

GERMANY'S POPULATION BY 2060

Results of the 13th coordinated population projection



Federal Statistical Office of Germany

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Germany's population by 2060 – 13th coordinated population projection

Executive summary

The 13th population projection for Germany, a coordinated effort by the statistical offices of the Federation and the Länder, focuses on population trends until 2060. It is based on population figures as at 31 December 2013 which have been rolled forward from the 2011 census. The population projection quantifies the future changes in the size and, above all, the age structure of Germany's population and reveals the effects of demographic trends that can be identified from today's perspective. What has become apparent is the long-term and sustained nature of the processes of population dynamics. Even considering the corrections that were required following the 2011 census, the central claims and statements of earlier official population projections continue to be valid.

The 13th coordinated population projection is based upon various assumptions on fertility, life expectancy and Germany's balance of immigration and emigration, providing the framework for a total of eight variants of future development scenarios. Three additional model calculations are also provided for analytical purposes.

A snapshot of the most important results is provided below on the basis of two selected variants. These two variants define the limits of a range within which the population size and age structure will develop, provided the long-term demographic trends continue. They describe the development under the assumption that annual fertility will remain nearly constant, life expectancy will increase by seven years (for men) and six years (for women) and under the assumption that migration will continue in one of two ways. The first migration scenario assumes that the initially very high annual net immigration of 500,000 persons will level out to 100,000 persons within the six years to 2021. Afterwards, net migration will remain stable at 100,000 persons per year. The second scenario is based on the assumption that annual net migration will gradually drop to 200,000 by 2021 and will then remain at this level. These variants are referred to as the "continued trend based on lower immigration" (variant 1) and the "continued trend based on higher immigration" (variant 2) in all the charts giving overviews in this brochure and on the Destatis website.

The **number of births** is expected to remain relatively stable through to 2020 at around 700,000 newborns. This is due to the favourable age structure of potential mothers: the relatively large birth cohorts of the 1980s (children of the baby-boom generation) are currently in their mid 20s to mid 30s when fertility is particularly high. Afterwards, the number of births will drop and be between 500,000 and 550,000 in 2060. Even if it remains stable, a low birth rate tends to go hand in hand with an increasingly smaller number of potential mothers. Today the cohorts of new-born girls are already smaller than those of their mothers. If, as adults in the future, these girls also have fewer than 2.1 children on average (the current replacement level), the number of children will continue to drop as the number of potential mothers will also decline.

Despite a rise in life expectancy, the **number of deaths** will increase as the large birth cohorts will enter old age. Accordingly the number of deaths will increase from 894,000 in 2013 to almost 1.1 million at the start of the 2050s, and then fall to just under 1.0 million by 2060.

The number of deaths will increasingly exceed the number of births. The growing birth deficit that results cannot be compensated by net immigration in the long term. Germany's **population** was therefore already in decline in the 2003-2010 period. Only an unusually high level of immigration has prevented a further decline since 2011. If

long-term demographic trends continue, the population will drop from 80.8 million on 31 December 2013 to 67.6 million (continued trend based on lower immigration) or 73.1 million (continued trend based on higher immigration) in 2060.

The ageing of the currently large middle-aged cohorts will lead to dramatic shifts in the age structure. In 2013, children and young people under 20 accounted for 18% of the population, while the share of people in the 20 to under 65 bracket was 61% and that of people aged 65 or over was 21%. In 2060, the share of under 20s in the population will drop to 16% and that of 20-65 year olds to 51-52%. One out of three (32-33%) will be at least 65 years old and the number of 70 year olds will be almost twice that of newborn children.

The ageing process will be reflected in particular by an increase in the number of **the oldest old**. In 2013, the number of people in Germany aged 80 or over stood at 4.4 million, equivalent to 5.4% of the country's population. This number will increase continuously and reach a record high (almost 10 million) in 2050. Between 2050 and 2060, the number of the oldest old will then decline to roughly 9 million. Therefore it can be expected that around 13% of the population, or one person in eight, will be 80 or over in 50 years' time.

The **working-age population** will be greatly affected by population decline and ageing. In this context, individuals in the 20-64 age bracket are considered to be of working age. In 2013, this age group comprised 49.2 million people. Their number will decline significantly after 2020, reaching around 44 to 45 million in 2030. In 2060, about 38 million people will be of working age (-23%) if net migration gradually drops from around 500,000 in 2014 to 200,000 in 2021 and remains constant thereafter (variant 2 "continued trend based on higher immigration"). If immigration drops to 100,000 persons by 2021 and remains constant thereafter(variant 1 "continued trend based on lower immigration"), in 2060 the labour force potential will be even smaller, standing at 34 million persons, or -30% compared with 2013.

The level of immigration will therefore have an appreciable impact on the scale of population decline as early as 2030 onwards. However, even annual net migration of 300,000 people will not stop the decline of the working-age population. An increase in the birth rate to 1.6 children per woman would only affect the number of people of working age at around the end of the projection period: in both variants, the number of people of working age in 2060 would increase by around 1.7 million (primarily young) people.

Currently the working-age population is dominated by the large cohorts aged between 40 and 60. In the next two decades this age group will largely leave the working-age population to be followed by the significantly smaller cohorts of the 1970s and 1980s. In 2035, therefore, the disproportions in the age structure between younger and older individuals of working age will be less pronounced than today. By 2060, these imbalances will have largely balanced out and the median age of the working population will only be 43, instead of the current age of 44.

In the future, the the proportion of older people to working-age people will increasingly shift towards a rising number of senior citizens. Consequently, the ratio of potential recipients of old-age security benefits to potential providers of such benefits will deteriorate. In 2013, there were 34 persons aged 65 or over to every 100 persons of working age (20 to under 65). In thevariant with a continued trend based on lower immigration, there would be 65 seniors to every 100 persons of working age in 2060. If the longterm annual migration surplus amounts to 200,000 persons instead of 100,000, the ratio will only be slightly lower with 61 persons aged 65 or over for every 100 persons of working age. Rather than increasing steadily through to 2060, there will be a particularly sharp increase in the old-age dependency ratio by the mid-2030s. After this, the old-age dependency ratio will remain constant for a number of years and will increase very slowly from the start of the 2040s. Given a retirement age of 67, the old-age dependency ratio in 2060 will be 57 if immigration is lower and 54 is immigration is higher (this ratio was 30 in 2013).

In contrast, the ratio of the number of under-20s to the working-age population – also known as the **young-age dependency ratio** – will remain relatively stable. In variants 1 and 2, it ranges between 30 and 32 over the entire projection period (in relation to the working age of 20 to 64).

Overall, the ratio of potential "recipient groups" (the under-20s and over-65s) to the working-age population will increase from 64 in 2013 to 93 (given a moderate increase in life expectancy and higher immigration) to 101 (given a large increase in life expectancy and lower immigration).

Assumptions:

The corrected population numbers following the 2011 census meant that the relative birth and mortality indicators needed to be recalculated. However, the resulting changes to the birth and mortality indexes for the total population were minimal and only had a marginal effect on the projections over time. Therefore, as with earlier population projections, it was possible to apply medium to long-term trends when making assumptions about future developments in birth and mortality rates.

Fertility will continue to remain low in the projection period. The two assumptions made are derived from a combination of longer-term trends and possible changes, from today's perspective, in the fertility behaviour of the young female generation.

The *first assumption G1* is that long-term trends will continue: the total fertility rate will remain at 1.4 children per woman with the average age at birth simultaneously increasing by around one year. The completed family size, which has been declining up until now, will stabilize temporarily with the cohorts of the 1970s. It will then decline again among female cohorts born after 1980, and will gradually reach a level of 1.4 children per woman.

The *second assumption G2* assumes a change in the fertility behaviour that will result in a slight increase in the annual total fertility rate to 1.6 children per woman by 2028. In this scenario, the average age at birth will increase by 9 months. Trends in the completed family size will develop in much the same way as in assumption G1 above until the 1980 cohort. Afterwards, it will increase slightly for the female cohorts of the 1980s and 1990s, and finally stabilise at 1.6 children per woman. In addition to these two assumptions, which are feasible from today's perspective, a *model* was created for analytical purposes with the birth rate at the replacement level of 2.1 children per woman.

Life expectancy will continue to increase. Two assumptions are made with regard to life expectancy based on a short-term (since 1970/1972) and a long-term (since 1871/1881) mortality trend.

Assumption L1 is that in 2060 men will have an average life expectancy at birth of 84.8 years and women of 88.8 years. This is an increase of 7.0 and 6.0 years, respectively, on the 2010/2012 life expectancy in Germany. The gap between men's and women's life expectancy will narrow from 5.1 to 4.0 years by 2060. At age 65, men can expect to live for another 22.0 years and women for another 25.0 years. This is equivalent to 4.5 and 4.3 more years, respectively, than in 2010/2012.

The second assumption, *assumption L2*, presumes a higher life expectancy at birth. It will rise to 86.7 years for men and 90.4 years for women by 2060. That equates to an increase of 9.0 years for men and 7.6 years for women compared with 2010/2012. The gap between men's and women's life expectancy will narrow from 5.1 to 3.7 years. 65 yearold men and women can expect to live for a further 23.7 and 26.5 years, respectively.

Two assumptions have been made as regards future **net migration** trends. In both scenarios, the balance of migration will total 500,000 in both 2014 and 2015. Afterwards, net migration is assumed to decline in one of two ways. In the first of the assumptions, *assumption W1*, migration decreases to 100,000 people annually by 2021. In the second scenario, *assumption W2*, net migration decreases gradually to 200,000 persons by 2021. This would mean that over the entire projection period between 2014 and 2060, an average of 130,000 or 230,000 persons respectively, depending on the assumed scenario, would immigrate to Germany each year, resulting in a cumulative net immigration of 6.3 million or 10.8 million persons respectively. These two assumptions define the limits of a range within which migration patterns can be expected to develop in the future. The assumed values should be interpreted as long-term averages as, in all likelihood, the actual net migration figures will be subject to great variation.

Two additional *model assumptions* are also made for analytical purposes. One assumption is that of balanced net migration. The second model assumption is that of permanent net migration of 300,000 persons per year (from 2016 onwards), or 14.5 million persons in the period from 2014 to 2060.

Introduction

This brochure has been created for the Federal Statistical Office's press conference on 28 April 2015 and provides an overview of the key results and assumptions of the 13th population projection, a coordinated effort of the statistical offices of the Federation and the Länder.

Population projections provide basic future-related information for political, social and economic decision-making processes. They reveal the effects that present structures and currently identifiable changes will have on the future population. Population projections are therefore an indispensable basis for political and economic action. The Federal Government's 2011 Demography Report drew on the results of the previous 12th population projection to present and illustrate the demographic change.

The 13th coordinated population projection is released six years after the 12th coordinated population projection which was published in November 2009. Since then, corrections to the population statistics arising from the census have been taken into consideration and their impact on demographic indicators examined. The current population projection is based on updates to population data on the basis of the 2011 census through to 31 December 2013. The 13th coordinated population projection covers the period up to 2060. It uses eight variant projections and three model calculations to describe future population trends, making it possible on the one hand to illustrate future developments that can be identified from today's perspective and, on the other, judge the impact of individual demographic components - namely fertility, mortality and migration - on future population trends.

Changes in the population are generally gradual but the impact of the structures that develop as a result of these changes can be felt long into the future. For this reason, the 13th coordinated population projection does not paint a completely new picture of Germany's demographic future compared with that of the previous population projection. Despite the need to adjust the basic information on account of the census and more recent developments - particularly the very high level of immigration in recent years - the judgements made about the primary implications of the demographic change still hold true. Adjustments to baseline parameters lessen the extent of the demographic changes somewhat, such as further reduction and ageing. Future changes also appear to be less severe than in earlier projections because Germany is already in the midst of demographic change.

Official population projections do not claim to forecast future developments through to 2060. Rather, they help explain how the size and structure of the population could be expected to develop under certain conditions. The assumptions on fertility, mortality and migration are based on both analyses of past trends over time and across Länder and on hypotheses regarding the further development of trends that can be identified from today's perspective (cf. Chapter 3). The further a projection is taken into the future, the more difficult it becomes to predict the trends of major variables, however. For this reason, long-term projections of this kind serve as a model.

The current 13th coordinated population projection provides data both for Germany as a whole and its individual Länder. The results are based on harmonised assumptions and identical methods of computation. This brochure presents selected results for Germany. More detailed data are available for free download on the Internet (www. destatis.de/DE/Publikationen/bevoelkerungsvorausberechnung). At www.destatis. de/bevoelkerungspyramide animated population pyramids illustrate the changes in the age structure of the population. The results for the Länder will be available in late summer 2015.

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1 In the midst of demographic change

In 2013, the baseline year for projections, demographic change was already well underway in Germany. A comparison of the age structure in 1990 - the year of German reunification - with that of 2013 (Figure 1) clearly illustrates this. Over the past two decades or so, the number of births has almost steadily decreased. The large birth cohorts of the 1950s and 1960s are now of mature working age. The number of individuals aged 70 or over has increased from 8.1 to 13.1 million. Consequently, the median age, which divides the population into a younger and an older half, has increased by eight years from 37 to 45. At the same time, the population pyramid has become more symmetrical. In the upper age-groups, in particular, it is clearly noticeable that not only women, but now also men, reach an advanced age.

Figure 1



Age structure of the population in 2013 compared with 1990

The current age structure will play a central role in future population developments, as neither immigration nor a higher birth rate can offset the disparities already evident between the age groups. The 13th coordinated population projection illustrates how much scope there actually is for demographic changes in the future given these conditions.

2 Results of the 13th coordinated population projection

The 13th coordinated population projection comprises a total of eight variants and three model calculations. They are obtained by combining different assumptions on fertility, life expectancy and Germany's balance of immigration and emigration¹. The results of all these variants confirm the following: Germany's population will decline over the long term, Germany's population will become older on average and it is likely that even fewer children will be born than today.

Demographic components		Trend	Target values		
			Total fertility rate (children per woman)	Average age of woman at birth (years)	
Fostility	Baseline 2013		1.4	30.7	
rennity	Assumption G1	Approximate stability	1.4	Increase to 31.8 by 2028, constant afterwards	
	Assumption G2	Slight increase	Increase to 1.6 by 2028, constant afterwards	Increase to 31.4 by 2028, constant afterwards	
			Life expectancy at birth (years)	Life expectancy at age 65 (years)	
	Baseline 2010-2012		Boys 77.7 Girls 82.8	Men 17.5 Women 20.7	
Life expectancy	Assumption L1	Moderate increase by 2060	Boys 84.8 Girls 88.8	Men 22.0 Women 25.0	
	Assumption L2	Pronounced increase by 2060	Boys 86.7 Girls 90.4	Men 23.7 Women 26.5	
			Annual net immigration (persons)	In the period from 2014 to 2060:	
Net migration	Assumption W1	Long-term average, minimum level	Gradual change from 500,000 in 2014 to 100,000 in 2021, constant afterwards	 6.3 million persons in total Approximately 130,000 persons on average per year 	
	Assumption W2	Long-term average, maximum level	Gradual change from 500,000 in 2014 to 200,000 in 2021, constant afterwards	 10.8 million persons in total Approximately 230,000 persons on average per year 	

Chart 1: Assumptions of the 13th coordinated population projection

¹ A complete overview of all the variants, including additional model computations and other selected results, is provided in the Appendix. The full range of detailed results can be accessed via the website of the Federal Statistical Office at: www.destatis.de > Facts & Figures > Population > Population Projection.

To interpret the results properly, it is essential to have a clear understanding of the assumptions on which the projection is based. Chart 1 provides a brief description of the assumptions made for the three demographic components. More detailed information is provided in Chapter 3.

The following results will focus on four selected variants. Two such variants (see Chart 2: variant 1 and variant 2) map the development that would result if birth and death trends continued and immigration were lower or higher. Therefore these variants define the limits of a range within which the population size and age structure will develop provided the demographic trends observed in the recent decades continue.

A range for the extent of ageing can best be defined by two further variants, which we can call the "relatively young" and "relatively old" population (see Chart 2: variant 6 and variant 3). The population would be relatively young if fertility rose, life expectancy increased moderately and long-term net migration were in the range of 200,000 persons. If, on the other hand, annual fertility remained approximately stable, there were a pronounced increase in life expectancy and net migration were lower, the population would age particularly quickly.

