GERMANY'S POPULATION: TURBULENT PAST, UNCERTAIN FUTURE

Gerhard Heilig, Thomas Büttner, and Wolfgang Lutz
International Institute for Applied Systems Analysis, Laxenburg, Austria

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Preface

Not the least of the momentous events with which this millennium is ending is the second unification of Germany, the first having taken place in 1871. Because its initial unification was later than that of France Germany's local cultural differences have had less time to disappear into a homogeneous national culture. The same Prussia that under Bismarck had arranged the first unification has for 45 years been cut off from the rest of Germany, and this has added a further element of heterogeneity in the national culture.

The extraordinary discipline that seems to be part of the German culture showed itself very differently in the two parts during the 45 years that they existed in virtual isolation from one another. On the one side this German character underlay the extraordinary economic achievements of the FRG; oe the other it showed itself in the orderly systematic stagnation of the GDR. That out of the ruins of World War II the national discipline could quickly build the leading economy of Europe, encourages the thought that the new Germany will relatively soon solve the problems of the old GDR.

It is wholesome to be provided with a reminder that the national discipline, so effective in the workplace as we see from the balance sheets of firms and of the nation, can serve evil purposes as well as benign ones. Pages 14 and 15 of what follows give a chilling account of the demographic effects of the 12-year Nazi interlude. That period was enough to bring about the deaths of 40 million men and women in uniform, and over 20 million civilians, including some 5.7 million put to death to serve "racial purity," whatever that means. Nothing can bring those people back, but at least the history will serve to remind mankind forever of the horror to which racial selection can lead.

No nation values education more than Germany, and this has many ramifications. It made Germany in its time first in the world in certain branches of science, particularly chemistry, and the training of its population at all levels of the educational system has been no small part of the means of its

rapid economic progress. But it also results in young people staying in school longer – often up to the age of 30 (page 37) – and this takes them past what are the years of maximum fertility in other countries. That cannot but have an effect on childbearing, that is already as low as any in the world.

Low births mean fewer entrants into industry in the next generation, and hence a slower replacement of personnel at the workplace. As it becomes older the labor force will become more experienced, which is useful, but it could also be less innovative, less inclined to take the risks that are inseparable from innovation. The net balance between experience and innovativeness is hard to foretell; what is certain is that the number of retired will increase in relation to the number of workers, and that the aged cannot be supported by taxes without setting in place further disincentives on work. And the same low fertility that makes the financing of social security difficult acts to prevent individual families from having the children who traditionally have been the solace and material support of parents.

The paper does not pretend to explain all of the trends that it observes. Why does the life expectancy of West Germany (for instance at age 40) run parallel to that of East Germany up to 1975, and always somewhat below, and thereafter spurt ahead to the point where it is now most of two years higher (page 21)? Why is East German fertility so much higher than that of West Germany? Why do East German mothers bear at much younger ages (page 18)? Answers to such questions are not obvious.

I cannot comment on all of the rich description and analysis contained in this paper, but can strongly recommend it as the best overall survey that we have had or are likely soon to have of the demographics of the newly united Germany.

NATHAN KEYFITZ
Leader
Population Program

Abstract

When the two Germanies were reunited in 1990, 16 million East Germans were added to the West German population, giving it a 20 million person advantage over Italy, France, and the United Kingdom. This *Population Bulletin* traces the history of German population growth from the 1870s through World War II and up to the present. The authors examine the demographc trends of the new Germany and the prospects for future growth.

Until 1990, marriage, fertility, and mortality followed different paths in the two countries. The wealthier West German women delayed marriage and childbearing, for example, and West German men lived longer than East German men. But these differences may reflect the pronatalist policies, repressive politics, and sagging economy of the former German Democratic Republic. Unification may eliminate many of these differences.

Immigration – which triggered the demise of East Germany – has long played a crucial role in German demography. In recent decades, the influx of guestworkers from southern and eastern Europe has raised many sensitive issues for the public and policymakers.

What will the future bring? Even if immigration and fertility increase, Germany faces population decline in the long term. The social and economic problems associated with an aging population remain a major concern of German policymakers.

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Germany's Population: Turbulent Past, Uncertain Future

By Gerhard Heilig, Thomas Büttner, and Wolfgang Lutz

Gerhard K. Heilig is a senior research scholar with the Population Program at the International Institute for Applied Systems Analysis (IIASA), in Laxenburg near Vienna, Austria. He received his Ph.D. in sociology from the Technical University of Munich, and a post-doctoral degree from the University of Bamberg. While an assistant professor at the University of Bamberg, Dr. Heilig worked on population, food and development issues. He has published 50 articles and two books, mainly on Third World and European demography. More recently, his research has focused on nuptiality and fertility in Europe.

Thomas Büttner is a senior research scholar with IIASA. Dr. Büttner received a Ph.D. in economics from the College of Economics, East Berlin, in 1979, and a post-doctoral degree from the East German Academy of Sciences where he was also a Research Professor. His work has focused on population forecasting, fertility, and aging, especially in the GDR. He has written numerous articles and has co-authored a book on demographic issues.

Wolfgang Lutz is deputy leader of IIASA's Population Program and senior lecturer at the University of Vienna. He holds a Ph.D. in demography from the University of Pennsylvania, USA (1983) and a post-doctoral degree from the University of Vienna. Before joining IIASA, he worked with the Austrian Academy of Sciences. He has published over 60 articles and 2 books on population issues. He recently edited a book, Future Demographic Trends in Europe and North America: What Can We Assume Today? *(Academic Press 1990).*

In a year of breathtaking change in Europe and the USSR, one of the most astonishing alterations of 1989–1990 was the swift collapse of East Germany and its reunification with West Germany. Much of the explanation and impact of these events lies in the economic and political spheres. But a fundamental demographic process, migration, played a key role. This union creates a state that is far larger in population than any other country in Europe except for the Soviet Union, which spans both Europe and Asia. With a population of nearly 80 million (as of mid-1990), the united Germany contains about 20 million more people than the next largest states of France, Italy, and the United Kingdom. Population size alone does not provide political power, but in conjunction with the strength of the West German economy, the potential for political and economic dominance suddenly has increased considerably.

While a reunified Germany is regarded by many observers as an economic superpower, the demographic dimensions that underlie the new German state raise some perplexing policy questions for the reunited country. In recent years, for example, both East and West Germany have experienced fertility levels that are well below the long-run replacement level. Will the new united Germany reverse this trend and avoid a significant population decline? What role will immigration play in Germany's population and labor force growth? How will the aging of the population affect Germany's economic vitality? Will the united Germany assume the demographic trends and characteristics of East or West Germany, or will unity bring a blending of patterns and a new demographic future?

This *Population Bulletin* looks at the demographic foundation of the past, present, and future of Germany. It

describes how migration helped precipitate reunification and discusses the broader policy issues of immigration within German society. It also provides data on past and current patterns of marriage, divorce, family formation, and household characteristics of the German population. In addition, it looks ahead to Germany's future, providing projections of the reunited country's future population size and composition.

Germany in 1990

On October 3, 1990, the former German Democratic Republic (GDR) became a part of the Federal Republic of Germany (FRG). The unification added 16.4 million citizens, making the new German nation's population 79.1 million. While this did not create a demographic "superpower," it raised Germany well above every other European nation. Its population is now some 20 million larger than that of Italy (57 million), the United Kingdom (57 million), or France (56 million) (see Table 1).

Unification also brought Germany more land area. Unified Germany now occupies about 357,000 square kilometers (nearly 140,000 square miles). Lying in the midst of the continent and sharing borders with nine other countries, Germany essentially divides eastern and

Table 1. Population Statistics for Germany and Selected European Countries, 1989–1990

Country	1990 population (millions)	Births (per 1,000)	Deaths (per 1,000)	Natural increase (per 100)	Total fertility rate*
Germany					
West	62.6	10.9	11.2	−.03	1.4
East	16.4	12.0	12.4	−.04	1.7
Western Europe					
Austria	7.6	11.5	10.9	+.06	1.4
Belgium	9.9	11.9	10.7	+.12	1.6
France	56.4	13.8	9.4	+.44	1.8
Netherlands	14.9	12.7	8.7	+.40	1.5
Switzerland	6.7	12.2	9.2	+.30	1.6
Northern Europe					
Denmark	5.1	11.5	11.6	−.01	1.6
Finland	5.0	12.8	9.9	+.29	1.7
Norway	4.2	14.0	10.6	+.34	1.8
Sweden	8.5	13.6	10.8	+.28	2.0
United Kingdom	57.4	13.6	11.5	+.21	1.8
Southern Europe					
Greece	10.1	10.8	9.3	+.15	1.5
Italy	57.7	9.9	9.3	+.06	1.3
Portugal	10.4	11.9	9.6	+.23	1.6
Spain	39.4	11.2	7.9	+.33	1.5
Eastern Europe					
Bulgaria	8.9	13.1	12.0	+.11	2.0
Czechoslovakia	15.7	13.3	11.6	+.17	2.1
Hungary	10.6	11.7	13.2	−.15	1.8
Poland	37.8	14.9	10.1	+.48	2.1
Romania	23.3	16.0	10.7	+.53	2.3

*The average number of births per woman during her lifetime.

Source: United Nations, *Population and Vital Statistics Report, data available as of October 1990;* PRB, *1990 World Population Data Sheet.*

ADDENDUM (TO PAGE 5)

Figure 1a: Population Density in Germany, by Administrative Districts ("Land- und Stadtkreise"), 1989

When the map on page 5 was drawn in the autumn of 1990 the new Federal States of Mecklenburg-Vorpommern, Brandenburg, Saxony, Thuringia and Saxony-Anhalt did not yet exist. We therefore "constructed" Federal States by combining the former GDR districts. After unification the new borders of the Federal States were officially defined a little different than we had guessed. The new borders are shown in Figure 1a.

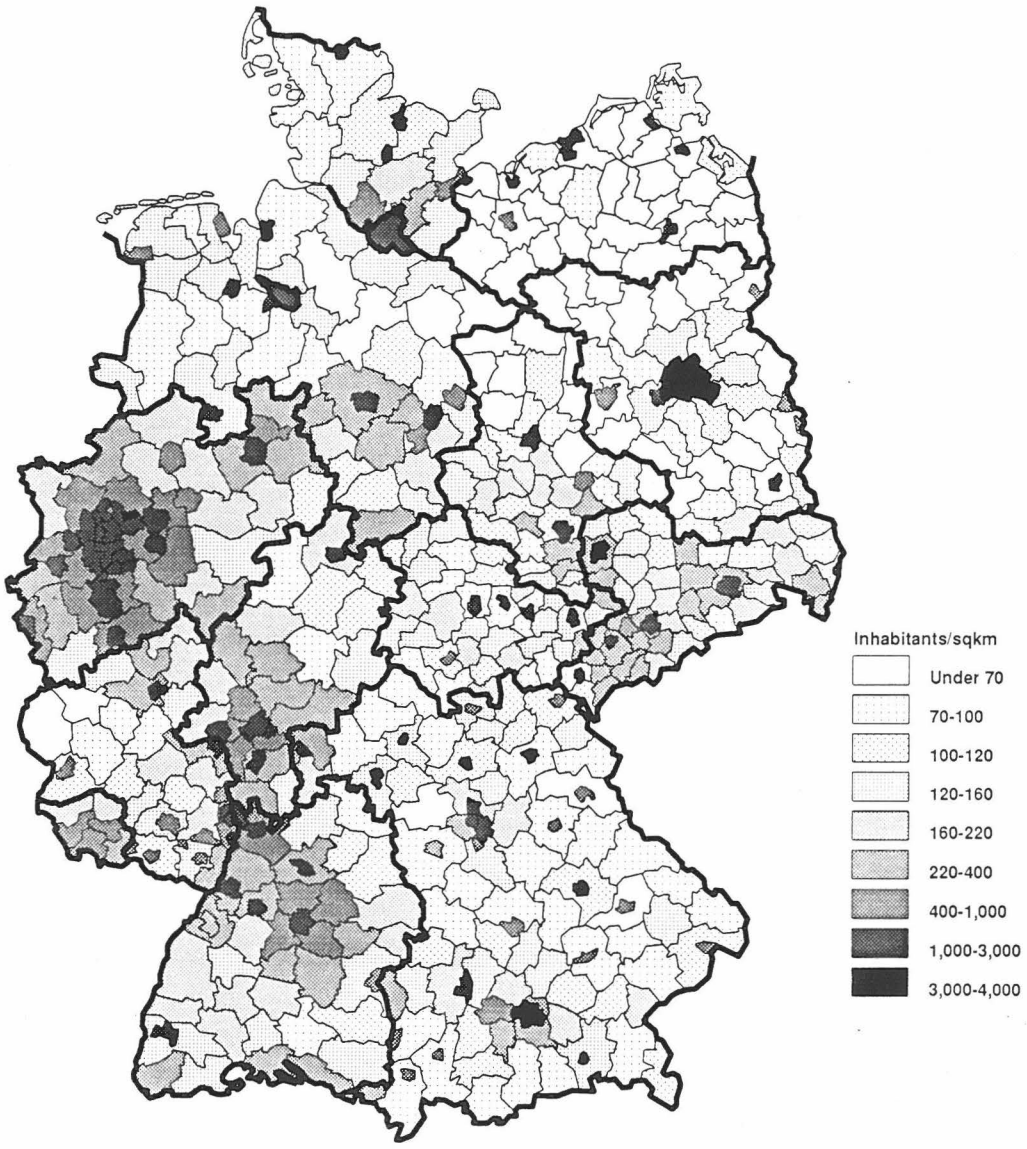
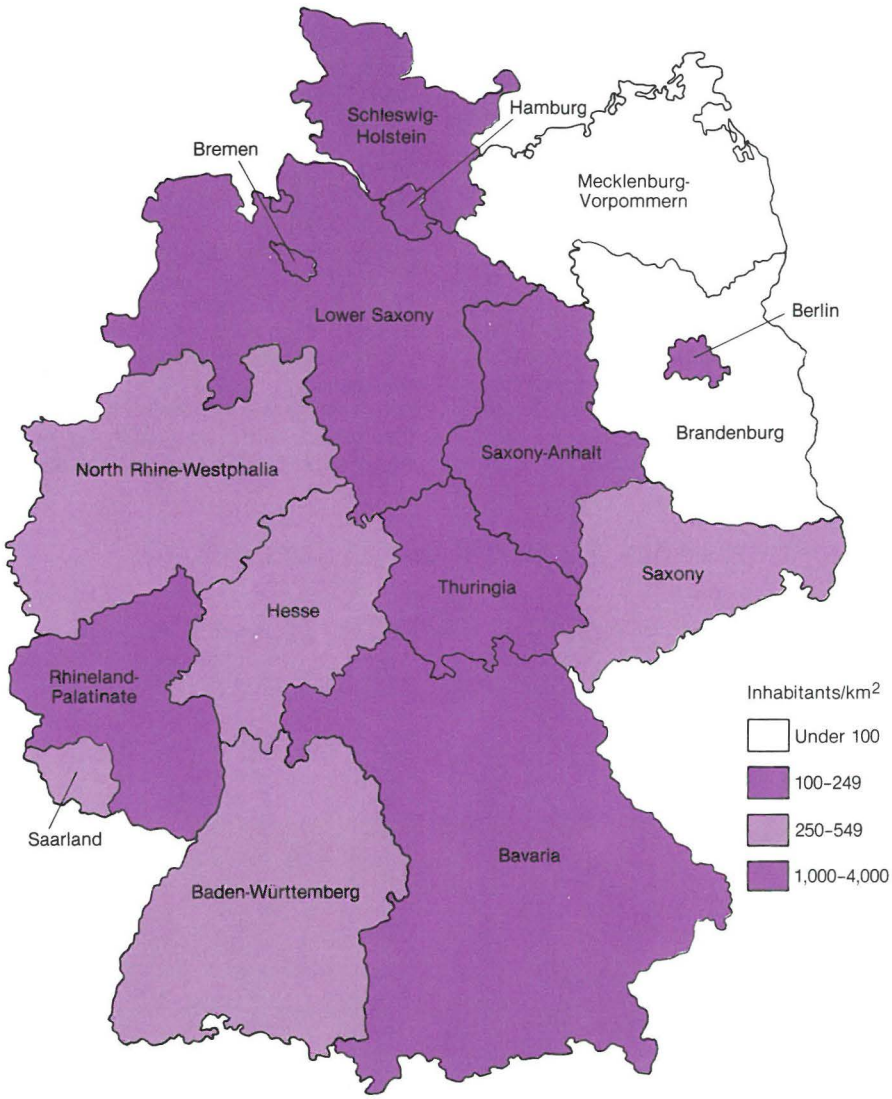


