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The pension policy response to Global Aging – A comparison between Europe and South America

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Summary

Global Aging is the one of the most urgent challenges of this century. Social policy makers are facing a changing demographic structure of the societies and have to find a way to adapt their state to it. Therefore this thesis will center on the policy responses that have been made so far, comparing the two continents Europe and South America. The main research question “How have European countries and South American countries responded to the aging of their societies between 2000 and 2012?” will be divided into three sub-questions, “To what extent have the six representative countries in Europe and South America been affected by Global Aging in the past 12 years?”, “What pension reforms have been made in the representative countries in the past 12 years?” and “How do the pension policy reforms reflect on the different responses to Global Aging?” The research design is a comparative case study and focuses on information found in policy papers and scientific articles on three representative countries from Europe and South America; those six countries are the main units of observation. The aim of this study is to provide an understanding of the different kinds of responses that were shown so far and furthermore give an outlook on possible future approaches. This study will be scientifically and socially relevant since it will shed light on the more current developments of pension policies in response to aging of the society on two continents. It can be used for orientation when trying to understand the development of policy responses and possibly to find best practices in future studies.

List of Abbreviations

EU	European Union
GDP	Gross Domestic Product
GPS	General Pension System
NPRF	National Pension Reserve Fund
OECD	Organisation for Economic Co-operation and Development
PAYG	Pay-as-you go
PBU	Universal Basic Benefit
PRSA	Personal Retirement Savings Account
PRSI	Pay Related Social Insurance
SSO	Seguro Social Obligatorio
USAN	Union of South American Nations

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1. Introduction

The topic that will be studied in this thesis regards social policies in response to the problem of Global Aging in South America and Europe. To be more concrete, the study will focus on pension policies of six countries that have been made in response to the aging of their societies. There have been few papers comparing the different policies approaches of different countries, and especially a comparison between South America and Europe has not been done yet. This comparison of social policies, and the differences that will be found between the two continents, could provide a first step to a larger amount of papers trying to analyze policies and possibly even searching for best practices. Global Aging is a process discussed in many social discussions, mainly referring to the ageing process that happens due to better technology, medicine and health care services. People reach higher ages than they did years ago which leads to a society with more people considered old, mostly meaning to be above the working age of 65. This is a challenge to welfare systems and national policies everywhere in the world, since there are more people requiring services such as pensions and health care but are incapable of paying it themselves. In order to adapt to this demographic change, new policies have to be made in order to improve the infrastructure of a society.

There are many different topics which fall under the category of “Social Policies”, such as policies regarding culture, education, pensions, health, housing, marriage and family living. There are articles to be found generally describing several of these topics, but since the extent of this paper is limited, there will be a focus on the qualitative comparison of specific cases, looking into the details and understanding the differences. The chosen policy area is the area of pensions and pension reforms, since pensions are one of the most important social services that have to adapt to the problem of aging of societies. Aging is a recent and currently very problematic social phenomenon, basically meaning the demographic change towards fewer children and more elderly people. This change cannot only be found in the rich European states, but as well in less developed Latin American states (Calvo & Williamson, 2008). Social policies to aging concern most commonly health care systems and pension reforms.

Research questions

The general research question of this thesis is “How have European Countries and South American countries responded to the aging of their societies between 2000 and 2012?” For better conceptualization, three sub-questions will be used:

1. To what extent have the six representative countries in Europe and South America been affected by Global Aging in the past 12 years?
2. What pension reforms have been made in the representative countries in the past 12 years?
3. How do the pension policy reforms reflect on the different responses to Global Aging?

All of those questions are descriptive, trying to provide an overview of the processes that have been going on. Since the main concept of this thesis is Global Aging, the first important step

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to take is to ensure that this phenomenon actually occurs in the countries that will be used for comparison. Therefore, the first question will refer to existing literature and indicators in order to assess whether Global Aging is a process that the representative countries have to find a way to deal with. If the answer to this question would be negative, further research into what reforms have been made would be pointless, since these policy reforms could not be linked to Global Aging.

The next sub-question refers to the concrete pension policies that have been made in the past 12 years. With the help of categories and keywords that will be developed in the methodology, the different law and policy changes will be ordered and described for each of the six chosen representative countries. Here, different kinds of approaches should be become visible.

The last step is to bring the results of the first two questions together: What do those changes in pension policies mean in the face of Global Aging? Are there patterns that can be observed and if so, what can be derived from them? The last sub – topic regards the similarities and differences in policy approaches of European and South American countries. Those differences that can be found in the conclusions for the first two questions, should also lead to a better understanding of how different cultures react to a social problem such as aging. Moreover, it allows a better understanding of social policies in Europe and South America and can possibly be the first step to more studies trying to find best practices by comparing not only the policies themselves, as this thesis does, but also discuss their usefulness and consequences.

Approach

In order to answer the three sub-questions explained above, the first step to take is to provide a clear theoretical framework which includes the opinions of authors so far on the topic that is discussed. In this case, the main concept which this thesis is centered around is Global Aging. Accordingly, the Concept of Global Aging will be the examined thoroughly. The first step for this purpose is to discuss what Global Aging actually means, how it is defined and which challenges come with it. Having understood the problems that come with the phenomenon, the question arises how those can be dealt with.

Therefore possible reactions and approaches will be explained as they were mentioned by various authors so far and the link to pension reforms made, which seem to be best suited for understanding different responses to the problem. The methodology chapter then presents how the analysis will be made concretely. The research design is a comparative case study which compares six representative countries from Europe and South America. In total 17 different sources will be used to analyze the different approaches to solving the problem of Global Aging. 12 of the sources, and therefore most of them, are scientific articles written by various social and economic scientists. The other five are legal text and studies made by European institutions. This study furthermore uses an analytical scheme which centres around the concept of Global Aging to find answers to the research questions given above. This scheme uses the different features of Global Aging (its definitions, and the different approaches) to map out keywords that help to analyse the said sources. This study is aiming at

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explaining how countries of the two continents have responded to the challenge of Global Aging and which similarities and difference can be seen. To do so, two general tendencies are given and discussed: a state-centred approach which centralized pension schemes and deepens the dependency of the citizens on the state and an individual-centred approach which includes more privatization of pensions and more individual solutions deepening on each person. The analysis should provide results on whether a separation into those two approaches is useful and what other forms there are. Furthermore the authors seeks to gather some understanding on why the responses have been in that way and what they indicate for the future path of dealing with Global Aging.

2. The Concept of Global Aging

The aim of this chapter is to discuss different views on the concept of Global Aging and therefore providing the theoretical background for this thesis. Not only the basics of this concept will be explained, but also how Global Aging relates to pension reforms. The first step will be to find out how the concept itself is explained and what it means. It is also important what Global Aging entails, which challenges come with it? Once this is established, the next step is to find out which are the possible reactions to this phenomenon? How can different reactions be distinguished from each other? Afterwards, the concept of Global Aging will be linked to pension reforms. How can pension reforms reflect upon responses to Global Aging? This knowledge is crucial in order to make comparisons later on. For this, the author will use existing literature, especially focussing on sociological papers.

Focusing on the words themselves, Global Aging does not appear to be a complex concept. Global refers to a phenomenon that is not unique or only happening in a certain area, but it is something that exists everywhere on earth, in all countries and regions, even if there might be differences in how strong the impact is in different regions or nations. Aging is a process every human being has to go through with time, even though the symptoms might differ; there is a constant change in the physical and mental condition of every human with time. However, those two words together refer to a world-wide phenomenon that is quite more complex and differs in development by place and person. Generally, it refers to the demographic change that takes place in all countries in the world mostly due to better medicine and technologies which allows more and more people to reach a high age.

But what does high age mean? Who is considered “old”? Here, already the first problem seems to appear, since there are many different definitions of old. Chand and Jaeger (1996) described an aging society as “characterized by a growing proportion of the retired to the active working population”. These authors focus in their definition therefore not on the amount of years a person has lived, but on their function for the society. In their perspective, people are old when they are not able to work actively anymore and are depending on the states, making them an issue for the respective welfare-system. Lloyd-Sherlock (2000) described in his paper various approaches of how aging can be seen. He stresses that the definition is often related to cultural background. According to him, old age “may refer biological processes and physical appearance, key life events, or social roles”. Another problem in defining old age that is mentioned by Lloyd-Sherlock (2000) is social stigmata. People often do not like to be considered “old” since this word is often associated with negative impressions such as a person being fragile, helpless and vulnerable. He calls this the “negative paradigm of old age”. This idea was also discussed by the authors Kinsella and Phillips (2005) who explain that gerontologists refuse to use the expressions elderly” and “senior citizen for the same reason of negative stereotyping due to association with isolation and physical and financial dependence. Here again, the difference between active working and retirement seems to be important. Also Crampton (2009) wrote in her paper about the “boundary between productive citizens relative to the dependent”. Since this idea of the

relationship between an independent and depend person seems to prevail in many papers on that topic, it seems to be an important indicator.

Having concluded this, there is another issue that is mentioned by various authors: the difference between “Young old” and “old old”. This form of differentiation is explained by the authors Crampton (2009), Lloyd-Sherlock (2000) and Kinsella and Phillips (2005). Other than before, the difference here does not seem to be focused on the financial dependency, but on physical and mental fitness and therefore the possibilities of society integration. This is a change that usually takes place slowly and gradually and is therefore even more difficult to measure than financial dependency. Unfortunately, it is necessary to agree on a definition in order to be able to make comparisons. Basing on average retirement ages, all before mentioned authors conclude in the end that the most convenient definition of aging is the “percentage of a given population age 65 or older”. Only Kinsella and Phillips (2005) provide additionally a definition for the “old old” being “80 years and above.” For practicality, and since also almost all official statistical sources use it as well, the author will use the former definition from now on for this thesis.

Looking at overall numbers, the phenomenon of Global Aging could first be observed in European and Northern American countries, the most developed countries. But in the recent years this process expanded also to less developed countries, in fact 60% of the world's elderly are nowadays to be found in less developed countries and, given there will not be a strong change in policies and trends, this proportion is expected to increase up to 71 % by 2030 (Crampton, 2009). Kinsella and Phillips (2005) describe this development, the aging of the societies around the globe as a success story. People have longer life expectancies due to improvements in medicine, health care and new technologies, which allow people to overcome illnesses. Also the welfare states who support people in vulnerable situations are leading to a better life quality for their citizens. So why is Global Aging considered a problem by authors and policy makers?

The hint to this question can be found in the point that was stressed above as important: “the difference between dependent and independent”. Even though the level of dependence differs greatly from person to person, older people generally become more dependent. What elderly people have in common is that only few have enough money to live from. Few rich people might have gathered enough during their active working time or have rich enough relatives or friends who provide for them, but this is the smallest part. Most people have to rely on the welfare state once they retire. Börsch-Supan (2004) explains in his paper in detail, which effects the higher proportion of older people in the societies will have. According to him, this change will “deeply affect future labor, financial and commodity markets”, among others. In addition to more elderly people, especially in developed countries, comes a decrease in birthrates which means that in the future generations there will be less people in the working age and thus less people paying for taxes, insurances. Also Crampton (2009) analyses in her paper thoroughly the different challenges that Global Aging will most likely bring.

So what can be done in order to tackle this challenge? Since states are the highest decision making authorities in the current world order, they should be the most powerful to help the societies to overcome this arising problem. According to Skocpol and Amenta (1986), “states are organizations that extract resources through taxation and attempt to extend coercive control and political authority over particular territories and the people residing within them.” Therefore, by using the money gain through taxation of the people, they can effort to subsidize and otherwise support dependent people who do not have the measures to support themselves. How exactly the money is used by the state, is often decided upon in policies. “Policies are lines of action pursued through states”, according to Skocpol and Amenta (1986). These lines of action can regard many different topics and mechanisms. The act of supporting people who cannot do so themselves generally falls under the category of social policies. These kinds of policies are “activities affecting the social status and life chances of groups, families, and individuals” (Skocpol, Amenta, 1986). Thus, when examining the responses to Global Aging, it makes most sense to study social policies that have been made by the states.

