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The Impact of the refugee surge on the demographic development in Germany and its consequences for the national retirement system

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Abstract

In the study at hand, the impact the refugee surge starting in 2014 is expected to have on the demographic development in Germany and the national retirement system was examined with the help of three scenarios. The integration of refugees who reached the country in the past two years and who are likely to further enter German ground in the next future was assumed to be beneficial for the country and its population in many regards. Based on various theoretical assessments, it was concluded that the integration of refugees into the German society will slow down the decreasing of the population size. Furthermore, it was revealed that the expected population present in Germany in 2030 will be able to sustain the share of elderlies being present in the same year, but that the integration of refugees into the national labour market leads to a higher share of pensions expected to be paid in 2030. The assessment was done based on the theoretical knowledge gathered in an extensive literature and data analysis.

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List of abbreviations

AfD = Alternative für Deutschland

EU= European Union

ISIS = Islamic State of Iraq and the Levant

SPD = Sozialdemokratische Partei Deutschlands

UNHCR = United Nations High Commissioner for Refugees

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1. Introduction

1.1 Incentives for the study

Demographic change constitutes one of the major challenges in the societal development of Germany and is challenging both policy makers and society. A dwindling population due to constantly low birth rates and a growing share of elderly people in need for special care due to higher life expectancies at the same time are, in a nutshell, the main characteristics of the German population development (Friedrich-Ebert-Stiftung, 2015). Coming along with the demographic development in the country, the future of the national retirement system is considered to be insecure. This phenomenon is being caused by the fact that less people who make up the national workforce have to pay the pensions for a constantly growing share of elderlies. It is of high political interest to come up with solutions to guarantee the maintenance of the pension system in order to avoid social unrest and therefore, politics needs to find solutions to the problems caused by the demographic development sooner than later.

A further influence on the composition of the German society is immigration. The development of Germany towards being an immigration country and the connected change of the societal structure started with the recruitment of alien employees in the 1950s and 1960s aiming at being able to cope with the extraordinarily high demands for German goods related to the German economic miracle (“Deutsches Wirtschaftswunder”). The trend of migration to Germany remained constant over the years and even today, Germany is a country of immigration. This development is expected to have a positive impact on the labour force of the country in the long term since due to their younger age distribution, Germans with migrant background mitigate the shrinking of the labour force to a large extent.

In the past two years, the country faced the highest inflow of refugees in its history. Only in 2015, more than one million asylum seekers came to the country, of whom 476.649 officially applied for asylum in the same year. According to DeSilver (2015), the migration wave that reached Europe has the potential to influence the dynamics of the continent and especially the dynamics in the member states of the European Union. Since Germany by far took the most refugees of all European union member states, it is very likely that the group of people arrived in the country will have an impact on the development of the countries society, its economy and also its politics (N24, 2016).

1.2. Societal and academic relevance of this study

Creating more societal awareness for the high need of migration the country faces is one of the main goals this Bachelor thesis serves. In doing so, the two topics demographic change and integration of refugees (into the German society and its labour market) are being assessed and combined in the main research question:

In what ways can the integration of refugees into the German society and its labour market slow down the effects of the ongoing demographic change in the country and therewith contribute to maintain the national retirement system?

To answer this research question, a forecast analysis will be conducted on the year 2030, taking into account that it is expected to take 15 years for refugees to become part of the receiving country's labour market to a large extent (Klovert, 2015).

The research question leads to the approach to investigate on one of the many ways the past refugee surge as well as the further influx expected to reach the country in the future can be beneficial for Germany. Since many Germans are skeptical towards the masses of asylum seekers coming to their country, which unambiguously became obvious in the latest elections in several federal states where the party "Alternative für Deutschland" (AfD) that concentrated its election campaign on an anti-immigration approach collected an unexpectedly high share of the votes, it is of invaluable importance to connect the urgent need for immigration Germany has in order to maintain its number of citizens, its leading economic position being caused by a large workforce and by that also its leading political position in the European Union (EU) with the role the refugees play for the future development of the country, its societal composition as well as the future of its pension system (Spiegel, 2015b). The refugees residing in Germany are considered to be a potential component of the future German workforce and therewith bear the potential to contribute to the impeding of the demographic change and further be conducive to the maintenance of the national retirement system.

It is necessary to point out the advantages the asylum seekers bear for the German state since many Germans are rather skeptical towards the refugee influx and are afraid that they will be competitors in the labour market. Therefore, there is a high need to clarify the circumstances and the potential benefits each and every German will have if the refugee surge is properly integrated into the German labour market.

In fact, the contemporary integration of refugees into the German labour market is one of the most obvious key solutions to increase the number of citizens and therewith to (at least) delay the ongoing ageing of the country's society and at the same time to contribute to the maintenance of the German retirement system due to a larger share of pension payment contributions coming along with a growing work force as a result of immigration since 80 per cent of the refugee surge is considered to be younger than 35 and therewith in working age (Oberhuber, 2015).

At the moment, it is only estimated that the refugee surge coming to Germany is a possibility to slow down the ongoing demographic change and to help to maintain the retirement system of the country (Gathmann, 2014). Since there is no research conducted on the effect that the refugee surge might have on the demographic change and the maintenance of the national retirement system in Germany yet, this study has the potential to reveal the opportunities a successful integration of the refugee surge into the labour market can have. Therefore, the topic chosen for the Bachelor thesis bears the opportunity to make its contribution in order to further ascertain the consequences the refugee surge will have for stopping the shrinking of the national population of Germany.

The procedure can also be assessed by other European Union member states in order to prospect similar developments and therewith amplify the awareness of a successful and immediate integration of asylum seekers that came to the European Union in the past two years and who will reach Europe in the future.

1.3. Research Questions

In order to successfully and extensively answer the research question *“In what ways can the integration of refugees into the German society and its labour market slow down the effects of the ongoing demographic change in the country and therewith contribute to maintain the national retirement system?”*, the following sub-questions seem to be the most appropriate ones in order to further structure the Bachelor thesis and therewith lead to more clarity on the different sub-categories included in the thesis which namely are the demographic development in general, the integration of the current refugee surge reaching Germany into the German society and its national labour market and in what ways the refugee surge can contribute to the maintenance of the national retirement system.

- 1) What are the differences between the terms “refugee”, “asylum seeker” and “migrant”?
- 2) How does the decrease of the German population proceed?
- 3) Which role does immigration play in Germany?
- 4) What is the educational background of the arriving refugees in order to forecast their integration into the labour market in 2030?
- 5) Are there any barriers being present that prevent the refugees from integrating themselves properly into the German society and its labour market? If so, which ones?
- 6) What is the demographic constitution of the refugee surge reaching Germany?

2. Theory section

2.1. Outline Theory section

The thesis aiming at answering the question *“In what ways can the integration of refugees in the German society and its labor market slow down the effects of the ongoing demographic change in the country and therewith contribute to maintain the national retirement system?”*

includes different theoretical backgrounds and underpinnings. These firstly are characteristics of the German national retirement systems and its impact on the demographic change, its backgrounds as well as its consequences. Secondly, the demographic development of Germany will be described, including a forecast on the number of citizens expected in 2030. Thirdly, the topic of migration will be assessed assuming that it has a large impact on the German society and its labour market. The phenomenon of worldwide migration, the role of immigration in Germany as well as the constitution of the refugee surge of 2014 and 2015 will be evaluated. As a next step, the appearance of refugees in the labour market will be examined. This inter alia

includes a clarification of who is allowed to work in the German labour market. Lastly, the hypotheses derived from the theoretical sections will be presented.

2.2. Definition of the terms refugee, asylum seeker, migrant

A clear distinction of the terms being used in this thesis is needed in order to avoid misunderstandings. Therefore, in the following section definitions of the terms refugee, asylum seeker and migrant are being provided.

2.2.1. Definition of “refugee”

According to UNHCR (2015b), a *refugee* is a person who is being located outbound the country which citizenship she/ he holds or where she/ she has her/ his permanent residence. The person is being persecuted because of his/ her race, religion, nationality or the belonging to a certain social group. Further, persons who justifiably fear persecution due to their political opinion and who cannot utilise the shelter offered by the country which citizenship he/ she holds or who cannot return to this country due to the fear of being persecuted are considered to be refugees.

2.2.2. Definition of “asylum seeker”

In case a person comes to Germany to seek for asylum, he/ she is acknowledged to be an asylum seeker. As soon as he/she officially applies for asylum at the Federal Office for Migration and Refugees (*Bundesamt für Migration und Flüchtlinge*), he/ she is officially entitled as being an applicant for asylum. If the person can prove that in his/ her home country, he/ she is being persecuted, asylum will be granted. He/ she is a person entitled to political asylum then (Bundesregierung, 2016).

2.2.3. Definition of “migrant”

Contrarily to refugees, “*migrants choose to move not because of a direct threat of persecution or death, but mainly to improve their lives by finding work, or in some cases for education, family reunion, or other reasons. Unlike refugees who cannot safely return home, migrants face no such impediment to return. If they choose to return home, they will continue to receive the protection of their government*” (UNHCR, 2015b).

It is notable, that concerning the use of the terms refugee or asylum seeker, applicant for asylum and migrant in this thesis a clear line needs to be drawn. The terms will be used according to the above mentioned definitions, taking into account that refugees and asylum seekers are not part of the larger population of migrants due to the different incentives to leave their home country.

2.3. The functioning of the German retirement system

The main task of the German public old-age security system is the safeguarding of the subsistence for German citizens in retirement age, which is 67, independent of family support or private old-age security after they left the work force. The national statutory pension scheme works as an insurance for special life risks. In fact, it mainly consists of the payment of pensions for people in retirement age. This means that Germans are insured and secured to receive their entitlement for their living in case of disease or ageing. The

system is on the one hand financed by a share paid by the citizen himself, consisting of a percentage share of the persons' gross salary and on the other hand, by a federal subsidy made up by the pay-as-you-go system. The individual amount of pension payments is calculated according to the amount and duration of the previously contributed payments.

It is notable that the procedure for assuring the pension payments in Germany is called *pay-as-you-go system* and its main characteristic is that people in working age, that are considered to be 20-67 in Germany, pay for the pensions actually disbursed for the pensioners. Today's workforce will receive its pensions paid by people making up the workforce when they enter retirement age.

The group of Germans being aged 60 or older will increase to 22.3 million people in 2030 which is 28,8 percent of the total population this time (Statistische Ämter des Bundes und der Länder, 2011). At the same time, the life expectancy of Germans nowadays is steadily rising and is expected to further increase in the upcoming years due to a steady improvement of living conditions - the development of a nation's life expectancy is closely related to the populations health conditions, its way of life as well as the level of medical supply.

2.3. The impact of demographic change on the retirement system

The demographic change plays an important role when it comes to the perspectives of the statutory pension system (Bundeszentrale für Politische Bildung, 2016a). This is mainly caused by the above mentioned fact that less people need to assure the pensions for a constantly growing group of elderly people. The German government reacted with a markup of the pensionable age from 65 to 67 in 2007 being a consequence of the fact that the systems are already pressured (Spiegel, 2007). The workforce is obliged to contribute two additional years to the pension system instead of already receiving benefits at the age of 65 which is supposed to alleviate the already existent pressures on the system. The argument in German policy is that if the population has a longer life expectancy, it can also work longer in order to subsidise itself (Spiegel, 2007). Nevertheless, the solution attempts taken by the government are considered to not be sufficient enough: the actual average pension level of 1176 € in 2015 is widely considered unable to be maintained at the same level as it is observable nowadays if the German population does not grow to a large extent as for example with the help of immigration of skilled workers (Focus Money, 2016).

The shrinking of the workforce is fostered by decreasing birthrates and an increasing share of people starting retirement. The higher life expectancy of people nowadays serves as a factor that supports this policy measure since the population generally gets older and therefore needs to be sustained longer with the help of the pension system.

Coming along with the decreasing number of births, it is very likely that not only more people need to be sustained, but also by a generally smaller workforce. In general, it can be said that less persons in working age will have to pay for a higher share of pensioners (Zeit, 2014).

2.4. Introducing the phenomenon of an ageing German society

Germany is the largest of all European countries and had its peak concerning its number of citizens in 2005, when 82.5 million made up the country's national population (Statista, 2016a).

In 2015, the population consisted of 81.2 million people which made up 16 per cent of the whole European Union's population (Europäische Union, 2016).

Nevertheless, the German population lately undergoes a number of societal changes of which the demographic change constitutes one of the major challenges.

Since 45 years, the number of children born in a new generation is not capable to outreach the size of its parental generation anymore (Statistische Ämter des Bundes und der Länder, 2011). This development was moderated with the help of immigration until 2003 as the first year when the German population size started to decrease. Until then, the population increased continuously (ibid).

2.4.1. Phenomena on a population's development

The following assumptions on the development of a population are existing in research on population development:

- 1) In case there are as many births as deaths, the population remains stable
- 2) In case there are more births than deaths, the population will increase
- 3) In case there are less births than deaths, the population will decrease (Statistische Ämter des Bundes und der Länder, 2011).
- 4) In case there is a large influence of immigration on a country, the population will increase.
- 5) In case there is a large influence of emigration on a country, the population will decrease.

In Germany, the third scenario holds true and leads to a serious decrease of the country's population not taking into account the fourth and fifth scenario since they are more general.

