained attention since the 1990s. Nevertheless, the empirical result showed that the *security-focused* type has only one membership country, the USA, and the *coverage-and-security-focused* type has two countries. As addressed earlier, the *adequacy-and-security-focused* type was not observed in this data. This indicates that the traditional types of protection are still dominant in the socialisation of old-age risks in pension reforms. Regarding the analysis of the trends in the socialisation of risks, this thesis provided case commentaries of Korea, Japan, and the UK to support the empirical evidence.

The third research question asked how pension reform strategies compare with existing welfare and pension typologies. To answer this question, earlier literature on welfare regimes and pension typologies was explored. For the former, Esping-Andersen's (1990) *Three Worlds of Welfare Capitalism* and the related issues were intensively examined. After exploring the discourse for the Mediterranean, Antipodes, and East Asian models, this thesis reached the conclusion that focusing on the explanatory parsimony rather than accuracy would bring greater benefits in analysing the trends in pension reforms. For the latter, we critically examined the traditional dichotomy of Beveridgean and Bismarckian pension systems, as well as Bonoli's (2003), Hinrichs's (2001) and Bonoli and Shinkawa's (2005) typologies. After examining each typology's benefits and downsides in comparative study on pension reforms, this thesis chose Bonoli and Shinkawa's (2005) pension typologies in comparison with the pension reform strategies of this thesis, because they have better explanatory capacity beyond a simple dichotomy, and wider coverage of countries.

In this regard, this thesis compared the result of the FSITA of the pension reform strategies with Esping-Andersen's (1990) welfare regimes, Finch et al.'s (2017) social investment typology and Bonoli and Shinkawa's (2005) pension typologies. First, the result of the FSITA on pension reforms did not match with Esping-Andersen's (1990) welfare regimes. Any clear relationship between the reform typologies – *socialisation-individualisation reform, socialisation reform, individualisation reform, and stable* – and the welfare regimes – Liberal, Conservative, and Social Democratic – was not confirmed. Similarly, this thesis found no clear relationship between the reform typologies and four social investment models. Also, no systematic relationship was discovered between the reform typologies and the pension typologies – social insurance, multi-pillar, and Bismarkian lite. These comparisons are partial results, as all of three existing typologies did not classify all 26 OECD countries. Esping-Andersen (1990; 1999) examined 19 countries, while Bonoli and Shinkawa (2005) categorised only 11 countries. Nevertheless, it was clear that the trends in pension reform strategies did not match with the regime characteristics or the institutional designs of pension systems. Rather, this thesis found general trends in pension reforms regardless of welfare models or pension typologies. *Individualisation reforms* were the most dominant trend and *socialisation reforms* were the least prevalent trend. In other words, the trends in pension reforms converged towards *individualisation* across welfare models and pension typologies for the last 25 years.

These results led to the issue of path-development. In this thesis, path-deviance was observed in two ways. First, the reform strategies showed the general convergence regardless of regimes and pension typologies as addressed above. Also, going back to the first empirical analysis on the trends in pension reform strategies, we witnessed clear shifts in most

countries from the first period (1990-2003) to the second period (2004-2015). According to the FSITA results, only one third of the 26 countries kept to the same strategy throughout the whole period from 1990 to 2015. The other two thirds changed their focus in pension reform. This thesis revealed that some countries even shifted to the opposite direction, such as a shift from the *socialisation-individualisation* reform type to the *stable* type. Such discontinuity of reform strategies in each country is another form of path-deviance observed in this thesis. These results are in line with the 'opened approach' of path-dependence (Ebbinghaus, 2005; Streeck & Thelen, 2005). According to this approach, path-development is not necessarily associated with critical junctures; policies can be gradually and incrementally developed without path-breaking. The case commentary on the UK in this thesis supports this view; the UK showed path *departure* (Ebbinghaus, 2005: 17) in pension reforms in terms of the shift from the trend of individualisation throughout the 1980s to socialisation in the early 1990s. Such path departure does not mean, however, a convergence in welfare regimes or pension institutions. This thesis addressed the converging trend in pension reform strategies, specifically the convergence in input (legislation) rather than output (the effect of legislation) in pensions. In this sense, the results from the FSITA are limited to reform trends, and regime specific characteristics or pension institutions can be maintained despite the converging trend in pension reforms.

These findings on the trends in pension reforms and comparisons with existing welfare and pension typologies lead us to the final research question: how can we explain reform pathways found across OECD countries? We explored the underlying mechanism of pension reforms in the contextual part of the thesis. Particular attention was paid to Bonoli and Shinkawa's (2005) findings on factors that shape pension reforms. They introduced three

pension typologies – social insurance, multi-pillar, and Bismarkian lite – that were employed in the previous research question. Using these pension typologies, they examined 11 countries and found two factors that best explain pension reforms: the pattern of population ageing and the institutional design of pension systems (Bonoli & Shinkawa, 2005: 3-9). They argued that countries have different paces of population ageing depending on region and have different issues and opportunities to solve these problems, depending on the pension type. As a result, the interplay between population ageing and pension institutions delineate political confrontations in pension systems (Bonoli & Shinkawa, 2005: 18). They were sceptical about other factors shaping pension reforms. They argued that their analysis did not find any systematic effect on pension reforms except for these two factors (Bonoli & Shinkawa, 2005: 2).

Their findings, however, did not fully explain the result from FSITA in this thesis. As addressed in the previous research question, the institutional design of pension systems did not account for the variation in pension reform strategies of OECD countries over the last 25 years. The regional characteristics in population ageing also did not match with the trend in pension reforms. This might be because Bonoli and Shinkawa's analysis was on pension reforms before 2000, targeting only 11 countries. To fill the gap in earlier studies, this thesis suggested an additional factor that affected pension reforms over the last 25 years: poverty in older people. Considering the status of pensions in contemporary welfare states, reforming them is not easy. We expect countries would have had strong incentives and pressures within pension politics. Based on the evidence from the LIS microdata in the contextual section, this thesis argued that poverty in older people affected pension reforms across countries over the last 25 years. It could be an additional piece that fill the gap between existing typologies

and the result from FSITA in this thesis, in addition to demographic considerations and the institutional design of pension systems. Poverty in older people interacts with pension institutions along with demographic changes to generate pressure and incentives within pension politics. These factors subsequently determine the direction of pension reforms taken by policy makers (Bonoli & Shinkawa, 2005: 21).

This thesis consequently hypothesised that higher poverty rates in people aged 65 and over in the early 1990s has led to more socialisation in pension reforms in the period 1990 -2015. There would be a growing need for *socialisation* in pensions when the country experienced severe poverty rates in older people. Meanwhile, if the poverty rates in older populations were not severe, the country would not necessarily focus on *socialisation* but *individualisation* under the prevailing fiscal pressure. In order to verify this hypothesis, we employed the data on poverty rates computed in the contextual analysis in this thesis. The poverty rates were calculated as 50% of median income using LIS Microdata for those aged 65 and over. We combined the data with the result from the FSITA, the trends in reform strategies. As a result, this thesis confirmed a loose relationship between ideal types and poverty rates. The average poverty rates tend to be higher in countries that belong to the *socialisation reform* ideal type (29.4% on average) and the *socialisation-individualisation reform* ideal type (18.3% on average). Compared to them, those in the *stable* type (12.2% in average) and *individualisation reform* ideal type (10.9% in average) show relatively lower poverty rates among older people. Some exceptions are also observed such as the USA and Canada, but the overall relationship was clearly confirmed. The trend was similarly observed in the comparison with poverty rates and the size of the effects of social security transfers on poverty. Socialisation reforms were more likely to be pursued in countries where social

security transfers played a relatively insignificant role in reducing poverty in older people in the early 1990s. On the contrary, socialisation reforms were less common in countries that had substantive social security transfers in the early 1990s. These results imply the influence of old-age poverty in shaping pension reforms. Poverty levels in older populations can be considered as an additional piece of jigsaw that clarifies those cases that are not adequately explained by welfare regime, social investment, and pension typologies. It should be mentioned, however, that the impact of old-age poverty on pension reforms is not fully investigated in this thesis. More dedicated empirical study is required to reach the conclusion that it is a conclusive factor that shapes pension reforms in addition to demographic changes and pension institutions.

By answering these four research questions, this thesis contributes to the existing knowledge on pension reform strategies across OECD countries since the 1990s. It paid attention to how welfare states manage social risks and identified four ideal types of pension reform strategies using FSITA. The result from the FSITA largely confirmed one of the key findings of earlier literature on pension reforms of the era; individualisation reforms were the most dominant trend over the last 25 years. This thesis, however, also revealed that this did not tell the whole story. The socialisation of risks through pension reforms has been continued despite prevailing fiscal pressure. Stability in pension reforms was also commonly observed in many countries. With these findings from the FSITA, the finding of the influence of poverty in older populations on pension reforms demonstrates a new picture in the time of austerity; it was not a simple era of retrenchment. Also, it was neither permanent austerity nor a frozen landscape. Despite the dominant trend of individualisation, socialisation reforms took place when a growing need for social protection was recognised. By demonstrating the co-

existence of the socialisation and individualisation of risks in pension reforms in the challenging period, this thesis contributed to a better understanding of the welfare dynamics of the era.

Also, this thesis made methodological contributions by constructing new dataset and employing FSITA on pension reform strategies. The dataset generated in this thesis is very rare to find elsewhere in terms of its coverage of nations, the period, and the variety of contents. In addition, by coding the dataset, this thesis showed how to effectively compare the data across countries. Employing FSITA in analysing pension reforms was also a new attempt. FSITA has been widely employed in many comparative researches since the 2000s, but most of them focused on other programmes such as unemployment benefits and family policies or welfare states as a whole. This thesis broadened the scope of the comparative research with FSITA by demonstrating the analysis on pension reforms. With the dataset introduced in this thesis, it can serve as an example for further comparative studies using FSITA.

Nevertheless, this thesis has limitations. It analysed the trends in pension reform strategies using frequencies of six categories of raw data. The frequencies are regarded as a proxy for the reform intensity of each country. Frequencies, however, may not show a clear association between reforms and their significance. As was addressed in the empirical part of this thesis, it is possible that countries with a low frequency of reforms actually pursued pension reforms that had a significant impact on old-age risks. Therefore, we should be cautious when interpreting the result. The fuzzy membership in this thesis provides information of each

country's 'actions' in specific directions, but not on the effects of the reforms nor their significance. To mitigate this limitation, case commentaries on ideal types were added. For example, the case of Germany was explored for the *individualisation reform* type, the Netherlands for the *stable* type, and Korea for the *socialisation reform* type in the first analysis. Also, Japan was considered as an example of the *coverage-focused* reform type, and the UK for the *all-inclusive* reform type in the second analysis. In doing so, we complemented the limitations of using frequencies as a proxy for reform intensity. They allowed us to grasp clearer picture of reforms with the results of fuzzy membership.

Also, the limited coverage of countries and the periods of time are other limitations of this thesis. This limitation stems from the secondary data sources employed for the analysis. In the main empirical analysis, the dataset was generated based on two international datasets, *Pensions at a Glance* and *ISSA Country Profiles*. As *Pensions at a Glance* only provided information on reforms after each country joined the OECD, a few countries were not fully covered. Furthermore, *Pensions at a Glance 2007* provided some of the data as a big chunk, from 1990 to 2003, so this thesis could not break it down further. As a result, this study divided the whole data into almost halves – 1990 to 2003 and 2004 to 2015 – and then analysed the trends in pension reforms. This was sufficient to capture the big changes in path development over the last 25 years, but a more accurate picture could have been captured if the data had been divided further. Similarly, the LIS microdata that was used to compute poverty has limitations. As the dataset does not have data on incomes in the early 1990s for certain countries such as Japan, Korea, and Greece, the study used data from 2006, 2008 and 1995 for each instead. Also, New Zealand was not covered by the LIS microdata at all. Such problems might be inevitable when secondary data is used to analyse trends in pension

reforms strategies, but more accurate results could have been provided if the paucity of data could have been overcome.

The limitations in this thesis lead us on to future research. This thesis provided the groundwork to understanding pension reform strategies across OECD countries since the 1990s. It suggested new concepts that reflect the new dynamics of current welfare states as well as a new dataset that outlines substantive comparable reform data. Building on the findings of this thesis, the research model can be elaborated for analysing pension reforms in future studies. First, further case studies would complement the results from the FSITA. By expanding the case commentary in this thesis, it would be possible to get better a understanding of the characteristics of each ideal type and the underlying mechanisms of their dynamics. This would be a particular benefit in understanding the relationship between poverty and pension reforms in more depth. This thesis verified the relationship between poverty in older populations and socialisation reforms, but its interplay with other factors – demographic change and pension institutions – was not comprehensively addressed as it was beyond the scope of this study. Verifying these factors could be the next step to complement the findings of this thesis. As addressed in this study, the causal relationship between poverty and pension systems is difficult to detect in empirical analysis. Therefore, it would require a qualitative research programme to fill this gap in knowledge and understand the mechanisms of pension reforms. Lastly, it is necessary to highlight the great potential of the dataset introduced in this thesis. It provided comparative data that includes highly sophisticated information on pension reforms over the last 25 years. The dataset should be updated in line with new releases of *Pensions at a Glance* and *ISSA Country Profiles*. With the dataset, it would be possible to conduct inclusive comparative studies that trace policy changes in

pension continuously. In doing so, it would allow researchers to discover new findings in pension schemes across countries.