In order to decide on effective social policies, social theories are needed to give a background understanding of how a phenomenon works. The authors Kinsella and Phillips (2005) provide a good summary of the most common theories in this field. One of the most popular theories is the Role theory which assumes that people go through different roles in the course of their lives and are defined by them. Here, the role of a retiree can be stressed. The retirement often brings a strong change into people’s lives: the change from active working to receiving retirement checks does not only bring financial, but also a great lifestyle change with it. Another relevant theory is the Activity theory. It suggests that older people will who keep on having a large number of activities and roles in their lives will be happier than people who do not. According to the Activity theory, this is seen as a problem which needs to be tackled since less active people are less happy. However, the Disengagement Theory describes the opposite. According to that theory, the withdrawal of an elderly person from active social live is a normal and necessary behavior. It is questionable though, in how far the stronger dependency of an elderly person fits into this theory. The author Townsend (2012) has recently published a paper that criticises this phenomenon, though. He argues that this strong dependency of older people on the state is manufactured socially and that it is not necessary. In his view, both capitalist and socialist countries alike have “created and reinforced the social dependency of the elderly”. The way how modern economies are organized and led, together with the power distribution of modern states is the only reason this dependency of elderly exists. However, Townsend argues that this would not be the only way. There could be alternative ways of forming the society and integrating the elderly. He argues for researching and finding those alternatives. In order to understand what options exist for the states to change and adapt their social systems, this thesis will therefore discuss which changes in the pension system can and have been made. Hence different social policy approaches (regarding aging) will be presented in the following.

According to Townsend (2012), sociologist and policy makers accepted so far the emphasis “on trying to explain individual ageing within a structure”. This Individualistic Approach was

developed from the tradition of functionalism and assumes that the focus of aging policies has been mostly on the relationship with the state. Other relationships such as with relatives, organizations or others are often overlooked and not considered seriously when deciding on aging policies. While there is a high chance that this indeed has been the case in past, the question arises whether this is still so? Do states still rely on the dependency on them, or do they start implanting policies with an approach that takes the individuals' preferences into account? The paper of Grant et al. (2004) focuses mainly on the arising problem of low fertility rates, a topic which is closely intertwined with the topic of Global Aging. As long as there would be a strong and constant supply of babies (future active workers), the economic effects of Global Aging would be less severe. The ratio between old and young would differ less and thus the structure would not be changed much. These factors are therefore to be considered in the following analysis.

Crampton (2009) presents in her work different theories that have been made so far to predict the demographic change of a country or society. However, she argues that all of those theories were outpaced by recent demographic trends and thus none of these theories can be applied. Instead, her argumentation goes in the same direction as Townsend's: Instead of viewing the aging of a person outside of economic and human development, new ideas about what being old means and who is old should be developed. Furthermore, since in her view the fact whether and how people become old depends strongly on their social relationships, the author proposes to try to keep people as long in their social environment as possible. It should be mentioned though that this idea is opposing the Disengagement Theory presented before. Lloyd-Sherlock (2002) on the other hand, wrote in his work that there has already been a "clear shift away" from the idea that developed states have a universal-state run welfare program that provides services for the elderly. He therefore disagrees with the fact that in almost all countries the dependency on the state is as high as Townsend described it. Even though pension schemes in South American countries "often account for a high proportion of public spending", many people do not actually receive the funds. Therefore, the dependency on the state is small and the relevance of state policies seem to be less than in developed countries.

Also the authors Calvo and Williamson (2008) wrote on policies reforms to aging in South America, especially on pension reforms. They argue as well that there is a clear difference between developed and developing countries. They define Latin America as a traditional culture and low-income economy which is "organized around three principles: family, reciprocity, and loyalty", whereas developed countries are more often organized around planning and legality. This seems to back up Grant et al.'s (2004) hypothesis that a policy depends strongly on the social and economic context. Other authors on the other hand, argue in favor of a stronger welfare system, independently of the circumstances. Shrestha (2000), for example, also examines the policies concerning Global Aging. Even though his focus lies not on pension reforms but on health care, he argues that in order to tackle the changing needs of the society, more services should be provided for the elderly, especially more health care financing. He therefore argues in favor of a heavier state involvement and thus a stronger state dependency as described before, instead of a focus on personal relationships.

Coming back to the topic of pension reforms, Chand and Jaeger (1996) sorted all kind of reforms into four different categories. All of the changes in policies that have been made so far seem to roughly belong into one of those. Thus, this categorizing might be useful later when structuring the analytical scheme for this thesis. Regarding categories, Schlundi (2001) describes the pension system of Austria, France, Germany, Italy and Sweden as Bismarckian type, using a defined benefit or Pay-As-You-Go basis which is highly vulnerable to demographic and economic pressures. He does not, however, suggest using different social concepts like Crampton does, but argues instead that the effectiveness of a pension reform depends on “the government’s ability to orchestrate a reform consensus either with the parliamentary opposition or with the trade unions.” This stands very much in contrast with the statement of the before mentioned others who believe that the effectiveness depends on the social and economic circumstances, not the political progress to make the policy.

Concluding, different definitions of Global Aging were discussed. It became obvious, that the dependency of an individual on the state and therefore the retirement is an important factor. Since the main difference that retirement brings, is the change from active worker to retiree who receives monthly pension from the state, this thesis from here on focus on pension policies. Discussing different author’s analyses and suggestions for different pension reforms, it became obvious that the social, cultural and economical context seems to be important when studying pension reforms. It therefore makes sense to compare the policies of different countries and continents. Since there is much literature on pension reforms in Europe on the one hand, and in South America on the other hand, it seems useful to compare those two continents. Especially, since there is not only a big cultural and social difference, but also the difference between a developed and a developing continent. The financial and general dependency of most retirees on the state has been criticized by various authors. Authors have argued that welfare states, which created the dependency of the elderly on them, will not much longer be able to support the pension system like they are right now.

Hence, the question rises, how did the policy makers react in the last years to the phenomenon of Global Aging? Which measures have they taken in reaction to the last developments and do those measures tell about their idea how this problem can be solved? Discussing the literature on this topic, two general directions became obvious in how the problem could be tackled. The first is an even heavier dependency on the state. The state somehow restructures and refines its system in a way that allows it to provide for more elderly people. The other direction is to use a more individualised approach. The state takes into account the social and financial situation of each individual. This approach allows finding solution that fit better for each individual and give elderly people more independency. On the other hand, it also means fewer services will be provided by the state directly. The individual has to take more responsibility for his pension care and also finance it more. In the following thesis the author will use these two concepts – the state-centred approach which provides more services, but allows less choosing and the individual-centred approach will allow more independence, but requires more payments – to analyse the pension reforms of the past 12 years. Afterwards, it will be questioned whether using these two approaches seemed to be applicable to the reality of the developments or if there are other changes that cannot be categorized in that way.

3. Methodology

This chapter will be used to describe the methodology used that is necessary in order to conduct the analysis. The main question to be solved is how can the theories provided in the former chapter be proved or refuted? To be more concrete, how can it be demonstrated that Global Aging actually occurred in Europe and South America and how can the pension reforms be linked to this concept and categorized practically? These issues will be dealt with in this text, starting with a presentation of the research design itself, followed by the method of data collection and the method of analysis.

Research design

The research design to answer the research questions can be described as a comparative case study. The six cases I will study are policies made regarding pensions on the one hand by three European countries, and on the other hand by three South American countries. I will concentrate hereby on latest developments, meaning on policies made since 2000. It will be examined whether Global Aging has occurred in those countries and which steps were taken with regard to aging. A comparative case study is the most appropriate since the research questions relate to already existing policies and policy papers which make experimental designs or in general quantitative designs inutile. In order to understand and describe policy differences, it is necessary to look into the policy papers themselves. My analysis will be qualitative and focusing on the content of the policies that are being made. Since already existing literature (research papers) will be used, most threats to validity that come especially with experimental designs will not play a role, such as maturation or testing.

Method of data collection

Regarding the data selection, there where different kinds of data collected and used. First of all, since this thesis is a comparative case study, representative countries for the two continents Europe and South America needed to be selected. Due to the length limitation of this thesis, three countries should be chosen for each continent. Making that selection, the author focused only on one main criterion: diverse representation. Since continents in themselves are often very diverse and include countries of very different culture, language, economy and such, thus in order to make a fair comparison it is important that the countries are selected in a way that the different sides and conditions within the continent are equally represented. It is useful to have a variation in size, economic situation as well as political tendencies and welfare systems. This means the author tried to select countries in a way that the most of the features existing on the continents are represented in at least one of the countries. This selection led to the decision for Germany, Spain, Ireland, Colombia, Bolivia and Argentine as the representative countries.

Germany is not only one of the richest and largest countries, but has also been very influencing in the recent EU policy making. Germany therefore represents the rich European countries. Spain, on the other hand, represents the Southern countries with a very different

cultural background and currently one of the highest unemployment rates in Europe. To many it is considered a state in crisis. Ireland represents the Northern countries, their culture, and welfare system and has been strongly affected by the 2007 financial crisis.

Regarding the South American countries, Colombia in the north of the continent is one of the countries with the heaviest past influence by the United States of America. Moreover, it is one of the bigger countries in South America and has been through a rough structural change in the last 10 years. Bolivia, being one of the smaller countries is located in the middle of the continent and is together with Paraguay the only one without its own coastline. Furthermore it has recently adopted a new constitution which is said to be more social than from any other country in the world, so this is an interesting case to look at. Argentina, located at the south, is supposed to be one of the more developed countries in South America and should thus represent the more developed South American countries, to which also Brazil counts. The author did not choose Brazil as a representative country since the country and its economy is a lot bigger than all other South American countries and thus it can be more considered an exception than a representative.

Having selected the representative countries, the data needed in order to answer the first research question is of statistical nature: in order to determine whether Global Aging occurred in those countries, it is necessary to assess information on demographic changes in them. Here, two criteria were used to select the data: availability and reliability. Availability applies mostly to the South American countries, since countries there are in several ways not as developed as in European states, statistical information is scarce. And the information that exists often comes from questionable sources. Thus, reliability is very important. Because of that, the author only used three sources of data: records that can be found on the homepages of the UN, European Union and the World Bank. Since those are international and intergovernmental institutions, the chance of wrong information should be small.

More concretely, the UN Report of World Population Aging 1950-2050 (UN, 2001) was chosen. This report does not only provide detailed information on each country, but also on general trends and changes. Thus this report is considered useful. Beside the UN report, the statistical reports from the EU, EuroStat (2012a, b, c, d, e), are used to gain more concrete information for the European Countries. The secondary sources for the South American countries are the statistical reports from the World Bank (2012). Whereas the UN report provides information spread over several years, EuroStat and the World Bank reports give concrete yearly numbers.

Then, for the following analysis, pension reforms are supposed to be assessed using certain criteria. In order to find the most helpful and important legal changes, indicators will be used. First of all, the focus lies on big changes, meaning complete reforms of current systems and laws or the change of many laws at once. Moreover, changes that have a strong influence on the life of the citizens, such as laws that provide elderly with significantly more or less money than before will be considered. Finally, cases that drew much attention from the media will be considered important. Since there is no study yet including the required information on the six chosen countries, information will be gathered using a wide variety of scientific articles and

policy papers and legislative texts on the important changes and reforms in each of the countries under study. The initial idea was to use legal text published by the governments' official internet pages. Unfortunately, this proved to be impossible, since on the official pages only the current laws and legislation are presented, but hardly older ones and former reforms. The only papers that were used that were provided by the government of the country are laws published online by the German Ministry of Justice: Bundestag (2001) and Bundestag (2004). These are the original legal texts that are currently enforced in Germany. Additionally the Rürup-Bericht (2002), a German policy paper decided upon by the government back then and currently enforced, was used to the analysis. Other than that, it was surprisingly difficult to find original policy papers since these are normally to be found only in local libraries in the different countries. Therefore the author resorted instead on using scientific articles published by social and economical scientists who have examined the pension policies for various reasons. In total, 12 scientific articles were used: Salter, Bryans & Redman (2009), Stewart (2011), Whelan (2007), Tapia (2008), Escrivá, Fuentes & Herrero (2010), Escrivá et al. (2010), Escobar & Nina (2004), Rofman (2000), Rofman, Fajnzylber & Herrera (2008), Boldrin, Jimenez-Martin & Peracchi (1999) and Stolleis (2003). Further information on these scientific articles, including their titles and publication can be found in the respective references in the literature list of this thesis. Next to that, only two more sources were used for the analysis: a recent official analysis of Spain's policies made by the OECD (2011) and an overview over the pension policies of all EU member states officially published by the European Commission (2009). Therefore, in total 17 sources were used to gather the needed information.