2.4.2. Forecast on the number of citizens to be present in 2030

According to a study conducted by Friedrich-Ebert-Stiftung (2015), Germany's population will decrease by about 3.7 million inhabitants until 2030 compared to an actual number of 81,3 million Germans in 2030. This estimation is close to the one offered by Population Pyramid's (2016) that states that in 2030, 79,3 million people will make up the country's society. According to those estimations, it can be assumed that in 2030, between 77.5 million and 79.3 million people will form the German population. For more exact calculations in the data section, in this thesis the arithmetic mean value of both estimations will be used for further investigations. The arithmetic mean of 77.5 million and 79.3 million suggests that in 2030, 78.4 million inhabitants will make up the German society. Making this assumption is a necessity resulting from the fact that ultimately precise forecasts are hardly possible due to the ongoing and developing progresses in the area of the German population's developments. Generally, in this thesis it is of high importance to make assumptions based on various forecasts as well as assumptions on the development of the German population since it cannot clearly be estimated how the German population will develop.

Therefore, in this thesis it is being assumed that without significant immigration, the German population will count 78.4 million inhabitants in 2030.

2.5. Migration

In the following section, the topic migration will be assessed. Firstly, the phenomenon of worldwide migration is being clarified and as a second step, the role of migration in Germany will be explained. Thirdly, the migration flow that reached Germany in the past two years will be outlined as well as the reasons for the refugee surge will be described. Furthermore, the impact of the EU-Turkey deal from 2016 on the development of future immigration to Germany will be explained as well as the educational background of the refugees who reached Germany in 2015 will be assessed. In a next step, the barriers hindering refugees from being integrated into the German society and its labour market will be introduced, leading to a presentation of the demographic constitution of the refugee surge that reached Germany in 2014 and 2015. Following, it will be clarified who is allowed to work in Germany and who is not. A section on refugees in labour markets will be presented, being added with the tailored measures and programs implemented by the German government in order to make the integration of refugees into the labour market a success. As a last step, the hypotheses derived from the theoretical findings will be presented.

2.5.1. Worldwide migration

Human migration is considered to be a moving and vastly developing topic, dependent on time and circumstances. Migration flows do not only take place within state borders, they do also cross borders and have an impact on other states (Champion, 1994).

There has never been so much migration documented like it is nowadays since many people seek shelter in the richer countries in the North and an ever increasing amount of people are leaving their homes and families in order to find shelter and protection in other parts of their home country or the world due to persecution in their home countries.

Generally spoken, the amount of push factors is growing rapidly which leads to an expeditiously rise in the number of refugees worldwide. The effect of intergovernmental fluctuations has a significant impact on the size, the composition as well as the distribution of the population in sending- and receiving countries. Furthermore, Champion (1994) describes international migration as a complicated phenomenon caused by the difficulties in tracking migration flows that cross international frontiers.

2.5.2. The role of immigration in Germany

Not only the ageing of the population and being faced with low birth rates form impacts on the structure of the German population, but also immigration plays an important role in the composition of the national society which mainly comes along with the changing characteristic of Germany as being a country of immigration. According to a study conducted by Friedrich-Ebert-Stiftung (2015), immigration of people to a country leads to more heterogeneity and changes its societal composition.

Temporary stays are becoming less likely; migration is more and more directed to permanent settlement (Champion, 1994). In other words, people less likely to seek for a temporarily improvement of their living conditions and for protection in other parts of the country which citizenship they hold, but they are rather looking for permanent changes and enhancement of their situation which consequently has an effect on the German society since there are increasing numbers of migrants that need to be integrated into the host society.

The development of Germany as being a country of immigration started with the recruitment of alien employees in the 1960s and 1970s. In the 1960s, the net share of foreign population in Germany rose about 2,1 million people (Friedrich-Ebert-Stiftung, 2015).

Estimations immediately suggest that in 2030, which serves as the year the forecast analysis regarding the number of citizens, the impact of immigration on the labour market and the national retirement system in this thesis is being done on, 30 per cent of the population will have a migratory background (Friedrich-Ebert-Stiftung, 2015). The share of the German population that has an immigrant background will definitely grow until 2030, depending on different political circumstances and developments that will influence further migration movements from and to Germany (Friedrich-Ebert-Stiftung, 2015).

This development is expected to have a positive impact on the labour force of the country in the long term since due to their expected participation in the national labour market, refugees and migrants are expected to contribute to mitigate the shrinking of the labour force to a large extent (Friedrich-Ebert-Stiftung, 2015).

2.5.3. The migration flow that reached Germany in 2014 and 2015

It is estimated that only in 2015, about 1,1 million refugees came to Germany (Handelsblatt, 2015). An exact number cannot be provided yet due to difficulties with the German registration system. It is possible that refugees were registered multiple times coming along with their movement within the German borders or that they were not registered at all. The number of 1,1 million is an estimation made by the German interior ministry based on the registration systems of Bavaria where most refugees entered German ground firstly due to the use of the common refugee routes in 2014 and 2015 (Bundesministerium des Inneren, 2016). For further investigations in this thesis, the number of 1,1 million refugees who came to Germany in 2015 will be used as a further assumption.

Out of the 1.1 million refugees who reached Germany in 2015, 476.649 officially applied for asylum in the same year (Statista, 2016b). The gap of 623.351 people occurring between the amount of people who came to the country and of those who actually applied for asylum is existent because of the large time span that it takes until an official asylum application is possible and also because of the unexpectedly high work load for the German offices responsible for processing the applications (Spiegel, 2016). The impact of this phenomenon will be more extensively assessed in the data section.

2.5.4. Reasons for the refugee surge starting in 2014 and 2015

A long-term impact on the German societal composition can be expected from the massive inflow of people who reached the country in the past two years and of who will further come to Germany in the future because of various reasons. For the refugee surge that started arriving in Germany in 2014 that had its preliminary peak in 2015, those reasons mainly are the civil war in Syria, the unpromising circumstances in Iraq and Afghanistan, the dictatorship in Eritrea or the economic situation in the Balkan States. Most of the refugees who came to Germany in the recent waves hold the Syrian citizenship and fled because of the civil war in their home country and because of the threats being caused by the Islamic State of Iraq and the Levant (ISIS) (Bundesamt für Migration und Flüchtlinge, 2015).

It is important to note that besides the fact that all of the refugees who left their home country because of the different threats they faced there, they still have different personal and professional backgrounds why they seek for asylum or, although less likely, at least come for a temporary permission to stay in Germany. Many of them are afraid of being killed in their home country because of political or religious persecution or fled because of lacking economic perspectives that harm them in acting out their personal life-dreams. It is estimated that a large share of the refugees who came to Germany suffers from traumata caused by the wars in their home country. However, there is no stereotype of an international refugee due to the fact that the reasons for people to migrate vary to a large extent (Champion, 1994).

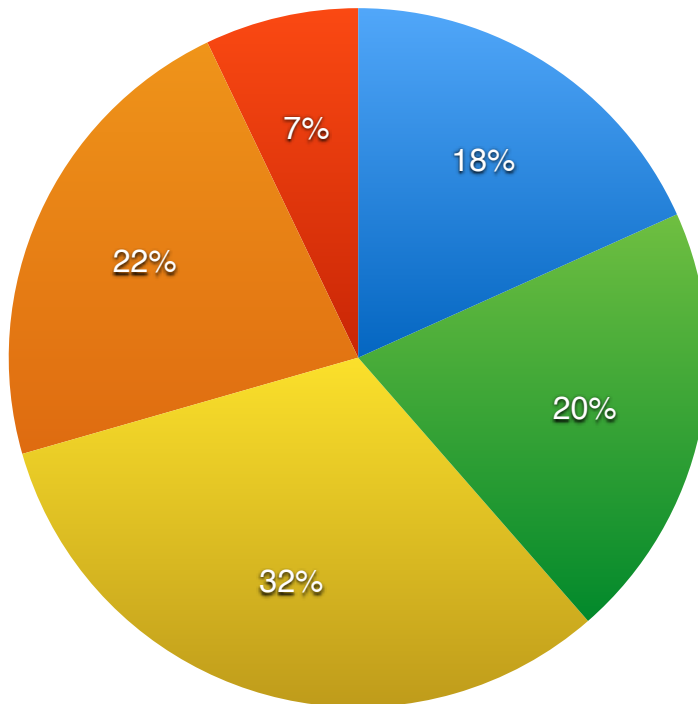
Depending on both the developments on international stage and the solidarity of the international community aiming at fighting ISIS' activity in the home countries of the refugees, the fightings will either continue or come to an end and caused by those circumstances, more or less people will come and stay in Germany in the near future. The impacts of those developments are assessed in the data section of this thesis.

2.5.5. The educational background of the refugee surge 2015

During the asylum procedures of the official 476.649 asylum applicants in 2015, the educational background of asylum seekers was assessed. It is notable that the *highest educational level* achieved by the refugee was taken into account in the assessment. In other words, the highest ever visited educational institution by each of the 476.649 refugees who applied for asylum in 2015 is used to summarise the educational background of the refugee surge 2015. Refugees from all main countries of origin, namely Syria, Albania, Kosovo, Iraq, Afghanistan, Eritrea, Serbia, Pakistan, Macedonia and Iran participated in the survey.

The results were the following: 17,8% of the applicants attended university as their highest educational level, 20,4% went to a secondary school that is comparable to the German "Gymnasium", the highest form of education on high-school level. 31,5% of the applicants attended middle school which is comparable to the German "Realschule", whereas 22,4% attended primary school as their highest education. 7,2% of the applicants stated that they were without formal education when they reached Germany.

● University ● Secondary School ● Middle School
● Primary School ● No formal education



Author's own diagram 1 based on data by Rich (2016): The educational background of the refugee surge 2015

It becomes evident that 29% of the refugee surge basically has no education that exceeds the level of the German primary school and 39% of the surge can be labelled as being highly educated due to their attendance of either University or the highest level of secondary school. The remaining 32% are considered to have obtained a basic level of education. This plays an important role when it comes to the successful integration of the asylum applicants into the labour market since a basic level of education may serve as a basis for gathering further knowledge.

In total, it can be summarised that the majority of the refugees at least has a basic educational level that can be extended with proper language courses and education program as they are at least already partly offered by the German federal states. Most importantly to add at this stage is that the findings contradict the widely spread prejudices that the refugees are not highly skilled and only came to Germany in order to profit from the social benefits offered by the state.

This all contributes to the assumption used by Oberhuber (2015) that 60 per cent of the refugees who reached Germany and who will further come to the country will be able to contribute to the maintenance of the national retirement system.

2.5.6. The demographic constitution of the refugee surge 2014/2015

Due to the fact that there is little data available on the demographics of the refugee surge that particularly reached Germany, general data available on the refugees who came to Europe will be used for assessing the

demographic constitution of the refugee surge. This is legitimate since it can be assumed that the refugees currently staying in Germany will have similar demographics as the data on Europe suggests.

Information available on the demographic composition of the refugee surge that reached European states that about 80 per cent of the refugees coming to Europe are younger than 35 (Oberhuber, 2015). Taking the maximum age of 35 as an assumption, it is notable that refugees from Syria have an average age from 20-29 which is at least six years younger than the European population averagely is. It is notable that only 4,1 per cent of the Syrian population was 65 or older in 2015. At the same time, 21,2 per cent of the German population was 65 or older in 2015. The difference in the ageing composition of both nations is enormous (DeSilver, 2015). Until 2030, the ageing quotient will definitely rise, but in case of a constant level of migration to Germany the increase will occur in a more moderate level than without immigration (Friedrich-Ebert-Stiftung, 2015).

2.5.7. The impact of the EU-Turkey deal on the development of future refugee surges reaching Germany

The future of the deal between the European Union and Turkey concluded in 2016 plays an important role for the anticipated numbers of refugees making their way to the European Union in the future, most of them with Germany as their favoured destination in mind (Jahnke, 2016). The deal between the European Union and Turkey basically includes that all refugees who from 20th March 2016 onwards will enter the European Union from Turkey via Greece illegally will be sent back to Turkey. For each Syrian that will be sent back for entering illegally, the EU takes one other Syrian refugee from the neighbouring states of Syria. The European Union and Turkey further agreed on the fact that the EU shall provide three billion Euro to Turkey for keeping the Syrian refugees in their territory. Further, visa exemptions for Turkish citizens to the Schengen area are negotiated. The implementation of the exemptions depends on the fulfilment of 72 criteria by Turkey set by the European Union (Jacobsen, 2016).

In case the deal will not be uphold due to political differences between the Union and Turkey, many of the about two million people from Syria actually residing in Turkey are likely to strike off in direction of Germany and the situation will look similar to the one in 2015 when approximately one million refugees came to Germany in order to seek for asylum. This phenomenon will be assessed in the data section.

2.5.8. Integration and barriers to being integrated

Social and economic integration are important assets in order to become part of a society. The success of the integration of refugees and migrants depends on various factors that have an enormous impact on in what ways a person feels welcomed and invited to become a part of the receiving country's society.

