



1974

World Population Year

**THE POPULATION
OF THE
FEDERAL REPUBLIC
OF
GERMANY**

C.I.C.R.E.D. Series

The Population of the Federal Republic of Germany

A World Population Year Monograph

Preamble

On the occasion of the World Population Year and the World Population Conference, the United Nations have suggested the publication of monographs presenting past population development and future trends in the various countries. The Committee for International Coordination of National Research in Demography (CICRED) has assumed the responsibility of coordinating these national population monographs.

The Federal Minister of the Interior has commissioned the Federal Institute for Population Research to produce such a monograph. The present monograph covers the population development in the period from 1950 to the present as well as projected trends to the year 2000. Presentation follows the outline suggested by the CICRED, with a few additional sections important to an appreciation of population questions in the Federal Republic of Germany.

The Federal Republic of Germany is one of the few countries in the world in which population growth has come to a standstill in recent times, with indications of a gradual population decline. This development and its associated alteration in demographic structure have the character of a new pattern in population history, which may prove of particular interest to many other countries.

The monograph was prepared under the direction of Dr. Schubnell in the Federal Institute for Population Research. The individual chapters were prepared by Mr. Mamme (Chapters 1, 2, 4 and Appendix), Dr. Lengsfeld (Chapter 3), Mr. Tegtmeyer (Chapter 5), Dr. Rueckert (Chapter 6) and Dr. Schubnell (Chapter 7).

Table of Contents

1. Population Development in the Federal Republic of Germany . . .	11
1.1. General Survey	11
1.2. Population Growth from 1950 to 1961	11
1.3. Population Growth from 1961 to 1972	12
2. The Components of Population Growth	14
2.1. Birth Trends.	14
2.1.1. Number of Births and Birth Rates	14
2.1.2. General and Specific Fertility Rates	14
2.1.3. Effect of Aliens on the Birth Trend	17
2.1.4. Demographic and Social Impacts on the Number of Births	18
2.1.4.1. Shifts in the Sex Ratio	18
2.1.4.2. Shifts in the Age Structure of the Population	19
2.1.4.3. Interrelations between Birth Trend, Age of Mothers, and Number of Children.	19
2.1.4.3.1. Age-Specific Fertility	19
2.1.4.3.2. Live Births by Order of Birth	21
2.1.5. The Impact of the Gainful Activity of Women on the Number of Children	22
2.1.6. The Effect of Contraceptive Methods and Devices.	23
2.2. Mortality Trends	24
2.2.1. The General Death Rate	24
2.2.2. Development of Age- and Sex-Specific Probabilities of Death	25
2.2.3. Changes in the Average Life Expectation	27
2.3. Migration across Federal Borders	28
2.3.1. General Survey	28
2.3.2. External Migration from 1950 to 1961	29
2.3.3. External Migration from 1962 to 1972	31
2.3.3.1. Intergovernmental Agreements Relating to the Employ- ment of Alien Workers	31
2.3.3.2. The Volume of External Migration up to 1972	32
3. Population Composition in the Federal Republic of Germany . . .	33
3.1. Sex and Age Structure of the Population	33
3.2. Development of Major Age Groups and Dependency Ratios 1950 to 1972	35
3.2.1. Pre-School Age Population (0 to less than 6 years)	36
3.2.2. Children of School Age and Youth Undergoing Advanced Edu- cation (6 to less than 15 years and 15 to less than 20 years)	37
3.2.3. Women of Childbearing Age (15 to less than 45 years)	37

3.2.4. The Population of Working Age (15 to less than 60/65 years)	38
3.2.5. The Old Population	39
3.3. Marital Status	40
3.4. Private Households and Families	41
3.5. Education	43
3.6. Further Population Characteristics	44
3.6.1. Religious Denomination	44
3.6.2. Refugees and Expellees	45
3.6.3. Nationality	45
4. Population Distribution and Domestic Migrations	47
4.1. Geographic Distribution of the Population	47
4.1.1. Population Distribution by Size Classes of Communes	47
4.1.2. Population Density of the Federal States	48
4.1.3. Population Distribution in Urban and Rural Regions	49
4.1.4. Population in the Big Cities	52
4.2. Agricultural and Non-Agricultural Population	53
4.3. Domestic Migrations	54
4.3.1. Migrations between the Federal States	54
4.3.2. North-to-South Migration in the Federal Republic	55
4.3.3. The Intraregional Migrations	55
5. Structure of the Economically Active Population	57
5.1. Age and Sex of Economically Active Persons	57
5.2. Economically Active Persons by Economic Sector and Occupational Status	61
5.3. Persons according to Employment Status	68
5.4. Population according to Source of Livelihood	69
5.5. Economically Active Persons by Income Classes	71
5.6. Alien Workers	72
6. Population Projections	79
6.1. Introduction	79
6.2. Assumptions of Population Projections	79
6.2.1. Basic Population	79
6.2.2. Mortality	79
6.2.3. Birth Rate	79
6.3. Results of the Population Projection	80
6.3.1. Development of Total Population	80
6.3.2. Development of the Major Population Groups	80
6.4. Projected Development of the Number of Households	84
6.5. Determinants of Regional Population Development	85

7. Economic and Social Implications of Population Development— Population Policy	86
7.1. Introduction	86
7.2. Economic Development, in the Light of the Trend in Gross National Product and Gross Domestic Product	87
7.3. Social Development	88
7.3.1. Review of the Social Budget	88
7.3.2. Working Hours and Leave	90
7.3.3. Social Security and Family Allowance Benefits	90
7.3.4. Health Services and Nutrition	92
7.3.5. Housing Conditions.	95
7.4. Probable Medium-Term and Long-Term Economic and Social De- velopments	97
7.5. Ecological Consequences to Be Drawn from Long-Term Demographic and Economic Projections	98
7.6. Population Policy as Element of Social and Economic Policy	98
7.6.1. General Remarks	98
7.6.2. Family Planning Programmes	99
7.6.3. Policy and Measures Affecting Internal Migration.	99
7.6.4. Policy and Measures Affecting the Employment of Aliens	99
7.6.5. Population Policy Objectives	100

Appendix

Brief Outline of Data Collection for Demographic Statistics

1. Territory and Population	101
1.1. Population Census	101
1.2. Microcensus	101
2. Population Development and the Updating of Population Figures	102
2.1. Statistics on Natural Population Growth	102
2.2. Migration Statistics	102
3. Schooling and Education	103
3.1. School Statistics	103
3.2. University Statistics	103
4. Employment	103
4.1. Census	103
4.2. Microcensus	103
4.3. Labour Market Statistics	105
5. The System of Statistical Observation	105
Bibliography	106

List of Tables

Table		Page
1	Marriages, births, deaths, 1950—1973	15
2	General and marital fertility rates, 1950—1971	16
3	Live births and deaths of aliens in the Federal Republic of Germany, 1960—1973	17
4	Live births of aliens in the Federal Republic of Germany as percentage of all live births and birth surplus, 1960—1973	17
5	Births and birth surplus in the Federal Republic of Germany, 1960—1973	18
6	Legitimate live births by order of birth, 1954—1972	20
7	Labour force participation rates of married women by selected age groups, 1961—1971	22
8	Birth and death rates, 1950—1972	25
9	Probability of death (multiplied by 1,000) by selected age groups 1949/51 and 1969/71 from age X to age X+1 according to the abridged life tables	26
10	Average life expectation in years at age X by selected age groups 1949/51 and 1969/71 according to the abridged life tables	28
11	Contribution of birth surplus and migration surplus to population growth, 1950—1970	29
12	Age-specific sex ratios, 1950—1972	35
13	Development of major age groups and dependency ratios, 1950—1972	36
14	Age-specific labour force participation rates of women in childbearing ages (15 to less than 45 years), 1950, 1961 and 1970	38
15	Percentage of aged in the resident population, 1950—1972	39
16	Selected age groups of the resident population by type of household, 1972	39
17	Resident population by marital status, 1950—1972	40
18	Private households by household size, 1950—1972	41
19	Families by number of unmarried children, 1957—1972	42
20	Persons by highest level of education achieved by 1970	43
21	Enrolment rates at different levels of education, 1961—1970	44
22	Resident population by religious denomination, 1950—1970	45
23	Aliens by selected nationalities, 1967—1973	46
24	Percentage distribution of population by size classes of communes, 1950, 1961 and 1970	47
25	Population trends in the urban regions of the Federal Republic of Germany, 1950—1970	50
26	Population growth of communes within and outside of urban regions, 1961—1970	51
27	Resident population with breadwinner's main source of livelihood in agriculture, forestry and fishery, 1950, 1961 and 1970	53
28	Farms by acreage, 1949 and 1972	54
29	Migration surplus or loss between regions of the Federal Republic of Germany, 1970—1972	55
30	Population, labour force and labour force participation by sex, 1950, 1961 and 1970	57
31	Effect of population growth, population composition and labour force participation rates on the size of the labour force (only persons age 15 or older) in the years 1950, 1961 and 1970	57

Table	Page
32 Labour force participation rates by age groups, sex and marital status, 1961—1971	59
33 Labour force participation rates of married women and of mothers with children under 18 years of age, 1957, 1961, 1968 and 1971	60
34 Dependently employed persons by economic sectors, 1961 and 1970	61
35 Economically active persons by occupational status and sex, 1950, 1961 and 1970	64
36 Percentage of economically active persons with completed practical vocational training by age groups and sex, 1969	66
37 Percentage of economically active persons with completed practical vocational training who still are in the occupation for which they were trained (by sex and age groups), 1969	67
38 Labour force, economically active persons and unemployed, 1950, 1961 and 1971	68
39 Percentage of the resident population with main source of livelihood through economic activity/unemployment compensation, pensions or other family members, by age groups and sex, 1950, 1961 and 1970	70
40 Economically active employees (wage earners and salaried employees incl. apprentices) by sex and net income groups in April 1972	72
41 Aliens employed in the Federal Republic of Germany by nationality, 1961, 1965 and 1971	73
42 Age distribution of aliens employed in the Federal Republic of Germany and dependently employed German nationals by sex, 1965, 1968 and 1972	75
43 Aliens employed in the Federal Republic of Germany in 1972 by sex and number of years of schooling completed in their country of origin	76
44 Aliens employed in the Federal Republic of Germany by occupational status and sex, 1968 and 1972	76
45 Dependently employed aliens by economic sectors, 1961 and 1970	77
46 Economically active alien employees (wage earners and salaried employees incl. apprentices) by sex and net income groups in April 1972	78
47 Development of major age groups, 1961—2000	81
48 Development of major age groups and dependency ratios, 1961—2000	83
49 Private households by household size, 1961—1985	84
50 Gross national product as calculated for 1972	87
51 Social Budget, 1965—1972	88
52 Expenditures of the Social Budget by functions, 1972	89
53 Average number of working hours per week for economically active persons, 1961 and 1971	90
54 Notifiable, communicable diseases, 1950—1972	93
55 Development of major causes of death, 1950—1972	93
56 Maternal and infant mortality, 1950—1972	94
57 Persons occupied in health services per 10,000 inhabitants, 1952—1972	94
58 Hospital beds and inpatients per 10,000 inhabitants, 1950—1972	95

Table		Page
59	Dwellings, 1950—1972	95
60	Rooms, area and persons per dwelling room, 1950—1972	96

List of Figures

Figure		Page
1	Population growth 1950—1973 by birth surplus and migration surplus	13
2	Marriages, live births, deaths, and excess of births over deaths per 1,000 inhabitants, 1950—1985	15
3	Fertility rates 1950—1971 by selected age groups of women in the Federal Republic of Germany	19
4	Legitimate live births by order of birth, 1954—1972	21
5	Changes in probability of death by selected age groups of 1969/71 compared to 1949/51 from age X to age X+1 according to the abridged life tables	25
6	Changes in the average life expectation at age X 1969/71 as compared to 1949/51	27
7	Migration surplus in the Federal Republic of Germany, 1950—1972	30
8	Age structure of the population on 1 January 1972	34
9	Age structure of the resident population on the territory of the German Reich 1939, and on federal territory 1950 and 1961	35
10	Labour force participation rates by age groups and sex, 1950, 1961 and 1970	58
11	Economically active persons by economic divisions, 1961 to 1971	63
12	Labour force participation rates of persons up to 65 years of age by sex and highest level of scholastic or vocational education achieved until 1970	65
13	Unemployed persons and vacant positions in per cent of all dependently employed persons, 1950—1971	69
14	Economically active persons by net monthly income classes, 1962—1971	71
15	Aliens employed in the Federal Republic of Germany, 1954—1971	73
16	Birth decrease 1972—2000: model calculation	81
17	Estimated population by age groups, 1972—2000	82

1. Population Development in the Federal Republic of Germany

1.1 General Survey

On 27 May 1970, the reference date of the last population census, about 60.65 million inhabitants lived within the boundaries of the Federal Republic of Germany including West Berlin, i.e. in a total area of 248,577 sq.km. This figure included 8.96 million people from the eastern territories of the former German Reich and 2.98 million aliens (excluding members of foreign armed forces stationed in the Federal Republic and of diplomatic and consular missions and their families).

As from 1950, when 50.80 million inhabitants were counted, the population of the Federal Republic had increased by 19.4 per cent, thus having the fourth highest growth rate among all West European countries after Switzerland (33.0 per cent), the Netherlands (26.9 per cent) and France (20.3 per cent) and ranging, for instance, before Italy (16.9 per cent) and Great Britain (11.0 per cent).

With 244 inhabitants per sq.km, the population density in 1970 had increased by 40 as compared with 1950 and by 71 as compared with 1939, being the third highest in western Europe after the Netherlands (319) and Belgium (316) and before Great Britain (228), Italy (180) and France (92).

Numerical population growth is determined by two factors: firstly, by structural criteria such as age and sex distribution and marital status, and, secondly, by dynamic characteristics, e.g. fertility, mortality and migratory behaviour. These factors in turn are the results of a historical, social and economic evolution which in the case of the Federal Republic reaches far back into the past century representing in part the all-European historical demographic development, i.e. those demographic events which accompanied the process of industrialization: rise in the standard of living, improvement of general hygienic conditions, mortality decrease and the birth decrease which in the European countries began 50 to 80 years later, i.e. at the end of the 19th century. Apart from this general development which is typical of all populations passing through the industrialization process with its concomitant demographic and social shifts, the German historical demographic development, and thus also the population development in the Federal Republic, were marked by the following events:

- the two World Wars,
- the population redistribution following these wars,
- the fluctuation of large sections of the population between the Federal Republic of Germany and the German Democratic Republic and within the Federal Republic due to the integration of expellees and refugees, and finally,
- the increasing influx of alien workers into federal territory.

1.2. Population Growth from 1950 to 1961

Between 1950 and 1961, the most significant events affecting population growth after the foundation of the Federal Republic of Germany were

- the influx of persons (declining in the late fifties) until then living in the eastern territories of the former German Reich or in the German settlements abroad,

- the inflow of people in great numbers until 1961 from the German Democratic Republic and East Berlin, and
- the gradually rising trend of the excess of births over deaths.

On 13 September 1950, the reference date of the first population census taken in the Federal Republic, 50.8 million inhabitants were counted. Thus the population in the territory of the present Federal Republic has increased from 43.0 million in 1939 by about 7.8 million or 18 per cent, respectively. Since the main influx of refugees and expellees took place during the first post-war years, the total number of inhabitants included approximately 8 million people (about 16 per cent) who had to be given the chance to build a new existence in the largely destroyed towns and villages. From 1950 to 1961, about 3.2 million more Germans coming from foreign countries, the former eastern territories of the German Reich, the German Democratic Republic and East Berlin settled in federal territory; thus for about 22 per cent of the 1961 population, new living and working possibilities had had to be created in the Federal Republic within a span of 16 years following World War II. This high proportion of mostly destitute people and the task of reconstruction after the damage inflicted during the war demanded large-scale economic and social measures. Among other steps taken, mention must be made of the compensation payments made under the Law on the Equalization of Burdens to persons having lost their property. The funds required under that law were provided by those who had suffered no or only slight losses.

From 1950 to 6 June 1961, the reference date of the next census, the population number of the Federal Republic rose to 56.18 million, i.e. by 10.6 per cent.

While population growth between the censuses of 1939 and 1950 was mainly due to immigration, the growth during the period from 1950 to 1961 was brought about in most part by a birth surplus. The total birth surplus during that period amounted to 2.97 million as compared with the migration surplus of 2.40 million, resulting in an average yearly growth of 0.92 per cent.

1.3. Population Growth from 1961 to 1972

By 27 May 1970, the reference date of the last population census taken in the Federal Republic, population growth had slowed down. The population growth of 4.47 million or 7.9 per cent during the period from 1961 to 1970 represents an average yearly growth rate of 0.85 per cent. In spite of the rapid birth decrease beginning in 1964, this average growth rate which is lower than that of the preceding period is, on the whole, not yet due to this component of natural change as the number of births (2.87 million) was almost as great as that of the longer period from 1950 to 1961. On the other hand, however, the migration surplus between the last two censuses decreased to 1.60 million, representing a proportion of 35.7 per cent of the total growth as compared with 44.7 per cent during 1950/61.

An analysis of the population growth from 1950 to 1973 by its two components, i.e. the birth and migration surplus, shows that the yearly fluctuations of the absolute population growth are determined by the strong fluctuations of the migration surplus (Figure 1). While until 1967 the birth surplus was, on an average, above the net migration figure, the balance of natural change began as from 1968

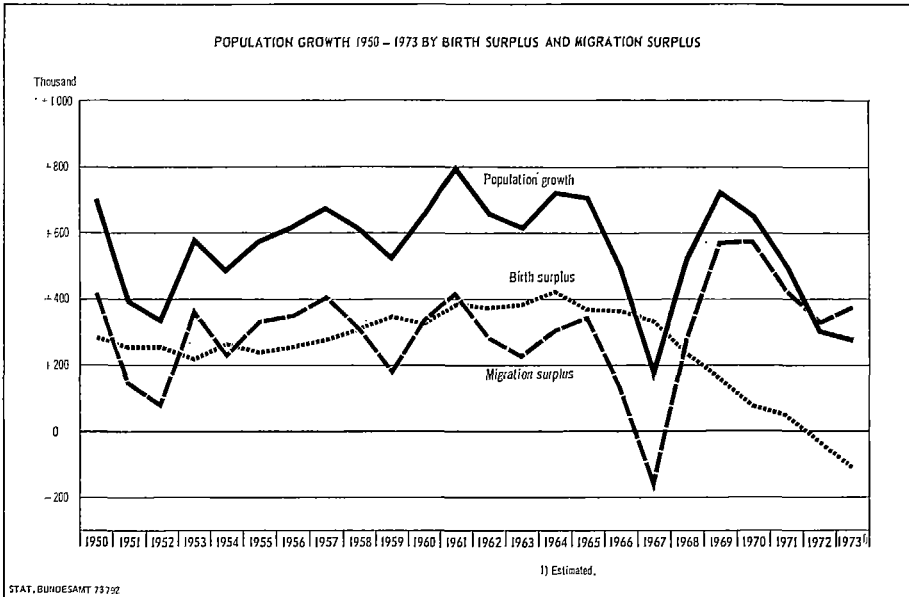


Figure 1

to fall far behind the migration balance. The line of the yearly birth surplus rises continuously with slight fluctuations from 218,000 in 1953 to 421,000 in 1964 and then decreases progressively. In 1972, it shows for the first time an adverse balance of births and deaths totalling 30,000, which is estimated to increase to even about 100,000 in 1973. Although the migration surplus also retrogrades from 1970, it is in 1972 still large enough (331,000) to effect a positive population growth in spite of the excess of deaths over births. The results of medium-range population projections give rise to the assumption that the birth deficit will increase in the future and will no longer be fully offset by the migration surplus. The future population trend in the Federal Republic of Germany under the assumption of a further decrease of the birth rate will be dealt with in Chapter 6.

2. The Components of Population Growth

2.1. Birth Trends¹⁾

2.1.1. Number of Births and Birth Rates

The birth surplus at first fell from 284,000 in 1950 to 218,000 in 1953 (Figure 1). Due to a "backlog demand", many children were born till 1950 who without the men's absence due to war and captivity and without the other effects of war (deferred marriages) would have been born earlier. The subsequent process of normalization was bound to lead to a birth decrease until 1953. The then ensuing birth increase was mostly due to the great number of marriages in the post-war period, the decreasing age at marriage and the greater number of persons moving up to the age group of 20 to 30 which generally has the largest number of births. Till 1961, the birth surplus thus increased to 385,000 and attained its peak with 421,000 in 1964.

Within eight more years, it dropped below the zero mark, i.e. the yearly number of deaths is no longer offset by the number of births. As was mentioned above, the balance of the natural population change shows a deficit of 30,000 people in 1972 and an estimated deficit of 100,000 in 1973.

This deficit is not merely due to the number of deaths which has risen continually since 1950, but mostly to the strongly retrograde number of births since 1964 (Table 1). While the birth trend between 1950 and 1961 is characterized by relative stability, there is a sharp fall in births in the second half of the period 1961/73 with a slightly rising death trend and thus a continuously decreasing birth surplus. In spite of the mounting number of inhabitants, the number of births fell from 1.07 million by 435,000 within a period of nine years, while the number of deaths rose by 86,000 during the same time. Since 1971, the Federal Republic has been recording the smallest number of births since its foundation in 1949.

This trend is made even clearer by a calculation of birth rates which eliminates the effect of the yearly changing number of population on the number of births. The birth rate (Figure 2) in the Federal Republic at first dropped from 16.2 in 1950 to 15.5 in 1953, then rose to 18.3 by 1963, attaining its post-war peak, and has since then been falling to 11.3 in 1972, a level which is unparalleled in Germany in this century, even during periods of war or depression.

The general rate of natural increase, i.e. the difference between the general birth rate and the general death rate, dropped from 7.2 in 1964, its highest mark since the foundation of the Federal Republic of Germany, to 0.5 in 1972. The Federal Republic has thus reached an extremely low level of birth and growth rates. The further development as projected till the end of the century will be dealt with in Chapter 6.

2.1.2. General and Specific Fertility Rates

Although the general birth rate is an appropriate yardstick for the actual development and the most easily calculated index of regional changes and changes over

¹⁾ The statements about birth trends are based upon analyses in: Schubnell, H., *Der Geburtenrückgang in der Bundesrepublik Deutschland, 1973*, pp. 23—51.

Table 1
Marriages, births, deaths, 1950—1973

Year	Marriages	Live births	Still births	Deaths ¹⁾	
				Total	During 1st year after birth
1950	535 708	812 835	18 118	528 747	45 252
1951	522 946	795 608	17 790	543 897	42 372
1952	483 358	799 080	17 145	545 963	38 624
1953	462 101	796 096	16 456	578 027	37 069
1954	453 168	816 028	16 779	555 459	35 171
1955	461 818	820 128	16 558	581 872	34 284
1956	478 352	855 887	16 129	599 413	33 098
1957	482 590	892 228	15 911	615 016	32 479
1958	494 110	904 465	15 082	597 305	32 589
1959	503 981	951 942	14 951	605 504	32 642
1960	521 445	968 629	15 049	642 962	32 724
1961	529 901	1 012 687	14 704	627 561	32 108
1962	530 640	1 018 552	14 361	644 819	29 807
1963	507 644	1 054 123	13 991	673 069	28 473
1964	506 182	1 065 437	13 590	644 128	26 948
1965	492 128	1 044 328	12 901	677 628	24 947
1966	484 562	1 050 345	12 174	686 321	24 803
1967	483 101	1 019 459	11 422	687 349	23 303
1968	444 150	969 825	10 702	734 048	22 110
1969	446 586	903 456	9 693	744 360	21 162
1970	444 510	810 808	8 351	734 843	19 165
1971	432 030	778 526	7 674	730 670	18 141
1972	415 132	701 214	6 557	731 264	15 907
1973 ²⁾	394 184	631 631	5 619	728 269	.

¹⁾ Excl. stillbirths, subsequently certified war deaths and judicial declarations of death.

²⁾ Preliminary results.