		Assumptions concerning:				
Development	Variant	Fertility (children per woman)	Life expectancy at birth in 2060	Net migration (average number persons per year)		
Continued trend based on lower immigration	Variant 1 G1-L1-W1	Approximately stable at 1.4		2014-2060: 130,000 2021-2060: 100,000 (W1)		
Continued trend based on higher immigration	Variant 2 G1-L1-W2	(G1)	Moderate increase of 7 years for boys and 6 years for girls (L1)	2014-2060: 230,000 2021-2060:		
Relatively young population	Variant 6 G2-L1-W2	Slight increase to 1.6 (G2)		200,000 (W2)		
Relatively old population	Variant 3 G1-L2-W1	Approximately stable at 1.4 (G1)	Pronounced increase of 9 years for boys and 8 years for girls (L2)	2014-2060: 130,000 2021-2060: 100,000 (W1)		

Chart 2: Selected variants of the 13th coordinated population projection

In addition to the three demographic components outlined above, the current age structure of the population will impact demographic developments for a long time. A relatively large number of middle-aged people and few young people today will result in a relatively large number of older people and few people of middle age in the next few decades. This age-structure effect will already lead to serious changes in the next two decades.

2.1 Developments in the size of Germany's population

Germany's population increased again in the years spanning 2011 through 2013. Particularly strong net immigration during 2011 to 2013 has brought a halt to the population decline witnessed between 2003 and 2010. The primary reasons for the population decline will continue to exist, however, and in the long term their impact will be felt even more than in the past. Depending on the scale of net immigration, the population is likely to increase from 80.8 million people in 2013 for another five to seven years and will then decrease. It will not fall below the 2013 level until 2023 at the earliest. In 2060, population numbers will range between 67.6 million (continued trend based on lower immigration) and 73.1 million (continued trend based on higher immigration). Even according to the maximum population variant (variant 8) - which assumes increasing fertility (G2), a high increase in life expectancy (L2) and long-term annual net migration of 200,000 persons (W2) - the number of people living in Germany in 2060 would be roughly 78.6 million, and therefore lower than today.

Figure 2

Population numbers from 1950 to 2060

From 2014, results of the 13th coordinated population projection



The population will decline over the long term because the number of deaths will increasingly exceed the number of births; net immigration - defined as the positive difference between immigration into and emigration from Germany – cannot close this gap on a lasting basis (Figure 3). Given the low annual fertility rate which has stood at 1.4 children per woman for over four decades and is expected to remain roughly stable in the future, every new birth cohort is smaller than that of its parents. The number of births will therefore tend to drop. While a somewhat higher fertility rate of 1.6 children per woman would slow down this trend, it would not bring it to a halt entirely. In contrast, the number of deaths will increase because, in the course of the projection period, the large birth cohorts (i.e. those who are currently middle-aged) will move towards old age when death rates are naturally higher. The difference between the number of births and the number of deaths is called the natural population change. As this has been negative in Germany since the beginning of the 1970s, we refer to it as the "birth deficit". In 2013 the birth deficit reached a record level of 212,000, and is therefore higher than the long-term net immigration which averaged 186,000 per year even including the periods of high immigration in the mid 1990s and at the start of the 2010s. The birth deficit will rise continuously to over 500,000 until the start of the 2050s (Table 1). After the baby boom generation, the smaller 1970s birth cohorts will start entering old age. Hence the number of deaths will decrease somewhat and the birth deficit, too, will decline slightly. In 2060, the number of deaths is expected to exceed the number of births by about 500,000.

The development of the age structure will be more favourable if fertility rates increase and the level of immigration is higher. Nevertheless, there would still be 358,000 fewer births than deaths in 2060.

Figure 3



Natural population change and net migration

From 2014, results of the 13th coordinated population projection

	From 2020, resu projection	lts of the 13 th coordinate	ed population	
Year	Continued trend based on lower immigration, variant 1 G1-L1-W1	Continued trend based on higher immigration, variant 2 G1-L1-W2	Relatively young population, variant 6 G2-L1-W2	
		1000		
2013	-212	-212		-212
2020	-249	-242		-189
2030	-381	-357		-278
2040	-463	-437		-358
2050	-535	-506		-399
2060	-516	-486		-358

Table 1: Difference between births and deaths.

2.2 Changes in the age structure

Both the declining number of births and the ageing of the large middle-aged cohorts cause significant changes in the age structure of the population. For a long time, the current population structure has deviated from the 'classic' population pyramid shape where children represent the strongest cohorts and the older cohorts gradually decrease in size as a result of increasing mortality. In 1910, for instance, the age structure of the German Reich had the form of a pyramid (Figure 4). The age structure of 1950 instead shows deep indentations caused by two world wars and the world economic crisis of the early 1930s. Germany's current population structure is dominated by large middle-aged cohorts, while the groups of older and younger people are smaller. By 2060, the large birth cohorts will move further upward, become sparser and will finally be replaced by smaller birth cohorts. At the same time, the relations between the different age groups will change significantly.

Relations between the age groups

Today, children and young people under 20 years of age account for 18% of the population. The proportion of people aged 20 to under 65 years is 61%, while that of seniors aged 65 or over amounts to 21% (Figure 5). There will already be significant shifts in the age structure by 2030, which are set to intensify even more after 2030. With demographic trends continuing and long-term net immigration of 100,000 persons per year, the percentage of under-20s and that of people of working age will drop to 16% and 51% respectively by 2060. In turn, one person in three (33%) will be at least 65 years old and there will be twice as many 70 year olds as new-born children. As illustrated in Table 2, a higher level of inward migration over the long term (200,000 individuals instead of 100.000 individuals annually from 2021 onwards) would only have a marginal impact on the relative proportions of the age groups. However, the absolute population decline would not be as pronounced due to the higher net migration. Above all, if immigration is higher, there will be 3.6 million more people of working age in 2060 than if immigration is lower.



Figure 4 Age structure of the population in Germany

The ageing process is particularly reflected by the number of the oldest old. In 2013, a total of 4.4 million people in Germany were 80 years of age or older, equivalent to 5% of the population. Their number will increase by roughly 40% by 2030 and, reaching 9 million in 2060, will be around twice that of today. Hence between 12% and 13% of the population (i.e. every eighth person) can be expected to be 80 years old or older in 50 years' time.

In contrast, the number of people aged under 20, which currently stands at 14.7 million, will have dropped to roughly 11 to 12 million by 2060. Thus there will only be half as many under-20s as people aged 65 or over in 2060.

Figure 5

Population by age group



1 13th coordinated population projection. Variant 1: continued trend based on lower immigration.



The median age, which divides the population into a younger and an older half, will increase at a particularly fast pace in the next three decades and will then remain at a high level (Figure 6 on page 21). Only an increase in the birth rate will cause it to decline again - following a somewhat moderate increase - at the end of the 2040s. In 2013, the median age was 45. If the trends for births and deaths continue it will increase to around 50 or 51 by 2060, depending on the level of immigration. If there is a higher increase in life expectancy, the median age will be almost 52 in variant 3, which assumes a "relatively old population". On the other hand, if the birth rate increases slightly and immigration is higher (variant 6 "relatively young population"), the median age will be significantly lower at 47.

Children, adolescents and young adults

At 14.7 million in 2013, there were around 3 million fewer people under 20 than there were two decades ago (in 1993: 17.5 million). If demographic trends continue, the number will continue to fall through to 2060, dropping by 18% or 26% respectively depending on the level of net immigration. However, if the birth rate increases slightly and immigration is higher (variant 6 "relatively young population") it will only drop by 4%.

Figure 7 (page 21) illustrates the development of the under-6 age group (pre-school age) and the 6-17 age group (school/training age). If demographic trends continue, there will be a decline in both age groups.

Age in years	2013	2030	2030				2060			
from		Continued trend based on lower immigration, variant 1 G1-L1-W1		Continued trend based on higher immigration, variant 2 G1-L1-W2		Continued trend based on lower immigration, variant 1 G1-L1-W1		Continued trend based on higher immigration, variant 2 G1-L1-W2		
		In year	Change on 2013	In year	Change on 2013	In year	Change on 2013	In year	Change on 2013	
	Million p	ersons								
0 to under 20	14.7	13.8	-0.8	14.2	-0.4	10.9	-3.8	12.0	-2.7	
20 to under 30 .	9.7	7.7	-2.0	8.0	-1.7	6.4	-3.3	7.1	-2.6	
30 to under 50	22.0	20.0	-2.1	20.7	-1.3	15.6	-6.4	17.3	-4.7	
50 to under 65	17.5	15.9	-1.6	16.1	-1.4	12.3	-5.2	13.5	-4.0	
65 to under 80	12.5	15.6	3.1	15.6	3.1	13.5	1.0	14.2	1.7	
80 and older	4.4	6.2	1.9	6.2	1.9	8.8	4.5	9.0	4.6	
Total	80.8	79.2	-1.5	80.9	0.2	67.6	-13.2	73.1	-7.7	
	Percent									
0 to under 20	18	17	-6	18	-3	16	-26	16	-18	
20 to under 30	12	10	-20	10	-18	10	-34	10	-27	
30 to under 50	27	25	-9	26	-6	23	-29	24	-22	
50 to under 65	22	20	-9	20	-8	18	-30	19	-23	
65 to under 80	15	20	25	19	25	20	8	19	14	
80 and older	5	8	42	8	43	13	102	12	106	
Total	100	100	-2	100	0	100	-16	100	-10	

Table 2:Population by age group, 2013, 2030 and 20601

¹ Discrepancies may occur due to rounding.

Birth trends will determine the number of children of pre-school age. This number is expected to remain stable until the start of the 2020s and will then fall gradually by 1 million by 2060. In contrast, the number of people in the 6-17 bracket will drop by around 400,000 to 500,000 by the start of the 2020s, will remain at this level for around ten years and, depending on the level of immigration, will then drop by a further 1.5 or 1.9 million people respectively by 2060. Only the variant involving an increasing birth rate forecasts a positive development, or minor decline, in the number of children and young people in the long run.

Working-age population

The population of working age will be particularly affected by population shrinking and ageing. The working age here is defined as the age between 20 and 64, and comprised 49.2 million in 2013. This number will only decrease markedly after 2020 and will stand at around 44 to 45 million in 2030 (Table 3). In 2060 roughly 38 million people will be of working age (-23%) if net migration gradually decreases from around 500,000 in 2014 to 200,000 by 2021 and remains stable thereafter (variant 2 "continued trend based on higher immigration"). If net immigration falls to 100,000 by 2021 and remains stable thereafter (variant 1 "continued trend based on lower immigration"), the labour force potential will be even smaller in 2060, standing at 34 million, down 30% on 2013.

Figure 6 Median age 1950 to 2060

Years 55 Relatively old population Continued trend based on lower immigration 50 Figure 6 Continued trend based on higher immigration 45 Relatively young population 40 35 -----70 80 90 10 20 40 1950 60 2000 30 50 2060 2015 - 15 - 0383

Figure 7

Children and young people



Year	Continued trend based on lower immigration,	Continued trend based on higher immigration,
	variant 1, G1-L1-W1	variant 2, G1-L1-W2
	Million persons	
2013	49	49
2020	49	49
2030	44	45
2040	40	42
2050	38	41
2060	34	38

Table 3:Working-age population from 20 to 64 years

The level of immigration will therefore have an appreciable influence on the level of population decline as early as 2030 onwards. Nevertheless, even annual net migration of 300,000 persons will not be able to stem the decline of the working-age population (Figure 8).

An increase in the birth rate to 1.6 children per woman would only have a stabilising effect on the number of people of working age from the 2040s onwards.

If the working age ends at 67 instead of 65, there will still be roughly 46 to 47 million people of working age in 2030, and 36 to 40 million in 2060 (based on lower and higher immigration in each case). This would mean 2 million more people of working age in 2060 than if the retirement age were 65.

Figure 8

Working-age population from 20 to 64 years

From 2014, results of the 13th coordinated population projection



1 Model calculation: fertility rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; net migration of 300,000 persons.

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The number of young people (20-29 year olds) in the working-age population will drop by 3 million by 2060. Depending on the level of immigration, there will be 6 or 5 million fewer people, respectively, in the middle age group (30-49 year olds) in 2060. Over the long term, the number of 50-64 year olds will also decline by 5 or 4 million, respectively.

The working-age population is currently dominated by the baby-boomers (Figure 9). In the next two decades, this age group will have largely entered retirement age to be followed by the significantly smaller birth cohorts of the 1970s and 1980s. In 2035, there will be less disproportion in the age structure between younger and older people of working age than there is now. This disproportion will have largely evened out by 2060 and the median age of the working population will only be 43 instead of today's median age of around 44 years.

Figure 9

Age structure of the working-age population

From 2014, results of the 13th coordinated population projection



The number of people aged 65 or over will increase at a particularly fast pace in the next two and a half decades through to 2037. If current demographic trends continue and net migration is lower, this age group will total roughly 23 million by 2037, and therefore be around 40% larger than in 2013 (17 million). Given a high increase in life expectancy, the number of seniors would even grow by 43% to 24 million. With overall population numbers declining, this age group will remain virtually unchanged between 2037 and 2060.

Meanwhile development trends for 65-79 year olds and for the 80 plus age group differ considerably (Figure 10). Particularly between 2025 and 2035, the younger group of seniors will grow quickly until the large birth cohorts gradually enter advanced old age. This age group will already be 30% larger in 2035 than in 2013. Afterwards, the number of 65-79 year olds will decline and, in 2060, will "only" be 8% or 14% higher than today depending on the level of immigration.

In contrast, the number of people aged 80 or over will increase almost continuously. By around 2050 it will reach a record level of roughly 10 million if development trends continue, and 11 million if there is a high increase in life expectancy. At that stage it will be 124% or 147% higher, respectively, than in 2013 (4 million). The share of over 80s in the group of seniors overall will increase from today's 26% to 43% or 45%, respectively. Their numbers will drop by around 1 million between 2050 and 2060.

Figure 10

Population aged 65 and over

From 2014, results of the 13th coordinated population projection Variant 1: continued trend based on lower immigration



Increasing number of senior citizens in relation to the working-age population

In addition to the absolute number of people of a given age, the age-group dependency ratios are a characteristic feature of the ageing process. On the one hand, the young-age dependency ratio reflects the ratio of the younger people who are regarded as dependants in the process of their development, education and training to the working-age population. And on the other, the old-age dependency ratio is the ratio between the population of retirement age, that is the group of potential recipients of benefits of the pension insurance scheme or other old-age security systems, and the people of working age. The two ratios add up to the total dependency ratio that shows the extent to which the middle age group in the widest sense has to care for both younger and older people who are not part of the working-age population.

Aside from the assumptions made, the age structure of today's population in Germany with its large middle-aged and its small young cohorts will determine these ratios for a long time.

The ratio of under 20s to 100 people of working age (here aged 20-64) – known as the young-age dependency ratio – will vary between 30 and 32 in the projection period (Figure 12). Given a higher fertility rate of 1.6 children per woman, it will increase to 35 by the mid-2030s and then range between 34 and 36 thereafter.

The old-age dependency ratio will increase considerably, however. The changes in the age structure will lead to a situation where the old-age dependency ratio will shift towards an increasing number of senior citizens. In 2013, that ratio was 34 senior citizens (at least 65 years old) to 100 people of working age (20 to 64 years). Assuming demographic trends continue and a lower level of immigration, there will be 65 seniors to 100 people of working age in 2060. If long-term annual net migration amounts to 200,000, the old-age dependency ratio will be only slightly lower, namely 61 persons aged 65 or over to 100 working-age adults.

Raising the retirement age to 67 will result in both a reduction of the population of retired people and an enlargement of the working-age population, which then will cover people aged between 20 and 66.

Figure 11

Old-age dependency ratios for working age of 20-60/65/67 years

2035 and 2060: results of the 13th coordinated population projection



Therefore a higher retirement age will lead to a lower old-age dependency ratio, which in 2060 would range between 57 (with continued trend based on lower immigration) and 54 (with continued trend based on higher immigration). A similar value, namely an old-age dependency ratio of 58, would also be achieved with a retirement age of 65 if long-term annual net immigration were at the higher level of 200,000 persons and, in addition, fertility increased to 1.6 children per woman. Irrespective of the assumptions made, the old-age dependency ratio will increase considerably in any case solely on account of the actual age structure.

The old-age dependency ratio will not increase evenly through to 2060. Rather, it will rise very rapidly until the mid-2030s and then remain constant for a couple of years. It will only begin to rise again slowly from the beginning of the 2040s onwards.

The total dependency ratio – i.e. the sum of the young-age and old-age dependency ratios – will be determined by the development of the old-age dependency ratio (Figure 12). If trends continue and immigration is lower, it will increase from the current value of 64 to 90 by 2037, will then stabilise until the mid-2040s and then climb to 97 by 2060. Assuming an even greater increase in life expectancy, calculations suggest that there would be 101 potential benefit recipients to 100 people of working age in 2060. Given a fertility rate of 1.6 children per woman and a higher level of immigration, the total dependency ratio would stand at 94, i.e. 7 fewer people.