Nevertheless, there are numerous different barriers that prevent refugees from becoming a part of the new society. In Germany, it is a matter of fact that asylum processes on average take a long time, namely 5.3 months in 2015 (Tagesschau, 2015). As a comparison: the two fastest countries in Europe when it comes to the processing of asylum applications are Switzerland and Norway that both only need 48 hours to decide on

asylum claims (Leubrecher, 2015). The long time needed for the asylum procedure makes the process of learning the receiving country's language more difficult for the asylum seekers, since most of them only are allowed to participate in language courses after their claim for asylum was approved by the responsible authorities. In a study conducted by Mestheneos and Ioannidi (2002), refugees stated that they perceived the long waiting procedures during their asylum application as "wasted time" because they could have started to learn the new language spoken in the receiving country already.

The consequence of the long time needed for the asylum procedures is a further difficulty the refugees face and namely is the language barrier present between them and the receiving country's population since in most cases the refugees have little to no knowledge of the language spoken in the hosting country due to the fact that they did not intentionally plan to leave their home country and travel to the receiving country as for instance working migrants do. The participation in language courses is a targeted aim for all the refugees residing in the country, but due to the extraordinarily high share of people who lately came to the country, a participation in languages courses is by far not guaranteed (Schipper, 2015).

Thirdly, the recognition of the educational background a person has serves as a serious barrier when it comes to the integration into the labour market. Despite the fact that the German government decided to ease the conditions for having a specific educational background recognised and therewith enable the asylum seekers to find work after their claim for asylum has been approved, it still is an issue for many of the refugees residing in Germany to get a working permission based on the education they received in their home country (SWR, 2015). This is caused by the differences in training and qualification between the countries of origin and Germany. Due to the long procedures needed for the decision, time is being lost and employers are hindered in hiring asylum seekers that theoretically would fit the requirements of vacancies. Generally, hiring a person without a migrant background proves to be easier for the employer and therewith, refugees and migrants are disadvantaged when it comes to competitions for jobs (Oberhuber, 2015).

Two further phenomena that affect the integration of refugees mostly in social matters are racism and discrimination being present in the receiving country and its society. Many refugees perceive the dealing with the population of the hosting country as if they are being treated inferiorly due to for instance a lack in language proficiency. Institutionalised racism is an obstacle to integration in many areas which namely are housing, employment, training and education (Mestheneos and Ioannidi, 2002). The perception of refugees being inferior to the hosting country's native population deters any kind of integration and further affects the expectations the refugees have when it comes to their integration. Many of them have issues to deal with the "social downgrade" they experience and therefore struggle to maintain their pride and self-consciousness.

All in all, the duration of the asylum procedures, the recognition of the educational background of the refugees as well as language barriers being present between the refugees and the native population play an important role when it comes to the successful and contemporary integration of refugees into the labour market.

2.6. Who is allowed to work in Germany?

In the next section, a rough overview over the conditions that need to be fulfilled for refugees who aim at entering the German labour market is being provided. This is necessary in order to create a basic understanding of the legal background of who is allowed to join the German workforce and who is not allowed to do so. The legal status of a refugee has an impact on his or her integration into the labour market. The German government sets up different conditions that need to be fulfilled in case refugees aim at entering the labour market. These conditions are closely related to the status quo of the asylum procedure of the individual person. Still, it is notable that the legal status and the related working permit mainly have an impact on the contemporary integration into the labour market since it can be assumed that until 2030, the asylum procedures will be simplified and the workload for the German agencies will be reduced due to a higher predictability of future influxes. Reason for this may be the implementation of a European quota system regulating the distribution of refugees.

1) Persons entitled to political asylum

To the successful claim of asylum, the full permission to enter the labour market is being connected. People are allowed to be both self-employed and employees (Bundesamt für Migration und Flüchtlinge, 2016).

2) Asylum applicants

Applicants for asylum are allowed to live in Germany until a decision was made on their claim for asylum. They are allowed to work under certain circumstances. The aliens registration authority has to decide for every single case if the applicant for asylum is allowed to work or not. In case the aliens registration authority has decided that the applicant for asylum can enter the labour market, the approval of the local employment agency is requested by the authority itself and not by the applicant for asylum. In case the approval is granted, the person is allowed to work. A special case occurs if the applicant for asylum lived on German territory for more than four years: then the approval of the employment agency is not necessary anymore. Nevertheless, there are certain limitations that harm applicants for asylum to enter the labour market. These namely are people who hold a citizenship from one of the third countries that is considered to be a safe country of origin by the German government. Examples for those countries are the member states of the European Union, Bosnia and Herzegovina, Ghana, Macedonia, Montenegro, Serbia, Senegal, Albania and Kosovo. Additionally, applicants for asylum who live in a reception centre provided by the German government are not allowed to work in the country's labour market (Bundesamt für Migration und Flüchtlinge, 2016).

3) Persons with a status of connivance

According to Bundesamt für Migration und Flüchtlinge (2016), individuals who hold a status of connivance approved by the Federal Agency for Migration and Refugees are not allowed to work in Germany in case they came only for receiving benefits provided for the state or when they prevent measures terminating their

residence as for instance by deceiving their identity or citizenship or if they are from a state that the German government considers to belong to the group of safe countries of origin.

2.6.1. Refugees in the labour market

The integration of immigrants in the labor market is considered to be the most important step towards socio-economic integration (Lodovici, 2010).

Immigrants generally face a greater risk of social exclusion and poverty than the native population of a country. The areas in which immigrants face a higher risk of being excluded namely are the access to employment, health, education as well as social services. Refugees who fled because of civil wars have lower employment rates than economic refugees, which is mainly because of the lack in language proficiency (Oberhuber, 2015).

Therefore, especially refugees are in need for tailored measures taking into account the special demands they have (Lodovici, 2010). This is inter alia caused by the traumas many of them suffer and the fact that they might have difficulties in reaching out to new persons (Mestheneos and Ioannidi, 2002). Immigrants more often are stuck in precarious work. Still, it is a common phenomenon that they are over-qualified for the jobs they do (Lodovici, 2010). Third country immigrants coming to the EU on average have higher unemployment rates than immigrants who come from the EU (Lodovici, 2010).

Several studies have been conducted on the labour market and employment situation of refugees and immigrants.

Eichhorst et al. (2011) state that immigration is widely seen to function as a stabiliser of the labour market and that policy bears the potential to contribute to the reduction of labour market shortages with the help of facilitating the immigration of workers who possess the skills that are considered to be in short supply.

A survey conducted aiming at investigating on whether or not experts believe that the European economy is in the need of highly-skilled immigrants and about 96% of the experts who took place in the survey affirmed that (Eichhorst et al. 2011).

The need for proper labour market integration programs is inevitably high, since the research conducted by Eichhorst et al. (2011) reveals that foreign-born workers are likely to be concentrated in the service and construction sectors and therewith are likely to work in the low-wage labour market. Immigrants coming from non-EU countries generally are more likely to end up in unemployment and consequently, a substantially lower participation in the labor market is being expected. This again stresses the risk of large parts of the refugee surge ending up in unemployment if the German government does not manage to implement well-functioning labour market integration programs for the refugees who arrive in the country.

Additionally, it needs to be taken into account that refugees and immigrants in general are over-represented in manual low-skilled employment (Eichhorst et al., 2011). Measures need to be found in order to prevent an intensification of this phenomenon since this would not lead to the anticipated effect the refugee surge should have on the German labour market which namely is to become part of the labour force that contributes with

pension payments to the maintenance of the country's national retirement system. One example for steps towards an integration of refugees not only into the low-wage labour market is inter alia the flexibility of the labour market itself, since for example rigid wages are likely to lead to higher unemployment as well as to income inequality being a consequence of immigration which could lead to social unrest and discontent (Eichhorst et al., 2011). Flexible wages for refugees lead to on the one hand a higher likelihood that employers will hire them and on the other hand foster the risk that refugees end up in low-wage work.

About 55% of the refugees who came to Germany from 1985-2005 found a job. It is estimated that, if policy and economy engage, the quota for the refugees of the current surge to get into work can be about 60%, but this is only the case when language courses and further education can be provided to a sufficient level (Oberhuber, 2015). In the last four years, about one million jobs were created in Germany for which one does not necessarily need any formal education. They are therefore feasible for refugees whose education has not been recognised yet or who want to enter the German labor market as soon as possible (Oberhuber, 2015). For further investigations in this thesis, it is assumed that 60% of the refugees reaching Germany until 2030 will be successfully integrated into the labour market, taking into account all the barriers mentioned in the section above.

2.6.2. Tailored measures implemented in Germany aiming at integrating immigrants into the labour market

Facing its demographic challenges and its shortage of skilled workers, Germany has gone through remarkable changes when it comes to labour market integration policies (Benton et al., 2014).

There are different forms of trainings offered for immigrants available in Germany, which namely are:

1) Training offered by employers

This form of training is either financed at the expenses of the employer or with the help of public subsidies. It is either tailored to specific demands of a company, or participants get certain qualifications that are certified by an outside organisation.

2) Universal vocational training for adults

These courses are mainly designed to help unemployed to get into work. They are also open for employees who want to enlarge their skills.

3) General trainings for immigrants

This type of training consists mostly of language training and courses that mix occupational skills with learning a language. It also consists of programs that should help immigrants that have foreign

qualifications to abandon deficits in their skills or to gather work experience in the receiving country (Benton et al., 2014).

All three forms of training are considered to be feasible for the refugees residing in Germany since they are all considered to aim at enhancing their expertise. It needs to be stressed that in case of refugees, it makes most sense to combine language courses with the practicing of occupational skills in order to accelerate both the language learning process as well as the professional skills they need to have for finding a long-term and well-paid job.

To sum all up, the investigation on the German demographic development revealed that the country faces a high need for further immigration in order to maintain its current number of citizens and to safeguard the pension system. The refugee surge is expected to be a factor having an impact on both developments, namely the shrinking of the population size and the insecure future of the national retirement system, that are threatening the German society. In order to successfully stop the decreasing of the German population, integrating the numerous refugees into the German society and its labour market and therewith help to safeguard the national retirement system, various different factors need to be taken into account. Those namely are the educational background of the refugee surge as well its demographic composition and the barriers hindering the refugees from integrating into the German society and its labour market.

For a better overview of the impact the different phenomena and facts mentioned in the theory section will have on the retirement, the table below provides a summary of the factor that influences the retirement system and if the impact is positive (strengthening the retirement system) or negative (debilitate the retirement system). Further, a short explanation will be provided.

| Influence of the theoretical findings on the retirement system | Positive or negative impact on the retirement system | Short explanation |
|--|--|---|
| Demographic change | Negative Impact | <ul style="list-style-type: none"> • more elderlies in the need to be sustained • low birth rates -> shrinking of the workforce |
| Citizens expected to be present in 2030 | Negative Impact | <ul style="list-style-type: none"> • more elderlies in the need to be sustained • smaller workforce to safeguard the pension payments |
| Migration in general | Positive Impact | <ul style="list-style-type: none"> • increase of the workforce -> higher amount of pension payments |
| Migration flow 2014 and 2015 | Positive Impact | <ul style="list-style-type: none"> • creation of workplaces in order to cope with the challenges being caused by migration • integration of refugees into the labour market -> increase of the workforce -> higher amount of pension payments |
| Educational background of the refugee surge | Positive Impact | <ul style="list-style-type: none"> • basic educational level is easier to enhance as if there was no educational background at all • knowledge of how to study |
| EU - Turkey deal | Negative Impact | <ul style="list-style-type: none"> • assumption: the more refugees coming to Germany, the better for the retirement system |
| Barriers to integration | Negative Impact | <ul style="list-style-type: none"> • long time needed for asylum processes etc. impede the immediate integration of refugees into the labour market and therewith reduce the amount of pension payments |
| Who is allowed to work? | Negative Impact | <ul style="list-style-type: none"> • long time needed for asylum processes etc. impede the immediate integration of refugees into the labour market and therewith reduce the amount of pension payments |
| Measures implemented on the integration of immigrants into the labour market | Positive Impact | <ul style="list-style-type: none"> • trainings aim at enhancing the refugees' educational skills also reduce the time until the refugees will start paying contributions to the payment system |

Author's own table 1: The influence of the theoretical findings on the retirement system

Taking all the various factors together that influence the future of the German retirement system and the role the refugees play in it, it can be concluded that positive and negative factors are relatively balanced. It is assumed that taking all those factors into consideration, the forecast done by Oberhuber (2015) that 60 per

cent of the refugees who reached Germany already and who will move to the country until 2030 will be integrated into the labour market can be used in this thesis and serve as a valid foundation for the calculations that will be made in the data section.

2.7. Hypotheses derived from the theoretical findings

The following hypotheses are being derived from the theoretical findings in the theory section and will be tested in the data section:

- 1) The integration of refugees into the German society helps to slow down the constant decrease of the population.
- 2) The integration of refugees into the labour market helps to slow down the impact of the demographic change on the retirement system.
- 3) The integration of refugees into the labour market contributes to the maintenance of the national retirement system.

3. Methodology

In the following section, the methodology used in this thesis is being presented. Firstly, the chosen research design will be introduced and as the second step, the case selection will be explained.

3.1. Research Design

Coming along with the aim of this thesis, namely to state in what ways the integration of refugees into the German society and the national labour market can help to slow down the demographic change in Germany and therewith contribute to the maintenance of the national retirement system, an exploratory forecast study is being conducted, aiming at prognosticating the future of the German society facing the recent influx of refugees as well as the future of the national retirement system that is being impacted by the ageing of the German society.