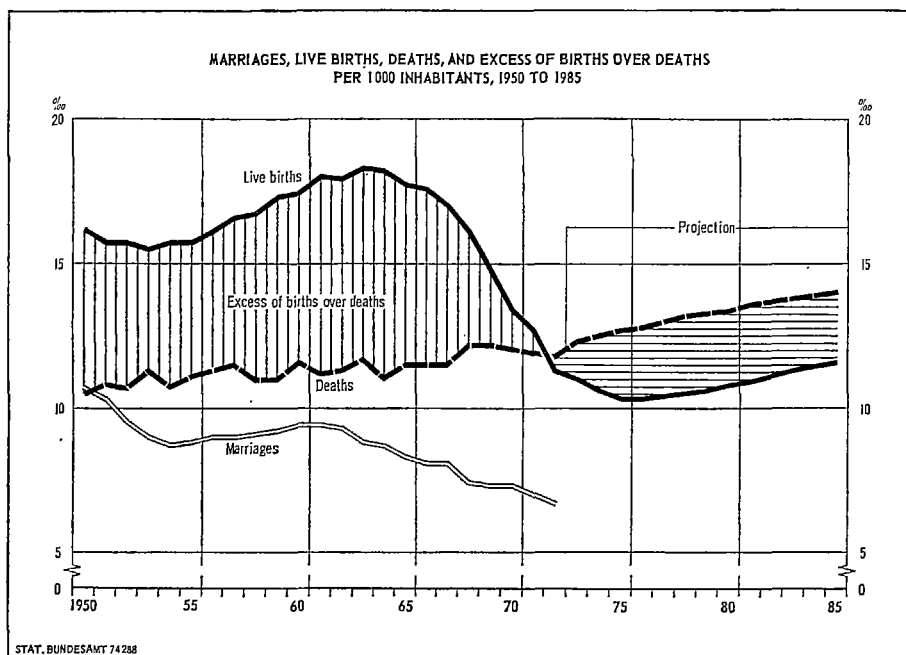


Figure 2

Table 2
General and marital fertility rates, 1950—1971

Year	Live births			
	per 1 000 females aged 15 to less than 45 years		per 1 000 married women aged 15 to less than 45 years	
	Number	1950 = 100	Number	1950 = 100
1950	69.5 ¹⁾	100	121 ¹⁾	100
1951	68.1 ¹⁾	98.0	.	.
1952	67.4	97.0	.	.
1953	67.2	96.7	.	.
1954	68.5	98.6	.	.
1955	68.4	98.4	.	.
1956	71.4	102.7	.	.
1957	75.0	107.9	124 ¹⁾	102.5
1958	76.1	109.5	123 ¹⁾	101.7
1959	80.3	115.5	130 ²⁾	107.4
1960	81.8	117.7	130 ²⁾	107.4
1961	85.9	123.6	133 ²⁾	109.9
1962	85.1	122.4	128	105.8
1963	87.0	125.2	124	102.5
1964	86.8	124.9	124	102.5
1965	85.2	122.6	121	100.0
1966	85.9	123.6	121	100.0
1967	84.0	120.9	117	96.7
1968	80.0	115.1	111	91.7
1969	74.4	107.1	103	85.1
1970	67.2	96.7	92	76.0
1971	63.9	91.9	88	72.7

¹⁾ Excl. Saarland and Berlin (West).

²⁾ Incl. Saarland and excl. Berlin (West).

a period of time, it cannot be used to analyse the causes of different trends or interrelations. Although the number of births (numerator) are homogeneous, the number of inhabitants (denominator) might be composed quite heterogeneously—varying with regard to age structure, the proportion of married and unmarried persons, the proportion of urban or rural population and the proportions relating to other characteristics which may affect the number of births and, if also related to the number of deaths, the birth surplus and the natural increase.

An even better indicator than general birth rates are fertility rates, as in their case the number of births are related only to women of childbearing age, (i.e. between about 15 and 45). These statistics eliminate shifts in the sex distribution of the total population as well as part of the differences in the age structure of the women. The general fertility rates calculated for this age group (Table 2, column 1) indicate a decrease to 67.2 in 1953; births deferred by the war had been recovered by that time. Then follows a rise in fertility up to 87.0 in 1963 whereas, beginning in 1964, fertility again shows a retrograde trend, dropping to 63.9 in 1971. A more differentiated analysis can be made by comparing the rates of the total number of women aged between 15 and under 45 with those of married women in this age group. The general fertility rate which disregards the marital status, rises until 1963 and then drops by more than one fifth as compared with 1960. If, however, live births are related to the number of married women (column 3) it can be noted that the decrease of marital fertility began in the early sixties and by 1971 amounted to more than 3 tenths, not one fifth. Compared with 1950, the difference in the fertility

decrease is even more obvious: about 8 per cent in the case of the general rate and 27 per cent in the case of the marital rate. The results of a more refined calculation of marital fertility rates by age groups of married women will be dealt with in connection with the causes of the birth decrease (section 2.1.4.).

2.1.3. Effect of Aliens on the Birth Trend

The issues in connection with the growing number of aliens since 1960 will be treated in chapters 2, 3, and 5. However, one aspect of the employment of alien

Table 3
Live births and deaths of aliens in the Federal Republic of Germany,
1960—1973

Year	Live births ¹⁾	Deaths	Surplus
1960	11 141	3 593	7 548
1961	13 955	4 030	9 925
1962	18 803	4 261	14 542
1963	24 675	4 792	19 883
1964	30 857	5 225	25 632
1965	37 858	5 535	32 323
1966	45 146	5 822	39 324
1967	47 432	5 628	41 804
1968	44 948	5 876	39 072
1969	50 673	6 953	43 720
1970	63 007	8 005	55 002
1971	80 714	9 065	71 649
1972	91 441	9 591	81 850
1973 ²⁾	100 000	10 000	90 000

¹⁾ Children with both parents alien or an alien father and a German mother, as well as illegitimate children of alien mothers.

²⁾ Estimated.

Table 4
Live births of aliens in the Federal Republic of Germany as percentage
of all live births and birth surplus, 1960—1973

Year	Percentage of all live births	Percentage of birth surplus
1960	1.15	2.32
1961	1.38	2.58
1962	1.85	3.89
1963	2.34	5.22
1964	2.90	6.08
1965	3.63	8.81
1966	4.30	10.80
1967	4.65	12.59
1968	4.63	16.57
1969	5.61	27.48
1970	7.77	72.40
1971	10.37	149.72
1972	13.04	(-272.38)
1973 ¹⁾	15.87	(- 90.00)

¹⁾ Estimated.

Table 5
Births and birth surplus in the Federal Republic of Germany, 1960—1973

Year	Total live births	Birth surplus	
		Total	of which: Germans
1960	968 629	+325 667	+318 119
1961	1 012 687	+385 126	+375 201
1962	1 018 552	+373 733	+359 191
1963	1 054 123	+381 054	+361 171
1964	1 065 437	+421 309	+395 677
1965	1 044 328	+366 700	+334 377
1966	1 050 345	+364 024	+324 700
1967	1 019 459	+332 110	+290 306
1968	969 825	+235 777	+196 705
1969	903 456	+159 096	+115 376
1970	810 808	+ 75 965	+ 20 963
1971	778 526	+ 47 856	— 23 793
1972	701 214	— 30 050	—111 900
1973	631 631 ¹⁾	— 96 638 ¹⁾	—190 000 ²⁾

¹⁾ Preliminary results.

²⁾ Estimated.

workers, i.e. their impact on the birth trend in the Federal Republic of Germany, should already be commented on at this point:

Between 1960 and 1973, the number of alien children born in the Federal Republic increased more than ninefold, while the number of deaths increased only threefold (Table 3). Thus the surplus of births to aliens in the Federal Republic increased continuously, with the exception of the recession year 1968. More important than this trend which is due to the specific age structure, is the percentage of births to alien mothers in the Federal Republic in relation to the total number of live births (Table 4).

The percentage of all live births increased from 1 to almost 16 per cent. The development in the years 1972 and 1973 is clearly characterized by the fact that the number of alien births made up for 73 per cent of the 1972 birth deficit (122,000) of the population with German nationality (Table 5), but only for 47 per cent of the deficit estimated for 1973. This means that without the migration surplus the population trend in the Federal Republic would have been negative since 1972.

2.1.4. Demographic and Social Impacts on the Number of Births

2.1.4.1. Shifts in the Sex Ratio

The ratio between the sexes and thus the chance to find a partner for marriage greatly influences the birth trend when it is considerably distorted by historical events. This was mainly the case during the two World Wars. The age pyramid of Figure 8 depicts the age structure as deformed by the male war deaths as well as by the birth losses due to the forced separation of the sexes over many years. Such demographic catastrophes affecting the long-term birth and death trends bear upon generations.

While the birth losses by wars and depression affected both sexes, the chances of women to get married were additionally impaired by the war deaths of men. This distortion in the sex ratio is, however, of less importance for the present birth trend.

2.1.4.2. Shifts in the Age Structure of the Population

The size of the age cohorts which were decreasing after 1942 as compared with the high number of births before and at the beginning of World War II were bound to result in a lessening of the yearly marriage and birth rates two decades later. Computations show the extent to which these shifts in the age structure account for the birth decrease in the sixties. Part of the birth increase at the beginning of the sixties was due to the fact that during that period the great birth cohorts of the years 1934 to 1942 (between 924,000 and 1.1 million per year) got married and that the women were of favourable age for motherhood. After the middle of the sixties, however, it came to bear that between 200,000 and 300,000 fewer children had been born during the last years of the war and the immediate post-war period. Computations of the number of children that would have been born if the age structure of women had not changed in the sixties indicate that about one fifth of the total birth decrease is due to shifts in the age structure, whereas four fifths represent a "real" decrease. The most recent birth decrease is therefore only to a small extent accounted for by shifts in the age structure.

2.1.4.3. Interrelations between Birth Trend, Age of Mothers, and Number of Children

2.1.4.3.1. Age-specific Fertility

A breakdown of fertility rates by mothers' age groups (Figure 3) gives further indications regarding impacts and causes.

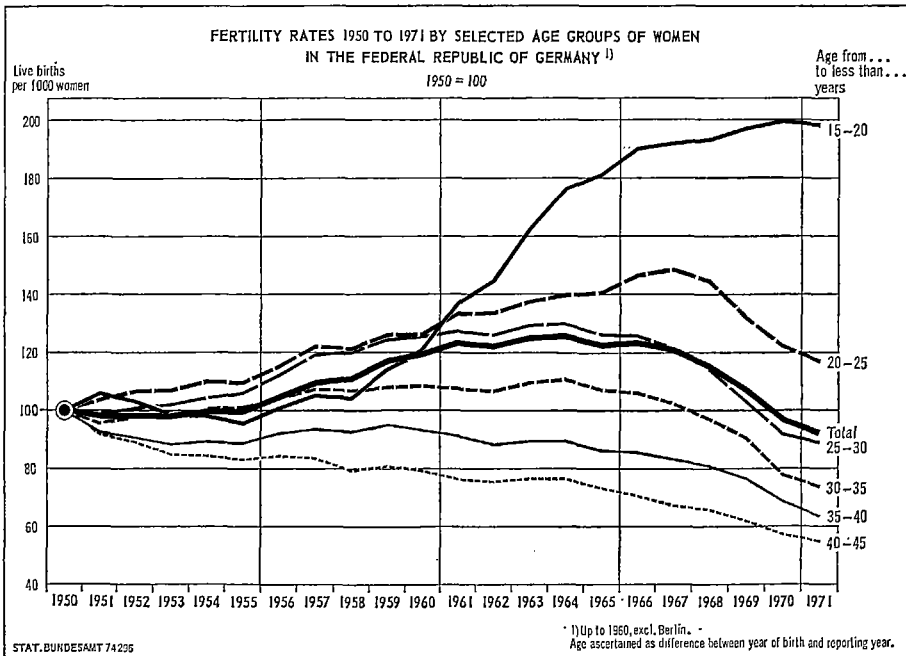


Figure 3

The fertility rates (1950 = 100) show quite different trends within the six age groups. From 1950 to 1971, a continuous rise in fertility by 98 per cent can be observed with the women aged 15 to under 20.

In the higher age groups, the rates at first also increased rapidly, but culminated earlier the higher the age group, e.g. in 1967 in the case of the age group 20 to less than 25, and in 1964 in the case of the group 25 to less than 35; fertility of the group 35 to less than 45, however, was retrograde from as early as 1950, the fertility rate of the women aged 40 to less than 45 decreasing by 45 per cent until 1971.

Starting from 1964, the year with the highest general rate, the decrease of fertility amounted to 26.7 per cent for all age groups between 15 and under 45; this percentage was higher in all groups of women aged 25 years and over, whereas fertility of the age group 15 to less than 20 increased even after 1964.

Besides the limitation of the total number of children, a second, contrary trend becomes obvious from those figures, i.e. the advancing of the birth date of the first child. Furthermore, the continuous increase in the fertility of women aged 15 to less than 20 gives rise to the assumption that the far-reaching abolition of sexual taboos especially with young, unmarried women did not simultaneously lead to a sufficient use of contraceptives. This assumption is supported by the fact that the illegitimate fertility rate of women aged 15 to less than 20 increased from 7.3 in 1960 to 8.2 in 1971. In analysing these figures, it must also be considered that besides the lower age at marriage, the percentage of the children conceived before marriage, as related to the total number of legitimate first births, rose from 35.5 to 39.4 per cent between 1963 and 1969 (results for the Federal Republic are available only for this period).

Table 6
Legitimate live births by order of birth, 1954—1972

Year	Total	1st birth	2nd birth	3rd birth	4th birth	5th birth and further	Birth order unknown ¹⁾
1954	715 028	303 415	218 111	105 718	46 615	41 156	13
1955	724 397	302 904	220 467	108 973	49 108	42 930	15
1956	759 730	316 924	227 372	115 480	53 362	46 558	34
1957	794 605	335 746	237 231	118 444	54 667	48 485	—
1958	826 614	345 718	248 076	123 512	57 400	51 866	—
1959	870 661	365 439	258 599	130 606	60 099	55 906	—
1960	889 089	370 158	266 134	132 955	61 462	58 364	—
1961	932 484	386 230	280 144	139 373	64 663	62 074	—
1962	961 904	399 255	291 156	142 208	65 215	64 070	—
1963	999 003	406 140	307 017	150 880	68 407	66 526	—
1964	1 012 306	403 616	316 423	155 703	69 177	67 376	—
1965	995 351	398 128	312 352	153 106	67 634	64 116	—
1966	1 002 491	398 888	316 405	156 031	68 078	63 089	—
1967	972 495	387 304	310 070	150 958	64 608	59 555	—
1968	923 616	369 796	295 155	143 258	60 333	55 060	—
1969	857 958	348 652	275 267	130 769	54 267	48 987	—
1970	766 528	321 366	243 828	112 636	46 936	41 753	—
1971	733 263	316 076	233 000	103 134	43 069	37 984	—
1972	658 804	291 052	211 409	87 916	36 018	32 409	—

¹⁾ Beginning 1957, children with unknown birth order are included in the total.

2.1.4.3.2. Live Births by Order of Birth

A further differentiation can be observed in analysing legitimate live births by order of birth (Table 6 and Figure 4). Regarding the total number of legitimate births, the period between 1954 and 1972 can be divided into two sections, i.e. the period from 1954 to 1964 showing a continuous rise in the number of births to more than 40 per cent above the base year, and the period beginning in 1964 during which the number of legitimate live births decreased by 35 per cent within 8 years. Analysing the births by their order, it can be seen that during the first period from 1950 to 1964 fifth and subsequent births (Figure 4) show the relatively highest increase of more than 63 per cent, while fourth births rose by 48 per cent, third births by 47 per cent, second by 45 per cent and first births by only 33 per cent. If 1964, the year with the birth maximum, is taken as the base for the second period, it becomes obvious that again fifth and subsequent births show the greatest relative decrease amounting to 52 per cent, and that the intensity of the decrease lessens consistently with lower orders, reaching 28 per cent for first births.

The birth decrease since 1964 thus is to a large extent due to the decrease of third and subsequent births. It is interesting to note that already in 1964 a trend became evident for families with four children to avoid further births; from 1966, three-children-families began to decide against having a fourth child, and from 1968, two-children-families against having a third child. The trend towards the two-children-family is obvious.

During the same period, the making of a family was postponed, i.e. in 1971 the first child was born after a slightly longer duration of the marriage than in 1964;

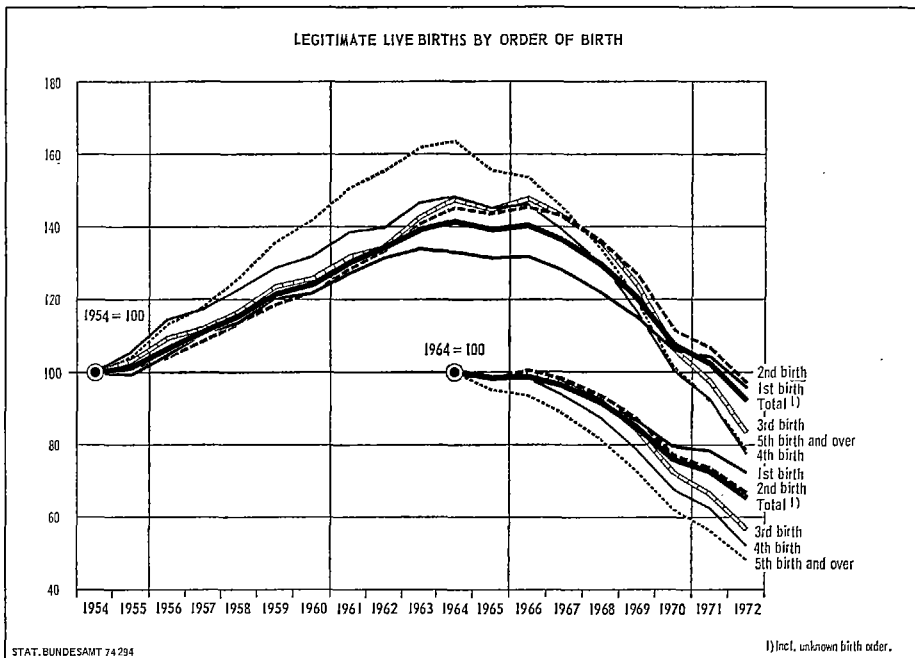


Figure 4

the second and third children were born after a considerably longer duration, third children in 1971 a year later than in 1964; fourth children slightly over a year; in 1971 fifth, sixth and further children were born after a duration of marriage that was about a year and a half longer than in 1964.

All these results are indicative of the growing extent of family planning pursued and practiced with different intensity and effectiveness in the various age groups of married women.

2.1.5. *The Impact of the Gainful Activity of Women on the Number of Children*

Irrespective of the political, economic and social systems, the greatest effect on the number of children and thus on the birth decrease in highly industrialized countries is attributed, in international discussion, to the fact that women engage in gainful activity.

Without doubt, however, there are other determinants as well, such as economic shifts in many countries, the decrease of employment in agriculture, and the increase of women being employed in the service sector.

As women employed in agriculture were found to have the largest number of children, changes in that economic sector are bound to affect the number of children. Between 1960 and 1971 the total number of farms in the Federal Republic decreased from 1.6 million by about 460,000, i.e. more than a quarter, while small holdings (under 2 hectares) decreased by more than 180,000, i.e. two fifths. Between 1961 and 1971, the number of people working in agriculture and forestry also dropped by about two fifths (38.2 per cent), with a greater proportion of women (39.9 per cent) than of men (36.3). Approximately 765,000 economically active women gave up employment in agriculture and forestry during that period.

Between 1961 and 1971, there was a rise in the number and percentage of married women aged 15 to 44 and of working women in that age group.

The total number of married women aged 15 to 44 rose by 12.7 per cent, whereas the number of working wives in that age group increased by 20.7 per cent. In 1961, 40 out of 100 married women of childbearing age were engaged in a gainful activity, the percentage being 44 in 1971 which shows that the proportion of working women had increased.

There are, however, remarkable changes that have taken place within the group as shown by the following labour force participation rates, i.e. the ratios of working women to 100 women in the respective age groups (Table 7).

Table 7
Labour force participation rates of married women by selected age groups, 1961—1971

Age groups from . . . to less than . . . years	1961	1965	1971
15—20	62.8	53.7	56.7
20—25	52.5	51.7	56.0
25—30	40.4	40.8	46.5
30—35	36.0	36.5	40.6
35—40	37.2	38.3	41.4
40—45	37.7	40.6	42.8

Throughout the years under consideration, the gainful activity of married women decreases with growing age; while about half of the age group 20 to 24 is gainfully active, it is only a little more than two fifths in the case of the group 25 to 29. It is to be noted, however, that except for the youngest age group, the labour force participation rate has increased in all other groups during the period from 1961 to 1971. The decrease in the rate of women aged 15 to 19 might have been due in part to the fact that women get married before completing their education.

Changes in the type of gainful activity pursued by women in the course of their lives are not yet sufficiently analysed. As was repeatedly stated in international discussions it is a fact that the number of children of working women is smaller than that of non-working women; on the other hand, there are manifold motives for engaging in, or withdrawing from, gainful activity. Thus the question of the number of children wanted and the date of their birth (both can be controlled) becomes a factor of motivation for entry into, or withdrawal from, gainful employment besides many other factors like education and vocational training of the women, the husband's opinion regarding his wife's employment, her interest in the work concerned, her occupational status, the difference between the wife's income and the ensuing higher expenses for the running of the household or care of the children in the absence of the mother.

According to recent findings, it is generally accepted that the birth decrease has to do with the increasing number of gainfully employed women who in industrialized countries mostly work outside the family and the home, even if the extent of such influence is unknown.

2.1.6. The Effect of Contraceptive Methods and Devices

For years, the increasing use of oral contraceptive devices was cited as the main argument for explaining the birth decrease in the Federal Republic. The knowledge of contraceptive methods and the application of contraceptive devices, however, do not imply a general suppression of the wish to have children, but in most cases serve the timing of a child's birth so that the child is not unwanted and is born at a time favourable for his development. The wish to have children exists as much as ever; their number, however, and the timing of their births are determined more and more in accordance with economic and occupational considerations by the use of contraceptive methods and devices.

There are only estimates as to the number of women in the Federal Republic who regularly take the pill. The proportion rose from approximately 2 per cent in 1964 to about 25 per cent in 1972. It cannot be stated with certainty to what extent the pill has replaced other methods. The increase in the sale of mechanical contraceptives suggests that the limitation of the number of children after 1966 was accomplished by the increased use of contraceptives of all kinds, public discussion of the advantages and disadvantages of specific devices leading to a certain flexibility in their selection, above all with younger married couples. Sterilization, both of women and men, does not play any role in the Federal Republic.

According to law in force up to present time (§ 218 Criminal Law Code), termination of pregnancy was liable to punishment with almost no exception. In fact, however, its practice went unpunished in many cases, that is to say, the number of unreported

cases is extremely high. Realistic estimates assume that 20 to 30 per cent of all pregnancies are terminated prematurely by illegal abortion.

For many years there have been moves to alter § 218 of the Criminal Law Code, with the general public, the political parties and the churches taking a great interest in this development. At the beginning of June 1974, the parliament passed with an absolute majority a bill introduced by the coalition government. Under the new law, the termination of pregnancy carried out by a physician with the consent of the woman shall not be punishable, provided no more than twelve weeks have elapsed since conception (time limit principle). The decision on termination of pregnancy thus becomes the sole responsibility of the woman concerned. The law does, however, oblige the woman to consult a physician of her own choice before the termination of pregnancy is actually carried out. This compulsory consultation is also intended as a measure towards the possible continuation of pregnancy and thus as an assistance to the woman in this situation. Termination of pregnancy later than three months following conception is punishable under law, unless termination is indicated for medical reasons to avoid serious risk to the life or health of the pregnant woman, or if there exist serious grounds for the assumption that the child would be seriously mentally or physically handicapped, with the time limit in these cases being maximally 22 weeks since conception. These conditions must be certified by medical authorities. Termination of pregnancy may only be carried out with the consent of the pregnant woman.

The reform law also contains the stipulation that no physician or member of the medical profession is obliged to participate in a termination of pregnancy. The termination of pregnancy may only be carried out in a hospital or suitable facility at which the necessary medical after-treatment is assured. For the purposes of obtaining information on the chief reasons for the termination of pregnancy, on the development of pregnancy termination in practice and its medical and sociological effects, the physician is legally obliged to submit a report to the Federal Statistical Office on every termination carried out; the name of the pregnant woman is to be excluded from this report.

The law was published on 18 June 1974 and was intended to go into effect on the following day. The Christian Democratic Union is strongly against a regulation based on the time limit principle. Following passage of the bill in parliament, the government of the federal state of Baden-Wuerttemberg, which belongs to that political party, therefore applied to the Federal Constitutional Court for a temporary injunction against the new law. This application was granted. The Federal Constitutional Court must now decide if the terms of a regulation based on the time limit principle are compatible with the Constitution, which in Article 2 guarantees the right to life. In the opinion of the opponents of the time limit principle, this Article also applies to life before birth. The Court's decision can be expected in the course of 1974.

2.2. Mortality Trends

2.2.1. The General Death Rate

In the long-term trend since 1950, the number of deaths has increased consistently and is expected to keep rising in the future due to the particular age structure. As indicated in Figure 2, the death rate—computed as the number of deaths per

Table 8
Birth and death rates, 1950—1972

Year	Live births	Deaths ¹⁾		
	per 1 000 inhabitants			
	Total	Total	Males	Females
1950	16.2	10.5	11.5	9.8
1961	18.0	11.2	12.3	10.2
1964	18.2	11.0	12.1	10.1
1969	14.8	12.2	13.0	11.5
1970	13.4	12.1	12.8	11.5
1971	12.7	11.9	12.5	11.4
1972	11.3	11.8	12.4	11.3

¹⁾ Excl. still births, subsequently certified war deaths and judicial declarations of death.

thousand of the mid-year population—remained relatively stable (cf. also Table 8); it was 10.5 in 1950, and 12.2 in 1968 and 1969 when there was an epidemic of influenza. In 1972 it was 11.8. In all cases, age-specific death rates by sexes were higher for males than for females.