The last 25 years were an interesting period of time for pension dynamics across OECD countries. It was far from a favourable situation for pension systems. Pressure for fiscal austerity continued in most welfare states and the social investment approach, the dominant discourse of the time, seemed to emphasise activation policies instead of passive traditional protection. When it comes to pensions, population ageing was an additional burden to the system. It might be a natural consequence that the most common issue for pensions was fiscal and financial sustainability. Earlier literature tends to focus on the sustainability of pension systems, frequently adapted retrenchment measures, and the politics of pension retrenchment. The thesis, however, broadened the perspective towards pension dynamics of the time. It not only empirically confirmed the dominant trend of individualisation in pension reforms, but also revealed the substantive trend of socialisation reforms across countries. The socialisation reforms continued in the time of austerity, especially in countries where poverty among the older population was severe. These findings provide insights for the future of pension systems. Considering continuous austerity measures and increasingly flexible labour markets in welfare states, the need for the socialisation of old-age risks will not decline. This will continue to facilitate the trend of socialisation reforms in pensions unless poverty among older people is successfully alleviated, despite of continuing austerity and the social investment approach to social policies across OECD countries. Therefore, the co-existing trend of socialisation and individualisation in pension dynamics needs to be highlighted further in future studies.

Appendix 1

The following table is the dataset the thesis utilised for the empirical analysis. The thesis generated a new dataset in order to trace the trend of pension reform strategies between 1990 and 2015 across OECD members. In Chapter Five, we utilised existing data available in *Pensions at a Glance* and *ISSA Country Profiles* to maximise the benefits of both data sources. Due to limited space, the thesis provides the full version of the final data as appendix. Different colours in the table indicate the original sources of the data. For example, blue colour is the data from *Pension at a glance* 2007 (OECD: pp.58-60), brown colour is the data from *Pension at a glance* 2009 (OECD: pp.90-94), yellow colour is the data from *Pension at a glance* 2013 (OECD: pp.27-40), green colour is the data from *Pension at a glance* 2015 (OECD: pp.34-43), and finally, red colour indicates the data from ISSA Country Profiles from 1995 to 2014.

Country	Coverage	Adequacy	Financial and Fiscal Sustainability	Economic Efficiency	Administrative Efficiency	Diversifi-cation	Security	Other

Australia	Mandatory DC scheme introduced in addition to public pension. Lower withdrawal rate for income test in the public pension. Employees allowed splitting pension plan contribution with spouse to broaden accessibility of superannuation (2006). Lower deduction from mean-tested benefit entitlement for financial assets, from 7.8% of value to 3.9%, to promote voluntary saving.	Saving bonus for older Australians; one-off payment of AUD 1,000 to people 60 years of age and older and AUD 2,000 to people 55 years of age and older (2000). One-off payment of AUD 1 400 to single pensioners and AUD 2 100 to couples (Dec. 2008) as part of economic-stimulus package.	Through annuity calculation in DC scheme. Increased superannuation taxes on contributions for high earners and raised threshold for tax free contributions by older workers. Effective from 2013. Pension contribution rate increased gradually from 9% of basic wages to	Pension age for women rising from 60 to 65. Increase from 55 to 60 in age to access private pensions. New lump-sum bonus for deferring public pension. Increase in pension age from 65 to 67 in 2017-23. Abolition of age limit (70 years) for private pension compulsory contribution (2013). From July 2013, retirement age for women born between 1 January 1949 and 30 June 1952 has increased to 65 years. New, more generous work bonus to Age Pension recipients introduced in July 2011 that replaces the (now closed) Pension	New clearing house for firms with < 20 workers from July 2010; measures to cut charges for DC pensions by 40% (December 2010). New "MySuper" – simple, cost-effective DC product, which commenced in July 2013 and will cover new default contributions as of 1 January 2014. The minimum obligation required by employers is set to increase to 12% gradually from 2013 to 2020. New "SuperStream" reform package to improve management of Superannuation schemes and consolidation of multiple accounts	Choice of pension provider in mandatory DC scheme.	Future fund established to prefund benefits of public sector employees. Aim to achieve full funding by 2020.	Introduction of a new Pension Supplement, which combines the GST Supplement, Pharmaceutical Allowance, Utilities Allowance and Internet rate of Telephone Allowance and of a Senior Supplement. Enhancements to Advance Payment for pensioners from 1 July 2010 with an increase in the amount of pension that can be advanced and multiple advances made each year. Carer Supplement for Carer Payment and Carer Allowance recipients and an increase for Carer Allowance recipients.

		Mandatory DC contributions will increase from 9% to 12% between 2013 and 2020 (2013 reform). Increase in targeted benefits (Age Pension) of 12% for single pensioners and 3% for couples from September 2009. The increase in the single person's rate is 66.3% of a couple's.	12% in 2013-20 (2013 reform). Decrease of 50% in both the government maximum entitlement and contribution to private pension schemes of low-earners employees (2013). The assets test in the Age Pension is rebalanced from Jan. 2017. The benefit	Bonus Scheme. Phase-out of mature age workers tax offset – from 1 July 2012, this offset is only available to people born before 1 July 1957. Superannuation changes; increased age limit for contribution and the tax deduction limit for self-employed (2002). New rules to facilitate the transition to retirement; access superannuation benefits without having to retire (2005). Restart Wage Subsidy Program commenced 1 July 2014, replacing the seniors Employment Incentive Payment and	from 2011. In 2014 MySuper products replaced default superannuation products for all new accounts and all existing default balances will have to be transferred into a MySuper account by 1 July 2017. The SuperStream project will establish mandatory, uniform e-commerce standards for contributions to superannuation funds and for transfers between funds ("rollovers"). Implementation will be complete by the end of 2015-16.			

		New indexation arrangements for the base pension (since March 2010). The benchmark for single pensioners increased from 25% to 27.7% of Male Total Average Weekly Earnings (41.76% for retired couples). Changes to the income test for earnings-related benefits (September 2009). Tax	will become more targeted but also more generous. The overall effect is estimated create savings for the Treasury.	Mature Aged Worker Tax Offset.				

		bonus of up to AUD 900 for eligible taxpayers in 2009, as part of Nation Building Economic Stimulus Plan. Mandatory DC contributions increased from 9% to 9.5% from July 2014. The contribution rate will remain at 9.5% until July 2021 and reach 12% by July 2025. General concessional contributions cap indexes to						

		AUS 30 000 from July 2014.						

Austria	New option for persons employed to an insignificant degree to insure themselves under the statutory pension (1998). Lower minimum contributions for young entrepreneurs. Greater credits for bringing up children (1998). New system of externally funded severance pay (2002). Extension of state payment of pension contributions for family carers to	Continued insurance carers at favourable rates (1998, 2005). Tax-efficient old age provision through supplementary insurance (1999). Better protection against poverty; standardized minimum benefits (2007). One-off lump-sum payments to lower-income pensioners (2010).	Best 15 years to 40 years. Reduction in accrual rate. Less generous indexation for higher pensions. Only monthly pensions of up to EUR 2 000 were fully indexed in 2011.	Early retirement age increased by 1.5 years. Pension corridor between 62 and 65. Pension ages for women aligned with those of men. Benefit reduction for early retirement introduced and set to increase. Tighter access to early retirement. Easing requirements for flexible pension to make people remain employed at least				

	lower-level long-term care benefits (from January 2009). Two new types of benefits from DC plans created with a view to increasing pension options to so as to supplement the public pension system (2012).			partially (1998). For cohorts born 1955 and later the early retirement penalty will increase from 4.2% to 5.1% (max. of 15.3%).				

Belgium	Strengthening complementary (the second-pillar) pension system (2002).	A guaranteed income for elderly persons introduced (2002). Increase in minimum pensions additional to standard indexation.	Contribution condition for early retirement at 60 tightened.	Pension bonus for workers above age 62. Different accounting for work and credit periods. Fiscal incentive to take-up private pensions only at standard pension age. Social security contribution exemptions and employment allowance used to increase employment (2002). Increase in earned income ceilings for pensioners (2003).		Adoption of "prudent person" rule for portfolio allocation of private pensions.		

				Increase in pre-pension eligibility age from 58 to 60 between 2008 and 2012. Abolition of social security tax exemption for sabbatical leave under the “time-credit” programme. Tighter job-search requirements before older unemployed eligible for early retirement benefits. Legal pension age for women increased to 65 in January 2009				

				aligned with that for men. Since January 2013, age limit for early (old age) retirement benefit is 60.5 (instead of 60) + 38 years of service. These requirements will increase to 62 + 40 years in 2016. Discouragement of employer's use of early retirement schemes by increasing the contribution rate for participating employers (effective from April				

				2010). The measure aims at preventing employers relying too early or too much on this system to dismiss older workers. The government recently announced a gradual increase in the pensionable age to 67 by 2030, a link to life expectancy thereafter, a one-year increase in the early retirement age, the further tightening of the unemploym ent exit pathway,				

				the abolition of lower retirement ages in some special regimes (such as for the policemen).				

Canada	Extension of the right to partition of earnings and partition of pension benefits to de facto spouses (1998). Pensions for same-sex survivors (2005). Introduction of a new voluntary retirement savings plan (called Pooled Registered Pension Plan) that is expected to increase coverage in the federal jurisdiction (2012), in Alberta (2013) and in	Government commits to increasing benefits for low-income seniors (2005). Law to provide temporary assistance to defined benefit plans approved (2005). Increase of the general drop-out provision for the Canada Pension Plan to exclude 17% (from 16%) of the contributory period of low earnings from the benefit calculation in 2014.	Pre-funding of earnings-related plan. Increased contribution rates for Canada Pension Plan (1996, 1998). The administration of disability benefits has been tightened (1998). Québec pension plan increased contribution rates (1998). Increase (2011) of the contribution rate for Quebec's public contribution second-tier programme (the Quebec Pension Plan) (funded equally by employers and employees) from 9.9% in 2011 to 10.8% in 2017. As of 2018, an automatic mechanism will be implemented to ensure stable plan funding. Contribution rate	Québec to encourage phased retirement (1997). In the public contributory programmes (Canada/Quebec Pension Plan), increase accrual rate from 0.5% per month to 0.7% for workers who delay retirement up to 5 years after the retirement age (65), to a maximum of 36%. For early pension take-up (age 60 to 65), pensions are reduced	Greater administrative independence for the Quebec Pension Plan (2003). Starting in 2013, a proactive enrolment regime for Old Age Security benefits is being implemented, which reduces the burden on seniors to apply for benefits and reduces administrative costs.	The reserve fund will be invested in a diversified portfolio (1998). Relaxation of limits on foreign investments. Introduction of new voluntary retirement savings plans (the Pooled Registered Pension Plans), in industries and territories under federal jurisdiction (2012), as well as in Alberta (2013) and Saskatchewan (2013). Other provinces	The fund will be managed by a new CPP Investment Board, acting at arm's length from government (1998). Transfer of remaining pension plan assets to Investment Board in progress (2005). Pension Investment Board pursues more activist role (2006). The Quebec government takes over the	

	Saskatchewan (2013). Proposal (2013) to auto-enrol (with possibility to opt-out) all employees of employer with five employees or more in Quebec into a new voluntary retirement savings plan (called the Voluntary Retirement Savings Plan) (2013). A new voluntary retirement savings plan (Pooled Registered Pension Plan,		for the Quebec Pension Plan is increasing from 10.2% in 2013 to 10.35% in 2014and 10.5% in 2015.	at a rate of 0.6% per month instead of 0.5%. People over 60 are now able to collect CPP benefits and work. As well, the Post-Retirement Benefit was introduced for individuals who work while receiving CPP benefits. Contributions are mandatory for people under 65 and optional from 65 to 70. The CPP requirement to stop working or		are expected to pass similar legislation.	pension plans of companies that go bankrupt from January 2009 to January 2012, and manage them for five years. The government will guarantee that pensions will be at least equal to the reduced pensions that would have been payable upon termination of the pension plans.	

	PRPP), based on auto-enrolment of employees working for an employer who opted in has been introduced in sectors under federal jurisdictions. In 2014 British Columbia and Nova Scotia where added to this group, while legislation was adopted in Ontario in 2015. The Quebec version of PRPPs was adopted in Dec. 2013.			reduce income to become eligible for an early retirement pension was eliminated.				

	Legislation creating the Ontario Retirement Pension Plan (ORPP) was adopted in April 2015, which will introduce a new mandatory pension scheme for Ontario employers and employees not participating in a DB and some DC plans (starting in 2017).							

Chile	Creation of a basic old-age pension (2008). Last phase of incorporating 60% of the poorest elderly people into the first-pillar solidarity pension system (SPS) began in July 2011. New rules for employer-sponsored voluntary private pension arrangements (APVC) to incentivise adhesion (2011). State to provide annual	Severance Insurance in operation (2002). Additional supplement for women for every child conceived or adopted (2008). Healthcare contribution for low-income pensioners abolished and reduced for middle-to-high income retirees (2011). From 2010, new way of measuring poverty, which includes modified definition of family and per capita income and use of			New Modelo plan won contract to manage DC accounts for new entrants 2010-12: fees 24% lower than existing average; also won 2012-14 contracts with 30% lower fees. Disability and survivors' insurance contracted through bidding (effective from 2011). As an outcome of the auction in 2014 of new members the minimum management fees decreased from 0.477% to 0.47% of an account holder's monthly earnings. Also, the fees for providing disability and survivor insurance decreased from 1.49% to 1.15%.	Permitted foreign assets increased from 60% to 80% of portfolios of DC plans in 2010-11. Investment choice between five funds per manager made easier by renaming funds "A" to "E" in a more informative way: riskier to conservative. Members can choose their fund allocation beforehand for their remaining time in the workforce.	Limit on foreign investments raised (1999). Introduction of Second Funds" to provide more stable investments" (2000). Minimum and maximum limits for foreign currency hedges have been established.	Women and men to be charged the same premium for the disability and survivorship insurance (SIS). Since men are expected to have higher risk rates, the difference in premiums will be deposited in women's DC accounts.

	subsidy of 15% of total contributions to voluntary retirement savings plans (2011). Since 2012-14 self-employed are automatically enrolled with the option to opt out. From 2015 all eligible self-employed workers are obliged to contribute to the system.	different sources to verify income.						