Exploratory research tackles problems that have not been researched yet or that have been researched only to a small extent. It serves as a form of initial research that in the end leads to more in-depth analyses in further investigations (Research Methodology, 2016). The objective is to provide first insights and understandings with the help of a non-representative sample, which is also the main aim of this Bachelor thesis: Primary data is qualitatively analysed (Rotianto, 2011).

Forecasting models have their history in the application of quantitative techniques to outlooks on the economic development. They are based on “same trend” or “same level” predictions. “Same trend” predictions assume that the “(economic) trend from this year will be the same as from last year to this one” (Roberts, 1969). “Same level” predictions are based on the assumption that “next year will the same

(economically) as this year” (Roberts, 1969). For this thesis, the “same level” approach is of high interest since a reliable and valid estimation on the future refugee influx to Germany cannot be made due to changing political circumstances. Therefore, the latest developments will be used as a basis for the forecasts being made.

Exploratory forecast studies take the present as the starting point and estimate where trends and events might lead society to in the future. The exploration of the research question, instead of offering final solutions to the stated problems, is one of the main characteristics of exploratory research and in the end leads to a better understanding of the problem (Research Methodology, 2016). According to Roberts (1969), the usage of trend line approaches and leading indicators is key in exploratory forecast studies. In case of this thesis, the trend of the influx of refugees on the demographically challenged German society is assessed. Both “what if” questions about the consequences of specific trends and extrapolating past trends to future developments are key elements of exploratory forecast studies. In this thesis, mainly past trends on the population development as well as on the influx of refugees will be used in order to predict future developments (European Commission, 2005). Exploratory forecast studies use simple methods in order to estimate the future (Roberts, 1969).

Trend extrapolations on time series are being conducted, that nevertheless have limited utility facing the vastly changing scientific environment. The rule that “past is prologue” for future developments is used in order to successfully estimate possible events and trends based on occurrences in the past - translations of past events into predictions on future developments are being made (Roberts, 1969). Applying this to the content of this thesis, those past events namely are the refugee surge reaching Germany in 2014 and 2015 and having its peak in 2015 as well as the change of the societal composition of the German society due to the ageing of the population being caused by demographic changes.

Nevertheless, it is notable that the extrapolations of trends lack to explicitly state their underlying assumptions since it is expected that a combination of external and internal factors was the reason for a certain trend occurring over a period in the past and that it will stay constantly the same in a future period or that changes will at least be incremental (Roberts, 1969).

The outcome of exploratory analyses is the further exploration or conclusive research in further investigations (Rotianto, 2011).

It was decided to assess the impact the integration of refugees into the German labour market will have on the demographic change and the maintenance of the national retirement system. The units to be assessed in this study namely are the German population with a special focus on the share of retirees and the workforce to be expected in 2030 as well as the refugee surge that reached Germany in the past two years 2014 and 2015. Furthermore, estimations on the demographic development of Germany and for future flows of asylum

seekers coming to the country are being used. The focus of this analysis is laid on 2030, since it is said that after 15 years refugees are likely to be integrated into the labour market to a large extent (Klovert, 2016).

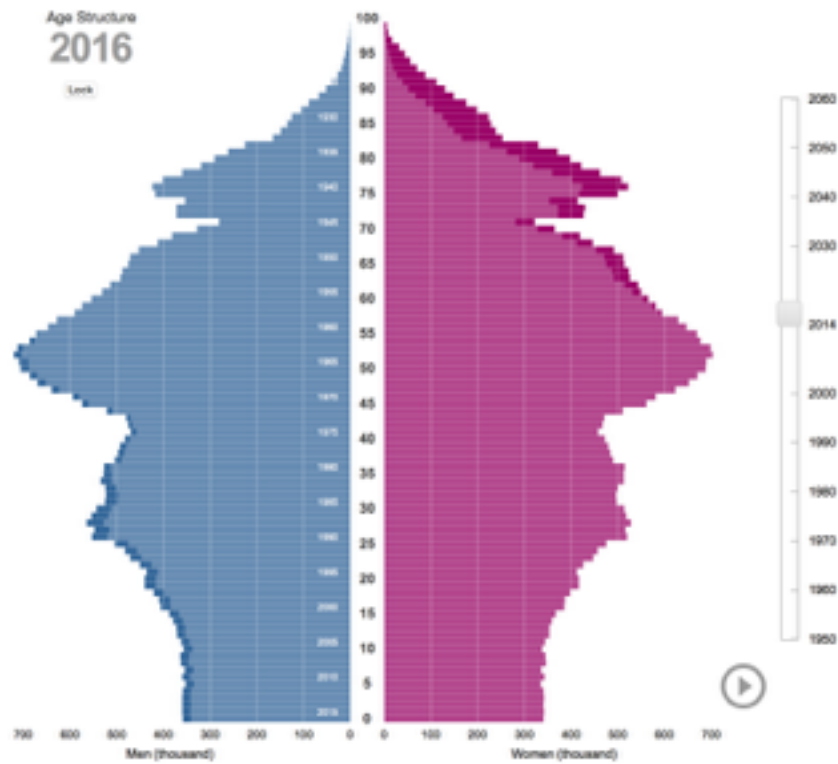
The sampling used in this thesis is convenience sampling. This non-probability method aims at approximating the truth and is frequently used during preliminary research to achieve an estimation of the results coming along with limited temporal and financial resources as it is the case for this thesis (StatPac, 2014). Generally speaking, non-probability sampling techniques are based on the researcher's judgement. The units are selected because of the easy access which stands contrarily to probability sampling techniques that use a random selection of units. It needs to be stressed that convenience sampling cannot be considered to be representative (Laerd Dissertation, 2012).

4. Data Section

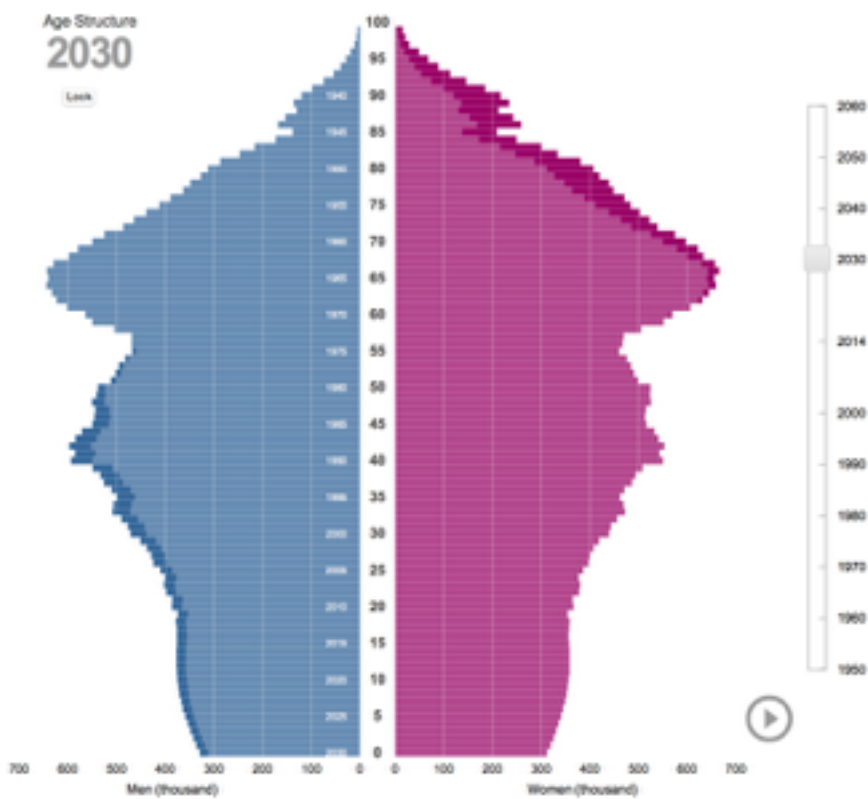
In the following section, the data part of the thesis is being presented. Firstly, data on the population development of Germany will be offered. Secondly, the scenarios developed on the basis of the findings made in the theory section will be introduced. Further, the operationalisation and data section is included as well as the section presenting the impact of refugees on the German retirement system will be explained.

4.1. Demographic development of the German population

As already stated in the theory section, the German population will account for approximately 78,4 million people in 2030. Compared to 81.3 million people in 2016, this is a decrease of 2,9 million people in 14 years. The shrinking of the population becomes most obvious in the section of the Germans aged younger than 20. In 2030, only 12,9 million people are expected to be aged younger than 20. In the end of 2014, for which the latest data on the distribution of the German population is available, 15,6 million people belonged to this demographic group. The decrease in 16 years without significant immigration therefore will amount to 2,66 million people (Statistisches Bundesamt, 2016b).



Graph1: Age structure 2016 , Statistisches Bundesamt, (2016)



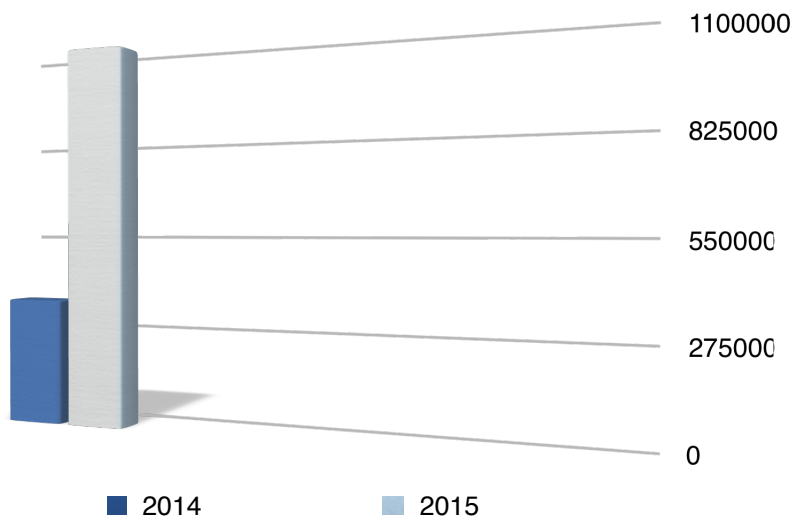
Graph 2: Age structure 2030: Statistisches Bundesamt, (2016)

As the graphs clearly state, a significant shift towards more elderly people is observable from 2016 to 2030. Further it can be observed that the birth rates in 2030 are smaller than the ones in 2016 (compare population aged “0”).

Total influx of refugees: table and graph

| Year | Number of refugees reaching Germany in total |
|------|--|
| 2014 | 363.000 |
| 2015 | 1,100.000 |

Author’s own table 2: Total refugee influx to Germany 2014 - 2015



Author’s own graph 3: Total refugee influx to Germany 2014 - 2015

4.2. Scenarios on the future influx of refugees and its effect on the number of citizens

In the following section, different scenarios on the future influx of refugees are being presented. Those scenarios differ in the assumption on the development on various political circumstances which will be further explained in each scenario’s section. It is necessary to set up various scenarios since it cannot clearly be forecasted how many refugees will reach German ground in the future and how many refugees will stay in the country. All different assumptions are based on theoretical findings and include the already existing data for 2014, 2015 and the first four months of 2016. According to UNHCR (2015a), the global displacement reached its preliminary peak in 2014 being a result of violence, conflict, persecution or human rights violence. Therefore, it is necessary to also include the refugee influx to Germany of 2014 in the assessment. Further, the data available on refugees that reached Germany 2015 is included in this scenario, since the

refugee surge had its intermediate peak in 2015 and the influence on the German society is preliminarily considered to be highest in this year.

At this stage of the thesis, it is important to clarify the following fact: asylum seekers are according to the Framework Registration Act (§ 11 Sec. 1) obliged to be registered in the municipality they live in. Consequently, they are also already included in the population measurement of the German population in 2016 (Statistisches Bundesamt, 2016b). As a result, they need to be subtracted in the calculations estimating the amount of refugees coming to Germany in different years in order to guarantee as precise calculations as possible.

| Year | Refugees in total | Asylum seekers | Not registered yet |
|------|-------------------|----------------|--------------------|
| 2014 | 363.000 | 202.834 | 160.166 |
| 2015 | 1,1 million | 476.649 | 623.351 |
| 2016 | 234.600 | 180.600 | 48.000 |
| | | 860.083 | 837.517 |

Author's own table 3: Numbers on refugees in total, already registered asylum seekers and persons still to be registered

In a nutshell, this means that for the year 2014, an additional share of 160.166 persons can be projected on the population amount in 2030 instead of the total 363.000 refugees who came in the same year. The same holds true for 2015: not all of the 1,1 million refugees who reached Germany that year can simply be added upon the future population size, since 476.649 persons are already included in the population measurement. For 2016, the 186.600 persons who already came to Germany as asylum seekers are also already included in the measurement, whereas the additional 48.000 persons who are expected to still reach Germany in 2016 need to be added on the population projection for 2030. The decline detectable of the number of refugees who reached Germany between the years 2014/2015 and 2016 has different reasons. First of all, the massive inflow of refugees to Germany in 2014 and 2015 mainly took place in the summer months. The bad weather conditions being present in the first months of 2016 can be seen as an impediment for refugees to strike off in direction Europe since the risk to die on the route via the Mediterranean is higher than it is during summer with comparable stable weather conditions. Therefore, it can be expected that the number of refugees making their way to the EU will increase again in the summer months, but still different political circumstances like the EU - Turkey deal have a limiting impact on the future number of refugees reaching Germany. A further reason for the decreased number of refugees who already reached Germany in 2016 is the closing of the previously extensively used Balkan route that led to the result that numerous refugees are stuck in camps in camps located in the neighbouring state of Syria waiting for the routes to be opened again.