Figure 12

Young-age, old-age and total dependency ratios with age limits of 20 and 65 years ¹

From 2014, results of the 13th coordinated population projection Variant 1: Continued trend based on lower immigration



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3 Assumptions regarding births, life expectancy and migration

The population projections of the Federal Statistical Office are based on the cohort component method with deterministic assumptions. With this approach, population developments are projected forward on a year by year basis with assumptions concerning fertility behaviour, mortality rates and migration factored into the projections. These assumptions will be explained separately in the following sections.

3.1 Births

The number of future births is contingent upon two factors: the number of potential mothers and the relative fertility of women. The number of women of child-bearing age is already known for the female cohorts (women and girls) currently living and any development in this number is largely determined by the number of births and migration flows. The assumptions therefore focus on the development of the relative birth rate and are made directly for the age-specific birth rates, i.e. fertility among women at each individual age. The total fertility rate (also known as the annual birth rate) is obtained by adding together all the age-specific fertility rates. The total fertility rate is therefore a derived value which indirectly affects the size of the new cohorts in the projection period. Therefore, the assumptions are not only formulated for the total fertility rate but also for the average age at birth as a characteristic feature of age distribution. They are also complemented by information on the change in the final number of child-ren of the female cohorts, which is highly relevant from a demographic perspective.

The assumptions regarding fertility are purely empirical in nature and are based on current birth statistics and the results of the microcensus surveys from 2008 and 2012. The hypotheses made are based on three fields of examination. For one, trends in the age-specific fertility rates and their impact on the total fertility rate were analysed. Secondly, the assumptions account for the most recent analytical findings on the impact that the growing trend towards older motherhood has on the completed family size per woman. Thirdly, the structure of the female cohorts was examined with regard to the number of children born and the impact this structure has on the birth rate. In this way, important information could be gathered on trends in childlessness and on changes in the average number of children per mother. The main findings are outlined in brief in the following section².

In Germany, the **annual total fertility rate** has varied between 1.3 and 1.5 children per woman for the last four decades. The annual birth rate is stable but low because the declining fertility rate of women in younger child-bearing years is compensated for by the increasing fertility of women aged 30 or over (Figure 13). There was only a slight level shift of +2% as a result of corrections that had to be made due to the census. According to current estimates, the total birth rate for 2013 stands at 1.4 children per woman.

² For more information on the topic, see "Birth trends and the family circumstances in Germany", Federal Statistical Office, 2012 at www.destatis.de> press> press conferences.

Figure 13 Total fertility rate by age group



Children per woman

The future fertility behaviour of women will determine how this trend will continue. The figures for cohort fertility can provide some indication. These figures show how the time of birth(s) and the number of children change in the lifetime of the female cohorts.

When the female cohorts are compared against one another it also becomes apparent that fewer and fewer children are born to women aged 29 and under (Figure 14). An analysis of the cohorts reveals that women only sometimes "made up for" the children they did not have before 30 once they were of older child-bearing age. In contrast to the year by year analysis, there was no compensation of the total numbers of children born. Therefore, the completed average fertility dropped from 2.2 to 1.6 children per woman between the 1933 and 1964 cohorts. The completed fertility is likely to drop further for the 1965 to 1968 cohorts and reach an all-time low of 1.5 children per woman for the 1968 cohort.

The completed fertility per woman will probably recover slightly for the birth cohorts of the early 1970s. This is primarily due to the fact that fertility up to the age of 29 has stabilised while the fertility rate of women aged 30 or over has continued to increase at the same time. This favourable scenario will not continue in the cohorts after 1973, however. Fertility at a young age has declined continuously among the 1974 to 1983 birth cohorts. It still remains to be seen how the later-age fertility (30 or over) of these cohorts will develop as they are still in the child-bearing phase. However, fertility after 30 would need to increase significantly to merely keep completed fertility stable. In contrast, for completed fertility to increase, women aged 30 or over would need to be even more fertile than they have been so far, and there should not be any further decline in the fertility of women under 30. This could only be achieved in the future by a change in the fertility behaviour of the young female generations.

Figure 14 Completed fertility and fertility by age 29 per woman by cohort



The following trends can be identified for the primary characteristics of fertility behaviour – the average age of the woman at the birth of the first child, the share of women who remain childless, as well as the number of children a woman has and the intervals between births:

The trend towards delayed childbearing will continue. Therefore the percentage of women having their first child before their 30th birthday will continue to drop. The trend to start a family at an increasingly older age has been the primary characteristic of fertility behaviour in the last four decades. At the start of the 1970s, women in the former territory of the Federal Republic were 24 years of age on average at the birth of their first child. In 2013, they were six years older at almost 30. Up until the end of the 1980s, women in East Germany were on average very young at the birth of their first child. Following reunification, the age of first-time mothers rose all the more quickly in the new Länder. By 2013, women in eastern Germany were 28 years of age on average at the birth of their first child, five years older than in 1989 (23 years). On a national average, women were 29 years old at the birth of their first child in 2013. Therefore, the window in which women start a family and can have more children is getting increasingly smaller.

Despite an increasing number of births to women of older child-bearing age, first-time births to women aged 40 or over are still relatively rare. In 2013, only 3% of first-borns were to women in the 40-49 bracket, and only 1% were to women aged 42 or over. With regard to childlessness this means that the childless rate can be considered as virtually final at the age of 42 from a statistical standpoint.

The increase in the rate of childlessness - in other words, the share of childless women in all women of a given birth cohort - has been virtually linear for the past 26 years. For the 1968 to 1972 cohorts, who were aged between 40 and 44 in 2012, the rate of childlessness stood at 22% (Table 4), and was therefore twice as high as for women born around 1940. Currently there is no indication of a reversal in this trend. All that can be said is that the rate among western German women who hold a university degree has currently stabilised at a very high level of 30%. However, a further increase in the rate of childlessness can be expected among women on the whole.

Birth cohort (aged reached in 2012)	Germany	Former territory of the Federal Republic ¹	New Länder ¹
	%		
1988 - 1992 (20 - 24)	91	92	87
1983 - 1987 (25 - 29)	71	73	62
1978 - 1982 (30 - 34)	44	46	32
1973 - 1977 (35 - 39)	27	27	20
1968 - 1972 (40 - 44)	22	23	14
1963 - 1967 (45 - 49)	20	21	11
1958 - 1962 (50 - 54)	18	20	8
1953 - 1957 (55 - 59)	16	18	7
1948-1952(60-64)	14	15	7
1943 - 1947 (65 - 69)	12	13	7
1937 - 1942 (70 - 75)	11	12	8

Table 4:Share of childless women in all women of a given birth cohort in 2012

¹ Excluding Berlin-West and Berlin-East, respectively.

Results of the 2012 microcensus (census-adjusted projection) - population at main residence.

Mothers in Germany have two children on average in their lifetime. The average number of children per mother decreased from 2.3 to 2.0 between the cohorts of the 1930s and 1940s. The drop in the number of mothers of large families was a primary contributing factor here, as the share of women with four or more children halved from 12% to 6% in these cohorts. The distribution by number of children born then stabilised. Around 31% of mothers born between the mid-1940s and the start of the 1970s "only" had one child, 48% had two, 15% had three and 6% had four or more children.

This stability is rather fragile, however, given that women are increasingly older at the birth of their first child. The results of the microcensus surveys for the cohorts from the end of the 1960s to the mid-1970s reveal that **the more children a woman has had in her lifetime the younger she was at the birth of her first child**. The mothers of only children had their child at the age of 30 on average. The mothers of two children were 27, and therefore three years younger, when they started a family. Mothers of three or more children were under the age of 25 when they had their first child. Consequently, with declining numbers of women who have their first child before they reach 30, the group of potential mothers with three or more children also tends to become smaller.

Additional children are usually only born after a few years. There is a mean gap of a good seven years between the first and third birth. If more and more women wait until their thirties to have their first child, the mean gap between births would need to be reduced for a stable share of women with more than two children. However, there is no evidence of such a change thus far. The data available since 2009 on the total order of births to mothers reveal that the intervals between births remained unchanged between 2009 and 2013. In 50% of the cases, a second child is born within 3.3 years of the first-born. The gap between the second-born and the elder sibling is bigger for the remaining 50% of second-born children. The third child generally follows after an even longer interval. Half of all third children are born within 3.9 years of the second child, and the other half later still.

In summary the following can be said: the trend towards a higher rate of childlessness will continue. Delaying childbirth until later and later in life can have an impact on the future distribution of mothers by number of children, which is currently still stable. Mothers of large families characteristically have their first child by their mid 20s and the intervals between births are relatively large. As the group of women starting a family before the age of 30 is continuously decreasing, the number of potential mothers with three or more children is also on the decline. In addition, if the currently stable mean intervals between births are not reduced, the share of mothers with large families will decline in favour of mothers with one or two children.

Assumptions

The 13th coordinated population projection is based on two assumptions regarding long-term trends in fertility. Both scenarios assume that the fertility behaviour of women in the future will be a continuation of trends that are currently identifiable, while plausible future developments such as far-reaching changes in social norms, the political and economic environment or advances in reproductive medicine are not considered as they are highly speculative in nature.

Assumption G1:

The basic assumption involving *"approximate stability"* is that the trends of the last few decades will continue. The fertility of women under 30 will decline further in the next 12 years. Increasing fertility at an older child-bearing age guarantees that the total fertility rate will remain stable at 1.4 children per woman. Fertility rates at age 35 or over will reach their maximum levels in 2028. This is based on the current maximum values in Europe for this age group, which are currently observed among Swedish women. The average age at birth will increase by one year by 2028.

In the basic assumption completed fertility will remain stable at nearly 1.6 children per woman between the 1973 and 1984 cohorts. After this, it will drop gradually to 1.4 children per woman. This assumption is based on the hypothesis that a continued trend to delay childbirth until an older child-bearing age will result in structural changes with regard to the number of children born. The rate of childlessness here would increase from the current rate of 22% to 25% and the average number of children per mother would drop from 2.0 to 1.9.

Assumption G2:

The assumption of a *"slight increase"* is based on changes in the fertility behaviour which would, in theory, be possible but for which there is no empirical indication as yet. In this scenario, fertility under 30 would stabilise in the next decade, and fertility at an older child-bearing age would increase further. By 2028, total fertility would reach 1.6 children per woman - with the average age at birth simultaneously increasing by 9 months - and would remain constant thereafter.

At the start, completed fertility will develop along the same lines as in the basic assumption. It will then gradually increase among cohorts from the late 1980s to just over 1.6 children per woman and will remain approximately stable thereafter. This hypothesis assumes that the rate of childlessness will drop from the current level of 22% to 20% and that the structure of mothers based on the number of children born will remain at the level of the 1960s cohorts with an average of 2.0 children per mother.

Apart from these two assumptions, which are feasible from today's perspective, a model has also been calculated for analytical purposes with the birth rate at the replacement level of 2.1 children per woman.

Figure 15

Trends in the total fertility rate

From 2014, assumptions of the 13th coordinated population projection



		Target	t values	
	Trend	Total fertility rate	Average age of woman at birth	
Baseline year 2013		1.4 children per woman	30.7 years	
Assumption G1	Approximate stability	1.4 children per woman	Increase to 31.8 by 2028, constant afterwards	
Assumption G2	Slight increase	Increase to 1.6 by 2028, constant afterwards	Increase to 31.4 by 2028, constant afterwards	

Chart 3: Assumptions concerning future trends in births

Figure 16

Age-specific fertility rate: 2013 and 2060

2060: assumptions of the 13th coordinated population projection



3.2 Life expectancy

Since the foundation of the German Reich in 1871, mortality conditions and life expectancies have been recorded regularly using what are called period life tables. The average life expectancy shows how many years new-born male or female children can expect to live if the population's mortality risk observed at a given time continues to apply during the individual years of age of their entire life. With regard to persons who have reached a certain age, e.g. 65 years, the number of further years they can expect to live is expressed as the average remaining life expectancy.

A continuous fall in mortality and rise in life expectancy has been tracked in Germany for more than 140 years with the life tables. In the German Reich, average life expectancy at birth in 1871/1881 was 35.6 years for men and 38.4 years for women. According to the results of the general life table for 2010/2012, men can now expect to reach 77.7 and women 82.8 years of age. Regional differences aside, the life expectancy at birth for both sexes has therefore more than doubled in this period. This development initially involved a sharp decline in the mortality rate particularly among children and infants, but survivorship has since also improved greatly for older persons. In 1871/1881, a 65 year old man had an average remaining life expectancy of 9.6 years, while a woman of the same age could expect to live for another 10.0 years. According to the general life table for 2010/2012, these values are 17.5 years (+ 7.9) and 20.7 years (+10.7), respectively, for 65 year old men and women. The increase in life expectancy in this age segment has been particularly pronounced since around 1970.

This improvement in survivorship is largely attributable to progress in medical care, better hygiene and nutrition, improvements in the housing situation and to better working conditions and increasing material wealth.

Compared with life expectancy in other countries, however, Germany does not occupy a leading position despite the sharp increase in life expectancy witnessed. In Europe, for example, Italy, Norway, Sweden and Spain, as well as our neighbours Belgium, France, Luxembourg, the Netherlands, Switzerland and Austria, have a higher life expectancy at birth than Germany according to Eurostat data for both sexes for 2011. Men and women in France, Italy, Sweden, Spain and Switzerland can expect to live at least one year more compared to their counterparts in Germany. In Switzerland, men already have a life expectancy at birth of 80.5 years (and therefore 2.8 years more than in Germany) and women one of 85.0 years (+2.2). In 2011, women in France already had a life expectancy of 85.7 years and therefore can expect to live for 2.9 years more than women in Germany.

In the light of past developments in Germany and the far higher life expectancy already enjoyed in a number of neighbouring European countries, it is assumed that improved living conditions compared with those of earlier generations and further improvements in the medical care system will lead to a further rise in life expectancy in Germany in the future.

Assumptions

The 13th coordinated population projection involves two assumptions on the development of life expectancy through to 2060. The general life table for 2010/2012 acts as the basic life table here. Both assumptions are based on a continuous increase in life expectancy. In future years, that rise will increasingly depend on the older age groups. As the mortality risk is already very low in the young age groups, improvements in conditions would only have a relatively small effect on the development of total life expectancy. With the aim of defining the individual assumptions, the mortality risks of men and women were examined in each age cohort in order to identify both long-term and short-term trends in the past. The fact that the mortality risk has declined continuously made it easier to derive the relevant trends. Both a long-term trend for the period since 1871/1881 and a short-term trend since 1970/1972 were determined for each single year of age. The effect of the decline in mortality among older age groups (roughly 60 and older) is somewhat stronger in the short-term trend, resulting in a bigger increase in life expectancy.

Assumption L1:

According to the *basic assumption of a "moderate increase"* in life expectancy (L1), the average life expectancy at birth will be 84.8 years for men and 88.8 years for women in 2060, equivalent to an increase of 7.0 and 6.0 years, respectively, on the level of life expectancy in Germany in 2010/2012. The difference in life expectancy between men and women will fall from 5.1 to 4.0 years by 2060. 65 year old men and women can expect to live a further 22.0 and 25.0 years, respectively. This equates to 4.5 more years for men and 4.3 more years for women than in 2010/2012. Basic assumption L1 is based on a combination of the short-term trend observed since 1970/1972 and the long-term trend recorded since 1871/1881.

Figure 17

Life expectancy at birth

From 2014, assumptions of the 13th coordinated population projection



	Life expectanc	cy at birth	Change on 2010/2012 ¹		
	2010/2012	2060 basic assumption L1	2060 assumption of high increase L2	2060 assumption L1	2060 assumption L2
	in years				
Men	77.7	84.8	86.7	+7.0	+9.0
Women	82.8	88.8	90.4	+6.0	+7.6
Difference ¹ .	5.1	4.0	3.7	-1.0	-1.4

Chart 4: Assumptions concerning future developments in life expectancy through to 2060

	Remaining life	e expectancy at age	Change on 2010/2012 ¹		
	2010/2012	2060 basic assumption L1	2060 assumption of high increase L2	2060 assumption L1	2060 assumption L2
	in years				
Men	17.5	22.0	23.7	+4.5	+6.2
Women	20.7	25.0	26.5	+4.3	+5.8
Difference ¹ .	3.3	3.1	2.9	-0.2	-0.4

¹ Discrepancies may occur due to rounding.