2.2.2. Development of Age- and Sex-Specific Probabilities of Death

The probabilities of death changed considerably from 1949/51 to 1969/71 (Figure 5 and Table 9). Especially in the case of the new-born and the children aged one and

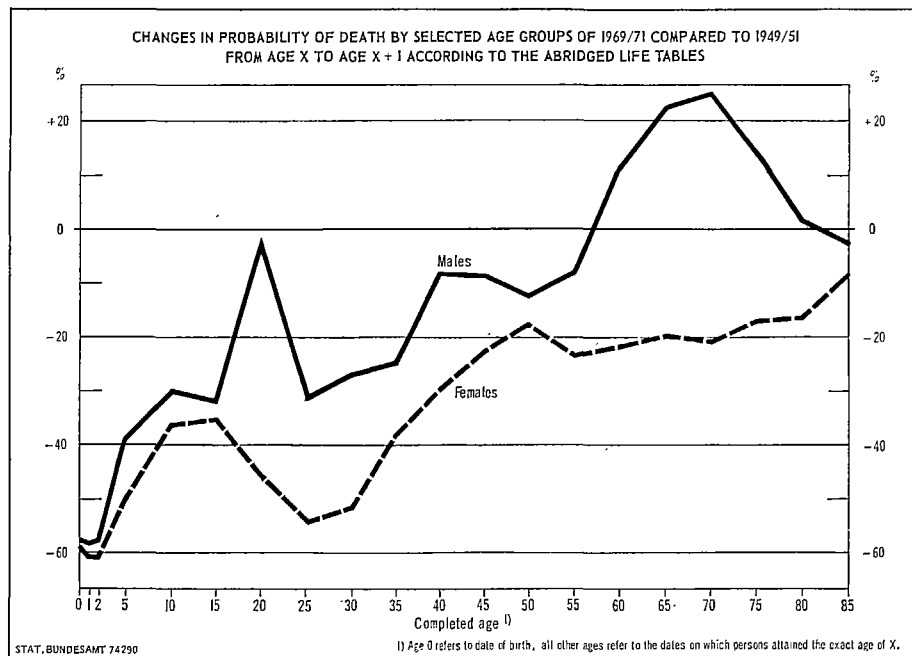


Figure 5

Table 9
Probability of death (multiplied by 1000) by selected age groups 1949/51 and 1969/71 from age X to age X+1 according to the abridged life tables

Completed age ¹⁾	1949/51		1969/71		Changes 1969/71 as compared to 1949/51 in %	
	Male	Female	Male	Female	Male	Female
0	61.77	49.09	26.27	20.04	-57.47	-59.18
1	4.16	3.60	1.73	1.41	-58.41	-60.83
2	2.46	2.15	1.04	0.84	-57.72	-60.93
5	1.21	0.99	0.74	0.50	-38.84	-49.49
10	0.70	0.47	0.49	0.30	-30.00	-36.17
15	1.04	0.68	0.71	0.44	-31.73	-35.29
20	1.88	1.15	1.85	0.63	-1.60	-45.22
25	2.23	1.35	1.53	0.62	-31.39	-54.07
30	2.28	1.65	1.67	0.80	-26.75	-51.52
35	2.76	1.99	2.08	1.23	-24.64	-38.19
40	3.52	2.55	3.23	1.80	-8.24	-29.41
45	5.16	3.68	4.72	2.85	-8.53	-22.55
50	8.50	5.46	7.43	4.50	-12.59	-17.58
55	12.75	8.13	11.69	6.24	-8.31	-23.25
60	18.91	12.91	21.10	10.10	+11.58	-21.77
65	29.06	22.24	35.58	17.83	+22.44	-19.83
70	45.79	39.11	57.27	31.03	+25.07	-20.66
75	75.08	68.11	85.48	56.53	+13.85	-17.00
80	121.37	114.02	123.10	95.43	+ 1.43	-16.30
85	190.15	173.62	184.84	159.24	- 2.79	- 8.28
90	282.56	259.16				

¹⁾ Age 0 refers to the date of birth; all other ages refer to the dates on which persons attained the exact age of X.

two years of both sexes, mortality could be reduced by about as much as 60 per cent due to the increase of hospital deliveries and the regular medical examinations of infants and children prescribed by law. Within the past 20 years, there has also been a particular decrease in the probabilities of death by more than 50 per cent in the case of women aged 20 to 30 who were exposed to a greater mortality risk in former decades as the main proportion of births falls in this age group. There is a general percentage decrease for women of all age groups which, however, is lessening with advancing age. With regard to males whose probability of death at all ages has decreased less intensely than that of women, there is practically no decrease in the case of men aged 20: the medical progress has been offset by the higher risk of dying in traffic accidents. The probability of death of men aged 50 and over has risen due to the greater proportion of heart and circulatory diseases.

The sex ratio of the new-born is 106 boys per 100 girls. The lower life expectancy of new-born boys and the higher mortality of young men led to an even sex ratio from about the age of 51 onward. In the following age groups there are more women than men on account of the considerably higher mortality of men aged 50 and over. Thus in 1971 there were two million more women aged 65 and over than men of that age group (3.19 million men compared with 5.12 million women); that is, there were 1,605 women per 1,000 men.

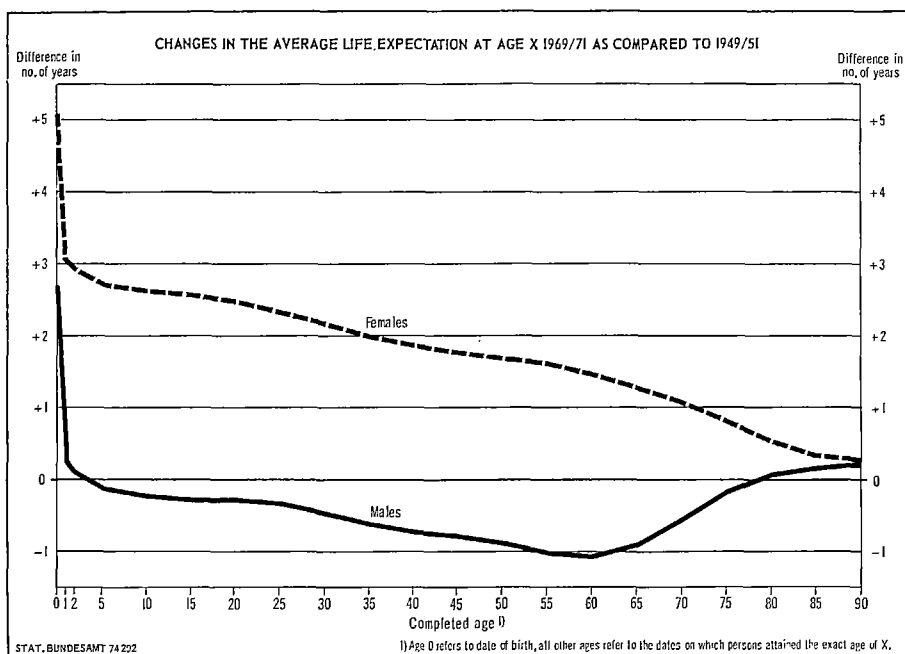


Figure 6

2.2.3. Changes in the Average Life Expectation

The changes in the average life expectation of men and women by selected age groups have been computed on the basis of the life tables compiled by the Federal Statistical Office for the years 1949/51 and 1969/71 (Figure 6 and Table 10). The largest increase in life expectancy is recorded for the new-born with more than 5 years for females (rising from 68.5 years in 1950 to 73.6 years in 1970) and 2.7 years for males (from 64.6 to 67.3). As regards the female population, the increase during the 20-year period amounted to as much as 3 years for children at the age of one while the increase of the average remaining years of life declined from that age onward in a straight trend to 0.3 years for women aged 90. As indicated in the case of the new-born, the remaining life expectancy of the male population even in lower age groups has risen considerably less than that of the women. In 1970, life expectation of male children aged one year was only 3 months higher than in 1950, and approximately one month higher for male children aged two years. On the other hand, the expectation of life shows a decrease already with males aged 5 and an even greater decline in the following age groups amounting to about 13 months at the age of 60. As can be taken from Figure 5, this decline is not due to the greater probability of death in these age groups, but rather is accounted for by the higher mortality of males aged 55 and over. Within 20 years the average remaining life expectancy increased, if only slightly, merely in the case of those age groups that have passed the age period between 55 and 80, i.e. the period with a greater probability of death than in 1950.

In summing up, it can be stated that due to the favourable mortality trend with regard to females, the remaining life expectancy has increased in all age groups

Table 10
Average life expectation in years at age X by selected age groups 1949/51 and 1969/71 according to the abridged life tables

Completed age ¹⁾	1949/51		1969/71		Changes 1969/71 as compared to 1949/51	
	Male	Female	Male	Female	Male	Female
0	64.56	68.48	67.25	73.56	+2.69	+5.08
1	67.80	71.01	68.06	74.06	+0.26	+3.05
2	67.08	70.26	67.18	73.17	+0.10	+2.91
5	64.47	67.61	64.36	70.32	-0.11	+2.71
10	59.76	62.84	59.55	65.46	-0.21	+2.62
15	54.98	57.99	54.69	60.56	-0.29	+2.57
20	50.34	53.24	50.08	55.72	-0.26	+2.48
25	45.83	48.55	45.50	50.89	-0.33	+2.34
30	41.32	43.89	40.84	46.05	-0.48	+2.16
35	36.80	39.26	36.19	41.25	-0.61	+1.99
40	32.32	34.67	31.60	36.53	-0.72	+1.86
45	27.93	30.14	27.15	31.91	-0.78	+1.77
50	23.75	25.75	22.87	27.44	-0.88	+1.69
55	19.85	21.50	18.84	23.11	-1.01	+1.61
60	16.20	17.46	15.13	18.92	-1.07	+1.46
65	12.84	13.72	11.92	15.00	-0.92	+1.28
70	9.84	10.42	9.27	11.49	-0.57	+1.07
75	7.28	7.68	7.12	8.49	-0.16	+0.81
80	5.24	5.57	5.32	6.09	+0.08	+0.52
85	3.72	4.02	3.88	4.33	+0.16	+0.31
90	2.66	2.89	2.86	3.18	+0.20	+0.29

¹⁾ Age 0 refers to the date of birth; all other ages refer to the dates on which persons attained the exact age of X.

during the period under consideration with the highest increase in years occurring in the lower age groups. As regards males, there is only an increase for new-born children aged one and two as well as for persons aged 80 and over. The differences between the mortality trends of males and females indicate a further increase of male "excess mortality". While in 1950 the average expectation of life of new-born girls, amounting to 68.5 years, exceeded that of boys by 3.9 years, it was 73.6 years in 1970, exceeding that of boys by 6.3 years.

The effects of the birth and mortality trends on the development and structure of the population up to the year 2000 will be dealt with in Chapter 6.

2.3. Migration across Federal Borders

2.3.1. General Survey

During the past two decades, the volume of migration across the borders of federal territory was affected in part by political developments in the two German states and, to a more decisive extent, by the different economic developments in the European countries.

During the period from 1950 to 1961, the surplus of migrations across federal borders amounted to 2.4 million persons, thus contributing 44.7 per cent to the population growth (Table 11). The average yearly growth rate decreased slightly as compared with the preceding decade, i.e. by about one twelfth, this decrease being due to the lower migration surplus between the last two population censuses.

Table 11
**Contribution of birth surplus and migration surplus to population growth,
 1950—1970**

	Unit	1950	1961	1970
Total population	1 000	50 798	56 175	60 651
Population growth as compared to preceding enumeration date	1 000 %	— —	5 377 10.6	4 476 8.0
of which:				
Birth surplus	1 000 %	— —	2 975 55.3	2 870 64.1
Migration surplus	1 000 %	— —	2 402 44.7	1 606 35.9

It dropped from an average of about 218,000 people per year in the period 1950/61 to a yearly mean of about 178,000 during the period 1961/70.

These average net results, however, give only a rough picture of this population growth component as the migration balance is subjected to considerably greater fluctuations than is the balance of natural population change (Figure 1). Social and economic developments are far more reflected by migratory streams, both in the countries of origin and destination, than by natural population changes. In the case of the Federal Republic it is also obvious that the volume of migratory streams across its borders can be affected to a great extent by political decisions in the Federal Republic and in those countries with which close migratory relations exist.

The economic developments and political measures that are of relevance to the in- and outflow of people across federal borders will be considered in the following chapters. For the purpose of describing external migrations, migration balances will mostly be used, i.e. data giving direct indications as to the contribution of external migration to population growth. The balances are not indicative, however, of the effect of migrations on the population structure. This aspect of international mobility, as far as relevant to the population structure of the Federal Republic, will be dealt with separately.

2.3.2. External Migration from 1950 to 1961

The balances of the two migratory streams most important for the Federal Republic were the surplus of migrations between the Federal Republic of Germany and the German Democratic Republic (incl. East Berlin) and the surplus of migrations between the Federal Republic and the rest of the countries, i.e. abroad (Figure 7). The courses of the two lines are almost contrary to each other: while net migration with respect to foreign countries remains relatively low until 1959, then rises rapidly from 1960 onward and afterwards clearly determines the total migration surplus, the migration balance between the Federal Republic of Germany and the German Democratic Republic has lost its effect on the population growth of the Federal Republic since 1961.

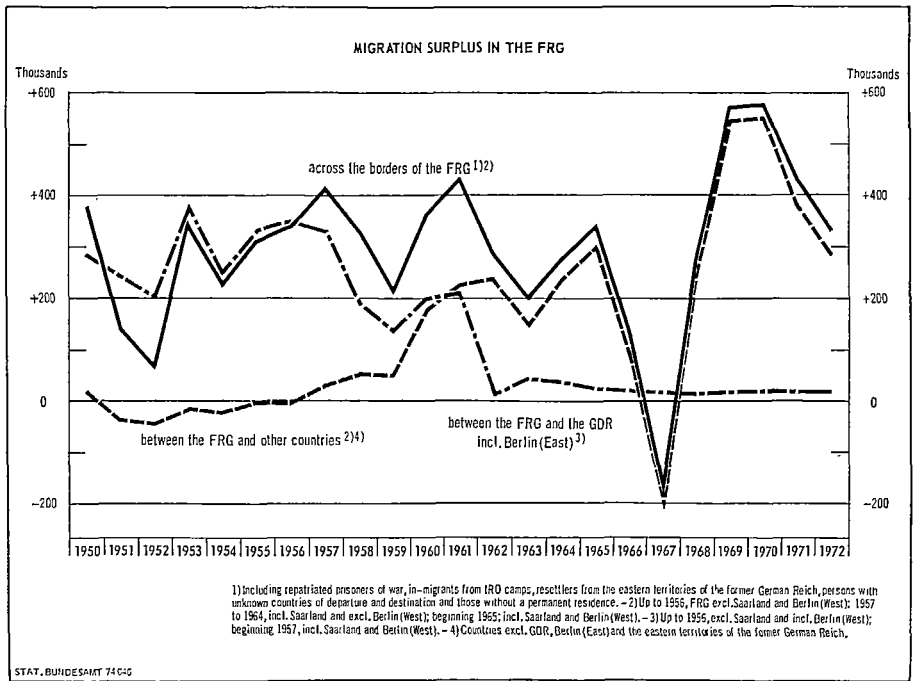


Figure 7

Up to 1956, the movements between the two German states were dominant, in 1960 and 1961 the balances of the two couples of migration streams were even, and from 1962 the migration surplus between the Federal Republic of Germany and the German Democratic Republic fell to a constant low level of about 18,000 people a year. In all, the excess of immigrations until 1961 was mainly due to the influx of Germans from the German Democratic Republic and East Berlin, effecting a positive balance of almost 3.1 million people with respect to the German Democratic Republic, as shown in the table on migrations (in 1,000) between the Federal Republic of Germany (incl. West Berlin) and the German Democratic Republic (incl. East Berlin):

Period	Arrivals	Departures	Migration surplus
1950—1961	3,582.6	487.0	3,095.7
1962—1972	281.9	43.0	238.9

During that period, mostly between 1957 and 1959, another 400,000 people were admitted to the Federal Republic as resettlers from the eastern territories of the former German Reich and from Eastern and Southern Europe.

The volume of the positive net migration between the Federal Republic of Germany and the German Democratic Republic was affected by both the political and the economic developments in the two German states. When the borders between the Western sectors and the Eastern sector of Berlin were closed by the Government of the German Democratic Republic in August 1961, the migration stream to West Berlin and from there into federal territory was practically stopped. Since August

1961, exit permits have generally been given only to persons beyond working age. Since then, the age structure of the persons coming into the Federal Republic from the German Democratic Republic has fundamentally changed: while, for instance, persons aged over 65 years represented a proportion of 6.0 per cent in relation to all arrivals from the German Democratic Republic in the period from 1953 to 1959, the percentage of this age group in the total number of persons who have applied for an emergency admission in the Federal Republic since 1963 amounted to more than 50 per cent each year; only since 1971 it has decreased slightly to 49.8 per cent (1971) and 44.8 per cent (1972), respectively.

From 1950 to 1956, migration across federal borders still caused a deficit of 111,000 people if no account is taken of the arrivals of persons from the eastern territories of the former German Reich. This population loss was due, above all, to the great number of people emigrating to overseas countries during those years, mostly to the USA, Canada and Australia. During that period, a total of 750,000 people left the Federal Republic for overseas of whom there were 480,000 persons of German nationality; only a very small percentage of them is believed to have returned to Germany.

In 1957, the volume of emigrations had passed its culmination point. At the same time, the influx of foreign workers from West European countries, mostly from Italy, began to grow in that year. During that and the following years until 1966, the external migration balance was positive.

The phase of the economic boom beginning in 1960 caused the number of immigrants from Italy, Spain and Greece as well as from the neighbouring Netherlands and Austria to rise rapidly due to the increased demand for workers which could not be met by the domestic labour force. Contrary to the people coming from the German Democratic Republic, these workers with foreign nationality as a rule stay in the Federal Republic only for some years, effecting a large migration volume by their great fluctuation which in periods of economic recession is more likely to lead to a migration loss if emigration increases. This was the case for the first time in 1967; it will be considered in the following section.

2.3.3. External Migration from 1962 to 1972

2.3.3.1. Intergovernmental Agreements Relating to the Employment of Alien Workers

Beginning in 1962, the inflow of persons from the German Democratic Republic and East Berlin had lost its bearing on the population growth while the determinant weight of the migration surplus shifted to persons coming from non-German countries who mostly had assured labour contracts and became resident in the Federal Republic for a certain number of years. The intergovernmental agreement on which these migration movements are based will be considered in brief.

Already at the beginning of the fifties, "Agreements Regarding Non-immigrant Workers" were concluded with nearly all West European countries. They provide for young people coming from the respective contracting countries to be employed as non-immigrant workers for a limited period of time. Agreements on the recruitment and placement of persons in search of work were concluded with Greece, Italy, Yugoslavia, Portugal, Spain, Turkey, Morocco and Tunisia. With regard to the technical placement procedure, it can generally be said that the Federal Institution of Labour maintains its own agencies in the contracting countries to

which the demands for workers are sent by the Labour Offices. Based on these demands and in coordination with competent foreign authorities, i.e. mostly the Ministries of Labour, applicants are interviewed and selected for placement.

Since November 8, 1968, the freedom of movement has formally been guaranteed for employees of the member states of the European Community (EC) which means that citizens of any member state (meanwhile numbering nine) are free to apply for any position offered within the EC on an equal footing and are entitled to move freely within the territory of all member states. All EC-employees are enjoying equal rights in all countries with respect to working conditions, social and tax privileges as well as pension claims.

2.3.3.2. The Volume of External Migration up to 1972

In September 1972, a total of 2.4 million alien workers were counted in the Federal Republic of Germany by the Federal Institute of Labour. This is equal to a proportion of employed aliens of 10.8 per cent (percentage of employed alien workers in the total number of persons in paid employment in the Federal Republic). Until far in the fifties, the employment of alien workers played only a minor role—as late as 1957, their number amounted to 100,000. Only with the beginning of full employment at the end of the fifties, the employment of alien workers became more and more important. After that time, their number also remained dependent upon further economic development: the proportion of aliens in paid employment at first rose continuously from 1.3 per cent in 1960 to 6.1 per cent, then dropped to 4.9 per cent due to the economic recession in 1967 and from that time increased faster again.

Up to 1962, but even again in 1965, the greatest migration surplus of the Federal Republic of Germany was attained in respect to Italy. During the economic recession in the Federal Republic in 1967, the migration loss in respect to this country was thereupon extremely high. In 1968, there again was a migration surplus with regard to the major contracting countries which, however, this time was due to the increased recruiting activities in Turkey and Yugoslavia.

The renewed economic uncertainty since 1970 again clearly affects the labour market for alien workers causing an other decrease in the migration surplus with respect to all countries.

The trend in the number of aliens and the structural changes connected with it will be analysed in Chapter 5. As a reaction to the present economic situation, the Federal Government passed a resolution on November 23, 1973, directing the Federal Institution of Labour to recruit no more workers from abroad for the time being. Prior to this measure, the placement fee to be paid by the employers had been raised and stricter inspections and controls had been ordered with regard to the accommodation supplied to workers by the firms. In addition, the Federal Government and the Laender Governments have agreed on a procedure to keep the volume of alien employment in overloaded agglomerations from increasing any further.

Some occupations are excluded from the recruitment stop, above all those in the social and health services. The measures furthermore do not infringe upon the rights of members of EC-countries to choose freely their place of work and their residence in any EC-country.

3. Population Composition in the Federal Republic of Germany

3.1. Sex and Age Structure of the Population

The sex and age structure of a population does not only set limits to the society's reproductive potential, it also is a determinant of other fundamental demographic variables and processes such as gainful occupation, school attendance or the formation of new households, and thus, secondarily, the level of employment, the economic situation generally or the housing situation. The age-sex structure is a result of past trends in fertility, mortality and migration. It, in turn, influences life expectation and population growth since births, deaths and migration occur with unequal frequency depending on sex and age. Because of these significant demographic, economic and social implications, the analysis of a population's sex and age structure is of particular importance.

An overall picture can be obtained by studying and comparing graphs depicting the age structure. Figure 8 shows the age structure of the resident population of the Federal Republic of Germany for the two sexes separately on January 1st, 1972. The historical events up to World War I and their demographic consequences are reflected in the age groups between 15 and 65 years. The indentations in the age pyramid, i.e. the smaller sizes of some age groups as compared with neighbouring age cohorts, can directly be associated with incisive historical events:

- the small sizes of the cohorts born between 1915 and 1919 inclusive are due to the birth losses during World War I;
- the indentations at the ages 39 to 41 inclusive reflect the birth decrease between 1930 and 1932 as a response to the situation during the depression which led to unemployment and losses of income. It is remarkable that married couples at that time practiced birth control even without the pill which did not exist yet;
- the small age groups between 25 and 28 inclusive are due to the birth losses at the end of World War II;
- the particularly great size of the age cohort between 32 and 38 years inclusive is attributable partly to the population policy during the period from 1933 to the beginning of World War II and partly to the additional number of children whose births had been deferred during the preceding depression in expectation of more favourable economic conditions;
- the larger sizes of the age groups of women aged 46 and over as compared with those of men are due to the war deaths of the latter. The losses during World War I are indicated by the greater proportion of women aged 54 and over, however, higher male mortality, above all due to heart and circulatory diseases also comes to bear in these age groups. According to the abridged life table 1968/70, the average life expectation is 67.24 years for males whereas it is 73.44 years for females. Thus a man aged 55 has the chance to live for 18.72 more years, while the respective chance for a woman of that age is 22.95 years.

A breakdown by age shows that the sizes of the individual age groups of both the male and female population have increased with relative evenness by about 60,000 to 100,000 persons each, owing to the inflow of expellees and refugees during and after World War II. The integration of alien workers after 1960 has affected the sizes of the male age groups far more distinctly than that of female age groups. In addition, the particular age structure of the aliens coming into the country has led to a greater increase in the age group between 25 and 45 years.

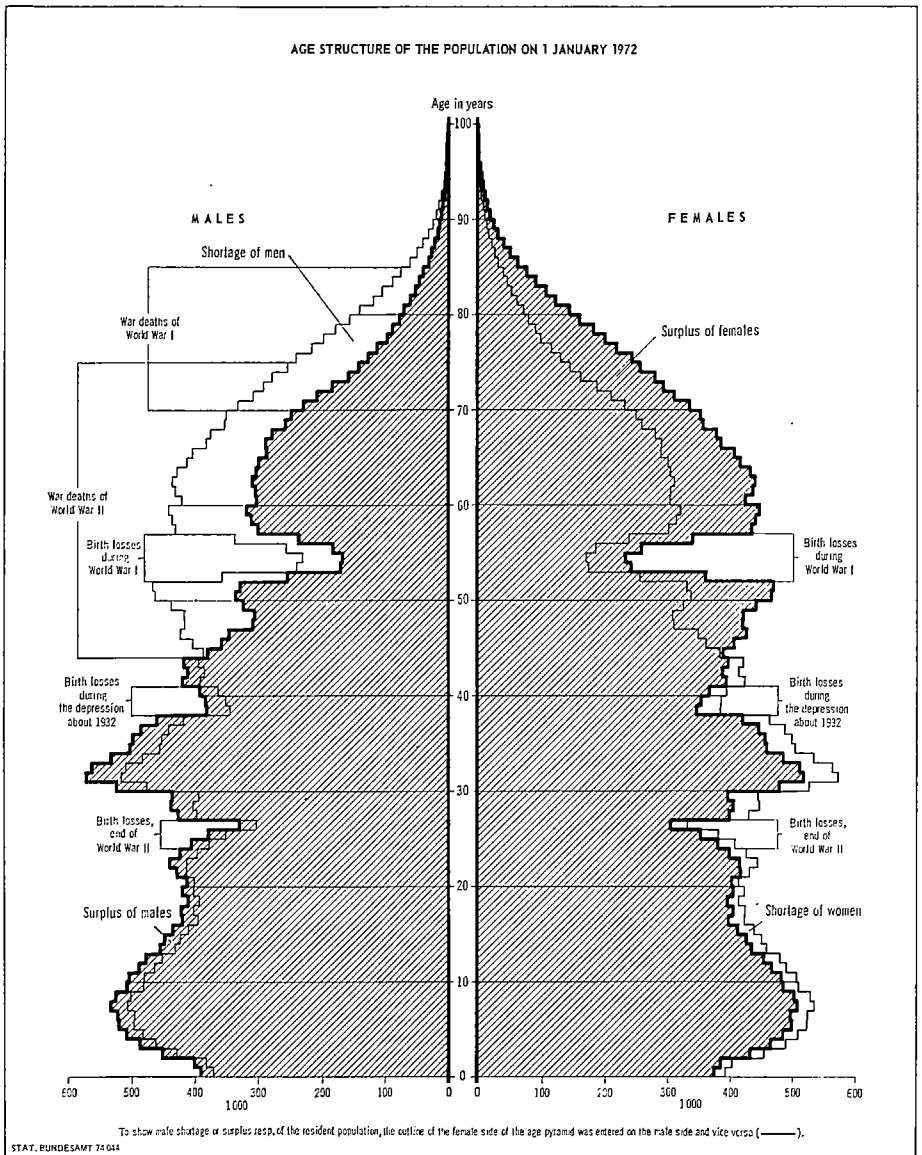
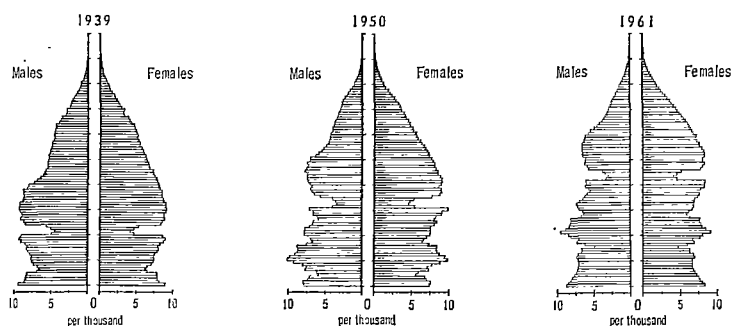


Figure 8

The structural shifts in the population of the Federal Republic, as mentioned, can be made clear by comparing the age pyramids of 1939, 1950 and 1961 shown in Figure 9. The ratio between the sexes which was greatly distorted as a result of the two World Wars has largely returned to normal. While in 1950 there were 1,142 women, in 1970 there were only 1,101 and in 1972 even only 1,093 women per 1,000 men.