Figure 1. Population Density in Germany, by State, 1990



Note: No state fell into the 550-999 category.
Source: Table 2.

The color for the fourth population density category: "1,000–4,000 inhabitants per square kilometer" was printed incorrectly. Three areas, Bremen, Berlin, and Hamburg are included in this category.

western Europe. Its northern borders touch both the Baltic and the North Seas. Both its size and location have granted Germany strategic importance in modern Europe.

Germans are not a homogeneous group. Regional diversity has long been a hallmark of the German people. The union of the eastern and western sections of the country in 1990 brought together people who share the same language but differ in many ways. A large proportion of southern Germans are Catholic, for example, while the residents of the new eastern states are mostly Protestant. West Germans also tend to be more conservative on some social issues than are East Germans.

The most fundamental differences between the east and west were political and economic. The German Democratic Republic adhered to a strict socialist regime while the Federal Republic emerged as a success story for capitalism. A thriving economy brought West Germans many advantages over their counterparts in the East. While official unemployment was nonexistent in the GDR, East Germans had lower incomes and lower living standards. The vast majority of West German households (97 percent) had an automobile in 1988, while only 52 percent of East German households had one. Less than one-half of the households in the former GDR had a freezer in 1988 and only 10 percent had an automatic washing machine. These conveniences are commonplace in West German households.

The population is very unevenly distributed geographically (see Figure 1). West Germany is one of the most densely settled areas in Europe, with an average population density of 252 persons per

Table 2. Population and Vital Rates in German States, 1988–1989

Federal state	1989 population (thousands)	Population density per km2[a]	Birth rate (per 1,000 population)	Death rate (per 1,000 population)	Natural increase (percent/year)
Bavaria	11,221	159	11.5	11.0	+0.5
Lower Saxony	7,238	153	10.6	11.7	−1.0
Baden-Württemberg	9,619	269	11.7	9.9	+1.8
North Rhine-Westphalia	17,104	502	11.0	11.2	−0.2
Brandenburg (GDR)	2,641	91	12.4	11.8	+0.6
Mecklenburg-Vorpommern (GDR)	1,964	82	13.4	10.7	+2.6
Hesse	5,661	268	10.5	11.2	−0.7
Saxony-Anhalt (GDR)	2,965	145	11.7	12.7	−1.0
Rhineland-Palatinate	3,702	186	10.8	11.6	−0.8
Saxony (GDR)	4,901	267	11.2	13.6	−2.4
Schleswig-Holstein	2,595	165	10.6	11.9	−1.2
Thuringia (GDR)	2,684	165	11.7	12.6	−0.7
Saarland	1,065	414	10.1	11.7	−1.6
Hamburg	1,626	2,154	9.5	13.2	−3.6
Bremen	674	1,668	9.8	12.7	−2.9
East Berlin	1,279	3,174	13.2	10.4	+2.8
West Berlin	2,131	4,436	10.1	14.4	−4.3
Total Berlin	3,410	3,862	11.2	12.7	−1.6
East	16,434	152	12.0	12.4	−0.4
West	62,636	252	11.0	11.3	−0.3
Germany	79,070	222	11.1	11.4	−0.3

* 1986 data **1988 data

Source: Central Statistical Office, Wiesbaden; individual statistical bureaus for West German states; estimates for former East German districts were based on official statistics that will be subject to revision under a unified statistical system.

square kilometer in 1989. The heaviest population concentrations are in the industrial areas of North Rhine-Westphalia (*Ruhrgebiet*), along the Rhine, and in the urban areas of Hamburg, Hannover, Frankfurt, Stuttgart, Nürnberg, and Munich.

East Germany, with an average population density of 152 persons per square kilometer, is sparsely populated by comparison. In the northern and western part of the former GDR several large rural districts contain just 30 to 40 persons per square kilometer. Heavy population concentrations are limited to Berlin and the southern industrial districts around the cities of Leipzig/Halle, Dresden, and Chemnitz (the former Karl-Marx-Stadt).

Most other demographic indicators also vary regionally. The total fertility rate (TFR)—the average number of children each woman will have under current fertility rates—varies between 1.9 in Mecklenburg-Vorpommern and 1.2 in Bremen. Female life expectancy at birth is 78.8 years in Hesse and 75.1 years in Brandenburg. Infant mortality ranges between 5.8 infant deaths per 1,000 births in Bremen to 9.7 in Saarland. While there is natural population growth of 2.6 persons per 1,000 population each year in the sparsely populated East German state of Mecklenburg-Vorpommern, in most West German federal states deaths actually exceed births. Population declines are greatest in the states of Hamburg, Bremen, and Saxony, which are losing between two and four persons per 1,000 every year through an excess of deaths (see Table 2).

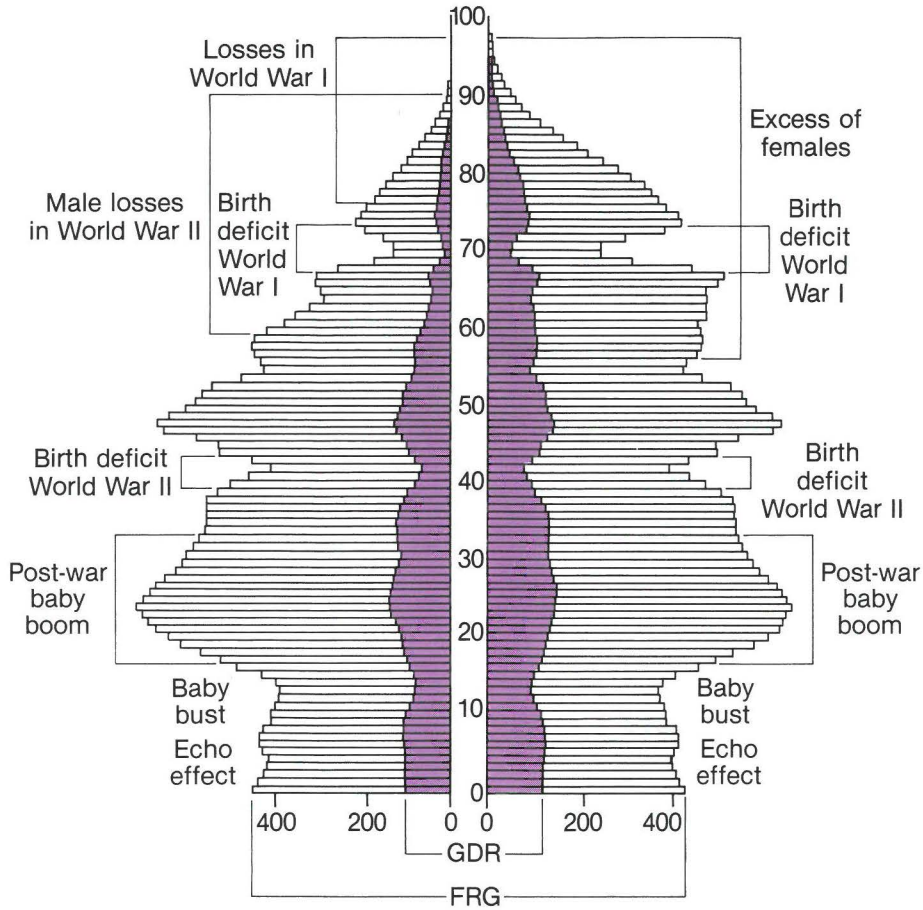
Infant mortality rate[b]	Life expectancy at birth[c]		Total fertility rate[d]
	Male	Female	
6.8	70.9	77.4	1.5**
7.5	70.7	77.4	1.4**
6.7	71.8	78.1	1.4*
8.2	71.8	78.4	1.4**
7.7**	69.4	75.1	1.7
6.7**	68.2	75.2	1.9
7.4	72.6	78.8	1.6**
8.2**	69.2	75.2	1.6
7.7	70.4	77.1	1.4**
6.8**	70.5	75.9	1.6
6.7	71.0	77.4	1.5**
9.0**	69.7	75.6	1.5
9.7	69.2	76.2	1.3
8.0	70.5	77.3	1.3
5.8	69.9	77.3	1.2*
7.6	70.2	75.3	1.5
8.6	68.6	75.8	1.4*
8.1**	-	-	1.5
7.6	69.6	75.5	1.6
7.5	71.8	78.4	1.4
7.5**	71.3	77.8	1.5

[a]1 square kilometer = 0.61 square miles
[b]Infant deaths per 1,000 births per year
[c]based on 1985–1986 life tables
[d]Average lifetime number of births per woman under current age-specific fertility rates

The age structure in East and West Germany reflects the social, political, and economic turmoil that has plagued the European continent during the past 100 years. A graph of the 1989 age structure (Figure 2) points to the major events that affected Germany's demographic history: the sharp decline in births during World Wars I and II and during the worldwide economic recession of 1932. War casualties from World Wars I and II are still reflected in the dearth of males over age 60 (although higher life expectancy for women is the major reason for the larger number of women at older ages). Of the estimated 5.25 million Germans who died in World War II less than 10 percent were civilians—most were men in uniform.

One of the most characteristic features of European age pyramids is the bulge of the post-war "baby boom," immediately followed by the smaller birth cohorts of the "baby bust." In Germany, the largest birth cohorts after the war were born between 1961 and 1967. The baby boomers strained Germany's education system as they proceeded through their school years. During the 1980s, they faced strong competition when entering the university or seeking jobs. At the same time the smaller group of Germans born during the baby bust

Figure 2. United Germany's Population by Age and Sex, 1989



Source: Statistical Yearbooks, West (FRG) and East (GDR) Germany.

of the mid-1970s was entering the educational system. Beginning in the late 1980s there has been a slight increase of births. This upturn in births is primarily an "echo-effect" created by the baby-boom generation as it entered the childbearing ages.

Another prominent feature of Germany's current age structure is its large population of elderly. Like other European countries that have had low fertility for decades, the population is aging rapidly. In 1946, only 9 percent of the population was over age 65. In 1990, more than 15 percent of the population was age 65 and over; by 2020 that percentage could reach 25. In most European countries, 12 to 15 percent of the population is 65 or older, placing Germany just above average for the region.

Conversely, the percentage of children under age 15 has been declining from 25 percent in 1946 to about 15 percent in 1990. Despite the shifts at the extremes of the age structure, however, the percentage of Germans aged 15 to

64 has changed little since World War II. In 1990, an estimated 70 percent of Germans were in the prime working ages. The overall dependency ratio, or the ratio of the number of persons of working age to those in the dependent ages (under 15 and over 64), has actually declined slightly since 1946, from 0.51 to 0.44. Low birth rates and the consequent drop in the under-15 age group are the prime reason for the decline.

Marriage patterns have varied substantially between East and West Germans. East Germans have been more likely to marry, and at a younger age, than West Germans. At the end of the 1980s, marriage rates in East Germany ranged from 7.9 to 10.2 marriages per 1,000 population; in West Germany they varied from 5.9 to 6.6, conforming to the predominant pattern in other western European countries.

While in other European countries a large proportion of young couples live in a nonmarital union (30 to 44 percent of Swedes in their 30s live together without marrying), only a small minority do so in West Germany. In 1988, roughly 0.8 million couples lived together outside marriage in West Germany, less than 3 percent of all households. Also, while nearly one-quarter of all births in England and France, and one-half of births in Sweden occurred out of wedlock in the late 1980s,[1] West German births have remained a product of legal marriage. More than 90 percent of all West German couples marry before, or shortly after, they have a child. In East Germany, in contrast, one-third of all births occur out of wedlock.

But the relatively low proportion of nonmarital unions understates the fundamental changes that have occurred in German society in the past few decades. In 1972 only some 130,000 West German couples (of all age groups) lived in nonmarital unions. By 1988 this number had increased six-fold.[2] The shifts since 1972 are likely harbingers of further movement away from traditional marital patterns. Also, more and more German adults are remaining single; the single lifestyle has become a common alternative to either marriage or nonmarital unions.