Assumption L2:

The *assumption of a "high increase"* (L2) is that men can expect to live (from birth) on average for 86.7 years and women for 90.4 years. This equates to 9.0 more years for men and 7.6 more years for women compared against figures for 2010/2012. The difference in life expectancy between men and women will fall from 5.1 to 3.7 years. 65 year old men and women can expect to live 23.7 and 26.5 more years, respectively. The assumption of high life expectancy L2 is based on trends observed since 1970/1972. A necessary condition for this assumption is that the improvements in the medical care system and the resulting reduction in the mortality risk of older age groups will largely continue along the same lines until 2060 as it has during the last 40 years.

Both of the assumptions are the result of trend extrapolation of the age-specific and gender-specific mortality risk and their derivation is purely empirical. The assumptions on future trends in life expectancy are somewhat lower compared with the 12th coordinated population projection as the 2010/2012 basic life table took the results of the 2011 census into account and therefore its values for life expectancy are somewhat lower than the life tables created on the basis of rolled forward population estimates before the census. Furthermore, the increase in life expectancy has fallen off slightly in the years since the last population projection, which is also a contributing factor in the somewhat lower assumptions.

3.3 External migration

In addition to births and deaths, another important factor which influences population trends in Germany is that of the movement of people across the country's borders, referred to as external migration. Net migration – defined as the number of immigrants minus the number of emigrants – is particularly important for the future population size and age structure. But unlike fertility and life expectancy, net migration does not allow us to derive a trend substantiated from past data. On the one hand, net migration depends on the potential number of migrants leaving their countries of origin for certain political, economic, demographic and even ecological reasons. And on the other, it is influenced by Germany's migration policy and the extent to which Germany is perceived as a country of destination that is attractive in socio-economic terms.

The migration trends of past years do, however, show some tendencies which can certainly be considered in the assumptions on future net migration. They concern, above all, the long and medium-term level of immigration and emigration, differences in the migration patterns of German and foreign citizens and specific characteristics of the age structure.

With the exception of a few years, Germany has had positive net migration overall. On a long-term average, net migration ranged between 142,000 persons per year before German reunification and 186,000 persons per year in the entire period between 1954 and 2013³. Persons with foreign citizenship account for more than 80% of the total volume of migration - i.e. immigration and emigration - and have largely dominated migratory movements (Figure 20). These average values are shaped by several waves of immigration, such as the recruitment of foreign workers in the 1950s and 1960s, subsequent immigration of family members in the 1980s, and the extremely high level of inward migration from eastern Europe, states of the former Soviet Union and from war-torn Yugoslavia in the 1990s.

Figure 18

Net immigration by regions of origin



³The reported level of net migration tends to be too high because not everyone leaving the country officially deregisters and these individuals are therefore not included in migration statistics. Any need to correct the updated population size - such as after the 2011 census - primarily arises from underestimated emigration figures.

However, there were also phases of negative net migration in between - such as in the mid 1970s and 1980s - and phases where the migration situation was calmer, such as between 2004 and 2009 when net migration was significantly below 100,000 persons. At present, Germany is once again experiencing a marked increase in net immigration from 279,000 in 2011 to 429,000 in 2013. This is attributable to the free movement of workers for EU acceding states, the influx of asylum seekers from areas of conflict and crisis in Asia and Africa, and immigration from southern Europe due to opportunities presented on the labour market. A further increase in net immigration to roughly 500,000 persons is expected for 2014.

To be able to estimate how long such a high level of immigration could continue, it is helpful to take a look at the regions of origin of the immigrants. Between 2011 and 2013, immigrants from Europe (Figure 18) accounted for more than three-quarters (77%) of net immigration on average. 94% of these immigrants were from EU countries. In contrast, only 28% of immigrants came from other European countries, and from Asia, Africa and America.

In the 2011-2013 period, eastern and southern European EU states, notably Poland, Romania and Bulgaria, as well as the Russian Federation, Afghanistan and Syria, were the primary countries of origin. These countries can be roughly split into two groups that differ in terms of their population trends and the reasons for their citizens' migration.

Immigration from southern and eastern Europe is primarily labour migration. On the one hand, the lack of opportunities in the local labour market is a push factor while, on the other hand, the labour market in Germany is prepared to absorb the additional workers and young professionals. From a demographic perspective, however, the eastern and southern European EU states are experiencing significant ageing of their population. In these countries, the birth rate is practically as low as that in Germany, and the share of under 20s in the total population stands at roughly 20% (Figure 19). In contrast, there are currently far more people in the 20-39 and 40-59 age groups, accounting for roughly 30% of the population in each case. In ten to twenty years, there will be fewer people of active migration age in these countries. Furthermore, the need for these countries to retain their own workforce is likely to increase once their local economic situation stabilises. This means that the external migration potential will decrease with the result that Germany can probably expect far less immigration from countries which are currently the most important regions of origin.

Immigration from Afghanistan, Iraq and Syria is characterised by asylum seekers. These countries have very young populations who are under pressure to emigrate due to strong push factors such as acute risk of military conflict or terrorism and a disastrous economic situation in some areas. Net migration from these regions could continue for several years if the conditions in the countries of origin do not change significantly.

Apart from this, other regions of the world also have migration potential. Large parts of Asia and Africa will have young and growing populations in the next few decades. Depending on the situation in their home country and in Europe, emigration, also to Germany, could prove attractive. The effects of global warming which, according to current estimates, would be milder in Central Europe than in other continents, could increase the 'push' factors in the regions concerned. At the same time, the working-age population in Germany will decrease significantly in the next few decades, and the need to recruit workers could increase as a result.

Figure 19

Age structure of the population in selected primary countries of origin %



Young populations



Sources: Eurostat, United Nations, Afghan Statistics Office

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Assumptions

Two assumptions on net migration are made in the 13th coordinated population projection (Chart 5 and Figure 20). Both scenarios assume net migration (balance of immigration and emigration) of 500,000 persons for 2014 and 2015. With regard to longterm migration trends, however, it is assumed that the level of migration will gradually ease off. Net migration will decrease at a different pace within six years, depending on the particular scenario.

Assumption W1 is that annual net migration will already have dropped to 350,000 persons in 2016, and will then decrease gradually to 100,000 by 2021. Therefore, over the entire projection period from 2014 to 2060, a total of 6.3 million people would, on balance, immigrate to Germany, equating to an average net migration of 130,000 per year.

Assumption W2 is that net migration will decrease steadily to 200,000 persons. As a result, there would be cumulative net immigration of roughly 2.8 million persons by 2020 and of roughly 10.8 million persons by 2060. This is equivalent to a net migration of around 230,000 people per year on average for the period spanning 2014 to 2060.

These two assumptions set the range within which net migration has developed over a long-term average since the 1950s and within which migration patterns are likely to develop in the future. The assumed values must be interpreted as long-term averages; in all likelihood the actual net migration levels will also be subject to great variation in the future.

Years	Assumption W1	Assumption W2
2014	500 000	500 000
2015	500 000	500 000
2016	350 000	450 000
2017	300 000	400 000
2018	250 000	350 000
2019	200 000	300 000
2020	150 000	250 000
2021-2060	100 000	200 000
Total from 2014 to 2060	6 250 000	10 750 000
Average per year	approx. 130 000	approx. 230 000

Chart 5: Assumptions on the future trends in the balance of immigration and emigration across Germany's borders

Furthermore, two additional *model assumptions* have been made for analytical purposes. Balanced net migration is assumed in one scenario, while the second model assumes long-term net migration of 300,000 persons per year (from 2016), or 14.5 million persons in the period between 2014 and 2060.

The structure of net migration in terms of sex and age is based on the empirical age distribution among immigrants and emigrants, which is particularly stable among foreigners. On average, persons immigrating to Germany are younger than those lea-

ving the country. The population in Germany gets younger as a result. The level of emigration generally tends to be relatively constant over several decades. Because of this stability, we speak of a 'basic migration flow' which always takes place irrespective of the actual level of net migration. This basic migration has also been considered in the assumptions of the 13th coordinated population projection. Therefore the population gets younger even given balanced net migration.

Figure20

Balance of migration across Germany's borders

From 2014, assumptions of the 13th coordinated population projection



Appendix A: List of variants and model calculations

Variant 1: continued trend based on lower immigration

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 100,000 **(G1-L1-W1)**

Variant 2: continued trend based on higher immigration

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 200,000 **(G1-L1-W2)**

Variant 3: relatively old population

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 86.7 years for boys/90.4 years for girls; long-term net migration: 100,000 **(G1-L2-W1)**

Variant 4

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 86.7 years for boys/90.4 years for girls; long-term net migration: 200,000 **(G1-L2-W2)**

Variant 5

Birth rate of 1.6 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 100,000 **(G2-L1-W1)**

Variant 6: relatively young population

Birth rate of 1.6 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 200,000 **(G2-L1-W2)**

Variant 7

Birth rate of 1.6 children per woman; life expectancy at birth in 2060: 86.7 years for boys/90.4 years for girls; long-term net migration: 100,000 **(G2-L2-W1)**

Variant 8

Birth rate of 1.6 children per woman; life expectancy at birth in 2060: 86.7 years for boys/90.4 years for girls; long-term net migration: 200,000 **(G2-L2-W2)**

Model calculation: zero net migration

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls

Model calculation: 300,000 net migration

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls

Model calculation: birth rate of 2.1 children per woman

Life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 100,000

Table 1: Development of Germany's population by 2060 1)Variant 1: continued trend based on lower immigration

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 100,000 (G1-L1-W1)

Specificatio			31 Dec.	of the year			
Specification		2013	2020	2030	2040	2050	2060
				Age limits 20) and 60 years		
Population, total	1000	80 767	81 434	79 230	75 963	71 902	67 563
	2013 = 100	100	100,8	98,1	94,1	89,0	83,7
under 20 years	1000	14 684	14 315	13 841	12 572	11 429	10 928
	%	18,2	17,6	17,5	16,6	15,9	16,2
	2013 = 100	100	97,5	94,3	85,6	//,8	74,4
20 to under 60 years	1000	44 137	42 937	37 462	35 521	32 522	30 005
	%	54,6	52,7	47,3	46,8	45,2	44,4
	2013 = 100	100	97,3	84,9	80,5	73,7	68,0
60 years and older	1000	21 946	24 182	27 926	27 871	27 951	26 630
,	%	27,2	29,7	35,2	36,7	38,9	39,4
	2013 = 100	100	110,2	127,3	127,0	127,4	121,3
Voung ago, old ago, total dan	and an averation						
Por one hundred 20 to under 60 w	pendency ratios						
under 2	o vear olds	33.3	33.3	36.9	35.4	35.1	36.4
60 vez	ar olds and older	49.7	56.3	74.5	78.5	85.9	88.8
00,00	together	83.0	89.7	111.5	113.9	121.1	125.2
	together ini	05,0	0,,,	111,5			129,2
				Age limits 20) and 65 years		
Population, total	1000	80 767	81 434	79 230	75 963	71 902	67 563
, ,	2013 = 100	100	100,8	98,1	94,1	89,0	83,7
under 20 unere	1000	14 (04	14.215	12.0/1	12 572	11 (20	10.020
under 20 years	1000	14 684	14 315	13 841	12572	11 4 2 9	10 928
	⁷⁰	10,2	17,6	17,5	10,0	15,9	16,2
	2013 – 100	100	97,5	94,5	85,0	77,0	74,4
20 to under 65 years	1000	49 232	48 775	43 595	40 213	37 736	34 347
	%	61,0	59,9	55,0	52,9	52,5	50,8
	2013 = 100	100	99,1	88,5	81,7	76,6	69,8
65 years and older	1000	16 851	18 345	21 794	23 178	22 737	22 288
	%	20,9	22,5	27,5	30,5	31,6	33,0
	2013 = 100	100	108,9	129,3	137,6	134,9	132,3
Young-age, old-age, total dep	endency ratios						
Per one hundred 20 to under 65 ye	ear olds there are						
under 2	0 year olds	29,8	29,3	31,7	31,3	30,3	31,8
65 yea	ar olds and older	34,2	37,6	50,0	57,6	60,3	64,9
	together	64,1	67,0	81,7	88,9	90,5	96,7
				Age limits 20) and 67 years		
				-			
Population, total	1000	80 767	81 434	79 230	75 963	71 902	67 563
	2013 = 100	100	100,8	98,1	94,1	89,0	83,7
under 20 years	1000	14 684	14 315	13 841	12 572	11 429	10 928
	%	18.2	17.6	17.5	16.6	15.9	16.2
	2013 = 100	100	97,5	94,3	85,6	77,8	74,4
20 to under (7 years	1000	F0.0F7	E0 920	46 100	41.024	20.655	26.090
20 to under 67 years	1000	50 957 62 1	50 850	40 100	41 954	20000	50 080
	/0 2013 – 100	100	02,4	90.6	20,2	77.8	70.8
	2015 - 100	100	77,0	90,0	02,3	//,0	70,0
67 years and older	1000	15 126	16 289	19 201	21 457	20 819	20 555
	%	18,7	20,0	24,2	28,2	29,0	30,4
2013 = 100		100	107,7	126,9	141,9	137,6	135,9
Young-age, old-age, total dep	endency ratios						
Per one hundred 20 to under 67 ye	ear olds there are						
under 2	0 year olds	28,8	28,2	30,0	30,0	28,8	30,3
67 yea	ar olds and older	29,7	32,0	41,6	51,2	52,5	57,0
	together	58,5	60,2	71,5	81,1	81,3	87,3
1							

1) From 2020 estimates of the 13th coordinated population projection.

Discrepancies in totals are due to rounding.

Table 2: Development of Germany's population by 2060 1)Variant 2: continued trend based on higher immigration

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 200,000 (G1-L1-W2)

Specification				31 Dec. o	of the year		
Specificatio		2013	2020	2030	2040	2050	2060
				Age limits 20	and 60 years		
Population total	1000	80 767	81 053	80.919	78 906	76 115	73 079
i opulation, total	2013 = 100	100	101.5	100.2	97.7	94.2	90.5
	2019 100	100	101,9	100,2	21,1	24,2	<i>J</i> 0, <i>J</i>
under 20 years	1000	14 684	14 411	14 240	13 271	12 308	11 989
	%	18,2	17,6	17,6	16,8	16,2	16,4
	2013 = 100	100	98,1	97,0	90,4	83,8	81,6
20 to under 60 years	1000	44 137	43 349	38 655	37 470	35 186	33 163
	%	54,6	52,9	47,8	47,5	46,2	45,4
	2013 = 100	100	98,2	87,6	84,9	79,7	75,1
60 years and older	1000	21 946	24 192	28 024	28 165	28 621	27 926
oo years and older	%	27.2	29.5	34.6	35.7	37.6	38.2
	2013 = 100	100	110.2	127.7	128.3	130.4	127.3
				,,,	,>	,	,,,,
Young-age, old-age, total dep	endency ratios						
Per one hundred 20 to under 60 ye	ar olds there are	22.2	22.2	26.0	25.4	25.0	26.2
unuer 2	or olds and older	55,5 40.7	55.8	72.5	75.2	95,0 81 3	50,2 84.2
00 yez	together	49,7	99,8 80 1	109.3	110.6	1163	120 /
	together	85,0	09,1	109,5	110,0	110,5	120,4
				Age limits 20	and 65 years		
Population, total	1000	80 767	81 953	80 919	78 906	76 115	73 079
	2013 = 100	100	101,5	100,2	97.7	94,2	90,5
1 00					10.074	40.000	11.000
under 20 years	1000	14 684	14 411	14 240	13 2/1	12 308	11 989
	%	18,2	17,6	17,6	16,8	16,2	16,4
	2013 = 100	100	98,1	97,0	90,4	83,8	81,6
20 to under 65 years	1000	49 232	49 194	44 831	42 280	40 642	37 909
	%	61,0	60,0	55,4	53,6	53,4	51,9
	2013 = 100	100	99,9	91,1	85,9	82,6	77,0
65 years and older	1000	16 851	18 348	21 848	23 355	23 166	23 181
,	%	20,9	22,4	27,0	29,6	30,4	31,7
	2013 = 100	100	108,9	129,7	138,6	137,5	137,6
Voung-age old-age total den	endency ratios						
Per one hundred 20 to under 65 ve	ar olds there are						
under 2	0 vear olds	29.8	29.3	31.8	31.4	30.3	31.6
65 yea	ar olds and older	34,2	37,3	48,7	55,2	57.0	61,1
,	together	64,1	66,6	80,5	86,6	87,3	92,8
	-	I .					
				Age limits 20	and 67 years		
Population, total	1000	80 767	81 953	80 919	78 906	76 115	73 079
	2013 = 100	100	101,5	100,2	97,7	94,2	90,5
under 20 vears	1000	14694	14 411	14 240	12 271	12 200	11 090
under 20 years	۰/	14 004	14 411	14 240	15 27 1	12 308	11 969
	2013 = 100	10,2	98.1	97.0	90.4	83.8	81.6
	2019 1000	100	,0,1	27,0	,,,,	0,00	01,0
20 to under 67 years	1000	50 957	51 251	47 437	44 036	42 636	39 789
	%	63,1	62,5	58,6	55,8	56,0	54,4
	2013 = 100	100	100,6	93,1	86,4	83,7	/8,1
67 years and older	1000	15 126	16 291	19 242	21 598	21 171	21 301
	%	18,7	19,9	23,8	27,4	27,8	29,1
	2013 = 100	100	107,7	127,2	142,8	140,0	140,8
Young-age, old-age, total dep	endency ratios						
Per one hundred 20 to under 67 ye	ar olds there are						
under 2	0 year olds	28,8	28,1	30,0	30,1	28,9	30,1
67 yea	ar olds and older	29,7	31,8	40,6	49,0	49,7	53,5
	together	58,5	59,9	70,6	79,2	78,5	83,7

