Globalisation and the welfare state: The economic, social and political dimensions of globalisation and their impact on welfare state spending programmes in 20 OECD countries between 1990 and 2015

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The economic, social and political dimensions of globalisation and their impact on welfare state spending programmes in 20 OECD countries between 1990 and 2015

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Table of Contents

List of Acronyms

ALMP	Active Labour Market Policies
CPDS	Comparative Political Data Set
GDP	Gross Domestic Product
EPL	Employment protection
KOF	Konjunkturforschungsstelle
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Squares
SOCX	Social expenditures

1. Introduction

1.1 Globalisation in recent years

A defining feature of the global economy since the 1980s has been globalisation. Globalisation in short is the process of economic, social and political international integration (Van Vliet, 2020). More specifically, globalisation is defined as "the process of creating networks of connections among actors at intercontinental distances, mediated through a variety of flows including people, information and ideas, capital, and goods" (Clark, 2000, Potrafke, 2014). Especially now during the COVID-19 crisis, there's a lot of uncertainty about how globalisation will impact the global economy in the coming years and decades. In these times there's a central role for governments to support their citizens in many ways. As we have seen in the past months in the Netherlands and other European countries, the main asset for governments to support the national economy and their citizens is to raise government spending (Algemene Rekenkamer, 2021). Over the last decades there have been many debates by scholars on the effect of globalisation on welfare state expenditures.

In this regard the original KOF Index of globalisation by Dreher (2006b) is the most common globalisation index that evaluates the economic, social and political dimensions of globalisation.[1] The KOF Globalisation Index, hereafter KOFGI, is widely used by scholars to examine the effects of the different dimensions of globalisation (Dreher, 2006). Recently, the KOFGI is revised by Gygli et al. (2019) and updated with 20 new additional variables. This provides even more perspectives to the topic of globalisation. Figure 1 shows the evidence on the three dimensions of globalisation and its development over the last decades (Haelg, 2020)

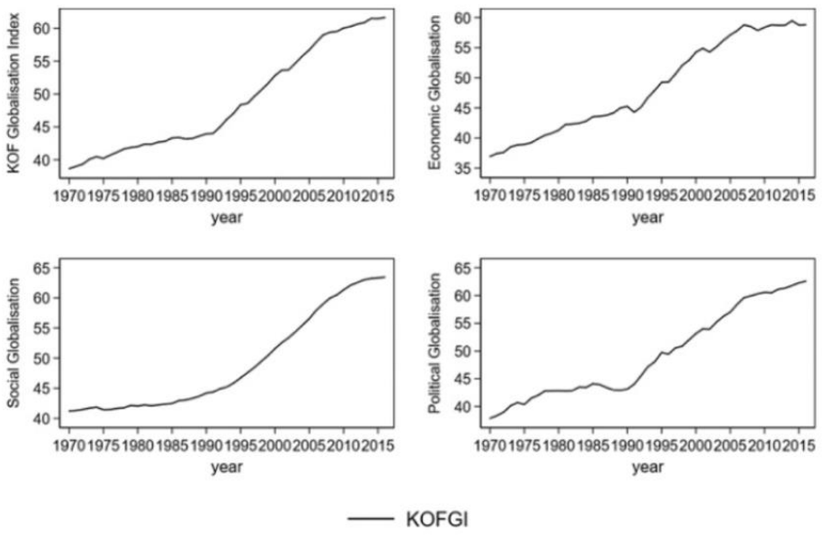

Figure 1: development of the three dimensions of globalisation in the period 1970-2015 (Haelg, 2020)

[1] KOF is an abbreviation for Konjunkturforschungsstelle located at the Federal Institute of Technology in Zurich, Switzerland.

The added value of the KOFGI is that it distinguishes between economic, political and social globalisation, whereas other globalisation indexes do not. First, economic globalisation is defined as the intercontinental flows of information, goods, capital and services (Keohane and Nye, 2000; Dreher, 2006). Secondly, political globalisation involves the differences and variance between government policies (Keohane and Nye, 2000; Dreher, 2006). Thirdly, social globalisation is defined as the diffusion and movement of ideas, information, images and people (Keohane and Nye, 2000; Dreher, 2006). These three sub-indexes are in turn aggregated into the KOFGI.

Since the 1980's there has been an ongoing discussion on the connection between globalisation and welfare state spending. In general, there are three different schools of thought that have a different view on this relationship. The first group that is relevant to mention, is the group of scholars that are skeptical about globalisation (Castles, 2004; Iversen & Cusack 2000). In their opinion and based on their analyses, other socio-economic developments, such as technological changes and deindustrialisation, are more important determinants of the development of the welfare states. Rather than economic globalisation, where authors mainly focus on foreign direct investments and economic openness, they argue that technological changes are also important determinants. Furthermore, these authors claim that domestic politics and institutions intervene in the politics of welfare states expansion and retrenchments (Swank, 1998, 2002). Therefore, these authors argue that globalisation and welfare state spending are not directly linked to each other. Besides this argumentation why globalisation and welfare state spending are unrelated, there's another group of scholars who added that partisan politics and social class are also important determinants in the globalisation – welfare state nexus (Swank, 2002; Allan & Scruggs, 2004; Kwon & Pontusson, 2005).

In contrast to these views by the first group, recent papers have argued that globalisation will result in welfare state expansion. They present the argument that globalisation has a significantly positive effect on welfare states. In the article by Cameron (1978) the compensation hypothesis is explained as such that globalisation leads to an increase in demand for more social insurances, since individual workers are exposed to economic insecurity as a result of ongoing globalisation. Governments therefore aim to compensate the potential losers for risks that are related to increased international economic competition (Rodrik, 1998). In this matter, the main focus is on the demand side of welfare state spending, since citizens are demanding more social protection.

The model of Stolper-Samuelson (1941) is useful in this debate. This model, that is based on the Heckscher-Ohlin model, argues that the comparative advantage of a country over another country, is the result of the goods and services that are produced with the factors of production with which the country is abundantly endowed (Walter, 2010). In rich and well-developed countries high-skilled labor is existing and unskilled labor is quite scarce. Therefore, an economy that can be defined as open with free trade, those people and sectors that control sufficient factors of production benefit from this and the people who own scarce factors will lose (Rogowski, 1989, Walter, 2010). Walter (2010) concludes that therefore high-educated citizens in

well-developed economies benefit from globalisation, while low-educated workers are left out (Walter, 2010).

Thirdly, there's a group of scholars who argue that economic globalisation restricts welfare states spending, since economic competition is causing a race to the bottom as examined by Genschel (2002). For instance, large multinationals have the power to pay less company taxes or can even withdraw their capital when their fiscal demands are not met. Eventually, they will leave the country when it is not economically attractive anymore to stay. Governments therefore lower company taxes to stay competitive and most of all, stay attractive for these multinationals. This in the end will cause decreasing tax revenues that eventually make potential retrenchments more likely. To conclude, this group of authors argue that globalisation will result in welfare state retrenchment.

This study aims to complement existing literature by analyzing the effect of globalisation on social expenditures on a disaggregated level in 20 OECD countries over a period of 25 years. This study contributes to recent literature by incorporating the latest available data up to 2015. Next to that, this study is not only limited to the economic dimension of globalisation, but also takes the social and political dimension of globalisation in account. Therefore, this study uses the KOF Globalisation Index that consists of the economic, social and political dimensions of globalisation. Since many scholars already examined the effect of globalisation on welfare state spending on an aggregated level, this study does the same but also includes measures on a disaggregated level. Therefore, different kinds of welfare state programmes from the OECD SOCX database are used in this analysis.

As said, most scholars that examined the welfare state–globalisation nexus only focussed on economic globalisation. However, globalisation is a highly complicated subject that cannot be defined by only economic measures. Globalisation is not only about economic openness or foreign direct investments, there also needs to be more attention for the social and political dimensions of globalisation. Since many scholars found different or even contrasting evidence of globalisation on welfare state programmes, political and social globalisation needs to be taken in account to be sure they are not the driving forces behind these contrasting findings. It could be that political and social globalisation runs through different kinds of mechanisms.

This study combines methods of recent authors. Therefore, this thesis builds further on mainly Burgoon's (2001) and Meinhards'& Potrafkes' (2012) articles. Burgoon (2001) focused on the compensation hypothesis and the argument "that a more disaggregated approach will reveal varying politics underlying the nexus". Burgoon's analysis shows that the overall outcome of globalisation will be welfare state expansion. However, he argues that globalisation has different effects among the varying welfare state programmes. Meinhard & Potrafke (2012) showed that also social and political globalisation are important determinants next to the economic dimension of globalisation.

Many authors follow the compensation hypothesis. It needs to be stated that all perspectives on the globalisation - welfare state nexus overlook important details about openness, welfare state efforts, and not surprisingly, the political institutions connecting them. As Brian Burgoon (2001) said: "Greater economic openness should constrain some elements of the welfare state, spur others, and leave still others unaffected". Besides, the effect of economic globalisation on welfare state spending is not consistent across countries because of the various and different political economies of the respective welfare states (Yang, 2000, Kim & Zurlo, 2008). Furthermore, the social and political dimensions in analyses are mostly absent in the literature.

Some authors already showed empirical evidence that in well-developed countries economic globalisation is positively correlated with welfare state spending, while on the contrary it is negatively correlated to welfare spending in less-developed countries (Rudra & Haggard, 2005). In this thesis however the focus will be on 20 well-developed, industrial OECD countries. Therefore, this thesis addresses the limitation of the scope of the research by only including 20 countries, whereas others like Meinhard & Potrafke (2012) included around 180 countries in their study.

The justification for only including 20 countries is based on the previous work of Esping-Andersen (1990). Esping-Andersen (1990) examined different kind of welfare state regimes. According to two indices, decommodification and stratification, Esping-Andersen identified three welfare regimes after the Second World War. Decommodification refers in this case to public spending that reduce the dependency of people on the market for welfare programmes such as unemployment benefits, health and pension (Onaran & Boesch, 2014). Firstly, there are the socio-democratic regimes. They are characterized by little stratification and a restricted access for privatized social services but are universalistic and democratic with a high degree of decommodification (Leibrecht et al., 2011). For example, Sweden, Finland and Norway are identified as such socio-democratic regimes. Secondly, there are conservative regimes. These consist of strong employment protection (EPL) with the family as reference point. Countries such as France, Germany, Austria, Belgium, Italy, Japan, Switzerland and the Netherlands are examples of conservative regimes. Thirdly, Esping-Andersen (1990) identified the liberal regime, which is characterized by a low level of decommodification, high levels of stratification, with a restricted role for the state and significant private insurance contributions. The United Kingdom, The United States, Canada, Australia and Ireland are examples of liberal regimes.

In the light of Esping-Andersen typology, this thesis combines the three welfare state regimes in the selection of countries. In the end, 20 countries have been chosen that are included in the analyses. These countries are the Netherlands, Germany, France, the United Kingdom, Luxembourg, Ireland, Norway, Sweden, Finland, Iceland, Austria, Italy, Spain, Portugal, Japan, Australia, New Zealand, Canada, the United States and Switzerland.

1.2 Research question

Following from the introduction the research question of this thesis is *to what extent do economic, political and social globalisation affect government spending on welfare state programmes in 20 OECD countries?* The goal is to investigate to which extent economic, social and political globalisation affected welfare state programmes in 20 developed OECD countries from 1990 to 2015. Since the many developments in economic, political and social integration and crises, the world has faced, it's interesting to examine how the three dimensions of globalisation have had an effect on welfare state programmes.

In this thesis the research question will be examined through a variety of regression analyses. Hereby this study uses pooled time-series cross-sectional regression analyses. The analyses include data of 20 OECD countries over a period of 25 year (1990 to 2015).

This study will first present relevant studies on this topic through a literature review. After that, in the remaining chapters, theories will be presented that will follow up on this. Testable hypotheses and underlying theories will be defined after this. Secondly, the methodology of the analyses, measures and data will be discussing in chapter 4. In the fifth chapter the results gathered towards this research question will be presented with additional tables in the appendixes. Finally, a conclusion and discussion will complete this study.