Germany's Demographic History: 1871–1946

Prior to 1871, there was no German national state, just a collection of diverse states that shared a common ethnic and linguistic heritage. In that year, the Prussian statesman, Otto von Bismarck succeeded in bringing together these fiercely independent political units to form a German nation-state of some 41 million persons. The German Reich of 1871 encompassed about 40 percent more territory than unified Germany today. As 19th century Germany was undergoing this profound political change, it was also experiencing fundamental social and economic changes that helped transform it from a predominantly agrarian state into a highly industrialized urban society.

These social and economic changes were triggered by the Industrial Revolution, which had begun in Great Britain toward the end of the 18th century and swept across most of Europe during the next 100 years.[3] New values and aspirations arrived with new technologies and more efficient methods of production, affecting all aspects of everyday life. New types of households and living arrangements arose as more people left their farms to seek a livelihood in urban areas. The historically high birth and death rates began to fall, ushering in what is commonly known as the "demographic transition."

Germany's Demographic Transition

In the 1870s, Germany's population was growing at more than 1 percent a year. High birth rates and declining death rates caused natural increase (the excess of births over deaths) to rise. The

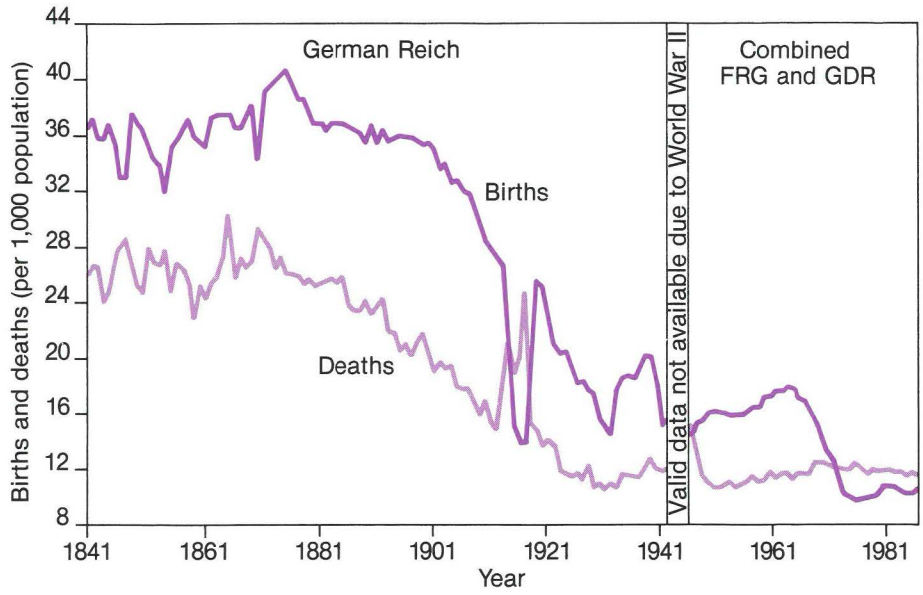
German population increased from 41 million to 56 million between 1871 and 1900, straining the limits of available farmland. Population pressure helped fuel a large-scale emigration of Germans to less-settled regions. From 1871 to 1900, approximately 2.5 million Germans emigrated, and more than 90 percent settled in the United States.[4] Most of the emigrants came from the eastern parts of the German Reich where incomes were low and jobs scarce.

After the turn of the century, rapid industrialization improved Germany's economic situation and made it easier to accommodate a larger population. Outmigration declined even though population growth had accelerated slightly. The number of Germans rose from 56 to 65 million during the first three decades of the 20th century.[5] Population growth rates did not begin a significant decline until after 1925.

German death rates began a rapid descent in the mid-1880s, according to registered statistics available after 1871. Birth rates entered a steep decline after 1900 (see Figure 3). Births continued to exceed deaths after the peak of the transition period. Germany continued to grow through natural increase from 1915 to 1972, except during the two world wars. Since 1972, however, deaths have exceeded births, and the population has declined, except for a few years when net immigration was great enough to offset the excess of deaths over births.

During the first decade of the 20th century, German women gave birth to more than four children each on average, according to demographer Patrick Festy.[6] He found that the transition from high to low fertility began with women born between 1872–1880, and pro-

Figure 3. Historical Trends in Birth and Death Rates, Germany, 1841–1989



Sources: Statistisches Bundesamt: Bevölkering und Wirtschaft, 1872–1972, Wiesbaden; and *Statistische Jahrbücher.*

ceeded quite slowly. Completed fertility first dropped below a three-child average for women born after 1882.

The German experience runs counter to a common explanation of the demographic transition: that a decline in infant mortality motivated couples to reduce their fertility in order to compensate for the increasing number of surviving children. In a detailed analysis of all 71 administrative areas of the German Reich, John Knodel discovered that "the decline in infant mortality could not have been an initiating cause of the fertility decline in most areas," because fertility began to fall before, or at the same time as infant mortality.[7]

With the decline of fertility and mortality, other demographic characteristics also changed in Germany. The average size of households decreased rapidly. In 1900, 44 percent of all households contained five or more members. By 1925, only 33 percent of German households included this many, and by 1950 only 16 percent of households included five or more members.

Marriage patterns also changed. The average age at marriage for single women increased from 24.8 years in 1911 to 26.2 years in 1938. For single men, it rose from 27.4 to 28.8 years of age over the same period. Divorce rates more than quadrupled, from 7.4 divorces per 10,000 married persons in 1890 to 31.1 per 10,000 in 1938.

Declines in fertility and mortality led to a shift from a younger to an older age population structure. In 1871, the age composition of the German population was still typical of a pre-industrial society, or of many less developed countries today (see Figure 4). Some 34 percent of the population was under age 15, 61 percent was age 15–64, and only 4.6 percent of the population was age 65 or older. By 1939, the children's share of the population had declined to 23 percent, the percentage of adults age 15 to 64 had increased to 69 percent of the total, and that of the elderly equaled 7.8 percent.

Social and Economic Background of the Transition

The demographic transition in Germany resulted from a complex pattern of social, economic, and cultural changes that triggered the decline of both mortality and fertility.

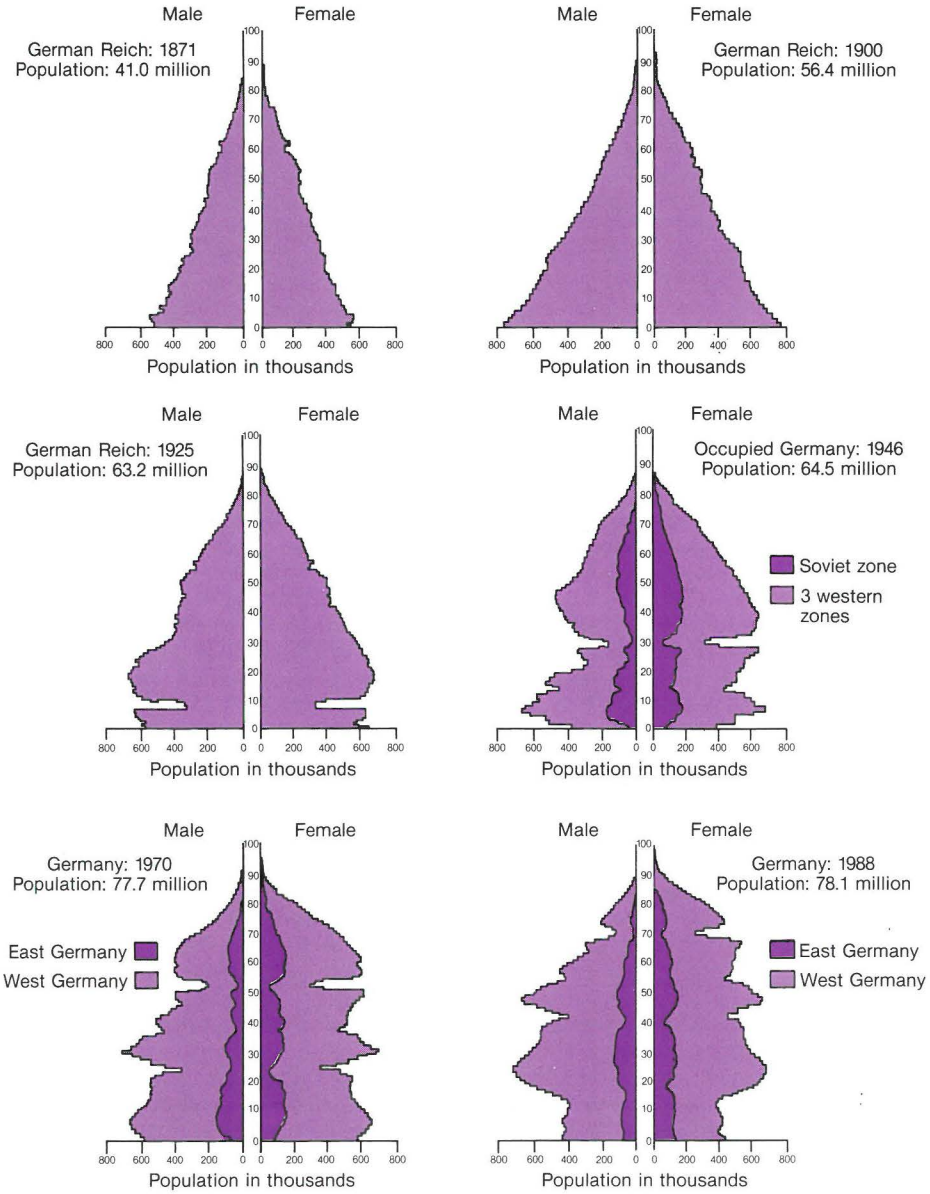
Between 1882 and 1939, the total labor force in the German Reich increased from 17 to some 36 million persons. During the same period the percentage working in agriculture declined from 41 to 18 percent among males and from 45 to 38 percent among females.[8]

Women's lives changed fundamentally during the first decades of the 20th century. No longer were they restricted to the three "K"s: *Kinder, Küche, Kirche,* a well known phrase in German, meaning "children, kitchen, church." More women joined the labor force. The female labor force in Germany grew by 157 percent between 1882 and 1939, while the male labor force increased by 91 percent. The percentage of women 15 to 65 years of age who were employed had risen from 43 to 52 percent.

Many of these changes in women's lives were fueled by new inventions and machines introduced in the late 1800s. Inventions such as the typewriter (mass-production of the "Remington" started in 1873) and the telephone switchboard system (introduced in 1877) created millions of jobs that were filled predominately by women. The emergence of a female labor market weakened the traditional, family-oriented perspective of many women, extending their horizons beyond household and family. This in turn led more women to delay or forgo marriage and childbearing.

At the same time, a major shift in population distribution occurred. The growing industries in urban areas attracted laborers from the countryside. Between 1870 and 1910, the percentage of Germans living in cities or towns with over 2,000 inhabitants increased from 36 to 60 percent. Large metropolitan areas grew up, dominated by the traditional

Figure 4. Germany's Changing Population Pyramid, 1871–1988



Sources: German population censuses; published and unpublished estimates.

capital, Berlin. Berlin grew from some 827,000 to 2.5 million between 1871 and 1900. By 1930, its population had reached 3.7 million.[9]

But the move to the cities signaled more than a local redistribution of the population. A large proportion of Germans had left the closed social world of the village and embraced the pluralistic, stimulating culture of the city. Accompanying this movement was an erosion of the power of the church and an expansion of the role of the state.

In 1872, under the direction of *Reichskanzler* Bismarck, the control of German public schools was wrenched away from the church and given to the state. The state began to devote more funds to improve and expand its system of education. From 1870 to 1890 state expenditures on education and research more than doubled as a result of Bismarck's reforms. Enrollment at German universities soared from 18,000 in 1869 to 40,000 in 1896 and 91,000 in 1925. More German women entered the universities, a consequence of the expansion of female education at lower levels. Less than 1 percent of university students were women in 1907; within 20 years their share exceeded 10 percent.[10]

The secularization of the educational system was only part of a larger restructuring of German society. Civil marriage was introduced, as was legislation that prohibited priests from using the pulpit to agitate on political matters. Compulsory health insurance was established for blue collar workers—the first such program in the world. A pension system was created.

These changes not only deepened the separation between state and church, but hastened the emergence of new secular values and norms. Germans' attitudes toward sexuality, family formation, and childbearing became less traditional and less predictable.

Many of these social and economic changes worked to lower German birth rates. As jobs for women expanded, the years of unpaid labor devoted to raising a large family were seen in a different light. They constituted lost employment opportunities. As Germans moved from the farm to the cities, they no longer needed the type of labor children could provide. Children spent more years in school, increasing the time they remained dependent on their families. The notion that women could limit the number of children they bore gained wider social acceptance. The knowledge and practice of birth control methods expanded. Many parents believed that by having fewer children they could achieve a higher quality of life for themselves and their families.

Declines in Mortality

Unlike Third World countries today, where rapid mortality decline is usually related to vaccination campaigns, expanded use of drugs such as penicillin, and improved medical treatments, the mortality decline in 19th century Germany had little to do with modern medicine. Death rates started to fall decades before these medical interventions became available. The BCG tuberculosis vaccine was only discovered in 1908, penicillin was mass-produced after 1940, and the drugs isoniazid and streptomycin (to treat tuberculosis) were available only after 1951.

The rapid decline of German mortality around the turn of the 20th century was mainly a result of three related factors. These were:

- major improvements in basic sanitary conditions;
- a stabilization of food supply; and
- the development of a few basic medical techniques, such as sterile conditions in maternity wards.

The unruly congestion brought about by the rapid urbanization of Germany hastened these developments. When the population began to concentrate in urban areas, sanitation problems worsened and some diseases became virulent. During the second half of the 19th century, epidemics of cholera and

other diseases broke out in several cities, spreading rapidly through the crowded housing quarters. The government was forced to improve the waste disposal systems and the water supply. The availability of clean drinking water in the cities might have been the largest single factor initiating the decline of infant morbidity and mortality.

The Industrial Revolution changed the living conditions in the countryside as well. Despite the fact that the agricultural labor force was shrinking due to migration to the cities, agricultural production increased. Between 1873 and 1912, the production of wheat grew from 2.8 to 4.4 million tons, rye production increased from 7.3 to 11.6 million tons, and potato production more than doubled from 23.6 to 50.2 million tons. While the population of the German Reich grew by 59 percent, from 41.6 to 66.1 million, the production of basic food staples nearly doubled. Germany's food supply expanded during the period of its demographic transition, another striking divergence from the conditions in many Third World countries today.