Table 3: Development of Germany's population by 2060 1)Variant 3: relatively old population

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 86.7 years for boys/90.4 years for girls; long-term net migration: 100,000 (G1-L2-W1)

Specification				31 Dec.	of the year		
Specificatio	511	2013	2020	2030	2040	2050	2060
				Age limits 20) and 60 years		
Population total	1000	90 747	91 6 20	70 4 2 1	76 772	72 1 9 0	60 202
Fopulation, total	2013 - 100	100	100 0	08.6	05 1	00.6	09 202
	2013 – 100	100	100,9	96,0	95,1	90,0	65,7
under 20 years	1000	14 684	14 315	13 843	12 575	11 432	10 931
	%	18,2	17,6	17,4	16,4	15,6	15,8
	2013 = 100	100	97,5	94,3	85,6	77,8	74,4
20 to under 60 years	1000	44 137	42 942	37 479	35 548	32 554	30 037
,,	%	54,6	52,7	47,1	46,3	44,5	43,4
	2013 = 100	100	97,3	84,9	80,5	73,8	68,1
60 years and older	1000	21 946	24 262	28 309	28 650	29 202	28 233
	%	27,2	29,8	35,6	37,3	39,9	40,8
	2013 = 100	100	110,6	129,0	130,6	133,1	128,7
Young-age, old-age, total dep	endency ratios						
Per one hundred 20 to under 60 ye	ear olds there are						
under 2	0 year olds	33,3	33,3	36,9	35,4	35,1	36,4
60 yea	ar olds and older	49,7	56,5	75,5	80,6	89,7	94,0
	together	83,0	89,8	112,5	116,0	124,8	130,4
				Age limits 20) and 65 years		
Description to tot	1000	00 7 (7	04 530	70 (24	74 770	72 4 0 0	(0.202
Population, total	1000	80767	81 520	/9631	/6//3	/3 189	69 202
	2013 = 100	100	100,9	98,6	95,1	90,6	85,7
under 20 years	1000	14 684	14 315	13 843	12 575	11 432	10 931
	%	18,2	17,6	17,4	16,4	15,6	15,8
	2013 = 100	100	97,5	94,3	85,6	77,8	74,4
20 to under 65 years	1000	49 232	48 784	43 628	40 261	37 797	34 406
20 to under of years	%	61.0	59.8	54.8	52.4	51.6	49.7
	2013 = 100	100	99.1	88.6	81.8	76.8	69.9
				,-	,-	,.	
65 years and older	1000	16 851	18 420	22 160	23 938	23 960	23 865
	%	20,9	22,6	27,8	31,2	32,7	34,5
	2013 = 100	100	109,3	131,5	142,1	142,2	141,6
Young-age, old-age, total dep	endency ratios						
Per one hundred 20 to under 65 ye	ear olds there are						
under 2	0 year olds	29,8	29,3	31,7	31,2	30,2	31,8
65 yea	ar olds and older	34,2	37,8	50,8	59,5	63,4	69,4
	together	64,1	67,1	82,5	90,7	93,6	101,1
				Age limits 20) and 67 years		
Population, total	1000	80 767	81 520	79 631	76 773	73 189	69 202
	2013 = 100	100	100,9	98,6	95,1	90,6	85,7
under 20 years	1000	14 684	14 315	13 843	12 575	11 432	10 931
,	%	18,2	17,6	17,4	16,4	15,6	15,8
	2013 = 100	100	97,5	94,3	85,6	77,8	74,4
20 to under (7	4000	F0 057				20 724	24455
20 to under 67 years	1000	50 957	50 842	46 232	41 993	39731	36 155
	% 2012 – 100	63,1	62,4	58,1	54,/	54,3	52,2
	2015 = 100	100	99,8	90,7	02,4	78,0	/1,0
67 years and older	1000	15 126	16 363	19 556	22 205	22 026	22 116
	%	18,7	20,1	24,6	28,9	30,1	32,0
	2013 = 100	100	108,2	129,3	146,8	145,6	146,2
Young-age, old-age, total den	endency ratios						
Per one hundred 20 to under 67 ve	ear olds there are						
under 2	0 year olds	28,8	28,2	29,9	29,9	28,8	30,2
67 vea	ar olds and older	29.7	32.2	42.3	52.9	55.4	61,2
	together	58,5	60,3	72,2	82,8	84,2	91,4
1	-						

1) From 2020 estimates of the 13th coordinated population projection.

Discrepancies in totals are due to rounding.

Table 4: Development of Germany's population by 2060 1)Variant 4

Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 86.7 years for boys/90.4 years for girls; long-term net migration: 200,000 (G1-L2-W2)

Specificat			31 Dec. o	of the year			
Specificat		2013	2020	2030	2040	2050	2060
				Age limits 20	and 60 years		
Population, total	1000	80 767	82 039	81 321	79 720	77 416	74 753
	2013 = 100	100	101,6	100,7	98,7	95,9	92,6
under 20 vears	1000	14 684	14 412	14 242	13 274	12 311	11 993
	%	18,2	17,6	17,5	16,7	15,9	16,0
	2013 = 100	100	98,1	97,0	90,4	83,8	81,7
20 to under 60 years	1000	44 137	43 355	38 671	37 498	35 220	33 198
	%	54,6	52,8	47,6	47,0	45,5	44,4
	2013 = 100	100	98,2	87,6	85,0	79,8	75,2
60 years and older	1000	21 946	24 272	28 408	28 948	29 884	29 561
	%	27,2	29,6	34,9	36,3	38,6	39,5
	2013 = 100	100	110,6	129,4	131,9	136,2	134,7
Young-age, old-age, total de Per one hundred 20 to under 60	pendency ratios year olds there are						
under 20) year olds	33,3	33,2	36,8	35,4	35,0	36,1
60 yea	r olds and older	49,7	56,0 80 2	73,5	77,2 1124	84,9 110 0	89,0 125 2
	together	05,0	09,2	110,5	112,0	119,0	123,2
				Age limits 20	and 65 years		
Population, total	1000	80 767	82 039	81 321	79 720	77 416	74 753
	2013 = 100	100	101,6	100,7	98,7	95,9	92,6
under 20 years	1000	14 684	14 412	14 242	13 274	12 311	11 993
	%	18,2	17,6	17,5	16,7	15,9	16,0
	2013 = 100	100	98,1	97,0	90,4	83,8	81,7
20 to under 65 years	1000	49 232	49 204	44 865	42 329	40 706	37 973
	%	61,0	60,0	55,2	53,1	52,6	50,8
	2013 = 100	100	99,9	91,1	86,0	82,7	//,1
65 years and older	1000	16 851	18 424	22 214	24 117	24 399	24 787
	% 2013 = 100	20,9	22,5	27,3 131.8	30,3 143 1	31,5 144 8	33,2 147 1
	2019 - 100	100	109,9	191,0	149,1	144,0	147,1
Per one hundred 20 to under 65	vear olds there are						
under 20) year olds	29,8	29,3	31,7	31,4	30,2	31,6
65 yea	r olds and older	34,2	37,4	49,5	57,0	59,9	65,3
	together	64,1	66,7	81,3	88,3	90,2	96,9
				Age limits 20	and 67 years		
Population, total	1000	80 767	82 039	81 321	79 720	77 416	74 753
	2013 = 100	100	101,6	100,7	98,7	95,9	92,6
under 20 years	1000	14 684	14 412	14 242	13 274	12 311	11 993
under 20 years	%	18,2	17,6	17,5	16,7	15,9	16,0
	2013 = 100	100	98,1	97,0	90,4	83,8	81,7
20 to under 67 years	1000	50 957	51 262	47 481	44 097	42 716	39 870
	%	63,1	62,5	58,4	55,3	55,2	53,3
	2013 = 100	100	100,6	93,2	86,5	83,8	78,2
67 years and older	1000	15 126	16 365	19 598	22 349	22 388	22 890
	%	18,7	19,9	24,1	28,0	28,9	30,6
	2013 = 100	100	108,2	129,6	147,8	148,0	151,3
Young-age, old-age, total de	pendency ratios						
Per one hundred 20 to under 67	year olds there are	<u> </u>	20 1	30.0	20 1	J Ø 0	30.1
67 vea	r olds and older.	20,0	20,1 31.9	41.3	50,1	20,0 52.4	57.4
,	together	58,5	60,0	71,3	80,8	81,2	87,5

Table 5: Development of Germany's population by 2060 ¹⁾ Variant 5

Birth rate of 1.6 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 100,000 (G2-L1-W1)

Specification 2013 2020 2030 2040 2050 2060 Age limits 20 and 60 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 0 101 100 98,9 100.6 95,5 88,8 88,1 20 to under 60 years 1000 44 137 42 937 37 462 35 731 33 455 31 669 % 54,6 52,6 46,7 46,0 44,9 44,5 20 13 = 100 100 97,3 84,9 81,0 75,8 71,8 60 years and older 1000 21 946 24 182 27 926 27 871 27 951 26 630 % 27,2 29,6 34,8 35,9 37,5 37,4 2013 = 100 100 110,2 127,3 127,6 127,4 <t< th=""></t<>
Age limits 20 and 60 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 % 18,2 17,8 18,4 18,1 17,5 18,2 2013 = 100 100 98,9 100,6 95,5 88,8 88,1 20 to under 60 years 1000 44 137 42 937 37 462 35 731 33 455 31 669 % 2013 = 100 100 97,3 84,9 81,0 75,8 71,8 60 years and older 1000 21 946 24 182 27 926 27 871 27 951 26 630 % 27.2 29,6 34,8 35,9 37,5 37,4 Young-age, old-age, total dependency ratios 8 8 33,3 33,8 39,4 39,3 39,0 40,8 60 year olds and older 33,3
$\begin{array}{c c c c c c c c c c c c c c c c c c c $
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 2013 = 100 2013 = 100 100 98,9 100,6 95,5 88,8 88,1 20 to under 60 years 1000 44 137 42 937 37 462 35 731 33 455 31 669 9 54,6 52,6 46,7 46,0 44,9 44,52 2013 = 100 100 97,3 84,9 81,0 75,8 71,8 60 years and older 1000 21 946 24 182 27 926 27 871 27 951 26 630 9 27,2 29,6 34,8 35,9 37,5 37,4 100 110,2 127,3 127,0 127,4 121,3 Young-age, old-age, total dependency ratios 9,7 56,3 74,5 78,0 83,5 84,1 100 110,2 127,3 127,0 127,4 121,3 124,9 under 20 year olds and older 49,7
under 20 years 1000 14 464 14 223 14 778 14 705 14 054 13 054 12 597 2013 = 100 100 98,9 100,6 95,5 88,8 88,1 20 to under 60 years 1000 44 137 42 937 37 462 35 731 33 455 31 669 9% 54,6 52,6 46,7 46,0 44,9 44,9 60 years and older 1000 21 946 24 182 27 926 27 871 27 951 26 630 9% 27,2 29,6 34,8 35,9 37,5 37,4 2013 = 100 100 110,2 127,3 127,0 127,4 121,3 Young age, old-age, total dependency ratios 9 9 100,1 110,2 127,3 127,0 127,4 121,3 Young age, old-age, total dependency ratios 9 33,3 33,8 39,4 39,3 39,0 40,8 60 year olds and older 49,7 56,3 74,5 78,0 83,5 84,1 100 101,1 99,3 96,1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
20 to under 60 years 1000 44 137 42 937 37 462 357 31 33 455 31 669 20 to under 60 years 1000 54,6 52,6 46,7 46,0 44,9 44,137 60 years and older 1000 21 946 24 182 27 926 27 871 27 951 26 630 9 27,2 29,6 34,8 35,9 37,5 37,4 2013 = 100 100 110,2 127,3 127,0 127,4 121,3 Young-age, old-age, total dependency ratios Per one hundred 20 to under 60 year olds 33,3 33,8 39,4 39,3 39,0 40,8 60 year olds and older 49,7 56,3 74,5 763,0 83,5 84,1 together 83,0 90,1 114,0 117,3 122,5 124,9 Age limits 20 and 65 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236
20 to under 60 years 1000 44 137 44 237 37 462 35 731 33 435 31 669 9 100 97,3 84,9 81,0 75,8 71,8 60 years and older 1000 21 946 24 182 27 926 27 871 27 951 26 630 9 2013 = 100 100 110,2 127,3 127,0 127,4 121,3 Young-age, old-age, total dependency ratios Per one hundred 20 to under 60 year olds 33,3 33,8 39,4 39,3 39,0 40,8 60 year olds and older 49,7 56,3 74,5 78,0 83,5 84,1 100 101,1 114,0 117,3 122,5 124,9 Age limits 20 and 65 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236 2013 = 100 100 101,1 99,3 96,1 92,2 88,2 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 93
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
00 years and older 1000 21 940 24 162 27 926 27 971 27 931 20 900 2013 = 100 2013 = 100 100 110,2 127,3 127,0 127,4 121,3 Young-age, old-age, total dependency ratios 7 75,3 74,5 78,0 83,5 84,1 Per one hundred 20 to under 60 year olds 33,3 33,8 9,4 39,3 39,0 40,8 60 year olds and older 49,7 56,3 74,5 78,0 83,5 84,1 together 83,0 90,1 114,0 117,3 122,5 124,9 Age limits 20 and 65 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 % 100 101,1 99,3 96,1 92,2 88,2 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937
2013 = 100 100 110,2 127,3 127,0 127,4 121,3 Young-age, old-age, total dependency ratios 9 100 110,2 127,3 127,0 127,4 121,3 Young-age, old-age, total dependency ratios 33,3 33,8 39,4 39,3 39,0 40,8 60 year olds and older 49,7 56,3 74,5 78,0 83,5 84,1 together 83,0 90,1 114,0 117,3 122,5 124,9 Age limits 20 and 65 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236 2013 = 100 100 101,1 99,3 96,1 92,2 88,2 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 % 100 98,9 100,6 95,5 88,8 88,1 20 to under 65 years 1000 49 232 48 775 43 595 40 423 38 669 36 011 % 61,0
Young-age, old-age, total dependency ratios Per one hundred 20 to under 60 year olds there are under 20 year olds
Per one hundred 20 to under 60 year olds there are under 20 year olds and older 33,3 33,8 39,4 39,3 39,0 40,8 60 year olds and older 49,7 56,3 74,5 78,0 83,5 84,1 together 83,0 90,1 114,0 117,3 122,5 124,9 Age limits 20 and 65 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236 2013 = 100 100 101,1 99,3 96,1 92,2 88,2 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 % 18,2 17,8 18,4 18,1 17,5 18,2 2013 = 100 100 98,9 100,6 95,5 88,8 88,1 20 to under 65 years 1000 49 232 48 775 43 595 40 423 38 669 36 011 % 61,0 59,7 54,4 52,1 78,5 73,1 65 years and older 100 16 8
under 20 year olds 33,3 33,8 39,4 39,3 39,0 40,8 60 year olds and older 49,7 56,3 74,5 78,0 83,5 84,1 together 83,0 90,1 114,0 117,3 122,5 124,9 Age limits 20 and 65 years Age limits 20 and 65 years Age limits 20 and 65 years 74,40 71 236 under 20 years 1000 80 767 81 644 80 165 77 631 74 440 71 236 under 20 years 1000 80 767 81 644 80 165 77 631 74 440 71 236 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 % 18,2 17,8 18,4 18,1 17,5 18,2 2013 = 100 100 98,9 100,6 95,5 88,8 88,1 20 to under 65 years 1000 49 232 48 775 43 595 40 423 38 669 36 011 %
60 year olds and older 49,7 56,3 74,5 78,0 83,5 84,1 together 83,0 90,1 114,0 117,3 122,5 124,9 Age limits 20 and 65 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236 2013 = 100 100 101,1 99,3 96,1 92,2 88,2 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 % 18,2 17,8 18,4 18,1 17,5 18,2 2013 = 100 100 98,9 100,6 95,5 88,8 88,1 20 to under 65 years 1000 49 232 48 775 43 595 40 423 38 669 36 011 % 013 = 100 100 99,1 88,5 82,1 78,5 73,1 65 years and older 1000 16 851 18 345 21 794 23 178 22 737 22 288 % 20,9 22,5
together 83,0 90,1 114,0 117,3 122,5 124,9 Age limits 20 and 65 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236 2013 = 100 100 101,1 99,3 96,1 92,2 88,2 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 % 18,2 17,8 18,4 18,1 17,5 18,2 2013 = 100 100 98,9 100,6 95,5 88,8 88,1 20 to under 65 years 1000 49 232 48 775 43 595 40 423 38 669 36 011 % 61,0 59,7 54,4 52,1 51,9 50,6 2013 = 100 100 99,1 88,5 82,1 78,5 73,1 65 years and older 1000 16 851 18 345 21 794 23 178 22 737 22 288
Age limits 20 and 65 years Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236 2013 = 100 100 101,1 99,3 96,1 92,2 88,2 under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 % 18,2 17,8 18,4 18,1 17,5 18,2 2013 = 100 100 98,9 100,6 95,5 88,8 88,1 20 to under 65 years 1000 49 232 48 775 43 595 40 423 38 669 36 011 % 61,0 59,7 54,4 52,1 51,9 50,6 2013 = 100 100 99,1 88,5 82,1 78,5 73,1 65 years and older 1000 16 851 18 345 21 794 23 178 22 737 22 288 % 20,9 22,5 27,2 29,9 30,5 31,3 2013 = 100 100 108,9 129,3 137,6 134,9
Population, total1000 2013 = 10080 76781 64480 16577 63174 44071 236under 20 years1000100101,199,396,192,288,2under 20 years100014 68414 52514 77614 03013 03412 937%18,217,818,418,117,518,22013 = 10010098,9100,695,588,888,120 to under 65 years100049 23248 77543 59540 42338 66936 011%61,059,754,452,151,950,62013 = 10010099,188,582,178,573,165 years and older100016 85118 34521 79423 17822 73722 288%20,922,527,229,930,531,32013 = 100100108,9129,3137,6134,9132,3
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
under 20 years 1000 14 684 14 525 14 776 14 030 13 034 12 937 % 18,2 17,8 18,4 18,1 17,5 18,2 2013 = 100 100 98,9 100,6 95,5 88,8 88,1 20 to under 65 years 1000 49 232 48 775 43 595 40 423 38 669 36 011 % 61,0 59,7 54,4 52,1 51,9 50,6 2013 = 100 100 99,1 88,5 82,1 78,5 73,1 65 years and older 1000 16 851 18 345 21 794 23 178 22 737 22 288 % 20,9 22,5 27,2 29,9 30,5 31,3 2013 = 100 100 108,9 129,3 137,6 134,9 132,3
1406120 years 14064 14223 1476 14030 13034 112937 $%$ $18,2$ $17,8$ $18,4$ $18,1$ $17,5$ $18,2$ $2013 = 100$ 100 $98,9$ $100,6$ $95,5$ $88,8$ $88,1$ 20 to under 65 years 1000 49232 48775 43595 40423 38669 36011 $%$ $61,0$ $59,7$ $54,4$ $52,1$ $51,9$ $50,6$ $2013 = 100$ 100 $99,1$ $88,5$ $82,1$ $78,5$ $73,1$ 65 years and older 1000 16851 18345 21794 23178 22737 22288 $%$ $20,9$ $22,5$ $27,2$ $29,9$ $30,5$ $31,3$ $2013 = 100$ 100 $108,9$ $129,3$ $137,6$ $134,9$ $132,3$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
20 to under 65 years 1000 49 232 48 775 43 595 40 423 38 669 36 011 % 61,0 59,7 54,4 52,1 51,9 50,6 2013 = 100 100 99,1 88,5 82,1 78,5 73,1 65 years and older 1000 16 851 18 345 21 794 23 178 22 737 22 288 % 20,9 22,5 27,2 29,9 30,5 31,3 2013 = 100 100 108,9 129,3 137,6 134,9 132,3
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
2013 = 100 100 $99,1$ $88,5$ $82,1$ $78,5$ $73,1$ 65 years and older 100 16851 18345 21794 23178 22737 22288 % $20,9$ $22,5$ $27,2$ $29,9$ $30,5$ $31,3$ $2013 = 100$ 100 $108,9$ $129,3$ $137,6$ $134,9$ $132,3$
65 years and older 1000 16 851 18 345 21 794 23 178 22 737 22 288 % 20,9 22,5 27,2 29,9 30,5 31,3 2013 = 100 100 108,9 129,3 137,6 134,9 132,3
% 20,9 22,5 27,2 29,9 30,5 31,3 2013 = 100 100 108,9 129,3 137,6 134,9 132,3
2013 = 100 100 108,9 129,3 137,6 134,9 132,3
Young-age, old-age, total dependency ratios
Per one hundred 20 to under 65 year olds there are
under 20 year olds
65 year olds and older 34,2 37,6 50,0 57,3 58,8 61,9
together 64,1 67,4 83,9 92,0 92,5 97,8
Age limits 20 and 67 years
Population, total 1000 80 767 81 644 80 165 77 631 74 440 71 236
2013 = 100 100 101,1 99,3 96,1 92,2 88,2
under 20 vears 1000 14 684 14 525 14 776 14 030 13 034 12 937
% 18,2 17,8 18,4 18,1 18,2
2013 = 100 100 98,9 100,6 95,5 88,8 88,1
20 to under 67 years 1000 50 957 50 830 46 188 42 144 40 588 37 744
% 63,1 62,3 57,6 54,3 54,5 53,0
2013 = 100 100 99,8 90,6 82,7 79,7 74,1
67 years and older 1000 15 126 16 289 19 201 21 457 20 819 20 555
% 18,7 20,0 24,0 27,6 28,0 28,9
2013 = 100 100 107,7 126,9 141,9 137,6 135,9
Young-age, old-age, total dependency ratios
Per one hundred 20 to under 67 year olds there are
unuer 20 year olds and older. 29.7 32.0 41.6 50.9 51.3 54.5
together 58,5 60,6 73,6 84,2 83,4 88,7