Czech Republic	Supplementary (voluntary) occupational pension insurance to be established (2002). One year of obligatory insurance prior to voluntary insurance will no longer be required (2003). Creation of a second pillar of voluntary individual accounts, effective from 2013.	All pension benefits were increased (2001). Pension increases and changes in benefit calculation (2003).	Pensions and benefits frozen for 1998 (1998). Credits for pension benefits for time spent in full time further education are being reduced (2004). The pension share within total social security contributions is increased from 26 to 28 per cent of the payroll (2004). New ceiling on pensionable earnings at 400% of average earnings (2010). Temporary change to indexation rules for old age, survivor and disability pensions between 2013 and 2015 that will lower pension increases. The voluntary individual accounts, effective from 2013 will be closed as of 2016 due to low take-up.	Phased increase in normal pension age to 63. Changes in increments and reductions for early/late retirement. Pensioners are now allowed to work during the first two years of retirement (2004). Gradual increase in pension age to 65 for men and women by 2030 and extension of the obligatory social insurance period from the current 25 years to 35 years	A new independent agency for social insurance systems was established (2001). An electronic format and creation of a new updated database (2003).	Option to divert 3% of contributions to a DC plan conditional on individuals making an extra 2% contribution, subject to a reduction in public-pension benefits from January 2013.		

				(2008). Progressive increase to the retirement age by two months each year, with no prescribed endpoint; a bridging of the gap of the retirement age for men and women by 2041 (2011). Contribution requirement for full benefit increasing from 20 to 35 years by 2019 (effective from 2010).				

Denmark	Supplementary pensions for people without labour market attachment (1997). New special pension savings scheme (1998). Supplementary pension scheme established for disability pension recipients (2002).		Normal pension age linked to life expectancy.	Increase early pension age from 60 to 62 between 2019 and 2022; increase normal pension age from 65 to 67 between 2024 and 2027; link both ages to life expectancy thereafter. Voluntary early retirement scheme (VERP or eferlon) scaled back since January 2012: increase in eligibility age from 60 to 64 during 2014-23 reducing	Creation of a centralized institution (Payment Denmark – Udbetaling Danmark), to handle the management and payment of several social security benefits, thus shifting communal responsibilities and improving responsiveness (2012).	Liberalisation of Special Pension investment (2005).		

				pay-out period from five to three years; during 2012, choice between early-retirement benefits and a tax-free lump sum at eligibility age of DKK 143 300. Increased early retirement age (2014).				

Estonia	Multi-pillar pension system is introduced; a voluntary supplementary pension (the 3rd pillar) (1998). Multi-pillar pension system is introduced; a mandatory public pension funded on a PAYG basis through the social tax (1st pillar) and a mandatory funded earning-related pension (2nd pillar) (2001, 2002).	Increase in pension benefits (2003). From 1 January 2013, a new pension supplement from public pillar is available to pensioners having cared for a child up to age 3.	Cut in employer contributions to DC accounts (0% contributions in 2010, 2% in 2011, returning to 4% in 2012). Also, employees may choose to reduce their second-pillar contributions during this period. Cuts to allow an equivalent rise in contributions to the state's first pillar (2009).	Pension age to increase gradually from 63 to 65 for men, from 60.5 to 65 for women between 2017 and 2026 (2010).	Since 2011, pension fund managers can no longer charge a unit-issue fee. Since 2011 annual management fees are also subject to a ceiling set in relation to the amount of assets under management.		Stricter investment limits on the conservative (least risky) of three funds in DC plans; members able to switch funds three times (rather than once) a year from August 2011.	

Finland	Coverage of earnings-related scheme extended to recipients of research grants (January 2009). New minimum pension supplements earnings-related universal pension from March 2011.	Lowering of minimum age for receipt of part-time pension (from 1 July 1998 to 31 December 2000). Flexibility in pension contributions introduced for self-employed persons (2004). Cuts in taxes on pensions worth between EUR 15 000 and 30 000 to bring pensioner tax into line with worker tax. Indexation rule for minimum pensions temporarily	Changes in calculating the pensionable wage; from the earnings for 4 last years to 10 last years (1997). New index which reflects changes in wages to 20 per cent and changes in prices to 80 per cent (1997). An employment pension as a credit for periods of unemployment, rehabilitation etc. is reduced (1998). Changes in earnings-related pension plan for self-employed to reduce deficit covered by tax money (1998). Changes in calculating the pensionable wage; from the earnings for 10 last years to lifetime average. Life-expectancy multiplier (from 2010). Combined	The mandatory employers' earnings-related pension plan (TEL) pension is permanently reduced if he or she takes early retirement (1996). Lower accrual rates for early retirement pensions (1997). Stricter qualifying conditions for recognizing the post-contingency period in the calculation of the early retirement pensions (1997).	New electronic service allows contributors to check data for pension purposes (2003). Private sector pension acts amalgamated (2006).	Deregulation of the statutory pension scheme (2003). Temporary relaxation of solvency rules until 2012 to let DB plans hold on to riskier, higher-return assets (first time January 2009, validity extended April 2010).	New rules on transparency for private sector providers have been accepted by Parliament. The new law will require employees able to influence the company's investment decisions to report their stock exchange holdings and business dealings (Jan. 2015).	

		changed in 2010 so as not to go below zero. Earnings-related pensions linked to increases in life expectancy (applies from 2010). Long term unemployed born before 1958 can still retire at 62 with a full pension.	employer/ employee contributions to earnings-related plans (TyEL) due to rise annually by 0.4% between 2011 and 2014. The social partners have agreed to increase the combined employer/ employee contributions to earnings-related plans (TyEL) by 0.4% annually between 2011 and 2016.In 2015 the pension indexation planned for (earnings-related and KELA) was limited to 0.4% instead of well over 1%.	Increased accrual rate for people working age 63-67. Changed adjustments for early and last retirement. Increase in early pension age from 63 to 65 over the period 2011-22 (proposal). The individual early retirement pension will be abolished. To stimulate employment, employer contributions to the universal pension program (KELA) will				

				be eliminated entirely January 1, 2010 (2009). Possibility of putting pension on hold while working (max. two years) extended to earnings-related pensions. Currently, temporary legislation covering 2010-13 (January 2010 – current government proposal to extend this period until the end of 2016). To stimulate employment, employer contributions to				

				universal public plan lowered by 0.8% in 2009 and eliminated in 2010. The legislation enabling disability pensioners to have work for two years without losing right to a pension will be extended until the end of 2016. The part-time pension age will increase to 61 for those born after 1953 and cuts in pension accrual will be implemente				

				d. Early retirement is eliminated under TyEL for workers born after 1951. For KELA the early retirement age is increasing to 63. The Unemployment pension programme is phased out in 2014.				

France	Targeted minimum income of 85% of minimum wage. Retirement saving funds with tax advantages (1997). Abolition of the time limits for buying contributions (2003). Creation of an additional compulsory pension fund for civil servants (2004). Increase in insurance period for those aged over 65 who did not have enough	Survivors' pensions revised (1995). Old age pension calculation for migrant workers (1997). Creation of a pre-retirement allowance. Foreigners no longer obliged to reside in France to draw pensions (1998). Raise of old-age and disability pensions (1999). Improvement of pension rights for long careers (2003). Introduction of early	Minimum contribution period increased. Earnings measure in public scheme from best 10 to best 25 years. Minimum contribution period to increase further with changes in life expectancy. Valorisation now effectively to prices in both plans. Indexation of public-sector pensions with prices rather than wages. Civil servants' contribution rates gradually rise from 7.85 to 10.55% by 2020 (2010). The 10% pension bonus for having at least three children will be subject to taxes. The contribution rate will increase by 0.3 percentage points for both employees and employers by	Changes in adjustment to benefits for early/late retirement in public and occupational pensions. General reduction in employers' social security contribution (2003). Changes in rules for pensions while working (2004, 2005). Changes to phased retirement. Pension increase for continuing work after age 60. Employers only able to have	Single application for retirement benefits (1997). Supplementary retirement institutes to be merged. Entitlement to a single pension application extended (1998). A new benefit to replace the minimum old-age benefit (2007). Beginning in 2016 all insured will have an electronic account that provides all relevant pension related information, such as past contributions, work history and projected pension benefits from both public and mandatory occupational systems.	A new voluntary joint savings plan (2003).	Reorganization of the reserve funds for retirement (2002).	Withdrawals from Fonds de réserve pour les retraites began in 2011 instead of 2020 to subsidise economic recovery.

	insurance period (2004). New individual retirement-saving plan (PEIR) allowing 10% of earnings up to EUR 24,000 to be contributed with tax privileges. Cash maternity benefits count as earnings for pension purposes (November 2010). The contribution period used for benefit computation will be more generous for maternity, training,	retirement before age 60 for those with long careers. Purchasing contributions for earlier periods. Changes in increased insurance period for child-rearing (2004). Survivors' pension: age requirement to be phased out. Extension of old-age insurance period for persons having raised a handicapped child (2005). Increase in minimum pensions additional to	2017, by 0.15% in 2014 and by 0.05% a year from 2015 to 2017. From 2014, indexation occurs in Oct. against Apr. previously. Pensions below EUR 1 200 were Frozen between April and Oct. 2014.	compulsory retirement at 70 rather than 65. Increase in contribution years for public-sector workers from 37.5 to 40 by 2012; reduction in benefits for early retirement of public-sector workers. Gradual abolition by 2010 of “Delalande” tax on firing of workers over 50. Increment for working age 60-65 raised from 3% to 4% and 5% from age 65 (from 2009). Minimum					

	unemployment, apprenticeships, students and part-time work.	standard indexation. Pension age stays at 60 for hazardous, arduous jobs leading to 10%+ permanent disability. The age requirement is dropped if the 10%+ disabled person has stayed into the arduous job for at least 17 years or if the permanent work-related disability is 20%+. In the latter case, the tenure requirement does not apply (November 2010).		pension age (subject to contribution conditions) increasing from 60 to 62 by 2017 (2012 amendment); age for full rate pension increasing from 65 to 67 (November 2011); employers must have an action plan for employing workers aged 50+ by January 2010. Public-sector workers contribution years for full pension increased in 2012. The new					

		Restored possibility for early workers to retire at 60 with full contributory periods (2012).		requirement depends on the year of birth of the civil servant and currently varies between 40 and 41.5 years. The contribution period for a full pension will increase by one quarter every three years and reach 43 years in 2035.						

Germany	Greater account taken of periods devoted to bringing up children (1999). Tax incentives and government subsidies for voluntary pension (2001). Extension of social security tax exemption (due to expire in 2008) for DC OP contributions up to 4% of earnings. Parents of children born before 1992 will now receive pension credits for	In 2000 and 2001, pensions are adjusted in line with the rate of inflation in the previous year, rather than with the net wage development in that year. The new method of adjustment is expected to increase pensions by 0.7 per cent in 2000 and 1.6 per cent in 2001 (1999). Increase pensions by 1.1% in 2008 (rather than 0.46% under the 2005 rules); increase of	Valorisation and indexation cut back as system dependency ratio worsens. Pension formula includes a new demographic factor. A disability pension will be based on the state of health of the insured person, and not on the labour market situation (1998). The replacement rate is decreased from 70% to 67%. Survivor pension is reduced (2001). Phased abolition of favourable tax treatment of pension income. A sustainability factor in the pension adjustment formula. The consideration of up to three years of school or university and the exception of times spent in vocational training measures as	Reduction in benefits for retirement before 65. Retirement pension age limit raised for the severely disabled (2000). Gradual increase in normal pension age from 65 to 67 between 2012 and 2029. (However, early retirement age will remain at 63, subject to benefit reductions.)	two new federal pension institutions are established to strengthen efficiency and coordination, and to remove the outmoded distinction between workers' pension insurance and employees' insurance (2005).	A new method of financing complementary occupational pension plans (Pension Funds); more freedom in the investment of plan assets (2001). Relaxation of limits on foreign investments of Pensionskassen.		

	the first two years of their child's life (July 2014).	2.41% in 2009 (rather than 1.76%). Pension-reduction Avoidance Law (2006). Pension increase of 2.41% in 2009 (rather than 1.76% under 2005 rules). In 2015 the contribution rates for old-age, survivors and disability insurance was reduced to 9.35% for the employer and employees each from 9.45%. The retirement age was lowered from 65 to	insurance periods are abolished (2004). Increase of pension contribution rates (2006). Pensions were not increased in the period 2003-06. No increase in pension in 2010 (-2.1%).					

		63 for people with 45 years of contributory years in July 2014. From 2016 this age will increase by two months a year until it reaches 65.						