Regional and Social Differences

In some areas and in some social groups, fertility and mortality remained high until the 1930s. In others, the decline was nearly over by the beginning of the 20th century. Demographic statistics on a national level mask these regional and social differences that are so typical of the German population.

Fertility and mortality decline usually began in large cities, spread to medium and small towns, and then to rural areas. In general, the more wealthy population groups were the first to reduce fertility, while the lower classes, including farm workers and miners, lagged behind. A study based on 1939 census data revealed that fertility had declined first among physicians, university professors, army officers and artists.[11]

Religion was another important factor. The urban Jewish population was the

Box 1. The Dark Chapter: Nazi

There is a chapter in German demography whose pages too many of our countrymen would like to skip: National Socialism and the Holocaust. But this darkest period in German history should never be forgotten, especially not amidst the joy of the reunification and certainly not in a report on German demography.

Germany's demographic history was involved in this tragedy in two ways. First, the population structure of a large part of Europe was dramatically changed as a result of the Holocaust and World War II. Second, the excesses of the Nazi regime in the name of purifying the race cast a heavy shadow over the science of demography in Germany. In the post-war rejection of Nazism, German politicians have been reluctant to propose explicit population policies, lest they be linked to Nazi excesses.

In what is now called the Holocaust, the Nazis systematically tried to eradicate an entire population group, the Jews. Jews all over Germany and German-occupied Europe were pursued and incarcerated. Millions were killed in the gas chambers of German concentration camps at Auschwitz-Birkenau, Maidanek, or Treblinka. In the name of purifying the race, the Nazis also tried to eliminate other religious and ethnic minorities, such as the Roma (the nomadic gypsies), and "undesirables" such as the disabled and homosexuals. The Nazi police relentlessly pursued and prosecuted members of the political opposition in Germany and members of the resistance in occupied countries. The exact numbers will never be known, but according to detailed estimates up to 5.7 million people, mainly Jews from eastern European countries, were killed in the gas chambers of the Third Reich.

Germany

The systematic slaughter of human beings in the concentration camps was only part of the death toll exacted by the National Socialists. The Nazis' attack on Poland (September 1, 1939) triggered a continental war that escalated into a worldwide military conflict in which 53 countries participated.

During World War II some 40 million soldiers lost their lives on battlefields all over the world. Another 15 million civilians were killed. The Soviet Union suffered the largest losses of human life: 20.6 million soldiers and 7 million civilians.[1]

In the 1920s and 1930s, German demography—markedly different from the present-day science—was misused by the Nazis and lent ideological support to the rise of fascism. At the beginning of the 20th century, Social Darwinism was widespread in Europe. This popular philosophy—which expanded the evolutionary process of the "survival of the fittest" to humans—had many roots. One was J.A. Gobineau's pseudo-scientific theory on the "inequality of the human races," which was spread throughout 19th century Europe by H. St. Chamberlain, founder of the Eugenics Society.

Some German demographers of the period used these ideas to establish an academic discipline that blatantly propagated racism. They called it *Rassenhygiene*. Biological heritage, they argued, determines the quality of humans and their value for society. They distinguished "valuable" from "useless" individuals and races. Natural selection of the strongest races was seen to be the driving force of history. It was a short step from this "theory" to the contemptuous program of euthanasia that would cleanse the German "blood" of "cripples" and "useless human beings" (*Programm zur Vernichtung unwerten Lebens*). Legitimized by statistical studies prepared by German demographers, the Nazis killed thousands of individuals with physical or mental disabilities or with hereditary diseases before the churches could stop the program.

At the same time, the "racially pure" Germans were encouraged to have large families. Specific policies, including marriage loans and child-allowances, were instituted by the National Socialists to increase the birth rate among ethnic Germans. Motherhood was touted as a patriotic duty as well as a woman's highest goal. Access to contraceptives and abortion was severely curtailed.[2]

These demographers dreamed the evil dream of Superior Men (*Herrenmenschen*) who had to "purify their blood" from the impure heritage of slaves *(Untermenschen)*.[3] In time, their names will be forgotten in our discipline, but their dangerous ideology should not be, lest it re-emerge.

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first to experience a rapid decline of fertility, followed by the Protestants. Among Catholics, who were more likely to live in the mostly rural south of Germany, fertility decline came last. Their birth rates remained above those of Protestants and Jews for decades. Eventually, all religious and social groups and all regions adopted modern patterns of fertility, mortality, and nuptiality.

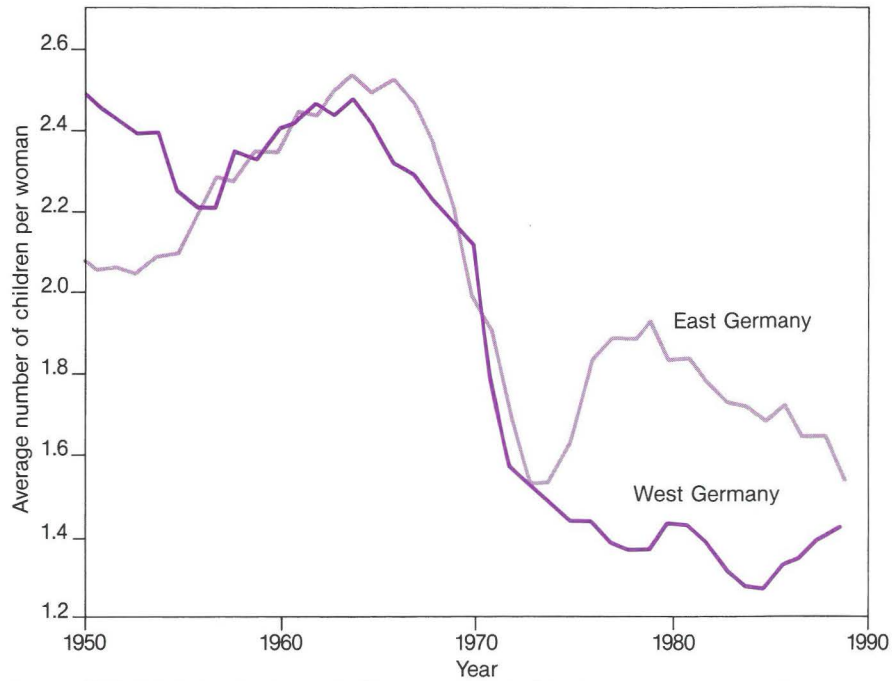
By the late 1920s, the birth rate was falling so fast that demographers began to project eventual population decline. The growing interest in eugenics (the science of improving human genetic stock) was intensified by the idea that certain population groups might decline. On the eve of World War II, (see Box 1), many Germans and other Europeans already were beginning to worry about negative population growth.

Recent Demographic Trends: 1946–1990

Fertility

As in many other European countries, Germany experienced a baby boom during the 1960s, followed by a baby bust. Despite the difference in political and economic systems, the baby boom was nearly identical in its timing and level of fertility in both Germanies. As in most countries, a spurt in birth rates right after World War II was followed by a sustained period of high fertility. The baby boom in Germany, as in other countries, was in part caused by an increase in marriage. Greater proportions of women were getting married and at younger ages.

Figure 5. Total Fertility Rates in East and West Germany, 1950–1989



Sources: (FRG) Statistisches Bundesamt, Bevölkerung und Erwerbstätigkeit, Reihe 1, Gebiet und Bevölkerung 1988 (Stuttgart: Metzler und Poeschel) p. 86; (GDR) Statistisches Jahrbuch der Deutschen Demokratischen Republik (Berlin: Staatsverlag) various issues; and authors' calculations.

Box 2. East German Policies to Encourage Childbearing

A number of European countries with below-replacement fertility have implemented policies that—directly or indirectly—are aimed at increasing the national birth rate. The success rate has been poor. In the German Democratic Republic, however, the effect of pronatalist policies on national fertility rates is clearly visible.

In May 1976, the East German government introduced a set of policy measures designed to boost the fertility rate, which had slipped below replacement after the liberalization of abortion in 1972. The most important provisions to encourage couples to have more children were:

- Lengthening paid maternity leave from 18 to 26 weeks, and
- Instituting a one-year paid maternity leave for mothers with two or more children.

These benefits were not extraordinary by European standards. But they were well publicized in the GDR and apparently received broad public approval. The benefits package was viewed as a major improvement in the lives of women with children.

The effects of social policies often defy quantification. How can the effects of the policy be separated from other factors, such as economic recession or political instability? But a recent study clearly demonstrates the fertility-boosting effect of the East German policies after 1976, and finds that the pronatalist measures increased fertility in the GDR by about 20 percent.[1]

Closer examination of East German fertility over the past two decades reveals more specific effects of the pronatalist measures. Many aspects of the policies favored women with larger families—two or more children. In fact, after 1982, the probability of having second and third births was up by 30 percent, and even rose above the relatively high pre-1970 birth rates. The probability of having a first birth initially increased, but then fell below its previous level. The net effect of the policies was to significantly increase fertility in the GDR. The laws favored women who already had children, encouraging them to go ahead and have another one or two, but had no effect on childless women. Levels of childlessness in the GDR were unchanged.

Reference

1. Thomas Büttner and Wolfgang Lutz, "Estimating Fertility Responses to Policy Measures in the German Democratic Republic," *Population and Development Review* Vol. 16, No. 3 (1990) pp. 539–555.

The steep decline in fertility rates between 1967 and 1974 also occurred simultaneously in East and West Germany. After birth rates peaked in the mid-1960s, they fell by about 40 percent in only seven years. The decline was steeper in both German states than in most other European countries.

After 1974, birth rates in the two Germanies began to diverge, probably as a result of explicit policies instituted by the East German government to encourage couples to have more children (see Box 2). Fertility continued to decline in West Germany, however. Between 1975 and 1985, women in East Germany had on average almost half a child more than women in West Germany. In 1985, the West German TFR hit an historic low, slipping just below 1.3 children per woman (see Figure 5). It was then the lowest national TFR ever recorded in peacetime, generating much international attention and musings about the

eventual disappearance of the German population.

In the late 1980s, however, the fertility gap between the two Germanies had begun to narrow, and by 1989 both populations recorded TFRs of about 1.5 children per woman. With the unification of the two countries in 1990, this strange divergence in TFRs may remain only an intriguing historical episode.

Age Patterns of Fertility

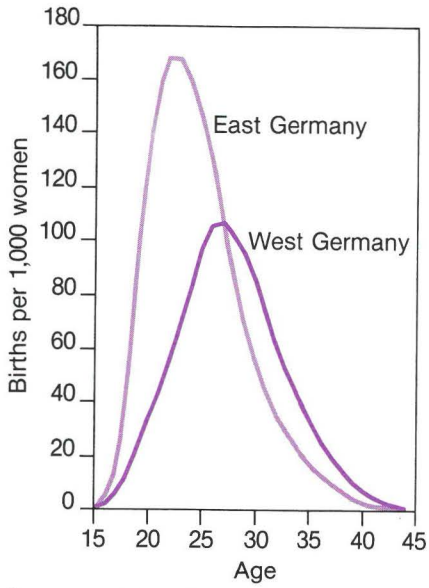
Even in the 1950s, East German women tended to have children at younger ages than their West German cousins. By 1985 two significantly different age patterns of family formation had evolved (see Figure 6). In East Germany, childbearing was increasingly concentrated in the late teens and early 20s. In West Germany, it had shifted toward the older ages, much as it had in the United States and in other European countries.[12]

These distinct patterns of fertility apparently grew out of the different social and economic conditions of East and West Germany. In the former GDR, almost all women combined motherhood and employment. Both motherhood and labor force participation were considered obligatory. In the United States and in other European countries, women often delay childbearing to establish a career. In the GDR, however, it was easier for women to combine these competing goals at younger ages, before assuming more demanding professional responsibilities. Furthermore, career advancement opportunities were limited in East Germany, and young women had little to gain by delaying motherhood. The dense network of inexpensive child-care centers, comprehensive maternity benefits, and other services helped women combine raising young children with working.

Labor force statistics for women in the two countries lend credence to this explanation. East German women enter the labor force at a fairly young age and do not exit during the prime childbearing years. In fact, a greater percentage of East German women at all adult ages are employed. Overall, 83 percent of East German women age 15 to 59 work outside the home, compared to 50 percent of West German women. Most West German women work during their early 20s, but a large percentage leave the work force during their young adult ages, presumably to raise children. They re-enter the job market as they reach their 30s and early 40s, when their children would be more self-sufficient.[13]

Beginning motherhood at a younger rather than older age was socially preferred in East Germany. Attitude surveys in the 1980s found that having children, along with professional work, received the highest rating among a large number of values. Some analysts think that by having children at a very young age, young East Germans were searching for privacy and expressing their individual-

Figure 6. Age-Specific Fertility Rates, East and West Germany, 1985



Sources: see Figure 5.

ism as a reaction against an increasingly repressive political environment.

Childlessness

Even before 1974, when birth rates in the two Germanies were almost identical, the average East and West German families were very different. In East Germany almost every woman had at least one child, whereas in West Germay, a high percentage of women were childless. Overall rates were similar in the early 1970s because West German women who did have children had a larger number of them. Since then the differences in family types have only widened.

In 1981, only 11 percent of all East German women age 45 were childless. Even lower percentages of younger women were childless: only 7 percent of the women born in 1951, for example. An estimated 10 percent of East German women will remain childless throughout their lives.[14]

The percentage of West German couples still childless after 11 to 15 years of marriage increased between 1970 and 1980, from 11 percent to 15 percent.[15] The figure may have reached 19 percent by 1986. During the same period, marriage rates declined; an estimated 25 percent of all women will remain unmarried, under current trends. Because the proportion of children born out of wedlock has remained below 10 percent in West Germany, an estimated 35 to 40 percent of all women will remain childless, if current patterns continue.

Out-of-Wedlock Births

While the proportion of births to unmarried women remained low in the West, about one-third of East German births occurred outside of marriage in the late

East Foto

The East German government built low-cost child-care centers to encourage women to have more children.