1) From 2020 estimates of the 13th coordinated population projection.

Discrepancies in totals are due to rounding.

Table 6: Development of Germany's population by 2060 1)Variant 6: relatively young population

Birth rate of 1.6 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 200,000 (G2-L1-W2)

Specificati			31 Dec. o	of the year			
Speemean	511	2013	2020	2030	2040	2050	2060
Age limits 20 and 60 years							
Population, total	1000	80 767	82 165	81 878	80 631	78 757	76 931
· opulation, total	2013 = 100	100	101,7	101,4	99,8	97,5	95,2
20	4000	11.001	11 (22)	45 400	4 4 705	42.002	1(120
under 20 years	1000	14 684	14 623	15 199	14 / 85	13 993	14 120
	⁷⁰	10,2	17,0	10,0	10,5	17,0 95 3	16,4
	2019 - 100	100	<i>))</i> ,0	109,9	100,7	,,,	90,2
20 to under 60 years	1000	44 137	43 349	38 655	37 681	36 144	34 884
	%	54,6	52,8	47,2	46,7	45,9	45,3
	2013 = 100	100	98,2	87,6	85,4	81,9	79,0
60 years and older	1000	21 946	24 192	28 024	28 165	28 621	27 926
	%	27,2	29,4	34,2	34,9	36,3	36,3
	2013 = 100	100	110,2	127,7	128,3	130,4	127,3
Young-age, old-age, total dep Per one hundred 20 to under 60 ye	endency ratios ear olds there are						
under 2	0 year olds	33,3	33,7	39,3	39,2	38,7	40,5
60 yea	ar olds and older	49,7	55,8	72,5	74,7	79,2	80,1
	together	83,0	89,5	111,8	114,0	117,9	120,5
				Age limits 20) and 65 years		
Population, total	1000	80 767	82 165	81 878	80 631	78 757	76 931
· opulation, total	2013 = 100	100	101,7	101,4	99,8	97,5	95,2
under 20 vears	1000	14694	14 6 2 2	15 100	14 795	12 002	14 120
ulluer 20 years	۰۲ ۷	14 004	14 625	15 199	14 / 65	15 995	14 120
	2013 = 100	10,2	99.6	103.5	100.7	95.3	96.2
20.4	4000	(0.222	(0.10)	((024	(2.(04	(4.500	20 (20
20 to under 65 years	1000	49 232	49 194	44 831	42 491	41 599	39 6 2 9
	⁷⁰	61,0 100	59,9 00 0	54,0 91 1	52,7 86 3	52,0 84 5	51,5 80 5
	2015 - 100	100	<i>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</i>	91,1	00,5	04,5	00,5
65 years and older	1000	16 851	18 348	21 848	23 355	23 166	23 181
	%	20,9	22,3	26,7	29,0	29,4	30,1
	2013 = 100	100	108,9	129,7	138,6	137,5	137,6
Young-age, old-age, total dep Per one hundred 20 to under 65 ye	endency ratios						
under 2	0 year olds	29,8	29,7	33,9	34,8	33,6	35,6
65 yea	ar olds and older	34,2	37,3	48,7	55,0	55,7	58,5
	together	64,1	67,0	82,6	89,8	89,3	94,1
				Age limits 20) and 67 years		
Population, total	1000	80 767	82 165	81 878	80 631	78 757	76 931
•	2013 = 100	100	101,7	101,4	99,8	97,5	95,2
under 20 years	1000	14 684	14 623	15 199	14 785	13 993	14 1 20
under 20 years	%	14 004	17.8	18.6	18.3	17.8	14 120
	2013 = 100	100	99,6	103,5	100,7	95,3	96,2
20 to under (7 years	1000	50.057	F1 3F1	47 427	44 749	42 504	41 510
20 to under 67 years	1000	50 957 63 1	51 251	4/43/	44 248 54 Q	43 594	41 510
	2013 = 100	100	100.6	93.1	86.8	85.5	81.5
							,-
67 years and older	1000	15 126	16 291	19 242	21 598	21 1/1	21 301
	% 2013 – 100	18,7	19,8	23,5	26,8	26,9	2/,/
	2015 - 100	100	107,7	127,2	142,0	140,0	140,8
Young-age, old-age, total dep	endency ratios						
Per one hundred 20 to under 67 ye	ar olds there are	20 0	20 E	22.0	22 /	22.1	24.0
67 ve	arolds and older	20,0	20,5	40.6	48.8	48.6	51 3
0, yea	together	58.5	60.3	72.6	82.2	80.7	85.3
1		,-	,-	,-	,-	,,	,-

Table 7: Development of Germany's population by 2060 1)Variant 7

Birth rate of 1.6 children per woman; life expectancy at birth in 2060: 86.7 years for boys/90.4 years for girls; long-term net migration: 100,000 (G2-L2-W1)

Specificat			31 Dec	. of the year			
Specificati	011	2013	2020	2030	2040	2050	2060
				Age limits 2	20 and 60 years	5	
Population total	1000	90.767	01 720	90 E44	79 441	75 777	72 976
Population, total	1000 2013 = 100	80787 100	01750 1012	8 00	76 441 97 1	15/2/	72 878 90 2
	2015 – 100	100	101,2	<i>99</i> ,0	97,1	95,0	90,2
under 20 years	1000	14 684	14 525	14 778	14 033	13 037	12 941
	%	18,2	17,8	18,3	17,9	17,2	17,8
	2013 = 100	100	98,9	100,6	95,6	88,8	88,1
20 to under 60 years	1000	44 137	42 942	37 479	35 758	33 488	31 702
	%	54,6	52,5	46,5	45,6	44,2	43,5
	2013 = 100	100	97,3	84,9	81,0	75,9	71,8
60 years and older	1000	21 946	24 262	28 309	28 650	29 202	28 233
,	%	27,2	29,7	35,1	36,5	38,6	38,7
	2013 = 100	100	110,6	129,0	130,6	133,1	128,7
Young-age, old-age, total de	pendency ratios						
i ei one nunarea 20 to unaer 60 y under 20) vear olds	33.3	33 S	30 /	30.2	38.0	ፈበ
60 year	olds and older	ر,رر 40 7	56 5	<i>57</i> ,4 75 5	27,2 80 1	20,9 87 0	40,0 80 1
oo yea	together	83.0	90.3	115.0	119.4	126.1	129.9
	together	03,0	,,,,	119,0	117,4	120,1	12),)
				Age limits 2	20 and 65 years	5	
Population, total	1000	80 767	81 730	80 566	78 441	75 727	72 876
	2013 = 100	100	101,2	99,8	97,1	93,8	90,2
under 20 years	1000	14 684	14 525	14 778	14 033	13 037	12 941
,	%	18,2	17,8	18,3	17,9	17,2	17,8
	2013 = 100	100	98,9	100,6	95,6	88,8	88,1
20 to under 65 years	1000	49 232	48 784	43 628	40.471	38 730	36 071
20 to under 05 years	·····	61.0	59.7	54.2	51.6	51.1	49.5
	2013 = 100	100	99,1	88,6	82,2	78,7	73,3
	1000	16 051	10.420	22.1.0	22.020	22.0(0	22.045
65 years and older	1000	10 851	18 420	22 160	23 938	23 960	23 805
	⁷⁰ 2013 = 100	20,9	109.3	27,5	142 1	142.2	52,7 1/1 6
	2019 - 100	100	10),5	191,9	142,1	142,2	141,0
Young-age, old-age, total de	pendency ratios						
Per one hundred 20 to under 65 y	ear olds there are	20.0	20.0	22.0	24.7	22.7	25.0
under 20	year olds	29,8	29,8	33,9	34,7	33,7	35,9
oo yea	together	54,2	57,6 67.5	50,8 84.7	03.8	01,9	102.0
	together	04,1	07,5	04,7	95,8	93,5	102,0
				Age limits 2	20 and 67 years	5	
Population, total	1000	80 767	81 730	80 566	78 441	75 727	72 876
	2013 = 100	100	101,2	99,8	97,1	93,8	90,2
under 20 years	1000	14 684	14 525	14 778	14 033	13 037	12 941
	% 2012 – 100	18,2	17,8	18,3	17,9	17,2	17,8
	2015 = 100	100	90,9	100,6	95,0	00,0	00,1
20 to under 67 years	1000	50 957	50 842	46 232	42 203	40 664	37 820
	%	63,1	62,2	57,4	53,8	53,7	51,9
	2013 = 100	100	99,8	90,7	82,8	79,8	74,2
67 years and older	1000	15 126	16 363	19 556	22 205	22 026	22 116
	%	18,7	20,0	24,3	28,3	29,1	30,3
	2013 = 100	100	108,2	129,3	146,8	145,6	146,2
Young-age, old-age, total de	pendency ratios						
Per one hundred 20 to under 67 y	ear olds there are						
under 20) year olds	28,8	28,6	32,0	33,3	32,1	34,2
67 year	olds and older	29,7	32,2	42,3	52,6	54,2	58,5
	together	58,5	60,8	74,3	85,9	86,2	92,7

Table 8: Development of Germany's population by 2060 ¹⁾ Variant 8

Birth rate of 1.6 children per woman; life expectancy at birth in 2060: 86.7 years for boys/90.4 years for girls; long-term net migration: 200,000 (G2-L2-W2)