Greece	New administrative arrangements aim to increase compliance with and coverage of public schemes. Survivor pension for divorced spouses (2005).	No raising of age limits for full old-age pension (1998). Early retirement facilitated for certain employees (2002). One-off payment of EUR 100-200 to pensioners. Right to buy contribution for persons older than 65 or disabled in order to build up an entitlement to a pension. Change to old-age pension formula: from the last 5 years to the best 5 years	Restrictions on pension payments while in gainful employment (1999). Pension benefits on the basis of lifetime average rather than final salary (2010). Increase in mandatory public pensions frozen 2011-15 – extension of two years over original measure (June 2011). Pensions indexed to CPI from 2014 instead of changes in civil servants' pensions (2010 reform). Seasonal bonuses for largest 10% of pensions stopped from 2011 and bonuses for lower pensioners reduced from 2013. Lump-sum retirement payments reduced by at least 10% for civil servants and public enterprise	Pension age rising from 58 to 65. Additional benefits for deferred retirement (2002). Equalise normal pension ages for men and women at 65; early retirement from 55 with at least 15 years' contributions. Mothers with children who are minors will no longer be able to retire before the age of 55 (50 at present), and the early retirement	Amalgamation of pension funds for self-employed workers. New merged pension fund for civil servants (1999). Equalized benefits of Basic retirement pension and National minimum pension among different group of people (2002). The viability of the system by tripartite financing. The maintenance of the public contributory character of Basic Insurance. IKA becomes a Unified Fund of Insurance for employees. A Unified Fund of Supplementary Scheme for employees are set up to integrate supplementary funds (2003). Merger of 133 pension funds into 13 schemes; centralised database of members and employers; unique identification numbers issued of individuals (2008). Merge of 13 pension plans into three (July 2010). Implementation of a single unified payroll and insurance contribution payment method intended to reduce evasion and to collect more social security contributions (June 2011). Mandatory possession of social security record (AMKA) from January 2009 for all workers.	The modernisation and maximisation of results of the financial management of Social Insurance Funds. The creation of mechanisms of supervision and actuarial certification for the rational operation of Funds (2003).		

		(2005). Survivor pension is now payable regardless of the widowed person's age (2005). New means-tested, non-contributory pension of EUR 360 for older people (2010). New flat bonus of EUR 800 replaces seasonal bonuses for pensioners receiving under EUR 2 500 per month (2010). Establishment of a solidarity fund for the self-employed	employees from 2011. Increase in contribution rates (details to be announced) for social security funds (June 2011). Average annual accrual rate reduced from 2 to 1.2% (2010), resulting in less generous earnings-related pensions. Assets introduced in addition to income test for solidarity benefits; Reduction in monthly pensions greater than EUR 1 000 by 5% to 15%, depending on income (2011). Pensions greater than EUR 1 400 per month will be taxed by 5-10% (from August 2010).	pension will come with regressive tax relief from 2009. Early retirement will not be granted before age 58 and will require 37 years of contribution from 2013 (2008). Retirement age for women increased from 60 to 65 between 2011-13 (2010 reform). Increase in pension age from 65 to 67 for all to receive full pension (November 2012). Contribution period required for				

		(June 2011). One-off, means-tested, tax-free benefit (solidarity benefit) for low-income pensioners offered in 2009 (but then abolished in 2010 as austerity measure).		full pension from 37 to 40 years from 2015 and actuarial reduction of 6% per year of early retirement (July 2010 reform). Early retirement age increases from 53 to 60 from 2011. Pension age linked to life expectancy from 2020.				

Hungary	Creating mandatory funded private pension funds as a second tier to boost national savings (1997). New voluntary retirement savings account with government matching contributions up to HUF 100,000 a year; accounts also exempt from capital gains tax (introduced 1997) and broader range of investments than	Increase in old-age benefits in Hungary by 2.6 per cent (2001). 13th month pension abolished from 1 July 2009 and replaced with bonus if GDP growth is 3.5% or above.	The role of private pensions reduced; eliminating the obligation for employees and self-employed persons to become members of a mandatory private pension scheme and abolishing the minimum state guarantee under mandatory private pension schemes (2002). Contribution rates and the income basis of the upper contribution limit are raised (2003). Pension calculation based on gross rather than net earnings. Through annuity calculation in DC scheme. DC scheme: mandatory for new entrants, voluntary for existing workers. Contribution for the employer pension	Gradual increase in pension age from 55 for women and 60 for men to 62 for both. Accrual rates linear rather than higher for earlier years. Pension age increasing gradually from 62 to 65 between 2012 and 2017. Proposal to reduce and eventually withdraw the early retirement system for law enforcement professionals and tighter		From 2009, mandatory requirement for private pension funds to establish a voluntarily life-cycle portfolio. This system offers members the option to choose between three different portfolios (conventional, balanced and growth). However, nationalisation of pension funds makes this largely irrelevant.	Control of Pension funds returned to government because of growing fund deficits, poor investment returns and allegations of corruption (1998).	Diversion of contributions from mandatory DC plans to public scheme from November 2010 to December 2011. Transformation of the state pension from a PAYG to a funded system (by January 2013). Closure of mandatory DC schemes in December 2011, transfer of assets (USD 14.6 billion) to government.

	current plans are allowed. Workers allowed to opt out of private pillar, but those who do not opt into the public pillar face penalties (i.e. no longer entitled to state pension from 1 January 2012).		is increased and remain at the same level up to 2009 (2006). Abolish 13th-month payment for pensions above HUF 80 000 per month. Price indexation of pensions in payment instead of mixed earnings/prices (2009). Pensions indexed to prices if GDP growth is 3% or less. In 2010-11, indexed to average wages and prices. Indexed to inflation from 2012. Taxation of pension benefits from 2013.	conditions for other workers (2011).				

Iceland		Increase mandatory employer contribution to Ops from 6% to 8%	Pensions for senior public officials to be cut.				Requirement to reduce benefits if actuarial shortfall of 10% in one year or 5% for each of five years to restore solvency of OP.	Members of voluntary pension plans were allowed to withdraw money from their accounts after the 2008 crisis (January 2009). Large DB pension funds (34% of total assets) establish Iceland Investment Fund (IIF) to stabilise domestic economy and help recovery from the crisis (December 2009). Pension fund money used to help

								stabilize the economy (2010).

Ireland	Introduction of widow's pension (non-contributory) (1998). Special old age contributory pension for self-employed people (2000). Introduction of a regulatory framework for Personal Retirement Savings Accounts. The pension entitlements of a spouse / dependants	Increase in pension benefit for pensioners and carers (1998). Improvements to the security and quality of pension entitlements under occupational pension plans. Tax-deductible limits for contributions is amended (2002). New pension calculation formula to improve the integration between social insurance	Pre-funding of public pensions. Tax levy of 0.6% on assets in private pension funds every year (2011-14). Pension levy on public sector wages average 7.5% from March 2009. Tax relief on private-pension contributions for high earners reduced from 41% to 20% between 2012 and 2014. Employer contributions no longer tax deductible. Earnings ceiling on tax deductible contributions lowered from EUR 150 000 to EUR 115 000 from 2011. End of	Reductions in civil-service pensions for early retirement. The minimum pension age was increased to age 65 and the compulsory retirement age of 65 has been removed (2004). Pension age increasing from 65 to 66 from 2014; to 67 from 2021 and to 68 from 2028 (2011	Launch of e-learning system for pension scheme trustees (2010).	Annuities for OPs that are wound up to be provided by new (2006).	Establishment of a Pensions Ombudsman and expansion of the role of the Pensions Board (2002). Pensions Insolvency Payment Scheme run by the government. Pension insolvency payment scheme (PIPS) to help insolvent DB plans with insolvent sponsoring	EUR 24 bn National Pension Reserve Fund, started in 2001, transferred to Ministry of Finance, largely used to recapitalize banks; contributions (1.5% of GDP) suspended (December 2010).

	are improved (2002). Automatic enrolment in DC plan of young employees above a certain income threshold. Applies from 2014 (March 2010).	and public service pensions so as to enhance the aggregate retirement income of lower-paid public servants (2004). New affordability measures to assist pensioners, persons with disabilities, and carers who receive the Household Benefits Package. The HBP will also assist with water costs. The value of this additional benefit will be approximat	exemption from public pension contributions with earnings of EUR 18 300 or less. Lifetime limit on tax privileges reduced from EUR 5.4 million to EUR 2.3 million (December 2010). Limitation of tax-free lump-sum withdrawals from pension accounts to EUR 200 000 and taxation of withdrawals above this ceiling (December 2010). Exemption from contributions to public pension scheme for people earning less than EUR 352 per week abolished (December 2010). Lowering of employer contribution rate from 8.5% to 4.25% between July 2011 and 2013 (2011).	amendments).			employers (2009). Re-establishing the funding standard of DB plans over a three-year period, starting June 2012, to protect benefits against volatility in the financial markets (2012). DB plans have to hold additional assets, from 2016, in a risk reserve intended to help absorb shocks and to bring stability	

		ely EUR 100 a year to each recipient, beginning in 2015. A temporary tax levy of 0.15% of occupational pension assets was introduced in 2014 replacing the 0.6% levy that was introduced in 2011.					(2012). Require trustees of DB plans to periodically submit an actuarial funding reserve certificate to the Pension Board (2012). A new benefit priority was established from 25 Dec. 2013 improving the priority given to future pensioners and reducing the rights of current pensioners in the distribution of DB plan	

							assets in case of bankruptcy. DB plans have to hold additional assets from 2016. The Standard Fund Threshold, i.e. the pension fund limit eligible for tax relief, is being reduced from EUR 2.3 million to EUR 2 million from 2014.The capitalization factor used to compute DB pension amounts is age-dependent	

							since 2014.	

Israel	Mandatory private DC occupational plans from January 2009 with extended coverage from January 2010.	Compensation of 50% of crisis-related losses in voluntary private plans to a ceiling of potential coverage of 15% of over-55s (January 2009). Employee contribution rate up from 2.5% to 5% and employer rate from 2.5% to 10% from 2013.The minimum contribution rate of mandatory pension savings increased from 15% to 17.5% in 2014.				Individuals who began saving after January 1995 can switch retirement savings between life insurance policies and provident funds without paying fines or taxes (2009).		

Italy	Companies ' (with more than 50 employees) severance-pay schemes to be converted into pension plans; choice of employer plan, other private provider or government-run scheme. (The last is the default option.) Government predicts around a third of contributions will go to new OPs, a third to the government scheme and a third to remain in	Public pension contribution rates increased for the self-employed in the NDC, which will involve higher benefits (2011).	Qualification years for long service pension increased from 37 to 40 years. Link to life expectancy through notional annuity calculation. From DB to notional accounts. Less generous indexation of higher pensions. Reduction in transformation coefficient used to convert NDC balances into pensions from 2008 to reflect changes in life expectancy. Cuts in pensions range from 6.4% for new retirees aged 57 to 8.5% for 65-year-old retirees. Postponing pay-outs from retirement funds for public-sector employees by up to 2 years (2011). More rapid transition to NDC	Adjustment to early-retirement benefits through notional annuity calculation. Contributions used to increase employment incentives for older workers; contributions are exempt if they fulfilled conditions (2001). Disadvantage for early retirement (Seniority pension). Tax-free bonus for those eligible for a seniority pension, but who defer retirement	Merger of three agencies managing public pensions (INPDAD and EMPALS accounts transferred to INPS by 31 March 2012).	New pension fund investment regulations have been introduced in 2014. The new rules aim to create more prudent management of investments and more diversified portfolios.	Limits on companies ' ability to take short or medium-term loans from severance-pay plans. New pension fund investment regulations have been introduced in 2014. The new rules aim to create more prudent management of investments and more diversified portfolios.	

	severance-pay schemes.		system from 2012. Introduction in 2012 of a new early retirement scheme with tight access requirements in replacement of the seniority pension. For the period 2014-16 a new progressive indexation rule based on the “cost-of-life” index has been introduced. Pensions higher than a certain threshold are not indexed but given a fixed amount.	(2004). Increase full pension age from 57 to 58 in 2008 and 60 from 2011; increase in contribution years for full pension from 35 to 36 years. (However, this delays earlier laws to reach age 60 from 2008). Pension age increase for women from age 60 to 66, to match that of men by 2018; pension age for both sexes due to increase in line with life expectancy				

				after that time. Pension age for women in the public sector increased from 61 to 65 in 2012 (2011). Acceleratin g the scheduled gradual increase in the retirement age for women in private sector (2011). New policy gradually increases the retirement age for both men and women from age 65 to 67 by 2026 (2012).				