1980s. There are obvious reasons for this discrepancy: the support systems for younger single mothers were better in the GDR, a consequence of the pronatalist policies instituted in the 1970s. It was quite common, and socially acceptable, for a young East German woman to bear a child while a student and unmarried. This behavior was reflected in the younger mean age for childbearing and the lower proportion childless discussed above. Unmarried mothers in West Germany, in contrast, do not enjoy wide social acceptance and suffer from a lack of child-care facilities.

Will these differences persist after unification? If the differences indeed grew out of political systems, it stands to reason that the East Germans will come to act more like their western cousins. However, the more liberal attitudes toward out-of-wedlock childbearing—already more accepted in the rest of Europe—could disrupt the more traditional West German patterns of family formation.

Abortion

Abortion is one of the most contentious issues to emerge during the unification process. Until unification, the states in the former GDR usually allowed any woman an abortion within the first 12 weeks of pregnancy. Abortion law in the FRG is more restrictive: women seeking an abortion have to face a commission that decides the issue on the basis of certain medical and social indications. At the time of reunification, neither side was comfortable adopting the laws of the other.

Conceding the need to craft a law acceptable to the majority of both East and West Germans, the government has given the new parliament until 1992 to create the new legislation. Until new legislation is enacted, the present laws will be enforced in the respective territories. But unification has already expanded the availability of abortion: west German women may now go to eastern Germany for an abortion.

In the late 1980s, the number of registered abortions was about the same in East and West Germany, despite the large difference in population size. Annual registered abortions ranged between 80,000 and 90,000 in both countries. In 1989, the official rate was 371 abortions per 1,000 births in the former GDR and 110 in the FRG.[16] However, it is widely assumed that a large proportion of abortions in the FRG are never registered. Taking non-registered abortions into account, the abortion rates may be similar in the two Germanies.

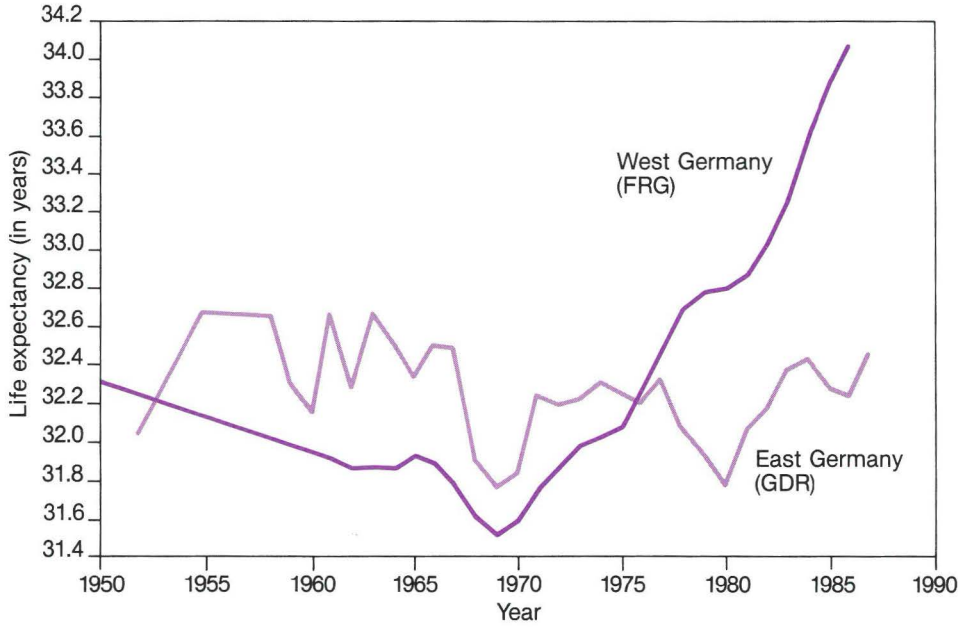
Gains in Life Expectancy

In the 45 years since the end of World War II, the average life expectancy in both parts of Germany increased remarkably, as it did in most European countries. After 1970, however, the rate of improvement in life expectancy slowed in East Germany, while it accelerated in the West. The German situation reflected a growing gap in mortality rates between eastern and western European countries.[17]

Average life expectancy rose further in West than in East Germany, and was higher for women than for men. Between 1950 and 1986, life expectancy at birth in the west increased by more than 7 years for men and by almost 10 years for women. In East Germany, it rose by 5.6 years for men and 7.5 years for women. The gap between East and West German life expectancies increased so much during this postwar period that by 1986 West German men lived 2.3 years longer than East German men and West German women lived an average 2.9 years longer.

Infant mortality is a sensitive indicator of a country's standard of living, especially the effectiveness of medical services. Immediately after World War II, the infant mortality rate was 26 percent higher in East than in West Germany: 131.4 infant deaths per 1,000 live births compared with 97.1 deaths per 1,000 births. Over the following 20 years, how-

Figure 7. Life Expectancy at Age 40, East and West German Men, 1950–1987



Source: (FRG) Statistisches Jahrbuch für die Bundesrepublik Deutschland (Stuttgart: Metzler-Poeschel) various issues; (GDR) Statistisches Jahrbuch der Deutschen Demokratischen Republik (Berlin: Staatsverlag der DDR) various issues.

ever, infant mortality in East Germany declined faster than, and for a short period during the early 1970s it even fell below, the West German rate. In 1989, however, just 8 of every 1,000 newborns died within their first year of life in both parts of Germany, putting Germany in a middle-range position among industrialized countries.

Most of the divergence in life expectancy arises from higher death rates among adults, particularly among men (see Figure 7) rather than differences in infant and childhood mortality. Much of this difference can be tied to specific causes of death in the two countries (see Table 3). In East Germany, accidents and diseases like diabetes and circulatory problems that can be ameliorated through diet, life style, or improved safety were dominant causes of death. Death rates from cancer were quite similar in both countries.

Diseases of the circulatory system, the major cause of death in both countries, claimed only two-thirds the proportion of West German as East German lives in 1988. The death rate from diabetes in the FRG was less than half the level in East Germany, probably reflecting the same diet and life style factors responsible for the lower mortality from circulatory disease. Accidental deaths (except from automobiles) were significantly lower in West Germany. Although deaths from accidents represent a small share of all deaths, they are concentrated in the younger ages, making the effect on potential years of life lost quite significant.

Table 3. Major Causes of Death in East and West Germany, 1988

Cause of death	Cause-specific death rates (deaths per 100,000 population)					
	East Germany			West Germany		
	Total	Males	Females	Total	Males	Females
Circulatory diseases	839.5	711.4	957.8	561.0	509.6	608.6
Cancer/Neoplasms	234.4	248.0	221.9	272.7	282.8	263.3
Respiratory diseases	79.5	96.7	63.6	65.0	77.8	53.1
Accidents	45.0	52.5	38.0	32.0	36.9	27.4
Diabetes mellitus	40.2	26.9	52.5	18.6	13.0	23.7

Standardized on 1987 FRG population

Source: Authors' calculations from published statistics.

Marriage and Divorce

Since 1972 West Germany has experienced not only a birth deficit, but also a "marriage deficit." Marriage dissolutions (by divorce, death of a spouse, or other reasons) have outnumbered weddings. In 1988, 398,000 West Germans got married, but 415,000 marriages were dissolved. Marriage dissolutions have outnumbered weddings in East Germany, too, for most of the 1970s and 1980s.

Although both Germanies experienced a marriage deficit, marriage patterns were quite different in the two countries. East Germans not only are more likely to marry than West Germans, but they do so at much younger ages. At age 25, East German men are two and a half times more likely to be married as West German men.

What caused this difference in marriage patterns? Have traditional family-oriented values persisted much longer in East Germany, or has marriage behavior been a reflection of social and economic conditions in both states?

One reason for higher nuptiality in the former German Democratic Republic could be its family-oriented social policy that rewards young couples who marry and have children.[18] The policy measures ranged from direct and indirect financial benefits and legal regulations (such as maternity leave) to the provision of housing and low-cost child care. Some of these incentives were so strong that one might call them "sanctions" against remaining single or childless. Housing was scarce in the GDR, and it was allotted by the government according to a preference system. Under East German laws, couples had the best chance to get a flat of their own if they were married and had a child.

Certain marriage credits were given only to those under age 26 (or age 30 after 1986), encouraging couples to marry young. There is statistical evidence that these government policies did influence marriage behavior in East Germany. Before these policies were implemented in 1972, marriage rates by age formed a smooth curve that peaked at age 21 for women and 24 for men. After that time, rates at age 25 shot up, especially for men, and then fell off dramatically at age 26 (see Figure 8), clearly reflecting the age limit for receiving the housing credit.

Children and Divorce

In both parts of Germany, divorces increased after the 1950s, especially during the early 1970s. Between 1977 and 1980, divorce rates in West Germany dropped precipitously to about one-third the previous level. This decline

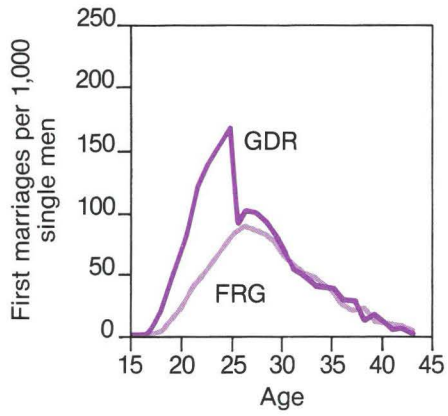
proved to be the temporary result of reforms of the divorce laws, rather than an embrace of marriage. The divorce rate rose back to previous levels during the 1980s.

Increasing divorce rates and a growing number of single-parent families in Germany have serious consequences for the living conditions of children. In West Germany, where over 90 percent of all births are still within marriages, an estimated one-half of the children already born will experience the divorce or separation of their parents. Most of these children will live with their mothers, either in a one-parent family* or within a new step-family.

In 1988 there were 6.9 million families with children under age 18 in West Germany.[19] Some 86 percent of children were living within a marriage, but not necessarily the one in which they were born. Children living in a single-parent family usually stay with their mother, but approximately 14 percent of single-parent families with children under age 18 were headed by men in 1988. In contrast, some 75 percent of U.S. children lived in a married-couple family in 1989.

*We use the term one-parent family to mean one adult living together with a child (or children). The adult usually is a parent of the child, but children may also live with other relatives such as a grandmother or aunt.

Figure 8. First Marriage Rates by Age, East and West German Men, 1985



Sources: Annual Statistical Yearbooks, East (GDR) and West (FRG) Germany.

Shrinking Household Size

As in the United States and other European countries, German households contain fewer and fewer people. Nearly two-thirds of the 27 million households enumerated in the annual West German micro-census in 1987 included only one or two persons.

At the beginning of the 20th century, households of only one person were rare in Germany. Between 1925 and 1950, however, the proportion of one-person households nearly tripled, from 7 to 19 percent. During the next 40 years the number of one-person households increased to 35 percent of all households in West Germany and to 27 percent of households in the former GDR. This tremendous increase resulted from two independent developments—the aging of the population and the delay (or rejection) of marriage among young adults.

Increasing life expectancy has created a rapidly-growing group of single households, especially among elderly women. According to a 1987 survey, there were 2.4 million individuals age 70 to 74 in West Germany (1.5 million women and 0.9 million men). Because women live longer than men, and because they tend to marry men several years older than themselves, women are much more likely to experience the death of a spouse. Only 34 percent of elderly women, but 81 percent of elderly men, lived together with their spouse in a household in 1987. Of all women age 70 to 74, 54 percent lived in a one-person household. As in the United States, the elderly appear to prefer to live independently rather than move in with children. Only 12 percent of women age 70 to 74 lived with their adult children.

Migration of Ethnic Germans

During the turbulent years of World War II, millions of Europeans were uprooted from their homes and forced to move to other countries. In Nazi Germany, massive relocations of residents were used as a strategic political device even before the war to implement the "Germanization of the East."

After the Nazi surrender in May 1945, control of the war-devastated country was divided among the four major victors: the United Kingdom, France, the United States, and the Soviet Union. At the Potsdam Conference later that year, these powers also changed the face of eastern Europe by transferring former German territory east of the Oder and Neisse Rivers to Poland and the Soviet Union; Czechoslovakia regained most of its area taken over by Nazi Germany; and Hungary reverted to its prewar boundaries.

Following the Potsdam Conference, millions of Germans were moved back to Germany from the former eastern territories. In the bitter postwar climate, all German-speaking residents were forcibly expelled from Czechoslovakia. The most massive relocation of Germans occurred after Poland and the Soviet Union gained control of the territory east of the Oder and Neisse Rivers. In 1946, the first German postwar census found that 9.7 million residents, about 16 percent of the total German population, had been moved out of this disputed territory after the war. Between 1946 and 1950, another 12 million Germans were forced to move west of the Oder and Neisse Rivers.

In addition to the massive influx of Germans from the former German territories, there were other significant movements into and out of Germany just after the war. Prisoners of war, displaced persons, and others migrated from Germany back to their home countries.

At the same time, there was a reshuffling of residents between the occupied zones of Germany. Negotiations to create a unified Germany had failed. The fundamental political and economic differences between the Soviet Union and the Western Allies were already being reflected in their respective zones. Political tensions were heightened and conflicts arose, not only between the superpowers, but between eastern and western parts of occupied Germany. Germans began to realize that, by virtue of where they lived, they were choosing one system over another. Movement across the border increased, and this migration stream, even when its aim was primarily reuniting families, assumed a political significance that continued until 1990.

In 1949, the German territory occupied by the Western Allies united to form the Federal Republic of Germany. One month later, the Soviet-occupied zone was proclaimed the German Democratic Republic. After the establishment of the FRG and GDR, the primary migratory movement flowed from the east to the west. Ethnic Germans and ex-patriots continued to enter West Germany from eastern and southern Europe.

Between 1950 and 1960, roughly 200,000 people each year left the GDR to re-settle in the FRG. These movements were illegal under East German law but they were easily accomplished because the borders were loosely controlled, especially in Berlin. Although slipping from East to West Germany was relatively easy, bringing along household effects was not. Many sacrificed all their personal property to move to the West.

Significant losses of population through migration to the West served to destablize the GDR. Migration ebbed and flowed as the East German system underwent various phases of its transformation to communism. Between 1950 and 1961, some 2.6 million people migrated from East to West Germany, a tremendous number considering that the total East German population was 17 million at that time.