Method of data analysis

In order to provide a structural and valid analysis, an analytical scheme is needed. This scheme will be presented in the following text. The main research focus of this thesis lays on finding out how different continents reacted to the problem of Global Aging in the recent past.

The theoretical concept to which this question relates, and which provides the background theories for this analysis, is Global Aging. Deducing from the chapter of this name, there are basically three issues related to that concept which the author seeks to research. The first issue is existence of Global Aging in the representative countries. Is Global Aging appearing to be a problem/challenge in the representative countries and if so, to what extent? This will be done by analyzing statistical information on the countries using certain keywords or criteria: elderly ratio, birth rates (in comparison with the death rate) and life expectancy. The elderly ratio describes the amount of elderly people in a country in comparison with the rest of the population. As elderly are all people considered who are 65 years old or older, according to the debate presented in the chapter before, this seems to be the most convenient measure. In the chapter before it was also explained that birth rates/fertility rates are closely related to Global Aging, since the effect of the phenomenon would be weaker if the birth rates would rise together with the amount of elderly people. Therefore, also birth rates will be examined. Another interesting factor is the life expectancy. Unfortunately this is not information that can be found on each country. But when found, it will be included since life expectancy shows the

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average age people usually reach in one country. If this number rises, it indicates that the society as whole ages and therefore is subjected to Global Aging is. Other statistical demographic information does not seem to be useful since they cannot be compared internationally or there are too many different factors that play a role.

The theoretical framework of this thesis then linked the concept of Global Aging to pension reforms. Since pension reforms seem to be one of the most important measures that states can take to tackle the challenge of Global Aging, the next question that arises is how did the states reform their pension systems? Two possible tendencies have been identified so far, the tendency to state-centered policies and the tendency to individual-centered policies. But other than those two, there might be other approaches that have been taken by the governments. In order to get answers to those questions, two further steps have to be taken. First of all, it is necessary to find out what policies have been made at all. Pension schemes and policies are general a very complex topic and it is easy to lose oneself in details. It is therefore necessary to use certain keywords or categories which help to make the different policies of the countries comparable. Taking into account the description of general changes possible by Chand and Jaeger (1996), the following categories seem to be useful: tendency to private or public pensions, higher or lower pension entry age and higher or lower level of pensions and taxes.

The first keyword, tendency to private or public pensions, refers to the direction of policies: Do the policies tend to favor a stronger state role in the pensions or do they prefer to privatize pensions, for example by insurance companies? Pension entry age is another key factor. It has been discussed in the chapter before, at which age somebody is considered old. Changing the Entry age gives an indication on what age the state thinks an individual should not be an active worker anymore. Furthermore it is generally easier to delay retirement after official entering that age, and then shortening it. Therefore an increase in pension entry age can also be understood as giving the individual less choice and forcing him to work longer. On the other hand, it might also enable him to stay in its usual environment longer, when wanted. The next category is the level of pension. Thereby it is meant how much do the retirees receive from their state pension and whether this becomes more or less over time. This should also give an indication whether the state intends to expand its welfare system and make people more depend or to decrease it and therefore make them more responsible for finding other sources of money. The last keyword regards taxes. As explained before, taxes are the means of a state to collect money which will then be distributed again. The raising or lowering of taxes should therefore give an indication of the governments intentions. It should be mentioned though, that taxes play a main role in very many different kinds of policies, not just those related to aging. Information on tax changes therefore can be considered, but are only used as additional information, not as a main indicator.

In order to understand which of these changes have been taken place, however, it will be necessary to first give a short description of the pension system of each country in general. If it is not known how the system used to function, one cannot tell whether change has even taken place and to which extend. Therefore, a summary on the system and its history will be needed for each representative country.

Having described the developments of pension reforms in the representative countries in the past 12 years by using the keywords explained above, the next step is make the comparison between the countries and draw conclusions from that. In order to answer the question of which patterns of behavior or which approaches the states show, in the third step the results of the analysis before will be compared. In order to do so, it will be examined which similarities and which differences can be found and, using the theories presented before, conclusions on their meaning will be drawn.

Summarizing these findings, the author comes to the conclusion that the following activities have to be done in order to answer the research questions of this thesis:

1. Since the first step is to get an understanding of the extent to which aging has influenced the two continents, statistical information on each representative country will be gathered. In order to prove or refute the occurrence of Global Aging, the indicators elderly ratio, life expectancy and birth rate will be used, for the reasons explained above.
2. With the concept of Global Aging closely linked to pension policies, the author will afterwards analyze the pension policies of each country. For this, firstly a short description of the pension system of the country in general is needed so that changes can be noticed. Then, the keywords “tendency to private or public pensions, higher or lower pension entry age and higher or lower level of pensions and taxes” will be used in order to see the different reform approaches the states have used. The choice for those keywords was made based on the theoretical framework of this thesis.
2. To make conclusions on the different responses to Global Aging, the differences and similarities of the approaches of the representative countries will be compared using the same keywords as in step 2.

4. Analysis

This analysis seeks to find out which responses were given by two different continents in the recent past to the challenge of Global Aging. In order to do so, this chapter will be divided into three parts.

Since this thesis centers around the concept of Global Aging, the first step that has to be taken, is to study whether this phenomenon even takes place in the countries that have been chosen to be the representatives of their continents. The second chapter presents thoroughly the different definitions that can be used to describe an aging society. In the end, in order to reach comparable results, it was decided that in this thesis people will be considered old when they have reached an age of 65 or above. Furthermore, two indicators were given in the methodology part to examine the statistical information: elderly ratio and birth rates and life expectancy. Using those indicators, the first part will be used to discover whether Global Aging was affecting the countries and to which extend.

Since the final goal is an understanding of the different responses and approaches used by the different countries, the next step is the analysis of the pension reform of each country. In the theory part different possible approaches were discussed and the difference between state-centered and individual-centered policies has been worked out. The second part will therefore use the understanding of those approaches to describe the changes that have been made in each country individually. To do so, as described in the methodology, first a short summary on the pension system of the country in general will be provided followed by a description of the policies made in the past 12 years using the keywords that were developed in the methodology chapter.

The final task to be done is then to use the results of the second step in order to understand where there have been similarities and differences between the countries and continents and understand how the general responses have been. Here again the different approach forms that have been described in the conceptual chapter will be utilized. For the comparison between the countries and continents, the same keywords as used in the second step will help to categorize the different changes.

4a. Global Aging in the representative countries

Germany

In order to get a good idea on the way the pension policies were changed in reaction to the aging of the society, the first step is to give a general impression on how much a society aged. In the European statistic database Eurostat (2012a, b, c, d, e), there is the following information: the elderly ratio, meaning the relation between people 65 years old and older and people between in the working age (15-64) constantly increased every year between 2001 and 2011 with about 0.5 Percent per year. In total, it raised from about 23 to about 31 percent. In 2011, it fell for the first time in years, about 0,3 percent. 2012 brought no visible change over the year before. In total, the percent of people of 65 years and older, raised from 16,7 to 20,5 percent. Eurostat also provides a prospected future elderly ratio. It is shown, that in 2030, the elderly ratio will rise to 47 percent, in 2040 to 56 percent, in 2050 to 58 percent and in 2060 to 60 percent. At the same time, the birth rate constantly sank from 9,3 to 8,1 births per 1000 inhabitants. Finally, there is a prognosis for the total amount of people in Germany. According to this, the total amount of about 78 million people in 2030 will sink down constantly to about 61 million in 2060. This means, not only would Germany's population become older, also, because of the sinking birth rate, the total amount of people will become less. According to the scientists presented before, this development therefore clearly indicated that Germany is a country that is strongly affected by Global Aging and the challenges that come with it. It is therefore meaningful to use this country for the comparison. Even though the difference on whether a old person refers to someone who is 60 or 80 is not accounted for, taking into account that almost every scientist uses the indication of "65 and older", it is safe to say that Germany is heavily influenced by Global Aging already for a longer period of time. Thus the policies that have been made should reflect on this changing situation.

Spain

According to Eurostat (2012a, b, c, d, e), in Spain people have not been aging closely as much as in Germany. On the contrary, having increased just slightly between 2000 and 2003, from 2004 to 2008 the elderly ration has been decreasing every year for about 0,2 percent. Then, from 2008 to 2011, it has increased. In the 2011, the elderly ratio was slightly more than 25 percent. The predicted elderly ratio chart shows that in the future the elderly ratio will increase a lot more: in 2030 it might be over 35 percent, in 2040 over 45 and 2050 over 57. Then, on the other hand, it is predicted to fall 2 percent until 2060. The total amount of people above 65 follows the same pattern of the elderly ratio: it slightly rises up to 17 percent of the whole population in 2003, then falls to 16,8 percent in 2018 and slightly rises again up to above 17 percent of the population. The birth rates on the other side were constantly rising until 2008 where they reached a maximum of 11,4 births per 1000 inhabitants, but since then constantly fell again until in 2011 they were slightly above 10 births. All in all we can conclude that Spain was, as defined before, under the influence of Global Aging. However, the process seems to be much slower than in Germany and it has also stated later. Therefore the policies that have been made might not be paying as much attention to this development as in other countries.

Ireland

In Ireland, the elderly ratio is considerably much lower than in Spain or Germany. However, the development follows the same pattern as Spain: Between 2000 and 2009, the elderly ration constantly decreased, each year a bit, until it stands slightly above 15 percent. Then, it rises again, so that in 2011 it had almost reached 17,5 percent. In the years 2030, 2040 and 2050 it is predicted to strongly increase up to 28, 33 and almost 40 percent, then, in 2060, it is predicted to drop again onto about 37 percent. In the time period between 2000 and 2011, the total amount of people above 65 reached its minimum in 2008 with less than 11percent of the total population, and then increased again up to more than 11,5 percent in 2011. The birthrate has a very different pattern: it has two humps, the first maximum in 2002/2003 on about 15, 2 births per 1000 inhabitants, and the second one in 2008/2009 with about 16,8 births. Since then, the birthrate has been decreasing again. Concluding it becomes visible that also Ireland is subject to Global Aging. However, the indicators show a weaker development. It can be assumed therefore that Ireland's policies will probably be affected by Global Aging, even if not as strong as in Germany.

Colombia

Now coming to the South American countries, according to statistics of the World Bank (2012), the percentage of people aged 65 and older in Colombia slowly but constantly increased in the years from 2003 to 2011. While in 2003 it was only at 4,9%, in 2007 there were already 5,3% and in 2011 5,8%. The death rate did not change within those years, constantly being on 5,5%. The average life expectancy increased from 64 to 66,6 years. Accordingly, the birthrate per 1,000 people decreased from 21,8 to 19,4. All in all, the same aging trends as in the European countries, meaning the decrease of birthrate and increase of elderly people, can be observed in this country as well, even though the rates are changing slower than in the European countries. Therefore it can be assumed that the observation by Calvo and Williamson (2008), that South American countries are also affected by Global aging though much slower than European countries, is true.

Bolivia

In Bolivia, the percentage of people ages 65 and older constantly but very slowly increased from 4,3% (2003) to 4,7% (2011). At the same time, the death rate per 1,000 People constantly decreased from 8 to 7,2. The average life expectancy increased relatively much from 64 to 66,6. The most extreme change can be seen in the birth rate per 1,000 people. Here, the number changed from 29,9 in 2003 to 26,1 in 2011. Concluding one can find the same trends of an aging population as in the other countries can be observed.(World Bank, 2012) Therefore also Bolivia's policies could possibly be effected by the phenomenon of Global Aging, even though it is not completely clear how serious politicians of this country see this problem see so far.