In total, 860.083 of 1.697.600 persons are already included in the population measurement of 2016 as well as in the forecast on the population development for 2030.

4.2.1. Scenario I.

The first scenario is built on the developments actually observed in the country and is based on data available for the first months of 2016 - it uses forecasts based on the observations currently made on how many refugees actually reach Germany which namely are 200 refugees daily (Handelsblatt, 2016).

| Months 2016 | Number of refugees reaching Germany |
|-----------------------------|-------------------------------------|
| January 2016 | 90.000 |
| February 2016 | 60.000 |
| March 2016 | 20.600 |
| April 2016 | 16.000 |
| May 2016-December 2016 | 48.000 |
| Total amount in 2016 | 234.600 |

Author's own table 4: Refugee influx to Germany 2016, including estimations on the future development

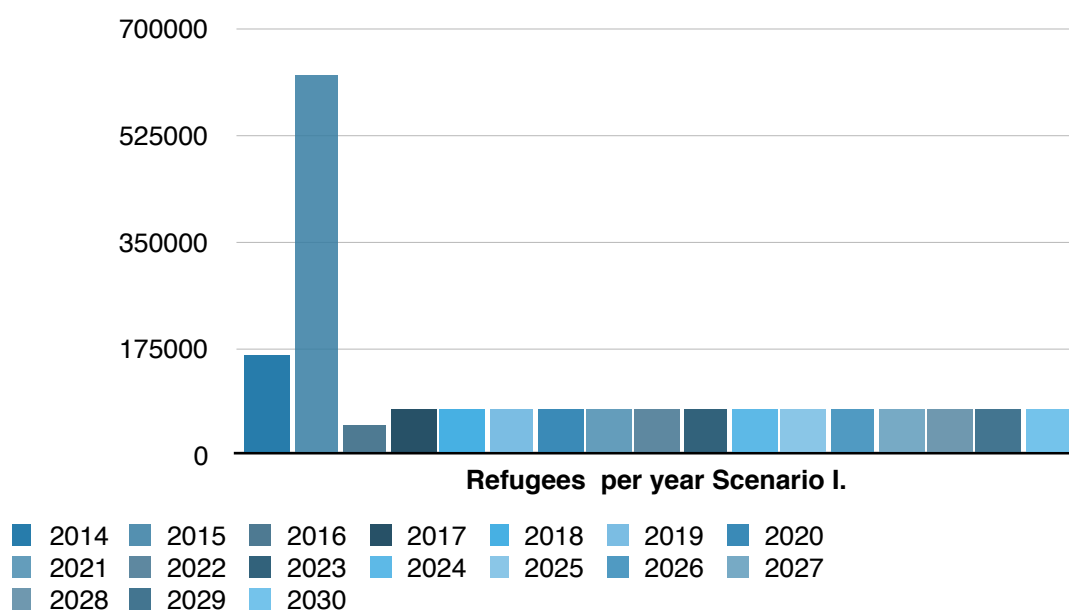
Table 4 shows the refugee influx in the current year 2016. It includes already observed data on the first months of 2016, namely from January to April. Until April 2016, 186.600 refugees in total reached Germany. For the rest of the year, starting from May 2016 onwards, a constant daily influx of 200 refugees per day is being expected based on current observations (Handelsblatt, 2016). Adding the observed numbers from the beginning of 2016 to the numbers being expected for the rest of the year, a total amount of 234.600 refugees in 2016 can be expected. It is notable, that the refugees who came to Germany in the first months of the year are, according to Statistisches Bundesamt (2016), already included in the census of the total German population for 2016. Therefore, there exists a difference of 186.600 persons (who came between January and April of 2016) and between the 234.600 refugees in total who are expected to reach Germany in 2016 and the 48.000 who will still come to the country from May 2016 onwards.

Also for the years from 2017 to 2030, a constant inflow of 200 refugees per day is assumed in this scenario, being based on the actual observations and the assumption that the political circumstances remain stable. Extrapolating the estimation of 200 refugees reaching the country on 365 days in the following 14 years until 2030, an annual share of 73.000 refugees is being expected (cf. Annex). From the beginning of May onwards, it can be assumed that 48.000 refugees will still reach the country with a constant influx of 200 refugees per day on 240 remaining days for 2016 until the end of the year. The reasons for the reduced number of refugees coming to Germany is being caused by different political circumstances. These namely are the EU-Turkey deal as well as the closed borders on the previously extensively used Balkan routes.

Taking all those assumptions together, this leads to the appreciation that from 2014 until 2030, a total share of 1.853.517 refugees can be assumed to have an impact on the population development.

| Year | Number of refugees to be added in the population |
|-----------|--|
| 2014 | 160.166 |
| 2015 | 623.351 |
| 2016 | 48.000 |
| 2014-2030 | 1.853.517 |

Author's own table 5: Number of refugees 2014 - 2030 in scenario I



Author's own graph 4: Number of refugees to be added on the German population in Scenario I

| Year | Population without further significant immigration |
|------|--|
| 2016 | 81,3 million |
| 2030 | 78,4 million |

Author's own table 6: Population of Germany without significant immigration

Assuming that until 2030, **1.853.517** refugees will seek to Germany in this scenario, the following development concerning the population size can be expected:

| Year | Population with significant immigration |
|------|---|
| 2030 | 78,4 million + 1.853.517= 80.253.517 |

Author's own table 7: Population of Germany without significant immigration

| Total number of refugees | Number of refugees expected to participate in the workforce until 2030 |
|--------------------------|--|
| 1.853.517 | 1.112.230 |

Author's own table 8: Number of refugees expected to participate in the workforce until 2030

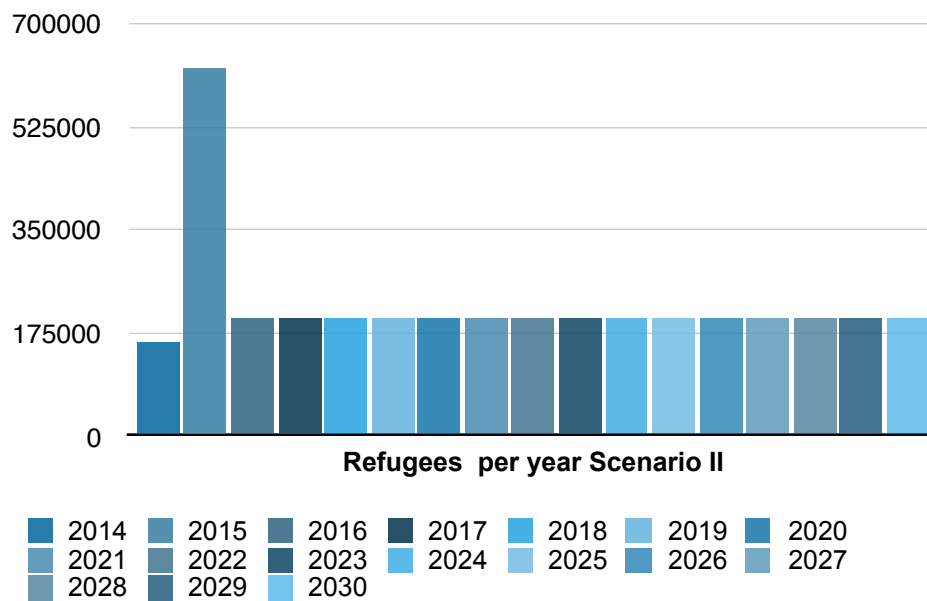
4.2.3. Scenario II

The second scenario is based on observations made before the enormous amount of refugees came to Germany in 2015. It still assumes a relatively high share of immigration to Germany because of the constantly unstable situations in the middle East and Africa. This scenario is based on a constantly remaining “welcoming policy” of the German government and assumes that policy makers and society recognise the need for taking in more refugees.

Therefore, in this scenario an annual share of 200.000 refugees reaching Germany in the period from 2016 until 2030 is being assumed. An occurrence of this scenario is possible in case the member states of the European Union manage to agree on a quota system for the distribution of the refugees seeking to Europe resulting in the fact that Germany is not one of the few countries that accept asylum seekers and grants fair asylum processes, but all members of the European Union do so. As the previous two scenarios, it also includes the data available for 2014 and 2015.

| Year | Number of refugees to be added in the population until 2030 |
|-----------|---|
| 2014 | 160.166 |
| 2015 | 623.351 |
| 2016-2030 | 3.000.000 |
| 2014-2030 | 3.783.517 |

Author's own table 9: Total number of refugees to be added in the population until 2030



Author's own graph 5: Refugees per year to be added on the German number of citizens Scenario II

| Year | Population without significant immigration |
|------|--|
| 2016 | 81,3 million |
| 2030 | 78,4 million |

Author's own table 10: Population of Germany without significant immigration

In case the second scenario becomes reality, the following growth of the German population can be expected:

| Year | Population with significant immigration |
|------|---|
| 2030 | 78,4 million + 3.783.517= 82.183.517 |

Author's own table 11: Population Germany with significant immigration

Caused by the theoretical assumption made in the theory section and supported by Oberhuber (2015) that 60% of the current refugee surge will find work in the German labour market, the following calculation holds true:

| Number of refugees | Number of refugees expected to participate in the workforce until 2030 |
|--------------------|--|
| 3.783.517 | 2.270.110 |

Author's own table 12: Number of refugees expected to participate in the workforce until 2030

4.2.2. Scenario III.

German Vice-Chancellor Sigmar Gabriel from the social-democratic party (SPD) stated in September 2015, when the refugee crisis in Germany was about to reach its peak, that the country is able to take 500.000 refugees annually for a number of years due to its excellent economic situation (Spiegel, 2015a).

The third scenario being used in this thesis builds on this statement and assumes that from 2016 until 2020, the German government accepts 500.000 refugees per year voluntarily. After that, in this assumption, the government still takes a comparably high share of asylum seekers annually, namely 200.000 for the time frame from 2020 until 2030. The statement and the assumption that Germany will take high amounts of refugees in the coming years are supported by the fact that the governor of the federal state Thuringia suggested to voluntarily take more refugees from refugee camps after the first wave reaching Germany slowed down because the state would be prepared either ways and has a high need for further immigration coming along with its demographic development (N-TV, 2016). It can be assumed that this happens in more federal states of the country. This comes along with the fact that many citizens, companies and politicians prepared for a long-lasting refugee influx on the level as it occurred in 2015 and did not estimate a slowdown of the refugee surge as it was observed in the first months of 2016 occurring that vastly. Further, it is possible that the EU-Turkey deal will not be uphold due to political differences and therefore, a high share of additional refugees will make their way towards Europe. It is expected that Germany reaches similarly as it did in 2015 when it was decided to open the country's borders and let the refugees in.

In case that scenario III holds true, it can be assumed that policy-makers and population both recognised the high need of immigration and regeneration the country has in order to both cope with its demographic challenged and external economic and political demands.

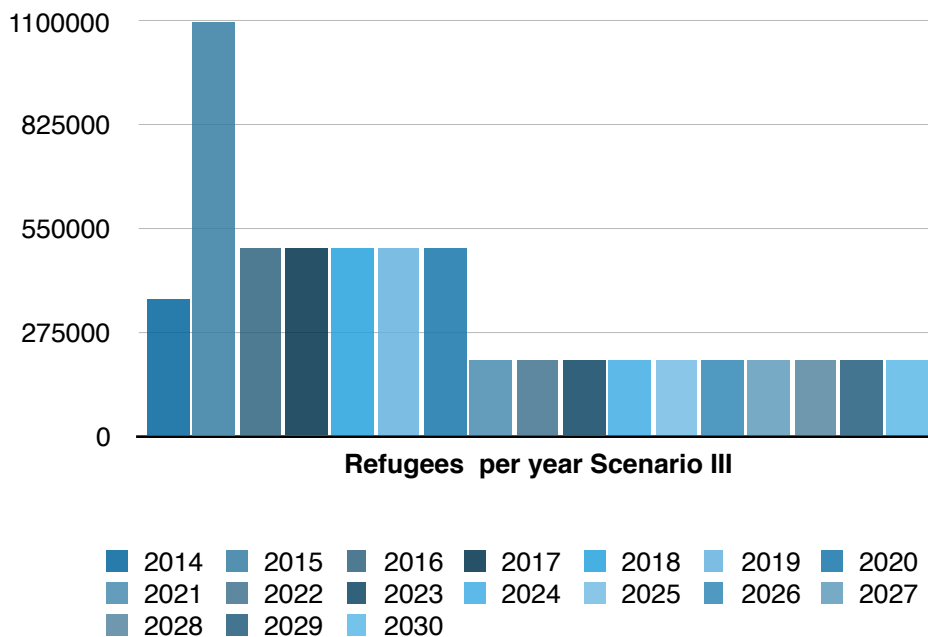
Adding up all numbers from 2014 until 2030 up and taking into account the 860.083 asylum seekers who are already registered, a total additional intake of **5.283.517** refugees in Germany can be assumed in this framework.

| Time span | Number of refugees to be added in the population until 2030 |
|-----------|---|
| 2014-2030 | 5.283.517 |

Author's own table 13: Total number of refugees to be added in the population until 2030

| Year | Population without significant immigration |
|------|--|
| 2016 | 81,3 million |
| 2030 | 78,4 million |

Author's own table 14: Population Germany without significant immigration in 2016 and 2030



Author's own graph 6: Number of refugees to be added on the German population in Scenario III

| Year | Population with significant immigration |
|------|--|
| 2016 | 81,3 million |
| 2030 | 78,4 million + 5.283.517 = 83.683.517 |

Author's own table 15: Population Germany with significant immigration in 2016 and 2030

Caused by the theoretical assumption made by Oberhuber (2015) that 60% of the current refugee surge will find work in the German labour market, the following calculation holds true:

| Number of refugees | Number of refugees expected to participate in the workforce until 2030 |
|--------------------|--|
| 5.283.517 | 3.170.110 |

Author's own table 16: Share of refugees expected to participate in the workforce until 2030

4.3. Operationalisation and data: The pension system

The latest information available on the status quo of how many pensions are being paid in Germany are from 2014 when 81,2 million people lived in Germany and 25,33 million pensions were paid. This is a share of 31,2 per cent (Statista, 2016).