2. Literature Review

2.1 Introduction

There is already a large variety of literature available that examine the effect of globalisation on the welfare state. Mainly there is a collection of articles that focuses on the compensation and efficiency hypothesis that use several methods to capture the impact of globalisation on welfare state spending programmes. Therefore, this thesis relies partly on existing literature and methodology. However, as will be presented later, this thesis proposes useful additions to the existing literature in order to conduct a more comprehensive investigation of this topic.

Over the last couple of decades globalisation across OECD countries has developed rapidly (Dreher, 2006b). The introduction of new ways of (digital) transportation and communication, geopolitical developments such as end of the Cold War), and the integration of economic markets into the global trade system have led to an enormous increase in trade flows (Natal & Stoffels, 2019). These trade flows are the result of ongoing globalisation and emerging economic markets.

Due to increasing globalisation, the ongoing mobility of capital causes challenges for governments that aim to tax mobile assets and pursue economic policies that are not favored by international operating businesses (Swank & Steinmo, 2002). Due to the high mobility of capital governments are faced with a problem: by creating an interesting investment climate for foreign firms it becomes attractive for them to invest in their country, but this could also possibly lead to welfare state retrenchments.

Starke (2006) argued that the research on the development of welfare states could be referred to as neo-functionalist, whereby socio-economic developments are the important determinants of change. Starke (2006) argues therefore that relying solely on the economic dimension of globalisation is inappropriate for a comprehensive welfare state. The ongoing economic integration and developments among countries with accompanying pressures will require a change in the role of the governments. However, these pressures were so dominant that it was not relevant anymore for theorizing the policies in the EU in the late 1970's and early 1980's (Haas, 2004).

The debate on the economic integration of welfare state has been widely discussed in recent literature.
Since the 1980's the debate on the role of governments has mainly been centered around the supply- and demand sides of welfare state spending. The openness of countries' economies plays a central role here. Needless to say, study findings are mixed and significant findings are based on different methods and measures.

2.2 The efficiency hypothesis

Globalisation in light of the efficiency hypothesis decreases the ability of governments to maneuver in the social policy area, due to the ongoing economic integration and competition, which press governments into welfare state retrenchment (Cerny, 1994; Rudra, 2002). The main assumption of the efficiency hypothesis is that the international dynamics between countries and companies leads to economic pressures on national economies. Governments therefore lower costs and cut their social expenditures in order to stay competitive and attractive in relation to other countries (Jahn, 2006). The immense integration of economies results in growth of economic- and capital mobility and erodes the ability of governments to adjust their tax policies. This is often referred to as a race to the bottom in taxing and spending that is caused by globalisation (Busemeyer 2009, Plümper et al., 2009, Meinhard & Potrafke, 2012).

In the end, the efficiency hypothesis assumes that globalisation causes a decline in the size of governments due to lower taxes and lower social expenditures costs, that suggest the retrenchment of the welfare state (Meinhard & Potrafke, 2012).

Van Vliet (2011) argues that in this matter retrenchments may be diminished by the preferences of citizens. The decisions of companies on whether to invest in new locations mainly depends on costs of labor in relation to productivity of labor. Economic globalisation therefore does not lead to welfare state retrenchment per se (Van Vliet, 2011). However, the economic dimension of globalisation is argued to have a strong influence on the welfare state (Meinhard & Potrafke, 2012). The inclusion of the social and political dimensions of globalisation in recent literature is mostly absent but more importantly has been paid far too little attention to by authors.

Most studies on the globalisation - welfare state nexus find an incomplete relationship between different types of economic globalisation, such as trade openness, and welfare state spending (Garret, 1998, Rodrik, 1998.) Starke (2006) argues that in this matter retrenchment of the welfare state is the only way to tackle the political institutional factor that intervenes in this development.

2.3 The compensation hypothesis

Where the efficiency hypothesis takes the supply side of political market in account, the compensation hypothesis does for the demand side (Schulze & Ursprung, 1999). Some scholars argued that globalisation in the past decades increased social inequality (Wood, 1994, Garret, 1999). Rodrik (1997) added to this that globalisation also causes economic insecurity among citizens. In the end these economical threats will result in more demand to compensate the potential losers from globalisation by governments (Garrett, 1999). This is now known as the compensation hypothesis.

David Cameron argued back in 1978 that the positive trade-spending relationship between OECD countries is the result of developments in which countries with free trade and open economies were more able to establish strong trade unions and left-wing parties (Garrett, 1999). As a result, the political conditions that developed were conducive and necessary for expansion of the welfare state. With his explanation on how welfare state expansion could be explained, Cameron was one of the first scholars to contribute to the literature on the compensation hypothesis. Cameron (1978) came to the conclusion in his article that trade openness was the most important factor of the expansion of the public economy between the 1960's and 1975. Furthermore, other scholars found a positive correlation between globalisation and welfare state spending (Rodrik, 1998; Burgoon, 2001).

However, Cameron does not predict that an increase of trade flows will instantly result in more welfare state spending (Garrett, 1999). In this debate therefore the arguments and explanation by Rodrik (1997, 1998) are very valuable. He argued that open countries with much free trade are more exposed to risks on the world market. These threats are therefore incentives for the respective governments to increase government spending to absorb these market dislocations (Garret, 1999).

Rodrik (1997) observed progression of trade openness of countries in Western-Europe and the increase in size of governments, especially in the field of welfare state programmes (Meinhard & Potrafke, 2012). The allocation of social expenditures and the influence of globalisation on welfare state expenditures has been shown to depend on different determinants. Hence the importance and role of politicians, since they can satisfy the citizens preferences for more social protection, in order to become re-elected (Dreher, 2008, Meinhard & Potrafke, 2012). Recent literature also showed that in developed countries, where globalisation is vastly proceeding, left-wing governments for instance are expected to be more in favor of increasing social expenditures than conservative right governments (Potrafke, 2009).

Furthermore, Lammers et al., (2018) argue that the compensation hypothesis expects the so-called "social investment discourse to be strengthened due to intercontinental economic pressures that create societal demands by member states" for more welfare state spending to compensate the citizens that are affected by these pressures. This social investment discourse is therefore quite the opposite of the neoliberal discourse, that postulate that world markets can create a durable welfare state since it is based on economic competition and efficiency. In this matter the social investment discourse can be related to the compensation hypothesis. The societal demands for social protection of citizens put pressure on governments since they are responsible to protect their citizens from economical risks and pressures (Lammers et al., 2018). Therefore, the compensation hypothesis predicts a demand-led change in the structure of welfare state expenditures (Leibrecht et al., 2010). Expansion of such welfare state expenditures can either be done by institutionalizing for instance active labour market policies (ALMP) or unemployment benefits.

Besides, both the efficiency and compensation hypothesis propose that the social policy discourse is subject to potential change in the aftermath of global (economic) crises (Lammers et al., 2018). This has a lot do with the ongoing globalisation process in the EU area, especially in these challenging times that the world currently faces. According to the compensation hypothesis, it is assumed that globalisation will therefore cause expansion of the welfare state to meet the demand by citizens that suffer from COVID-19 related economic effects.

Lastly, most of the recent literature on the globalisation - welfare state nexus is framed as a discussion on whether the 'compensation' or the 'efficiency' hypothesis holds. The efficiency and compensation hypotheses both emphasize the disagreement on whether the globalisation causes expansion or retrenchment of the welfare state. What both the efficiency and compensation hypothesis imply in the end is that governments use both social and fiscal policies to deal with ongoing globalisation (Meinhard & Potrafke, 2012). Schulze and Ursprung (1999) summed up that authors should not be examining whether one of the two former hypotheses hold but rather examine to which extend the two hypotheses compensate each other. This all depends on the political institutions in place.

3. Causal mechanisms & hypotheses

In this third chapter, an overview of the causal mechanisms will be presented. In chapter 2 we presented an overview of the relevant literature. With the theoretical background and insights from other scholars, the underlying hypotheses will be presented that will be examined in the analyses in chapter 5.

The relationship between economic, political and social globalisation and welfare state expenditures is somehow ambiguous. Most of the research on this topic namely focuses on the economic dimension. This thesis is in line with other scholars that argue that the effects of globalisation are varying and not consistent depending on their theories, methodology and data selection. Most literature on this topic already confirmed that the debate between the efficiency and compensation hypothesis is a never-ending story. Besides, more authors these days agree that both the compensation and efficiency hypothesis underestimate the politics and political institutions. These rival expectations are the result of different conceptualizations and different methods.

3.1 Presenting the hypotheses

The first hypothesis that will be tested is *progression in economic globalisation will result in more welfare state spending on welfare state programmes.* The relationship between economic openness and the welfare state is examined in a wide collection of articles. Cameron (1978), Katzenstein (1985) and Rodrik (1998) showed evidence that economic openness has positive effects on welfare state expansion. This view is accompanied by the arguments that economic openness requires investments in the welfare state, so countries can be competitive on the world market (Koster, 2008). This thesis argues that economic openness, whether the investments have to endure more volatility and insecurity of citizens or to stay competitive, causes welfare state expansion and thus more social expenditures on welfare state programmes. As discussed earlier, there are views by other scholars that argue that other factors such as partisan politics and social class are also important factors that have effect on whether globalisation causes retrenchment or expansion (Swank, 2002; Allan & Scruggs, 2004; Kwon & Pontusson, 2005).

Next, we present the second hypothesis: *social globalisation has a significant positive effect on welfare state spending.* Meinhard & Potrafke (2012) found evidence that social globalisation, as defined by the KOF Index (Dreher et al. 2008a), had a positive significant effect on welfare states size. The result showed even more significant outcomes when only OECD countries were included in the analysis. Meinhard & Potrafke (2012) suggests a so-called catch-up effect whereby more people than ever are connected by the introduction of new ways of global communication and transportation. Since the size of governments also increases in other surrounding countries, this will result in a higher demand of government expenditures in their own respective countries.

This thesis also takes the political and social dimension of globalisation into account, since these factors can have different effects on welfare state programmes. Koster (2008) is one of the few scholars that examined

the effects of both political and social openness on welfare states. Dreher (2006) stated that political openness can in the end have a positive effect on welfare states, when countries can deal with the ongoing economic competition via mutual agreements. Koster (2008) however shows that political openness was not significantly correlated with welfare state programmes (social security transfers). Contrasting, Meinhard & Potrafke (2012) showed evidence that political globalisation had a positive significant effect on the government expenditures.[2] The third hypothesis underlying the latter is *increasing political globalisation has a positive significant effect on welfare state spending.*

Lastly, this thesis proposes a fourth hypothesis: *Globalisation will have a positive effect on welfare state programmes*. Here, this thesis predicts that globalisation results in expansion of the welfare state programmes when looking at the overall KOF Index of Globalisation (Gygli et al., 2019), where globalisation results in demand for more compensation from losers of globalisation. Due to globalisation and the three dimensions, we control for these 3 together in the aggregated KOFGI. Meinhard & Potrafke (2012) found that the overall KOFGI had a significant positive effect on government expenditures. This thesis argues that globalisation will have a positive and significant effect on the nine welfare state programmes that will be presented in the next chapter.

[2] Meinhard & Potrafke (2012) found that at a 10% level, the KOF Index of political globalisation measure had a positive effect on government expenditures. Government expenditures would rise with 0.10% when the KOF Index of political globalisation would rise with 1%.

4. Data and methods

In this fourth chapter the data and the data sources for this study will be presented. After the dependent variable, the independent variables and the control variables are summarized and explained.This chapter will also present the methods for the observational large-N research, pooled time series cross-sectional regression analysis that is conducted in chapter 5. As such, this research includes quantitative data gathered over 25 years (1990 till 2015) which will allow for a broader study with greater objectivity and accuracy of the outcomes.