Argentina

Argentina differs in their population structures relatively much from Colombia and Bolivia. The percentage of people aged 65 was in 2003 already 10,1%. From there, it constantly

increased, until in 2011 10,7% of the population was older than 65. The death rate per 1,000 people stayed more or less the same around 7,7. The birthrate per 1,000 is on a lower level than the other two South American states, and it constantly decreased even more from 28,8 (2003) to 17,9 (2011). Overall, we can see the aging trend in Argentina more clearly than in Bolivia and Colombia, which is probably due to fact that Argentina is more developed than the other two. (World Bank, 2012) This again would prove the statement by Calvo and Williamson (2008) that the more a country is developed, the stronger it is affected by Global Aging.

In total it was found that all countries above showed signs of an aging society, even though the extent differs quite a bit. In general it became visible that the South American countries together with Spain, who is culturally strongly related to the South American countries, have a slower progress than the others. Since Argentine has a stronger development than the other two South American countries, it seems that the country is stronger affect, the more developed it is. It is therefore questionable how strongly the problem of Global Aging is considered by pension policies makers in less developed countries. Which changes have been made by them, will be explained in the next abstract.

4b. Pension reforms in the representative countries

Germany

The pensions system

In order to understand what policy reforms have been made and which influence they possibly had, it is necessary to firstly give a rough explanation of what the general pension system is. The pension system had its origin in the 1880s, where for the first time a small fee was paid by the government to old people. However, this fee was very small and only considered additionally support; the main responsibility lay within the families. In the year 1957 then, the system was changed completely and the “contract between the generations” was introduced, meaning that the people currently working are paying into the pension fund, from which the money was directly given to the elderly. The height of the pension would always be adapted to the annual GDP. In 1972, the system was opened to women as well. Economic and birth rate development showed that the system how it was would not hold up since there were more elderly people that needed support from less working people. Thus another big change of the system was made: instead of the gross income, now the pension calculation focused on the net income of the people. In this way, the pensions given to the elderly sank considerably. (Stolleis, 2003)

Reforms

As explained above, the reforms since the year 2000 will be analyzed using the following categories: tendency to private or public pensions, higher or lower pension entry age and higher or lower level of pensions, taxes, additional changes. The biggest and most influencing reform of the pension system has been made in the year 2001. The level of the pension was dropped from 70 to 64 percent of the former average income. The entry age for pensions was not changed. However, for the first time a private pension was introduced called “Riester-Rente”. (Bundestag, 2001)

In 2003, an expert team provided the German government with a report on the ongoing social changes, the report was called “Rürup Bericht” (Rürup, 2002). The main task of the expert team was to find reasons for further cuts of the social system. This one included the suggestion to increase the entry level from 65 to 67 and suggested many other changes of the social system since the current system would not be sustainable.

Reacting on this report, the politicians decided upon 2004 on a new law for more sustainability of the pension system. The level of the pensions was dropped on 43 percent and additionally, several cuts were made: the early pension was limited and the time studying in a university was no longer accounted for as paying years.

In 2005, the system was changed in order to make it more sustainable again. A so-called “sustainability factor” (Nachhaltigkeitsfaktor) was introduced. Between 2005 and 2040, the system should be slightly changed every year. Every year, there are fewer taxes on the money

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paid by workers into the pension funds, and more taxes on the pensions received by the elderly. This lets the pension level paid out drop. (Bundestag, 2004)

Since 2005, the level of pensions was adapted, but no system changes were made again. The topic of the pension system is, however, currently discussed in politics. There might be stronger changes to come soon.

Coming back to the categories, it became visible that the Germany pension system only changed towards one direction. Germany reacted on the aging of their society by privatizing the system more and more, weakening the role of the state. At the same time, the levels of the pensions dropped more and more. The entry age increased. All this points to the conclusion that Germany is afraid that the system is not sustainable enough and needs to be cut in order to be able to face the future challenged of more elderly people and less active workers. Coming back to the theories, it becomes visible that Germany's policy makers have noticed the aging of the society and are trying to adapt to it. They seem to use to individual-centered approach which means that there will be less and less services provided by the state and the individuals have to find alternative ways to secure their financial income as retiree. This weakens the dependency of the citizens on the state and forces the citizens to take over more responsibility. This indicates that Germany policy makers came to the conclusion that the state will not be able to deal with the long term effect the aging of the society has in the pension system and instead choose to privatize this matter.

Spain

Pension system

The first form of a pension was introduced in 1919 as a mandatory insurance only for the private sector employees. A universal pension system was introduced for the first time in 1926 and by the late 30s, almost all employees were covered. In 1939, a new system was introduced. While the former system was using a capitalization system, the new system was based on an "unfunded pay-as-you-go scheme" (Boldrin, Jimenez-Martin, & Peracchi, 1999). In 1950, the system was organized in two pillars (contributory and non-contributory) and was not changed much in the years afterwards. In 1985 then, several changes were made again, for example, the minimum number of years that one had to contribute in order to receive pensions, was increased from 8 to 15. In 1990, pensions were introduced that would be given to people older than 65 without having contributed who live in a low income household. Also, the private (non-mandatory) pensions were introduced which cover both personal and occupational pension funds. Those are agreed upon in the wage bargaining framework and should be financed by employers and employees. They are usually taxed as labor income. (Boldrin, Jimenez-Martin, & Peracchi, 1999)

Reforms

One of the most important reforms in the social security and pension system made in Spain was the creation of the Social Security Reserve Fund in 2000. The main idea behind it was to save surpluses in the present for possible shortcomings in the future. The concept was first

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suggested on 1995 in the Pacto de Tolendo, an agreement between government, employers and trade unions. A regulation from 1999 laid down the principles for separating the corporation pensions from the state pensions and was implemented until 2002. Because of that, the contributions of 2002 increased relatively much. By the end of 2004, a Pension Fund for Central Government employees was introduced. Some minor changes were made in 2006. (Commission, 2009)

One of the biggest reforms was made in 2007: it increased the minimum effective years of contribution from 12,6 to 16. Law 40/2007 was suggested, but its suggestions were only adopted in 2008. In the meantime, not many changes to the system were made. By the time of 2007, the average retirement age was 63,6 years. (Commission, 2009; Guillén Rodríguez, González Begega, Cabiedes, & Rodríguez, 2009)

In 2011, government, employers and employees again came together discuss new reforms. The number of contribution years should be increased from 35 to 37 and additionally, the retirement entry age was should be increased from 65 to 67. The idea was to achieve a reduction of government spending by 3,5% by 2050. The government worked out a proposal based on this agreement which is right now waiting for the approval of the national parliament.(OECD, 2011)

Summarizing those developments, Spain generally follows the path of Germany, increasing the retirement age and the importance of contribution years and with it also the company pension plans. On the other hand, instead of lowering the pension levels, Spain decided to create a Fund that saved surpluses of the present for the future. Especially in the last two years, several changes were made in order to adapt to the aging of their society in the future. For Spain, it is difficult to answer whether the development was more state-centered or individual-centered. The fact that the pension levels where not lowered but stabilized seems to indicate that Spain is preparing to provide more for their citizens and therefore make them more dependent. The fact that the entry age was increase could point to the same, but it could also just mean that the policy makers are acknowledging the fact that the population ages and that may change their idea of who is considered old. Apparently the Spanish policy makers try to elaborate the state pension system further while at the same time adapting to the change that Global Aging bring with it.

Ireland

Pension system

In Ireland, the first version of pension systems were introduced by the beginning of the 20th century, although never actually paid out, since people died at a young age. After the initial Act of introduction in 1908 Act, the next pension policy initiative in Ireland that changed much was not until the Social Welfare Act 1960, which introduced the Old Age Contributory Pension in 1961. (Salter, Bryans, & Redman, 2009) Today, other than in Germany, Irish pensions do not have a separated insurance status. Instead, they are part of the Social Welfare

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System. The system is divided into two main pillars: the pay-as-you-go system by the government, which is founded by tax revenue, and the private pay-as-you-go system, paid by employers and employees set up voluntary. The first is a flat rate system and called Pay Related Social Insurance (PRSI). It is supposed to provide the basic level of pension. The second is an occupational system often founded by companies and co-existing with the first system.

Reforms

In 1998, it was announced that a National Pension Reserve Fund (NPRF) should be installed with the intention to save and pre-fund the pensions of the future. It was actually established in 2001. Additionally, a Personal Retirement Savings Account (PRSA) was introduced in 2003. (Stewart, 2011)

Starting from 2004, several more reforms were implemented in order to be able to increase the minimum pension age and remove the mandatory retirement age. The government asked the Pensions Board for a thorough analysis of the current pension system and possible actions to make it more sustainable for the future. This resulted in the National Pensions Review (2005) and Special Savings for Retirement (2006). (Whelan, 2007) Using this as a base, in the following years many suggestions and proposals for pensions system changes were made, but actual implantation has been slow. In 2009, an increase in average pension has been made.

The National Recovery Plan for the years 2011-2014 was decided upon in 2010 (*The National Recovery Plan 2011-2014*, 2010) and proposed to change pension tax relieves of 41%. Additionally, employee pension contributions are no longer used for the PRSI. Some of these changes were put into place in 2011 and others, such as further reduction of tax relieves, then are supposed to be implemented within the next three years.

In total, it becomes visible that Ireland recognized the changes in demography and searched actively for solutions, by engaging expert teams on the topics and discussing various proposals. In the end, the politicians seem to find it hard on what the correct way of dealing with the issue is. In the moment, there seems to be a tendency towards public regulations of pensions but on the other hand also the PAYG system is used, rather than general laws on the levels of the pensions. The retirement age has not been changed, but the taxes seem to play an important role in the opinion of the Irish government.

Concluding, there have not been much actual changes in the pension system in Ireland, but several incentives were made to find the best way. This indicates that the state acknowledge that it has an important role in the pension system and therefore that there is a dependency of the citizens on the state. The policy makers apparently do not want to make steps in the wrong directions and therefore delay their decisions. Since it was explained before that the effectiveness of a policy depends on the social and economical situation, the policy makers will probably try to analyze the situation and the aging progress of their country in order to find their best practice to deal with Global Aging.

Colombia

Pension system

The basis for the General Pension System (GPS) in Colombia was initialized in the early 1990s. In law 100 from 1993/1994 private system was established as an alternative to the existing state pension. The system thus gives, as in the other countries, two options. On the one hand there is a pay-as-you-go system, on the other hand there is an individual-capitalization system. The first consists of an average benefit premium system and two smaller Fund: the solidarity pension funds, which is supposed for those people who cannot afford any other social security, and the minimum guarantee pension fund, which is adding up those pensions who do not reach the minimum otherwise. All of this is managed through the Social Security Institute. (Tapia, 2008)

The private pension system is again split into two: an obligatory and a non-obligatory system. The obligatory part applies to all workers and requires them to pay a fee according to the current law. The pension is accounted using contribution principles. The system is managed by pension fund managing companies. Each individual can freely choose between one of the main systems. Since then there have been several small reforms in the 1990s, trying to organize the system in a way that provided fiscal balance and increased coverage.

Reforms

However, the reforms made between 1990 and 2000 did not seem to change much, and by 2002 only 20% of the people in retirement age were actually covered by the system. Because of that, two new legislations were implemented in 2003, changing several regulations. Amongst others, independent workers were obliged to enter the pension system. The idea was to create a more solidaric system, providing a Minimum Pension and restricting the Solidarity Pension Fund.

In the following years, the rates of contribution increased slowly but constantly and benefits were reduced between levels of 55% to 80%. In 2005, another legislative Act was implemented in order to improve the efficiency of the finances by changing the laws for specific groups such as teachers or the military. (Escrivá, Fuentes, & Herrero, 2010)

The biggest reform in Colombia with regards to pensions was made relatively recently, between 2009/2012. The system was changed into a multi-fund scheme. This means that many different forms of social security forms exist next to each other and each individual can choose the form that fits best for the personal needs and living conditions, but is obliged to use at least some of the funds. This Decree 2373 from July 2010 is currently in the state of implementation. In total, there are three different types of pension funds which can be chosen, a conservative, a moderate and a higher-risk fund. According to Escrivá et al., (2010), the system works better than the two-pillar system before. It allows adaption of the payments for the individual situation of each inhabitant and thus is better covering. On the other hand this reform is a big change since it moves the pension system from centralized decision making

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to local markets which could possibly lead to local problems. This cannot be completely evaluated yet, since the reform is still in its implementation phase.