Japan	Students and low incomers are able to be exempt from contribution payment or delay their payment (2000). Division of pensions on divorce (2004). For corporate pensions, employees can contribute directly to employer provided DC plans without having to go through their employers (effective from January 2012). Extension of coverage	Elimination of five-year limitation on retrospective pension claims. Provide low-income, old age pensioners with welfare benefits (2012, effective from October 2015). Possibility for different categories of workers to make up gaps in contribution records of 2-10 years by paying between October 2012 and September 2015. Provide low-income, old age	Pensionable earnings extended to include bonuses. Benefits adjusted to reflect expected change in dependency ratio. Accrual rate reduced. Changes in indexation from wage to price. Government's financial subsidy to the national pension system from currently one-third to one-half of total costs by the fiscal year 2009. Workers aged between 65 and 69 years have to pay contributions. Those who earn more than a fixed amount have to accept a reduction in their pension benefits (2000). Increases in contributions to the National Pension and the Employees' Pension Insurance	Employers are exempted from the payment of contributions for employees who are on child care leave (2000). Compulsory retirement age that employers can apply to private-sector workers increased 60-65 in the period 2006-13.	Problem of 50 million pension records unmatched with individuals: Social Insurance Agency to be replaced with a new regulatory body (Japan Pension Service) from 2010. Unify employees' pension systems: inclusion of public servants and private school employees in the employees' pension (2012, effective from October 2015). Public servants and private school employee's pension systems are being unified into the employees' pension from Oct. 2015.	Introduction of two new types of occupational DB plans, the fund-type and the contract-type defined benefit plan. Introduction of occupational and personal DC plans(2002).	Independent agency for pension fund to be established (2005). The bill to terminate employees' pension funds (EPFs) came into effect in April 2014. Financially unsound EPFs are being contracted out or dissolved within five years. No new EPFs can be set up. EPFs with assets above the minimum reserve can continue subject to annual	

	of voluntary DC plans to workers aged 60 and above (from January 2012). Shorten the period needed to be eligible for the national pension from 25 to 10 years (2012, effective from October 2015). Extend employees' pension insurance to more part-time workers (2012, effective from October 2016). Extend the basic	pensioners with welfare benefits from Apr. 2017. The ad hoc nominal freeze of pension benefits is being abolished by 2015.	(2004). The exceptional level of the amount of pension (2.5%) will be abolished from October 2013 to April 2015 (2012 policy measure). Permanently fixing the national government's burden regarding the basic pension at 50% by increasing the consumption tax rate (2012, effective from April 2014). new wage and price indexation (called "macroeconomic indexation") is being introduced from Apr. 2015.				asset tests beginning in 2019. Financially sound EPFs are also encouraged to switch to other types of pension plans.	

	pension for surviving family to motherless families (2012, effective from April 2014). The qualifying period for the national pension will be shortened from 25 to 10 years from Apr. 2017. Women on maternity leave are exempt from pension contributions since Apr. 2014.							

Korea	Extension of compulsory coverage of pension scheme (1995). Age of compulsory coverage is increased to cover persons between age 18 and 26 who have income and are not workplace based insured persons (2002). Enhanced protection of small company workers, daily, irregular and part-time workers (2004). New firms	Self-employed persons to contribute more to the National Pension Scheme (2000). The basis for the calculation of the basic pension amount is changed from the average monthly income in the previous year to those in the last 3 years (2002). Doubling in value of basic pension from 5% to 10% of average earnings.	Increased contribution (2004). Pension reform for government employees to reduce retirement pension payments and increase the financial stability of the fund because of the growing deficit (2006). Gradual cut in target RR of public scheme from 60% to 40% from 2028.	Pension age rising from 60 to 65. The upper age limit to be insured is abolished (2002). "Wage-peak" system: government subsidies pay of over 53s who stay in jobs while taking a pay cut. Encouraging longer careers through earlier labour market entry (shorter military service, periods in education).	Set up of an integrated, electronic information system for collection of social security contributions and monitoring (2010).	Investment options of National Pension Fund diversified (2002).	National Pension Fund to be managed independently from Government (2008).	

	required to set up DB or DC Ops rather than severance-pay schemes; existing employers must ballot employees on whether to maintain severance pay or switch to Ops (2005). Extension of coverage from 60% to 70% of over 65s. Introduction of Basic Old Age Pension for needy seniors (2008). Extend mandatory occupational / severance-pay plans							

	to firms with 5 or less workers from December 2010. New basic pension introduced in July 2014.							

Luxembourg	Introduction of a voluntary insurance for persons without enough income. The method of calculating the number of hours qualifying for a pension is improved, benefiting those who work part-time (2000). Minimal monthly contribution for voluntary insurance drop from EUR 300 to EUR 100 (2012-13).	The rules applying to the treatment of "baby years" (crediting child care) are relaxed. Allowing people to pay "mop-up" contributions retroactively. Arrears interest is payable on social cash benefits which are provided late (2000). Increase in the bonus, minimum pension. Abolition of reductions to survivor's pensions when the amount is less than that of	Gradually reduced benefits for a transitional scheme in the public sector. Calculating pension from final salary to the lifetime average (2000). Pension adjustments reduced to 50% (2012). The combined contribution rate (employee, state and employer) will be gradually increased from 24% to 30% of covered wage by 2052 (2012).	Contribution requirement for a full pension increases from 40 to 43 years by 2052 (2013). Reduced rates of increase are adopted to encourage people to work longer. To obtain a pension at current levels, insured persons will have to work for approximately three years more (2012).	Adjustments for greater convergence with public schemes with private schemes (2000).			

		minimum pension. "Baby years" are extended (2003). The basic pension is increasing slightly on average by about 0.44% per year since October 2012 on top of wage growth.						

Mexico	Mandatory supplementary system (Retirement Savings) is opened to self-employed, federal workers and public servants. Additional tax-favoured mechanism for voluntary long-term savings (2003). Extension in coverage of the private scheme to the self-employed (2005). In March 2013, a new non-contributory pension established for	Income tax exemption for pensioners with income up to 25 minimum wages.	DC scheme for public-sector workers (like the scheme for private sector); new employees must join; workers under 46 can choose DC option or remain with DB plan. (7% of employees work in the public sector).		National organization which regulate Retirement Savings is authorized to reject proposed increases in the commissions charged by Fund Administration industry (2003). Charges restricted to those on account balances; switching to low-cost providers encouraged. (Charges are currently double the average in Latin America). Simpler and more transparent system for Retirement Pensions System (2007). Re-organisation of pension funds (SIEFOREs) within the system of individual accounts (2013).	Greater investment flexibility and potential for asset diversification (2003). Greater competition in the Retirement Savings Fund Administration industry (2005). Extension of investment choice in DC plan from two to five portfolios per manager, with up to 30% equity share. Two new retirement fund administrators. Pension		Structural reform: Social Security Funding reforms (1999).

	Mexicans older than 65 years and with no other pension.					Fund Administrators are able to offer new diversified portfolio (2005). New Fund Administrators for low income group (2006). New rules were implemented in 2011 that allowed retirement account holders more fund choices and promoted competition among management companies (2012).		

Netherlands		Until 2013, it was possible to get a full tax allowance for pension contributions (accruing at 2.25%).	Shift from final to average lifetime salary in many occupational plans. Reductions in survivors' pensions; lower benefits and stricter eligibility requirements (1996). New regulations of the Dutch civil servant pension fund (2006). Tax exemption will only be granted for accrual rates up to 2.15% and 1.75% annually from 2014 and 2015.	Waiver of minimum contribution payments made by the employer (1997). Tax advantages for early-retirement Ops abolished. Increase in normal pension age from 65 to 67 in 24 monthly steps (proposal). In 2014 the retirement age for occupational pensions was increased from 65 to 67. Early retirement for physically demanding occupations conditions	Civil servants to be gradually brought under the general system for employee benefits (2001).		Stronger governance of OPs; clear statement of OP indexation policies; solvency buffer against future liabilities for OPs; market valuation of OPs' assets. Recovery period for underfunded DB plans temporarily increased from three to five years (February 2009).	

				are being phased out.				

New Zealand	KiwiSaver: DC scheme with automatic enrolment; Government match of contributions up to NZD 1 040; one-off payment of NZD 1 000 when account opened.	KiwiSaver: elimination of mortgage diversion for new applicants (2009). Default contribution rate for KiwiSaver cut from 4% to 2% of wages in 2009, but increased to 3% from April 2013. From April 2013, minimum required contribution for employees and employers will rise from 2% to 3% of earnings (2011).	Pre-funding of public pension. From July 2011, 50% reduction in tax credit for KiwiSaver members, up to a ceiling of NZD 521. Tax credits for employer contributing to KiwiSaver accounts eliminated in 2009. In April 2012, both employee and employer contributions no longer tax free. The government lowers his financial obligation to KiwiSaver plans (2011). The kick-start government subsidy for each new KiwiSaver account was eliminated in May 2015. Abolishing the subsidy is estimated to save the government NZD 125 million a	Pension age increased from 60 to 65.			KiwiSaver default providers will maintain a conservative investment strategy with 15%-25% of allocation in growth assets. KiwiSavers providers will be required to post information on their websites regarding performance, fees, returns, portfolio and key staff information on quarterly basis. Default providers will have to	Suspension of contributions to public reserve fund (New Zealand Superannuation Fund) in 2009, projected to resume payments in 2016-17 (three years earlier than originally planned). Retirement Commission Recommended (December 2010): i) pension age to increase from 65 to 67 by 2023 with new means-tested benefit at age 65-66;

			year over the next four years.				offer financial education and impartial financial advice to account holders.	ii) shift from wage indexation to 50:50 wages and prices; and iii) concern over cost of KiwiSaver tax incentives, about 40% of contributions so far. Treasury review Recommends (October 2009): i) pension age to increase from 65 to 69; or ii) shift from wage to price indexation; or iii) means-testing basic pension.

Norway	Introduction of new mandatory occupational pension; minimum employer contribution of 2% to DC plan from 2006 unless superior arrangements already in place, extending overage to 25% of workforce (2006).	New income-tested pension to replace the current flat-rate contributory public pension. New pension is guaranteed to be at least as high as the minimum pension payable under current law.	Mandatory employer DC contributions. Pre-funding of public pension. Notional accounts scheme from January 2011: fully for cohort 1963+ and partly for cohorts 1954-62; pensions linked to life expectancy, based on full-career earnings not 20 best years (2011). Indexation of pensions in payment to wages – 0.75% rather than wages.	Flexible retirement age 62-75 with adjustments of benefit to be effective age of retirement (2011). Individuals can combine work and pension receipt and no necessary to defer pension. New requirements for occupational pension plans offer flexible withdrawal of full or partial retirement pension benefits from 62 years of age,		New rules for occupational pension plans allow employers greater flexibility in designing pension plans (2014).		

				independent of actual employment. The present value of total retirement pension benefits is independent of withdrawal.				

Poland	Voluntary individual retirement accounts are allowed to workers as a supplement to the first and second pillar (2004). New third-pillar, voluntary savings vehicle (IKZE) introduced in 2012, to complement current voluntary retirement accounts (IKEs). Mandatory contributions to the privately managed DC scheme (OFE) were turned optional:	One-time payments for pensioners receiving benefits not exceeding the amount of a minimum pension in 2005 and 2006 (2005).	From best consecutive 10 in final 20 years to lifetime average. DC scheme mandatory for new entrants and workers under 30. Abolition of basic pension. From DB to notional accounts. Change in indexation from the yearly basis to each third year (2004). From May 2011, a portion of employee contributions from second-pillar individual accounts, managed by open pension funds, were diverted to newly created first-pillar subaccounts, managed by Poland's social insurance institution (ZUS). As a result, the contribution rate for DC accounts was lowered from	Withdrawal of early retirement for certain groups of workers. New rules for occupations retiring early, cutting eligible numbers from 1.3 million to 0.25 million. Time limits on new rules. Retirement ages of 60 (women) and 65 (men) gradually increase to 67 for both from 2013 until 2020 (men) and 2040 (women). Early retirement	Tighter limits on charges for DC plans. On Feb. 2014, 51.5% of the net assets of privately managed pension funds were transferred to the Social Insurance Institution. Moreover, the assets of those who chose to stay in OFEs will be gradually transferred to the public system ten years prior to the retirement age. Assets so far accumulated by those who decided to move to the public pension scheme will also be transferred on the same basis.	Choice of investment portfolios between three options. Fewer investment restrictions on DC accounts, including permitted equity share rise from 40% to 62% from 2020 (2011). That threshold will gradually decrease to 15% in 2017.	OFEs are prohibited to invest in Polish treasury bonds or in debt instruments guaranteed by the Treasury. In 2014, pension funds have to hold a minimum threshold of 75% of their assets in equities.	

	workers can opt-in to allocate 2.92% of their gross wages to OFEs while the default option is to contribute to the public NDC scheme. New tax incentives for IKZE (a type of voluntary personal plan) – Exempt-Exempt-Tax scheme, with special, 10% flat tax rate (i.e. lower than standard income tax).		7.3% to 2.3%; but will gradually increase to 3.5% between 2013 and 2017. The residual 5% (declining to 3.8%) goes to the new subaccounts, indexed according to the average of the previous five years' nominal GDP growth. The diversion has been considered necessary to lower Poland's budgetary deficit. Generally pensions are indexed by factor which is a combination of inflation and 20% of wage growth. This indexation principle was applied in 2015 without setting it as a rule for next years. However, in 2015 the increase of individual pension could not be lower than PLN 36.	(at 62 for women and 65 for men) possible with pension reduced by 50% (2012). Several early retirement schemes were abolished at beginning of 2009.				