4.1 Dependent variable (problem)

Starke (2006) and Green-Pedersen (2004) outlined the so-called dependent variable problem. As argued by Green-Pedersen (2004) the dependent variable problem is a crucial part within the debate of welfare state retrenchment. Starke (2006) argues that the choice of the dependent variable reflects the underlying understanding of authors of what composes the welfare state. The argument of Green-Pedersen's article is that this dependent variable problem is related to the way authors theoretically conceptualize this, rather than a problem that is related to data. Different theoretical perspectives on retrenchment lead therefore to different conceptualizations. Green-Pedersen (2004) says there are two perspectives on welfare state retrenchment that are important to mention.

Esping-Andersen's (1990) criticism was that the use of aggregated social expenditure data is not correct in order to examine how governments arrange their welfare state spending. According to Allan & Scruggs (2004) and Esping-Andersen (1990) data would not be suitable to measure how losers of globalisation are compensated by welfare state spending. The article by Green-Pedersen (2004) argues as well that one should keep two different conceptualizations of retrenchment separated. First, retrenchment as an unpopular decline in citizens entitlements, and secondly, retrenchment as a change in the institutional structure of different welfare states.

Green-Pedersen (2004) point out however that it is possible to use aggregated social expenditure data in order to examine the effect of globalisation on welfare state programmes. In his article he argues it can be appropriate to use social expenditure data when focusing on retrenchment as institutional change.

As said, the dependent variable in this thesis is welfare state spending. First, this thesis uses two aggregated measures for social expenditures. Total public spending (public and mandatory)[3] and total security transfers are included. Note that both are measured as a percentage of the gross domestic product (GDP). Total public

[3] Total public spending consists of both public and mandatory social expenditures instead of just relying on public social expenditures and not mandatory expenditures. First due to data availability the CPDS only use public and mandatory social expenditures. However, this is not a big problem. Since mandatory private social expenditures amounts for a large amount of GDP in a few countries that are included in this analysis. For instance, Mandatory private health expenditure amounts to circa 6% of GDP in the Netherlands, Switzerland and the United States (OECD, 2019). Due to this only including public social expenditures would not be correct and would not show the differences in social expenditures across different countries.

spending consists of different welfare benefits for old-age, survivors, incapacity-related benefits, healthcare, family, active labour market policies (ALMP), unemployment, housing-support and other social policy areas. Next, total security transfers include benefits for sickness, family, old-age, social assistance grants and welfare (Armingeon et al., 2020). These two variables are included to measure the effect of globalisation on welfare state spending on an aggregated level. Data for these two variables are derived from the Comparative Political Data Set (CPDS) by Armingeon et al. (2020), which uses data from the Social Expenditures Database (OECD, 2020).

Besides these two aggregated measures this study consists of 8 indicators which focusses on individuals. Data for these measures is derived from the CPDS (Armingeon et al., 2020), which uses data from the Social Expenditures Database (OECD, 2020). The following brief summary of the eight variables is derived from the SOCX 2019 Manual by Adema & Fron, 2019. Note that all disaggregated measures are measured as a percentage of GDP.

The variable "old-age" includes all cash expenditures on old-age pensions for citizens that are retired. (Adema & Fron, 2019). Citizens receive therefore an income when they have reached a standard pensionable age, such as the age of 67 in the Netherlands, or fulfilled the necessary contributory requirements in the past. Besides, old-age benefits include early retirement benefits that citizens paid before they reached their pensionable age (Adema & Fron, 2019).

The "incapacity" variable includes cash payments because of the inability to participate in the labour market due to partial or complete disability (Adema & Fron, 2019). This can be the result of illness or may be congenital. Also, cash benefits due to temporary illness or related to incapacity that make it impossible to work are included in this measure (Adema & Fron, 2019).

The variable "unemployment" includes all cash expenditure that citizens receive when they are compensated due to (temporary) unemployment (Adema & Fron, 2019). The unemployment measure also includes early pensions for mainly older workers who are expected to have almost no chance to find new work in their remaining years before their standard pensionable age (Adema & Fron, 2019).

The variable "health" consists of social expenditures on health benefits for patients such as inpatient care, medical services and prevention (Adema & Fron, 2019).

Next, the variable "ALMP" contains all social expenditure (other than education) which is "aimed at the improvement of the beneficiaries' prospect of finding gainful employment or to otherwise increase their earnings capacity" (Adema & Fron, 2019). ALPMP also includes spending on public employment services and administration, labour market training, market programmes to provide or promote employment for unemployed and special progammes that are related to citizens that are disabled but want to work (Adema & Fron, 2019).

The variable "family" includes benefits that support families. These benefits are often related to the costs related with raising children, child-care support and income support during leave (Adema & Fron, 2019).

The variable "housing" includes subsidies related to rent and other benefits related to housing costs (Adema & Fron, 2019). This includes for instance direct subsidies to tenants for financial support with the cost of housing. These benefits are classified as in-kind benefits (Adema & Fron, 2019).

For the variable "survivors" many countries have social expenditure programmes that provide the spouse or dependent of someone who died with a benefit (either in cash or in kind) (Adema & Fron, 2019). The measure survivor also includes funeral payments or pension related to the person who died.

Lastly, the variable "other" includes benefits (both in cash and in kind) for those households with lowe-incomes or other social services such as legal support (The Netherlands), supply of food related programmes (USA) and other benefits that are not attributable to the former categories (Adema & Fron, 2019).

4.2 Independent variables

This study makes use of the data from the well-known KOF Globalisation Index (KOFGI) updated by Gygli et al (2019). The KOF Globalisation Index measures the economic, social and political dimension of globalisation. Moreover, the KOF Globalization Index goes beyond indicators such as trade openness and capital mobility. This study takes all three types of globalisation in account. Therefore, this study complements other studies that solely relied on the economic dimension (Burgoon, 2001; Plumper et al. 2005). In this regard the original KOF Index of globalisation by Dreher (2006b) and Dreher et al. (2008a) is the most common index that evaluates the economic, social and political dimensions of globalisation. The KOF Globalisation Index is widely used by scholars to examine the effects of the different dimensions of globalisation. It is a composite index that measures all the dimensions of globalisation for almost all counties in the world on a scale from 1 (minimum of globalisation) to 100 (maximum of globalisation). The KOF Globalisation Index spans from 1970 to 2017 and each year it is updated with new yearly data. Recently Gygli et al. (2019) revised the work of Dreher (2006b & 2008a) and new variables were added. The KOFGI is based on 43 variables derived from secondary databases (Gygli et al., 2019). This study makes use of this latest version and data of the KOF Globalization Index.

The revised version of the KOFGI distinguishes between de facto and de jure globalisation. While de facto globalisation measures actual international flows and activities, the de jure globalisation measures policies that accommodate flows and activities. Quinn et al. (2011) show, for example, that the decision to use either de facto or de jure measures of financial and economic openness gives rise to systematically different findings in the financial openness-economic growth nexus. In this thesis we only use de facto data. Therefore, we need to acknowledge that this study excludes de jure data and therefore not all kind of economic, social and political measures are included in the analyses.

As noted previously, other authors solely focused on the economic dimension of globalisation (Iversen & Cusack, 2000; Burgoon, 2001). The study therefore includes the economic, political and social globalisation. These three measures are derived from the KOF Globalisation Index by Gygli et al (2019). First, economic globalisation is defined as flows of goods, capital and services and also information and perceptions that capture market changes (Keohane and Nye, 2000; Dreher, 2006). Secondly, political globalisation captures the difference and variance of government policies. Thirdly, social globalisation is defined as the diffusion of ideas, information, images and people (Keohane and Nye, 2000; Dreher, 2006b). Lastly, the three sub-indexes are in turn aggregated into the KOFGI.

Economic globalisation consists of trade globalisation and financial globalisation. Trade globalisation takes into account trade in goods, services and trade partner diversity. Financial globalisation includes foreign direct investment, as used by many scholars (Burgoon, 2001; Swank, 2002; Walter, 2010), portfolio investments, international debt, international reserves and international income reserves (Gygli et al, 2019). Next, social globalisation consists of personal contact, information flows and cultural proximity where each contributes one third. Thirdly, political globalisation includes embassies, United Nations peace keeping missions and international NGO's (Gygli et al, 2019). Finally, economic, social and political globalisation are aggregated to the KOFGI using again equal weights.

4.3 Control variables

To control for possible other factors that affect welfare state spending in the analysis, this thesis includes several variables to control for macroeconomic characteristics of the selected OECD countries. First, GDP per capita and trade openness are included to control for economic globalisation. The GDP per capita is included since Swank (2002) found that GDP per capita was negatively and significantly related to welfare state spending. In addition, Potrafke (2009) and Meinhard & Potrafke (2012) used the GDP per capita since it captures the general economic development of a countries economic situation. The data regarding the GDP per capita is derived from the World Bank (2020a). The GDP per capita is measured in 2010 US Dollars.

Trade openness is frequently used in literature and is therefore standard in the most recent studies. Trade openness is defined as the total trade (sum of import and export) as a percentage of GDP. Data is derived from the CPDS (Armingeon et al., 2020). Trade openness can control for components of economic globalisation.

This thesis also includes the inflation rate to deal with cyclical economic development. It is argued by Gygli et al. (2019) that inflation had a significant effect on growth in recent studies. Inflation is the annual change in the consumer price index and measured as a percentage change of the previous years. Data for this variable is derived from the CPDS (Armingeon et al., 2020).

Unemployment is also included to control for possible cyclical developments in welfare state spending. Hicks & Zorn (2005) found evidence that unemployment is positively correlated with welfare state expenditures. Unemployment is measured as a percentage of the labour force and data is derived from the CPDS (Armingeon et al., 2020). These two mentioned measures are broadly used by scholars in the globalisation-welfare state nexus (Brady et al., 2005; Hicks, 1999; Huber & Stephens, 2001; Kim & Zurlo, 2008). Besides, Burgoon (2001) showed that the unemployment rate was positively correlated with some welfare state programmes and both social expenditures and social security transfers. Other authors showed later that unemployment is often related with more generous welfare state programmes such as unemployment benefits and active labour market policies (Genschel, 2004).

Some scholars have argued that the effect of globalisation on welfare state spending is overestimated when relying solely on measures associated with the compensation and efficiency hypothesis. Deindustrialisation is therefore included, as suggested by Iversen & Cusack (2000). In their opinion and based on their analyses, other socio-economic developments such as deindustrialisation are more important driving forces of the development of the welfare states. Brady et al. (2005) argued that the developments in manufacturing and agriculture are causing a downward trend in long-term stable employment. Deindustrialisation therefore causes insecurity among the working class, which is why they will demand more welfare state spending. In recent literature deindustrialisation is measured as 100 base minus the sum of agricultural and manufacturing employment, as percentage of working population. Iversen & Cusack (2000) method is used here. Based on this method this thesis takes data from CPDS (2020), whereby observations for each country and year are

calculated with data for employment in agriculture, as percentage of total employment and employment in manufacturing, as percentage of total employment.

The annual deficit and GDP growth (economic growth) are included to deal with possible countercyclical economic developments. Castles (2004) showed that economic growth is negatively correlated with welfare state programmes. The annual deficit is measured as the overall balance divided by the net lending of governments as a percentage of GDP (Armingeon et al., 2020). Economic growth is measured as the growth of the real GDP, with a percentage change from the previous year. Data for both control variables are also derived from the CPDS by Armingeon et al. (2017).

Next, the dependency ratio is frequently used in analyses. Burgoon (2001) and Kwon & Pontusson (2010) use this ratio to control for demographic effects. Burgoon found that the dependency ratio was positively correlated with social expenditures. Other scholars like Potrafke (2009) and Meinhard & Potrafke (2012), included the dependency to control for the age structure. The dependency ratio measures the percentage of the population that are older than 65 years old and the people under the age of 15. This thesis uses the dependency ratio only for the analysis of the two aggregated expenditures measures. Data for this measure is derived from the World Bank (2020b). As noted, this thesis focusses on different disaggregated welfare programmes such as old-age and health care. Therefore, it is more suitable to use data that captures effect of different age groups such as elderly that are more targeted with old-age benefits, survivor and retirement benefits. Moene & Wallerstein (2003) and Castles (2004) showed evidence that the percentage of elderly are for instance positively correlated with welfare spending and other insurances. This thesis includes the share of elderly as a percentage of total population (people older than age of 65) with data from the CPDS (Armingeon et al., 2020). Since the share of elderly is expected to be positively correlated with programmes that are relevant for older people such as old-age, incapacity, survivor and health-care, this thesis includes the share of young people to examine whether this share of young people is positively correlated with family related benefits. The share of young people is operationalized as the percentage of population under the age of 15 with data from the CPDS (Armingeon et al., 2020).