AGE STRUCTURE OF THE RESIDENT POPULATION
TERRITORY OF THE GERMAN REICH 1939 AND FEDERAL TERRITORY 1950 AND 1961



STAT. BUNDESAMT 74 293

Figure 9

3.2. Development of Major Age Groups and Dependency Ratios 1950 to 1972

More exact analyses are made possible by forming functional age groups. In this connection the sex ratio, i.e. the number of males per 1,000 females in the same age group, is utilized as an important measure since it is directly related to vital events, i.e. births, deaths and marriages. The sex ratio of infants shortly after birth varies around 1,060 within a fairly narrow range. Since, however, the age-specific death rates of males are increasing more rapidly with growing age than those of females, this ratio is falling off in the higher age groups (Table 12). An even ratio is reached at about the age of 45.

Table 12
Age-specific sex ratios, 1950—1972 (Number of males per 1 000 females)

Age groups from . . . to less than . . . years	1950	1961	1970	1972
under 6	1 048	1 052	1 051	1 052
6—15	1 040	1 050	1 053	1 053
15—25	1 007	1 049	1 047	1 052
25—45	767	891	1 062	1 090
45—65	818	787	730	735
65 and over	809	665	629	621
Total	876	887	908	915

Table 13
Development of major age groups and dependency ratios, 1950—1972

Age groups	Unit	1950	1961	1970	1972
Total population	1 000	50 798	56 175	60 951	61 672
of which:					
under 6	per cent	8.1	9.4	9.5	8.5
6 to less than 15		15.2	12.3	13.7	14.3
15 to less than 20		7.2	6.5	6.6	6.7
under 20		30.5	28.2	29.8	29.5
20 to less than 25		7.4	8.5	6.1	6.8
25 to less than 45		28.2	25.8	28.2	27.9
15 to less than 45		42.8	40.8	40.9	41.4
45 to less than 60		19.9	20.7	16.6	16.3
60 to less than 65		4.6	5.7	6.1	5.9
20 to less than 65		60.1	60.7	57.0	56.9
65 and over		9.4	11.0	13.2	13.6
<hr/>					
Dependency ratio of youth (under 20 years)		53.1	49.2	55.6	55.4
Old age dependency ratio (males aged 65 and over, females aged 60 and over)		20.8	25.0	31.1	32.1
Overall dependency ratio		73.9	74.2	86.7	87.4
<hr/>					
Number and percentage of females aged 15 to less than 45 in relation to total number of females	1 000	11 808	11 785	12 064	12 305
	per cent	43.6	39.5	37.9	38.2

As was mentioned before, this general trend can be reduced by the immigration of persons of a certain age and sex structure. This tendency is obvious after 1961 particularly in the case of persons aged from 25 to less than 45. While the war and post-war effects still bear upon practically all age groups in 1950, distinct shifts in the sex ratios definitely take place in 1970 if not earlier. This effect, however, cannot be found in the case of the age groups beyond 45 years.

Since 1950, there have been distinct shifts not only in the sex ratios, but also in the major age groups, as shown in Table 13.

3.2.1. Pre-School Age Population (0 to less than 6 years)

During the past one hundred years, the percentage of this age group has decreased considerably, with the number of girls diminishing relatively more than that of boys. This may be due to the fact that the sex ratio of the new-born is not adjusted to the same extent in favour of the girls by the higher mortality of boys as was previously the case owing to the lower infant and child mortality now attained. Census results of 1961 and 1970 indicate a minor temporary rise which, however, falls off already in 1972. According to projections (cf. Chapter 6) a further decrease in the percentage of this population group can be expected owing to the persistent birth decrease. In 1973, about 435,000 fewer children were born than in 1964, the year with the highest number of births in the decade.

According to the results of the supplementary survey conducted in July 1972 within the scope of the microcensus, an average of 40 per cent of the children in this age group attend a kindergarten or other pre-school institutions including nursery schools and preparatory schools. This percentage rises with growing age; it is also partly dependent upon the social situation and size of the family and the gainful activity of mothers. Another 20 per cent cannot attend a kindergarten since these institutions are not available in sufficient numbers. The remaining 40 per cent do not attend any pre-school institutions for other reasons. Since this latter proportion is fairly large and cannot be regarded as remaining constant it cannot be expected that the shortage in the number of kindergartens will gradually be offset merely by the decrease in the number of children of pre-school age. A rise in the labour force participation rate of the mothers would immediately have a counter-effect on this trend.

3.2.2. Children of School Age and Youth Undergoing Advanced Education (6 to less than 15 years and 15 to less than 20 years)

As a long-range trend, a decrease is also to be expected with regard to this population group although the great sizes of the birth year cohorts up to 1964 have temporarily led to a rise of their percentage in the total population. As can be taken from the sex ratios of this age group, the number of girls again decreased relatively more than that of the boys (cf. Table 12).

Since a marked prolongation of school education and preparatory vocational training can be inferred from the rapid decline of the labour force participation rate in the age group from 15 to less than 20 years during the period from 1950 to 1972 (cf. Chapter 5), it is appropriate to record it separately and to take it into account in the compiling of the dependency ratio. It becomes obvious that due to the effect of the high birth rate age groups prior to 1970, the ratio of the number of persons aged under 20 years to the number of men aged 20 to less than 65 and of women aged 20 to less than 60 was greater in 1970 and 1972 than it was in 1950 and 1961 although the percentage of persons aged under 20 years in relation to the total population has not changed considerably. The increase in the dependency ratio of persons under 20 years of age can therefore be explained by a decrease since 1961 in the number of men and women of working age who mostly bear the cost of education.

3.2.3. Women of Childbearing Age (15 to less than 45 years)

The number of women of childbearing age has increased during the period from 1961 to 1970. Within the same period, the women's average age at marriage declined from 25.2 years in 1961 to 24.9 years in 1971. The proportion of married women in the total number of women aged 15 to 45 years rose from 60 to 67 per cent during the decade 1961/1971. With regard to this component, the demographic conditions for an increase in the number of births were therefore present. Yet the second half of the last decade was characterized by a sharp drop in the number of births while the number of deaths remained constant or, only temporarily, rose slightly. This decrease is due rather to changes in the generative behaviour of the

Table 14
**Age-specific labour force participation rates of women in childbearing ages
 (15 to less than 45 years)**

Age groups from . . . to less than . . . years	1950	1961	1970
15—20	76.7	78.2	64.4
20—25	69.9	71.9	67.1
25—45	40.7	46.7	47.6
15—45	50.6	56.5	53.2

population than to shifts in the age distribution or nuptiality (cf. Chapter 2). The changes in the generative behaviour are frequently associated with changes in the women's share in gainful activity. Only in the case of women aged 25 to less than 45 the slight increase in the percentage of those gainfully active as related to the total number of women of childbearing age may have affected their fertility since this percentage has been rising continuously since 1950 (Table 14). This, however, is no plausible explanation for the birth decrease. Most of the children are born prior to the 28th birthday of their mothers, i.e. at an age only a little above the lower bracket of this age group. The average age of the mother at the birth of her first child is even lower (1970 = 24.3). In the case of women aged 15 to less than 25, the participation in gainful activity at first rose until 1961 and then dropped sharply due especially to a marked prolongation of their education.

3.2.4. *The Population of Working Age (15 to less than 60/65 years)*

Up to 1970, there was a minor decrease in the number of the younger persons (15 to less than 45 years) within the working age group, which was followed, however, by a slight rise in 1972 (cf. Table 13). Regarding the age group 45 to less than 60, there has been a continuous decrease since 1961. This trend is partly reflected in the old age dependency ratio, i.e. the ratio between that part of the population which owing to its age is entitled to old age pension and the number of persons who still are of working age. Also the overall dependency ratio has been rising continuously since 1950, i.e. the ratio between the total number of persons who according to the age criterion applied are not yet of working age or have passed that age and the men and women of working age. The burden imposed on the gainfully active by the aged has increased relatively more than that imposed by the young. According to the projections (cf. Chapter 6) a decrease is to be expected in this regard, too.

This trend is partly due to the fact that the proportion of the aged has shown a relatively large increase while the proportion of the working population (15 to less than 65 years) has decreased, in particular between 1961 and 1970. This was caused in part by the fact that the low birth rate age groups of the end of World War II reached working age. During the same period, a proportion of the low birth rate age groups of World War I and of the Depression have not yet reached retirement age which in the Federal Republic is 60 years for women and 63 years for men. However, a great proportion of women and the majority of men work at least up to 65 years of age (cf. Chapter 5).

Table 15
Percentage of aged in the resident population, 1950—1972

Year	Age groups	Percentage of resident population	Number (in thousands)	Males (in %)	Females (in %)
1950	60 to less than 65	4.6	2340	43.5	56.5
	65 and over	9.4	4762	44.7	55.3
	60 and over	14.0	7102	44.3	55.7
1961	60 to less than 65	5.6	3193	43.5	56.5
	65 and over	11.2	6255	(39.9)	(60.1)
	60 and over	16.8	9448	(41.2)	(58.8)
1970	60 to less than 65	6.0	3687	42.4	57.6
	65 and over	13.2	7991	38.6	61.4
	60 and over	19.2	11678	39.8	60.2
1972	60 to less than 65	5.9	3654	41.4	58.6
	65 and over	13.6	8408	38.3	61.7
	60 and over	19.5	12062	39.2	60.8

3.2.5. The Old Population

The proportion of persons aged over 65 increased from 9.4 per cent in 1950 to 13.6 per cent in 1972. Since, however, the age of 60 is to be considered as the retirement age for women, both age groups as well as the proportion of the persons aged between 60 and 65 years are indicated in Table 15.

The greater proportion of the older age groups in the total population is mainly due to a rise in the percentage of older women. As was mentioned before, this was brought about mainly by the effects of the war and higher female life expectancy. This situation is not expected to change in the near future.

According to 1972 microcensus results, only about 270,000 persons out of the total of 8.4 million persons aged 65 years and over live in homes for the aged or similar institutions, whereas about 2.7 million live in own households, i.e. mostly women living by themselves.

Table 16
Selected age groups of the resident population by type of household, 1972

Age groups	Sex	Number (in thousands)	Percent distribution		
			One-person-households	Multi-person-households	Institutions
60 and over	Total	12 125	28.0	69.5	2.5
	Males	4 841	11.2	87.1	1.7
	Females	7 284	39.1	57.8	3.1
60 to less than 65	Total	3 710	20.7	78.2	1.1
	Males	1 549	7.4	91.5	1.0
	Females	2 161	30.2	68.7	1.1
65 and over	Total	8 415	31.2	65.6	3.2
	Males	3 292	13.0	85.0	2.0
	Females	5 123	42.9	53.2	3.9

An age-specific accumulation with respect to persons living in one-person-households or institutions is especially marked in the case of women (Table 16). Older men more frequently live in multi-person-households and thus represent a relatively smaller problem of social and socio-political integration.

3.3. Marital Status

While age and sex are biological factors, the marital status is a social and legal characteristic. From a demographic point of view, its importance is seen in the great effect it has on fertility since about 94 per cent of all children are born to married couples. Moreover, statistics on the marital status are required for assessing the wedding chances of bachelors and the persistence of marriages. The marital status indirectly also affects mortality and participation in gainful activity.

It is remarkable that the proportion of single males and females decreased continuously. On the other hand, the percentages of widowed and divorced women rose more rapidly than those of men (Table 17).

The decrease in the proportion of single persons has been interpreted as a rise in the propensity to marriage. This conclusion, however, is only justified if the effect of the different age structures existing at the respective census dates is eliminated. But even if after the elimination of the age effect the proportion of the persons ever married in relation to the total population of 1950 is taken as 100 per cent, that proportion increases to 105.5 per cent in 1961 and even to 110.4 per cent in 1970. This confirms an increase in the propensity to marriage. But since fertility rates are retrograde (as was shown above) a slackening in the link between fertility and marriage as well as a rise in the percentage of childless marriages can be expected.

The absolute number of marriages reached its post-war peak in 1950 (almost 536,000) closely followed by 531,000 marriages in 1962. Up to 1972, however, there is a retrograde trend which is due to the fact that between the mid-sixties and the mid-seventies the low birth rate age groups of the end of World War II reached the height of their marriable age. 1.8 per cent of about 444,500 marriages in 1970

Table 17
Resident population by marital status, 1950—1972

Year	Sex	Population in thousands	Percent distribution			
			Single	Married	Widowed	Divorced
1950	Total	50 798	44.7	45.8	8.1	1.4
	Males	23 718	47.3	48.3	3.4	1.0
	Females	27 081	42.5	43.6	12.2	1.7
1961	Total	56 175	40.9	48.8	8.6	1.6
	Males	26 413	44.1	51.8	3.0	1.1
	Females	29 761	38.1	46.2	13.6	2.1
1972	Total	61 606	39.1	50.5	8.6	1.8
	Males	29 435	42.7	53.4	2.6	1.3
	Females	32 171	35.8	47.8	14.1	2.3

were contracted between alien partners, 5.6 per cent between a German and an alien partner.

The number of divorces, which was very large in the first post-war years due to the great proportion of wrecked marriages, attained its lowest level in 1956 and has been increasing since that time. This is also shown by the fact that every 280th marriage was divorced in 1960 whereas it was every 196th in 1970. The duration of marriage till the date of divorce, however, has not changed markedly. Two fifths of all divorces still occur within the first five years of marriage and two thirds within the first ten years. The proportion of divorced couples with children under age also shows a rising trend attaining 64 per cent in 1970. In all, the number of children affected by the divorce of their parents has doubled from 1956 to 1970 amounting to 86,000.

3.4. Private Households and Families

The household represents the smallest group of persons living together and making common provision for food or other essentials. Households may consist of one person only (including those of subtenants). It is remarkable that in the Federal Republic, as in many other countries, the number of households is increasing relatively faster than the population. Between 1950 and 1970, the number of households increased by 32 per cent whereas the increase in the number of household members amounted only to 21 per cent. On an average, each household comprised only 2.7 persons in 1972. The large increase in the number of households is due mainly to the rise in the number of one- and two-person-households, whereas there is a marked decrease in the number of larger households (Table 18).

This fast increase in the number of households is of social, economic and ecological significance. Social because of the care of older persons, economic because of the high rate of increase in the demand for durable consumer goods which is out of proportion with the increase in the population, ecological because of the close connection between the number of households and regional planning as well as environmental problems, for instance between the number of households, or dwellings, and the amount of waste or air pollution by heating plants.

During the period following World War II, the family rather than the private household became an object of socio-political measures. According to the def-

Table 18
Private households by household size, 1950—1972

Year	Private households					
	Total	with . . . members				
		1	2	3	4	5 and more
	1000	%				
1950	16 650	19.4	25.3	23.0	16.2	16.1
1961	19 460	20.6	26.5	22.6	16.0	14.3
1970	21 990	25.1	27.1	19.6	15.3	12.9
1972	22 994	26.2	27.9	18.9	15.0	12.0

inition of the United Nations, a family is a group consisting of parents or one parent with their unmarried children. In family statistics of the Federal Republic, family types also include married couples as well as widowed and divorced persons and separated couples without children. The family, contrary to the private households, thus is restricted to the so-called nuclear family, i.e. a family consisting of two generations at the most.

In April 1972, 59.0 million persons lived in families, another 1.9 million were unmarried persons living by themselves in private households, and 1.1 million persons lived in group quarters, homes, or other institutions. At the same time there were 22.4 million families of which 43 per cent were complete families with unmarried children and 25 per cent without children or whose children already had left the family (Table 19). Among the 1.5 million incomplete families with children (1972), widows with children represented the largest part, they also constituted the greatest proportion in the total number of divorced or widowed heads of family without children. In this connection, it is to be noted that the number of families increased by 19.7 per cent from 1957 to 1971 while the total population rose by only 15.0 per cent.

The number of families with children increased by only 5 per cent whereas the number of families without children rose by 35 per cent. There was a rapid decline in the number of widows with children (by 37 per cent), on the other hand the number of widows with no children in the family increased considerably (by 55 per cent). This shift since 1957 is due to the great number of war widows who at that time were in an age group in which their adolescent children were still living with them in the same household; in the following years the children left their mother's family and established a family of their own.

In 1971, about 21.1 million children lived in 11.1 million families which is more than half of the total number of families, thus on an average there were 190 children per 100 families. If the families are classified by complete and incomplete families, it

Table 19
Families by number of unmarried children, 1957—1972

	1957	1961	1970	1972
Married couples (in thousands)	12 921	13 493	15 084	15 400
of which: with unmarried children (in per cent)				
0	33.7	34.2	35.9	37.0
1	30.0	30.4	27.0	26.4
2	21.7	21.5	22.1	21.8
3 and more	14.6	13.9	15.0	14.7
Heads of incom- plete families (in thousands)	5 795	6 351	6 970	7 006
of which: with unmarried children (in per cent)				
0	64.7	67.7	77.9	79.0
1	22.3	21.6	15.2	14.4
2 and more	13.0	10.7	6.9	6.6

can be noted that about 18.9 million children lived in 9.6 million complete families, which means that on an average there were 196 children per 100 married couples. On the other hand, a total of about 2.2 million children lived in households with 1.5 million heads of incomplete families, i.e. there was an average of 149 children per 100 heads of incomplete families. The proportion of families without unmarried children is increasing; this is true for married couples and especially for heads of incomplete families. The reasons for this trend have been analysed above.

3.5. Education

Data on the population structure by educational attainment and school enrolment have been recorded in population censuses since 1961. At first university and technical school education was ascertained; in 1970, all schools providing general education were also included. Thus it is possible to show the educational level of the entire population and to clarify issues of replacement demand and vocational requirements of the coming generation. While data on the number of schools, pupils, students and their teachers have been available for a long time in various breakdowns, it was for the first time in the census of 1970 that the resident population was recorded by the highest level of education achieved.

22.2 per cent of the people counted in the Federal Republic in 1970 have attained a level of general or vocational education beyond primary school (Table 20). The proportion of illiterates is extremely low consisting only of physically or mentally handicapped persons who are unable to learn. Between 1961 and 1970, the percentage of people who completed their education at vocational and technical schools has more than doubled, in the higher education sector the increase was 25 per cent.

There are remarkable sex-specific differences in the various kinds of education completed: women more frequently completed primary and intermediate schools, whereas men were clearly predominant in completing all other kinds of schools.

Table 20
Persons¹⁾ by highest level of education achieved by 1970

Level of education	in %	Total in thousands	of which (in %)	
			Males	Females
Primary school	77.8	34 626	43.9	56.1
Intermediate school	8.6	3 823	38.5	61.5
High school	1.6	692	57.8	42.2
Vocational or technical school	8.2	3 668	56.1	43.9
Engineering school	1.0	446	98.0	2.0
University	2.8	1 256	66.7	33.3
Total	100	44 511	—	—

¹⁾ Resident population excl. those not yet attending school and those attending school without having completed at least one educational level.

Table 21
Enrolment rates at different levels of education, 1961—1970

Levels of education	Age groups of students	Enrolment rates		
		1961	1969	1970
Primary	6 to less than 10	81.4	89.4	90.6
Secondary I	10 to less than 16	87.7	93.4	90.9
Secondary II	16 to less than 25	5.6	8.3	9.8
Tertiary	18 to less than 27	4.3	6.6	7.4
Total	6 to less than 27	40.6	52.7	54.0

Within the framework of the overall educational planning in the Federal Republic, the following standard classification of educational levels is used:

primary: comprising primary and special schools (1st to 4th class).

secondary I: comprising primary upper level, special and intermediate schools as well as upper high school classes (5th to 10th class).

secondary II: comprising all forms from 11th to 13th class of high schools, advanced vocational schools, full time vocational and technical schools.

tertiary: comprising technical colleges, schools for medical occupations as well as for technicians, engineering schools, universities.

The significant role which successful education at general schools, vocational and technical schools as well as at universities plays for the future skill and ability of the population has increasingly been recognized during the past two decades. Accordingly, there has been a remarkable change with respect to participation in the different levels of education, especially secondary II and tertiary level (Table 21). Between 1961 and 1970, there was an increase in the number and size of schools except for primary schools and universities where the number of small units could be reduced due to the establishment of larger institutions. The teacher-pupil-ratio remained constant or could even be improved with the exception of vocational schools where it deteriorated markedly. —In all, these data reflect clearly that the population is willing to acquire more education and that the government authorities are endeavouring to supply the necessary educational institutions by establishing new facilities or reorganizing existing ones.

3.6. Further Population Characteristics

3.6.1. Religious Denomination

According to the constitution of the Federal Republic (Basic Law) no one is compelled to disclose his religious beliefs. The legal membership in a religious community may, however, be inquired in population censuses (Table 22). In demographic analysis, different birth rates in the various denominational groups could still be observed a few years ago. Furthermore, political attitudes and other kinds of social behaviour are determined by religious traditions and norms.

Table 22

Resident population by religious denomination, 1950—1970

	1950	1961	1970
Population (in thousands)	50 798	56 175	60 651
Members (%) of			
Lutheran Church	51.7	52.1	50.0
Roman-Catholic Church	44.3	44.1	44.6
Others or without denomination	4.0	3.7	5.3

3.6.2. Refugees and Expellees

Without the influx and integration of refugees and expellees the rebuilding and development of the economy of the Federal Republic would not have been possible to the same extent as was actually accomplished during the past 25 years. Expellees are considered to be all persons including their children who as German nationals or ethnic Germans were resident in an expulsion territory on September 1st, 1939, e.g. in the eastern territories of the German Reich as geographically covered on December 31st, 1937. Refugees are defined as being German nationals and their children who after the end of the war migrated into federal territory from the territory of the German Democratic Republic and East Berlin without having been expelled.

Mainly in the fifties, the integration, distribution and redistribution of refugees and expellees constituted a considerable problem. Without the refugees, expellees and aliens, the potential labour force of 25.1 million people would be about 7 million less. The proportion of refugees and expellees (5.5 million in all age groups) in relation to the total number of gainfully active persons is, numerically, of greater significance than that of aliens (2.2 million in 1971).

3.6.3. Nationality

The rapid economic development in the Federal Republic of Germany, particularly at the end of the sixties, entailed an increasing manpower shortage. That shortage was intensified by the fact that the number of persons of working age was declining while the time spent on education was increasing (cf. Chapter 5). Efforts were made to overcome the manpower shortage by employing more alien workers.

The number of alien wage and salary earners increased from 73,000 in 1954 to 2.3 million in June 1972. The total number of aliens, including self-employed and families, was 3.9 million at the end of September 1973. The majority of aliens, i.e. 84 per cent, were nationals of eight countries on 30 September 1973 (Table 23).

Typical of most aliens during the past decade was their limited stay in the Federal Republic (cf. Chapter 5). From 1962 to 1971, 7.3 million persons migrated to the Federal Republic, 90 per cent of whom were aliens. During the same period, 4.8 million persons left federal territory, the percentage of aliens being 85. The

Table 23
Aliens by selected nationalities, 1967—1973

Nationals of	1967 ¹⁾		1971 ¹⁾		1973 ¹⁾	
	1 000	%	1 000	%	1 000	%
Turkey	172.2	9.5	652.8	19.0	910.5	23.0
Yugoslavia	140.6	7.8	594.3	17.3	701.6	17.7
Italy	412.8	22.8	589.8	17.2	630.7	15.9
Greece	201.0	11.1	304.9	11.5	407.6	10.3
Spain	177.0	9.8	270.4	7.9	287.0	7.2
Austria	115.6	6.4	163.3	4.7	173.2	4.4
Netherlands	97.9	5.4	108.7	3.2	106.2	2.7
Portugal	24.0	1.3	75.2	2.2	112.0	2.8
Other	465.6	25.8	589.3	17.1	637.4	16.1
Total	1 806.7		3 438.7		3 966.2	

¹⁾ 1967 and 1973: end of September, 1971: end of December.

percentage of gainfully active persons in the total number of in-migrants was between 68 and 82. In recent years, the proportion of gainfully active in-migrants has slightly declined due to the arrival of more families.