Summarizing it becomes visible that the Colombian government struggles to achieve two seemingly contradicting goals: on the one hand the system would become more solidaric, for example by providing a minimum pension to everyone, which indicates a stronger state-centered approach. On the other hand the progress of aging of the society is visible and makes such a system difficult to sustain, since there will not be enough workers to bring in the money for all the elderly people, especially when providing the minimum pension for everyone. The solution the government has chosen is to make the system more flexible and more individualized. This results in a mixture of private and public pensions and different levels of pensions, depending on which system was chosen, how much was paid into the funds, etc. This shows that there seems to be overall individual-centered approach by giving the people more options. While this in Germany goes hand in hand with a reduction of government services, here government services are strengthened. This indicated that there are different perceptions on how the individual-centered approach can be seen.

Bolivia

Pension system

Having had a PAYG system, similar to the one in Colombia, the Bolivian pension system was completely reformed in 1996. The old system was abolished and instead a new two-pillar system was introduced. The first pillar is a mandatory private system called Seguro Social Obligatorio (SSO), which is fully funded and managed by pension fund companies. (Tapia, 2008) All former PAYG secured inhabitants were automatically transferred to this system. The second is a non-contributory publicly managed old age social insurance assistance program called BONOSOL. This program is among others financed by the assets of the Collective Capitalization Fund, which receives its money from former state-owned and now capitalized enterprises. All of this is supervised by the Superintendence of Pensions, Securities and Insurances. The system came into effect in 1997.

Reforms

Relatively shortly after the introduction of the new system, it proved that Bonsol's payouts were too high to be sustainable. In 2002, a new law was passed according to which the non-contributory and contributory pension funds had to merge, so that the Bonosol could be financed through this fund. (Escobar & Nina, 2004)

Then, in the aftermath of Bolivia's new constitution from 2009 which provided more social rights than any other constitution, also the pension system was changed to be more social. By the end of 2010, a new law was implemented which brought several big changes. Referring to the, compared to European standards relatively low life expectancy age of about 65, the Bolivian president lowered the retirement age. This stands in contrast with all the before mentioned pension systems, where the retirement age was increased. The general retirement

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age was lowered from 65 to 58, and a special regulation states that mothers and miners can retire even earlier, depending on how many children they have or how many years they worked in a mine. (Escrivá et al., 2010)

Additionally pensions should also be provided to the people working in the informal sector in Bolivia, which are about 60% of the total population. The requirements are 10 years of contributions. In order to fund this change, a new government agency has been created, the Long-Term Social Security Manager. The funds should be covered by workers and employers, and additionally by workers who earn more than 1,900 Dollar per month. Details of this plan have not been given to the public yet and many critics argue that this system will not prove to be sustainable.

Having started with a PAYG system like many other South American states, Bolivia recently took a turn to a very social policy. Although the aging of the population is by far not as quick as in the other analyzed countries, the first trends in that direction are visible. Nevertheless, Bolivia's government seems determined to provide a pension to all its inhabitants. The retirement age was decreased and there is no trend visible towards a strong privatization of the pension system. With this development Bolivia differs from the other analyzed states. In order to finance this pension system the government requires those people that are richer to make additionally payments. (Escobar & Nina, 2004) Here, the first country that is clearly state-centered is shown. All the services are increased slowly and therefore all the citizens will receive more than before on the one hand, on the other hand they are also a lot more depends on the state and there seem to be no measures to offer more individual solutions to the people.

Argentina

Pension system

Argentina was one of the first countries to introduce a pension system. The most important change was made in the 1960s, when the different forms and schemes that existed before were structured into three programs managed by the government.

Like in Bolivia, the PAYG system was abolished in 1993 since it was considered too unsustainable. Also, the government searched for a way to support the local markets. So a new system was set up: the Integrated System of Retirement and Pensions (Sistema Integrado de Jubilaciones y Pensiones), which was a combination of a basic publicly managed pension system (Universal Basic Benefit, PBU) and a mandatory mixed contributory system, supposed to make it more transparent and efficient. The PBU is managed by the National Social Security Administration and is independent of the earnings of a worker. The mandatory mixed contributory system consisted of two parts, a new PAYG scheme by the government and a privately managed scheme. The latter is fully-funded and based on defined contribution individual accounts. (Tapia, 2008)

A minimum retirement age of 65 years was also established in the law of 1993, whereas this is only valid for men, women had a minimum retirement age of 60. Furthermore each person

had to pay at least 39 years of contributions in order to receive state financed pensions. (Rofman, 2000)

Reforms

The financial crisis in Argentina between 2001 and 2002 made several reforms necessary in order to achieve a sustainable pension system. The Ministry of Social Development in Argentina published a report in 2000 which demonstrated the difficulty for the active workers to provide full pension coverage for the elderly people. Following this, an expert team was formed including representatives of interest groups that worked on a report suggesting possible actions to be taken in order to re-stabilize the system. Those actions were partly introduced over the next years.

In 2003, a reform was made in order to deal with the problem of having too many beneficiaries of the pension payouts by allowing the independent workers to pay their contributions in installments and sets relatively loose financial terms for this. Building on this, in 2004 a law was passed that allowed those workers to retire early and pay the debt later.

By 2006, the system had recovered mostly to the point where it had been in the 1990s. In 2007, the system was changed again. The idea behind it was to improve the coverage to support the freedom of each individual to choose between the different options. The Decree 1454/2005 reduced the administrative costs and strengthened the role of the state.

In 2008, the system was changed again strongly. The funded scheme was abolished instead all the people who had been using it were transferred back to the PAYG system. By this, Argentina basically went back to the original program. All in all, the changes made in the system in the past years were to improve the coverage the role of the State and the private sector in its management. (Rofman, Fajnzylber, & Herrera, 2008)

In general, all the reforms strengthened the role of the state in the pension system and can therefore be considered state-centered like in Bolivia. The minimum retirement ages were not changed, but there was a significant increase in received pensions. A similar effect to Colombia seems to be taking place: the government seems to wish at the same time to make the system more fair, allowing more people to receive pensions independent from their background, on the other hand struggles to manage to cover the costs for this. There is a clear tendency towards centralization instead of individualization, but it is questionable how far this policy line will work out given the economic situation of the country.

4c. Pension reforms reflecting Global Aging

In this chapter, the author will use the results of the country specific analyses of the pension policy responses to the aging of the societies and compare them by searching for patterns. Furthermore it is questioned in how far the pension responses reflect the different theories on Global Aging that were presented in the conceptual chapter. The first step will be to see whether there are common patterns of the three European and the three South American countries. The next step will be to compare those two patterns. Then, the author explains the patterns or differences between certain countries, independent from their continent, and relates them to the theories discussed before.

Comparing the results of the three European countries, it becomes obvious that all three of them are very aware of the aging of their societies. This leads to the main problem of insufficient coverage. There are already hardly enough workers paying contributions in order to pay the pensions for the increasing number of elderly people, and according to the statistics and trends, this problem will become even bigger in the future. Both Germany and Spain try to tackle this problem by increasing the retirement age and the years of contribution (OECD, 2011). All three countries, but especially Germany and Spain, also seek more privatization and give more responsibility to the companies and employees to make sure their pension plans are sufficient (Commission, 2009). Therefore, for European countries, there seems to be a trend towards the individual-centered approach that was explained in the theoretic chapter earlier. The governments put more responsibility onto their citizens and reduce their services and thereby also the dependency. Ireland seems to be still unsure, on what the best way would be to ensure the coverage of the future pensions, but does, however, also seem to plan to implement some ways to receive more money from the workers, e.g. by higher taxes (Stewart, 2011). Also, all three countries asked expert teams to come up with different possible solutions for the problem.

When analyzing the three South American countries, also some patterns became visible. All of them show the same statistics of an aging society, but not as strongly and quickly as in the European countries. Accordingly, the governments do not seem to be too worried about the problem of coverage yet. They seem just as interested in the solidarity feature of the pension system. While Colombia and Argentina seem to struggle to find a balance between a sustainable and sufficiently covered system and a system that is fair and provides a minimum pension independently from the earnings and background of an individual, Bolivia seems to put their focus clearly on the latter (Escrivá, Fuentes & Herrero, 2010). This is shown by the decrease of the retirement age and the possibility to receive pensions even when working in the informal sector. Another similarity that can be noted between the three chosen South American countries is that their system is quite complex and that the governments seem to try to balance the budgets by giving each individual a wider variety of different pension schemes to choose from, so that everyone can elect the system that fits best to their own living situation.

Comparing the European with the South American countries, it becomes obvious that they all have to deal with aging to their society. In Europe, however, this development has progressed

further already and thus there the question of how to deal with the demographic change seems to be more pressing than in South America. In South American countries, even though also trying to find a way to balance the coverage, governments seem to be particularly interested to open the pension system firstly to all of their people. This progress has mostly been made in earlier years already in the European countries.

The biggest noticeable difference between the two continents seems to be the tendency towards state-centered or individual-centered. The European countries seemingly try to take part of the burden of the pension coverage of the state and into the private system in form of private insurance companies, therefore allowing more freedom to choose and therefore lowering the dependency on the state. People have to take more responsibility, as well as the private sector. The South American countries either strengthen the role of the state or opt for a mixture between private and state pension schemes.

Finally, the European countries tend to form expert teams and request different action plans and different possible solutions before making decisions (e.g. Rürup, 2002). This manner of dealing with the topic could hardly be found in the South American countries. There are several possible reasons for this. One of them could be that the European states take the problem of Global Aging more serious and are searching for long-term solutions, while the South American states are more focused on short term solutions and not thinking ahead yet. A reason for that might be that the phenomenon of Global Aging, as proved in the first part of the analysis, is not as strongly influencing yet as it is in the European states (Commission, 2009). But another reason for this could also lie in the cultural differences and views how this problem is best dealt with. For example, it could be that in South American states the competence of a politician is more highly valued, or that the politicians generally do not consult often with expert teams. However, it seems too simple to just split the differences in pension policy approaches only into “state-centered” and “individual-centered”. Individual centered reform can possibly involve the option to receive a high pension by the state as well as privatization. Even though the general tendencies could be interpreted that way, the border between the two tendencies might be merging.

4d. Conclusion of the analysis

In this first conclusion, the author will summarize the results that were found regarding each of the three sub-questions.

The first part of this analysis focused on understanding the effect of Global Aging on the countries of different continents. This examination has been done by looking at the statistical information on the country. It appeared that indeed Global Aging has affected these countries, using the assumption that every person who is “65 years or older” is considered elderly (Crampton, 2009, Lloyd-Sherlock, 2000, Kinsella and Phillips, 2005). There have been debates, however, on the usefulness of this definition. Since until now also statisticians use this definition as guide, it is the only way for now to compare too. There was a difference shown though, to which extend the countries are affected. Generally, the information on the European countries demonstrated a stronger change in age structure in the society than in the South American countries. Within the South American countries, Argentine proved to seem to be affected strongest by Global Aging.

Having linked the concept of Global Aging to policy reforms, the next step was to evaluate the different reactions of the countries with respect to their pensions. The pension policy reforms were analyzed with the help of the keywords “tendency to private or public pensions, higher or lower pension entry age and higher or lower level of pensions and taxes”. The results of this have been classified as a state-centered approach, individual-approach or other. The results showed that the responses of the countries differed considerably, but each country has taken measures in the past 12 years to change their pension system which suggests that they take the problem seriously. The response of each country was concluded in the end of the abstract regarding it and summarized.