Since this thesis takes the political dimensions of globalisation in account, we include control variables that are associated with the political and institutional dimension. It is argued that domestic political institutions can influence the welfare state programmes. Many authors have included measures to take into account the effect of domestic political institutions that capture the effect of partisanship on welfare state spending programmes (Swank, 2002; Allan & Scruggs, 2004; Kwon & Pontusson, 2005). By including two measures, this thesis controls for this. First, the share of left-wing parties in the government's cabinet and secondly, the share of centre parties in the government's cabinet are included. Allan & Scruggs (2004) reasoned that mostly left-wing parties are in favor of more social protection from welfare state programmes. Some authors have contractionary arguments that state that partisanship in cabinets is less relevant (Pierson, 2001). Recent literature however show that the topic of partisanship is influential and finds it relevant to include measures

to control for partisanship in governments (Potrafke, 2016). Regarding data, this thesis relies on left-wing parties and centre positioned parties from the CPDS (Armingeon et al. 2016).

Another factor that could play a determinant factor in the globalisation – welfare state nexus are trade unions. As discussed by Van Vliet & Wang (2017 & Van Vliet & Koster (2011) trade unions have the ability to call in for strikes in order to influence policy involving social benefits. However, Brady et al. (2005) found that union density had a negative effect on both social welfare expenditures and social security transfers. Although this effect was not significant, this thesis includes union density in the analyses as a control variable. Van Vliet & Wang (201&) argued that trade unions could be an incentive to resist social benefit cuts. Besides, Starke (2006) points out that trade unions are the main pillar of left-wing parties that can use their power outside the government in negotiations about reforms. For instance, trade unions in Germany and France are heavily involved in administering pension and sickness funds (Starke, 2006). Union density is measured as the net union membership as a proportion of wage and salary earners in employment. Data for union density is derived from the CPDS (Armingeon et al., 2020).

Lastly, this analysis takes employment protection in account. Employment protection is associated in the literature with unemployment benefits. When the employment protection in a country is very supportive in favor of employees, the unemployment benefits are probably less supportive.

First, we include employment protection for regular contracts. Besides, we include employment protection for employees who only have a fixed term or temporary contract. By doing so this thesis acknowledge the development of changes in contracts of employees (Hoekstra et al., 2016). An increasing share of employment consists of flexible employment in western countries. Companies may choose to hire more flexible labour to absorb possible demand shocks. In relationship to globalisation and the increase of competition, companies may have been forced by increased international trade to seek for more cost-efficient labor.

Furthermore, countries that experienced a vast increase of globalisation in recent decades, experienced a stronger increase in flexible employment (Hoekstra et al., 2016). Data for both measures are derived from the CPDS (Armingeon et al., 2020). Employment protection for regular contracts is measured with indices, whereby strictness is provided through legislation and as a result of enforcement processes in a scale from 0 to 6. Employment protection for temporary contracts is measured the same. 0 means low employment protection and 6 strict protection.

4.4 Methods

The selection of cases for this study are mostly based on the availability of data. Since most data is derived from the CPDS and Social Expenditures Database, this study combines the data of 20 countries over a period of 25 years (1990 to 2015)[4]. This results in 520 observations. In the next chapter the results of the analysis will be presented. As such, it is important to present the methodology behind this study. This study first of all relies on a pooled time series cross section regression analysis.

A pooled time series cross section regression analysis according to Plümper et al. (2005) offers two advantages over a pure time series. First, the number of observations (N) increases and therefore also the degrees of freedom. Secondly, using pooling it is possible to correct exogenous shocks that are common to all countries and reduce possible omitted variable bias (Plümper et al., 2005). A study can therefore respectively control for time effects and unit effects. As proposed by Plümper et al. (2020) to include country dummies, this study uses year and country dummies. Beck and Katz (1995) suggest including these in order to address possible omitted variable bias.

Furthermore, this study uses a time lag for both independent and control variables in all regressions. The study includes a one-year time lag based on the availability of the yearly data in order to avoid possible endogenity bias as discussed by Plümper et al. (2005).

Next, this study makes use of panel corrected standard errors combined with the Prais-Winsten transformation (AR1). Beck and Katz (1995) explained in their paper that the panel corrected standard errors correct for panel heteroskedasticity and correlation by adopting robust standard errors in an ordinary least squares (OLS) estimate. The use of the Prais-Winsten transformation (AR1) is necessary to correct for possible spatial correlation in the error term and therefore models are more consistent (Plümper et al., 2005). Besides that, the inclusion of this panel-corrected standard errors with a Prais-Winsten transformation (AR1) satisfy the minimum requirements for a solid OLS estimate. Finally, this study denies the inclusion of a lagged dependent variable and time dummies since they are expected not only to absorb parts of the trend in the dependent variable, but also are likely to bias the estimates. Plümper et al. (2005) suggest therefore using the Praise-Winsten transformation instead.

[4] The OECD countries of observation are the Netherlands, Germany, France, the United Kingdom, Luxembourg, Ireland, Norway, Sweden, Finland, Iceland, Austria, Italy, Spain, Portugal, Japan, Australia, New Zealand, Canada, the United States and Switzerland.

5. Results

In this fifth chapter the results of the analyses will be presented. First, this chapter will present the descriptive statistics. Hereby, a brief analysis of all main independent variables will be presented to give more perspective on the development of the KOF indices for the selected countries. Next, the results of the regression analyses will be presented. In order to keep this well-ordered, the result will be presented with 4 tables.

Table 5.1: Summary statistics

	N	Mean	Std. Dev.	min	max
KOF Global Index	520	80.5	6.7	55.1	91.3
KOF Economic	520	73.2	10.4	42.4	93.6
KOF Social	520	80.6	7.3	58.6	92.3
KOF Political	520	87.6	10.8	42.8	98.6
GDP per capita	520	37667.9	18654.5	7884.6	118823.6
GDP growth	520	2.3	2.7	-8.1	25.1
Openness	520	78.7	56.7	16	416.4
Inflation	520	2.3	2	-4.5	15.5
Unemployment rate	520	7.1	3.9	.5	26.1
Deficit	520	-2	4.7	-32.1	18.6
Deindustrialisation	517	90.6	6.3	51.6	97
Dependency ratio	520	22.9	4.4	15.2	42.7
Share of Young	520	21.7	15	11.8	88.7
Share of Elderly	520	15.2	2.7	10.6	26.4
Left-wing cabinet	520	32.9	36.7	0	100
Centre positioned cabinet	520	25.5	31.1	0	100
EPL (regular contracts)	484	1.8	1	.1	4.8
EPL (flexible contracts)	484	1.6	1.1	.2	4.9
Union Density	487	34.6	21.4	7.8	99.1
Social expenditures	520	41.2	9.6	13.5	67.1
Social Security Transfers	520	13.2	3.8	5.4	23.4
Old-age programmes	520	13.6	5.1	3.4	27.4
Incapacity programmes	520	2.9	1.4	.5	6.9
Unemployment programmes	520	1.1	.8	.1	4.6
Health programmes	520	6	1.2	3.4	14
ALMP programmes	520	.6	.4	0	2.7
Family programmes	520	2.1	1	.3	4.5
Housing programmes	520	.4	.3	0	1.7
Survivor programmes	520	1	.8	.1	2.9
Other social policy areas programmes	520	.5	.6	0	3.6

5.1 Descriptive statistics

Table 5.1 shows the descriptive statistics for all variables that are included in this analysis. Table 5.2, 5.3, 5.4 and 5.5 show the descriptive statistics for the 4 main independent variables (KOFGI, KOF Economic, KOF Social and KOF Political). Besides, table 5.6 and table 5.7 show the descriptive statistics for both aggregated welfare state spending measures. Table 5.2 describes the development of the KOFGI in the 20 OECD countries. In the last 25 years, the overall KOFGI for the 20 OECD countries increased with 20.9% on average in the period 1990 - 2015.[5] In 1990, the Netherlands had the highest ranking of all 20 countries regarding the KOFGI and Japan the lowest. 25 years later, the Netherlands still ranks highest in the KOFGI in 2015 but is followed closely by Switzerland and Sweden. Japan however showed the largest percentual increase in 25 years with an increase of 38.63%.

When looking at the data of the KOF Economic index, all countries experienced a substantial increase. Most noticeably, the KOF Economic variable for Japan increased with 50% in 25 years. Only Luxembourg and New Zealand increased with less than 10% percentage points in 25 years. Moreover, the data show that the KOF Economic ranking increased for all 20 countries with approximately 24.1% in 25 years. In 1990 the countries with the lowest KOF Economic ranking were Japan and Iceland. In 2015, the United States, Canada, Australia, Italy and Japan were the lowest in the ranking. However, the KOF Economic ranking of Japan increased with 50% but is still far below in the ranking with other OECD countries

Next, the KOF Social data. In 1990 Japan, Italy and Spain had the lowest KOF Social ranking. However, in the course of 25 years the KOF Social ranking of Japan experienced a substantial increase of 35%. Canada, New Zealand, Norway, Sweden, Switzerland and the United Kingdom were among the countries with the highest KOF Social rating in 2015. Regarding the KOF Political data, the rankings of the 20 countries increased with 20.1% over the course of 25 years. Austria, France, Germany, the Netherlands and the United Kingdom were the countries with the highest KOF Political rating in 2015. It is noteworthy to mention that regarding all four KOF ranking data, Nordic countries had higher rankings compared to Southern European countries such as Italy, Spain and Portugal. However, these Southern European countries had far higher percentual increases over the 25 years compared to the Nordic socio-democratic countries as defined by Esping-Andersen (1990).

[5] Own calculations.

Table 5.2: Overall KOF Globalisation Index

country	1990	1995	2000	2005	2010	2015	Change in %
Australia	67.5	73.6	77.9	79	81.4	81.2	20,33
Austria	75.3	82	86.8	87.8	88.2	89	18,18
Canada	70.8	77.6	82.7	81.7	83.1	84.2	18,96
Finland	71.8	79.5	84.6	84.5	85.9	87.2	21,54
France	74.8	78.6	83.6	84.2	86.4	87.5	16,95
Germany	72.1	78.2	84.5	86.4	87	87.6	21,46
Iceland	55.1	62.4	74.1	72.4	75.7	72.4	31,32
Ireland	73.1	78.8	82.1	83.1	84.7	85.2	16,5
Italy	68.4	72.9	80.1	79.1	81	82.5	20,57
Japan	56.6	59	67.6	71	74.4	78.4	38,63
Luxembourg	74.2	78.2	81.3	82.9	87.4	83.8	13,05
Netherlands	79.6	83.4	87.1	87.5	89	91.3	14,66
New Zealand	66.7	72.2	77.5	76.4	78.6	78.1	17,03
Norway	76.2	80.7	84.3	83.8	85.6	86.6	13,74
Portugal	60.6	72.9	79	79.9	82.3	83.4	37,53
Spain	63.6	74	80.2	81.2	83.2	85.2	34,02
Sweden	77.5	83.5	87.8	88.6	89.3	90.4	16,73
Switzerland	78.5	82.8	88.2	88.2	89.3	91	15,96
United Kingdom	78.5	82.6	86.4	87.6	88.8	89.2	13,67
United States	69.4	74	77.3	78.6	80.1	81.7	17,69