4. Population Distribution and Domestic Migrations

4.1. Geographic Distribution of the Population

Life in the Federal Republic of Germany is progressively determined by urban forms of living. In 1973 approximately 75 per cent of the population lived in communes with more than 5,000 inhabitants while one third was concentrated in 60 communes with more than 100,000 inhabitants. This high degree of urbanization and the unequal distribution of these communes in the area of the Federal Republic led to a concentration of 45 per cent of the population in so-called agglomeration areas comprising only 7 per cent of the total area. The gap between the economic and social conditions in the agglomeration areas and those in the rural regions had widened to such an extent that the German Parliament in 1965 passed a regional planning act providing for the development of rural areas so as to ensure equivalent living conditions for the people in all parts of the Federal Republic and to prevent or remove pollution damage especially in the agglomeration areas.

4.1.1. Population Distribution by Size Classes of Communes

By dividing the population, as is usually done, according to the size of the communes it lives in, the censuses of 1950, 1961 and 1970 yield the distribution shown in Table 24.

The high degree of urbanization which was already high at the end of the war continued increasing during the decade from 1950 to 1961, a development marked by the reconstruction of the devastated communes and a new wave of industrialization. The proportion of population living in towns with 100,000 inhabitants and more rose from 31 to 34 per cent; in the following decade, however, the proportion of persons living in large towns declined again.

The proportion of population living in communes with 5,000 to 100,000 inhabitants also increased whereas the percentage of inhabitants of smaller communes declined considerably. The large population growth around the big cities, the population growth of middle-sized communes outside agglomerations which is also considerable and the population decline in smaller communes situated relatively far from big cities are characteristic of the regional development.

Table 24
Percentage distribution of population by size classes of communes

Communes with . . . to less than . . . inhabitants	1950	1961	1970
under 2 000	25.5	20.7	18.7
2 000— 5 000	11.7	11.7	11.2
5 000— 20 000	16.5	17.2	18.9
20 000—100 000	15.5	16.5	18.8
100 000 and over	31.1	34.2	32.4

4.1.2. Population Density of the Federal States

The uneven distribution of communes of different size groups throughout the area of the Federal Republic leads to great differences in the regional population densities. These differences can be seen from the figures given on the map of the Federal Republic of Germany: except for the city-states of Hamburg, Bremen, West Berlin, where the rather thinly populated surroundings are situated outside the administrative borders, the highly industrialized states of Northrhine-Westphalia, Hesse, Saarland, and Baden-Wuerttemberg show a population density above the average, namely 500 inhabitants per sq. km, whereas primarily in the northern states (Schleswig-Holstein and Lower Saxony) and in the South (Bavaria) the densities amount to between 150 and 165.

4.1.3. Population Distribution in Urban and Rural Regions

As the Federal Republic is a highly industrialized country it is extremely difficult to distinguish the "rural regions" unequivocally from the urban, non-rural regions. In the preindustrial time the rural regions were almost exclusively the habitat of the agricultural population and as such of different external appearance than the towns which were the habitat of citizens engaging in trade, commerce and administration. In the 19th and 20th centuries especially the cities expanded in all directions into the rural regions transferring to there urban ways of living and working. As a result of growing functional interactions between urban and rural regions a process of integration is taking place involving the outward appearance, the population structure, the social and professional structure and attitudes. This process diminishes more and more the old contrast between city and country.

It seems to be easier to define first those regions which owing to close functional relations with a bigger town have undergone a process of restructuring and which can be characterized as urbanized regions in a broader sense. The classification of communes into size groups is no longer sufficient for the purpose of statistical documentation, so that criteria for the measurement of functional relations have had to be developed. A "town-region" model was therefore worked out in the Federal Republic. A town region is an agglomeration area in the vicinity of a town the inhabitants of which mainly practise non-agricultural professions and who for the most or at least a considerable part earn their living on jobs in the central town. Thus the town regions prove to be a socio-economic regional unit, the main criteria of which are not only a considerable size and degree of agglomeration but particularly close social and economic ties between the town and the surrounding areas.

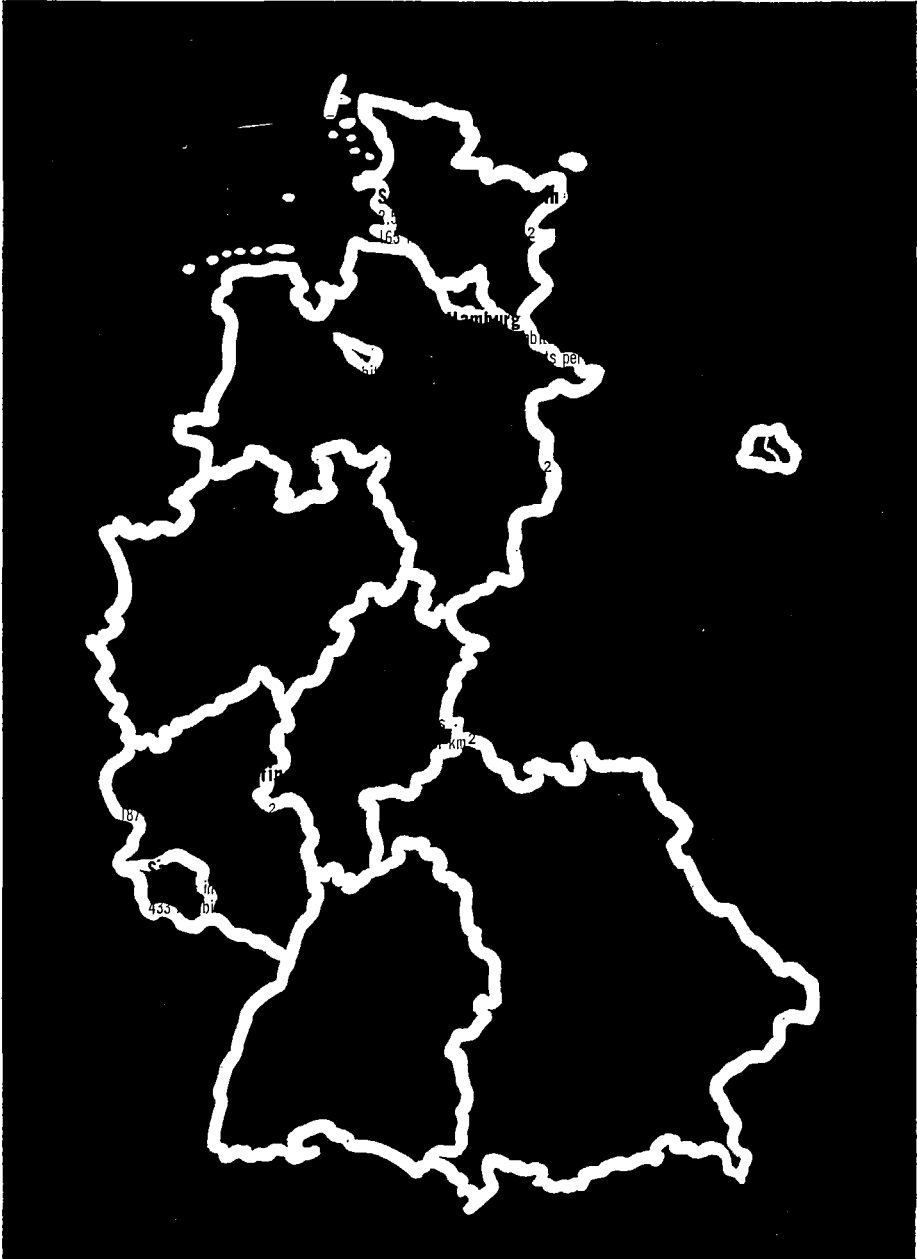
Definition criteria of town regions are

1. the proportion of persons employed in agriculture,
2. the proportion of job commuters towards the central town, and
3. the population density.

To differentiate the communes within a town region, different zones are established as being characterized by certain threshold values of the above criteria. The zones are fixed as follows: the centre of the town region is the administrative area consisting of one or more "central towns". These are surrounded by a "complementary region" which is very similar to the central town both in structural and

FEDERAL REPUBLIC OF GERMANY

1 January 1974



STAT. BUNDESAMT 74 444

functional respects. The population density in the complementary region amounts to more than 500 inhabitants per sq. km. The adjoining "urbanized zone" with a considerably disaggregated kind of settlement still shows a pronounced townlike structure of employment. The majority of gainfully active persons works in the central town or the complementary region. The outer ring is formed by the "peripheral zone". This zone comprises communes where the vast majority of gainfully active persons practises non-agricultural professions. More than 20 per cent of these persons commute to the central town or to the complementary region. Finally it is a condition that the entire town region must have a minimum population of 80,000. According to this model, census results were used to delimit 56 town regions in 1950 and 68 in 1961 and 1970.

Though the population of these town regions surely cannot be described as urban, it differs from the population of rural regions by its functional ties with the central town and its rather urbanized way of life. Therefore it seems to be correct to class all persons not living in town regions among the population of rural regions.

In 1970 the town regions covered an area of 43,260 sq. km in total; this is 17.4 per cent of the total area of the Federal Republic. To this relatively small area, however, correspond 56.1 per cent of the total population of the Federal Republic. In comparison with 1961 (56.2 per cent) this quota had hardly changed; it did change, however, in comparison with 1950 when only 50.3 per cent of the total population lived within the area of the town regions of 1970.

The process of urbanization affecting the population of the Federal Republic is clearly demonstrated by the changes that occurred in the town regions (Table 25). While the total population increased by 20.3 per cent from 1950 to 1970, the increase was 34.2 per cent in the town regions. The division of the town regions into zones shows, however, that the population increase in the central towns fell short of the increase in their immediate surroundings: an increase of 28.1 per cent in the central towns is faced by an increase of 55.4 per cent in the complementary region

Table 25
Population trends in the urban regions of the Federal Republic of Germany, 1950—1970

Year	Population in the Federal Republic of Germany (excl. Berlin-West)	Population living in urban regions				
		Total	Central city	Transitional zone	Urbanized zone	Fringe
1950 (1000)	48 651	24 452	16 038	3 852	3 051	1 510
(%)		100	65.8	15.8	12.5	6.2
1961 (1000)	53 978	30 341	20 289	4 999	3 546	1 507
(%)		100	66.9	16.5	11.7	5.0
1970 (1000)	58 528	32 819	20 540	5 986	4 541	1 751
(%)		100	62.6	18.2	13.8	5.3
Changes 1950/1961 (in %)	+10.9	+24.1	+26.5	+29.8	+16.2	-0.2
Changes 1961/1970 (in %)	+ 8.4	+8.2	+ 1.2	+19.8	+28.1	+16.2
Changes 1950/1970 (in %)	+20.3	+34.2	+28.1	+55.4	+48.9	+16.0

and by 48.9 per cent in the urbanized zone. Only the peripheral zone constituting the transition to rural regions shows an increase of 16 per cent which is below average. These growth rates make clear that the growth of town regions is for the most part taking place in the peripheral areas near the central towns.

During the decade 1961 to 1970 as compared with 1950 to 1961 the focal point of growth shifted markedly to outward regions. While in the fifties central towns and complementary regions had a population increase (26.5 per cent) two and a half times as great as the average of the Federal Republic, growth in the peripheral zone still was stagnating (-0.2 per cent). In the sixties, however, the growth of the central towns amounted to only one seventh of the total average, and also in the complementary regions it had heavily decreased (19.8 vs. 29.8 per cent). Meanwhile the tendency to growth had reached the urbanized zone which increased by 28.1 per cent, this being the highest percentage rise, whereas the peripheral zone came up to twice the total average. Thus the growth of the town regions which had barely reached the total average during the sixties shifted increasingly to the peripheral zones.

In total, from 1961 to 1970, growth in the town regions remained with 8.2 per cent slightly below the average of 8.4 per cent. It has to be considered, however, that the population density in the town regions for the reason of the latter's small share of the total area, i.e. 17.4 per cent, increased by a greater amount than did the density of the rest of the federal territory, namely from 701 to 759 inhabitants per sq. km against a rise of 126 to 136 in the latter area. Thus there has been an increasing density also in the town regions where large numbers of people are living close together in any case.

A comparison of the percentage growth of communes in town regions with that of outside communes shows that except for the central towns the population growth of all town-region communes surpassed by far the total average of 7.9 per cent (Table 26). In this group, communes with 2,000 to 20,000 inhabitants registered the highest growth rate, i.e. over 24 per cent.

Table 26
Population growth of communes within and outside of urban regions
(in per cent) 1961—1970

Type of commune	Communes in urban regions	Other communes
Communes with . . . to less than . . . inhabitants		
Central cities	1.2	—
Communities in the urban ring	22.2	—
100 000 and over	—	-2.9
50 000—100 000	15.8	4.1
20 000— 50 000	18.2	7.5
10 000— 20 000	27.3	11.6
5 000— 10 000	27.2	12.2
2 000— 5 000	24.9	12.1
1 000— 2 000	21.2	10.1
under 1 000	11.0	3.1
under 100 000 (excl. central cities)	22.2	8.7
Total	8.2	7.7
Grand total		7.9

The population increase in the communes of rural areas for all size groups ranged far below the increase in town regions; as to the groups numbering 1,000 to 20,000 inhabitants, however, it was above the total average. This means that concentration movements are going on also in the rural regions which, taken altogether, only slightly fell short of the average growth in the Federal Republic. Whilst the small rural communes with up to 1,000 inhabitants in the sixties had a growth rate of only 3.1 per cent, the population increase concentrates on communes of smaller and medium size, especially those with between 2,000 and 10,000 inhabitants; the latter record a growth of more than 12 per cent.

These tendencies are in accord with the intentions of official regional planning in the Federal Republic which aims at using the advantages of agglomeration to the benefit of rural areas by giving priority to the promotion of development centres. This makes it possible to provide rural regions with public and private institutions and to create a more varied supply of jobs. In the town regions both conditions already exist and contribute to their attraction. Moreover, the high cost of the necessary infrastructure and a minimum of agglomeration advantages require a concentrated effort in such development centres. Consequently this concept of regional planning leads to a progressive dissolution of the contrast between urban and rural regions.

4.1.4. Population in the Big Cities

Taking as a basis for the size of a commune the number of inhabitants living within its administrative borders, which often are the result of history, there are in the Federal Republic, in addition to the western part of Berlin with about 2.1 million inhabitants, two more cities with more than a million people, namely Hamburg being a "city-state", an independent federal state with about 1.8 million people in 1972, and Munich, capital of the state of Bavaria, with more than 1.3 million people. As shown in the preceding section vast parts of the surroundings of these cities (excluding West Berlin) became themselves parts of the urban framework of settlement and functional relations. Therefore it is more compatible with the concept of a metropolis as a functional regional system of a higher degree to base the number of inhabitants on the town region as a whole.

While Hamburg and Munich could be characterized as pronounced centrally oriented town regions having each only one dominating central town, the most significant town region in the Rhine-Main region are the neighbouring towns of Frankfurt and Offenbach. The town region of Stuttgart and above all that of Rhine-Ruhr are covered by a great number of towns of different size forming polycentric urban systems.

The economic power of these five largest town regions is made especially evident by the following figures: in 1970, 28.9 per cent of the total population of the Federal Republic (except West Berlin) lived in these areas, furthermore 30.9 per cent of the persons employed in the manufacturing industry, 34.8 per cent of those in trade, 35.6 per cent of those in the fields of transport and communication, finally 42 per cent of the persons employed in the banking and insurance branches.

The strength of the metropolization process since 1950 can be shown by the following comparison. While the five largest town regions taken together had a population growth of 35.5 per cent, the growth of the rest of the Federal Republic amounted to only 15 per cent.

The trend to concentration in these metropolitan areas will be accompanied by a continuous concentration of jobs in the central areas and a further extension of the peripheral zones also for the future.

The positive factors of development in the metropolitan areas or generally in the agglomeration areas are, for example, easy fulfilment of wishes and expectations with regard to supplies, realization of wishes for individual development because of a manifold supply of education and working opportunities, a not too costly regional development by means of an efficient local transport system and finally general agglomeration advantages for people and enterprises. These factors are confronted with a series of negative processes that can be comprised in terms of a displacement of unprofitable functions, urban sprawl, impairment of environment. Examples of unprofitable functions are the conversion of dwellings into office space in the centres of bigger towns and the resulting desolation of cities after business hours. Measures to prevent or abolish these unwanted consequences of an intensified agglomeration are being discussed at government level at the present time and are expected to materialize in a federal regional planning program.

4.2. Agricultural and Non-agricultural Population

The part of the population that earns its living directly in agriculture (in the following forestry and fisheries are included) has declined from 7 million to 2.8 million from 1950 to 1970. This means a decline of this group's proportion to one third of the initial level (Table 27). What effects the movement of women from agriculture into sectors of employment outside the home may have had on the number of births is discussed in Chapter 2 for the period from 1961 to 1971.

In 1970, 4.7 per cent of the total population lived on the principal earner's work in agriculture. This proportion reached its maximum figures in the least industrialized states in the North and South of the Federal Republic, i.e. Schleswig-Holstein (6.8 per cent), Lower Saxony (7.1 per cent), and Bavaria (8.2 per cent).

The development of the employment situation and the economic structure in this sector was characterized by an increasing tendency of agricultural workers to move to other sectors, taking mainly industrial jobs, and by a greater use of machinery to make up for the resulting shortage of labour. However, the intensified mechanization could make the necessary investment expenditure profitable only where farms were sufficiently big. Smaller farms were not able to produce in-

Table 27

Resident population with breadwinner's main source of livelihood in agriculture, forestry and fishery, 1950, 1961, 1970

In thousands	
1950	7 007.1
1961	4 500.0
1970	2 826.7
Per cent of resident population	
1950	14.7
1961	10.0
1970	4.7
Per cent decrease 1950—1970	68.0

Table 28
Farms by acreage, 1949 and 1972

Year	Total	Number of farms		
		By area utilized for agricultural purposes from . . . to . . . hectares		
		0.5—2.0	2.0—20.0	20 and more
1949	1 938 749	597 721	1 213 015	128 013
1972	1 140 064	279 830	668 145	192 089
Changes 1949—1972	—798 685	—317 891	—544 870	+64 076
in %	—41.2	—53.2	—55.1	+50.1

comes adequate to the higher living standard and had to be shut down or changed into a subsidiary means of livelihood. In total, from 1949 to 1972 the number of farms decreased by nearly 800,000 or 41.2 per cent (Table 28). Farms with a size of 0.5 to 20 ha declined by more than 50 per cent, whereas the number of farms with a utilized area of more than 20 ha increased, so that the agriculturally utilized area per farm went up from 6.96 in 1949 to 11.15 ha in 1972. For the future, one probably has to expect a continuing decrease of the agricultural population.

4.3. Domestic Migrations¹⁾

4.3.1. Migrations between the Federal States

The population displacements as a result of the Second World War and its consequences had led in some states to a large proportion of persons who before the war had resided outside federal territory or at least in another federal state. In 1950 this share was 45 per cent in Schleswig-Holstein, 38 per cent in Lower Saxony and 26 per cent for Hesse and Bavaria each.

The population distribution ensuing from the accommodation of refugees and expellees, which primarily depended on the housing space available, could have been maintained only by building up new industrial plants—and that at places which already in pre-war times had proven to be unsuited for this purpose. The reconstruction of the economy and the expansion of the economic potential concentrated, however, primarily on the hitherto existing places where conditions were more favourable and led to further large population displacements in the direction of regions with a greater supply of jobs. By several resettlement programs the Federal Government considerably supported migration from the states of Schleswig-Holstein, Lower Saxony and Bavaria, primarily to Northrhine-Westphalia, the city-states of Hamburg and Bremen, and to Baden-Wuerttemberg. By the end of 1961 these programs which provided for the resettlement of a total of 1.1 million people had been practically implemented.

Besides these induced migratory streams, independent migration between the Federal states resulted in a decrease of the population of Schleswig-Holstein, Lower

¹⁾ The contents of this section is to a great extent based on a publication by K. Schwarz, *Analyse der räumlichen Bevölkerungsbewegungen*, Hannover, 1969.

Saxony and Bavaria by 1.7 million people till 1961. This was confronted with equal migration surpluses in Hamburg, Bremen, Northrhine-Westphalia, Hesse, Rhineland-Palatinate, and Baden-Wuerttemberg.

4.3.2. North-to-South Migration in the Federal Republic

As in the Scandinavian countries there is in the Federal Republic a clear tendency of migration movements from North to South. In addition to economic motives, favourable housing conditions and leisure time opportunities have increasingly become decision criteria which must be regarded as causes for this southward trend. The modern development in regard of the North-South migration tendency is shown in Table 29 where the federal territory is divided into a northern, central, and southern region. Accordingly, the North of the Federal Republic has a domestic migration loss of about 11,000 for the years from 1970 to 1972, the central states even show a deficit of 38,000 persons. The migration gains of the southern states which amount to 49,000 are correspondingly high. The South of the Federal Republic thus proves considerably more attractive. Because of their favourable housing conditions and leisure time opportunities, the southern regions probably will remain preferred regions of destination—at least for older people who retired from working life.

Table 29
Migration surplus (+) or loss (–) between regions of the Federal Republic of Germany, 1970–1972 (in thousands)

Region of origin	Region of destination		
	North	Central	South
North	X	– 6	+17
Central	+ 6	X	+32
South	–17	–32	X
Total	–11	–38	+49

4.3.3. The Intra-regional Migrations

In the case of short and medium migration distances, economically motivated migrations play a lesser role than migrations on grounds of family and housing conditions. Migrations in town regions, for example, are mainly due to housing conditions—their directions depend on one hand on the regional distribution of socially differentiated residential areas and to what social classes the migrants belong, but on the other hand they also depend on the migrant's age, his marital status and size of his household. In case of removals within town regions and migration movements involving short distances in rural areas the working place is usually maintained. Persons of working age changing their place of residence are to a greater extent oriented towards local transport services between residence areas and working places than are, for example, pensioners. The proportion of commuters is very large (about 30 per cent in 1970) because of the increase in centrifugal migration movements from the towns to the surrounding areas (see also

Chapter 5). The average time necessary to reach the place of work, however, has not increased, but even declined because of the further development of local transport systems.

The process of the continuing population concentration (see Section 4.2.) in town regions and rural small and medium-sized centres can be attributed exclusively to the migration surpluses of the latter areas. It is not in contradiction to the migration surplus in agglomerations and the further extension of these areas that the population of the big cities to a great extent moves to the peripheral zones. This does not involve a substantial decrease in population density for the centres of the town regions, but rather an increase in working place density. Hence, in most cases, the migration deficit of the central towns does not result in a decline of their economic and cultural significance. For the people who move from the towns to the surrounding areas, the towns mostly remain the place of the job and the place where the demand for valuable consumer goods are met and where the supply of cultural and leisure time facilities is utilized.

In the Federal Republic, in general, the following tendencies of domestic migration can be noticed.

1. The migration movements covering long distances—i.e. primarily migrations crossing state borders—are largely job-oriented. They produce a negative migration balance in those federal states which are affected by a general economic structural weakness, or a process of restructuring. The resulting North-South trend is moreover strengthened by migrations of older people, who choose their retirement places in the southern states.
2. The migration movements covering medium distances are mainly directed from the thinly populated rural regions in the North, North-East, East and South-East of the federal territory and from many hill country regions to the areas of conglomeration, i.e. to a great extent to the southern and south-western regions. The regions that suffer population losses by migration are mostly either regions with an industrial structure that has grown obsolete or “passive regions” that in regard to geographic conditions, the economic structure, and traffic situation fall behind the general development in the Federal Republic.
3. The migration movements covering short distances are primarily centrifugal within town regions and primarily centripetal in rural regions—in the latter case directed towards the nearest sub- and medium centres, in other words, from a small centre to one of a higher order. It is characteristic of this category of migrations that a residence change is rarely accompanied by a change of working place—but with migrations in town regions the identity of the places of residence and working is usually lost, whereas it is restored in the case of migrations in rural regions.
4. Because of the migration from towns to surrounding areas and the continuing concentration of working places of the tertiary sector in the town centres, the proportion of job commuters has nearly doubled within the last 20 years. The daily rushes of commuters cannot be managed by individual traffic any more (privately-owned cars) so that great efforts are made to adjust the public local transport system permanently to growing requirements.

5. Structure of the Economically Active Population

5.1. Age and Sex of Economically Active Persons

At the time of the 1970 census, 26.6 million of the 60.7 million inhabitants of the Federal Republic of Germany, which is almost 44 per cent, were in an economically active status. This labour force was composed of almost two thirds men and a little over one third women, which indicates only a slight change in sex composition in relation to the 1950 and 1961 censuses (Table 30). The absolute number of economically active persons, however, rose between 1950 and 1961 by over 3 million, only to slightly decrease again thereafter.

In the development of the number of economically active persons one can distinguish the influence of three factors: population growth, population structure and labour force participation rates. Table 31 thus shows that the continuous population increase in the two decades following 1950 would have, of its own accord, resulted in a 19.4 per cent rise in the economically active population. Up to 1961 this trend was intensified by changes in the population composition, i.e. by an increase in the proportion of individuals at working age, as well as the rise in labour force participation rates. Between 1961 and 1970, however, the effect of population growth was to a great extent counteracted by opposing developments in population composition and labour force participation rates.