In August 1961, the government of the GDR erected a concrete wall along the

Table 4. Immigration to West Germany, 1950–1989

Country	Population in thousands					
	1950–59	1960–69	1970–79	1980–88	1950–88	1989
Total	1,960	2,493	1,828	1,371	7,652	na
Germans	2,643	840	504	811	4,798	721
East Germany	2,203	618	149	204	3,174	344
Poland	292	111	203	382	988	250
USSR	14	9	57	78	157	98
Czechoslovakia	20	56	12	11	99	2
Romania	3	16	71	128	219	23
Other	110	30	12	8	160	4
Non-Germans	−683	1,653	1,324	561	2,855	na

Source: Bundesausgleichsamt, Aufnahmeverfahren, various issues.

line separating East and West Berlin. The wall was virtually impenetrable except at gates protected by vigilant military guards. It became nearly impossible to cross the border without official papers. The number of people migrating from East to West Germany decreased drastically (see Table 4). At the same time, however, moving across the border for "family reunification" became legal, providing a limited number of East Germans the opportunity to migrate legally. Between 1962 and 1988, 560,000 people moved from the GDR to the FRG, 68 percent with official papers.

By the mid-1980s, however, pressure to remove the strict limits on movement across the border had become overwhelming. The East-to-West flow increased again in reaction to internal political problems, agreements between the East and West German governments, and a new openness encouraged by reforms introduced by the Soviet Union's leader, Mikhail Gorbachev.

The most spectacular migration peak occurred in 1989, when 344,000 people, 2 percent of the East German population and 3 percent of the labor force, moved to West Germany. The exodus hit some sections of the economy especially hard, as discussed below. The steady outflow of people was a major factor in the political process that opened the Berlin Wall on November 9, 1989, and resulted in the dissolution of the German Democratic Republic on October 3, 1990.

Ethnic Germans from other parts of eastern and southeastern Europe also continued to flow into West Germany during the post-war years. Between 1950 and 1988, 2 million Germans immigrated to the Federal Republic from these countries, 60 percent of them from Poland. Coinciding with the movement from East to West Germany, a tremendous influx of German immigrants occurred in the second half of the 1980s. In 1989 alone, approximately 377,000 ethnic Germans arrived in the FRG from eastern and southeastern European countries other than the former GDR.

Non-German Residents

West Germany's economic strength and political system also attracted non-German immigrants and political refugees.

In sum, from 1950 to 1988, West Germany gained approximately 7.7 million residents through immigration, 38 percent of whom were of non-German ancestry (see Figure 9). Most were attracted by the chance of obtaining jobs at relatively good wages. The movement of guestworkers into East Germany, however, was minor until the 1980s, and the number of refugees enter-

Table 5. Foreign Workers in East and West Germany, 1989

Country of origin	Foreign workers (in thousands)
East Germany	
Poland	7.0
Vietnam	60.0
Mozambique	16.0
Angola	1.0
Cuba	9.0
China	1.0
North Korea	0.6
Total	94.6
West Germany	
European Community	497.3
Italy	178.9
Greece	101.7
Spain	61.6
France	41.3
UK	36.5
Other	77.3
Rest of Europe	1,023.4
Turkey	561.8
Yugoslavia	300.9
Austria	88.7
Poland	25.4
Czechoslovakia	11.6
Other	35.0
Africa	40.4
Americas	34.8
Asia	73.7
Other	19.7
Total	1,689.3

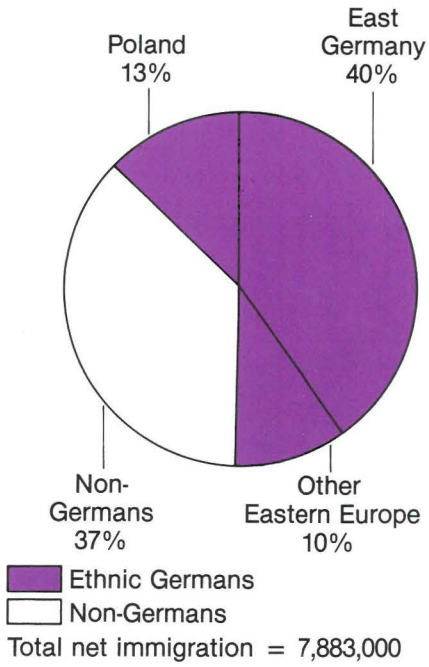
Source: Official published statistics.

ing East Germany was never significant.

The east-west migration of ethnic Germans and other Europeans was a consequence of the war, but the immigration of guestworkers was a prime example of a wealthy society attracting people from poor countries. The major sources of guestworkers for West Germany were Turkey, Yugoslavia, and Italy, while the socialist nations of Vietnam and Mozambique were the primary sources for foreign workers for East Germany (see Table 5).

The number of foreigners returning to their home countries has fluctuated with the economic or political climate. In the 1950s, there was a net outflow of almost 700,000 non-Germans from West Germany. In every subsequent decade, except for a few years in the mid-1970s and mid-1980s, there were substantial net inflows. The influx of guestworkers was greatest during the 1960s when some 1.7 million entered the FRG, partly to fill the gaps in the labor market created by the decline of immigrants from the east after the construction of the Berlin Wall. The number of guestworkers entering the FRG declined markedly during the 1980s, largely because the recession dampened the demand for their labor.

Figure 9. Origin of Immigrants to West Germany, 1950–1988



Sources: SeeTable 4.

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Non-German residents, like these Turkish women, are not readily assimilated into German society. Germany is officially a "non-immigration" country despite its 5 million foreign residents.

In 1989, some 5 million foreigners who were not of German descent resided in West Germany, accounting for nearly 8 percent of the total population. The foreign population, which includes the German-born children of immigrants, is much younger than the ethnic German population. About 25 percent were under age 18 and only 2.8 percent were over age 65, compared to only 18 percent of the German population under age 18 and 16 percent over age 65. The population of foreigners is growing through natural increase, another departure from German demographic patterns. In 1989, births exceeded deaths among this group by 71,000, while among Germans, deaths exceeded births by some 87,000. The young age structure and higher fertility among the foreign population means that it will continue to grow relative to the larger German base.[20] East Germany, in contrast, contained only about 190,000 foreigners on the eve of unification. Most were young males who were not expected to become permanent residents.

The ethnic and national origins of West Germany's foreign population have shifted since the height of the guest-worker movement in the 1960s. In 1970, Italians accounted for 20 percent, and Greeks 12 percent, of the foreigners, but many of these immigrants returned to their home countries during the sharp economic downturns in the early 1970s. Labor agreements with Turkey and Yugoslavia during the 1970s and 1980s brought thousands of labor migrants from these countries, many of whom eventually brought their families. In 1989, 33 percent of the non-German population was Turkish, 13 percent was Yugoslav, and 11 percent was Italian.[21] While the presence of large numbers of non-German-speaking foreigners (and

Box 3. Foreigners in Germany: Guestworkers or Citizens?

Importing foreign workers is nothing new to the Germans: a 1907 survey counted 800,000 foreign workers in Germany, about 1.5 percent of the total population. But the growing numbers of workers in Germany over the past three decades, nearly one-half from non-European countries, have given the issue of foreign labor a new significance in the postwar era.

The issue raises many sensitive questions. Should foreign workers receive the same rights and privileges as citizens? Should they be allowed to bring families, promoting the establishment of permanent communities? Are Germans ignoring the inevitable by pretending that guestworkers are temporary residents? One fact appears clear, however; the foreigners—with their different cultures, languages, and lifestyles—were not always welcomed by either the East or West Germans. As a well-known saying puts it: "Workers were expected, but human beings arrived."

Despite the related social problems, foreign workers are needed. Both East and West Germany have suffered serious labor shortages since World War II, although for somewhat different reasons. In the Federal Republic of Germany, a post-war economic boom, a veritable "economic miracle," created a high demand for labor. The supply of West Germans of working age had been decimated by heavy war casualties. The low wartime fertility meant that few Germans were entering working age during the 1960s and 1970s. Even the postwar baby boom did not produce a large enough pool of potential workers to satisfy the growing need for labor.

East Germany also suffered heavy war casualties and low post-war birth rates. But the labor force of East Germany was further depleted by the millions of young adults who emigrated to the West. Also, the centrally planned economy was highly inefficient, squandering the scarce human resources.

Both German states encouraged the immigration of workers from abroad, although the policies to achieve this differed sharply. In West Germany, policies regarding foreign laborers were discussed openly and often crafted by elected officials, although they were extremely controversial. In East Germany, the guestworker issue received little public attention until the end of the 1980s despite the presence of nearly 100,000 foreign workers, primarily Asians and Africans. Admitting the need to import labor was embarrassing to the East German government which had officially solved its labor shortage through "socialist rationalization." According to the government, these foreigners had come to take advantage of generous training opportunities. This was partially true initially, but foreigners increasingly were used to fill the growing gaps in the East German labor force. Some industries relied heavily on foreign workers during the 1980s: laborers from Mozambique worked in open lignite mines, Vietnamese were employed in textile industries, and Cubans and Angolans worked in automobile factories.

Foreigners in East Germany were governed by restrictive agreements. Only single individuals could come, no families. Women who became pregnant were sent home. Vietnamese workers were allowed a home country visit for only two months within a five-year period. Only a limited number of goods could be sent home, a severe restriction because their earnings in East German Marks were essentially worthless outside the country. Vietnamese workers, for instance, were allowed to take out only five bicycles, two mopeds, and

two sewing machines.

German unification has already altered the status of these foreign workers in East Germany. Hired to work in a now-defunct centrally planned economy through agreements with the former GDR, their legal position is tenuous. With growing unemployment within eastern Germany, many foreign workers have been dismissed before the termination of their contracts. About 10,000 to 12,000 foreign workers in East Germany intend to live there permanently, or at least for the present. Some have tried to gain refugee status and seek political asylum. The rest either have already returned or will return in the near future.

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A foreign worker assembles BMW automobile parts in a West German factory.

There has always been subtle discrimination against foreigners, but in the political and economic unrest leading up to unification, public resentment has become more open and virulent, particularly in East Germany. The absence of public information and discussion about the foreigners in the former GDR had fueled unfounded fears and misunderstandings. And, after unification, foreign workers suddenly became competitors for jobs sought by East Germans.

Aliens in West Germany occupy a precarious legal status that will extend to the foreigners in East Germany. There are numerous obstacles for obtaining citizenship or even permanent residency, and the regulations are likely to change further. In 1990, foreigners had to prove legal residence in West Germany for eight years before they were eligible for citizenship. They can be deported for a variety of reasons, their right to unemployment compensation is unevenly protected, and the rules governing the rights of workers' family members have fluctuated radically over the past four decades. Their children too often face failure in German schools.

Discrimination in housing, wages, and hiring has long plagued foreigners in West Germany. In some communities discrimination has been backed up by laws restricting the rights of non-Germans. Some political groups have worked to improve the lot of foreigners in recent decades through federal legislation, but economic uncertainty in the future could reverse some of these gains.

References

1. Peter O'Brien, "Continuity and Change in Germany's Treatment of Non-Germans," *International Migration Review* Vol. 22 (Fall 1988) pp. 109–134.

in the case of the Turks, non-Christians) has caused social and political problems for West Germans (see Box 3), it has also injected a cultural diversity that may revitalize the country.

The Unexpected Unification of Germany

To help understand the demography of a united Germany it is useful to recall how unification came about. The "New Superpower," as it has been termed in the media[22] did not emerge from ultra-nationalistic enthusiasm and greedy ambitions that characterized the dark chapters of Germany's past. While unification was born out of sheer economic necessity, a demographic phenomenon, migration, triggered it. In early 1989 the wall between the two German states, the foundation of artificial stability in East Germany, began to crumble. For the preceding two and a half decades, barbed wire, automatic weapons, and mine fields had kept East Germans from moving freely in their country. But in the late 1980s, Hungary started to tear down its "iron fence" with Austria, allowing easier border crossings between those two countries. A few hundred East Germans on vacation in Hungary seized this opportunity to flee to the West.

The news spread like a brushfire in East Germany. During August 1989, thousands of East Germans traveled to Hungary. From there some 5,000 a week illegally crossed the border to Austria while Hungarian border guards looked the other way. Tens of thousands more East Germans were on their way to Hungary. On September 10th, Hungary officially opened its border to Austria. During the following week, some 51,500 East Germans emigrated to the West. It was the largest single exodus since the building of the Berlin Wall in 1961. Thousands of Trabis, the legendary East German cars, crept into Austria, passed through Vienna and jammed the West-Autobahn highway into the south of Germany. A new smell filled the air, the exhaust of the Trabi's old fashioned two-stroke engines. People in Austria could *smell* the onset of German unification.

Public protest spread throughout East Germany beginning with mass demonstrations in Leipzig. Thousands protested against the regime in what were called "Monday demonstrations," and ever-increasing numbers left their homes and jobs and headed for Hungary. The East German economy began to feel the drain of labor.

Would-be emigrants crowded into West German embassies in Warsaw and Prague. When they finally were permitted safe passage to West Germany, it became clear that the East German government had lost authority over its citizens. On October 18th, Erich Honecker, secretary-general of the Communist Party and "strong man" of the GDR, resigned.

On November 9th, Honecker's successor, Egon Krenz opened the gates to the Berlin Wall and the entire world witnessed an outburst of jubilation. Thousands of Germans from East and West furiously attacked this inhuman structure, some with hammers and crowbars, others with their bare hands. Television reports showed the world pictures of East Germans squeezing themselves through holes they had knocked into the wall. Many were able to embrace their relatives for the first time. No one could misunderstand the meaning of this event. A people had won a basic human right: the freedom to move.