Table 5.3: KOF Economic Index

country	1990	1995	2000	2005	2010	2015	Change in %
Australia	52.5	59	65	67	67.9	66.2	26,05
Austria	68.1	74.5	83.1	83.7	81	82.3	20,72
Canada	54.3	63.2	71.5	68.1	67.5	69.8	28,44
Finland	62.6	72.2	82.1	81.6	80.5	82.1	31,25
France	64.1	66.5	77.3	75	75.6	77.3	20,50
Germany	65.8	66.5	78.8	80.1	77.5	78.7	19,55
Iceland	47.8	59.8	70.3	73.3	68.4	68.8	43,92
Ireland	78.2	87.3	91.8	90.5	89.1	89.2	14,00
Italy	54.4	62.6	72.7	66.8	66.2	69	26,83
Japan	43.5	42.5	51	54.8	57.1	65.4	50,15
Luxembourg	83.9	87	92.6	92.4	91.1	89	6,12
Netherlands	78.8	81.5	88.5	88.6	87.7	89.7	13,82
New Zealand	66.1	68.2	75	71.7	72.1	70.7	6,93
Norway	69.8	71.2	78.3	75.3	75.4	78.3	12,22
Portugal	57.9	67.4	77.2	75.1	74.3	78.9	36,15
Spain	51.1	63	75.8	73.6	71.6	75.1	46,77
Sweden	66.9	73.8	82.6	83.6	84	83.6	24,98
Switzerland	71.6	73	85.3	82.8	82.7	85.8	19,80
United Kingdom	70.7	72.9	80.1	79.7	80.4	80.1	13,31
United States	54.9	57.8	64.8	65	64.7	66.1	20,35

Table 5.4: KOF Social Index

country	1990	1995	2000	2005	2010	2015	Change in %
Australia	72.2	75.6	80.8	82.8	87.2	87.5	21,13
Austria	77.4	78.9	82.3	83.8	87.6	88.6	14,46
Canada	78.6	78.8	84.8	85.3	89.6	90.4	15,01
Finland	73.8	76.6	80.6	82.1	85.3	86.4	17,05
France	69.7	71.9	76.7	80.2	85	86.9	24,81
Germany	71.7	73.4	78.9	82.9	86.5	87.1	21,55
Iceland	74.7	80.4	84.3	87.8	86.8	86.5	15,71
Ireland	76.9	76.6	79.6	83.6	88.8	90	17,04
Italy	65.1	63.3	72.3	74.5	78.6	80.5	23,59
Japan	59.3	62.7	69.5	73.4	78.7	80.5	35,71
Luxembourg	81.8	83.7	86.9	88.7	90.8	92.1	12,50
Netherlands	73.8	73.7	77.7	80.7	84	86.7	17,49
New Zealand	68.9	74.2	81	83.3	86.9	86.8	25,99
Norway	79.9	82.4	87	88.5	91.4	91.1	13,98
Portugal	58.6	64.6	68.8	74.9	79	79.4	35,58
Spain	63.8	65.2	71.6	75.5	81.1	83.1	30,12
Sweden	79.6	81.7	85.8	85.7	88.6	90.4	13,64
Switzerland	82.4	83.1	86.2	88.7	90.3	91.3	10,77
United Kingdom	74.8	77.2	82.6	86.4	89	90.2	20,71
United States	69.4	71.6	74.9	78.3	83	85.4	23,03

Table 5.4: KOF Political Index

country	1990	1995	2000	2005	2010	2015	Change in %
Australia	77.6	86.3	87.9	87.2	89.1	89.8	15,71
Austria	80.3	92.6	94.9	95.8	96	96.1	19,61
Canada	79.4	90.7	91.7	91.9	92.1	92.5	16,43
Finland	79	89.6	91.1	90	91.7	93.2	18,06
France	90.7	97.3	96.6	97.3	98.6	98.3	8,40
Germany	78.9	94.8	95.9	96.2	97.1	97	22,96
Iceland	42.8	46.9	67.7	56.1	71.7	61.8	44,49
Ireland	64.3	72.4	75	75.1	76.1	76.4	18,88
Italy	85.8	92.8	95.2	96	98.2	98.1	14,30
Japan	66.8	72	82.5	84.7	87.4	89.4	33,73
Luxembourg	57.5	64.6	65.5	68.4	80.6	71	23,32
Netherlands	86.3	94.8	95.2	93.1	95.2	97.5	13,00
New Zealand	65.1	74.2	76.6	74.2	76.8	76.7	17,78
Norway	78.8	88.6	87.5	87.5	90	90.5	14,86
Portugal	65.3	86.7	90.9	89.8	93.6	91.8	40,51
Spain	75.8	94	93.3	94.5	96.9	97.6	28,70
Sweden	85.9	95.1	94.9	96.5	95.4	97.3	13,16
Switzerland	81.4	92.4	93.2	93.3	94.8	96	17,84
United Kingdom	90.1	97.7	96.6	96.8	97	97.4	8,12
United States	83.9	92.5	92.2	92.6	92.7	93.5	11,52

Considering both the aggregated welfare state spending variables, table 5.6 and 5.7, the total social expenditures increased with 23% over the course of 25 years. Noteworthy to mention are the exceptions of the Netherlands and Sweden, which experienced a decrease of 29% and 2%, respectively. It is arguably the result of the financial crisis of 2008, since from that year a decline of the social expenditures is measured. Regarding the social security transfers, it can be stated that the social security transfers of all 20 countries combined increased slightly over the course of 25 years with 2.3%. Notable outliers are the Netherlands (-60%), New Zealand (-52%), Sweden (-48%) and Ireland (-41%).

Table 5.6: Social expenditures

Country	1990	1995	2000	2005	2010	2015	Change in %
Australia	24.7	32.2	35.5	34	33.5	36.8	32,77
Austria	23.1	52.6	51.6	52.3	55	55.4	58,24
Canada	33.8	37.6	31.8	32.4	35.5	34.3	1,57
Finland	45.1	60.5	46.5	48	54.2	60.6	25,52
France	42.1	55.4	56.3	57.5	62.1	64.2	34,34
Germany	43	50.1	51	52.2	52.5	49.6	13,26
Iceland	13.5	29.8	29.2	32.7	34.2	31.8	57,59
Ireland	34	35.6	26.9	31.6	48.3	35.9	5,46
Italy	41.1	43.2	45.5	48.1	54.2	56.8	27,78
Japan	21.7	26.2	30.6	34.1	42.2	43.8	50,47
Luxembourg	36.5	39	38.2	45.9	47.2	44.5	18,01
Netherlands	46.5	45.6	38.3	40.2	35.1	35.8	-29,79
New Zealand	40.2	35.9	36.7	35	41.1	38.8	-3,54
Norway	42.4	45.6	43	43	44.5	47.5	10,76
Portugal	22.7	31.3	35.7	43.9	49	49.1	53,74
Spain	36.6	42	39.2	40.5	50.1	49.9	26,72
Sweden	54.4	63.5	54.8	55	53.9	53.1	-2,41
Switzerland	25.4	29.7	28.5	31.5	30.3	31.4	18,96
United Kingdom	30.4	34.5	32.2	36.7	44.7	43.5	30,15
United States	26	30.1	28.5	31.5	38	37.6	31,02

Table 5.7: Social security transfers

country	1990	1995	2000	2005	2010	2015	Change in %
Australia	7	8.3	8.4	7.8	7.5	8	11,71
Austria	17.5	19.9	18.7	18.3	19.2	18.9	7,21
Canada	9.3	10.6	8.7	8.2	9.7	9.6	3,00
Finland	14.4	21.3	15.6	15.7	17.4	19.7	26,91
France	16.2	17.7	16.8	17.5	19.2	19.8	18,42
Germany	15.2	17.2	17.5	18	16.8	15.5	2,03
Iceland	7	6.9	5.4	6	7.2	6.2	-13,19
Ireland	12.4	10.6	7.4	8.9	14.2	8.8	-41,08
Italy	15	15.6	15.8	16.2	18.5	20.1	25,58
Japan	7.3	8.4	10	10.4	12.8	12.5	41,41
Luxembourg	12.6	14.8	13.3	15.3	16	15.2	17,14
Netherlands	18.2	14.1	10.4	10.2	10.8	11.3	-60,87
New Zealand	14.8	12.5	11.1	9.1	11	9.7	-52,73
Norway	15.9	15.2	13.1	13.1	13.4	14.8	-7,71
Portugal	10.8	10.8	11.3	14.2	16.6	17.6	38,42
Spain	15.9	13.1	11.6	11.4	15.1	15.8	-0,46
Sweden	19.5	17	14.6	14.8	13.8	13.2	-48,06
Switzerland	7.5	9.9	9.4	10.4	10.1	10.2	26,43
United Kingdom	10.9	13	11.3	11.9	14.2	13.6	19,56
United States	9.7	11.4	10.3	11.5	15.3	14.6	33,10

5.2 Regression results

5.2.1 KOF Globalisation Index regression results

Table 5.8 presents the regression results of the models that examine the effect of the first main independent variable KOF Globalisation Index (KOFGI) on welfare state spending across 20 OECD countries between 1990 and 2015. Table 5.8 shows the results for when only the overall KOF Globalization Index is included. For the remaining of this analysis, this thesis does not combine the four globalisation independent variables in one model due to possible interferences with each other.

The results show that the KOFGI is positive and significant for the survivors and unemployment programmes. Only at a 10% significance level, the KOFGI is positive and significant related to the aggregated social expenditures. This result can therefore be interpreted as support of the presence of the compensation hypothesis as supposed by Cameron (1978) and Rodrik (1998). It seems that with higher levels of globalisation there's more spending by the OECD countries on welfare state spending. The results show that the KOFGI is significant for survivor and unemployment benefit programmes. A plausible explanation why only these two welfare state programmes are significantly affected by globalisation is unclear, however in the light of the compensation hypothesis it is argued that globalisation increases the size of the government in times where people demand compensation when economies are faced with economic uncertainties and risks and governments therefore respond through social programmes or public employment (Rodrik, 2011). Besides, it is shown by the study of Meinhard & Potrafke (2012) that the overall KOFGI was significantly related to the size of the government, although this is not evidenced in this study. As said, in the literature we observe mixed findings. Kim et al. (2018) found in their study that the KOFGI was even negatively related to total public expenditures of 53 developed and developing countries. Also, Dreher (2006) and Dreher et al. (2008a) found no empirical evidence that globalisation, as measured by the KOFGI, had a significant effect on social expenditures in OECD countries. Therefore, we need to take in account these mixed findings in recent literature, and hence here we find contrasting results.

Both Model 1 and 2 show that the GDP growth measure is significantly and negatively associated with social expenditures and social security transfers. GDP growth is also negative and significantly correlated with old-age, health and unemployment programmes. Besides, the annual inflation rate and annual deficit is negatively significantly associated with social expenditures. The negative relation between social expenditures, social security transfers and the annual deficit shows that budgetary economic pressures indeed are stemmed from economic downturns as discussed by Hicks and Zorn (2005).

Model 2 shows also that the dependency ratio positively correlates with the social security transfers. In this model deindustrialisation has a negative coefficient that is significantly correlated with the social security transfers. This is in contradiction with the article of Iversen & Cusack (2000) and Burgoon (2001) where deindustrialisation was positively correlated with social security transfers. In the other models,

deindustrialisation is negatively correlated with the survivors and incapacity related programmes. Regarding the individual programmes, the annual deficit is negative and significantly correlated with the housing, old-age and unemployment programmes.

Looking at the other individual control measures, unemployment is positively and significantly correlated with both social expenditures and social security transfers. This is in line with recent literature of Burgoon (2001), Genschel (2004), Hicks & Zorn (2005). The results of unemployment in the remaining models are mixed and are negative and significantly correlated with the survivor programmes and ALMP programmes. Brady et al. (2005) also found mixed effects in this relation. Left-wing partisanship seems to not have a significant effect. Centre orientated parties only have a very small negative and significant effect on unemployment programmes. Regarding the share of young and elderly, the results are mixed. The share of young people is only positive and significant for the survivor program. Results are negative and significant for incapacity related programmes and unemployment programmes. The share of elderly is only positive and significant for old-age programmes, but negative and significant for survivor programmes, family programmes, health programmes, incapacity and unemployment programmes. It is argued that the share of elderly has a positive effect on old-age related benefits, but it is in contradiction to the article of Moene & Wallerstein (2003) that the share of elderly has a negative effect on family related benefits. Lastly, the influence of unions is fairly mixed across the different programmes. Union density has a positive and significant effect on the housing and incapacity related programmes. Furthermore, union density is negatively related to old-age and health programmes. This is not quite in line with the assumptions of how unions work, since unions are mostly representing employed workers and are valuable for them in their working period (Van Vliet & Wang, 2017).