Table 30

Population, labour force and labour force participation by sex, 1950, 1961 and 1970

	Unit	1950	1961	1970
Total population	1 000	50 798	56 175	60 651
Total labour force	1 000	23 489	26 821	26 610
of which female	%	36.1	37.0	35.8
Labour force participation rate overall	%	46.2	47.7	43.9
male	%	63.2	63.9	59.2
female	%	31.3	33.4	30.0

Table 31

Effect of population growth, population composition and labour force participation rates on the size of the labour force (only persons age 15 or older) in the years 1950, 1961 and 1970

Factor ¹⁾	Comparison years		
	1961 1950 = 100	1970 1961 = 100	1970 1950 = 100
Population growth	110.6	108.0	119.4
Population composition	100.8	96.1	96.9
Labour force participation rates	102.6	97.0	99.6
Actual size of the labour force	114.0	100.3	114.3

¹⁾ In computing the index for the effect of each factor, the other two factors were controlled.

This brief survey alone reveals that the number of economically active persons is decisively affected by demographic development. Added to this, alterations in the specific economic situation and in the behaviour of persons at working age are of particular significance to an analysis of employment. These alterations are primarily reflected in labour force participation rates, but also to a certain extent, as will subsequently be shown in the case of alien workers, in migratory movements across the borders of the Federal Republic of Germany.

The development of the non-standardized labour force participation rates between 1950 and 1970 has taken on a reversed U-shaped course, both for the total population as also for men and women respectively (Table 30). There were four factors, partly counteracting each other, which were decisive for this development:

1. the growing labour demand of an expanding economy,
2. the prolongation of general and professional education of persons between the ages of 15 and 25, particularly in the last ten years of the comparative period,
3. the possibility brought about by alterations in the pension laws, above all for persons in the 55 to 64 years age group, to retire prematurely from economic activity,
4. the decline in the proportion of persons of working age in the population as a whole, a trend which has intensified since 1961.

If, for example, the population composition is controlled, the reversed U-shaped course of labour force participation rates between 1950 and 1970 is levelled off considerably. If the population composition is standardized according to the 1970

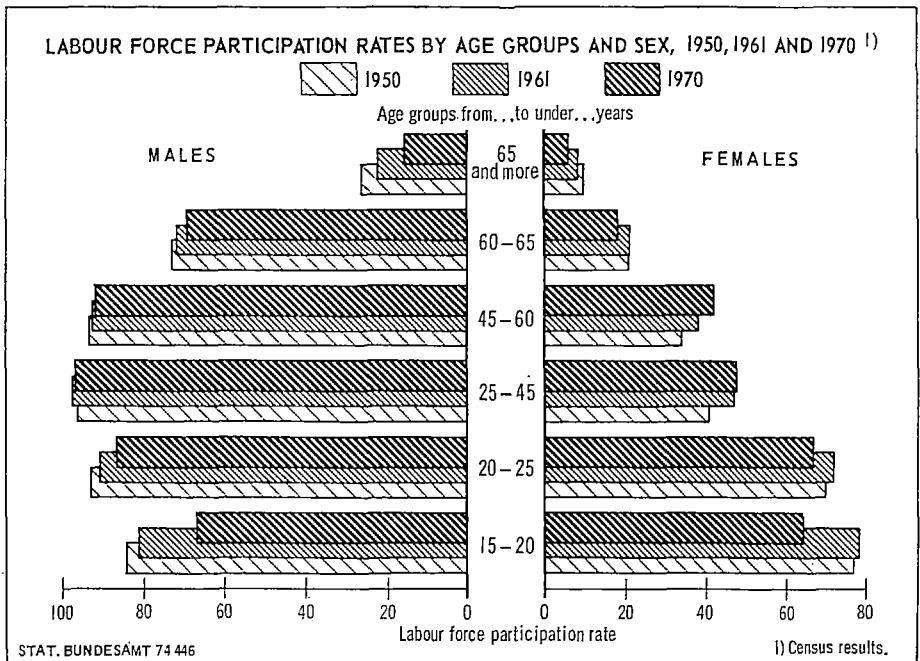


Figure 10

Table 32
**Labour force participation rates by age groups, sex and marital status,
 1961—1971**

Sex, marital status	age groups from . . . to under . . . years	1961	1963	1965	1967	1969	1971
male, total	15—20	76.7	69.2	68.2	62.1	59.5	54.3
	20—25	90.1	89.7	86.6	86.2	86.7	85.4
	25—45	97.3	97.3	96.9	96.8	97.2	97.2
	45—60	92.9	93.5	93.6	93.8	93.9	93.8
	60—65	73.9	77.9	78.1	77.7	75.4	73.8
	15—65	91.1	90.9	90.2	89.3	89.2	88.2
	65 and older	23.1	24.8	24.0	22.5	21.0	18.5
female, total	15—20	73.7	67.1	68.0	61.6	57.3	52.7
	20—25	75.9	72.9	70.4	68.7	69.6	69.6
	25—45	46.8	47.2	47.4	45.7	46.6	48.3
	45—60	37.5	39.3	40.7	41.6	43.1	44.3
	60—65	21.4	23.2	23.3	23.6	23.4	21.2
	15—65	47.4	46.9	46.9	45.6	46.0	46.5
	65 and older	8.1	8.1	7.8	7.9	7.5	6.1
female, single	15—20	74.1	67.4	68.5	61.8	57.2	52.5
	20—25	90.2	88.4	86.5	85.5	85.3	83.5
	25—45	90.3	90.7	90.5	90.2	89.9	88.3
	45—60	78.0	78.3	81.5	83.5	84.1	84.6
	60—65	47.5	48.7	49.4	49.0	49.8	44.9
	15—65	78.2	78.8	78.3	74.7	72.4	68.9
	65 and older	15.0	16.2	15.4	16.0	15.2	11.1
female, married	15—20	62.8	56.9	53.7	54.8	58.7	56.7
	20—25	52.5	52.2	51.7	50.4	52.4	56.0
	25—45	37.8	38.2	49.1	38.1	39.8	42.6
	45—60	30.8	32.5	33.7	35.1	36.4	38.2
	60—65	17.8	19.4	19.3	19.5	19.8	18.0
	15—65	34.9	35.9	36.5	36.3	37.8	40.0
	65 and older	9.7	9.5	8.8	8.9	8.4	6.9
female, widowed or divorced	15—20	/	/	/	/	/	66.7
	20—25	79.4	75.7	77.2	79.2	80.1	81.4
	25—45	65.2	68.8	70.6	70.7	71.8	72.7
	45—60	41.0	43.2	44.6	45.3	48.0	43.7
	60—65	18.4	21.0	21.7	23.1	22.0	20.4
	15—65	39.7	42.3	42.5	42.7	43.1	42.9
	65 and older	5.7	5.6	5.5	5.6	5.3	4.7

age and sex structure, the censuses of the period under investigation yield labour force participation rates of 44.4, 45.4 and 43.9. (For procedural reasons only those economically active persons aged 15 and over could be taken into account in calculating these labour force participation rates.) The applicable figures for women are 27.9, 30.4 and 30.0, whilst the figures of 63.2, 62.2 and 59.2 for men already reveal a declining trend for the comparative period of 1950 to 1961.

The details of this development are revealed by the age- and sex-specific labour force participation rates of the three censuses (Figure 10 and Table 32).

These rates clearly reflect the effect of prolonged education, which had already led to a decline in the labour force participation rates in the two lower age groups for men in the period 1950 to 1961. For women in the age group 15 to under 25 years, the first visible effect of this factor is seen between 1961 and 1970. Until that time its effect had been countered by the general rise in the female population's economic activity, a trend which can be observed over the entire comparative period. Whilst the labour potential of men in the age groups 25 to under 45, and 45 to under 65, seems to a great extent to be exhausted, as evidenced by the negligible alterations in the labour force participation rates of these groups between 1950 and 1970, the economic activity of women of the same age has continuously risen in these two decades. Should labour demand increase further in the economy, it can be assumed that reserves are still available here. On the other hand, fewer and fewer men and women are remaining economically active beyond the age limit of 65 years, and it is even the case that in recent years increasing advantage is being taken of the possibility created under the law to enter into premature retirement.

Whilst the employment of the female population is influenced on the one hand by the increased labour demand of the economy, on the other hand her situation within the family plays a major role in the decision of a woman to pursue economic activity. The development of labour force participation rates for single women has run analogous to that of men, even though, particularly in the older age groups, these rates are in part considerably lower. Thus, for example, the labour force participation rate for single women in the age group 15 to under 65 for the period 1961 to 1971, for the reasons already cited, declined from 78.2 to 68.9. Although the labour force participation rate of married women is considerably lower than that of single women, they have, nonetheless, shown a continuous rise in economic activity between 1961 and 1971, and this within all age groups, with the exception of the 15 to 20 year olds, which is doubtless the effect of prolonged education. It can be assumed that the general rise in the labour force participation rates of married women does not depend solely on the increased labour force demand of the economy, but also on the expectation that the additional earnings of the wife can achieve an improvement in the family standard of living, as well as reflecting a gradual change in the social status of women. The economic activity of widowed and divorced women in all age groups and comparative years is in part considerably greater than that of married women, since they are frequently forced by economic circumstances to seek employment.

Whether and how many children she has does, of course, influence the economic activity of a woman. As can be expected, the labour force participation rate of mothers declines with the rise in the number of children (Table 33). The labour force participation rate of married women who have hitherto remained without children or whose children have already left the family remains below that of mothers with one child, but above that of mothers with several children.

Table 33

Labour force participation rates of married women and of mothers with children under 18 years of age, 1957, 1961, 1968 and 1971

No. of children	Oct. 1957	June 6, 1961	April 1964	April 1968	April 1971
0	29.6	32.6	33.3	34.5	35.9
1	31.6	34.6	35.1	36.5	40.4
2	29.2	31.7	30.8	30.0	32.9
3 or more	28.1	31.8	29.9	29.0	30.7

It is, furthermore, conspicuous that the labour force participation rates for all married women and mothers with children under 18 years of age have risen between 1957 and 1971. The fact that this trend is most apparent in the case of married women without children and mothers of one child seems to indicate that gainful employment is more and more becoming an alternative to the mere existence as a housewife. Amongst other factors, it can be assumed that improved school and vocational training for women, opportunities for part-time employment and the increase in day-nursery places for the care of economically active women's children have contributed to this trend.

Among families with completed fertility, it can be seen that between 1966 and 1971 the group of one-child-families has undergone the greatest increase (see also Chapter 7). This development would seem to reveal that in many cases it is only by deciding against a second child that a woman is enabled to continue her economic activity.

5.2. Economically Active Persons by Economic Sector and Occupational Status

The change in economic structure undergone by the Federal Republic of Germany is particularly reflected in the distribution of dependently employed persons according to economic sectors. The increase of employees in commerce, banking and insurance business, other service trades as well as in government administration is most conspicuous on the one hand, whilst on the other there is a striking decline in agriculture and forestry, energy and mining as well as in non-profit institutions and private households (Table 34). Given the very small proportion of

Table 34
Dependently employed persons by economic sectors*)

Economic sector ¹⁾	1961		1970		Increase (+) or decrease (—) as compared with 1961
	1 000	%	1 000	%	
Agriculture, forestry, fisheries	452.0	2.2	319.4	1.4	—29.3
Utilities, mining	801.2	3.8	536.3	2.4	—33.1
Manufacturing industry (excl. construction)	9 278.0	44.6	9 735.1	43.7	+ 4.9
Construction	1 828.0	8.8	1 826.6	8.2	— 0.1
Commerce	2 130.6	10.2	2 505.8	11.3	+17.6
Transport and communica- tions	1 388.9	6.7	1 348.9	6.1	— 2.9
Banking and insurance business	435.1	2.1	643.0	2.9	+47.8
Service trades not elsewhere specified	2 227.3	10.7	2 827.0	12.7	+26.9
Non-profit institutions and private households	522.2	2.5	334.0	1.5	—36.0
Central and local government, social security	1 754.7	8.4	2 190.2	9.8	+24.8
Total	20 818.1	100	22 266.2	100	+ 7.0

*) Incl. members of armed forces.

¹⁾ Industrial classification of economic activities for the Occupational Census 1970.

dependently employed persons in predominantly family-owned agricultural enterprises, the loss of significance of this economic sector for the economic activity of the population as a whole becomes still more apparent. The trend to concentration induced by competition and the simultaneous mechanization of many work processes have caused many small and medium-sized agricultural holdings to be given up or operated only as a subsidiary source of livelihood. It can also be assumed that individuals hitherto employed in agriculture have departed to other economic sectors with better employment conditions, sectors which have experienced a rising demand for labour. Consequently the proportion of self-employed and dependently employed economically active persons in agriculture and forestry declined from 22.1 per cent in 1950 to 13.4 per cent in 1961 and to 8.9 per cent by 1970. Around half of all economically active persons are today in the manufacturing industries and in construction, and about every sixth in commerce and transport. Whilst these rates have scarcely changed since 1961, apart from short-term variations, the proportion of economically active persons in service trades has increased continuously throughout the entire observation period (Figure 11).

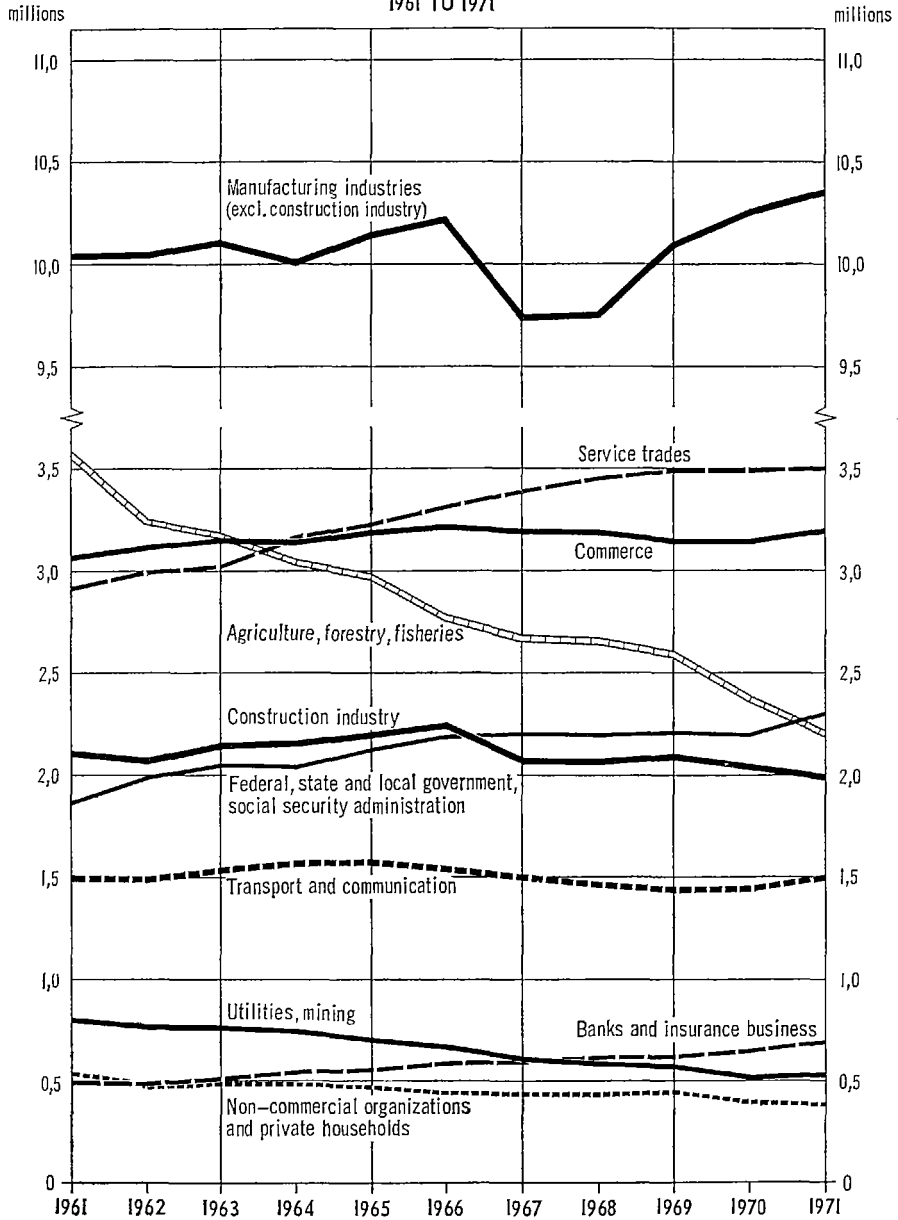
Automatization of equipment in the utilities sector and the closing-down of unprofitable mines probably account for the gradual decline in the number of economically active persons in these sectors. Whilst the applicable curves for the manufacturing and construction industries indicate their dependence on the general economic situation, particularly in the period of recession around the year 1967, the continuous rise of employment in service trades, central and local government and social security administration as well as in banking and insurance business is scarcely affected thereby.

In the same period the sex ratio within the individual economic sectors altered only slightly. It is still the case today that over two thirds of all those employed in non-profit institutions are women. (This refers primarily to administrative organizations and institutions of the Christian churches, but also to non-profit organizations of the private economy.) The proportion of females among the economically active persons in the service trades, commerce, agriculture, forestry, animal raising and fisheries lay between 50 and 60 per cent. This proportion was barely half for banking and insurance businesses and scarcely a third for manufacturing industries, central and local government and social security administration. Both in 1961 and 1971 approximately every sixth person employed in transport and communications was female. Despite an increase in each case of 2 percentage points since 1961, the lowest proportion is registered in the utilities and mining sector with a female quota of 7.5 per cent and the construction industry with a proportion of 6.8 per cent.

Sex-specific differences can also be established in the categorization of economically active persons according to occupational status, which show that women are particularly under-represented amongst self-employed persons and civil servants, to a slightly lesser extent amongst workers, but constitute a proportion of scarcely 50 per cent of salaried employees and around four fifths of all unpaid family workers. The general change in the economic structure which has occurred since 1950 is, however, as unmistakable for men as for women (Table 35).

The decline in the proportion of self-employed and unpaid family workers is complemented by a strong increase of salaried employees and civil servants.

ECONOMICALLY ACTIVE PERSONS BY ECONOMIC DIVISIONS
1961 TO 1971



STAT. BUNDESAMT 74 448

Figure 11

Table 35
Economically active persons by occupational status and sex, 1950, 1961 and 1970

Year	Occupational status							
	Economically active persons total ¹⁾	Self-employed in agriculture	Other self-employed persons	Unpaid family workers in agriculture	Other unpaid family workers	Civil servants	Salaried employees	Workers
	1 000	Percent of total						
	males and females							
1950	21 808	5.8	9.8	12.7	2.2	4.1	16.5	48.9
1961	26 714	4.2	8.0	7.5	2.5	5.8	24.2	48.0
1970	26 494	2.5	7.2	3.8	2.5	7.3	31.1	45.6
	males							
1950	13 988	7.5	12.3	3.9	0.8	5.7	14.6	55.3
1961	16 827	5.3	9.7	2.3	0.6	8.2	19.1	54.9
1970	17 004	3.4	8.6	1.3	0.5	9.9	25.2	51.1
	females							
1950	7 820	2.8	5.4	28.6	4.7	1.2	20.0	37.3
1961	9 887	2.3	5.1	16.3	5.8	1.6	32.8	36.2
1970	9 489	0.9	4.7	8.3	5.9	2.6	41.8	35.8

¹⁾ Including members of armed forces.

Smaller and medium-sized businesses (mostly family-owned) were affected by closure mainly in the agricultural sector and to a lesser degree in manufacture, whilst the absolute number of self-employed persons and family workers in service trades has, in fact, risen slightly in the period between the 1950 and 1970 censuses. The expansion of the tertiary sector becomes evident in the increase of salaried employees, in particular in the case of female economically active persons, two fifths of whom already fell into this category in 1970. In contrast, the proportion of workers has been slightly decreasing even up to the present time, although more than half of all men and a good third of all women still occupy this occupational status.

The restructuring of the economy has also been partly responsible for the increase in the number of economically active persons who pursue their employment at a location other than that of their domicile. In 1950 the percentage of these so-called job commuters was 16.0 per cent of economically active persons, by 1961 this had risen to 24.1 per cent and in 1970 had reached 29.6 per cent. These job commuters include persons who, following relinquishing of their former employment (i.e. in the agricultural sector), could only find new employment in another location, but who did not wish to give up their former domicile. On the other hand, the increase in job commuters also reflects the trend towards transfer of residential domicile from the city centres to smaller suburban communities—a trend which is further promoted by improvement in transport connections (local transport systems, privately owned vehicles).

At a first glance economically active persons do not differ greatly in their schooling and vocational training from the general population, if one takes into account only those with completed training (cf. Chapter 3). An analysis of labour force

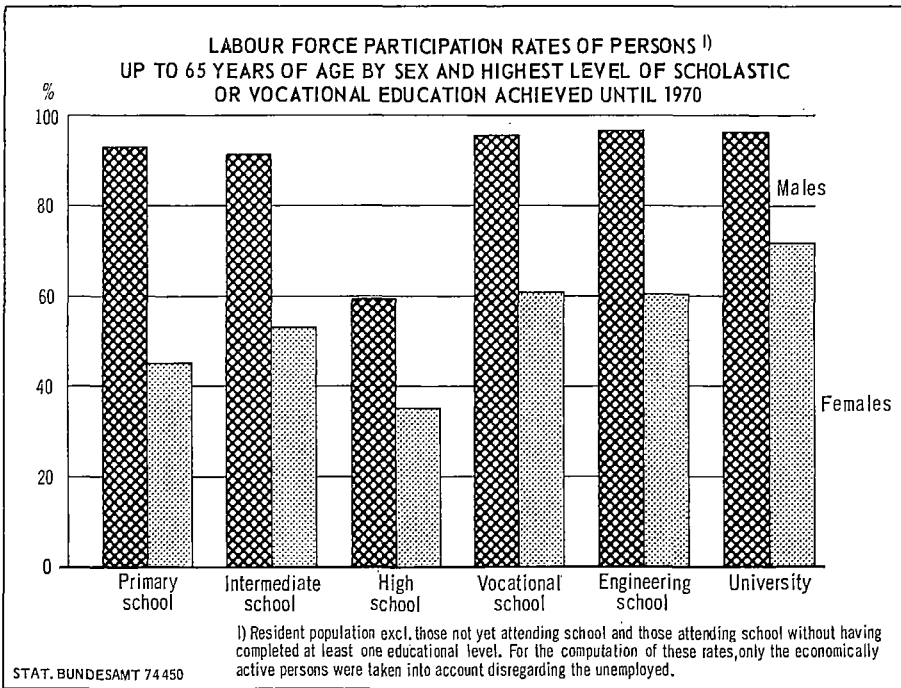


Figure 12

participation rates amongst the general population, on the basis of the highest educational levels attained, however, reveals some interesting facts. The labour force participation rate of the male population is relatively high at all levels of completed education (Figure 12). The low labour force participation rate of high school graduates is due to the fact that the majority are engaged as students in further education. What already is true for men becomes even more apparent for women: economic activity increases with the level of education achieved, and this applies in particular to completion of training at a vocational school. In view of the trend to higher education which can be observed (cf. Chapter 3), it can be expected that this influence will lead to an increase in labour force participation rates, although entry by the lower age groups into economically active life will be delayed somewhat.

Alongside general and vocational education, professional qualification achieved within the framework of an approximately three-year apprenticeship is important to many economically active persons. This practical vocational training, which is typical of the German educational system, occurs within certain shops or companies and is coupled with attendance of a vocational school once or twice weekly. In 1950, 27.7 per cent of all those in the 15 to under 20 age group were undergoing such training, with the proportion of the male population, at 40.9 per cent, being far higher than that of the female population, at 14.1 per cent. Following a rise in apprenticeship rates to 36.9 per cent in the year 1963, a reversal to 30.7 per cent in 1971 has occurred. The decline in recent years can, perhaps, be partly traced to the fact that an increasing number of persons in this age group are pursuing higher

Table 36

Percentage of economically active persons with completed practical vocational training by age groups and sex, 1969

Sex	Age group				
	Under 30	30 to under 45	45 to under 65	65 and over	Total
	in percent of all economically active persons of the relevant age group				
Male	62.1	67.7	66.0	51.6	65.0
Female	51.5	38.1	32.9	20.1	40.7
Total	57.4	58.4	53.8	41.3	56.1

education, but also partly to the fact that fewer apprenticeship positions are being offered in general. It is particularly noteworthy, however, that up to 1971, with an apprenticeship rate of 37.9 for the male and 23.0 for the female population, the differential between these two groups has narrowed considerably. If age groups are compared, the same trend is revealed in Table 36, which covers those economically active persons with completed practical vocational training.

According to these figures, the proportion of men who have completed formal practical vocational training in some form or other has remained around two thirds of those economically active. In contrast to this, the same proportion for females appears to be still on the increase; for, whilst amongst women from 45 to under 65 only one third had completed a practical vocational training, amongst those under 30 years of age more than half had done so. Given furthermore, that within the German population a higher labour force participation rate is shown amongst those with primary school and apprenticeship training than amongst those with primary school education only (95.1 to 91.5 per cent amongst men and 49.0 to 41.6 per cent amongst women), this confirms again the correlation between vocational qualification and labour force participation rates, which for women simultaneously signifies an alteration in their social status.