The bold decision of Krenz seemed to stabilize the regime for a while. But it was the calm before the storm. During the next few weeks millions of Germans visited relatives in the West and learned that life outside the GDR was different from what they had been told by their government. Many East Germans felt betrayed. Television shots of ostentatious wealth accumulated by party leaders and a succession of revelations about the unsavory methods of the East

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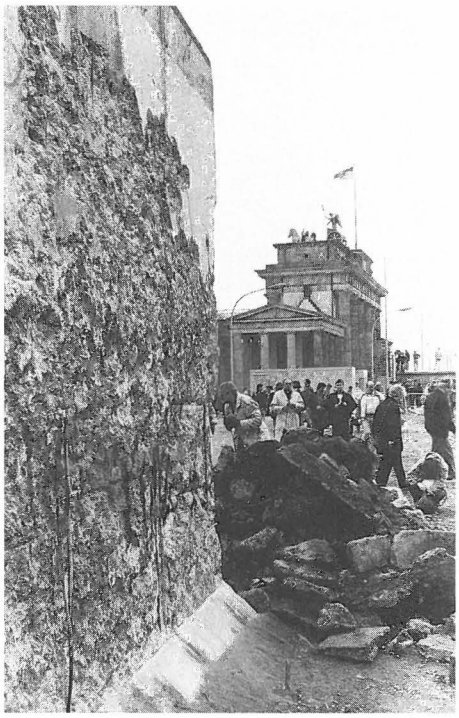


The Wall separating East and West Berlin is destroyed, 28 years after its construction.

German secret police (the STASI), further eroded their loyalty. They demanded true democracy and a better standard of living. And, from within the masses now marching in Leipzig every Monday some groups chanted the slogan "*Wir sind das Volk*" (We are the people), which soon evolved to "*Wir sind ein Volk*" (We are one people).

On December 3, 1989, Hans Modrow took over as prime minister and announced free elections for May 1990. Modrow struggled to save the country from a complete economic breakdown. But too many people had already given up. Between October and December 1989, some 350,000 East Germans migrated to the West. During the first two months of 1990 another 120,000 fled from the GDR.

The 1989 emigration alone cost the East German labor force about 250,000 employees, roughly 3 percent of the total. Some branches of the economy suffered serious labor losses. The building trades lost some 5,000 workers, about 8 to 9 percent of their work force. Some 7,000 health care workers, including an estimated 11 percent of East Germany's physicians, left for the West. Some East German hospitals were forced to close when complete medical teams left for the West.

In some areas of the GDR, the very infrastructure seemed on the verge of collapse. This ever-growing stream of emigrants finally shattered the economy of the GDR, discredited the communist regime beyond saving, and, in the end, made German unification the only alternative. At the end of November 1989, in a bold move, West German Chancellor Kohl announced a 10-point plan for German unification. It came as a complete surprise both to the Western Allies and the political opposition.

Suddenly, everyone in the GDR talked about unification. According to a survey by the Leipzig Central Institute for Youth Research, 52 percent of East Germans were against unification in November 1989; four months later, 88 percent favored it. German unity became the central question in the campaign for the first free election in East Germany, held on March 18th. The election was won by a conservative alliance under Lothar de Maizière.

De Maizière soon realized that his role in history was to be the executor of the dismantling of the German Democratic Republic. The GDR chose to join the FRG in accordance with Article 13 of the West German constitution, effective October 3, 1990. Under these terms, the former East German territory was reorganized into five new federal states *(Länder)*. As the former West German Chancellor Brandt said: "What belongs together is growing together."

The Demographic Future

Just as we often rewrite the past, we usually dramatize the future. Perhaps drama is appropriate considering the sometimes whimsical nature of human behavior. In contrast to the physical world, which is governed by natural laws, humans have the freedom to change their behavior. Both individuals and social groups can act in unpredictable ways. The unification of Germany is a case in point. No one could have foreseen how swiftly German unification would take place.

Because the future is unknown, our fears and hopes have always influenced our predictions. Demographers are not immune from exaggerating the implications of certain trends. During the early 1960s, German demographers predicted tremendous population growth, based on the "optimistic" (but incorrect) assumption that the baby boom signaled a reversal in the long-term fertility decline. Some 15 years later, when fertility had dropped to the world record low level of 1.27 children per women, conventional wisdom held that fertility would remain low. Scientific papers began to discuss the eradication of the German population because of the enormous birth deficit. Today, the wind is changing again. Some demographers point to the small increases in the total fertility rate during the past few years as indicative of a fundamental change in reproductive behavior.

Since the days of the German demographer and theologian Johann Gottlieb Süssmilch (1707–1767), demographers and social scientists have tried to understand what controls reproductive behavior. In Germany today, one popular approach to the study of why individuals do or do not have children (as well as when they have them) links these decisions to key events in the life cycle. Within the theoretical framework of this "biographical approach," the time spent in the educational system, the stage of a professional career, the kind of living arrangement, and the type of relationship individuals choose are recognized micro-level determinants of individuals' reproductive behavior.[23] They are influenced, in turn, by social, economic and political conditions. The concentration of births at the younger ages and the higher overall fertility in the former GDR provide clear evidence that decisions about childbearing are affected by policy measures and economic conditions. But despite these bits and pieces of evidence, we are far from developing a universally accepted theory of human reproduction.

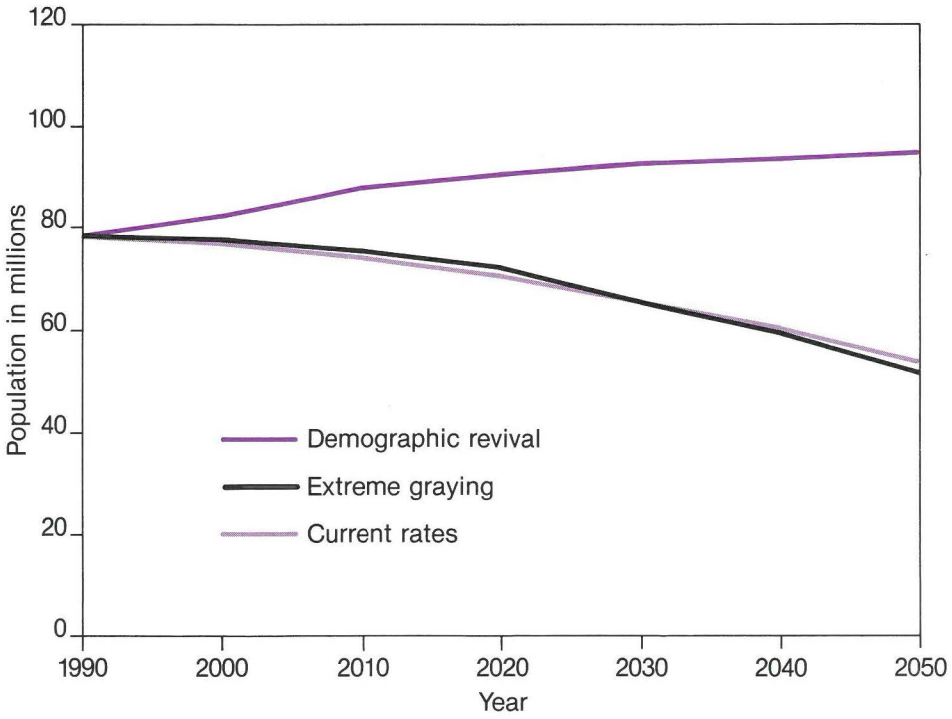
Three Scenarios

In the face of these theoretical deficiencies, our study of future demographic trends in Germany should be based on scenarios of what could occur. We describe three sets of assumptions about the future trends of fertility, mortality, and migration among the combined populations of the former GDR and the FRG. Each set represents a possible path for demographic development; the reader may decide the likelihood of each scenario. Three scenarios, which encompass the range of likely behavior, are outlined below.

1. Continuation of Current Trends
The first scenario assumes that the current fertility and mortality rates in West Germany will apply to the unified Germany until 2050. It provides a base-line projection series, the "no change" hypothesis. It also assumes a constant net in-migration of 80,000 persons a year. Life expectancy is assumed to increase, following the trends of other western societies. To simplify the model, the possible long-term mortality effects of World Wars I and II have not been considered.[24]

2. Extreme Graying
Imagine a society of wealthy and healthy elderly that has totally closed its country

Figure 10. Population Projections under Three Scenarios, United Germany, 1990–2050



Source: Authors projections.

to in-migration. This hypothetical society would be characterized by extreme individualism, social egoism, and a preoccupation with health. Families with children would be rare. Single-person households would be widespread.

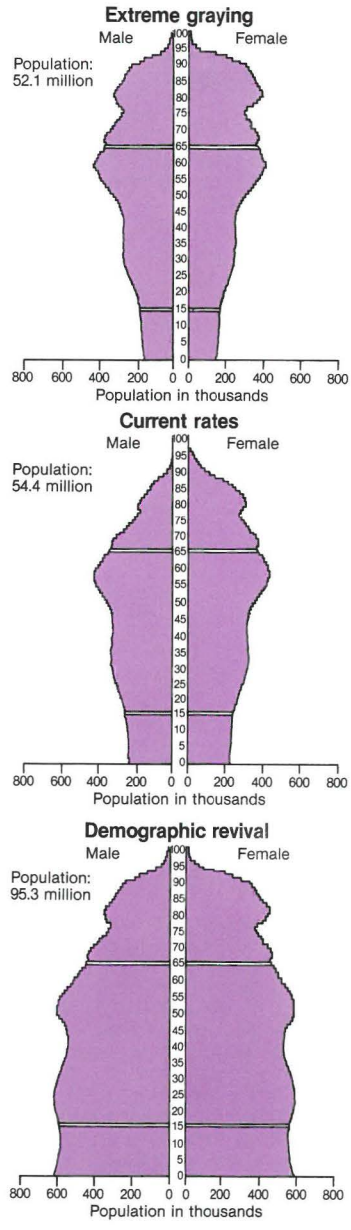
A standard cohort-component model was used to project the 1988 population of Germany (FRG plus GDR) at current rates to 1990. The assumptions of fertility, migration, and mortality of the above scenarios were then applied up to the year 2050.[25] West Germany's *age patterns* of fertility, mortality, and immigration were used. It was assumed that the rather different age pattern of East German fertility will adapt to the age pattern in West Germany. The *levels* of fertility, mortality and immigration were, of course, adjusted according to the various scenarios. Mortality rates were based on the 1985–1987 abbreviated life table of West Germany and weighted to comply with the life expectancy of the different scenarios. All input data were available for single years of age.

Under this scenario, the TFR would drop continuously between 1990 and 2000, leveling off at 1.27; life expectancy would increase to 80 years for men and 85 years for women (between 1990 and 2005), and net in-migration would be zero. These assumptions are not far-fetched. West German fertility dropped to 1.27 in 1985, although it has since risen slightly. The assumed increase in life expectancy to 2005 is equal to the improvement experienced between 1975 and 1990. Only the assumption of zero in-migration has no recent historical precedent and is unlikely given the easing of border restrictions within the 12 European Community nations. But it is not impossible, if one imagines growing hostility toward foreigners in Germany.

3. Demographic Revival
Suppose young Germans rediscover the value of children and all Germans adopt a tolerant attitude toward foreigners, adjusting to an influx of vast numbers of immigrants. This society not only would be more open, but would also radiate confidence about its future. In demographic terms fertility would increase to a replacement level TFR of 2.1 by the year 2000. Life expectancy would increase to 80 for men and 85 for women, as in the Graying scenario. Immigration would soar to 300,000 persons per year between 1990 and 2020 and then remain constant at 200,000 annually. This scenario appears unlikely but is not impossible. During the last few years, fertility in West Germany has increased. If this trend accelerates, Germany could reach the current fertility level of Sweden, which had a TFR of 2.1 in 1988. The heavy immigration flow could result from the new situation in eastern Europe and the Soviet Union, where millions of people are likely to leave their home countries to escape a worsening economic situation. A prosperous Germany will most likely be a major destination.

Future Population Size. In two of our three scenarios, the future population of the united Germany could well shrink below that of the Federal Republic of Germany *before* unification (see Figure 10). The first two scenarios yield a projected population of less than 60 million after the year 2040. According to our "Extreme Graying" scenario, Germany would contain a mere 52 million persons in 2050, less than the present population of France, Italy, or the United Kingdom. In neither the first nor second scenarios will Germany become a population giant. On the other hand, the "Demographic Revival" scenario projects a population size of 95 million in 2050. To achieve this growth, nothing less than a revolution in reproductive behavior would be necessary; and Germany would need massive immigration.

Figure 11. Projected Age and Sex Population Structure in 2050, Three Scenarios



Source: Author's projections.

There appears to be no escape from natural population decline in Germany. Even in the third scenario, which assumed enormous immigration, high fertility, and low mortality, deaths will begin to exceed births after the year 2030. The population will continue to grow only through immigration.

Births, Deaths and Natural Increase. There were some 900,000 births per year in the united Germany in the late 1980s. This number could drop as low as 305,000 by 2050, or rise as high as 1.2 million, according to the different scenarios. If fertility remains as low as it was in 1985 in West Germany, and if, at the same time, Germany closes its borders to immigrants, the birth of a child would be a rare event in the middle of the next century.

The annual number of deaths varies only slightly according to the three scenarios. The substantial increase in life expectancy assumed under the "Extreme Graying" scenario would reduce the number of deaths for the next two or three decades. But this would be temporary since only the timing of deaths is changed, not their total number. Only in the "Demographic Revival" scenario will the annual number of deaths be 300,000 higher than at present because the adult population would increase substantially by immigration.

Aging. Regardless of the scenario, the projections show a substantial aging of the population. In the "Demographic Revival" scenario, the proportion of elderly age 65 and above will increase from some 15 percent in 1990 to about 25 percent of the population in 2035; in the "Extreme Graying" scenario the elderly will make up more than a third of the German population (see Figure 11). Consequently, the proportion of working-age Germans (15 to 64) will shrink from 68 percent to some 60 percent in the Revival scenario and to 55 percent under the Graying scenario.

These projections also confirm what experts have been telling the German public for the last two decades: there is no way to stop the aging of the German population through a new baby boom. Even if we assume a sharp increase of fertility to an average of 2.1 children per woman (as in the "Demographic Revival" scenario) the proportion of children under age 15 in the population would increase only by 1 or 2 percent. Even in that case there would be more elderly over age 64 than children under age 15.

Hard Choices Ahead

The decade of the 1990s will pose difficult social, economic, and political problems for the newly united Germany. While internal demographic factors will shape the size and composition of the German population, external forces, such as ethnic and economic strife in the Soviet Union, Eastern Europe, and around the world, will shape the global context and concerns of German policy makers. Difficult choices lie ahead in addressing Germany's dilemmas of avoiding—or at least managing—a population decline, serving an increasingly older population, and balancing social and economic demands within a more multi-cultural Germany and an emerging European Community.