Three dimensions of globalisation exanimed independently

From this point onwards, this study will further investigate the three dimensions of globalisation independently. As said earlier, we can therefore examine the effects of the economic, social and political dimension of globalisation on welfare state spending independently without possible inference by the other dimensions.

5.2.2 KOF Economic regression results

Table 5.9 shows the regression results of the models that included the KOF Economic independent variable. The results of the KOF Economic are only significant in models 5 and 7. In model 5, where the regression captures the effect of the KOF Economic ranking on the survivor programmes, the coefficient is slightly positive and significant. In model 7, where the regression captures the effect of the KOF Economic ranking on health programmes, the coefficient is slightly negative and significant. The coefficients for the KOF Economic are mainly positive but as said not significant. Literature on the topic of the economic component of globalisation and welfare state spending is, as said, mixed. However, the economic component is in most literature the main 'globalisation' variable and therefore there is a vast amount of literature that examined the effects of the economic dimension of globalisation. The results are in line with Meinhard & Potrafke (2012) who found that the KOF Economic variable did not turn out to be statistically significantly related to welfare state spending. Additionally, the results in table 5.9 do not support the hypothesis that economic globalisation caused a higher demand by citizens for more social insurances and therefore governments compensate the potential losers of globalisation (Rodrik, 1998).

Besides, Kim et al. (2018) found that trade openness as measured with the KOF Economic indices as base, had a positive and significant effect on government size. Also Burgoon (2001) and Brady et al. (2005) examined the effect of trade openness on social expenditures and disaggregated welfare state spending measures. Our results contradict Burgoon's and Brady et al. findings, who both found that trade openness is negatively correlated with social security transfers and social expenditures. Furthermore, trade openness was negative and significantly correlated with retirement benefits (Burgoon, 2001), whereas in our study this is not significant related to old-age benefit programmes.

Control variables

Additionally, GDP per capita is only very slightly positive and significant in the models for the survivors and ALMP programmes. This is not in line with recent literature. According to Swank (2002) an increasing GDP per capita is assumed to have a negative effect on social expenditures and particular welfare state programmes, since higher incomes are less demanding in terms of welfare state spending.

GDP growth coefficients for both aggregated welfare state spending measures are negative and significant. This provides evidence that economic growth indeed has a negative effect on the demand side for welfare state spending (Burgoon, 2001). Results are also negative and significant for the old-age, survivor, health, incapacity and unemployment programmes. Regarding the other economic cyclical measure inflation, inflation has a negative and significant effect on both aggregated welfare state spending programmes. Besides, inflation has a negative and significant effect on the ALMP programmes. This finding is not in line with most research, which proposes that inflation supposedly has a negative effect on welfare state spending.

As expected and following the work of Burgoon (2001) and Hicks & Zorn (2005), the other socio-economic measure, unemployment, has a positive and significant effect on both aggregated welfare state spending programmes, in contrast to the former two socio-economic measures. Results for the other individual programmes are fairly mixed. Unemployment has a positive and significant effect on the old-age programmes, but a negative and significant effect on the ALMP programmes. Furthermore, the annual deficit has a negative and significant effect on both aggregated welfare state spending programmes and the old-age, unemployment and the other policy area programmes. This indicates that in times where the deficit is increasing, probably due to higher expenditures, there is contrastingly not much more welfare state spending. Lastly, deindustrialisation has a negative and significant effect only on social security transfers and regarding the individual programmes, a negative and significant effect on the survivor programmes. As examined by Iversen & Cusack (2000) and Burgoon (2001) deindustrialisation is positively related to welfare state spending. In this analysis the results show the opposite.

Regarding the demographic measures, the dependency ratio coefficient is for both aggregated welfare state programmes positive and significant. This supports the empirical evidence of Burgoon (2001) who found the dependency ratio to be positively correlated to social expenditures. The results for the share of young people and elderly are fairly mixed. The coefficient of the share of young measure is positive and significant for the survivor and other policy area programmes, but negative and significant for the programmes regarding unemployment. The share of elderly measure is only negative and significant in the model for unemployment.

Lastly, the domestic institutions measures. Employment protection for regular contracts is negative and significant for survivor and health programmes. Employment protection for flexible contracts shows mixed results. It shows positive and significant coefficients for social security transfers, family benefits and ALMP programmes, but also negative coefficients for old-age and unemployment programmes. Finally, the union density measure shows that it has a positive and significant effect on housing and incapacity programmes. Contrasting, union density has a negative and significant effect on health programmes.

5.2.3 KOF Social regression results

In table 5.10 the results of the regression analysis regarding the third main independent variable KOF Social are showed. The KOF Social ranking is for both aggregated welfare state spending measures positive and significant. This indicates that an increasing KOF Social ranking has positive effects on aggregated social expenditures. This is in line with Meinhard & Potrafke (2012) who found almost similar results in their study. Regarding the individual programmes, the KOF Social is positive and significant for the housing, survivor, ALMP, unemployment and other policy areas programmes. Additionally, Koster (2008) examined the effect of social globalisation on the social security transfers and welfare state generosity in 18 OECD countries. His results are not in line with our findings. Whereas he found that social expenditures did not turn out to be statistically significant and negative related to social security transfers, our results show that social

globalisation is positive and significant related to social security transfers. Besides, Koster found that social globalisation is negative but not significantly related to welfare state programmes generosity. This is also in contradiction with our findings, since we found positive and significant coefficients for disaggregated welfare state spending measures. Lastly, Kim's et al. (2018) results are contrasting to our findings. They found government size to decrease with social globalisation.

Control variables

Regarding the socio-economic variables, results for the GDP per capita are positive and significant for both aggregated welfare state spending measures and the old-age, survivor, ALMP and other policy areas programmes. GDP growth is negative and significant for both aggregated welfare state spending measures. Regarding the individual programmes and GDP growth, GDP growth is negative and significant for old-age, survivor, family, health and unemployment programmes. Trade openness is negatively and significantly related to only health programmes in these models.

The annual inflation measure is negative and significant for the social expenditures, survivor and ALMP programmes. Furthermore, the other countercyclical measure annual deficit is negative and significant related to both aggregated welfare state spending measures. This shows the evidence as seen in Hicks & Zorn's (2005) article of negative effects of economic downturns on aggregated expenditures. It is also negatively, significantly correlated with housing, old-age, unemployment and other policy area programmes.

Unemployment is positive and significant for both aggregated welfare state spending measures and therefore support the evidence provided by Burgoon (2001) and Hicks & Zorn (2005). Besides, unemployment shows mixed results for the individual welfare state spending programmes. The measure is positive and significant for the old-age and unemployment programmes but is negatively and significantly related to the ALMP and survivor programmes. Lastly, deindustrialisation has negative and significant coefficients for both aggregated welfare state measures. As said earlier, these results are not in line with the work of Iversen & Cusack (2000) who argued that deindustrialisation is the main determinant behind welfare state expansion. Deindustrialisation is however also negatively and significantly related to survivor and ALMP programmes.

The dependency ratio coefficients are for both aggregated welfare state spending measures positive and significant. This result for the social expenditures measure is therefore in line with work of Burgoon (2001). Regarding the individual welfare state programmes, the share of young people is negative and significant for all programmes except the survivor, health and ALMP programmes. The results for the share of elderly are mixed. First the share of elderly is positive and significant related to old-age and health programmes. Contrasting, they are also negative and significant for incapacity and unemployment programmes.

Regarding the institutional measures, left-wing parties in cabinet do not have a significant effect on any of the aggregated and disaggregated welfare state measures. Centre positioned parties only seem to have a significantly negative effect on unemployment programmes. Employment protection for regular contracts show mixed results. They are negatively and significantly correlated with survivor programmes, but positively and significantly related to unemployment and other policy area programmes. Furthermore, employment protection for flexible contracts is positively and significantly related to the social security transfers, survivor, family and ALMP programmes. However, these are also negatively and significantly correlated with the disaggregated old-age, unemployment and other social policy areas programmes. A plausible explanation is therefore not possible to yield.

Finally, union density is not significantly correlated with any of the two aggregated measures. Mixed results are found for the individual programmes. Positive and significant coefficients are found for housing and incapacity related programmes. Besides, union density is negatively and significantly related to old-age and health programmes.

Table 5.8: KOFGI regression results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Social expenditures	**Social Security transfers**	**Housing**	**Old-age**	**Survivor**	**Family**	**Health**	**Incapacity**	**ALMP**	**Unemployment**	**Other**
KOF Global Index	.139*	.034	.001	-.006	.033***	.015	0	.004	.003	.021**	.009
	(.076)	(.028)	(.003)	(.03)	(.005)	(.01)	(.01)	(.01)	(.004)	(.01)	(.007)
GDP per capita	0**	0	0	0	0***	0	0	0	0**	0	0**
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
GDP growth	-.27***	-.129***	.001	-.078**	-.007*	-.013	-.03***	-.012**	-.006	-.047***	-.001
	(.053)	(.032)	(.003)	(.032)	(.004)	(.009)	(.011)	(.006)	(.004)	(.009)	(.003)
Openness	-.004	.006	0	0	-.001*	.001	-.004*	.001	.001	.001	-.001
	(.009)	(.004)	(0)	(.004)	(0)	(.001)	(.002)	(.002)	(0)	(.001)	(.001)
Inflation	-.252***	-.02	.001	-.061*	-.008	.002	-.012	-.023	-.012**	-.022	-.003
	(.08)	(.049)	(.005)	(.036)	(.005)	(.012)	(.015)	(.015)	(.005)	(.015)	(.003)
Unemployment	.103**	.087***	.001	.08***	-.015**	-.01	-.01	0	-.012***	.034*	-.002
	(.048)	(.028)	(.004)	(.027)	(.006)	(.007)	(.011)	(.015)	(.003)	(.019)	(.002)
Deficit	-.287***	-.058***	-.005**	-.05**	0	-.01	-.014*	-.012*	-.004*	-.03***	-.005***
	(.042)	(.016)	(.002)	(.021)	(.002)	(.007)	(.009)	(.007)	(.002)	(.005)	(.002)
Deindustrialisation	-.06*	-.03**	.001	-.008	-.021***	-.002	-.002	.007	-.005***	.002	-.003*
	(.033)	(.012)	(.002)	(.019)	(.002)	(.006)	(.007)	(.01)	(.001)	(.009)	(.002)
Dependency ratio	.083*	.104***									
	(.048)	(.03)									
Left-wing cabinet	.004	0	0	0	0	0	0	0	0	0	0
	(.003)	(.002)	(0)	(.002)	(0)	(.001)	(.001)	(.001)	(0)	(0)	(0)
Centre cabinet	-.001	-.002	0	-.002	0	.001	.001	.001	0*	-.002**	0
	(.004)	(.002)	(0)	(.002)	(0)	(.001)	(.001)	(.001)	(0)	(.001)	(0)
EPL (regular contracts)	-.216	-.427*	-.02	-.234	-.103**	-.02	-.044	.068	-.018	.14	.038**
	(.379)	(.23)	(.019)	(.3)	(.042)	(.048)	(.045)	(.068)	(.033)	(.094)	(.017)
EPL (flexible contracts)	.353	.249*	.012	-.296**	.017	.085***	.099	-.046	.063***	-.106***	-.058**
	(.305)	(.133)	(.017)	(.123)	(.018)	(.031)	(.069)	(.052)	(.018)	(.04)	(.029)
Union Density	.006	-.002	.002***	-.012**	.001*	.003*	-.008***	.005***	.002	.004	0
	(.011)	(.008)	(.001)	(.006)	(.001)	(.001)	(.002)	(.001)	(.001)	(.003)	(.002)
Share of young			-.001	-.019*	.001***	.001	-.001	-.005***	0	-.012***	.003***
			(.001)	(.011)	(0)	(.001)	(.003)	(.001)	(.001)	(.001)	(.001)
Share of elderly			-.012	.278***	-.023***	-.037*	.048**	-.064**	0	-.044***	-.011*
			(.011)	(.08)	(.006)	(.019)	(.019)	(.031)	(.01)	(.017)	(.007)
Constant	20.554***	5.112***	.244	4.43***	.192	1.865***	4.231***	2.404*	.663**	-.771	-.242
	(4.044)	(1.641)	(.231)	(1.378)	(.343)	(.598)	(.675)	(1.454)	(.267)	(.949)	(.412)
Observations	460	460	460	460	460	460	460	460	460	460	460
R-squared	.908	.872	.825	.902	.912	.885	.832	.905	.706	.779	.842
Rho	.6438186	.6586448	.7046149	.7607503	.5180845	.6618493	.700197	.7406135	.7079336	.5923702	.7274672
Country Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Standard errors are in parentheses. *** p<.01, ** p<.05, * p<.1*