Appendication 2013 2020 2030 2040 2050 2054 Pepulation, total 1000 80 767 82 251 82 280 81 445 80 057 78 606 2013 = 100 1100 1014 1012 100.8 1019 100.8 99.1 97.3 under 20 years 1000 14 4684 14 623 15 201 14.788 13.95 16.0 99.1 91.3 99.1 91.3 20 to under 60 years 1000 4137 43.35 33.57 77.7 35.6 65.5 43.4 203 20.5 74.0 64.5 35.7 74.0 74.6 35.4 20.4 20.3 73.1 76.0 73.1 73.6 73.7 73.6 73.7 73.6 73.7 73.6 73.7 73.6 73.7 73.6 73.7 73.6 73.7 73.6 73.7 73.6 73.7 73.6 73.7 73.6 73.7 73.6 73.7 74.6 73.5	Specificat			31 Dec.	of the year			
Production, total 1000 80.707 82.251 82.280 81.445 80.099 97.35 under 20 years M 18.2 17.8 18.5 18.2 17.9 13.96 14.73 under 20 years M 18.2 17.8 18.5 18.2 17.9 36.17 36.17 2013 - 100 100 99.6 103.5 100.7 75.3 75.6 42.02 28.80 29.84 2	Specificati	1011	2013	2020	2030	2040	2050	2060
Pepulation, total 1000 80.767 82.251 82.280 81.465 80.059 97.05 under 20 years 1000 100 101.8 101.9 100.8 139.96 141.24 under 20 years 1000 143.2 17.8 18.5 18.7 17.8 18.9 10.7 15.3 98.67 2013 - 100 100 99.6 103.5 100.7 75.3 98.67 35.4 49.20 2010 under 60 years 1000 120.9 98.2 87.6 85.4 42.02 13.4 13.9 13.6 13.7 77.0 36.178 37.6 37.5 77.6 37.5 77.6 87.7 13.6 13.4 77.2 27.2 27.2 57.5 57.5 77.3 37.6 37.6 37.3 77.7 37.6 87.7 13.6 77.7 77.0 36.7 77.8 77.7 77.7 77.6 87.6 87.7 77.6 87.6 87.7 77.8 77.7			Age limits 20 and 60 years					
under 20 years 1000 14 658 14 623 15 201 14 788 13 96 14 124 2013 = 100 100 99.6 103.5 100.7 95.3 96.2 20 to under 60 years 1000 44 137 43 335 38 671 37 710 36 17.8 34 92.0 60 years and older 1000 21 94.6 24 272 28 40.8 29 84.8 20 24.7	Population, total	1000 2013 = 100	80 767 100	82 251 101,8	82 280 101,9	81 445 100,8	80 059 99,1	78 606 97,3
% 18,2 17,8 18,5 18,2 17,5 18,0 20 to under 60 years 1000 44 137 43 355 38 671 37,710 36 178 34,920 20 to under 60 years 1000 21 3 = 100 100 98,2 67,6 85,4 84,0 27,2 29,5 34,5 29,848 29,847 21,351 11,458 11,459 11,458 11,450 11,452 11,452<	under 20 years	1000	14 684	14 623	15 201	14 788	13 996	14 124
2013 = 100 100 99,6 103,5 100,7 95,3 95,2 20 to under 60 years 100 44 137 43 355 38 671 37710 36 15,2 34,4 60 years and older 1000 21,4 27,2 29,5 34,5 35,5 37,3 37,6 7000 100 110,6 129,4 131,9 131,9 136,2 137,4 7013 = 100 100 110,6 129,4 131,9 136,2 137,4 7013 = 100 100 10,6 129,4 131,9 136,2 137,4 7013 = 100 100 10,6 73,5 76,8 82,6 84,7 100 101,8 89,7 112,8 116,0 121,3 140,4 101 101,8 101,9 100,8 99,1 97,3 39,2 38,7 140,4 101,9 100,18 101,9 100,8 121,3 114,78 139,6 141,12 141,22,1 141,22 141	,	%	18,2	17,8	18,5	18,2	17,5	18,0
20 to under 60 years 1000 44 137 43 355 36 6/1 37 710 34 920 60 years and older 1000 21 946 24 272 28 408 28 948 29 984 29 561 60 years and older 1000 27,2 29,5 34,5 35,5 37,3 37,6 7 yang age, old age, total dependency ratios rear bunder 20 years olds 33,3 33,7 39,3 39,2 38,7 40,4 rear bunder 20 years old dependency ratios rear bunder 20 years old dependency ratios 88,0 89,7 112,8 116,0 121,3 122,5 Pagelation, total 1000 80 767 82 251 82 280 81 445 80 059 78 60,6 None of the area dependency ratios Regulation, total 1000 14 684 14 623 15 201 14 788 13 996 14 124 Sign of the area dependency ratios 100 10,9 10,0 10,9 10,0 10,9 10,0 121,3 121,3 122,3		2013 = 100	100	99,6	103,5	100,7	95,3	96,2
5% 54,6 52,7 47,0 64,3 45,2 44,4 2013 = 100 100 98,2 87,6 85,4 82,0 79,1 60 years and older 100 21,946 24,272 28,408 29,948 29,84 29,84 29,84 29,81 13,4,7 Young-sep, old-age, total dependency ratios 33,3 33,7 39,3 39,2 38,7 40,4 60 years olds and older 49,7 56,0 73,5 76,8 82,6 84,7 0 year olds 33,3 33,7 39,3 39,2 38,7 40,4 49,7 56,0 73,5 76,8 82,6 84,7 12,8 12,1 12,5 12,5 12,5 12,5 12,5 12,5 12,5 12,5 12,5 12,5 14,64 44,63 15,01 14,78 13,96 14,124 younder 20 years 1000 14,84 14,63 14,64 14,63 14,44 16,3 96,40	20 to under 60 years	1000	44 137	43 355	38 671	37 710	36 178	34 920
2013 = 100 100 98,2 87,6 85,4 82,0 79,1 60 years and older 100 21,2 28,408 28,948 29,853 33,5 37,3 37,6 Young-age, old-age, total dependency ratios 2013 = 100 100 110,6 129,4 131,9 136,2 134,7 Young-age, old-age, total dependency ratios 33,3 33,7 39,3 39,2 38,7 40,4 60 years olds and older 49,7 56,0 73,5 76,68 82,6 84,7 100 101,8 101,9 100,8 99,7 112,8 116,0 121,3 125,1 101 100 101,8 10,9 100,8 99,7 39,2 38,7 40,4 2013 = 100 100 101,8 10,9 100,8 99,7 39,6 14,12 2013 = 100 14,684 14,623 15,201 14,788 13,996 14,124 2013 = 100 100 99,8 54,5 52,2 </td <td></td> <td>%</td> <td>54,6</td> <td>52,7</td> <td>47,0</td> <td>46,3</td> <td>45,2</td> <td>44,4</td>		%	54,6	52,7	47,0	46,3	45,2	44,4
60 years and older 1000 21 946 24 272 28 408 28 948 29 843 29 55 2013 = 100 100 110,6 129,4 131,9 136,2 134,7 Young-se, old-ags, total dependency ratios		2013 = 100	100	98,2	87,6	85,4	82,0	79,1
% 27,2 29,5 34,5 35,5 37,3 37,6 Young age, old age, total dependency ratios 100 100,6 129,4 131,9 136,2 134,7 Young age, old age, total dependency ratios 33,3 33,7 39,3 39,2 38,7 40,4 60 year olds and older 49,7 56,0 73,5 76,8 82,2 84,47 121,3 122,1 124,1	60 years and older	1000	21 946	24 272	28 408	28 948	29 884	29 561
Yourg-seg, old-seg, total dependency matios 130,1 </td <td></td> <td>% 2013 = 100</td> <td>27,2</td> <td>29,5</td> <td>34,5 129.4</td> <td>35,5</td> <td>37,3</td> <td>37,6 134 7</td>		% 2013 = 100	27,2	29,5	34,5 129.4	35,5	37,3	37,6 134 7
Young age, did-age, total dependency ratios 33,3 33,7 39,3 39,2 38,7 40,4 Periore hundred 20 year olds three are under 20 year olds and older 49,7 56,0 73,5 76,8 82,6 64,7,7 66,7,3 76,8 82,6 64,7,7 121,8 116,0 121,3 125,1 Age limits 20 and 65 years Population, total 1000 146,64 146,23 15 201 147,88 13 996 141,24 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 65 years 1000 66,9 92,32 49,20 44,86,5 42,541 41,663 39,69 20 to under 65 years 1000 66,9 92,32 49,20 44,86,5 52,2 5,2,0 50,5 52,2 52,0 50,5 52,2 52,0 50,5 52,2 52,0 50,5 53,2 201,2 100,0 109,3 131,8 143,1 144,8 44,7,1 24,99 24,78		2015 - 100	100	110,0	129,4	151,9	150,2	194,7
under 20 year of solution	Young-age, old-age, total de Per one hundred 20 to under 60 y	year olds there are	22.2	22.7	20.2	20.2	20.7	
Boy Landou Hubble: Boy A Boy A <td>under 20</td> <td>year olds</td> <td>33,3</td> <td>33,7 56 0</td> <td>39,3 73 5</td> <td>39,2 76.8</td> <td>38,7</td> <td>40,4</td>	under 20	year olds	33,3	33,7 56 0	39,3 73 5	39,2 76.8	38,7	40,4
Age limits 20 and 65 years Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 606 under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 127 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 2013 = 100 100 99,9 13,45 14,75 130,0 20 to under 65 years 1000 49,232 49 204 44 86,4 84,6 80,6 65 years and older 1000 100 99,9 91,1 86,4 84,6 80,6 65 years and older 1000 16 851 18 424 22 214 24 172 24 399 24 787 2013 = 100 100 109,3 131,8 143,1 144,8 147,1 Young-age, old-age, total dependency ratios # 29,8 29,7 33,9 34,8 33,6 35,6 65 year olds and older 29,8 29,7 33,9	oo yea	together	83,0	89,7	112,8	116,0	121,3	125,1
Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 606 under 20 years 1000 1018 1019 1008 99,1 97,3 under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 100,7 95,3 96,2 2013 = 100 100 99,6 103,5 100,7 95,3 96,6 20 to under 65 years 1000 49 232 49 204 44 865 42 541 41 663 39 694 20 to under 65 years 1000 100 99,9 91,1 86,4 84,6 80,6 65 years and older 1000 100 109,3 131,8 143,1 144,8 147,1 Young ago, old-age, total dependency ratios 29,8 29,7 33,9 34,8 33,6 35,6 65 year olds and older 34,2 37,4 49,5 56,7 58,6 62,4		-			Ago limits 2	0 and 65 years		
Population, total 1000 82 767 82 251 82 280 81 445 80 059 78 606 2013 = 100 100 101 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 14 664 14 633 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 18,2 17,5 180 201 to under 65 years 1000 49 232 49 204 44 865 42 541 41 663 39 694 % 610 59,8 54,5 52,2 52,0 50,5 2013 = 100 100 99,9 91,1 86,4 84,6 80,6 65 years and older 1000 16 851 18 424 22 214 22 4 117 24 399 24 787 2013 = 100 100 109,3 131,8 143,1 144,8 147,1 Young-age, old-age, total dependency ratios 29,8 29,7 33,9 34,8 33,6 35,6 <tr< td=""><td></td><td></td><td></td><td></td><td>Age tillits 2</td><td>o and of years</td><td></td><td></td></tr<>					Age tillits 2	o and of years		
2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 100 14 684 14 623 15 201 14 788 13 996 14 124 2013 = 100 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 65 years 1000 49 232 49 204 44 865 42 541 41 663 39 69,4 % 2013 = 100 100 99,9 91,1 86,4 84,6 80,6 65 years and older 1000 16 651 18 424 22 214 24 117 24 399 24 787 % 20,9 22,4 27,0 29,6 30,5 31,5 2013 = 100 100 109,3 131,8 143,1 144,8 147,1 Young age, old-age, total dependency ratios 29,8 29,7 33,9 34,8 33,6 35,6 65 year olds and older 34,2 37,4 49,5 56,7 58,6 62,4 <td>Population, total</td> <td>1000</td> <td>80 767</td> <td>82 251</td> <td>82 280</td> <td>81 445</td> <td>80 059</td> <td>78 606</td>	Population, total	1000	80 767	82 251	82 280	81 445	80 059	78 606
under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 123 013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 65 years 1000 49 232 49 204 44 865 42 541 41 663 39 694 % 61,0 59,8 54,5 52,2 52,0 50,5 2013 = 100 100 99,9 91,1 86,4 86,6 66,6 65 years and older 100 16 851 18 424 22 214 24 117 24 399 24 787 % 20,9 22,4 27,0 29,6 30,5 31,5 2013 = 100 100 109,3 131,8 143,1 144,8 147,1 Young age, old-age, total dependency ratios Perone hundred 20 to under 65 year olds meraer 29,8 29,7 33,9 34,8 33,6 35,6 100 101,8 101,9 100,8 99,1 97,3 98,0 98,00		2013 = 100	100	101,8	101,9	100,8	99,1	97,3
γ_{m} 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 65 years 100 49 232 49 204 44 865 42 54 1 41 663 39 694 γ_{m} 2013 = 100 100 99,9 91,1 86,4 88,6 80,6 65 years and older 1000 16 851 18 424 22 214 24 117 24 399 24 787 γ_{m} 20,9 22,4 27,0 29,6 30,5 31,5 2013 = 100 100 109,3 131,8 143,1 144,8 147,1 Young-age, lod-age, total dependency ratios 29,8 29,7 33,9 34,8 33,6 35,6 Per one hundred 20 to under 65 year olds inter are 29,8 29,7 33,9 34,8 33,6 35,6 under 20 year olds 29,8 29,7 33,9 34,8 91,5 92,2 98,0 2013 = 100 60 767 82 251 82 280 81 445 80 0	under 20 years	1000	14 684	14 623	15 201	14 788	13 996	14 124
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		% 2013 = 100	18,2	17,8	18,5 103 5	18,2 100 7	17,5	18,0
20 to under 65 years 1000 49 232 49 294 44 865 42 541 41 663 39 634 9 2013 = 100 100 99,9 91,1 86,4 84,6 80,6 65 years and older 1000 16 851 18 424 22 214 24 117 24 399 24 787 9 20,9 22,4 27,0 29,6 30,5 31,5 2013 = 100 100 109,3 131,8 143,1 144,8 147,1 Young-age, old-age, total dependency ratios Per one hundred 20 to under 65 year olds there are 29,8 29,7 33,9 34,8 33,6 35,6 9 65 year olds and older 29,8 29,7 33,9 34,8 33,6 35,6 65 year olds and older 29,8 29,7 33,9 34,8 33,6 35,6 61,1 67,2 83,4 91,5 92,2 98,0 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 14 684 14 623 152,1	20 to un los (5 us an	2019 - 100	100	,0,00	105,5	100,7	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	20,2
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	20 to under 65 years	1000	49 232	49 204	44 865	42 541	41 663	39 694
65 years and older 1000 16 851 18 424 22 214 24 117 24 399 24 787 2013 = 100 2013 = 100 100 109,3 131,8 143,1 144,8 147,1 Young-age, old-age, total dependency ratios revene hundred 20 to under 65 year olds 29,8 29,7 33,9 34,8 33,6 35,6 65 year olds and older 29,8 29,7 33,9 34,8 33,6 65,6,7 65 year olds and older 64,1 67,2 83,4 91,5 92,2 98,0 Age limits 20 and 67 years 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 80 767 82 251 82 280 81 445 80 059 78 606 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 50 957 51 262 47 481 44 309 43 674 41 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 <t< td=""><td></td><td>2013 = 100</td><td>100</td><td>99,9</td><td>91,1</td><td>86,4</td><td>84,6</td><td>80,6</td></t<>		2013 = 100	100	99,9	91,1	86,4	84,6	80,6
% 20,9 22,4 27,0 29,6 30,5 31,5 2013 = 100 100 109,3 131,8 143,1 144,8 147,1 Young-age, old-age, total dependency ratios 29,8 29,7 33,9 34,8 33,6 55,6 Per one hundred 20 to under 65 year olds three are 29,8 29,7 33,9 34,8 33,6 65,6 065 year olds and older 34,2 37,4 49,5 56,7 58,6 62,4 together 64,1 67,2 83,4 91,5 92,2 98,0 Age limits 20 and 67 years Age limits 20 and 67 years Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 606 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 20 to under 67 years 1000 50	65 years and older	1000	16 851	18 424	22 214	24 117	24 399	24 787
2013 = 100 100 109,3 131,8 143,1 144,8 147,1 Young-age, total dependency ratios Per one hundred 20 to under 65 year olds there are 29,8 29,7 33,9 34,8 33,6 55,6 65 year olds and older 34,2 37,4 49,5 56,7 58,6 62,4 65 year olds and older 64,1 67,2 83,4 91,5 92,2 98,0 Age limits 20 and 67 years Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 606 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 % 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 <td>,</td> <td>%</td> <td>20,9</td> <td>22,4</td> <td>27,0</td> <td>29,6</td> <td>30,5</td> <td>31,5</td>	,	%	20,9	22,4	27,0	29,6	30,5	31,5
Young-age, old-age, total dependency ratios 29,8 29,7 33,9 34,8 33,6 65,6 Per one hundred 20 year olds.me		2013 = 100	100	109,3	131,8	143,1	144,8	147,1
Per one hundred 20 to under 65 year olds there are under 20 year olds 29,8 29,7 33,9 34,8 33,6 35,6 65 year olds and older 34,2 37,4 49,5 56,7 58,6 62,4 64,1 67,2 83,4 91,5 92,2 98,0 Age limits 20 and 67 years Age limits 20 and 67 years Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 606 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 67 years an	Young-age, old-age, total de	pendency ratios						
Under 20 year 0.05 29,8 29,7 33,9 34,8 35,6 35,6 65 year olds and older 34,2 37,4 49,5 56,7 58,6 62,4 together 64,1 67,2 83,4 91,5 92,2 98,0 Age limits 20 and 67 years Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 606 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 % 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 </td <td>Per one hundred 20 to under 65 y</td> <td>year olds there are</td> <td>20.0</td> <td>20.7</td> <td>22.0</td> <td>24.0</td> <td>22.4</td> <td>25.4</td>	Per one hundred 20 to under 65 y	year olds there are	20.0	20.7	22.0	24.0	22.4	25.4
Object of both direction together 54,2 57,2 83,4 91,5 92,2 98,0 Age limits 20 and 67 years Age limits 20 and 67 years Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 606 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 2013 = 100 50 957 51 262 47 481 44 309 43 674 41 592 000 100,6 93,2 87,0 85,7 81,6 67 years and older 1000 100,6 93,8 27,4 28,0 29,9 2013 = 100 100 108,2 129,6 147,8 148,0 151,3 Grave and older 1000 15 126 16	under 20 65 vea	year olds	29,8	29,7 37.4	33,9	34,8 56.7	33,6 58.6	35,6
Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 606 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 % 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 67 years and older 1000 15 126 16 365 19 598 22 349 22 388 22 890 % 18,7 19,9 23,8 27,4 28,0 29,1 100 108,2 129,6 147,8 148,0 151,3 Young-age, old-age, total dependency ratios<	05 yea	together	64,1	67,2	83,4	91,5	92,2	98,0
Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 606 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 % 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 67 years and older 1000 15 126 16 365 19 598 22 349 22 388 22 890 % 18,7 19,9 23,8 27,4 28,0 29,1 2013 = 100 100			•		Age limits 2	0 and 67 years		
Population, total 1000 80 767 82 251 82 280 81 445 80 059 78 666 2013 = 100 100 101,8 101,9 100,8 99,1 97,3 under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 % 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 67 years and older 1000 15 126 16 365 19 598 22 349 22 388 22 890 % 18,7 19,9 23,8 27,4 28,0 29,1 2013 = 100 100 <td< td=""><td></td><td></td><td>1</td><td></td><td>0</td><td>. ,</td><td></td><td></td></td<>			1		0	. ,		
under 20 years 1000 14 684 14 623 15 201 14 788 13 996 14 124 % 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 % 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 67 years and older 1000 15 126 16 365 19 598 22 349 22 388 22 890 % 18,7 19,9 23,8 27,4 28,0 29,1 2013 = 100 100 108,2 129,6 147,8 148,0 151,3 Young-age, old-age, total dependency ratios Per one hundred 20 to under 67 year olds there are 28,8 28,5 32,0 33,4 32,0 34,0 67 year olds and older 28,8 28,5 32,0 33	Population, total	1000 2013 = 100	80 767 100	82 251 101,8	82 280 101,9	81 445 100,8	80 059 99,1	78 606 97,3
% 18,2 17,8 18,5 18,2 17,5 18,0 2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 20 to under 67 years 100 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 67 years and older 1000 15 126 16 365 19 598 22 349 22 388 22 890 % 18,7 19,9 23,8 27,4 28,0 29,1 2013 = 100 100 108,2 129,6 147,8 148,0 151,3 Young-age, old-age, total dependency ratios 28,8 28,5 32,0 33,4 32,0 34,0 Per one hundred 20 to under 67 year olds there are 28,8 28,5 32,0 33,4 32,0 34,0 67 year olds and older. 29,7 31,9 41,3 50,4 51,3 55,0	under 20 years	1000	14 684	14 623	15 201	14 788	13 996	14 124
2013 = 100 100 99,6 103,5 100,7 95,3 96,2 20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 % 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 67 years and older 1000 15 126 16 365 19 598 22 349 22 388 22 890 % 18,7 19,9 23,8 27,4 28,0 29,1 2013 = 100 100 108,2 129,6 147,8 148,0 151,3 Young-age, old-age, total dependency ratios Per one hundred 20 to under 67 year olds there are 28,8 28,5 32,0 33,4 32,0 34,0 G7 year olds and older. 29,7 31,9 41,3 50,4 51,3 55,0 G7 year olds and older. 29,7 31,9 41,3 50,4 51,3 55,0 Young-age, old-age, total dependency ratios <t< td=""><td></td><td>%</td><td>18,2</td><td>17,8</td><td>18,5</td><td>18,2</td><td>17,5</td><td>18,0</td></t<>		%	18,2	17,8	18,5	18,2	17,5	18,0
20 to under 67 years 1000 50 957 51 262 47 481 44 309 43 674 41 592 % 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 67 years and older 1000 15 126 16 365 19 598 22 349 22 388 22 890 % 18,7 19,9 23,8 27,4 28,0 29,1 2013 = 100 100 108,2 129,6 147,8 148,0 151,3 Young-age, old-age, total dependency ratios Per one hundred 20 to under 67 year olds there are 28,8 28,5 32,0 33,4 32,0 34,0 67 year olds and older 29,7 31,9 41,3 50,4 51,3 55,0 67 year olds and older 58,5 60,5 73,3 83,8 22,0 34,0		2013 = 100	100	99,6	103,5	100,7	95,3	96,2
*% 63,1 62,3 57,7 54,4 54,6 52,9 2013 = 100 100 100,6 93,2 87,0 85,7 81,6 67 years and older 1000 15 126 16 365 19 598 22 349 22 388 22 890 % 18,7 19,9 23,8 27,4 28,0 29,1 2013 = 100 100 108,2 129,6 147,8 148,0 151,3 Young-age, old-age, total dependency ratios Per one hundred 20 to under 67 year olds there are 28,8 28,5 32,0 33,4 32,0 34,00 67 year olds and older 29,7 31,9 41,3 50,4 51,3 55,00 torgether 58,5 60,5 73,2 83,8 28,3 29,2 29,2	20 to under 67 years	1000	50 957	51 262	47 481	44 309	43 674	41 592
67 years and older 1000 15 126 16 365 19 598 22 349 22 388 22 890 % 18,7 19,9 23,8 27,4 28,0 29,1 2013 = 100 100 108,2 129,6 147,8 148,0 151,3 Young-age, old-age, total dependency ratios Per one hundred 20 to under 67 year olds there are 28,8 28,5 32,0 33,4 32,0 34,0 67 year olds and older 29,7 31,9 41,3 50,4 51,3 55,0 58,5 60,5 73,3 93,8 93,2 93,2 93,2 93,2		% 2013 = 100	63,1 100	62,3 100.6	5/,/	54,4 87 0	54,6 85.7	52,9
or years and order 1000 15120 16365 19598 22349 22388 22380 % 18,7 19,9 23,8 27,4 28,0 29,1 2013 = 100 100 108,2 129,6 147,8 148,0 151,3 Young-age, old-age, total dependency ratios Per one hundred 20 to under 67 year olds there are under 20 year olds and older 28,8 28,5 32,0 33,4 32,0 34,0 67 year olds and older 29,7 31,9 41,3 50,4 51,3 55,0 torgether 58,5 60,5 73,2 93,8 93,2 93,2 93,0	67 years and alder	1000	15 404	14.245	10,500	22.240	22.20	22.000
Young-age, old-age, total dependency ratios 28,8 28,5 32,0 33,4 32,0 34,0 67 year olds and older 29,7 31,9 41,3 50,4 51,3 55,0	or years and older	·····	15 126	10.305	23.8	22 349 27,4	22 388 28.0	22 890
Young-age, old-age, total dependency ratios Per one hundred 20 to under 67 year olds there are under 20 year olds 28,8 28,5 32,0 33,4 32,0 34,0 67 year olds and older 29,7 31,9 41,3 50,4 51,3 55,0 together 58,5 60,5 73,2 83,8 82,2 80,0		2013 = 100	100	108,2	129,6	147,8	148,0	151,3
Per one hundred 20 to under 67 year olds there are under 20 year olds 28,8 28,5 32,0 33,4 32,0 34,0 67 year olds and older 29,7 31,9 41,3 50,4 51,3 55,0 together 58,5 60,5 73,2 83,8 82,2 80,0	Young-age, old-age, total de	pendency ratios						
under 20 year olds 28,8 28,5 32,0 33,4 32,0 34,0 67 year olds and older 29,7 31,9 41,3 50,4 51,3 55,0 together 58,5 60,5 73,2 83,8 83,2 83,2 83,2	Per one hundred 20 to under 67	year olds there are						
or year olds and older 29,7 31,9 41,3 50,4 51,3 55,0	under 20) year olds	28,8	28,5	32,0	33,4	32,0	34,0
	67 year	together	29,7	31,9 60.5	41,3 73,3	50,4 83,8	51,3 83 3	55,0 89 0