Prospects for Population Growth

Two key factors will determine Germany's demographic future: immigration and fertility. Both are politically sensitive subjects. Public opinion is sharply polarized on the question of immigration. During the past few decades the West German government has been officially a "non-immigration country," despite the fact that hundreds of thousands of foreign guestworkers and Germans from eastern Europe have settled in West Germany. We cannot predict the future, but it is possible that the united Germany will possess enough confidence and

international openness to permit higher immigration. As a member of the European Community (EC), Germany already has relaxed immigration restrictions for people from other EC countries. But immigration alone, which is mainly from non-EC countries, could hardly counterbalance the large birth deficit of the Germans, as shown in the projections.

Immigrants enter a country imbued with their own marriage and fertility patterns. Massive immigration can affect overall fertility rates, particularly in local areas. Immigrants settling in Germany, however, have tended to adapt to the low German fertility level. A steady influx of large numbers of foreigners would be necessary to raise national fertility enough to stop population decline.

A growing number of immigrants could trigger old fears, perhaps racist incidents, which in turn could motivate politicians to restrict immigration again.

Besides immigration, only a substantial increase in fertility could stop the decline of the German population. But this, again, is a sensitive subject. There is fundamental disagreement among both demographers and politicians on how this could be achieved. The excessive and racist policies of the Nazis discredited explicit population policies in the minds of Germans. Accordingly politicians have shied away from any kind of explicitly formulated population policy. Unlike France, where pronatalism is an accepted policy option, most German politicians take a somewhat restrained approach, giving the issue a low priority.

The prospects of increasing fertility among Germans are dim in any case. The current TFR in West Germany is about 35 percent below the replacement level. Even with the addition of the East Germans with their higher birth rates, the TFR of the united Germany will be around 1.5, still well below replacement level of 2.1. There are widespread doubts that policy measures alone could raise fertility to the replacement level.

It is hard to imagine what policy measures could significantly change the reproductive behavior of Germans living in a liberal market economy. Some demographers have argued that the costs of children in Germany are too high. The taxation system, for instance, could be changed to favor families; more child-care centers and kindergartens for working mothers could be provided. Sweden has invested heavily in an improved support system for couples with children and Swedish fertility has gone up as a result. Swedes, however, have always been more family-oriented than central Europeans.

Some experts are skeptical that better services or financial incentives could motivate young Germans to have more children. The benefits, so they argue, might well trigger a short-term increase

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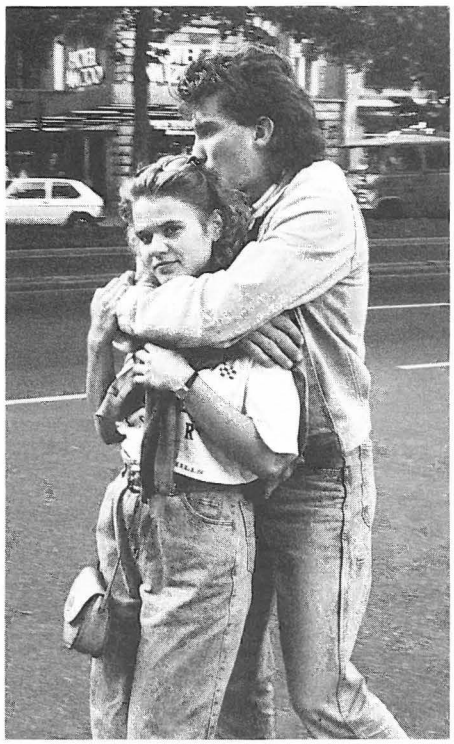

With individualism so highly valued, it's hard to imagine policies that would entice more Germans into parenthood.

of births, but would hardly increase fertility over the long term. The recent rise in Swedish fertility, for example, may prove to be temporary.

Many social scientists are convinced that the low German fertility is just one facet of a deep cultural change underway since the 1960s. The rejection of traditional sex roles in some segments of the population, the rise of a women's liberation movement, or the growing preference for remaining single are seen as symptoms of an emerging antinatalistic culture. Yet the percentage of women in the labor force is lower in western Germany than in most other northern European countries, an apparent anomaly.

There are other factors that help explain the low fertility. There are few other countries in the world where the young spend more years in the educational system than in Germany. Most university students are almost 30 before they start a professional career and settle down. Recently, the German demographer Karl Schwarz estimated that most children do not leave their parents' household before age 25.[26] Social scientists have used the phrase "delayed adulthood" to describe this unusual situation. This postponement of independence creates a time dilemma for many young German women: at the ages when they would otherwise be starting a family they are busy starting a career.

Economic factors are often seen as key determinants of Germany's demographic future. If one assumes that children are an investment in the future, Germans can hardly be called daring entrepreneurs. A large section of the adult population has refrained from parenthood altogether, and those who have invested in the next generation have only bought one or two shares.

Choosing to have children also means accepting added financial burdens that non-parents do not have to pay, putting parents at a relative disadvantage. The costs of children are largely borne by the parents, although the eventual economic benefits are enjoyed by the total society. Men and women who refrain from parenthood still expect the next generation to pay for their pensions and maintain a healthy infrastructure. The issues of burden-sharing between parents and non-parents are gaining importance in all low-fertility countries.

Though the economy is booming and the standard of living is rising, many young Germans worry about the future. They seem to be afraid of sharing their wealth with the next generation and with those who immigrate to the country.

Some have argued that worries about the future might be a key reason behind the very low fertility in Germany. It is more likely that both low fertility and pessimism about the future are caused by a specific German attitude toward life: a combination of ever-rising aspirations and decreasing willingness to make long-term commitments. In one of the world's wealthiest countries, couples complain that they cannot afford to have children. Fancy cars, big houses, holidays in distant countries, and a professional career have become more important to many Germans than children or a long-term partnership. The ambitious ideals of modern society—consumption, competition, and success—have often repressed the modest hopes for private happiness within a family or a marriage. If this is true, nothing less than a revolution in cultural attitudes would be necessary to change the low level of fertility in Germany and to stop its natural decrease.

Aging: A Looming Problem

A hundred years ago only some 32 percent of newborn boys survived to age 60. In the 1990s, more than 83 percent will celebrate their 60th birthday, and about one-third will live to age 80. Among baby girls, the proportion surviving to age 60 was 39 percent in 1881–1890 compared to 91 percent in the mid-1980s. More than half the female babies born today will reach age 80. In

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A member of Germany's growing elderly population demands: "Human rights for the elderly."

1881, a woman of 80 had another 4.2 years to live; in 1985, she could expect to live another 7.5 years.

This decline in mortality, combined with low fertility, has caused the elderly to increase more rapidly than any other population group, both in absolute and relative terms. Between 1871 and 1939 the number of Germans aged 65 or older increased from 1.9 to 6.3 million or from 4.6 to 7.9 percent of the population. After 1950, the graying of the German population accelerated. In 1946, 9 percent of the population was age 65 or older. By 1987, 15 percent was age 65 or over.

The increase in the "very old" is even more remarkable. During the 1870s, just 0.4 percent of the population in the German Reich was age 80 and above. Their proportion slowly increased to 0.8 percent in 1939. Since then, the full effects of the declines in fertility and mortality have become visible: between 1946 and 1987 the number of very old Germans in the two Germanies combined increased from 562,000 to 2.7 million, or from 0.9 to 3.4 percent of the population. In 1946, there were roughly 10 children under age 6 for each person age 80 and above. In 1987 the ratio was about two to one.

The changing balance between the young and the old has caused great concern among social scientists and politicians in Germany. The economic effects of population aging, especially the implications for financing the public pension system, have been a major focus of the discussion.[27] But there is also a growing awareness of health problems related to the graying of society. Because more Germans reach advanced ages, the prevalence of diseases associated with old age has exploded. Germans live much longer than in the past, yet often they cannot enjoy their old age in good health. In 1986, one-third of all men age 75 or more and 38 percent of all women age 75 or more in the FRG were ill or suffered from injuries caused by accidents.[28] Between 1970 and 1987, health-related expenditures in West Germany quadrupled, from 70.6 to 260.9 billion marks (DM), largely because of the changing age composition of the population.

Traditionally, when old people become unable to take care of themselves, daughters or other family members have provided the care. But many Germans who will be entering advanced ages early in the next century never had children. In fact, a disproportionate number of the baby-boom generation (born between the late 1950s and late 1960s) probably will never marry. They were the first generation to grow up with the extremely low marriage and fertility rates that Germany has experienced since the 1970s. These graying singles could suffer severe social as well as health problems because they lack a family support network to provide care and companionship. After 2030, the elderly will outnumber young adults, and elderly singles will become a large social group.[29] Care of the elderly probably will fall more and more on the government, boosting health and social service costs even further.

Box 4. World Champion Worriers

"Even on the brink of unity the Germans remain world champion worriers. From their moaning and snarling over details, you might be misled into thinking they would prefer to stay divided."[1]

When the Germans celebrated their unification on October 3, 1990, most observers were a little disappointed. They had expected a joyous demonstration of national pride. But the masses on the streets of Berlin and elsewhere in Germany were obviously more interested in enjoying the day with *Würstel and Bier* and popular music than by chanting political slogans.

A little story might reveal how German officials treated the historic event. On October 3, the "Permanent Mission of the Federal Republic of Germany to the International Organizations in Vienna" gave a reception to celebrate the unification. The Germans at our institute, the International Institute for Applied Systems Analysis, were invited also. Remembering the excellent buffets we had enjoyed at the German mission in the past, we expected something special. We were sorely disappointed. There was no speech and only a few refreshments for the 80-odd people who attended. Everyone understood the message: "Business as usual."

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October 3, 1990—Huge crowds celebrate German Unification Day in front of the Brandenberg Gate, Berlin.

The restrained, businesslike approach to unification reflects the worries of many West Germans that life might become more difficult in the united country. Three issues account for most of their uneasiness. First, the unification will almost certainly cost much more than expected. Second, the world might ask a sovereign Germany to show more responsibility for international affairs, including military participation. Until recently the West Germans could hide behind their constitution, which strictly forbade them any military action outside the NATO, but this is likely to change. Third, everyone expects that the united Germany will support the process of European integration most vigorously in order to prove its support to this cause. This means, however, that more money and a significant part of the new sovereignty have to be given to the European Community. And it also would mean that the Germans have to give up their strong mark for a new Euro-Currency.

Many Germans are aware that their wealth relies on an open and friendly world. The export-driven industry heavily depends on free trade, international peace and collaboration. But the united Germany will find it more difficult to avoid the traps of international affairs.

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Germany and Europe

Many Europeans, and quite a few Germans too, dread the new united Germany. Their anxiety is somewhat ironic. For decades the Western democracies backed West Germany's constitutional claim for "unification in freedom and liberty." When it became obvious that unification was about to come, however, many felt uneasy about the prospects. Even West Germans were caught short. They had enthusiastically applauded the democratic movement in the GDR, but when they suddenly realized that the East German slogans for unity were serious, many West Germans shied away from the consequences.

Many Germans are aware that their neighbors are uneasy about unification. It is, of course, not the *demographic* dominance that makes outsiders shiver, but the *economic power* of a united Germany. The West German government does everything possible to stress that unification will not weaken its enthusiasm for European integration. They seriously want to see Germany embedded in the emerging European Community.*

Integration into the European Community is not the only factor that will counterbalance Germany's economic dominance. The country has accepted responsibility for the hopelessly inefficient economy, tattered infrastructure, and dreadfully polluted environment of East Germany. This hardly strengthens the economic muscle of Germany. According to the most recent estimates of the Deutsche Bank, the former GDR will add just 14 percent to the GNP of the Federal Republic, while it probably will add 1.5 million unemployed. Germany will need an estimated DM 100 billion a year (US$ 61 billion) or more for the next few years to rebuild the ruined East German infrastructure. In addition, Germany has agreed to pay some DM 18 billion (US$ 11 billion) to the Soviet Union to underwrite the withdrawal of its troops from East German territory, and to reward Hungary for opening its border to East German tourists—an act that triggered unification. In any case, unification will pose tremendous economic and social problems for the Germans, destroying any delusions of grandeur.

The waves of immigration that led to the rejoining of East and West Germany are also likely to play an important role in Germany's future. In 1989, 845,000 persons immigrated to West Germany—a record high, and nearly 250,000 more than the number who entered the United States that same year. In relation to overall population size, immigration to West Germany was the highest in all of Europe and almost four times higher than immigration to the United States. The anticipated opening of borders of EC members in 1992, along with continued social and economic turmoil in the Soviet Union and Eastern Europe, is likely to add to these flows.

Germany is likely to become a multicultural society faced with the enormous task of providing housing, jobs, language training, and education to its new residents. While expectations of improved living standards run high among recent immigrants and many former East German citizens, recent economic forecasts project severe housing shortages and rising unemployment in the near term. Overcoming such problems is likely to test the vibrancy of the German state and ultimately will shape the future of a united Europe.

*In 1985, the 10 nations of the European Community (Germany, Belgium, Denmark, France, Greece, the United Kingdom, Ireland, Italy, Luxemburg, and the Netherlands) agreed to support the "political and economic union" of Europe. To this end, they plan to create a common currency for all EC members (which now include Spain and Portugal) by the end of 1992. France and Germany also favor speeding up the political union of EC members. But the net result of these changes will be a loss of national sovereignty for all member countries.[30]

M. Herr

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Discussion Points

1. Describe the social, political, and economic events that have shaped Germany's age and sex distribution, as presented in the population pyramid on page 8. Explain the role each of these events has played in shaping fertility, mortality, or migration.

2. Explain, in detail, how Germany's demographic transition differed from that of other developed nations. What triggered the German transition?

3. Compare the post-World War II baby boom in both Germanies. How did the German baby boom compare to that of the United States?

4. How did government policies affect the timing of marriage and births in East Germany during the past two decades?

5. Consider how unification might change fertility and marriage patterns in Germany.

6. Explain the differences in life expectancy in East and West Germany prior to unification. Speculate on the prospects for change.

7. Compare the proportion of elderly in Germany to the United States, Japan, and Mexico. What special challenges does Germany face?

8. Describe the role that immigration and emigration have played in German history. How might this change in the future?

9. The authors present three scenarios for future demographic change in Germany. Which of the three do you think is likely? Defend your choice.

Prepared by Kimberly A. Crews

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