Table 5.9: KOF Economic regression results

	(1) **Social expenditures**	(2) **Social Security transfers**	(3) **Housing**	(4) **Old-age**	(5) **Survivor**	(6) **Family**	(7) **Health**	(8) **Incapacity**	(9) **ALMP**	(10) **Unemployment**	(11) **Other**
KOF Economic	.021	.019	.001	-.014	.014***	.009	-.034***	.003	.001	.004	.001
	(.028)	(.017)	(.002)	(.015)	(.004)	(.006)	(.007)	(.009)	(.002)	(.007)	(.003)
GDP per capita	0*	0	0	0	0***	0	0	0	0**	0*	0**
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
GDP growth	-.263***	-.127***	.001	-.077**	-.008*	-.013	-.032***	-.012**	-.006	-.048***	-.002
	(.053)	(.033)	(.003)	(.032)	(.004)	(.009)	(.01)	(.006)	(.004)	(.01)	(.003)
Inflation	-.256***	-.023	.001	-.062*	-.007	.001	-.016	-.019	-.012**	-.026*	-.003
	(.076)	(.049)	(.005)	(.035)	(.005)	(.012)	(.014)	(.013)	(.005)	(.015)	(.003)
Unemployment	.121***	.084***	0	.078***	-.007	-.01	-.011	.003	-.012***	.034*	-.001
	(.041)	(.022)	(.004)	(.027)	(.006)	(.007)	(.01)	(.011)	(.002)	(.018)	(.003)
Deficit	-.269***	-.056***	-.005**	-.049**	0	-.01	-.013	-.013*	-.004*	-.03***	-.005***
	(.041)	(.016)	(.002)	(.021)	(.002)	(.007)	(.008)	(.007)	(.002)	(.005)	(.002)
Deindustrialisation	-.039*	-.039***	.001	-.01	-.014***	-.003	-.002	.006	-.006***	-.002	-.002
	(.022)	(.009)	(.002)	(.015)	(.003)	(.003)	(.006)	(.008)	(.002)	(.008)	(.002)
Dependency ratio	.138**	.109***									
	(.063)	(.022)									
Left-wing cabinet	.004	0	0	0	0	0	0	-.001	0	0	0
	(.003)	(.002)	(0)	(.002)	(0)	(.001)	(0)	(.001)	(0)	(0)	(0)
Centre cabinet	-.001	-.002	0	-.002	0	.001	.001	.001	0*	-.002*	0
	(.004)	(.002)	(0)	(.002)	(0)	(.001)	(.001)	(.001)	(0)	(.001)	(0)
EPL (regular contracts)	-.218	-.314	-.015	-.225	-.104**	0	-.084**	.1**	-.01	.161*	.027**
	(.388)	(.243)	(.016)	(.305)	(.044)	(.042)	(.038)	(.047)	(.033)	(.085)	(.013)
EPL (flexible contracts)	.454	.289**	.014	-.286**	.027	.097***	.124*	-.066	.068***	-.083**	-.054*
	(.28)	(.131)	(.017)	(.117)	(.018)	(.033)	(.064)	(.052)	(.018)	(.036)	(.028)
Union density	.006	-.002	.002***	-.011*	.001	.002*	-.006***	.004***	.002	.005*	.001
	(.011)	(.008)	(.001)	(.006)	(.001)	(.001)	(.001)	(.001)	(.001)	(.003)	(.001)
Share of young			-.001*	-.021*	.003***	.001	-.004	-.005***	0	-.011***	.003***
			(.001)	(.011)	(0)	(.001)	(.003)	(.001)	(.001)	(.001)	(0)
Share of elderly			-.013	.28***	-.005	-.029	.078***	-.056**	.002	-.025**	-.003
			(.01)	(.074)	(.005)	(.021)	(.019)	(.024)	(.01)	(.012)	(.005)
Constant	26.444***	7.283***	.293	5.012***	.766**	2.42***	5.958***	2.292	.845***	.697	.071
	(2.912)	(1.98)	(.236)	(1.426)	(.352)	(.6)	(.675)	(1.397)	(.207)	(.891)	(.323)
Observations	460	460	460	460	460	460	460	460	460	460	460
R-squared	.909	.871	.826	.901	.902	.881	.835	.908	.706	.777	.834
Rho	.6740015	.6716593	.7013132	.7644176	.5746842	.6739972	.6851228	.7289252	.7056711	.5831716	.738286
Country Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Standard errors are in parentheses. *** p<.01, ** p<.05, * p<.1*

Table 5.10: KOF Social regression results

	(1) **Social expenditures**	(2) **Social Security transfers**	(3) **Housing**	(4) **Old-age**	(5) **Survivor**	(6) **Family**	(7) **Health**	(8) **Incapacity**	(9) **ALMP**	(10) **Unemployment**	(11) **Other**
KOF Social	.254***	.09***	.01***	.039	.022***	.023***	.005	.016	.01***	.049***	.008***
	(.071)	(.033)	(.003)	(.025)	(.004)	(.008)	(.011)	(.013)	(.004)	(.014)	(.003)
GDP per capita	0***	0**	0*	0	0***	0*	0	0	0***	0	0**
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
GDP growth	-.254***	-.132***	.001	-.076**	-.008*	-.012	-.03***	-.011*	-.006	-.045***	-.001
	(.053)	(.033)	(.003)	(.032)	(.005)	(.009)	(.011)	(.006)	(.004)	(.009)	(.003)
Openness	-.005	.005	0	-.003	0	.001	-.004**	.001	0	0	0
	(.006)	(.004)	(0)	(.004)	(.001)	(.001)	(.002)	(.002)	(0)	(.001)	(0)
Inflation	-.234***	-.019	.002	-.056	-.011**	.004	-.011	-.021	-.011**	-.018	-.002
	(.074)	(.049)	(.005)	(.036)	(.006)	(.012)	(.015)	(.014)	(.005)	(.014)	(.003)
Unemployment	.119***	.094***	.002	.08***	-.011	-.006	-.01	.002	-.011***	.039**	-.001
	(.039)	(.025)	(.004)	(.026)	(.007)	(.007)	(.01)	(.015)	(.003)	(.019)	(.003)
Deficit	-.263***	-.059***	-.005**	-.05**	.002	-.008	-.015*	-.011*	-.004*	-.029***	-.005***
	(.037)	(.016)	(.002)	(.021)	(.002)	(.007)	(.009)	(.007)	(.002)	(.005)	(.002)
Deindustrialisation	-.06**	-.038***	0	-.012	-.019***	-.001	-.003	.006	-.005***	.002	-.002
	(.027)	(.011)	(.002)	(.018)	(.002)	(.005)	(.006)	(.01)	(.002)	(.008)	(.002)
Dependency ratio	.09**	.109***									
	(.041)	(.027)									
Left-wing cabinet	.004	0	0	0	0	0	0	0	0	0	0
	(.003)	(.002)	(0)	(.002)	(0)	(.001)	(0)	(.001)	(0)	(.001)	(0)
Centre cabinet	0	-.002	0	-.002	0	.001	.001	.001	0	-.002**	0
	(.004)	(.002)	(0)	(.002)	(0)	(.001)	(.001)	(.001)	(0)	(.001)	(0)
EPL (regular contracts)	.162	-.307	.006	-.126	-.095**	.025	-.03	.104*	.002	.234**	.048***
	(.316)	(.202)	(.025)	(.272)	(.049)	(.053)	(.045)	(.058)	(.032)	(.117)	(.016)
EPL (flexible contracts)	.418	.266**	.002	-.332***	.034**	.073**	.095	-.059	.057***	-.126***	-.061**
	(.288)	(.126)	(.017)	(.119)	(.017)	(.032)	(.072)	(.05)	(.018)	(.04)	(.028)
Union Density	-.009	-.007	.002**	-.015***	.001	.001	-.009***	.004***	.001	.001	0
	(.009)	(.007)	(.001)	(.005)	(.001)	(.001)	(.002)	(.001)	(.001)	(.004)	(.002)
Share of young			-.002***	-.024**	0	-.002**	-.002	-.007***	-.001	-.017***	.002***
			(.001)	(.01)	(.001)	(.001)	(.003)	(.002)	(.001)	(.002)	(.001)
Share of elderly			-.018*	.243***	-.002	-.035*	.044***	-.07**	-.003	-.05***	-.007
			(.009)	(.073)	(.006)	(.018)	(.017)	(.032)	(.01)	(.016)	(.005)
Constant	9.781*	.913	-.409*	1.7	.434	.934	3.871***	1.527	.156	-3.017**	-.368
	(5.147)	(1.761)	(.223)	(1.563)	(.276)	(.727)	(.978)	(1.615)	(.312)	(1.451)	(.3)
Observations	460	460	460	460	460	460	460	460	460	460	460
R-squared	.912	.875	.809	.902	.913	.88	.832	.902	.711	.79	.83
Rho	.6721846	.632507	.7457807	.7638826	.487463	.6979775	.6964198	.755328	.7057908	.5977229	.747418
Country Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Standard errors are in parentheses. *** p<.01, ** p<.05, * p<.1*