Table 9: Development of the population in Germany from 2014 to 2060

Year	Continued trend base Variant :	ed on lower immigration ¹) 1, G1-L1-W1	Continued trend based on higher immigration ²) Variant 2, G1-L1-W2		
(as at 31.12.)	1 000	2013 = 100	1 000	2013 = 100	
2014	81 058	100.4	81 058	100.4	
2015	81 345	100.7	81 345	100.7	
2016	81 478	100.9	81 579	101.0	
2017	81 554	101.0	81 757	101.2	
2018	81 573	101.0	81 879	101.4	
2019	81 533	100,9	81 945	101,5	
2020	81 434	100,8	81 953	101,5	
2021	81 274	100,6	81 902	101,4	
2022	81 102	100,4	81 841	101,3	
2023	80 917	100,2	81 769	101,2	
2024	80 719	99,9	81 685	101,1	
2025	80 506	99,7	81 589	101,0	
2026	80 278	99,4	81 479	100,9	
2027	80 036	99,1	81 357	100,7	
2028	79 779	98,8	81 222	100,6	
2029	79 510	98,4	81 076	100,4	
2030	79 230	98,1	80 919	100,2	
2031	78 939	97,7	80 753	100,0	
2032	78 640	97,4	80 578	99,8	
2033	78 332	97,0	80 396	99,5	
2034	78 017	96,6	80 206	99,3	
2035	77 694	96,2	80 009	99,1	
2036	77 364	95,8	79 804	98,8	
2037	77 026	95,4	79 592	98,5	
2038	76 680	94,9	79 372	98,3	
2039	76 326	94,5	79 143	98,0	
2040	75 963	94,1	78 906	97,7	
2041	75 592	93,6	78 661	97,4	
2042	75 213	93,1	78 407	97,1	
2043	74 824	92,6	78 145	96,8	
2044	74 428	92,2	77 875	96,4	
2045	74 023	91,6	77 597	96,1	
2046	73 611	91,1	77 312	95,7	
2047	73 192	90,6	77 020	95,4	
2048	72 767	90,1	76 723	95,0	
2049	72 337	89,6	76 421	94,6	
2050	71 902	89,0	76 115	94,2	
2051	71 464	88,5	75 806	93,9	
2052	71 024	87,9	75 496	93,5	
2053	70 583	87,4	75 184	93,1	
2054	70 141	86,8	74 873	92,7	
2055	69 702	86,3	74 564	92,3	
2056	69 264	85,8	74 257	91,9	
2057	68 831	85,2	73 955	91,6	
2058	68 402	84,7	73 657	91,2	
2059	67 979	84,2	73 364	90,8	
2060	67 563	83,7	73 079	90,5	

- 13th coordinated population projection -

1) Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 100,000. 2) Birth rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; long-term net migration: 200,000.

Appendix C: Glossary

Age-specific fertility rate

The fertility rate can be determined for any age of women between 15 and 49 years. It is defined as the number of births to mothers of a given age in a calendar year in relation to the total female population of that age. Age-specific fertility rates calculated in this manner indicate the average number of children born to women of a given age.

Average age at birth

Average age of mothers who gave birth in the respective calendar year. In the context of the population projection, it is an age calculated on the basis of the age-specific fertility rates, irrespective of the order of birth of the child.

Basic migration

Basic migration assumes a certain level of emigration to other countries. Hence the same or a higher level of immigration is required to achieve a balanced or positive net migration. By taking basic migration into account, consideration is given to the fact that foreigners moving to Germany are generally younger than those leaving the country so the population gets younger to an extent even in the case of balanced net migration.

Birth deficit

The number of births is smaller than the number of deaths.

Births

Refers to the number of live births.

Childlessness

Childlessness refers to the share of childless women in the total of women of a given group. Childlessness is considered permanent for women aged 50 or over who have typically gone through their childbearing years. As the share of childless women in younger age groups may still change, it should be interpreted as reflecting the situation at a given instant in time.

Cohort

A group of people who experienced the same event at the same time. A birth cohort, for example, is a group of people who were born in the same calendar year.

Completed/cumulative fertility

The completed/cumulative fertility of a female cohort indicates the average number of children born to the women of the cohort during their life. As regards female cohorts who have reached the age of 49, fertility refers to the total number of children born to the women of the cohorts. This fertility rate is calculated for a cohort by adding the age-specific fertility rates (source: statistics of births) determined for the cohort's individual years of age from 15 to 49.

Life expectancy

The average number of additional years a person of a certain age could expect to live according to the results of a life table. We speak of the average life expectancy at birth (i.e. at the age of 0 years) and remaining life expectancy at a certain age, e.g. at age 60 or 65.

Life table

A demographic model allowing a summary assessment of the development of the mortality of a population regardless of the population's size and age structure. Constructed separately for women and men, the life table shows how many people of a certain group will survive and die based on the calculated probability of death at individual years of age. In addition, the life table also provides information about the genderspecific life expectancy at individual years of age. A distinction is made between period life tables and cohort life tables. Period life tables quantify the development of mortality in a reporting period and do not make any assumptions as to how mortality conditions will change in the future. Therefore, they provide information on how many (additional) years a person could expect to live if he/she were subject to the mortality conditions of the reporting period for his/her entire life. Cohort life tables indicate the specific mortality experiences and the life expectancy of a specific birth cohort. Cohort life tables can only be finalised, however, once all the members of this specific birth cohort are deceased.

Median age

The median age divides the population into a younger and an older half.

Migration surplus

Migration surplus (positive net migration, net immigration) means that the number of immigrants exceeds the number of emigrants.

Mortality

Mortality is one of the two main components of natural population change. By mortality we understand the number of deaths occurring over a certain period in relation to the population. In this context, total mortality or the mortality of subpopulations (breakdown by age or sex) can be studied.

Natural population change

This is the balance of births and deaths.

Net migration

The difference between immigration into Germany and emigration from Germany to other countries. In this context, it is possible to examine total net migration or net migration broken down by age or sex.

Old-age dependency ratio

This is the ratio of the number of people of pension age (e.g. 65 years and older) to 100 persons of working age (e.g. 20 to 64 years).

Total fertility rate

The total fertility rate (TFR) is defined as the average number of children a woman would have during her lifetime if the conditions in the reference year were characteristic of the whole period of her childbearing years (from 15 to 49). This number of children per woman is of a hypothetical nature as it shows the fertility rate for a modelled, rather than a concrete generation of women. The total fertility rate is determined by adding up the age-specific fertility rates of the reference year for all women aged between 15 and 49 years. It is not affected by the age structure of the female population.

Young-age dependency ratio

With the working age defined as between 20 and 64, the young-age dependency ratio is the ratio of the number of people aged between 0 and 19 to 100 persons of working age.

Appendix D: Animated population pyramid on the Internet

To make it easier for individuals to gain an understanding of demographic changes, the Federal Statistical Office has made an animated population pyramid available on its website at https://www.destatis.de/bevoelkerungspyramide/

This population pyramid visualises the age structure of the population by sex and population changes between 1950 and 2060. From 2014 onwards, the graphic is based on the results of the 13th coordinated population projection with four specific variants:

- Continued trend based on lower immigration (variant 1, G1-L1-W1)
- Continued trend based on higher immigration (variant 2, G1-L1-W2)
- Relatively old population (variant 3, G1-L2-W1)
- Relatively young population (variant 6, G2-L1-W2)

The animated graphic contains a brief overview of the assumptions and several demographic parameters for each year between 1950 and 2060:

- Total population size
- Absolute and relative size of three user-definable age groups
- Median age
- Old-age dependency ratio (number of persons of retirement age per 100 people of working age)
- Surplus of women/men (in a darker colour)

Users can:

- Change the age limits and display the age groups in separate colours
- Display and lock a year with the data on the population size for that year
- Lock the age structure of a year or variant to compare this structure with ano ther year or variant

Federal Statistical Office, Germany's population by 2060, April 2015





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