It is not, however, to be expected that economically active persons with practical training remain active in the occupation for which they have trained. It is rather the case that vocational changes become quite probable, taking into consideration the fact that a highly specific system of occupational classification means that a promotion or change of position suffices to eliminate conformity between the occupation trained for and the one practised. It is thus not surprising that only 32.1 per cent of all male and 22.9 per cent of all female economically active persons still practise today the occupation for which they trained (Table 37).

As a comparison between economically active persons in the various age groups reveals, the proportion of those practising the occupation for which they trained declines with increasing passage of time since completion of training, this being more strongly the case with women than men—probably due to interruptions and alterations in the formers' occupational life caused by family-related events. When economically active males were questioned as to the frequency of job changes between 1955 and 1970, around two thirds of those questioned responded that they had been active in one occupation only throughout the entire period. Of those economically active persons who had changed their occupation, over 70 per cent

Table 37

Percentage of economically active persons with completed practical vocational training who still are in the occupation for which they were trained (by sex and age groups), 1969

Sex	Age groups								
	Total	under 20	20 to under 25	25 to under 30	30 to under 35	35 to under 45	45 to under 60	60 to under 65	65 and older
Male	32.1	25.6	47.8	40.3	35.1	30.6	27.4	29.1	22.4
Female	22.9	27.8	44.6	31.0	20.9	15.6	16.5	11.7	8.5
Total	28.7	26.6	46.2	37.0	30.9	25.8	23.2	24.0	17.8

had done so only once, every fifth person twice and only every tenth three times or more. The proportion of those changing their occupation declines with increasing age, a higher level of completed general education, as well as in the case of occupational positions requiring documented qualification (i.e. skilled workers, trade masters, salaried employees in supervisory or management positions, civil servants in upper or high level service), or where occupation and family property are closely associated (as in the case of self-employed in agriculture and artisans).

An investigation which also took into account the course of change from one economic sector to another revealed that between 1965 and 1967 every fifteenth economically active person changed his occupation, men doing so twice as often as women and young people somewhat more frequently than the older. In production industries almost two thirds, in the service sectors half, and in commerce and transport a third of those changing occupation did so within the same economic sector, whereas in agriculture and forestry only every fifth individual changing his occupation remained within that sector. The fact that only the service sector can indicate a larger net gain in those changing occupation coincides with the changes in economic structure already described above.

The course of the economic activity of women within their lifetime, their occupational biography, is of significance both demographically and to labour market policy. Data on this subject were obtained in a random sample of retrospective character for the 40 to 65 year age group of women. These revealed that of 10.3 million women in this age group in the year 1966, 15.6 per cent had been continuously economically active since entering the labour force, and a further 21.3 per cent had resumed employment following one or more interruptions. More than half of those questioned were in 1966 no longer economically active, although they had been previously. Only every tenth woman had never been gainfully employed. The reasons given for terminating or interrupting employment were predominantly related to family life (marriage, birth, care of children). As, in addition to this, only factors relating to the war played a certain role in termination of economic activity, as do health factors, it can be stated that a further change in the situation and role of the family will also affect the economic activity of women.

5.3. Persons according to Employment Status

The labour force under discussion in section 5.1. of this chapter consists of both the economically active and the unemployed. The relation between these two groups has undergone a basic change since the census of 1950 (Table 38). Whilst at that time almost 1.7 million persons were unemployed, the censuses of 1961 and 1970 revealed only slightly over 100,000 unemployed.

The fifties can thus be characterized as the decade in which virtually full employment was achieved in the economy of the Federal Republic of Germany. In the subsequent decade, this positive employment situation was temporarily interrupted by the recession of 1967.

The long-term trend and the short-term developments become still more apparent if the proportion of unemployed to employed persons is contrasted with the number of vacancies between 1950 and 1971 (Figure 13). It can thus be seen, for example, that in 1960 for the first time the demand for labour exceeded the number of persons seeking work—a relation which was only once reversed in the period under observation, namely in 1967.

The remaining unemployed are either those persons who are only temporarily inactive or those for whom no place of employment can be found due to their vocational qualifications or for personal reasons. As has recently been shown, in particular during the energy crisis, it cannot, however, be excluded that a worsening of the economic situation could in the future cause an increase in unemployment, particularly in structurally sensitive sectors of the economy.

Unemployed persons in the Federal Republic receive financial support from the compulsory unemployment insurance scheme, the amount of which is determined by the length of previous employment and previous earnings. Around 147,000 persons in the labour force were taking advantage of this support at the end of September 1971. If these persons are categorized according to age, sex and duration of unemployment it can be seen that somewhat more than half of all unemployed persons are women, who dominate particularly in the age groups below 45 years. The relatively low number of female unemployed in the 60 to under 65 year age group is most probably related to the fact that more women than men in this age group take advantage of premature retirement possibilities. Most of the unemployed are out of work for a relatively short period (less than 3 months). The difficulties of finding a new position increase with age. In general, this correlation between age

Table 38
Labour force, economically active persons and unemployed, 1950, 1961 and 1971
(in 1000)

Year	Labour force ¹⁾	Economically active persons	Unemployed
1950 ²⁾	23 489	21 808	1 681
1961	26 821	26 713	108
1970	26 610	26 494	117

¹⁾ Incl. members of armed forces.

²⁾ Saarland: 1951.

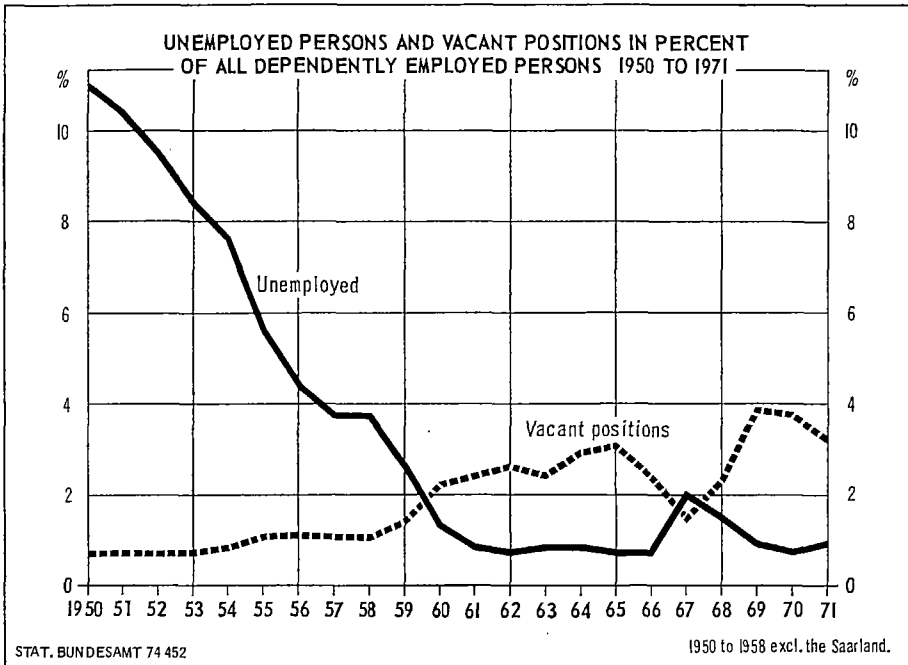


Figure 13

and duration of unemployment is more pronounced for men than for women. The longer duration of unemployment at higher ages can presumably be explained for both these groups by the fact that their qualifications and abilities no longer fully meet the requirements of modern working conditions.

5.4. Population according to Source of Livelihood

In investigating the economic and social structure of a highly industrialized society, it is not sufficient merely to ask how many persons work and what type of economic activity they pursue (labour force concept). It must also be established on what the population subsists, i.e. what the main sources of livelihood are for the individual (subsistence concept). Data covering this have been available since 1950. (In accordance with the agreements reached by the Conference of European Statisticians, both concepts have been adopted into the programme of European censuses.)

In 1970, the main source of livelihood for two out of five inhabitants of the Federal Republic of Germany was economic activity, for every sixth pension benefits, whilst the remainder were dependent on other family members. The proportion of the population whose main source of livelihood is economic activity or unemployment compensation has thus declined since 1950 by 6 percentage points, whilst the share dependent on pensions or family members has risen by $4\frac{1}{2}$ and $1\frac{1}{2}$ per cent, respectively. These developments can be traced to the prolongation of education,

Table 39

Percentage of the resident population with main source of livelihood through economic activity/unemployment compensation, pensions or other family members, by age groups and sex, 1950, 1961 and 1970

Year	Resident population by age groups									
	under 15			15 to under 65			65 and older			
	with main source of livelihood through									
	economic activity/unemployment compensation ²⁾	pension etc. ³⁾	other family members ⁴⁾	economic activity/unemployment compensation ²⁾	pension etc. ³⁾	other family members ⁴⁾	economic activity/unemployment compensation ²⁾	pension etc. ³⁾	other family members ⁴⁾	economic activity/unemployment compensation ²⁾
1950 ¹⁾	2.0	1.1	96.9	92.2	5.4	2.4	26.8	73.0	0.2	
1961	0.9	0.9	98.2	87.7	6.0	6.3	15.3	83.3	1.4	
1970	—	1.3	98.7	85.7	6.3	8.0	8.5	91.0	0.5	
					male					
1950 ¹⁾	1.6	0.8	97.6	43.8	10.9	45.3	9.7	60.9	29.4	
1961	1.0	0.8	98.2	41.6	11.4	47.0	4.9	70.6	24.5	
1970	—	1.2	98.8	40.3	10.9	48.8	3.0	75.8	21.2	
					female					

1) Excl. Saarland and Berlin.

2) 1950: labour force according to the concept of main occupation.

3) 1950: self-supporting persons without occupation.

4) Supported family members without main occupation.

the increase in the proportion of men over 65 years of age and women over 60, with their entitlement to old age pension benefits, and the improved pension laws. The effect of prolonged education is reflected for the under 15 year olds and the 15 to under 65 year olds by increased dependence of persons in these age groups on other family members and by the lessening significance of independent economic activity as the source of livelihood—even though this understandably remains the major source of livelihood for 15 to under 65 year old men, while for women of the same age it is of equal importance as support by family members (Table 39). Amongst the population at working age, men continue to be the principal earners in the family. The effects of old age pension laws become particularly clear in the case of persons of 65 years of age and older, whose source of livelihood is now, to the great majority, old age benefits to which they are entitled as a result of their own or their relatives' previous economic activity.

5.5. Economically Active Persons by Income Classes

Official statistics on the distribution of economically active persons according to income groups have been available since 1962. Considerable shifts in this distribution have occurred in the short period of the ten years until 1971 (Figure 14).

Thus in 1962 three quarters of all economically active persons still had a monthly net income of under 600 and every fifth of under 300 DM. In contrast, by 1971 already more than half of all economically active persons received an income of more than 800 DM and every fifth earned more than 1,200 DM. In both years, the

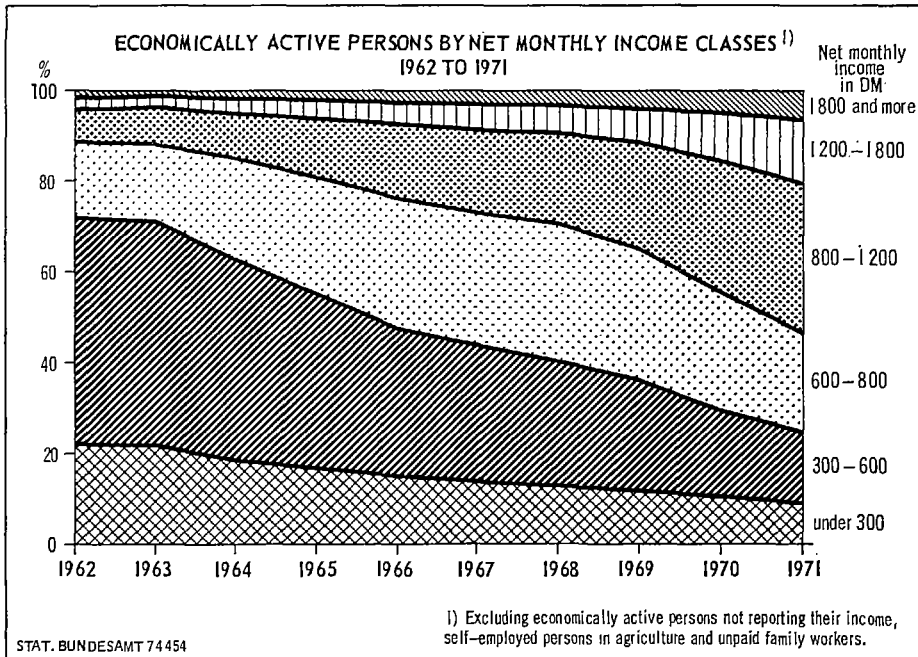


Figure 14

Table 40
Economically active employees (wage earners and salaried employees incl. apprentices) by sex and net income groups*) in April 1972

Income groups from ... to less than ...DM	Total	Male	Female
Total	20 188.4	12 709.9	7 478.5
		in thousands	
Total	100	100	100
of which under 300	8.9	5.6	14.5
300— 600	14.9	3.4	34.6
600— 800	15.8	10.8	24.4
800—1 200	40.0	50.9	21.4
1 200—1 800	15.8	22.5	4.5
1 800 and over	4.5	6.9	0.6

*) Excl. persons not reporting their income or without income.

income structure of men was more favourable than that of women, and the self-employed ranked above civil servants, salaried employees and workers. Sex-specific differences in income are probably partly determined by differences in vocational qualification, the duration of employment with the same employer, the larger proportion of part-time employees amongst the female economically active and their concentration in less well-paid sectors of the economy, as well as their higher representation in low-skill, low-paid jobs.

The distribution of gainfully employed persons at the beginning of 1972 according to income groups shows that two fifths of all employees fall into the class of monthly incomes of 800 to 1,200 DM and, indeed, over 50 per cent of the male employees belong to this group (Table 40).

The lower income classes are to a much greater extent occupied by female employees; their share in the lowest income group is more than twice that of men, in the 300 to 600 DM income group it is more than ten-fold the male proportion. The reasons for this differentiation have already been cited; the higher proportion of female employees in lower income groups can primarily be traced to the greater readiness of women to practise economic activity on a day-to-day basis, only occasionally or in a part-time job, as a means of improving the family income. As widowed and divorced women are mainly dependent on full-time employment for financial reasons, it can be assumed that their income group distribution more closely corresponds to that of male employees.

5.6. Alien Workers

The economic expansion towards the end of the fifties induced an influx of alien workers, which was only temporarily interrupted during the recession years of 1967/1968 (Figure 15).

In 1971, the number of alien workers surpassed the two million mark, which represented a 10 per cent proportion of all dependently employed persons. This

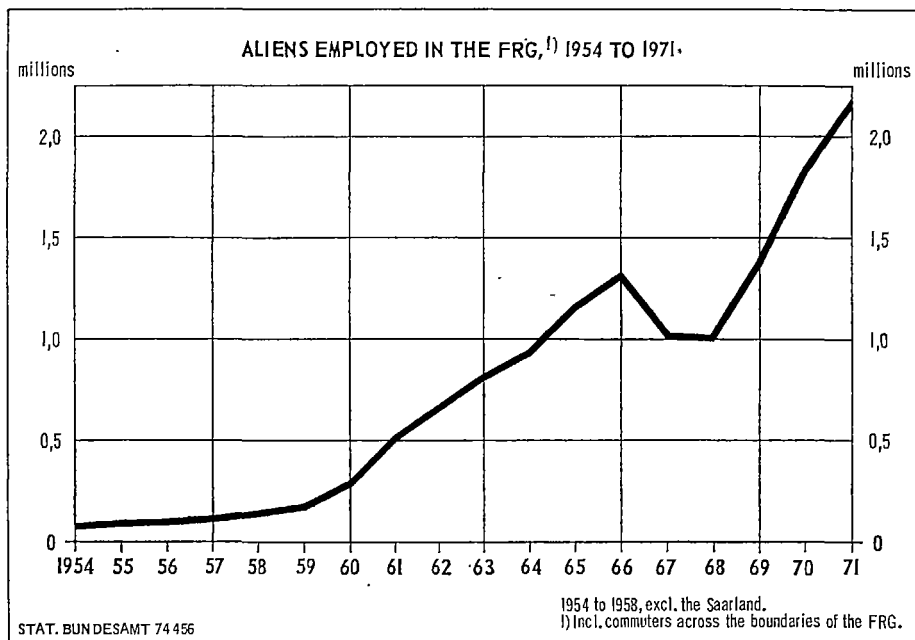


Figure 15

proportion had only reached the 1 per cent level (1.3 per cent) at the beginning of the sixties and was first above 5 per cent (5.5 per cent) in 1965.

The ethnic composition of foreign workers has altered with their increasing migration to the Federal Republic. In 1961, the majority of alien workers still came from EC countries, in particular from Italy, but this proportion has, despite the increase in overall numbers, steadily declined (Table 41).

In contrast to this, up to 1965, the first increase was noted amongst Greeks and Spaniards, subsequently Turks and Yugoslavs. This indicates that labour recruitment treaties concluded with other countries are today of greater signifi-

Table 41
**Aliens employed in the Federal Republic of Germany by nationality*),
1961, 1965 and 1971**

Year	Total (1 000)	Nationality						
		Italy	Other EC states	Greece	Spain	Turkey	Yugoslavia	Others
in % of total								
1961	476	43.6	13.6	8.6	10.2	1.1	2.7	20.2
1965	1 164	30.9	8.5	15.6	15.5	10.4	5.5	14.1
1971	2 169	18.7	5.5	12.0	8.5	19.6	21.6	14.1

*) End of June of each year.

cance for the labour market than the free movement of labour as agreed upon with the EC (cf. also Chapter 2). It remains to be seen to what extent this will be affected by the recruitment halt on labour from non-EC countries introduced in November 1973.

Whilst in 1961 around five sixths of all aliens employed in Germany were still men, their share has since stabilized to a level of around 70 per cent. It was established in an enquiry carried out by the Federal Institute of Labour on the subject of the "Employment of Alien Workers", from which most of the data cited in this section has been taken, that the age structure of this group has also shifted slightly. The lower age groups are still in the majority in comparison to the German population, but since 1965 there has been a decline, particularly amongst the under 30 year olds, in favour of the proportion in the 30 to under 40 age group (Table 42).

This trend can, on the one hand be traced to the fact that in recent years more aliens of the middle age groups than before have come to the Federal Republic of Germany, but on the other hand also relates to the fact that a greater number of foreign workers who migrated to Germany at a younger age have remained here. Similar trends are shown in data covering the marital status of foreigners working in Germany. These reveal that, for example, between 1968 and 1972 the proportion of married foreign workers has increased slightly, whilst there has been an even greater increase in the proportion of those with spouses also living in the Federal Republic. Only 64 per cent, however, of alien workers' wives living in the Federal Republic were economically active in 1972 (as opposed to 71 per cent in the year 1968), whilst the corresponding figure for men was 96 per cent (97 per cent). This would indicate the tendency, with increasing duration of residence, for more and more foreign workers to start families in Germany or to send for family members from their home countries, a tendency which is determined more by personal family factors than the search for additional jobs.

In recruiting alien workers, it is generally assumed that they will return within a few years to their countries of origin. Around two thirds of the foreigners employed in March 1972 in the Federal Republic first came here after the 1967 recession. However, the intention to remain permanently or for a longer period in employment in the Federal Republic increases with duration of residence. This is once again associated with the family situation, but also with occupational status. Thus only 7 per cent of married alien workers whose spouses were living abroad expressed the wish to remain here for any length of time. Foreigners who live in the Federal Republic with their foreign spouses, on the other hand, express such a desire at a proportion of 18 per cent, those with German spouses at a proportion of 75 per cent. Only 13 per cent of unskilled workers wished to remain here, 17 per cent of semi-skilled, 28 per cent of skilled workers and 39 per cent of salaried employees. The increased proportion of those wishing to remain in the Federal Republic as related to qualification represents a "brain drain" which is generally unwelcome to the countries of origin, above all where this concerns in particular skilled workers, engineers and doctors, who are urgently needed for development undertakings in their own countries.

On the other hand, it can be observed, particularly among workers, that vocational qualification increases with longer duration of residence. Thus, in 1972, of those alien workers who had entered the federal territory the same year, 55 per cent were unskilled and 29 per cent semi-skilled. Of those who arrived in 1969, these

Table 42
Age distribution of aliens employed in the Federal Republic of Germany and dependently employed German nationals by sex, 1965, 1968 and 1972 (in percent)

Age group	Male						Female			
	Employed German nationals	Aliens employed in the Federal Republic of Germany			Employed German nationals	Aliens employed in the Federal Republic of Germany				
		End of March 1972	End of Sept. 1968	End of August 1965		End of March 1972	End of Sept. 1968	End of August 1965		
under 25	17	16	16	19	29	32	32	36		
25 to under 30	10	21	21	25	10	22	23	23		
30 to under 35	15	22	21	21	11	17	15	16		
35 to under 40	12	18	17	15	9	12	12	11		
40 to under 45	12	11	12	10	9	8	9	7		
45 and older	34	11	13	10	32	8	9	7		
age not given	—	1	—	—	—	1	—	—		
Total	100	100	100	100	100	100	100	100		

Table 43

Aliens employed in the Federal Republic of Germany in 1972 by sex and number of years of schooling completed in their country of origin (in percent)

Sex	Number of years of schooling							
	4	5	6	7	8	9	10 and more	none or no response
Male	19	22	13	6	17	3	13	7
Female	20	15	13	4	17	3	15	10

Table 44

Aliens employed in the Federal Republic of Germany by occupational status and sex, 1968 and 1972

<u>Sex</u> Year	Unskilled workers	Semi-skilled workers	Skilled workers (and supervisors)	Salaried employees (and apprentices)
Male				
1968	34	36	20	10
1972	28	41	21	10
Female				
1968	53	30	3	14
1972	38	41	3	18

ratios had altered to 33 and 50 per cent by 1972. It may be that this is partly due to the shorter residence duration in the Federal Republic of Germany amongst less qualified alien workers, but it does also partly reflect on-the-job training of foreign workers within German enterprises. In this process, the rise from unskilled to semi-skilled status occurs primarily in the first three years of residence. Once a foreigner who is economically active in the federal territory has reached a qualified position, it is in his own interest and in that of the firm if he remains here at least for the time being—thus closing the circle between occupational qualification and duration of residence.

Their previous schooling and vocational training as well as their knowledge of the German language are of significance to the occupational and social integration of the alien workers. In the 1972 enquiry already mentioned, 22 per cent of the foreigners questioned stated that they had a good command of German, 35 per cent spoke it to a certain extent, according to their own statements, 31 per cent described their knowledge of the language as bad and 12 per cent spoke no German at all. On the basis of their schooling, the foreign workers have a far less favourable point of departure than the native population. Whilst almost all Germans have attended school for at least 8 years, over half of all foreigners arrive in the federal territory with less than 8 years schooling (Table 43).

The comparison in vocational training between German and foreign employees is somewhat more favourable. After all, 41 per cent of all male and 24 per cent of all female foreign workers come to the Federal Republic having completed vocational training in their country of origin. Most can also show documentary evidence of this, particularly in the case of vocational training received in schools.

Nevertheless they are at a disadvantage in terms of occupational qualification, as can be deduced from the far higher proportion of those with completed vocational training amongst the German workforce (cf. Table 36 and Chapter 3).

It is not, therefore, surprising that in terms of occupational status foreigners employed in the Federal Republic are concentrated in the group of workers, and there particularly among unskilled and semi-skilled workers (Table 44).

Whilst the proportion of workers amongst the economically active in the total population in 1970 was 51 per cent for men and 36 per cent for women, the corresponding figures for foreign workers in 1972 were 90 per cent and 82 per cent, respectively. It must however be stated that a shift above all from unskilled to semi-skilled workers has also occurred amongst the foreigners since 1968, together with an increase in the proportion of female salaried employees.

A concentration of foreign employees in certain economic sectors, similar to the distribution according to occupational status, can be observed. Their representation in the manufacturing and construction industries is above average. By contrast, they are under-represented in all other economic sectors (Table 45).

Whilst this concentration has increased still further in the manufacturing industries since 1961, the proportion in construction has declined since then. The noticeable relative increase of foreigners in service trades can probably be traced above all to their intensified employment in the catering, lodging and cleaning business sectors.

Table 45
Dependently employed aliens by economic sectors

Economic sector ¹⁾	1961		1970		Increase as compared with 1961
	1000	%	1000	%	%
Agriculture, forestry, fisheries	9.7	2.3	16.8	1.0	73.2
Utilities, mining	16.0	3.7	27.8	1.7	73.8
Manufacturing industry (excl. construction)	227.7	53.0	1 069.3	64.2	369.6
Construction	86.1	20.1	230.5	13.8	167.7
Commerce	18.4	4.3	67.5	4.1	266.8
Transport and communications	12.5	2.9	47.0	2.8	276.0
Banking and insurance business	1.8	0.4	9.2	0.6	411.1
Service trades not elsewhere specified	34.4	8.0	153.9	9.2	347.4
Non-profit institutions and private households	6.2	1.4	9.9	0.6	59.7
Central and local government, social security	16.2	3.8	33.0	2.0	103.7
Total	429.3	100	1 664.7	100	287.8

¹⁾ Industrial classification of economic activities for the Occupational Census 1970.

Table 46

Economically active alien employees¹⁾ (wage earners and salaried employees incl. apprentices) by sex and net income groups²⁾ in April 1972

Income groups from . . . to less than . . . DM	Total	Male	Female
Total	1 788.2	in thousands 1 256.9	531.3
Total	100	in percent 100	100
of which under 300	2.1	1.6	3.6
300— 600	13.1	3.6	35.6
600— 800	23.2	15.2	42.1
800—1 200	49.5	63.6	16.4
1 200—1 800	9.2	12.3	1.8
1 800 and over	2.9	3.9	0.6

¹⁾ Incl. 48 000 self-employed persons working in non-agricultural sectors as well as civil servants (as far as income was reported).