According to several assessments, the share of retirees in 2030 will account for either 27,5 per cent or 27,0% per cent of the population (Textor, 2016). Taken the average value, in this thesis it is presumed that in 2030, 27,25 per cent of the prospective German population in 2030, which is assumed to be composed of 78,4 million people this time, will receive retirement benefits. This namely will be 21,36 million Germans which

is nearly one fourth of the total population. Obviously, the percentage of pensions that need to be paid is decreasing and consequently, it can be assumed that the previously described problems are not true since less pensions need to be paid. However, this assumption is not true since the problem coming along with the pension system is not the number of pensions that need to be paid, but rather the share of persons making up the workforce and being responsible for the payment of the current pensions. Today, 100 German people in working age are needed for paying the pensions of 44 German pensioners. In 2030, 100 workers will have to pay for 53 pensioners which is an increase of nine persons that further need to be sustained compared to today's demands (Statistische Ämter des Bundes und der Länder, 2011). This development is caused by the increasing age of the German population and the extended need for receiving statutory pensions. Coming along with the decreasing amount of births, it is very likely that not only more people need to be sustained, but also by a generally smaller workforce. Generally it can be said that less persons in working age will have to pay for a higher share of pensioners (Zeit, 2014). It is very likely that caused by this development, the recent minimum pension levels cannot be maintained.

4.3.1. The impact of refugees on the German retirement system: do the refugees help to maintain the pension system?

For reasons of feasibility in this thesis, the impact of the refugee surge on the retirement system will only be estimated for 2030 and not for the years between 2014 and 2030.

Findings on previous refugee surges that were integrated into the German labour market suggest that the average wage of a refugee in 2030 will be a gross amount of 1650€ (Bundesamt für Migration und Flüchtlinge, 2016). For the following calculations, it is assumed that the pension contribution rate that is being paid by German employees will constantly stay at the level of 18,7% from 2016 (Deutsche Rentenversicherung, 2016). This assumption is caused by the observation that the rate decreased constantly over the last years. This trend is unlikely to continue due to the internal pressures the system faces being caused by the demographic developments.

Consequently, this means that 18,7 per cent of the gross wage of 1650€ an average refugee has to pay in 2030 as the contribution for the pension system will be **308,55€**.

At the same time, the average pension that will be paid in 2030 is estimated to account **1024€** (Armut und Alter, 2012) and therewith decrease compared to the pension level of 2015 that on average was 1176 € per person. In the estimation that in 2030, the average pension that is paid will account for 1024€ already takes into account various factors like the increase of the average wages, the shrinking workforce and the higher number of elderlies that need to be sustained. Assuming that an average retiree will receive 1024€ on average means, that **3,86 refugees** are needed in order to pay the pensions of one retiree in 2030.

$$3,86 * 308,55€ = 1024€$$

Due to previous developments, it can be assumed that the average wage of a German worker will increase at about 700€ from 2722€ in 2015 to consequently **3422€ in 2030** (Institut Arbeit und Qualifikation der Universität Duisburg-Essen, 2015). 18,7 per cent needed to be paid for the pension contribution would then be **639,91€**, which means that 1,6 pension contributions of average German workers are needed in order to sustain the pensions for one retiree.

It is estimated that in 2030, the German population will have to sustain **21,36 million retirees** who are assumed to receive an **average pension of 1024€**. This means, that **21.872.640.000€** will be paid for **pensions each month**.

$$21,26 \text{ million} * 1024€ = 21.872.640.000€$$

In the following calculations, various steps were done in order to successfully come to the conclusion how much a German retiree's pension will rise taking into account the following assumptions: out of all refugees who will come to Germany until 2030 depending on the three scenarios, 60 per cent will be successfully integrated in the labor market and will earn an average gross wage of 1650€ per refugee. The pension contribution in 2030 will account for 18,7 per cent of the gross wage. Consequently, the average refugee will contribute 308,55€ monthly to the pension system and 3,86 average refugees are needed to pay the average pension for one retiree.

In 2030, the German workforce is expected to consist of 39,2 million people while at the same time, 21,36 million retirees will be part of the German society who are considered to receive an average gross payment of 1024 €. As a consequence, there will need to be 21,36 million pensions accounting an average of 1024 € to be paid which results in a total amount of 21.872.640.000€ per month. Assuming that the **workforce** in 2030 will consist of **39,2 million** persons who on average pay a contribution of 639,91€ monthly, **25.084.472.000€** are collected in order to pay the pensions for the expected 21,36 million retirees.

$$39,2 \text{ million} * 639,91€ = 25.084.472.000€$$

Subtracting 21.872.640.000€ from 25.084.472.000€, a plus of **3.211.832.000€** for each month of the year 2030 occurs. It is expected that this amount of money is not being saved, but still completely exerted in order to sustain a higher amount of pensions for each retiree. Therefore, it is not subtracted in the calculations, but rather still included.

In the next step, the pensions in total paid by the German workforce, namely 25.084.472.000 € are added to the result of the calculation “number of refugees per scenario”, (*which namely are 1.112.230 refugees in Scenario I, and 2.270.110 refugees in Scenario II, 3.170.110 refugees in Scenario III*) times the average 308,55€ pension contribution per refugee which results in a number that in the next step is divided by the number of 21,36 million retirees that will be present in Germany in 2030. The result is the expected increased pension per person including the refugee surge being integrated into the labour market.

Calculation Scenario I

$$25.084.472.000\text{€} + (1.112.230 * 308,55\text{€}) = \mathbf{25.427.650.566\text{€}}$$

$$25.427.650.566\text{€} : 21,36 \text{ million} = \mathbf{1190,43 \text{ €}}$$

(pension per retiree)

$$1190,43 - 1024,00 \text{ €} = \mathbf{166,43\text{€}}$$

In case the first scenario arises, the pension paid per retiree will increase to 1190,43€ per month, which is a surplus of 166,43€ and 16,2%.

Calculation Scenario II

$$25.084.472.000\text{€} + (2.270.110 * 308,55\text{€}) = \mathbf{25.784.914.440,5}$$

$$25.784.914.440,5 : 21,36 \text{ million} = \mathbf{1207,15 \text{ €}}$$

(pension per retiree)

$$1207,15\text{€} - 1024,00 \text{ €} = \mathbf{183,15 \text{ €}}$$

In case the second scenario arises, the pension paid per retiree will increase to 1207,15€ per month, which is a surplus of 183,15€ per month and 17,8%.

Calculation Scenario III

$$25.084.472.000\text{€} + (3.170.110 * 308,55\text{€}) = \mathbf{26.062.609.440,5 \text{ €}}$$

$$26.062.609.440,5 \text{ €} : 21,36 \text{ million} = \mathbf{1220,15\text{€}}$$

(pension per retiree)

$$1220,15\text{€} - 1024,00 \text{ €} = \mathbf{196,15 \text{ €}}$$

In case the third scenario arises, the pension paid per retiree will increase to 1220,15€ per month, which is a surplus of 196,15€ and 19,1%.

5. Analysis

In the following section, the research question will be answered based on the theoretical and numerical findings. In the first step, the approach will be explained aiming at achieving a better understanding on how the findings were made. Secondly, the hypotheses will be answered. Thirdly, the impact of the educational background of the refugee surge and its impact on the integration of refugees into the labour market will be assessed.

Based on the theoretical findings and caused by the fact that no ultimate estimation on how the future influx of refugees to Germany will develop can be done, it was most convenient to create different scenarios on the population development being influenced by different numbers of refugees reaching the country per scenario. In the three different scenarios, the fact that partial shares of the refugee surge 2014/2015 were already used in the calculations on the number of citizens was taken into account in order to guarantee as precise findings as possible. A forecast on three different cases regarding the amount of refugees reaching Germany until 2030 was done based on different theoretical assumptions, resulting in a calculation for each scenario on what the impact is on the population size in total. Beforehand, the projected population decrease was included in order to highlight the difference of the societal development not including and including a significant influx of refugees which namely amounted on an additional 1.853.517 citizens in 2030 in the first scenario, 3.783.517 additional citizens in the second scenario and 5.283.517 additional citizens in the third scenario.

| Scenario | Number of additional citizens |
|--------------|-------------------------------|
| Scenario I | 1.853.517 |
| Scenario II | 3.783.517 |
| Scenario III | 5.283.517 |

Author's own table 17: Additional number of citizens for each of the three scenarios

Moreover, the share of refugees that can be assumed to participate in the German national workforce based on the findings by Oberhuber (2015) that 60% of the refugees will successfully be integrated into the labour market was calculated and led to the result that for the first scenario, a growth of 1.112.230 workers can be assumed, in the second scenario 2.270.110 more people would contribute to the German economic strength and in the third scenario, an additional share of 3.170.110 workers can be expected.

5.1. Answering the hypotheses

In the following section the three hypotheses derived from the theoretical findings will be answered.

5.1.1. Hypothesis I:

The integration of refugees into the German society helps to slow down the constant decreasing of the population

It can be assumed that without significant immigration, the German population will decrease from 81.3 million in 2016 to 78,4 million in 2030. Taking the three scenarios as a basis, it can generally be assumed that the immigration of refugees will contribute to the slowdown of the German population's shrinking since in all three cases, the population decrease will be less drastic as it would be without the influx of refugees. Even in case of the first scenario that assumes that the least inflow of refugees occurs, the German population would consist of more than 80,2 million inhabitants instead of 78,4 million persons. Assuming that the second scenario with a medium inflow of refugees occurs, the population would also slightly grow to 82,1 million inhabitants. In case the third scenario that assumes the highest inflow of refugees will eventuate, the population would not decrease anymore, but grow to a share of estimated 83,6 million citizens.

The second scenario is with a plus of 0,8 million inhabitants closest to the actual size of the German population measured in 2016, whereas the first scenario results in a growth of 1,1 million citizens and the third scenario results in an increase of 2,3 million inhabitants. Taking into account that the German population is constantly decreasing for more than ten years from now, the second scenario would best help in order to reach the peak from 2002 again when 82,5 million people lived in Germany.

This would be best for the countries further growth since it would be best able to cope with its internal and external demands with a large workforce.

Hypothesis I supposing that the integration of refugees in the German society helps to slow down the constant decreasing of the population can be based on the findings in the data section derived to be true.

5.1.2. Hypothesis II:

The integration of refugees into the labour market helps to slow down the impact of the demographic change on the labour market

The impact of the demographic change on the retirement system was outlined in the theory section and, in a nutshell, can be summarised as the shrinking of the workforce due to lower birth rates and higher life expectancies with a constantly remaining or at least not significantly increasing retirement age and, at the same time, a growing share of pensioners that needs to be sustained. Testing the second hypothesis aims at investigating if the integration of refugees into the labour market helps to slow down the impact of the demographic change on the labour market.

In all three scenarios, it was calculated how many refugees can be expected to be added to the workforce, based on the assumption that 60 per cent of the refugees reaching German ground can be successfully integrated

into the labour market (Oberhuber, 2015). In the first scenario, an additional 1.112.230 persons participating in the German workforce can be expected until 2030 assumed that 60% of the total amount of refugees coming until 2030 is successfully integrated into the labour market. 3.170.110 additional workers in 2030 can be expected if the second scenario holds true and in total, 2.270.110 additional refugees will seek to Germany until 2030. In case the third scenario becomes reality, an addition of 5.283.517 persons from in total refugees to the workforce can be expected. So in every case, the German workforce will grow due to the influx of refugees in the country until 2030. This leads to the result, that the German labour market will be influenced by the immigration of refugees. It becomes obvious that the shrinking of the labour force can be reduced with the help of integrating refugees and that refugees can fill in vacancies that are the consequence of a decreasing German workforce.

| Scenario | Number of refugees to be expected in the workforce |
|--------------|--|
| Scenario I | 1.112.230 |
| Scenario II | 2.270.110 |
| Scenario III | 3.170.110 |

Author's own table 18: Number of refugees to be expected in the workforce in the three scenarios

5.1.3. Hypothesis III:

The integration of refugees into the labor market contributes to the maintenance of the national retirement system

In the calculations made in the data section, it becomes obvious that the German pensions can be paid without the integration of refugees into the workforce. In total, 21.872.640.000€ are needed to provide 21,36 million retirees with an average pension payment of 1024€ monthly in 2030 and at the same time, it can be assumed that the German workforce at that time will consist of 39,2 million workers who will contribute with an average payment of 639,91€ each month that in total will amount in 25.084.472.000€ that are made available in order to sustain the pension benefits. This results in a surplus of 3.211.832.000€ monthly.