Portugal	New centrally managed, voluntary DC plan, with contributions of 2% or 4% for under 50s and 6% for over 50s. Solidarity Supplement (non-contributory means-tested benefit) for the elderly (2006). Workers in banking sector recruited after March 2009 automatically covered by the public pension system.	Changes in protection for self-employed (1997). Contribution base of the self-employed revised (2006).	From best 10 out of last 15 years to lifetime average earnings. Life-expectancy adjustment to benefits. Less generous indexation of higher pensions. Cut pension benefits with life-expectancy increases from 2008; accelerated shift to lifetime earnings measure. Indexation of pensions in payment to mix of prices and GDP growth rather than changes in minimum wage. Public pensions frozen in 2011. Increase in contribution rate from 11% to 18% for private sector but employer contribution will be reduced in exchange (2013). The aim is to lower	Pensionable age for women aligned with that for men at 65. Introduction of increments for late retirement and reductions for early retirement. Applying better pension rates for those with 21 years or more of contributions (2002). Lower social security contribution rate for workers aged 65+, as a means to encourage extension of	Convergence of civil servants pension systems toward the general social security scheme (2006).	New rules for the Social Security Reserve Fund (FEFSS) that ensures some investment flexibility (2009).	New rules for the Social Security Reserve Fund (FEFSS) that ensures liabilities are appropriately hedged (2009).	

			labour cost. Introduction of a special contribution levy on pensions of more than EUR 1 500 per month (2010-12). Eliminating the 13th and 14th month payments to pensioners with incomes of more than EUR 1 100 per month. Those with over EUR 100 000 in bank accounts not eligible for income support allowance (2013); other tighter conditions to be introduced for renewal of benefits. In 2015 the pension-income threshold for the CES (extraordinary solidarity surcharge) was transformed into a sustainability contribution rate between 2% and 40%, depending on income.	working life (September 2009). In 2012, suspension of early retirement for employees covered by public scheme until 2014. Employers who provide indefinite contracts will pay lower contributions (2010). The determination of the sustainability factor, which links the level of pensions to increasing life expectancy, was changed. It will be computed				

				as the ratio between life expectancy in 2000 and life expectancy in the year prior to retirement. The sustainability factor will be used to increase the retirement age rather than to reduce retirement pension and applies only to people claiming old-age pensions before the normal retirement age. The retirement age was increased from 65 to 66 in 2014.				

				Long-term unemployed can retire at 57. Retirement age will be linked to life expectancy.				

Slovak Republic	Introduction of mandatory 2nd pillar (old age pension savings) (2004). Introduction of voluntary 3rd pillar (supplementary pension saving) (2006). In 2015 the DC scheme was made voluntary and individuals now have the possibility to opt into the public earnings-related scheme for the fourth time since its introduction in 2005.	Increases in pensions for people for whom the pension is their only income (1998). Increase and adjustment of pension benefits (2003).	From best 5 in final 10 years to lifetime average earnings. Through annuity calculation in DC scheme. From DB to points system. DC scheme made optional for new entrants in employment but compulsory again from April 2012. Principal guarantee in investment performance which is introduced in 2009 will be restricted to the least risky (bond) fund from April 2012. Contributions to 2nd pillar individual account reduced and reallocated to 1st pillar (2012). From 2013 to 2017 pension benefits will be increased by fixed amounts and thereafter valorisation will	Increase in pension ages to 62 for men and women.		Introduction of three funds types – conservative, mixed and growth – supplemented by a new equity-index fund from April 2012.	Tighter limits on charges for DC plans. Cut fees as a percentage of assets and link them to investment returns from July 2009. Principal guarantee on investment performance introduced (2009). Reduction in ceiling on foreign mutual fund investment from 50% to 25% in 2009.	Workers could switch contribution back from DC accounts to public scheme (2008, 2009, 2012).

			follow consumer prices.					

Slovenia	New non-contributory pension (state pension) for people who are not entitled to other pensions (2000). Credits for child care, military service, and mandatory covered work (2013).	Pension support for pensioners whose family incomes are not sufficient for subsistence (2001).	Calculation basis modified from salary levels in recent years to the average salary (1996). Changes to pension adjustment; pensions are only adjusted when the growth in average salaries exceeds 1.5 per cent (1998). Calculation basis is changed from the best 10 years to best 18 years (2000). Changes in indexation of pensions (2000-2003). Pensions frozen in 2011(and 2012 if inflation less than 2%) (September 2010). Calculation basis is increased to 24 years (2013).	Disadvantage for early retirement . Pension age for women is increased and the minimum insurance condition for women is tightened (2000). Retirement age for women is increased to 65 to be the same as for men (2013).		Supplementary (voluntary) occupational pension insurance can be set up by employers, insurance companies, banks and other financial institutions (2000).		

Spain	Recognising unmarried couples as eligible for survivors' pensions (2008).	The right to early retirement is extended to workers aged 61 on the condition that they have contributed for at least 30 full years. The pension reduction for early retirement rages from 6 percent to 8 percent depending contributed years. A special agreement may also be made in certain circumstances to provide social security coverage	The minimum contribution period for a full pension was increased from 12.5 years to 15 years. The number of years of contributions are taken into account when calculating disability benefits (2008). The minimum contribution period for a full pension was increased from 15 years to 25 years until 2022 (2013). Adjustment of relevant parameters of the pension system to change in life expectancy every five years from 2019 instead of 2027 [2011 reform; the anticipation of the linking moment is contained in a reform proposal currently under discussion (September 2013)]. The	Persons may continue working at a reduced rate while receiving a partial retirement pension. The amount of the retirement pension for persons working beyond age 65 is increased 2 percent for each full year of contributions (2002). The pension rate is increased by 3 percent for persons with 40 years of contributions who	In 2014 the General Social Security Treasury was enabled to bill employers directly instead of having employers' calculating employers and employee's contributions as was the case previously.	Weakening the influence of members of occupational pension on the plan management (2002).		A new public agency the Independent Authority for Fiscal Responsibility was created in November 2013. The agency will give its opinion of proposed annual adjustments of benefits and changes in the sustainability factor.

		among laid-off workers over 55 (2002). Retirement age is reduced for persons with disability (2004). Changes to the survivor pensions (2005). Increase in minimum pensions of 6.4%. Increase in survivors' benefits from January 2012 for retirees and the over 65s with no public pension entitlement of their own from 52% to 60% of deceased's pensionable	sustainability factor is only applied once when the initial benefit is calculated (Dec. 2014). Pension benefits will be adjusted according, among others, to the ratio of contributions to expenses with a maximum and minimum adjustment from 2014.	working beyond age 65. The contributions for early retirement are stricter by increasing the minimum early retirement age to 61 and the minimum contribution period to 30 years. The minimum retirement age for those working in dangerous conditions is 52, but new coefficients are applied to determine the contribution rates (2008).				

		earnings (subject to income limits).		Normal pension age to increase from 65 to 67 between 2013 and 2027 but full benefit available at age 65 with 38.5 years of contributions (2011 reform, effective from 2013); sustainability adjustment to be anticipated to 2019 instead of 2027 (reform proposal of September 2013); early pension age increasing from 61 to 63 (but 61 in times of					

				economic crisis); contributions for full benefit increasing from 35 to 37 years; contribution for early retirement increasing from 30 to 33 years. Amendment in April 2011 allows partial retirement: workers close to retirement age work part time and receive a proportionally reduced pension. However, social security contributions must be paid based on a full-					

				time position. Incentives for work after retirement age: pension increase of 2-4% for each year of deferred pension (2011).						

Sweden		Cut taxes on over 65s with incomes up to SEK 363 000 from 2009, affecting 90% of pensioners. It increased in 2010 and 2011. The basic pension income tax deduction for people over 65 was increased in 2014.	New pension (1998); best 15 years to lifetime average (public, earnings-related scheme); link to life expectancy through calculation of notional annuity and annuity in DC schemes; additional sustainability adjustment in notional accounts; DC scheme mandatory for nearly all workers; occupational plans switch from DB to DC. From DB to notional accounts. Abolition of income-tax concessions for pensioners. DB OP scheme for white-collar workers in private sector converted to a DC scheme. Change to the balancing mechanism underlying the NDC scheme: from	The right to work up to the age of 67 years established (2001). Occupational pensions regulations to be modernized (2005). Cut employers' social security contributions by 1% from 2009. Earned Income Tax Credit enhanced in 2009 and 2010, as part of the 2007 reform to encourage labour supply among workers. The EITC is higher for workers	Merger of bodies managing public and mandatory DC plans. Swedish Pension Agency took over work of two separate agencies managing national pensions in January 2010. New fund managed by AP7 available from 2010, representing low-cost government alternatives to private-sector investment options.		AP7 replaced its premium choice and default funds with low-cost equity and fixed income funds (2010). Review of investment rules and governance of buffer funds in 2012.	

			2009, calculation of balance based on average value of the buffer fund at the end of the last three years rather than the last year. This implies cuts in the pension of 3% in 2010 instead of 4.5%. Tax deductions for private personal plans are being phase-out and abolished by 2016.	over 65. Simplification of the formula of the EITC for older workers from 2009. In 2011, maximum credit for under 65s of SEK 21 249, compared with SEK 30 000 for over 65s. Employee's social security contributions are lower for over 65s. Earned Income Tax Credit (EITC) was enhanced in 2014. The EITC is higher for workers over 65.				

Switzerland	Widower's pension for married men who have one or more children under 18 years of age (1995). Mandatory occupational pension provision for unemployed people (1997). Lower earnings threshold to cover more low-paid and part-time workers. Widowers are entitled to the same benefits as widows. Surviving cohabiting partners are able to	Annual supplements for educational responsibilities are applicable to the calculation of the single person's pension for divorced women (1995). A flexible retirement system based on transitional pensions for certain categories of persons, and particularly for the unemployed who are no longer entitled to benefit and who have reached a	Reduction in required interest rate and annuity rate in mandatory occupational plans. Reduction in minimum interest rate for mandatory OPs from 2.75% to 2% for 2009. (However, this had earlier increased from 2.5% in 2007 to 2.75% in 2008.) Reduction in annuity rate for mandatory Ops from 7.2% to 6.8-7.15%, depending on age and sex. Abolition of the widow's pension for widows without children. Pensions are indexed when price rises exceed a specific threshold. The old age contribution rates, which used to vary according to gender have been standardised. Abolition of the minimum benefits	Pension age for women increased from 62 to 64. (Men's pension age remains at 65.) Bringing the minimum retirement age into conformity with the increase in life expectancy. Harmonization at 65 years of retirement age for women and men as from 2009 (2005). Greater flexibility is provided for deferring labour market exit since		Pension institutions are able to propose a maximum of 3 pension plans to each group of insured persons. Newly-formed insurance institutions are able to commence their activities under optimum conditions (2005). Ceilings on real-estate investments and mortgage loans reduced (2009).	Creation of an Ombudsman for occupational pensions (1997). New regulations on financing the guarantee fund to extend insolvency cover (1999). Joint management in group pension provisions and in the training of scheme enrolee representatives is enhanced. Accounting rules are standardiz	Pensioners are able to take a quarter of their retirement benefits in the form of a lump sum (2004).

	receive benefits (2004).	specific age (2005).	paid to insured persons of modest means (2005). The Minimum interest rate further cut to 1.5% from 2012. In 2012, maximum contribution for insured persons who are not gainfully employed increased to CHF 19 350 (50 times the minimum contribution).	insured persons may carry on paying contributions to the pension fund until 70.			ed. Insurers must keep separate accounts for the group pension schemes they administer. Insurers must give the group scheme the facts and figures it needs to inform its enrolees. Termination of contracts between insurers and pension schemes are governed by provisions which take better account of enrolee's	

							interests and their accumulated pension assets. The conversion rate is drop to ensure that pensions can be adequately funded. The minimum rate of interest on enrolees' retirement assets is revised every other year, on the basis of actual yields (2004).	

Turkey		Increase in benefits for Bag-kur pensioners (2004). From January 2013, the government matches 25% of individual contributions up to a gross monthly salary of TRY 978. Participants will have access to government contributions through a gradual vesting system – 15% after the first three years, 35% after six years, 60% after ten years and 100% at	Reduced accrual rate. Change to indexation of benefit increases to the urban consumer price index during the previous twelve months (2002).	Increase in contributing years for women to receive Bag-Kur pension from 20 years to 25 years (2001). Pension age to increase from 60 to 65 for men and from 58 to 65 for women by 2048 (2006). Increases in the qualifying period for entitlement to the pension from 7,000 to 7,200 days (2008). Governmen t tax deduction on wage to	Introduction of E-declaration service (2005).	A new system of voluntary individual pension savings plans (2001). Use of derivatives by pension funds for investment purposes permitted for the first time in 2010.		Postponem ent of default interest on unpaid contribution s for some categories of insured due to the earthquake s of 1999 (2002).

		retirement at the age of 56. Tax levied on exit is applied to net returns as opposed to accumulated value as previously.		private pensions was abolished, with the aim of encouraging domestic savings (2012).				