Table 5.11: KOF Political regression results

	(1) Social expenditures	(2) Social Security transfers	(3) Housing	(4) Old-age	(5) Survivor	(6) Family	(7) Health	(8) Incapacity	(9) ALMP	(10) Unemployment	(11) Other
KOF Political	-.009	.004	-.004	-.012	.014***	.002	.015***	-.002	0	.005	.004
	(.04)	(.017)	(.002)	(.022)	(.003)	(.004)	(.005)	(.005)	(.002)	(.007)	(.004)
GDP per capita	0**	0	0	0	0***	0	0	0	0**	0	0***
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
GDP growth	-.271***	-.129***	.001	-.079**	-.008*	-.011	-.028***	-.012**	-.006	-.047***	-.001
	(.052)	(.032)	(.003)	(.032)	(.004)	(.009)	(.01)	(.006)	(.004)	(.009)	(.003)
Openness	.007	.008**	.001	0	.001	.002*	-.005**	.002	.001*	.003**	0
	(.007)	(.003)	(0)	(.003)	(0)	(.001)	(.002)	(.002)	(0)	(.001)	(0)
Inflation	-.264***	-.022	.001	-.062*	-.011**	.005	-.01	-.024	-.012**	-.024*	-.003
	(.078)	(.048)	(.005)	(.036)	(.005)	(.013)	(.015)	(.015)	(.005)	(.015)	(.003)
Unemployment	.129**	.089***	.002	.084***	-.018***	-.004	-.016	.001	-.011***	.035*	-.003
	(.053)	(.028)	(.003)	(.032)	(.006)	(.007)	(.011)	(.016)	(.003)	(.02)	(.002)
Deficit	-.274***	-.055***	-.005**	-.05**	.001	-.011*	-.015	-.012*	-.004*	-.03***	-.005***
	(.041)	(.016)	(.002)	(.021)	(.002)	(.006)	(.009)	(.006)	(.002)	(.005)	(.002)
Deindustrialisation	-.029	-.024*	.003	-.005	-.023***	0	-.008	.008	-.004***	.004	-.003
	(.035)	(.012)	(.002)	(.018)	(.002)	(.006)	(.007)	(.011)	(.002)	(.009)	(.002)
Dependency ratio	.167***	.118***									
	(.053)	(.025)									
Left-wing cabinet	.005	0	0	0	0	0	0	0	0*	0	0
	(.003)	(.002)	(0)	(.002)	(0)	(.001)	(0)	(.001)	(0)	(0)	(0)
Centre cabinet	-.001	-.002	0	-.002	0	.001	0	.001	0*	-.002**	0
	(.004)	(.002)	(0)	(.002)	(0)	(.001)	(.001)	(.001)	(0)	(.001)	(0)
EPL (regular contracts)	-.347	-.461*	-.022	-.23	-.149***	-.017	-.039	.06	-.022	.115	.028**
	(.423)	(.238)	(.019)	(.31)	(.044)	(.04)	(.039)	(.073)	(.034)	(.092)	(.014)
EPL (flexible contracts)	.471*	.27**	.017	-.288**	.031*	.069**	.081	-.04	.066***	-.093***	-.055*
	(.279)	(.124)	(.017)	(.121)	(.016)	(.032)	(.068)	(.054)	(.017)	(.036)	(.028)
Union Density	.007	-.001	.002**	-.013**	.003***	.003	-.007***	.005***	.002	.005*	.001
	(.011)	(.007)	(.001)	(.006)	(.001)	(.002)	(.002)	(.001)	(.002)	(.003)	(.001)
Share of young			-.001	-.019*	.002***	0	-.002	-.005***	0	-.011***	.003***
			(.001)	(.011)	(0)	(.001)	(.003)	(.001)	(.001)	(.001)	(.001)
Share of elderly			-.006	.292***	-.013**	-.016	.022	-.057*	.004	-.03**	-.009
			(.011)	(.093)	(.006)	(.018)	(.021)	(.034)	(.01)	(.015)	(.006)
Constant	27.056***	6.524***	.355*	4.43***	1.529***	2.121***	3.855***	2.639*	.797***	.125	.059
	(2.555)	(1.955)	(.213)	(1.304)	(.239)	(.535)	(.617)	(1.36)	(.146)	(.931)	(.217)
Observations	460	460	460	460	460	460	460	460	460	460	460
R-squared	.908	.872	.827	.902	.912	.882	.833	.908	.708	.778	.84
Rho	.6587797	.6687952	.7032521	.7616293	.495108	.6711125	.7062739	.7313259	.7053739	.5914227	.7306205
Country Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*Standard errors are in parentheses. *** p<.01, ** p<.05, * p<.1*

5.2.4 KOF Political regression results

Finally, table 5.11 presents the regression results of the KOF Political ranking for the welfare state spending measures. First, the KOF Political ranking measure is only positive and significant for two individual welfare state programmes: the survivor and health programmes, respectively. This study does not find significant effects of the KOF Political ranking on both aggregated welfare state spending measures. These results therefore do not support the empirical evidence by Kim et al (2018) who found that political globalisation had a negative and significant effect on government size. However, since this study does not find any significant effect of political globalisation on aggregated welfare state expenditures, this is in line with Meinhard & Potrafke (2012) who also did not find any significant effect.

The study by Koster (2008) showed that political globalisation did not turn out to be significantly related to social security transfers. In fact, the coefficient was negative in his analysis. In our study we find contrasting results. Our coefficient is positive but not significant. Besides, our results show that political globalisation had a small but significant effect on health and survivor benefits programmes, whereas Koster (2008) did not find a significant effect of political globalisation on welfare state generosity programmes.

Control variables

Regarding the socio-economic variables, the GDP per capita is positively and significantly related to social expenditures, survivor, ALMP and other policy area programmes. GDP growth is negatively and significantly related to both aggregated welfare state spending measures and to old-age, health, incapacity and unemployment programmes. Furthermore, trade openness is significantly and positively related to social security transfers and the unemployment programmes. However, it is also negative and significantly related to health programmes. The unemployment measure is positively and significantly related to both aggregated welfare state spending measures and old-age programmes. The measure is negatively and significantly correlated with survivor and ALMP programmes. The annual inflation rate is negatively and significantly related to the social expenditures and also for the survivor and ALMP programmes. The annual deficit is negatively and significantly related to both aggregated welfare state spending measures. Besides, the annual deficit regarding disaggregated welfare state spending shows negative and significant coefficients for housing, old-age, unemployment

and other policy areas programmes. Furthermore, deindustrialisation is not significant related to both aggregated welfare state programmes. Regarding the individual programmes, deindustrialisation is negatively and significantly correlated with survivor and ALMP programmes.

Demographic measures such as the dependency ratio are positively and significantly correlated with both aggregated welfare state spending measures. These results for the social expenditures measure therefore follow the work of Burgoon (2001). Besides, the share of young and the share of elderly people shows mixed results. The share of young is only significant and positive related to survivor and other policy areas programmes. They are negatively and significantly correlated with incapacity programmes. The share of elderly is only negatively and significantly related to survivor programmes.

Institutional measures show that left-wing and centre positioned governments are not correlated with any of the welfare state spending programmes. Employment protection for regular contracts is negatively and significantly correlated with survivor programmes, but positively and significantly correlated with other policy areas. On the other hand, employment protection for flexible contracts is positively and significantly correlated with expenditures on social security transfers, family benefits and ALMP benefits. Besides, they are negatively and significantly correlated with old-age benefits. Lastly, the findings for union density are mixed.

6. Conclusion & Discussion

This thesis examined the effect of globalisation on welfare state spending across 20 OECD countries between 1990 and 2015. In particular, this thesis assessed the three dimensions of globalisation with socio-economic, demographic and institutional factors in the development of welfare state spending across 20 well-developed OECD countries. There's already a vast amount of literature available that covers most of this topic. However, most scholars solely rely on the economic component of globalisation and aggregated measures of globalisation, whereby analyses are mostly focused on the entire OECD member states. Besides, a combination of aggregated and disaggregated measures of welfare state spending and all three components of globalisation as introduced by Dreher (2006b) is not common in the globalisation – welfare state nexus. Hence, the contribution of this thesis to existing literature is to complement them by including additional measures and the combination of all three dimensions of globalisation.

This research builds upon two very contrasting theories that are widely used in the globalisation-welfare state debate. As said, the compensation theory argues that globalisation increases economic insecurity among citizens and therefore they will demand more welfare state spending in order to compensate possible losers of globalisation. This will cause governments to raise social expenditures. On the other side of this debate, there's the efficiency hypothesis. In contrast to the former, the efficiency hypothesis argues that mainly the capital mobility in well-developed economies puts pressure on the respective governments to reduce taxes and therefore also welfare state expenditures. Welfare state retrenchment is therefore inevitable.

Recent literature on the globalisation – welfare state nexus showed fairly mixed findings. Most importantly, recent studies that examined the aggregated welfare state expenditures called for a more comprehensive study on also a disaggregated level. This study has shown that the effect of globalisation differs across aggregated and disaggregated welfare state programmes, but also that the impact of the three dimensions of globalisation independently, are not uniform. According to the compensation hypothesis it is expected that the "losers" of globalisation will demand more spending on welfare state programmes to satisfy their demand for more social protection.

As shown in the former chapter, the results of the regression analyses are fairly mixed for the four main independent variables. First, data showed that all three dimensions of globalisation increased in the 20 OECD countries in the last 25 years. Welfare state expenditures increased when globalisation was proceeding rapidly. In order to examine our research question *to what extent do economic, political and social globalisation affect government spending on welfare state programmes in 20 OECD countries?* this study utilized pooled time-series cross sectional data analyses. In order to test the four hypotheses, this thesis combined aggregated and disaggregated measures of welfare state spending.

6.1 Testing the hypotheses

This study first hypothesized that progression in economic globalisation will result in more welfare state spending. Based on the results of the KOF Economic regressions it is clear that the results do not support this first hypothesis. In fact, the results are fairly mixed and even contradicted the hypothesis. The results showed that for instance measures such as deindustrialisation are negatively related to welfare state spending. This contrasts with recent work of Iversen & Cusack (2000) that suggested the opposite.

Next, the second hypothesis that was examined in this study proposed that social globalisation has a positive significant effect on welfare state spending. Based on the results of the regression analyses we can conclude that an increasing KOF Social ranking indeed has a positive effect on particularly the aggregated welfare state spending measures. This follows the explanation given by Meinhard & Potrafke (2012) that there's a so-called catch-up effect.

Thirdly, this study hypothesized that increasing political globalisation has a positive effect on welfare state spending. The results of the analyses show that the effect of political globalisation on welfare state programmes is very minimal and weak. In fact, the results show fairly negative coefficients for all variables. The KOF Political Index increased over the years, but as the results show, this has had a negative effect on welfare state spending.

Lastly, this study examined whether or not the overall KOFGI had a positive on welfare state programmes in the period 1990 - 2015. Based on the results of the regression analyses, the KOFGI had a weak effect on the welfare state expenditures. Results show that other determinants had negative effects on the generosity of welfare state programmes such as deindustrialisation, the annual deficit, GDP growth and inflation.

Finally, the results indicate that all dimensions of globalisation are still increasing in recent years. With the current world problems such as the COVID-19 crisis, it is unclear how this will impact globalisation and therefore the effects on welfare state programmes. Is it however clear that in the coming years further research on this topic is needed to examine the effects more in depth with new parameters and new available data. Naturally, it is of acute interest to develop a KOF measure that captures medical globalisation for instance. This can help to control for a coronavirus related effect and maybe even political related effects in future research on this topic.

6.2 Limitations and suggestions

This study mainly focused on 20 well-developed OECD countries. Since the sample size is quite small, this is also a limitation of this research. Currently, there are 37 countries member of the OECD and in total the world counts 193 countries. This shows that there's still much research needed on a larger scale. For instance, this study does not include any African or Latin-American countries. Besides, as shown in the results, control variables that are expected to be significantly related to welfare state spending are not significant in these models. For instance, left-wing cabinets and centre-positioned cabinets are not significant in any of the models. It can therefore be argued that the sample size of this study is still too small in order to examine the effect of the different dimensions of globalisation on welfare state spending. It needs to be stated that for future research on this topic a larger sample of countries and therefore thus data, is crucial and advisable for better comprehensive analyses.

Nevertheless, this study acknowledges the importance of social globalisation and their impact om welfare state spending. In this study we found that the KOF Social ranking of the 20 OECD countries has a positive and significant effect of welfare state spending. These results are in line with Meinhard & Potrafke (2012) who found evidence that social globalisation, as defined by the KOF Index (Dreher et al. 2008), had a positive significant effect on welfare states expenditures. The results showed even more significant outcomes when only OECD countries included in the analysis. This leaves room for further research since economic and political globalisation did not have the alleged effects as we hypothesized.

Furthermore, it needs to be stated that the results in our four analyses show empirical evidence that the dependency ratio is positively correlated with social security transfers, and that they are also positively correlated with total social expenditures in the analyses of the three

dimensions of globalisation independently. Since the share of elderly and the share of young also showed (mixed) empirical evidence that these measures are correlated with disaggregated welfare state programmes, it is rather interesting to further investigate the impact of demographic measures on welfare states spending programmes.

The discussion on the relationship between welfare state spending and globalisation is not completely theoretical nor empirical. A variety of authors have done research on this subject empirically with theoretical foundations. This study has shown that there are contrasting findings and results and therefore definite conclusion are not possible to yield. In addition, this study finds that the KOF Political ranking has negative effects on welfare state programmes, however not significantly. Welfare states are not in crisis, but as we have seen with deindustrialisation, it is arguable there are other determinants in the field that spread to the OECD countries through other mechanisms. It is therefore necessary to further investigate the globalisation – welfare state nexus in new empirical studies that cover these (political) mechanisms.

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