Therefore, it can be concluded that the retirement system is not in a way threatened that the pensions cannot be paid in 2030 due to the fact that the expected workforce at the time, namely 39,2 million people, will be able to sustain the pensions needed for the expected number of pensioners in 2030 with an expected average pension of 1024€ monthly per person.

Nevertheless, the average pension expected to be paid in 2030 can be increased with the help of a larger workforce as a consequence of the integration of the refugee surge into the labour market resulting in paying a higher pension benefit for each retiree in 2030.

In the first scenario, assuming that a total share of 1.853.517 persons will arrive in Germany until 2030 of whom 1.112.230 persons will become part of the labour force, the increase in pension per person will be 166,43€ monthly assuming that all the assumptions set in the data section hold true.

The second scenario assumes that until 2030, a total number of 3.783.517 persons will reach Germany and 2.270.110 of them will become part of the national workforce. This leads to the result, assuming that all the assumptions set in the data section hold true, the pension per person will increase 183,15€ per month.

In case the third scenario is the one that will be reality in 2030 and in total, 5.283.517 refugees will reach Germany until this point in time of whom 3.170.110 persons will be integrated into the labour force, the pensions will rise about 196,15€ monthly for each retiree assuming that all the assumptions set in the data section hold true.

In all three scenarios, the integration of refugees into the labour market proves to be beneficial for the level of pensions to be paid in 2030, that will in any case increase due to the contribution of refugees to the pension system.

To assure a higher standard of living and to avoid social unrest due to a low amount of pensions, the integration of refugees in the labor market is a possible solution in order to achieve a higher average pension in 2030.

6. Conclusion

In the beginning of this thesis, the research question “In what ways can the integration of refugees into the German society and its labour market slow down the effects of the ongoing demographic change in the country and therewith contribute to maintain the national retirement system?” was posed in order to serve as a guideline for the planned procedure as to reveal the chances the refugee surge brings with it in order to cope with the demographic development in Germany and its consequences for the societal size and the future of the retirement system.

The general results of the study prove that the integration of refugees into the German society and its labour market will slow down the effects the demographic development has on the population size. Generally, it holds to be true that the more refugees are integrated into the German society, the smaller the population decrease will be in the future. Scientific forecasts prove that in 2030, the German population will account for 78,4 million inhabitants in case that no more significant immigration will enter the country. In this thesis, three different scenarios on the possible development of future refugee influxes and their impact on the national population size were set in order to do an estimation on which magnitude of integration has the most decreasing effect on the ongoing shrinking of the number of citizens. The result was that the third scenario, stating that a relatively high share of immigration with namely 5.283.517 refugees reaching Germany until

2030 will be most beneficial for the population's development. However, in all three scenarios further immigration of refugees proved to be advantageous for slowing down the population's decrease.

As a hypothesis, it was assumed that the integration of refugees into the labour market will have a positive effect on the development of the national pension system that is considered to be seriously affected by the population decrease and the resulting smaller workforce that will have to sustain a larger number of retirees. Consequently, a stop of the shrinking of the pensions to be paid was expected. After assessing different calculations on the status quo of the share of people making up the national workforce, the expected number of retirees, the expected average pension contribution to be paid by a German worker and also the forecasted pension contribution of a person who is nowadays considered to be a refugee in 2030, various steps of calculations proved that the group of pensioners expected for 2030 can be sustained by the German workforce without significant future immigration. However, calculations on the forecasted change of the amount of pensions averagely to be paid in 2030 suggest that the integration of refugees in the national labour market and the resulting surpluses have an enhancing effect on the height of the average pension to be paid in 2030. In each of the three scenarios, a growth of the average pension was detected. It can be summed up that the integration of refugees in the German society and its labour market have a beneficial effect on both, the population size as well as the height of the pensions expected to be paid in 2030.

6.1. The first hypothesis

The first hypothesis stating that “the integration of refugees in the German society helps to slow down the constant decreasing of the population” was derived to be true in this study. The extent of the effect the integration of refugees will have on the development of the German population size is to a high extent dependent on the level of future immigration. The impacts of a small, medium and high level of immigrations were assessed and the conclusion can be drawn, that the higher the level of immigration to Germany will be, the less the shrinking of the population will occur in the future. Immigration in any case is beneficial for fighting the demographic development in the country.

6.2. The second hypothesis

The second hypothesis, namely stating that “the integration of refugees into the labour market helps to slow down the impact of the demographic change on the labour market” was also confirmed. Comparable to the findings testing the first hypothesis, also for the second hypothesis it holds true that the impact the integration of refugees into the labour market will have on reducing the consequences of the demographic change on the labour market, which mainly is the shrinking of the German workforce, is dependent on the future level of immigration of refugees reaching Germany. Generally, it can be said that properly integrated refugees will help to fill vacancies that are caused by the shrinking of the German population and therewith slow down the impact the demographic change has on the labour market.

6.3. The third hypothesis

The third hypothesis that states that “the integration of refugees into the labour market contributes to the maintenance of the national retirement system” was partly derived to be true. This is the case due to the fact that the calculations done in this study revealed that the national pension system can be sustained by the German workforce that is expected to constitute the national labour market in 2030. Nevertheless, the integration of refugees into the labour market will contribute to a higher pension averagely paid per retiree in 2030 due to higher pension revenues to be expected if the refugees will successfully be integrated into the labour market. The level of the pension increase again depends on the level of immigration that will reach Germany in the upcoming years.

6.4. Limitations of this study

The study at hand has been conducted as an exploratory forecast study and therefore serves as a form of initial research that aims at paving the way towards future research on the covered topic. Although it is non-representative, but definitely offers some first insights and understandings. Present developments were taken as a starting point aiming at estimating which trends and events regarding the immigration and integration of refugees into the German society and its labour market might occur in the future and what their impact on the demographic development as well as the safeguarding of the pension system will be. The findings made during the research process serve as a basis for future investigations, but still various factors that are expected to have an impact on the development of the number of inhabitants as well as the maintenance of the pension system could not be included due to matters of feasibility. Those factors namely are the birth rates of both the German population and the refugee surge - it is to be recommended that these will be included in future research to obtain a more detailed outlook on the future population development. It is expected that migrants have higher birth rates in the first generation than Germans do, therefore the impact on the number of citizens might be even more positive than it is expected in this assessment.

Furthermore, this thesis does not take into account the expenses that are necessary to make the integration process of the refugees into the German society and its labour market as successful that the refugees will earn an average gross salary of 1650€ monthly. Before this will amount will occur, language and professional development trainings need to be provided by the government aiming at making the process of integration as effective as possible.

Moreover, the level of unemployment among refugees and the resulting costs for the state being a consequence of higher unemployment rates are not included in this thesis, but will have an impact on future developments and the expenditures to be incurred by the government.

It is expected that the refugee surge will in the long-term be beneficial for the German development, but in the short run, high costs are expected in order to make the process of integration.

The internal pressures being caused by parts of the German society play an important role when it comes to the integration of refugees into the German society. This is mainly due to the fact that integration is considered to be a two-sided process: on the one hand the newly arriving members of society and on the

other hand the receiving countries population. Since not everyone in Germany is in favour of continuing accepting migrants in the country, there is a high need for sharpening the societal awareness towards the necessity of future immigration and the openness towards the effort to be taken for the integration of the refugees into the society in order to make the refugee surge an integral part of the society and to not leave them alone: otherwise, the need for sustaining them would be even higher than if integration into society and labour market are a success.

The long-term integration of the refugees who came to Germany in the past two years and who are expected to further reach the country in the upcoming years is still considered to be key for the slowdown of the demographic change and will be beneficial for the average pension level to be expected in 2030.

6.5. Future research options

This study revealed the importance to further conduct research on the question *“In what ways can the integration of refugees into the German society and its labour market slow down the effects of the ongoing demographic change in the country and therewith contribute to maintain the national retirement system?”*.

It needs to be more extensively investigated on opportunities to enhance the percentage of refugees who successfully are integrated into the German labour market. Due to limited theoretical background information available, it became obvious that there needs to be theories and studies developed on the more detailed and specific circumstances to be fulfilled for refugees being integrated in the receiving country's labour market. It is notable that due to the impact the migration of refugees to the countries of the European Union will have on the nation's societies and their labour markets, those areas will change their characteristics and compositions. Therefore, there is a high need to elaborate on future developments in this area.

6.6. Advice

The German government should, in collaboration with the federal state governments, aim at abandoning as many of the barriers mentioned in the theoretical part, as possible, i.e. by providing language courses, accelerating asylum procedures and sharpening the societal awareness for future immigration to guarantee a fast and thriving integration.

7. Statutory Declaration

I declare that I entirely by myself have developed and written the enclosed Bachelor Thesis entitled

“The impact of the refugee surge on the demographic development in Germany and its consequences for the national retirement system”

and have not used sources or means without declaration in the text. Any thoughts or quotations which were inferred from these sources are clearly marked as such.

This thesis was not submitted in the same or in a substantially similar version, not even partially, to any other authority to achieve an academic grading and was not published elsewhere.

Enschede, 27th June 2016

Mareike Meyer

8. Literature

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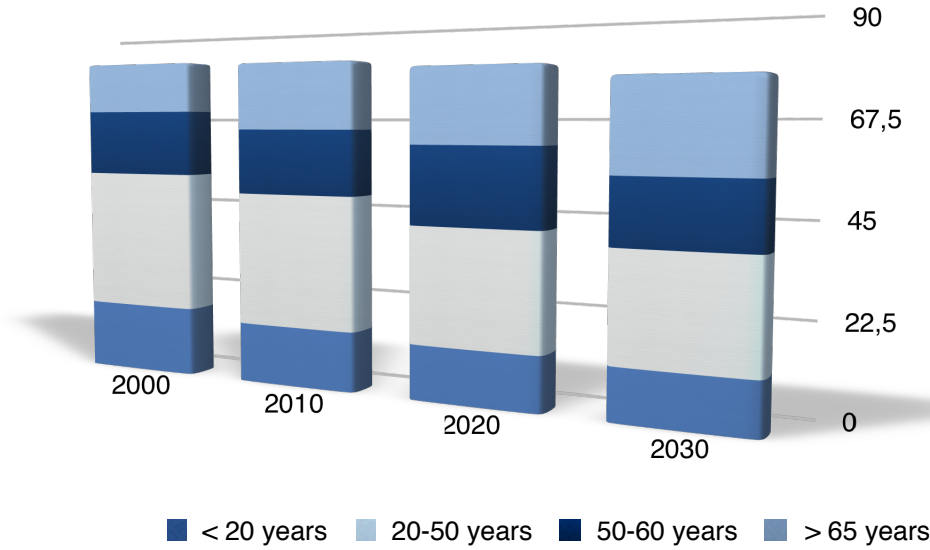
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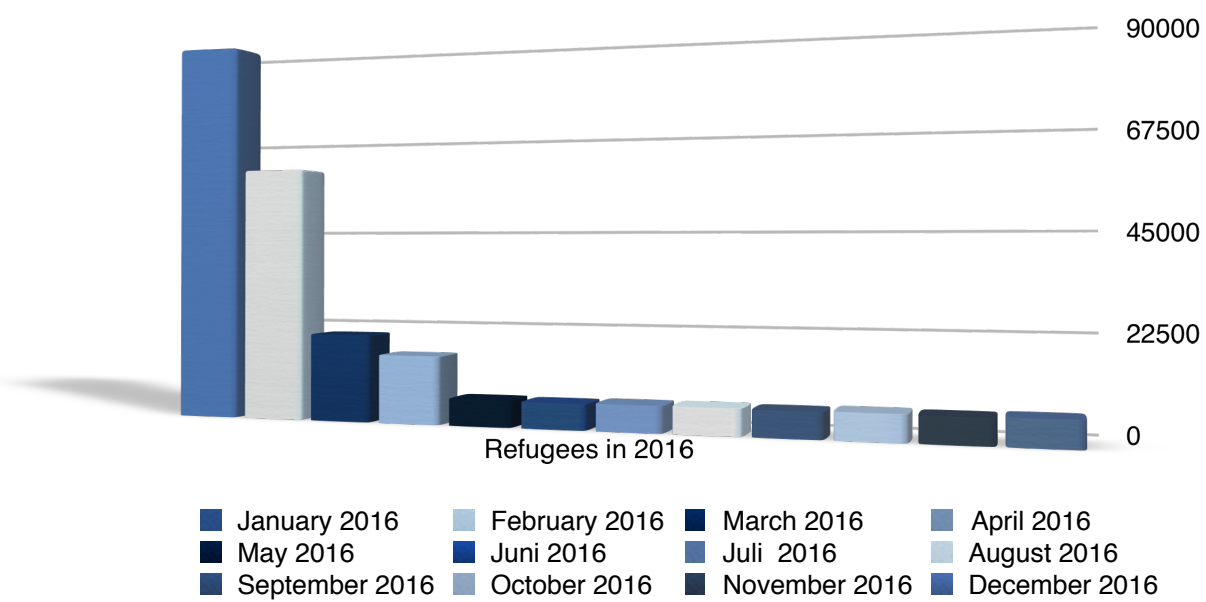
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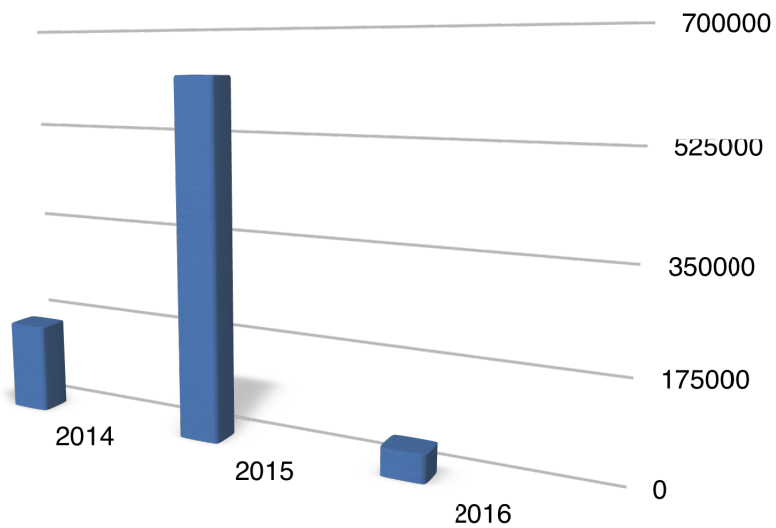
9. Annex