United Kingdom	Employers required to provide access to DC ("stakeholder") pension. Extension of means-tested supplements. Equal access to pension schemes for men and women (1996). New pension and benefit rights for same sex couples. Periods of adoption and paternity leave are treated in the same way as those of normal	Increased progressivity of earnings-related pension. Increase in basic pension. People who are unmarried at the time they purchase a pension annuity no longer have to take out a pension that provides for survivor benefits (2002). State pension credit is introduced (2003). Vesting rights to those who leave OPs early	Employee contribution of 4%, employer of 3% and government of 1% phased in. Contribution rates increase of 1% to 2% for both employer and employee in 2012-16. A 1% contribution-related tax credit introduced. In October 2017, the employer will pay 3% and the employee will pay 4% (Pensions Act 2011). Indexation of private-sector OPs is changed from the retail price index to the consumer price index (2011).	Employers who take on someone who has been unemployed for two years are able to take 'contributional holiday'. The main rate of employers' NICs is cut. The rate for self-employed is cut (1996). Increment for late retirement raised from 7.4% to 10.4% a year; increment now payable as a one-off bonus. The maximum time limit of 5 years to defer State	A new department for Work and Pensions created. New tele-claim service for pensioners (2001). Measures to simplify the regulatory framework: pension schemes are no longer required to produce actuarial certificates every three years; provision for the commutation of equivalent pension benefits prior to normal pension age providing that certain conditions are met (2002). Legislation regarding tax and contracting-out is simplified (2003). The rules on limited price indexation have been changed to make the regulation simpler (2004).Central clearing house for new national pension savings scheme; aim to have costs of 0.5% of balance initially, falling to 0.3%. New Pensions Regulator established in 2005, combing previous agencies.	A reduction in the amount of information that must be provided by an employer electing to contract-out or vary the contracting-out certificate (2002). New NEST scheme planned in 2010 and implemented in 2012.	Contracted-out occupational pension schemes need to meet a benchmark by providing a pension broadly equivalent to, or better than the statutory standard. New compensation scheme for occupational pensions as measures to safeguard pension funds (1996). Minimum funding requireme	S2P replaces SERPS (2002).Acceleration of change of state second pension from an earnings-related to a flat-rate scheme, with initial benefits indexed to average earnings. In January 2013, the Department for Work and Pensions published a draft bill introducing a flat-rate single-tier pension (STP) to replace the existing multi-tier

	work for the purpose of employment-related pension schemes (2004). Reduction in number of years required for full basic pension to 30. Large employers (120 000 plus employees) must automatically enrol workers in company scheme or state-run National Employment Savings Trust (NEST) from October 2012; medium-sized	(2004). Basic pension to be indexed to average earnings from 2012; increases 2004-08 in line with earnings. Improved credits for carers. One-off payment of GBP 60 to pensioners (January 2009). Increase basic State Pension by higher of CPI, earnings growth or 2.5% from April 2011 (triple lock guarantee). Contributions will be increased from total of		pension is removed (2006). Equalise pension ages at 65 by 2018. Bring forward pension age to 66 by 2020 and increase from 66 to 67 by 2026 (October 2010 and amendments in January 2011 and 2012 that accelerated the pace of reform). Removal of the default retirement age (DRA) of 65 to provide workers greater opportunities to remain			nt for salary-related pension scheme (1997). Measures to safeguard the rights of members of Ops: introduction of a Pensions Protection Fund; full buy out policy for a solvent company who winds up its pension scheme; revision of the priority order which applies on wind-up; introduction of a new system of	State Pension system. The STP will be implemented in April 2016. The reform is expected to particularly benefit people who were expecting a low amount of Addition Pension due to their work history. It will represent a significant simplification of the state system and be a clear foundation for retirement saving. The government has also

	employers (50 plus) from June 2013, and small employers (fewer than 50) from May 2015. The National Employment Savings Trust (NEST) is being extended to small employers from January 2016.	2% of earnings in 2012 to 5% in 2016 and 8% in 2017. Taxes on withdrawals from pension accounts were lowered and tax-free amounts were increased in 2015.		in the labour market afterwards. From October 2011, employers cannot compel employees to retire using DRA. Bring forward pension age to 66 by 2026 and to 67 by 2028. Gradually increasing the private pension savings age from 55 to 57 in 2028. Private pension will be available for withdrawal from 10 years before the normal			private pension regulation with a Pensions Regulator; requirement that employers consult before making changes to pension schemes (2003). Premiums paid by plans, related to measures of risk, double the originally predicted level. Tightening of recovery rules for plans in deficit. Extension of Financial Assistance Scheme	legislated to accelerate increase in State Pension age and introduced a regular review process to set Spa based on the principle that a fixed proportion of adult life should be spent in retirement. Increase contribution rates of public sector workers and amend the DB plan for Members of the Parliament (2010). From 2016, a new state

				pension age.			for insolvent OPs, covering 140 000 extra workers. Pension Protection Fund, to insure DB plans, established in 2004.The Pensions Regulator to assist in protecting members' benefits (2004). New funding requirements for DB schemes: preparing a statement of funding principles; obtaining regular actuarial valuations	pension (single-tier pension, STP) will replace at a higher level both the basic pension and the minimum income guarantee (Pension Credit).

							and reports; putting in place a recovery plan addressing any funding shortfall; and keeping scheme members informed about their scheme's funding position (2005). Pension education initiatives. Financial assistance when pension schemes wind up (2006). Pension quality mark "award for DC employer	

							schemes" (2009). NEST scheme will create economies of scale compared to current DC plans. Pension providers and trust-based managers must offer DC members free and impartial face-to-face advice. Small DC plans are automatically transferred to the new pension plan when workers change jobs. The governme nt's	

							authority to introduced minimum governance standards, fees, etc. have been strengthened to mitigate excessive charges and to increase standards. New rules for defined contribution pension withdrawals were legislated in May 2014 and will enable large lump-sum withdrawals.	

United States	Employers permitted to enrol employees automatically in pension plans.	Increases in the threshold for coverage of domestic employees' earnings. (1995). Occupational pension reform: increase in contribution and benefits limits (2001). One-off payment of USD 250 to all public pension recipients (May 2009). Automatic adjustment of pensions to inflation (COLA) suspended in 2010 to avoid lowering benefits. However, benefit	In December 2011, "Bowles-Simpson" plan for improving solvency of the Social Security system: increase in the Social Security payroll tax and reductions in benefits, especially for upper-income workers while raising them for low earners.	Increase in full pension age from 65 to 67. Changes in adjustment for early/late retirement. Abolition of the Social Security earnings test for retirement benefits. Allowing the retired worker to earn a delayed retirement credit even though he/she is already on the benefit rolls (2000).	Social security administration becomes an independent agency (1995).	Allowing people to put more money into their IRA and 401 (k) personal retirement savings accounts (2006).	Online retirement planner (2000). Requirement to companies to give employees more information about the performance of their individual accounts. Forcing companies that under-fund their pension plans to pay higher premiums to the Pension Benefit Guaranty Corporation. Preventing companies with under-funded plans from promising	Special provision for the struggling airline industry by giving those companies who are in bankruptcy proceedings and have frozen their pension plans an extra 10 years to meet the new funding obligations, while those still with active defined benefit plans will get 10 years in total to comply with the rules (2006). Payroll tax

		increase was frozen in 2011.					extra benefits to workers without paying for these up front (2006).	rates for OASDI cut during 2011 and 2012 as a stimulus measure.

* OECD (2007) Pensions at a glance, p58-60. "Reforms to national retirement income systems since 1990 (to 2003) in OECD countries"
* OECD (2009) Pensions at a glance, p90-94. "Pension reforms: 2004-09"
* OECD (2013) Pensions at a glance, p27-40. "Pension reforms: 2009-13"
* OECD (2015) Pensions at a glance, p34-43. "Pension reforms: September 2013-September 2015"
* ISSA Country profiles (1995-2014)

Appendix 2

With regards the analysis on *the socialisation and individualisation of risks* between 1990 and 2015, this thesis used 5.97 as the lower cut-off point instead of 5.09, the original lower cut-off point in the process of calibration of sets of *socialisation of risks* (see Chapter 6.2). It was because this thesis found two countries, Austria and Germany, are the heterogeneous cases in membership. They were originally classified as 'IN' in the *socialisation of risks*, but they should belong more to 'OUT' than 'IN' in the set when considering their traits of socialisation reforms. This thesis thus decided to slightly adjust the cut-off points to assign them to 'OUT' in the set. This decision stems from the case knowledge presented in Chapter Four and Five, and the fact that Austria and Germany were already located on the boundary of 'IN' and 'OUT' in the original process; only a slight difference existed between their original fuzzy scores (0.53) and the cross-over point (0.5).

The following appendix aims at assessing the significance of this decision. Here we provide the original fuzzy-set scores and fuzzy-membership scores, and the original result of set memberships. It means the following tables and figures are the results based on the mean ± one, the original cut-off points without any adjustment. In fact, the only difference between this appendix and the Chapter Six is the lower cut-off point in the calibration of *the socialisation of risks*. Here, we employed 5.09 whilst the Chapter Six employed 5.97 as an adjusted lower cut-off point. Other anchors – upper cut-off point for *the socialisation of risks* and upper and lower cut-off points for *the individualisation of risks* – were not changed. After presenting the original results of FSITA on *the socialisation and individualisation of*

risks, this appendix also provides the subsequent findings based on the original results: the association between welfare regimes and pension typologies, poverty rates among older people, and the decrease in poverty rates after social security transfers. By doing so, we illustrate that employing the original lower cut-off point would have not make significant difference to the major findings in Chapter Seven, which are derived from the outcome of FSITA based on the adjusted cut-off point.

Firstly, the following Table 1 shows the frequency and fuzzy-set scores of the *socialisation-individualisation of risks*. In comparison of Table 6.2 in Chapter Six, a difference appears only in the fuzzy-score in socialisation. In the original calibration shown in Table 1, 15 countries scored higher than in the calibration with the adjusted lower cut-off point shown in Table 6.2. However, the difference is minor. The original fuzzy-set score is only 0.01 to 0.07 higher overall.

Table 1: Frequency and fuzzy-set score of the socialisation-individualisation of risks, total period, based on the original cut-off points

1990 - 2015				
	Frequency		Fuzzy-set score	
	Socialisation	Individualisation	Socialisation	Individualisation
Australia	16	18	1.00	0.86
Austria	11	10	0.53	0.00
Belgium	3	15	0.00	0.51
Canada	14	17	0.81	0.74
Czech Republic	5	15	0.00	0.51
Denmark	3	6	0.00	0.00
Finland	9	26	0.35	1.00
France	24	28	1.00	1.00
Germany	11	16	0.53	0.62
Greece	15	25	0.90	1.00
Hungary	7	15	0.17	0.51
Ireland	21	14	1.00	0.39
Italy	4	21	0.00	1.00
Japan	14	15	0.81	0.51
Korea	12	8	0.63	0.00
Luxembourg	9	6	0.35	0.00
Netherlands	3	10	0.00	0.00
New Zealand	9	7	0.35	0.00
Norway	2	10	0.00	0.00
Poland	7	16	0.17	0.62
Portugal	6	21	0.08	1.00
Spain	7	16	0.17	0.62
Sweden	5	15	0.00	0.51
Switzerland	10	16	0.44	0.62
United Kingdom	40	15	1.00	0.51
United States	9	7	0.35	0.00

Source: Author.

The slight differences in fuzzy-scores in Table 1 result in the differences in fuzzy membership scores of the *socialisation-individualisation of risks*. Compared with the result of Table 6.3 in Chapter Six, the following Table 2 shows a few changes in fuzzy membership scores. Again, the fuzzy membership scores are changed in 15 out of 26 countries. However, the difference is minor, and the change did not affect the country membership except two countries, Austria and Germany. Except these two countries, the country membership which is greyed out remained the same in all other countries. For example, Canada scored 0.19 in each *individualisation reform* ideal type and *stable* type in Table 2. They are both 0.21 in Table 6.4, but Canada's fuzzy-membership is anyway *socialisation-individualisation reform* ideal type, as Canada scores the highest in it, 0.74 in both tables. Austria and Germany are the different cases. When it comes to Austria, the original score in *socialisation reform* ideal type is 0.53, the highest score among four types in Table 2. Also, the second highest score is 0.47 in *stable* type. These scores are changed in Table 6.4. The highest score in Table 6.4 is 0.51 in *stable* type, and the second highest score is 0.49 in *socialisation reform* ideal type. In Germany, the original score in *socialisation-individualisation reform* ideal type is 0.53, the highest score among four types in Table 2. It is followed by 0.47 in *individualisation reform* ideal type. They are changed to 0.49 and 0.51 in each ideal type in Table 6.4.

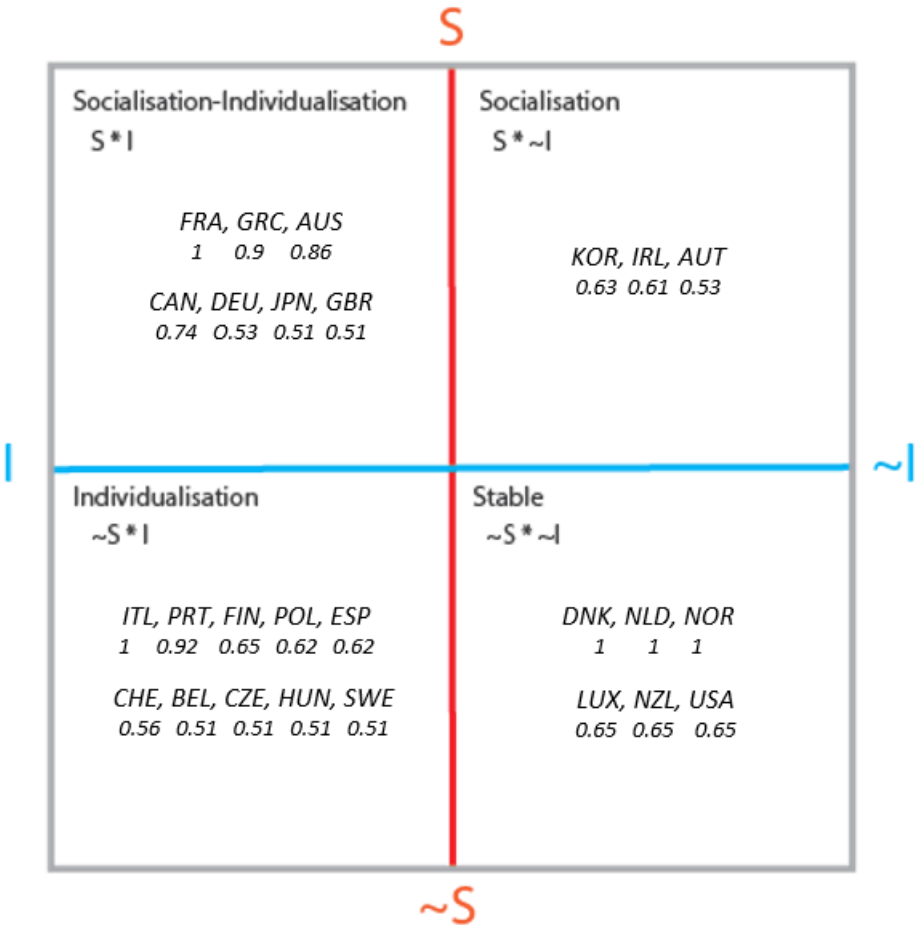
Table 2: Fuzzy membership scores of the *socialisation-individualisation of risks*, total period, based on the original cut-off points