The final step was to recognize the patterns that showed themselves in those responses and question in how far they can be seen as a reflection on Global Aging. It was found that it can be generally said that the approach to tackle the problem of Global Aging by the South American states can be seen as state-centered, while the European countries used a more individual-centered approach. However, there are there no clear borders between the two, since Spain for example seemed to use of them a bit. Also Argentine’s approach is less state-centered than the other two (Escrivá, Fuentes & Herrero, 2010). These difference indicate that both cultural background and the general development of the countries plays an important role, as Spain is culturally closer to the South American countries than Germany and Ireland, while Argentine is more developed economically than the other two South American countries.

Another finding is that European states tend to request expert teams to come up with different lines of possible action, this was not found in the South American states’ way of dealing with the topic. This might indicate that European countries see Global Aging more as a long-term problem which they seek to tackle carefully by first requesting scientists to look into the matter. On the other hand, it could be that using expert teams is seen culturally different in South American states and less practiced in general.

5. Conclusion

In this conclusion, the author will discuss the answer to the main research question “How do European countries and South American countries respond to the aging of their societies between 2000 and 2012?” by relating to different opinions by other authors.

Since the analysis found in the first step that Global Aging has been influencing the representative countries that were chosen during those years, it can therefore be assumed that the policy makers of each of those countries are aware of this and that their policies can be seen as responses to this problem. The extent, however, may vary in how far the policy makers took Global Aging into their consideration when preparing the policies. It was deducted in the theoretical framework that retirement and the change of an individual from an active worker to a dependent on financial support in forms of pensions is one of the most determining factors in how this phenomenon can be dealt with. Furthermore two different approaches were marked that states could use in their reforms: state-centered or individual-centered. Crampton (2009) argued in her work that all of the former social theories concerning aging of the societies are out marched by the recent trends and that therefore new forms have to be found. She suggest a concept that includes the economic and human development of each individual and that the concept of who is old should be revised. This suggestion could be included in the idea of an individual-centered approach. So far, this thesis has treated every approach that did not focus on a stronger state involvement as individual-centered. However, there are many possible differences between what this could mean. In reality, the only alternative to a stronger state involvement that was demonstrated to a higher extend was a stronger privatization of pensions, involving therefore the private industry. Taking into account Crampton’s suggestion, however, this must not necessary mean that. A more individual-centered approach could also simply mean that the state pensions offer more variability. Her idea to reconsider who is old is apparently also taken over by policy makers already. In several of the representative countries the pension entry age was increased, which means that the definition of who is old has changes to higher age. Therefore her assumption that the old welfare systems, especially in European countries, will not be able to keep up with the change and that new policies are needed is something that was realized by policy makers and new ideas are already being researched. Ireland, for example, has put a focus on using expert teams to find alternatives.

However, while European countries showed a tendency towards individual-centered measures, the South American countries seem to strengthen their welfare system. Other than Argentina - who also took some measures involving the private industry - the states seem to be working on building up the state pension system. This puts the statement by Lloyd-Sherlock (2002) into context who argued that there has been a “clear shift away” from the tendency that developed states have to have a universal-state run welfare program that provides services for the elderly. This raises the question whether the approach towards Global Aging depends mainly on how developed a country is. Also Calvo and Williamson (2008) reasoned that there is a strong difference between developing countries and developed ones. Does this suggest that all countries who are not yet very developed will go for an state-centered and state strengthening approach, while, once more developed, richer countries will

always revoke those measures because on the long-term it is not possible to maintain such a system? If this is the case, would it not make more sense for states to look ahead and consider that the system they are building up will not be stable on the long term and direct their policies towards a different from approach from the start? And if so, towards which one? As it was discussed before, there are different forms of a more individual-centred approach.

It should be taken into consideration, however, that not only the status of development of a country has an impact on the approach towards Global Aging, but that also the cultural background could be an influencing factor. This study showed that there were similarities between Spain and the South American countries in both the extent to which Global Aging has influenced their age structure as well as in the approach in pension policy reforms by the policy makers. Since Spain's cultural background is related with the South American countries, whereas Ireland and Germany have a very different cultural background, this finding suggest that cultural background might be influencing in how policy makers react to Global Aging.

The author Townsend (2012) argued in his recent article that there is a strong dependency of elderly on the state, independent if the countries come from a capitalist or socialist background. He criticizes this situation and argues for a new concept that involves more factors to the concept of aging such as the consideration of personal relationships. In this topic, his statements seem to be similar of Crampton (2009). In the chapter on the concept of Global Aging the question was raised whether the heavy dependence of retirees on the state is still the case, or if first changes showed already. The analysis of this thesis has shown that especially in the European states there already has been a drift away from that by promoting stronger involvement of the private sector. There has not been prove, however, that this is due to a new developing concept of how aging in a society works. It is possible that this change has only taken place because, as Lloyd-Sherlock (2002) explained, the policy makers have realized that the welfare system will not be able to keep up with the effects of Global Aging and therefore the tried to lower the burden of the state instead of rethinking the basis understanding of an aging society.

Concluding this, the questions "How can the concept of aging itself be adapted under the influence of Global Aging?" and "How is the aging of an individual linked with the state?" are still open. It might therefore be helpful if the policy makers in Europe, South America and other continents considered this problem before reforming their pension schemes. Since pension policies were proven to be one of the most powerful instruments in the adaptation to Global Aging, it is important that policy makers are not taking steps without considering the long-term effects. Global Aging is a current and challenging phenomenon not only in European but also South American states and the question how the pension schemes are reformed therefore will have a strong influence on the welfare states in the future. The idea that the use of the state-centered approach meaning strengthening the role of the state in pension schemes might on the long term have to be undone either way, since no welfare state will be able to keep up with the development, should not be underestimated. It might be therefore especially for less developed states useful to think ahead and find new ways which are more sustainable given the progress of age structure change.

It has been suggested in this study that there are many different forms an individual-centred approach in pension policy reform can take. So far, only a more or less strong inclusion of the private sector was used by the states in the recent years. Furthermore, it became visible that both the development status, as well as the cultural background, seems to play a role in the decision making of policy makers when adapting their pension system to Global Aging. Therefore it might be useful for policy makers to let expert teams conduct studies on how exactly those two are influencing the pension reforms and especially, the effectiveness of pension reforms given the different backgrounds of countries.

In the EU, pension policy schemes fall under the responsibility of national governments. The European Commission might adopt guideline papers, but the measures are decided upon at a national level. Based on the results of this study, this is the optimal situation. Since there are strong differences in the extent to which Global Aging affects each country and since both cultural background as well as development status seems to play an important role in the reformation of pension schemes, it would be unwise for the EU to homogenize the pension system within the EU. It would be wise for the EU to realize that there are strong differences in policies courses of the countries, and that those differences are not just dependent on the current policy makers, but that also the development status and cultural context play an important role.

However, the EU is probably in the best position for conduction of Europe-wide studies on the differences and effectiveness of pension schemes. This unique position should be used since there is currently still a lack of understanding concerning different policy lines. While this study has shed light on different approaches and how they can be explained, there is hardly information yet on how effective each measure has proven to be. Using the results of this study as background, it could prove helpful to conduct studies in order understand the effectiveness of the different policies. Hereby, possible best practises could be found and the countries could be provided with this information. Furthermore the gathering of experts on Global Aging of different nationalities could try to come up with new concepts on how the aging of an individual within a nation can be managed and who is considered old.

Literature

Bongaarts, J. (2004). Population Aging and the Rising Cost of Public Pensions. *Population and Development Review*, The Population Council, Inc., vol. 30(1), pages 1-23.

Boldrin, M., Jimenez-Martin, S., & Peracchi, F. (1999). Social security and retirement in Spain. Retrieved from <http://www.nber.org/chapters/c7255.pdf>

Börsch-Supan, A., (2004). Global Aging. Issues, Answers, More Questions. Michigan Retirement Research Centre. Retrieved from:
http://mea.mpisoc.mpg.de/uploads/user_mea_discussionpapers/li2ingsuenc0skcz_dp55.pdf

Bundestag. (2001). Gesetz zur Reform der gesetzlichen Rentenversicherung und zur Förderung eines kapitalgedeckten Altersvorsorgevermögens. *Bundesgesetzblatt*, 31, 1310.

Bundestag. (2004). Gesetz zur Neuordnung der einkommensteuerrechtlichen Behandlung von Altersvorsorgeaufwendungen und Altersbezügen (Alterseinkünftegesetz – AltEinkG). *Bundesgesetzblatt*, 33(1), 1427-1447.

Calvo, E., & Williamson, J. B. (2008). Old-age pension reform and modernization pathways: Lessons for China from Latin America. *Journal of Aging Studies*, 22(1), 74-87.
doi:10.1016/j.jaging.2007.02.004

Chand S. & Jaeger, A. (1996). "Aging Populations and Public Pension Schemes," IMF Occasional Papers 147, International Monetary Fund.

Commission, E. (2009). Pension Schemes and Pension Projections in EU-27 Member States, 2008-2060. *European Economy*. doi:10.2765/54270

Crampton, A. (2009). Global Aging: Emerging Challenges. *The Pardee Papers*, (6). Retrieved from http://www.bu.edu/pardee/files/2009/09/pardee_aging-6-global-aging.pdf

Escobar, F., & Nina, O. (2004). Pension reform in Bolivia: A review of approach and experience. Retrieved from <http://en.scientificcommons.org/22157878>

Escrivá, J. L., Fuentes, E., & Herrero, A. G. (2010). *Pensions reforms in Lating America. Balance and Challenges ahead* (Vol. 42, pp. 1-365).

Eurostat. (2012a). *Crude birth rate - 2000-2011 - DE, IE, ES*. Retrieved from <http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tps00112>

Eurostat. (2012b). *Old-age-dependency ratio - 2000-2011 - DE, IE, ES*. Retrieved from <http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tsdde510>

Eurostat. (2012c). *Population Projections - 2030-2060 - DE, IE, ES*. Retrieved from <http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tps00002>

UNIVERSITY OF TWENTE.

Eurostat. (2012d). *Projected old-age dependency ratio - 2030-2060 - DE, IE, ES*. Retrieved from <http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tsdde511>

Eurostat. (2012e). *Proportion of Population aged 65 and over - 2001-2012 - DE, IE, ES*. Retrieved from <http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tps0002>

Grant, J. et al.(2004) Low Fertility and Population Ageing. Causes, Consequences, and Policy Options. Retrieved from: http://www.rand.org/content/dam/rand/pubs/monographs/2004/RAND_MG206.pdf

Guillén Rodríguez, A. M., Gonzáles Begega, S., Cabiedes, L., & Rodríguez, C. (2009). Pensions , Health and Long-term Care. *asisp Annual National Report*, (Spain).

Hirte, G., (2001). "Pension Policies for an Aging Society," *Beiträge zur Finanzwissenschaft*, Mohr Siebeck, Tübingen, E 1, Vol. 14.

Kinsella, K., & Phillips, D. (2005). Global aging: The challenge of success. *Population Bulletin*, 60(1), 1-44. Retrieved from <http://prb.org/Publications/PopulationBulletins/2005/GlobalAgingTheChallengeofSuccessPDF575KB.aspx>

Lloyd-Sherlock, P. (2000). Old Age and Poverty in Developing Countries: New Policy Challenges. *World Development*, 28(12), 2157-2168. doi:10.1016/S0305-750X(00)00077-2

OECD. (2011). *OECD Perspectives : Spain Policies for a sustainable recovery*.

Rofman, R. (2000). *The pension system in Argentina six years after the reform. SP Discussion Paper*. Retrieved from <http://www.econ.uba.ar/www/departamentos/economia/plan97/Finanzas/finanzas/Files/rofman.pdf>

Rofman, R., Fajnzylber, E., & Herrera, G. (2008). Reforming the pension reforms: The recent initiatives and actions on pensions in Argentina and Chile. *SP Discussion Paper*, (0831). Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1992438

Rürup, B. (2002). Auftrag, Mitglieder und Arbeitsweise der Kommission, (November), 23-43.

Salter, T., Bryans, A., & Redman, C. (2009). 100 Years of State Pension Provision: Learning from the Past. *Institute of Actuaries, Staple Inn Hall*, 1-6. Retrieved from http://www.ucd.ie/statdept/staff/shane/otherpub/100_years_of_state_pension_provisionfinaleditedcommentsSFW.pdf

Schludi, M. (2001) *"Pension reform in European social insurance countries"*. Retrieved from <http://aei.pitt.edu/2179/>

UNIVERSITY OF TWENTE.