Author's own graph 7: population composition of Germany 2000-2030, based on data by Statista (2016a)



Author's own graph 8: Refugees who already came in 2016 and are expected to further come in 2016 (Scenario I)



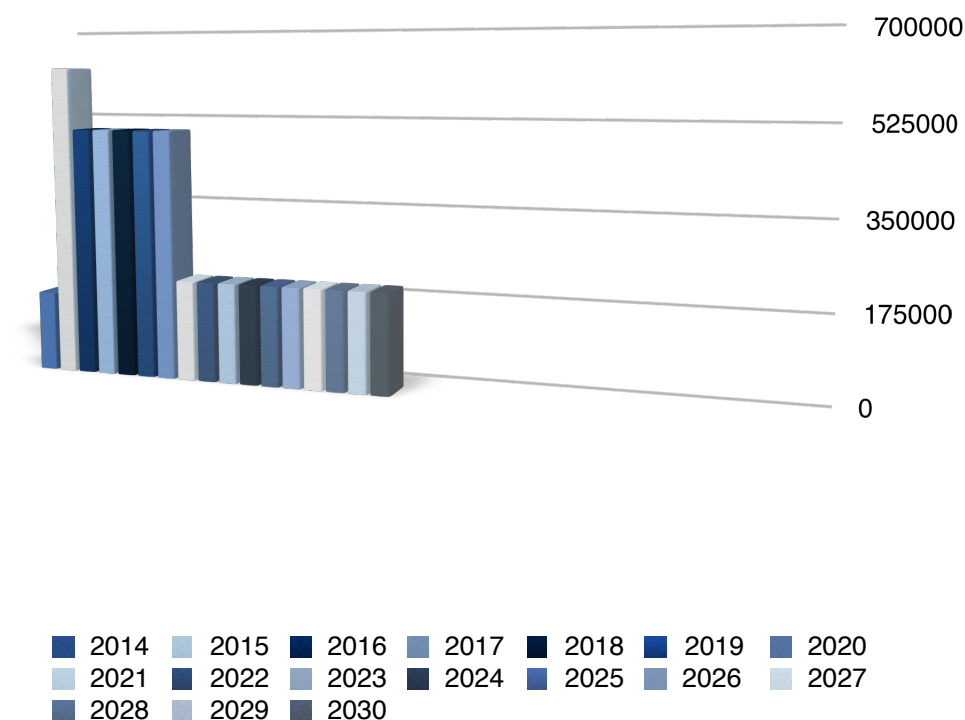
Author's own graph 9: Refugees who reached Germany from 2014-2016 and need to be added on the number of citizens of the country

| Year | Number of refugees reaching Germany |
|------------------|-------------------------------------|
| 2017 | 73.000 |
| 2018 | 73.000 |
| 2019 | 73.000 |
| 2020 | 73.000 |
| 2021 | 73.000 |
| 2022 | 73.000 |
| 2023 | 73.000 |
| 2024 | 73.000 |
| 2025 | 73.000 |
| 2026 | 73.000 |
| 2027 | 73.000 |
| 2028 | 73.000 |
| 2029 | 73.000 |
| 2030 | 73.000 |
| 2017-2030 | 1.022.000 |

Author's own table 19: Development of refugee influx from 2017 until 2030 in scenario I.

| Year | Number of refugees reaching Germany |
|------|-------------------------------------|
| 2016 | 500.000 |
| 2017 | 500.000 |
| 2018 | 500.000 |
| 2019 | 500.000 |
| 2020 | 500.000 |
| 2021 | 200.000 |
| 2022 | 200.000 |
| 2023 | 200.000 |
| 2024 | 200.000 |
| 2025 | 200.000 |
| 2026 | 200.000 |
| 2027 | 200.000 |
| 2028 | 200.000 |
| 2029 | 200.000 |
| 2030 | 200.000 |

Author's own table 20: Expected refugee influx 2016 - 2030 in scenario II



Author's own graph 10: Number of refugees to be added on the German population in scenario II

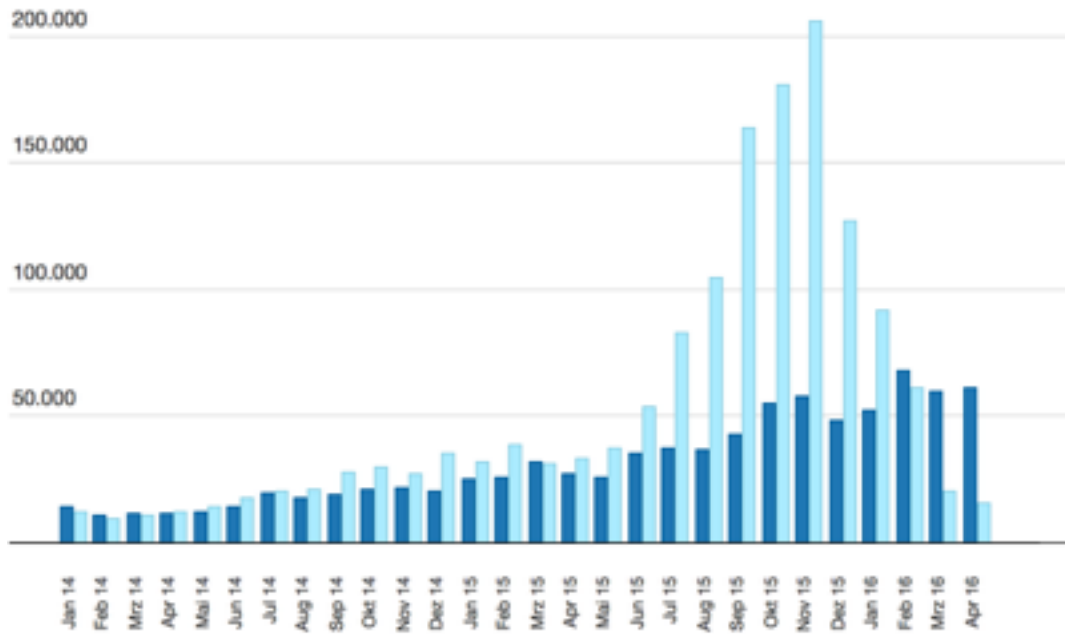
| Year | Number of refugees to be added on the German population |
|------|---|
| 2014 | 160166 |
| 2015 | 623351 |
| 2016 | 500000 |
| 2017 | 500000 |
| 2018 | 500000 |
| 2019 | 500000 |
| 2020 | 500000 |
| 2021 | 200000 |
| 2022 | 200000 |
| 2023 | 200000 |
| 2024 | 200000 |
| 2025 | 200000 |
| 2026 | 200000 |
| 2027 | 200000 |
| 2028 | 200000 |
| 2029 | 200000 |
| 2030 | 200000 |

Author's own table 21: Number of refugees to be added on the German population

| Year | Number of refugees to be added in the population |
|------|--|
| 2016 | 200.000 |
| 2017 | 200.000 |
| 2018 | 200.000 |
| 2019 | 200.000 |
| 2020 | 200.000 |
| 2021 | 200.000 |
| 2022 | 200.000 |
| 2023 | 200.000 |
| 2024 | 200.000 |
| 2025 | 200.000 |
| 2026 | 200.000 |
| 2027 | 200.000 |
| 2028 | 200.000 |
| 2029 | 200.000 |
| 2030 | 200.000 |

Author's own table 22: Number of refugees to be added on the German population in scenario III

Asylum applications & Registrations 2014 - 2016



Graph 11 (Statistisches Bundesamt 2016a): Asylum applications and Registrations January 2014 -April 2016

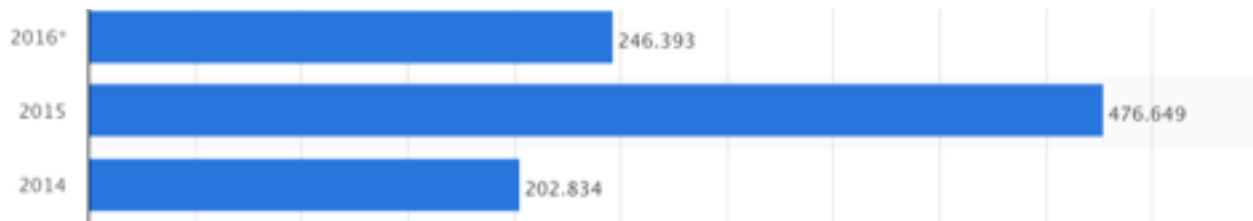
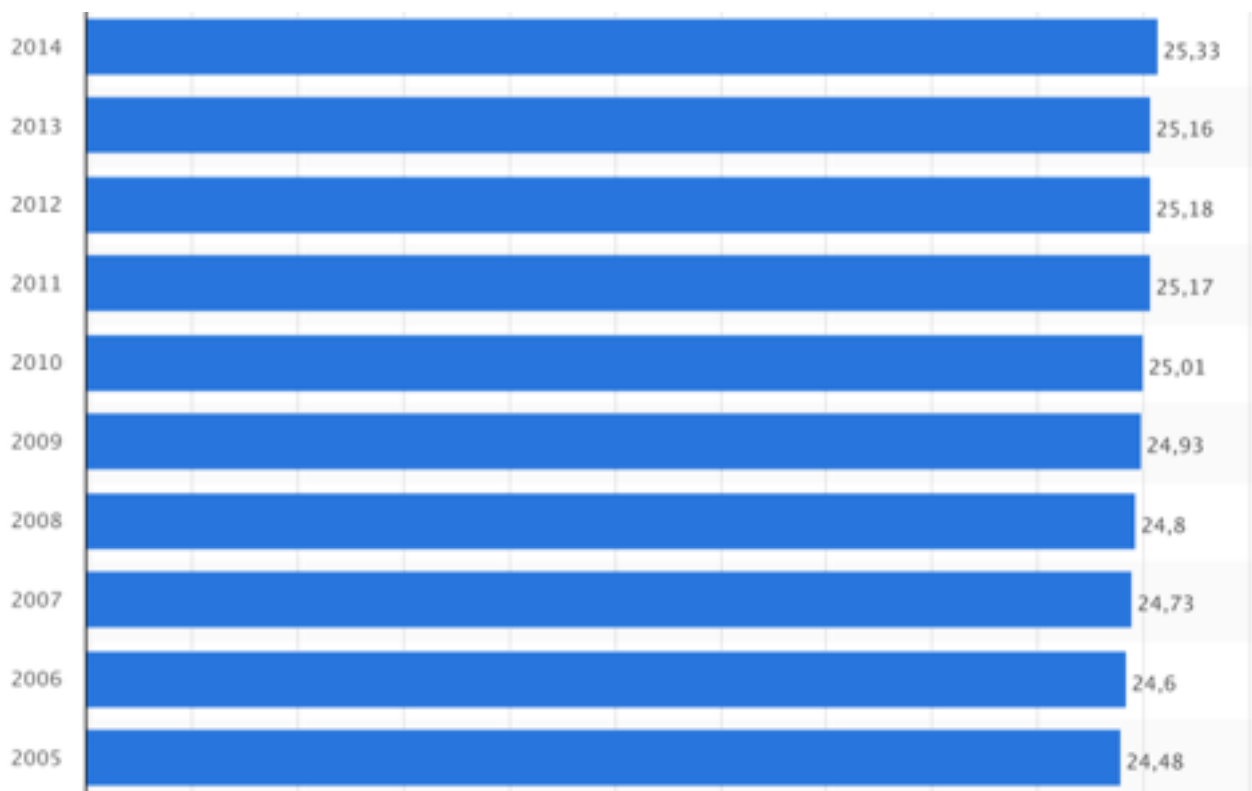


Figure 1: Number of asylum applications in Germany from 2014 until 2016 (Statista, 2016b).



Graph 12: Population development Germany 2000-2014 (Statista, 2016c).



Graph 12: Development of the pensions in Germany from 2005-2014 (Statista, 2016a).