	Socialisation-individualisation reform	***Socialisation reform***	***Individualisation reform***	***Stable***
	(S*I)	**(S*~I)**	**(~S*I)**	**(~S*~I)**
Australia	**0.86**	**0.14**	**0.00**	**0.00**
Austria	**0.00**	**0.53**	**0.00**	**0.47**
Belgium	**0.00**	**0.00**	**0.51**	**0.49**
Canada	**0.74**	**0.26**	**0.19**	**0.19**
Czech Republic	**0.00**	**0.00**	**0.51**	**0.49**
Denmark	**0.00**	**0.00**	**0.00**	**1.00**
Finland	**0.35**	**0.00**	**0.65**	**0.00**
France	**1.00**	**0.00**	**0.00**	**0.00**
Germany	**0.53**	**0.38**	**0.47**	**0.38**
Greece	**0.90**	**0.00**	**0.10**	**0.00**
Hungary	**0.17**	**0.17**	**0.51**	**0.49**
Ireland	**0.39**	**0.61**	**0.00**	**0.00**
Italy	**0.00**	**0.00**	**1.00**	**0.00**
Japan	**0.51**	**0.49**	**0.19**	**0.19**
Korea	**0.00**	**0.63**	**0.00**	**0.37**
Luxembourg	**0.00**	**0.35**	**0.00**	**0.65**
Netherlands	**0.00**	**0.00**	**0.00**	**1.00**
New Zealand	**0.00**	**0.35**	**0.00**	**0.65**
Norway	**0.00**	**0.00**	**0.00**	**1.00**
Poland	**0.17**	**0.17**	**0.62**	**0.38**
Portugal	**0.08**	**0.00**	**0.92**	**0.00**
Spain	**0.17**	**0.17**	**0.62**	**0.38**
Sweden	**0.00**	**0.00**	**0.51**	**0.49**
Switzerland	**0.44**	**0.38**	**0.56**	**0.38**
United Kingdom	**0.51**	**0.49**	**0.00**	**0.00**
United States	**0.00**	**0.35**	**0.00**	**0.65**

Source: Author.

Consequently, the country memberships of the *socialisation-individualisation* fuzzy-set ideal types are changed in two countries: Austria and Germany. With the original fuzzy membership scores, Austria belongs to *socialisation reform* ideal type and Germany belongs to *socialisation-individualisation reform* ideal type as shown in Figure 1 below. They belong to different ideal types in Figure 6.5 in Chapter Six due to the adjusted cut-off point. In Figure 6.5, Austria is classified to *stable* type and Germany is located in *individualisation reform* ideal type.

Figure 1: Country memberships of the *socialisation-individualisation* fuzzy-set ideal types, total period, based on the original cut-off points



Source: Author.

The impacts of changes in fuzzy memberships on the subsequent findings in Chapter Seven are presented below. Firstly, Table 3 shows the association between country memberships and Esping-Andersen's welfare regimes, Finch et al.'s social investment typology and Bonoli and Shinkawa's pension typology based on the original cut-off point. The comparing result based on the adjusted cut-off point is presented in Table 7.1 in Chapter Seven. In Chapter Seven, this thesis demonstrated no systematic relationship between the country memberships and welfare regimes. We could not find any dominant reform trend in any welfare regime type and social investment typology. Similarly, the country memberships and pension typologies did not match. Based on these results, this thesis argued the trend of pension reforms cannot be explained by welfare models or by a pension's institutional designs. It seems the argument in Chapter Seven is not significantly affected by the adjustment of cut-off point. As seen Table 3 below, the mismatch between the country memberships and welfare models is still clear. Germany is relocated from *individualisation reform* ideal type to *socialisation-individualisation reform* ideal type, and Austria is relocated *stable* type to socialisation reform ideal type compared with Table 7.1, but we cannot confirm any systematic relationship from this result; there is no dominant reform type in any welfare regime type and social investment models. When it comes to pension typology, the impact is even smaller as Austria is not originally covered by Bonoli and Shinkawa (2005)'s pension typologies. As a result, again, any systematic relationship cannot be confirmed between reform type and pension typology.

Table 3: Country memberships and welfare regimes (1990–2015), based on the original cut-off points

Socialisation and individualisation reform typology	**Welfare regime** (Esping-Andersen,	**Social investment**	**Pension typology**

		1999)	**typology** (Finch et al., 2017)	(Bonoli and Shinkawa, 2005)
Socialisation-individualisation	France	Conservative	Type 4	Social insurance
	Greece	-	Type 2	-
	Australia	Liberal	Type 1	-
	Canada	Liberal	Type 1	Bismarckian lite
	Germany	Conservative	Type 2	Social insurance
	Japan	Conservative	Type 2	Bismarckian lite
	UK	Liberal	Type 3	Multipillar
Socialisation	Ireland	Liberal	Type 3	-
	Korea	Conservative	Type 1	Social insurance
	Austria	Conservative	Type 4	-
Individualisation	Italy	Conservative	Type 2	Social insurance
	Portugal	-	Type 2	-
	Finland	Social Democratic	Type 4	-
	Poland	-	-	-
	Spain	Conservative	Type 2	-
	Switzerland	-	Type 1	Multi-pillar
	Belgium	Conservative	Type 4	-
	Czech Republic	-	-	-
	Hungary	-	-	-
	Sweden	Social Democratic	Type 4	Multi-pillar
Stable	Denmark	Social Democratic	Type 4	-
	Netherland	Liberal	Type 3	-
	Norway	Social Democratic	Type 3	-
	Luxembourg	-	-	-
	New Zealand	Liberal	Type 3	-
	USA	Liberal	Type 1	Bismarckian lite

* The classification of welfare regimes is mainly based on Esping-Andersen (1999: 74-94). As Esping-Andersen did not clearly reveal every country membership of each regime, this thesis only addresses countries that he named as examples in describing the characteristics of three regimes. The classification of Korea and Japan followed Nam (2002) and Shinkawa (2001)'s view (see Chapter Three).

* The classification of social investment typologies is from Finch et al. (2017).

* The classification of pension typologies is from Bonoli and Shinkawa (2005:6).

Source: Author.

Chapter Seven also presented the association between country memberships and poverty rates in older population. Table 7.2 in Chapter Seven showed the old-age poverty rates in each country in the early 1990s and the average of old-age poverty rates in membership countries of each reform ideal type. Based on the table, this thesis argued a loose relationship between ideal types and poverty rates. The average poverty rates are the highest in countries that belong to the *socialisation reform* ideal type. Then it is followed by the *socialisation-individualisation reform* ideal type. Compared to these two types, the countries that belong to *stable type* and *individualisation reform* ideal type had relatively moderate old-age poverty. This trend is similarly observed when we employed the original cut-off point in calibration. As seen Table 4 below, Germany is originally classified to *socialisation-individualisation reform* ideal type instead of *individualisation reform* ideal type, and Austria is classified to *socialisation reform* ideal type instead *stable* type. In Table 4, the average of old-age poverty rates is highest in the *socialisation reform* ideal type (25.5%), and then in the *socialisation-individualisation reform* ideal type (17.2%). It is followed by the *stable type* (12.3%) and the *individualisation reform* ideal type (11%). Compared to Table 7.2, the average of poverty rates in the *socialisation reform* ideal type and the *socialisation-individualisation reform* ideal type decreased more than 1 percentage point, but the loose relationship between ideal type and poverty rates is still clearly confirmed.

Table 4: Country memberships and poverty rates (1990–2015), based on the original cut-off points

		Old-age poverty rates (early 1990s)	Average of old-age poverty rates (early 1990s)
Socialisation	Korea	41.4	25.5
	Ireland	17.3	
	Austria	11.9	
Socialisation-individualisation	Greece	27.3	17.2
	Australia	24.2	
	UK	24.1	
	France	14.7	
	Japan	13.6	
	Germany	10.4	
	Canada	5.8	
Stable	USA	21.5	12.3
	Norway	14	
	Luxembourg	11.8	
	Denmark	11	
	Netherland	3.2	
	New Zealand	-	
Individualisation	Italy	15.7	11
	Finland	14.1	
	Hungary	13.6	
	Belgium	12.1	
	Spain	12	
	Poland	10.9	
	Switzerland	8.4	
	Sweden	6.4	
	Czech Republic	5.7	
	Portugal	-	

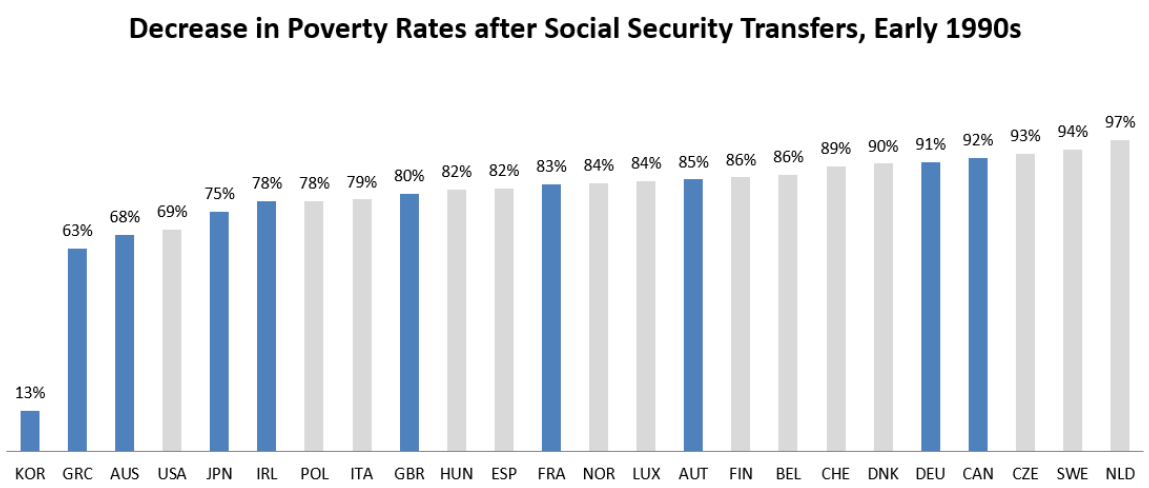
* Relative poverty rates at 50% of the median income threshold, aged 65 and over.
* Poverty rates in Korea and Japan are based on figures from the mid- 2000s.
* Portugal and New Zealand are not covered in the LIS Microdata.

Source: Author based on the LIS Microdata.

Lastly, Chapter Seven demonstrated the size of the effects of social security transfers on poverty. In Figure 7.2 in Chapter Seven, blue bars indicate countries that belong either to the *socialisation reform* ideal type or the *socialisation-individualisation reform* ideal type. On

the other hand, the grey bars in the figure indicate countries that belong either to the *individualisation reform* ideal type or the *stable* type. From the result, this thesis confirmed a moderate association between the size of the effects of social security transfers and the trend of *socialisation*. The Figure 2 below is illustrated in the same way but analysed based on the original cut-off points in calibration. Like Figure 7.2, we can find a moderate association between the size of the effects of social security transfers and the trend of *socialisation*; blue bars are concentrated in the left half of the graph whilst grey bars are located more in the right half of the graph. However, it is worth noting that the association is relatively less clear compared to Figure 7.2. There are more outliers in Figure 2 due to Germany and Austria. They are blue bars but located in the right side of the graph. Germany is especially a clear anomaly with Canada, as they devoted to socialisation reforms despite their income security systems already decreased poverty rates more than 90%. As addressed in Chapter Seven, the anomalies observed here might indicate the possible influence of other factors that shape pension reforms.

Figure 2: Decrease in poverty rates after social security transfers and the distribution of countries scoring high in *socialisation*, based on the original cut-off points



* Countries represented by blue bars scored high in the set of socialisation.

Source: Author based on the LIS microdata.

In this Appendix 2, we demonstrated the outcome of FISTA on *socialisation-individualisation* between 1990 and 2015 with the original lower cut-off point in the set of *socialisation of risks.* Compared to the outcome based on the adjusted cut-off point in Chapter Six, two country's fuzzy-memberships are different: Germany and Austria. Except these two countries, all other country memberships remained the same. It resulted in different outcomes in the comparison of welfare regime and pension typology, poverty rates, and the size of the effects of social security transfers on poverty. However, they are not big enough to have any significant impact on overall findings in Chapter Seven. Firstly, the trend of pension reforms cannot be explained by Esping-Andersen's regime theory or by Bonoli and Shinkawa's pension typology. Secondly, a loose relationship between reform types and poverty rates is observed. Thirdly, a moderate overall association between the size of the effects of social security transfers and the trend of *socialisation* is also observed. Regarding the third point, it is worth noticing that more outliers appeared – as Germany and Austria are

the additional anomalies – when we employed the original cut-off point in calibration. It implies the finding would have been less clear if we stick to the original cut-off point instead of the adjusted one. We would have spared more time for the outliers before drawing the conclusion. However, the core part of the finding did not change when we considered the traits of socialisation reforms in Germany and Austria, which are already explored in Chapter Six.

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