Shrestha, L. (2000). *Population aging in developing countries*. Health Affairs, 19, no.3 (2000):204-212

Skocpol, T., & Amenta, E. (1986). States and social policies. *Annual Review of Sociology*, 12(1986), 131-157. Retrieved from <http://www.jstor.org/stable/10.2307/2083198>

Stewart, J. (2011). The Pension System in Ireland: current issues and reform. *TCD Pension Policy Research Group Working Paper*, (4), 1-32. Retrieved from <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:The+Pension+System+in+Ireland+:+Current+Issues+and+Reform#9>

Stolleis, M. (2003). *Geschichte des Sozialrechts in Deutschland. Ein Grundriß* (1st ed.). Stuttgart: Lucius & Lucius.

Tapia, W. (2008). Description of Private Pension Systems. *OECD Working Papers on Insurance and Private Pensions*, (22). doi:10.1787/237831300433

The National Recovery Plan 2011-2014. (2010). Dublin: Stationary Office. Dublin: Stationery Office.

Townsend, P. (2012). The Structured Dependency of the Elderly : A Creation of Social Policy in the Twentieth Century " Retrieved August 13, 2012, from: <http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=297384>

UN. (2001). *World Population Aging 1950-2050*. New York: United Nations Publications. Retrieved from <http://www.un.org/esa/population/publications/worldageing19502050/>

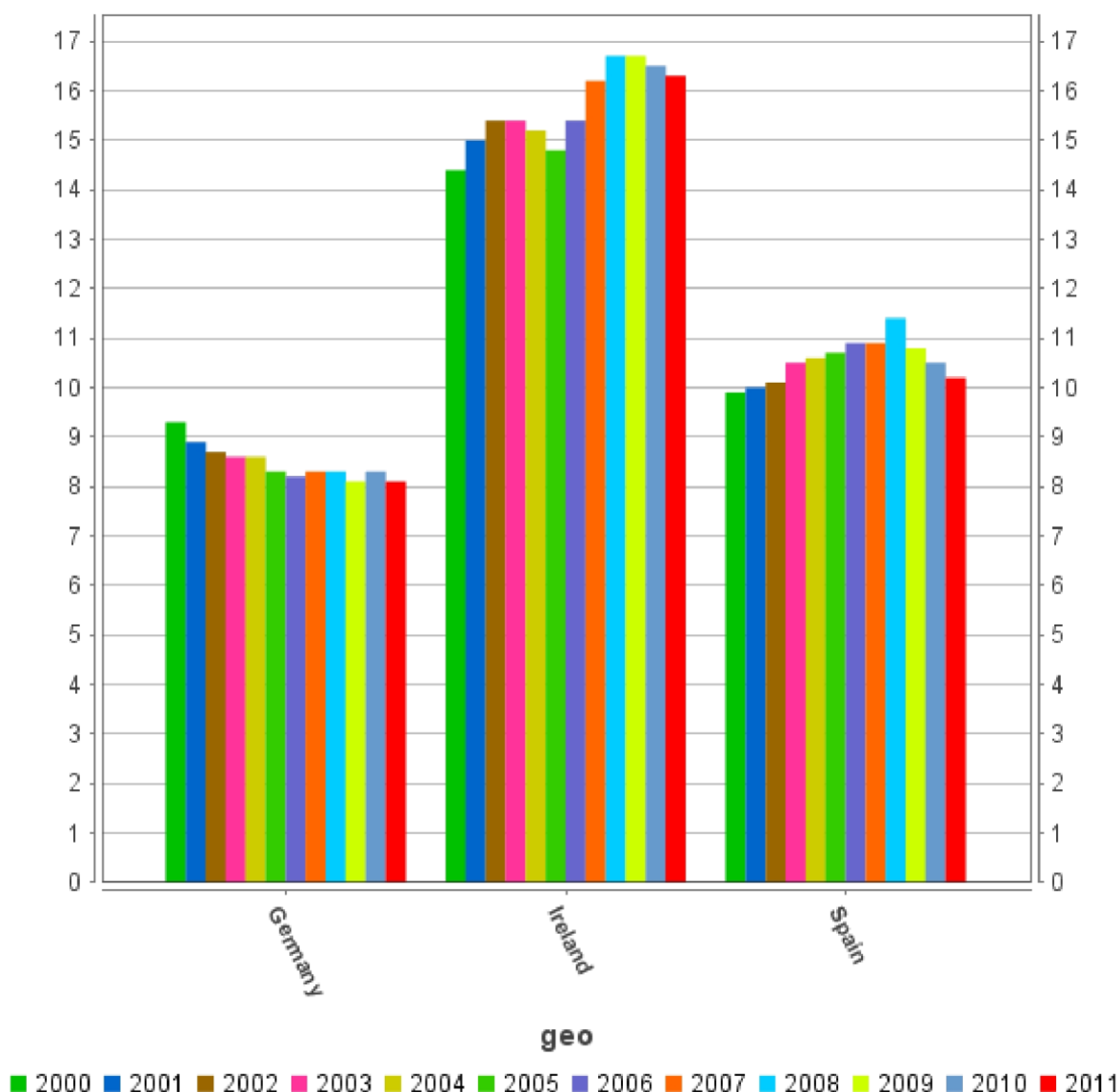
Wesleyan, U. (2011). What is a policy paper? Retrieved August 13, 2012, from <http://govthesis.site.wesleyan.edu/home/policy-paper/>

Whelan, S. (2007). Valuing Ireland's pension system. *Quarterly Economic Commentary: Special Articles*, (Summer), 55-80. Retrieved from http://www.ucd.ie/statdept/staff/shane/refpapers/07_qec2007_sum_san.pdf

World Bank, T. (2012). The World Bank data. Retrieved from <http://databank.worldbank.org/data/home.aspx>

Annex 1 – Eurostat data

Crude birth rate Per 1 000 inhabitants



Source of Data: Eurostat (2012a)

Date of extraction: 26 nov 2012

Hyperling to the graph:

<http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tps00112>

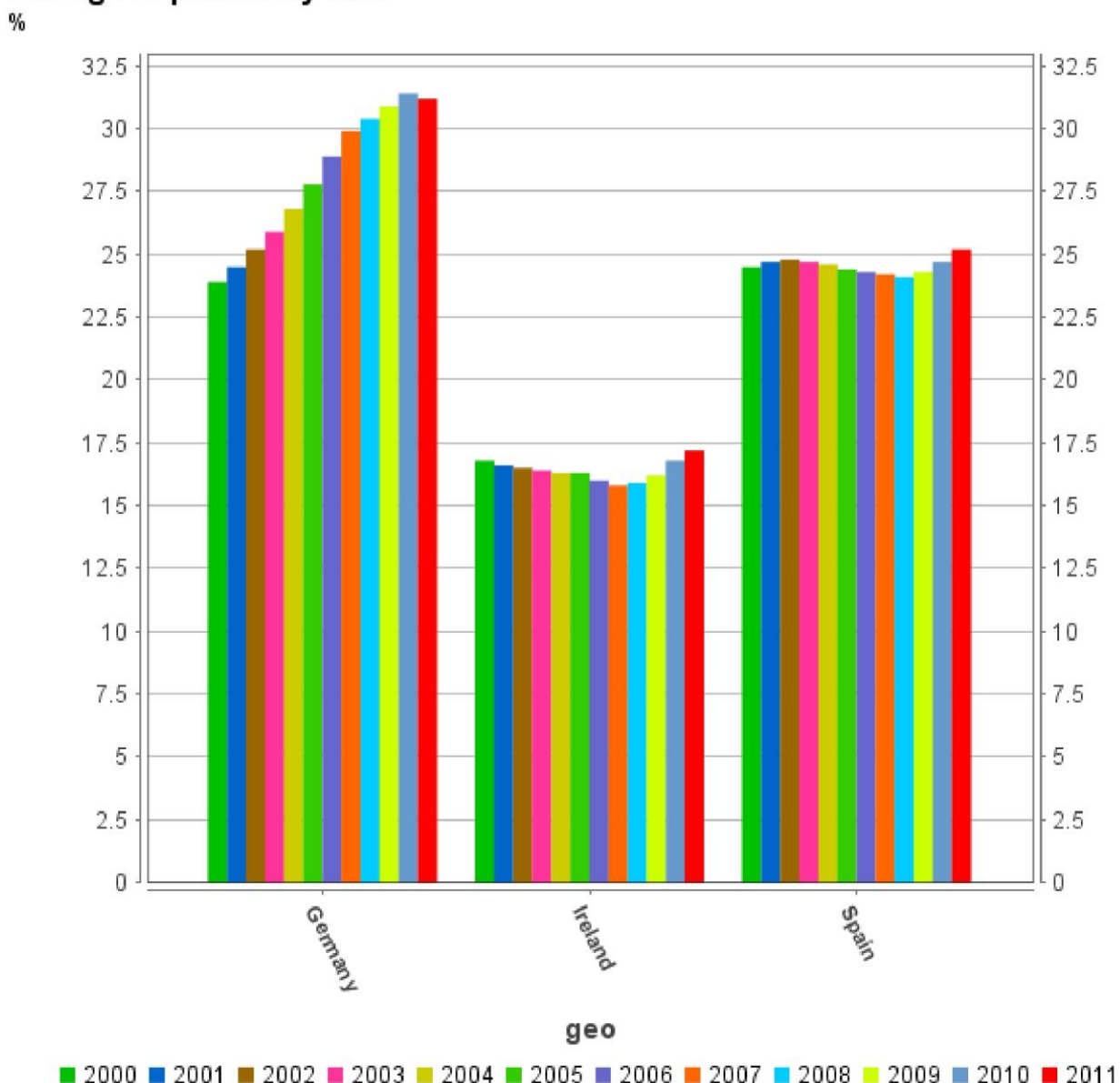
Disclaimer: This graph has been created automatically by Eurostat software according to external user specifications for which Eurostat is not responsible. Footnotes have not been included.

General Disclaimer of the EC: http://europa.eu/geninfo/legal_notices_en.htm

Short description: The crude birth rate relates the number of births during the year to the average population in that year. The value is expressed per 1000 inhabitants.

Code: tps00112

Old-age-dependency ratio



Source of Data: Eurostat (2012b)

Date of extraction: 26 nov 2012

Hyperling to the graph:

<http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tsdde510>

Disclaimer: This graph has been created automatically by Eurostat software according to external user specifications for which Eurostat is not responsible. Footnotes have not been included.

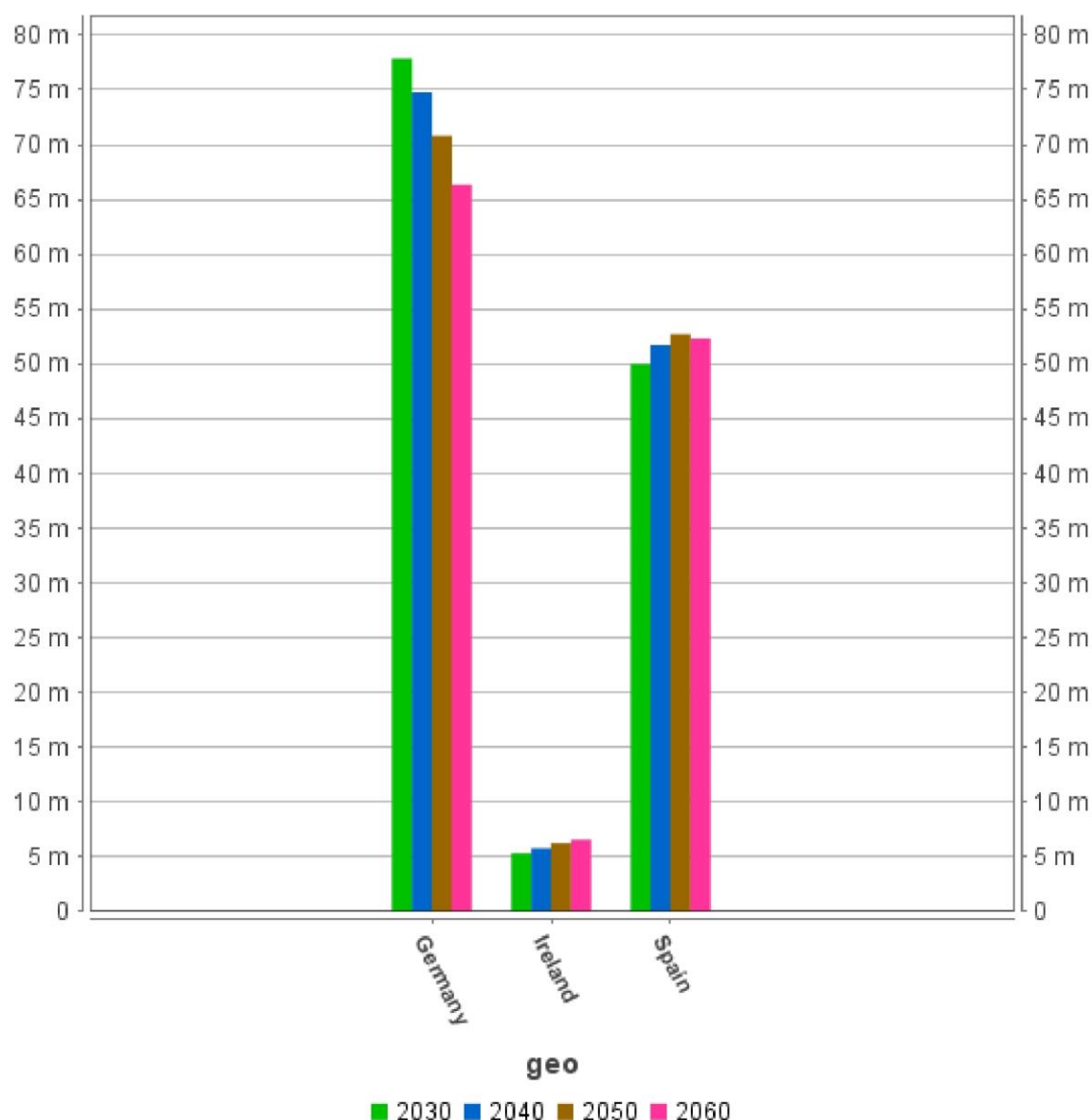
General Disclaimer of the EC: http://europa.eu/geninfo/legal_notices_en.htm

Short Description: This indicator is the ratio between the total number of elderly persons of an age when they are generally economically inactive (aged 65 and over) and the number of persons of working age (from 15 to 64)

Code: tsdde510

UNIVERSITY OF TWENTE.

Population projections



Source of Data: Eurostat (2012c)

Date of Extraction: 25 nov 2012

Hyperlink to the graph:

<http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tps000002>

Disclaimer: This graph has been created automatically by Eurostat software according to external user specifications for which Eurostat is not responsible. Footnotes have not been included.

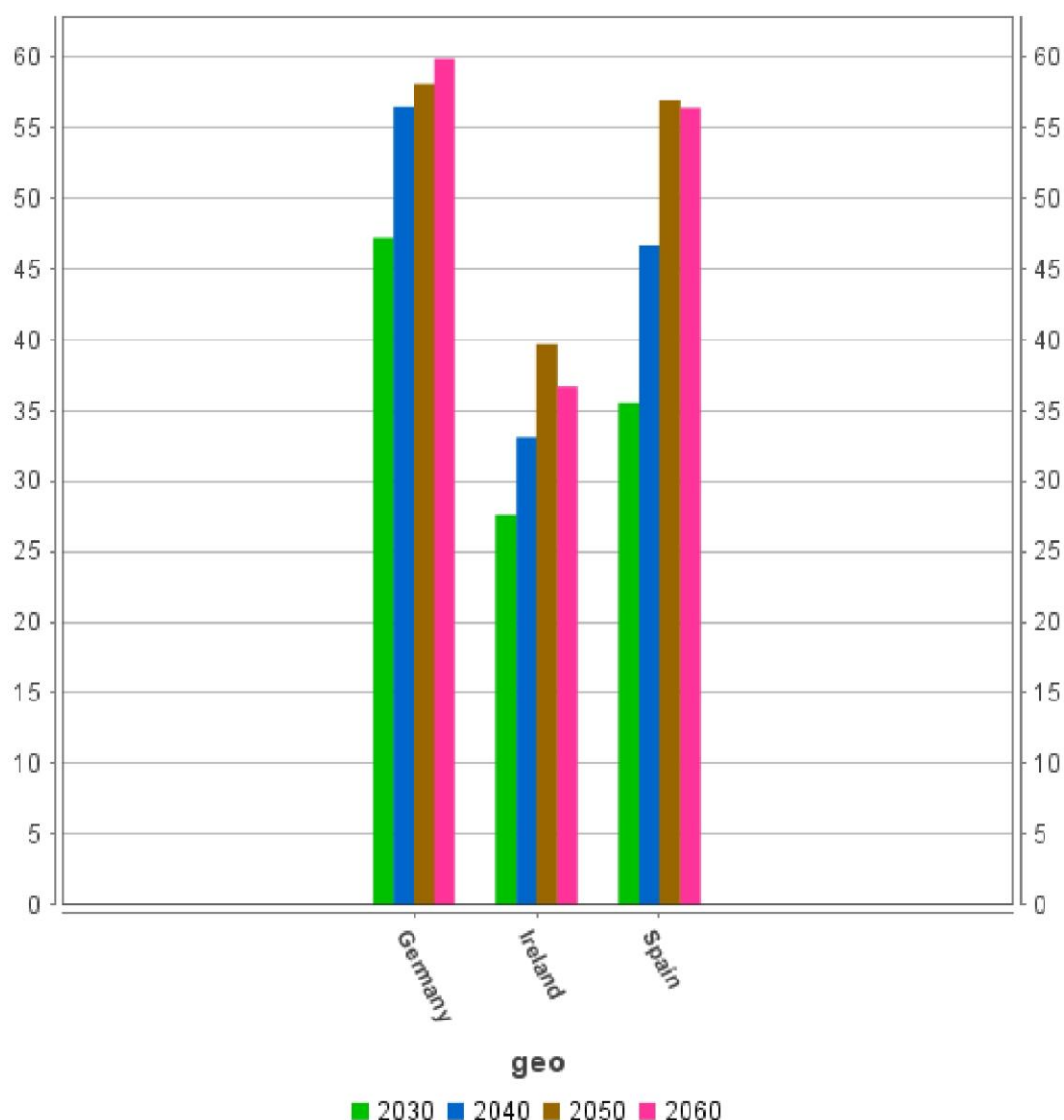
General Disclaimer of the EC: http://europa.eu/geninfo/legal_notices_en.htm

Short Description: Population projections are what-if scenarios that aim to provide information about the likely future size and structure of the population. Eurostat's population projections is one of several possible population change scenarios based on assumptions for fertility, mortality and migration. The method used for population projections is the "cohort-component" method. Population refers to 1st January population for the respective years.

Code: tps000002

Projected old-age dependency ratio

%



Source of Data: EUROPOP2010 (Eurostat, 2012d)

Date of extraction: 25 Nov 2012

Hyperlink to the graph:

<http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tsdde511>

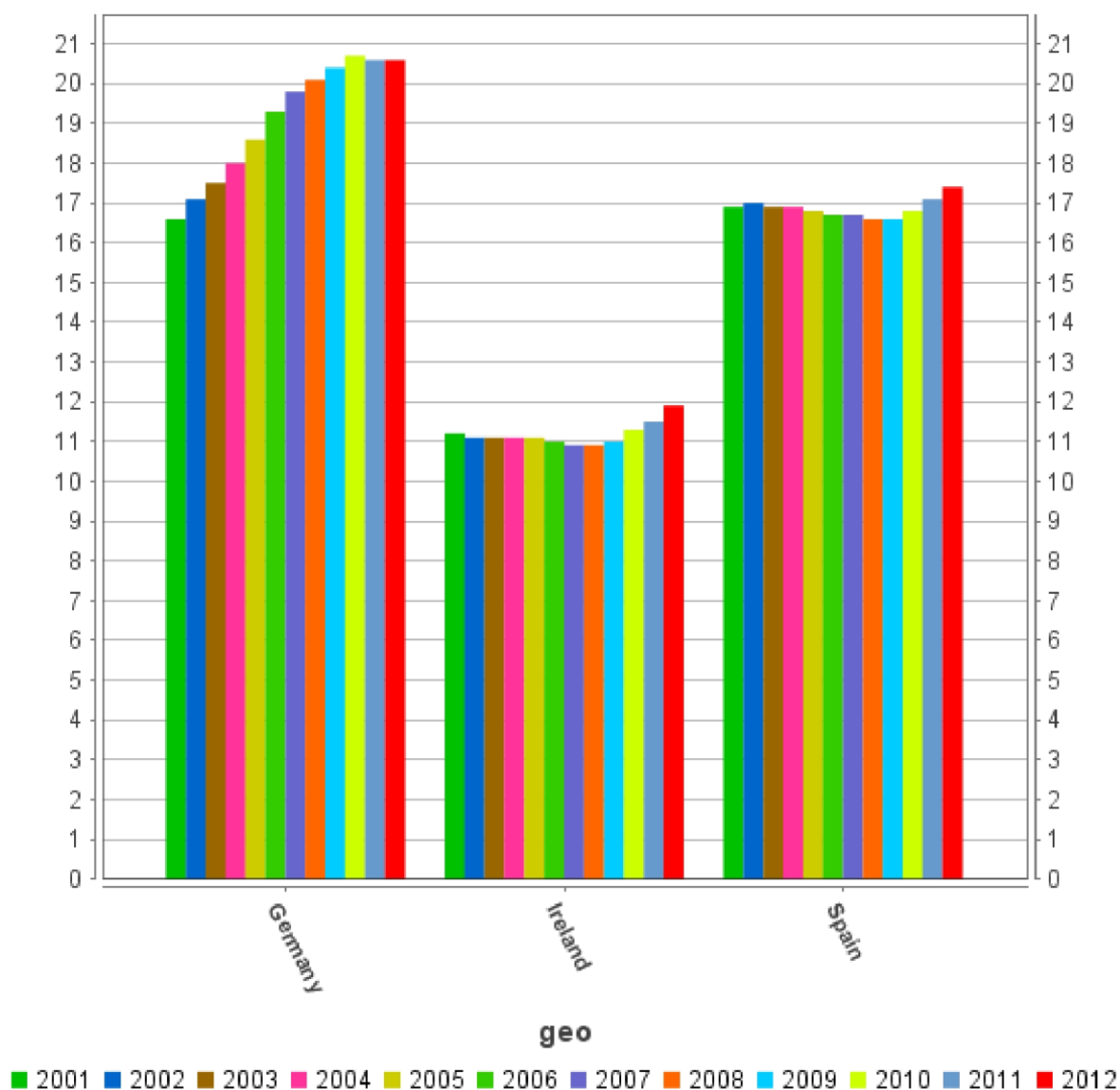
Disclaimer: This graph has been created automatically by Eurostat software according to external user specifications for which Eurostat is not responsible. Footnotes have not been included.

General Disclaimer of the EC: http://europa.eu/geninfo/legal_notices_en.htm

Short Description: This indicator is defined as the projected number of persons aged 65 and over expressed as a percentage of the projected number of persons aged between 15 and 64.

Code: tsdde511

Proportion of population aged 65 and over
% of total population



Source of data: Eurostat (2012e)

Date of extraction: 25 nov 2012

Hyperlink to the graph:

<http://epp.eurostat.ec.europa.eu/tgm/graph.do?tab=graph&plugin=1&language=en&pcode=tps00028>

Disclaimer: This graph has been created automatically by Eurostat software according to external user specifications for which Eurostat is not responsible. Footnotes have not been included.

General Disclaimer of the EC: http://europa.eu/geninfo/legal_notices_en.htm

Short Description:

Code: tps00028

6. Annex 2 – World Bank data

(World Bank, 2012)