²⁾ Excl. persons not reporting their income or without income.

Due to the concentration of foreign workers in economic sectors with high standard wage rates and in occupations which are well paid because of the heavy physical work demanded, their income structure in the lower and middle income level is considerably more favourable than that of the overall population (Table 46).

Only 5.2 per cent of male foreign workers fall into the income class under 600 DM in comparison with 9 per cent of all employees (cf. Table 40). Somewhat more than 15 per cent of male foreigners, as opposed to around 11 per cent of all employees, belong to the group receiving an income of between 600 and 800 DM. The most marked difference occurred in the group of dependently employed persons with incomes between 800 to 1,200 DM, which includes around 64 per cent of the foreigners as opposed to 51 per cent of male employees overall. Only beginning with an income of above 1,200 DM are foreign workers under-represented. Two fifths of female foreign workers fall into the 600 to 800 DM monthly income class as opposed to only a quarter of all female employees. The fact that foreign workers, for example, work on an average two to three hours more per week than their German colleagues may well have contributed to the proportionally strong representation of foreigners in the middle income classes. Ultimately, this again reconfirms that the migration of the alien workers across the borders of the Federal Republic must be seen as a process which, though initiated by the labour demand of an expanding economy and made possible by political agreement, is determined to a considerable degree by the economic-financial motivation of those involved.

6. Population Projections

6.1. Introduction

Anticipation of both the overall and the structural development of the population has become indispensable in the areas of politics, administration, the economy and science. For this reason, the Federal Statistical Office and the Federal Institute for Population Research regularly calculate and analyse population projections which take into account the most recent data available concerning the structure of population development. The assumptions contained in such population projections are coordinated with the state statistical offices, which are responsible for the projection of population development within the states of the Federal Republic of Germany. The most recent population projection for the federal territory was produced in January 1973.

6.2. Assumptions of Population Projections

6.2.1. Basic Population

The basis for the population projection was provided by the number of inhabitants as of January 1, 1972, broken down by sex and age. These data were obtained by up-dating the results of the census held in May 1970. This was done by applying the current birth and death statistics as well as the statistics for arrivals and departures across federal borders. The population figures include both Germans and aliens living in the federal territory. For purposes of the projection it was assumed that the number of aliens would not change, but that they would age with the German population in the course of the projection period. No assumptions were made on future international migrations.

6.2.2. Mortality

As in various previous projections, no variable assessment was made of age-specific probabilities of death. In view of the low mortality level in the Federal Republic, the possible effects of long-term shifts in general mortality on the development and structure of the population are, as ascertained in model calculations, so slight as to justify the application of constant age-specific probabilities of death to such projections. The age- and sex-specific mortality rates for the years 1970 and 1971 were thus applied to the entire projection period.

6.2.3. Birth Rate

Contrary to the mortality trend, which is expected to reflect little or no change in the coming years, the birth rate represents the most critical variable with the greatest effect on projection results. Assumptions regarding birth rates have a decisive effect on the size of subsequent age groups and thus on the total number and age structure of the population.

The birth rates applied to the projection were based on birth trends in recent years. Since the mid-sixties it has been possible to observe a decline in the birth rate of most European countries, but in particular in the Federal Republic. Whilst,

for example, 1.065 million births were registered in the Federal Republic in 1964, by 1973 the figure was only 630,000. This rapid decline is due only to a slight extent to shifts in age structure of women of child-bearing age and to alterations in the age structure of married couples, the decline is chiefly based on changes in the population's procreative behaviour. According to all observations so far made, it seems fairly certain that the declining birth rate is due to the changing attitudes of married couples regarding the desirable number of children. There is an unmistakable trend to the two-children-family. On the one hand, there has been a sharp decrease in the birth of third, fourth and subsequent children in the family, whilst on the other approximately 10 per cent of all marriages remain childless for medical reasons. Thus, the net reproduction rate which was almost 1.2 in 1964 sank to about 0.81 by 1972, which is clearly below the rate of 1, as required for long-term population maintenance. As there has been no sign of stabilization in the declining birth rate in the Federal Republic, a continued, if somewhat weaker, birth rate decline was applied to the projection. On the basis of the estimated birth rate for 1972, which reflects a net reproduction rate of 0.81, a proportionate birth rate reduction totalling 9 per cent was applied for 1973 to 1975, yielding a net reproduction rate of 0.73 for 1975. The birth rate then arrived at was assumed to remain constant after 1975. Given this assumed fertility level, a woman could expect 1.5 births in her life-time.

6.3. Results of the Population Projection

6.3.1. Development of Total Population

Without taking migrations into account and on the basis of the above assumptions, the 61.5 million population of the Federal Republic as of 1972 will decrease by 1.8 million by 1985 and by a further 2.7 million between 1985 and 2000, so that the number of inhabitants in the year 2000 will be only 57 million. The population in the year 2000 will thus be at the level observed in the Federal Republic in 1962. The expected natural population decrease can be traced mainly to the fact that a low birth rate combined with constant mortality are matched by a steady rise in the number of deaths up to 1985 on account of the population age structure. This gives rise to a surplus of deaths over live births in all projection years (Figure 16). The natural population decline is expected to continue at an increasing rate from year to year until about 1980, undergo a stagnation period and increase again after 1990.

6.3.2. Development of the Major Population Groups

The gradual population decline of the next thirty years is accompanied by varying developments in the individual age groups. For clearer review, the results were summarized by the main age groups, as follows:

1. those under 6 years, i.e. in pre-school age;
2. those under 20, the majority undergoing schooling or vocational training for which the costs must be borne;
3. women over 60 and men over 65, whose old-age pensions must be secured;
4. women between 20 and 60 and men between 20 and 65, i.e. the population of working age.

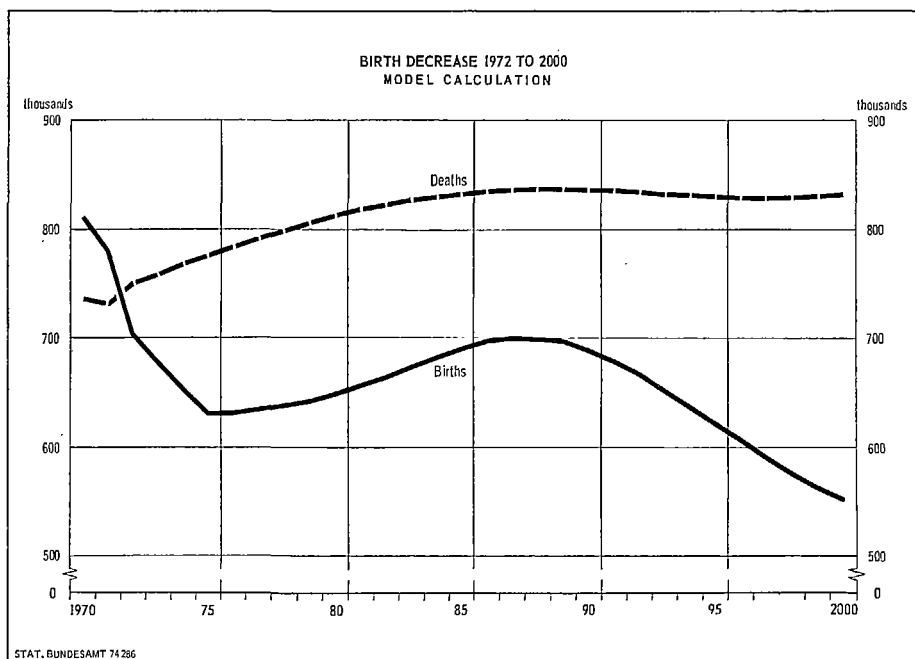


Figure 16

Table 47
Development of major age groups, 1961—2000*)
(in thousands)

Age groups	1961	1972	1980	1985	1990	2000
Total population	56 175	61 503	60 478	59 698	59 005	56 971
of which:						
under 6	5 281	5 391	3 735	3 875	4 064	3 505
under 20	15 867	18 220	16 433	14 670	13 210	12 716
males 65 and over	2 499	3 191	3 322	2 830	2 813	3 279
females 60 and over	5 559	7 256	7 147	7 309	7 183	7 175
males 20 to less than 65	15 788	16 836	17 274	18 445	19 055	18 132
females 20 to less than 60	16 462	16 000	16 302	16 445	16 743	15 669
females 15 to less than 45	11 785	12 238	12 861	12 852	12 356	11 547

*) 1961: Census results; 1972—2000: beginning of the year.

The number of pre-school age children will be lower throughout the entire projection period than in 1972 (Table 47). At the beginning of 1972, 5.4 million children were under 6 years of age. By 1980 their number will decrease by almost 1.7 million, followed by a temporary slight increase to 1990, when it will once again

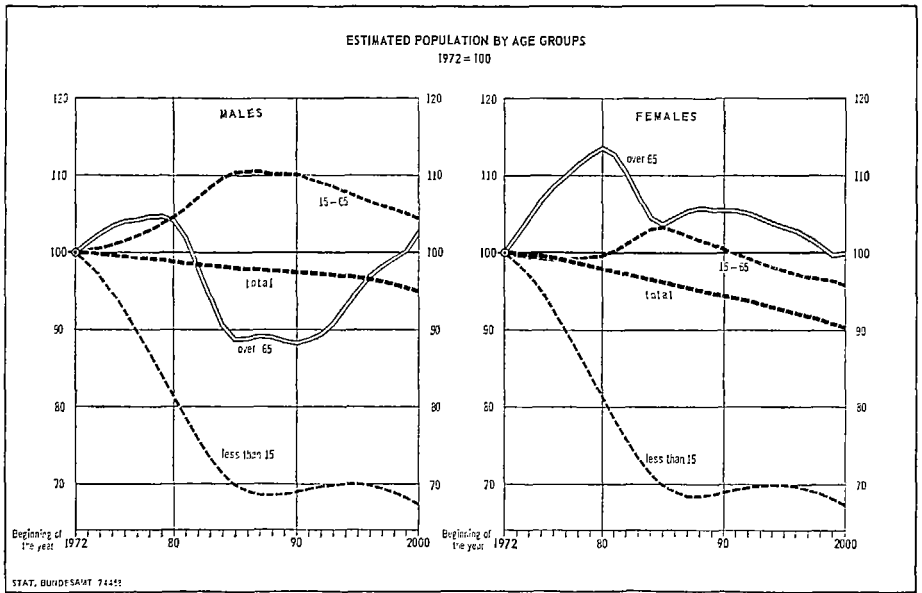


Figure 17

decrease. As this age group covers future school beginners, the sharp decrease in the number of children will bring about a considerable fluctuation in the number of teachers and/or sizes of classes, necessary class rooms, educational material, etc.—all factors which planners must take into consideration. The number of teachers required in 1980 and thereafter already represents a critical training problem.

The high proportion of almost 30 per cent of the total population represented by those under 20 years of age as of 1972 will decline up to the year 1990 and thereafter remain constant (percentages in relation to the total population are given in Table 48). The quantitative development of the under-20 year olds in the next three decades is of particular importance from the point of view of schooling and vocational training, since the increasing demand for individual qualification within a highly industrialized society indicates that the vast majority of young people in this age group will undergo educational training.

Considerable numerical differences exist between men and women of retirement age, which is here taken to be 65 years for men and 60 for women. The number of women in this age group is consistently more than twice that of men. The population proportion of women remains almost constant until 1990, whilst the male proportion will rise until 1980, subsequently decline and rise again slightly, as in the case of women, in the nineties.

The number and percentage of men and women of working age will increase up to 1990, showing a slight decline only in the final decade.

The number and percentage of women in marrying and child-bearing age groups (15 to under 45 year old women) increases up to 1985. The subsequent 15 years will see first a stagnation and then a slight decline.

The development curves for the total population as well as for the three major age groups indicate that the changes to be expected within the next 2¹/₂ decades are in part quite different for men than for women (Figure 17).

The expected shifts in age structure will bring about a change in the so-called dependency ratio, that is to say the proportion of those not yet of working age—whereby it is assumed, as already stated, that education will continue in the future to the age of 20—together with those men and women whose age entitles them to pension benefits in relation to men and women of working age (Table 48).

This “dependency ratio” reveals remarkable changes. The number of children and young people, who cause high educational and training costs, declines from around 56 per 100 men and women of working age in 1972 to about 38. This “dependency” level will be lowest around 1990, whereafter the ratio will rise slightly.

The burden attributable to “dependent” older persons, recipients of benefits and pensions, will decrease over the next two decades and rise again by 3 percentage points only at the turn of the century.

Table 48
Development of major age groups and dependency ratios, 1961—2000*

	1961	1972	1980	1985	1990	2000
Percentage of age groups in relation to total population:						
under 6	9.4	8.8	6.2	6.5	6.9	6.2
under 20	28.2	29.6	27.2	24.6	22.4	22.3
males 65 and over	4.4	5.2	5.5	4.7	4.8	5.8
females 60 and over	9.9	11.8	11.8	12.2	12.2	12.6
males 20 to less than 65	28.1	27.4	28.6	30.9	32.3	31.8
females 20 to less than 60	29.3	26.0	27.0	27.5	28.4	27.5
Percentage of females aged 15 to less than 45 in relation to total number of females						
	39.6	38.1	40.9	41.6	40.7	39.8
Dependency ratio:						
Ratio of persons under 20 to number of males aged 20 to less than 65 and females aged 20 to less than 60						
	49.2	55.5	48.9	42.0	36.9	37.6
Ratio of males aged 65 and over and females aged 60 and over to males aged 20 to less than 65 and females aged 20 to less than 60						
	25.0	31.8	31.2	29.1	27.9	30.9
Overall dependency ratio						
	74.2	87.3	80.1	71.1	64.8	68.5

*) 1961: Census results; 1972—2000: beginning of the year.

The "total dependency ratio" simply reflects the development of the two component ratios. It shows a marked decline up to 1990. A slight rise will occur only thereafter.

These series of figures and relations indicate clearly the long-term effect of age structure and individual age group development on the overall population development. Demographic trends may be outweighed by possible changes in the parameters of the political, economic or social situation which in turn affect the actual dependency ratio, e.g. alterations in legal regulations covering retirement age, the introduction of a "baby year" for economically active mothers or mandatory attendance at schools and institutions of adult education, resulting in extended interruption of an individual's employment.

6.4. Projected Development of the Number of Households

Projections concerning the number of households and families are significant for the economy, for market research, for administrative purposes and for all those bodies concerned with the supply and equipment of goods and services to households. It is, for example, of particular importance to planning in the field of housing to be able to assess as early as possible the future development of the number of households according to their size, thus enabling housing supply to be fitted to the expected demand.

Population development and related shifts in age structure and composition of the population according to marital status are important factors in future changes in the number of households. Household projections in the Federal Republic have hitherto been carried out only up to the year 1985. In contrast to population projections which take into account demographic variables only, household projections must also consider other variables (such as housing construction, improvement in educational opportunity for the young, but also for those already economically active), which give rise to an increase in the number of households. It is extremely difficult to assess the effect of such non-demographic variables, which lessens the reliability of projection results covering longer periods of time.

Table 49
Private households by household size, 1961—1985 (in thousands)

Household size	June 6, 1961	April 1966	April 1971	1975 ¹⁾	1980 ¹⁾	1985 ¹⁾
1 person	4 010	5 145	6 106	6 345	6 605	7 026
2 persons	5 156	5 972	6 245	6 436	6 512	6 663
3 persons	4 389	4 456	4 343	4 334	4 323	4 285
4 and more persons	5 905	5 967	6 158	6 060	5 923	5 753
Total	19 460	21 540	22 852	23 175	23 363	23 727
		Average household size (persons)				
Total	2.88	2.74	2.66	2.62	2.58	2.52

¹⁾ Beginning of the year.

A comparison between the development in the number of households between 1961 and 1971 and projected development for the period 1971 to 1985 reveals a sharp decline in the increase of households (Table 49). It is to be expected that, as a result of the declining birth rate, larger households (three and more persons) will decline in number in the coming years, and only smaller households are likely to increase in number, in particular one-person-households.

6.5. Determinants of Regional Population Development

As in past years and decades, future regional population development in the Federal Republic of Germany will be marked by very varied trends. If, in the first place, migrations are not taken into consideration, the future population of a region is determined by its age structure, birth and mortality rates. Pronounced regional differences with regard to age structure mean that this factor alone, despite similar birth and mortality rates, would give rise to marked regional differences in population development. Added to this, however, there are in fact pronounced regional variations in the birth rate in the Federal Republic, whilst regional mortality rates reflect only comparatively small differences.

Differences in housing and residential patterns, as well as variations in the educational level of the population, have been found to be determining factors for regional variations in the birth rate. An important relation exists between high fertility rates and owner-occupied one- or two-family houses or even owner-occupied flats in one- or two-family houses. The opportunity to build one- or two-family houses is, however, not available to the majority of the population in major cities and agglomeration centres; this, in turn, limits the conditions favourable for large families. Furthermore, the city population in the Federal Republic of Germany generally reflects a relatively high level of education, with the result that these combined factors effect a relatively low birth rate amongst big city and agglomeration populations. The reverse is true in small towns and rural areas, whose birth rate is still relatively high. As a result, the future will bring an above-average decline in population in large towns and agglomeration centres, whilst the population in rural areas will stagnate or even increase slightly.

To what extent this development will be counteracted, as in the past, by the influence of migration will, *inter alia*, depend on the success of regional planning measures presently being projected or already initiated by the Federal Government with the main aim of preventing any further increase in the existing disparity in regional population distribution.

7. Economic and Social Implications of Population Development — Population Policy

7.1. Introduction

Mutual dependencies and interactions exist between the structure of a population and its development on the one hand and the economic and social structure and its development on the other. It is known that a relationship exists between the number of births in a particular age group, as determined by the procreative behaviour of married couples, and the labour force supply 15 to 20 years later. The decisions taken within the micro-sphere of the family have a direct, though delayed effect on the macro-sphere of society and, through labour as one of the production factors, on economic developments. The influence of social and economic data on decisions taken at the individual level is less direct and less apparent, since several factors can take effect here simultaneously and with varying weight. Favourable economic conditions, for example, which are seen by the population as the basis for future positive economic development can, but do not inevitably, lead to an increase in the number of children. One influential factor can, for example, be the improvement in income. Surveys have revealed that at every social level the number of children increases with higher income. As it can be assumed that housing conditions exercise a considerable influence on decisions affecting the number of children, improvements in income can lead to occupation of larger residences more suitable for children. If future economic and social development is assessed positively by married couples, the "risk" of having children appears slighter and the prospect of securing them a good education more certain. The counter-effect may arise, however, in conditions of labour shortage brought about by economic boom, whereby the offer of higher salaries mobilizes the remaining labour force potential of married women, thus postponing or eliminating altogether the birth of a child. The marked effect which adverse economic conditions can have on the decisions of married couples was illustrated by the sharp birth rate decline at the time of the world-wide economic crisis of 1930/32. It can be assumed that the birth rate decline observed since 1965 was temporarily intensified by the 1967 recession, though direct statistical evidence of this cannot be furnished.

Analyses of the relation between legislation and fertility have revealed that in highly developed industrial societies very few legislative regulations can be proven to have a direct influence on procreative behaviour. This is similarly true of economic and social influences. The more complex a social and economic system, the more variables will determine the living conditions in general and the behaviour of the individual or of a married couple. It is not therefore possible to clarify and assess the effect of non-demographic variables such as economic and social factors. In spite of this, the following is intended as a rough outline of the economic and social developments which have occurred since 1950, for these have determined an essential part of the living conditions, which affect the rise and decline in birth rates, continued urbanization and shifts in social structure, to say nothing of the migratory movements across the borders of the federal territory.

7.2. Economic Development, in the Light of the Trend in Gross National Product and Gross Domestic Product

Economic development between 1950 and 1972 can be traced against the trend of the gross national product or the gross domestic product.

The gross national product in 1972 amounted to 829.7 thousand million DM. In real terms, i.e. disregarding price variations, it was one and a half times greater than in 1961 and almost four times the level of 1950. The rise in real gross national product per capita was slightly less, due to population increase (Table 50).

The gross domestic product in 1972 amounted to 829.83 thousand million DM. This was distributed at 24.66 thousand million DM for agriculture, forestry and fisheries, 439.97 thousand million DM for manufacturing industries, 147.95 thousand million DM for trade and transport, 127.66 thousand million DM for service trades, and 99.29 thousand million DM for government, private households and private enterprises. The growth rate in manufacturing industries was above average, contrasted with a very low rate in the agricultural sector, whereby it must be taken into consideration that only about half as many persons were employed in agriculture in 1972 as in 1950.

The volume and trend of capital formation and capital investment are indicative of economic development. If the depreciation allowance at replacement costs (93.61 thousand million DM) is deducted from gross investment in 1972 (219.95 thousand million DM), net investment for 1972 amounts to 126.34 thousand million DM. Four fifths of this (100.69 thousand million DM) was accounted for by private enterprises, one fifth (25.65 thousand million DM) by the government. Net government investment at constant prices has increased almost six-fold since 1950, thus being considerably higher than that of the private sector, which has quadrupled. Real net government investment since 1961 has increased by about two thirds, against one third by private enterprises.

Table 50
Gross national product as calculated for 1972

	In prices of 1972	In prices of 1962	
	Thousand million DM	1961 = 100	1950 = 100 ¹⁾
Gross national product	829.7	162	368
per capita (DM)	13 454	147	297
Gross domestic product	829.83 ²⁾	162	368
Agriculture, forestry, fishery	24.66	114	159
Manufacturing industry	439.97	171	473
Trade and transport	147.95	153	331
Service trades	127.66	162	356
Government expenditures, private households etc.	99.29	150	227
Total net investment	126.34	140	437
of private enterprises ³⁾	100.69	136	411
of the government	25.65	160	593

¹⁾ Change of geographical coverage in 1960 eliminated.

²⁾ After deducting the difference between tax previously charged on investment and investment tax.

³⁾ Incl. private non-profit institutions.

Net investment, augmented by the financial balance in relation to the rest of the world, shows an overall economic capital formation of 126.52 thousand million DM in the year 1972, which is, in turn, equivalent to 1972 savings plus the capital transfer balance. A good half of the total capital formation (66.04 thousand million DM) was attributable to private households, more than a quarter (35.94 thousand million DM) to private enterprises and just under a fifth (24.54 thousand million DM) to the government. Capital formation has clearly shifted in favour of private households since 1950. In 1950 the share of private households in overall capital formation was only about 17 per cent (1961 about 27 per cent), that of private enterprises 1950 around 64 per cent (1961 about 41 per cent) and that of the government a good 19 per cent (1961 around 32 per cent). It is not possible to denote capital formation by constant prices due to the problem of price adjustments in the flow of savings and funds.

7.3. Social Development

7.3.1. Review of the Social Budget

The presentation of a social budget by the Federal Government serves as an annual review of social expenditures. The social budget functions simultaneously as the basis for international reporting. Its data reveal the extent and development of social expenditures, this being dependent on the development of the national product. In general it can be established that social expenditure has increased steadily each year and, indeed, in the period under observation, more rapidly than the national product.

In 1972, social expenditures amounted to a total of 218 thousand million DM, which represents around 26 per cent of the gross national product of 829.7 thousand million DM (1971: 193 thousand million DM or 25.4 per cent of the gross national product of 759 thousand million DM). Short-term planning assumes a further rise in the gross national product for the year 1977 to 1,304.3 thousand million DM, together with a relatively sharp increase in social expenditures to around 354 thousand million, which would then represent a proportion of over 27 per cent.

Table 51
Social Budget, 1965—1972

	DM			Average yearly changes (in percent)	
	1965	1970	1972	1965/70	1970/72
Social budget per capita of total population	1 888	2 762	3 547	+7.9	+13.3
Expenditures for health per capita of total population	539	854	1 148	+9.6	+15.9
Exppnditures for children per capita of eopulation aged under 15	939	1 065	1 242	+2.6	+ 8.0
Expenditures for aged persons and surviving dependants (excl. orphans) per capita of population aged 60 years and over	3 447	5 077	6 168	+8.1	+10.2

77 per cent of the 218 thousand million DM expenditures were for income benefits, 18 per cent for benefits in kind and 5 per cent for general services and expenses.

Expenditure according to function, with its development since 1965, is reflected in the social expenditure figures (Table 51).

The per capita social budget for the population has nominally almost doubled between 1965 and 1972. The greatest increase has occurred in health expenditures. The highest per capita amount of any age group in the population is constituted by expenditures for aged persons and surviving dependents, with around 6,200 DM in the year 1972.

If expenditures for aged persons in the form of pensions and expenditures for surviving dependents are combined, the categorization of social expenditures according to their function reveals that in 1972 more than a third (34.4 per cent) was allocated for the welfare of the aged (Table 52).

Almost a further third covers those expenditures made for health services, including primarily expenditures in the case of illness, accidents, occupational disablement as well as payments in kind for free medical examinations and for prophylactic measures.

The group labelled "family and housing" embraces child and orphan allowances as well as tax relief for families, housing subsidies which are paid on application as rent subsidies to those in lower income brackets, and maternity benefits.

Expenditures classified under "employment" are granted for vocational training and rehabilitation, for cases of inability to continue in an occupation, for unemployment pay or in the case of short-time work, as well as for the purpose of maintaining and creating jobs. Expenditures for the consequences of political events include assistance to war disabled, reparation payments, reimbursement and compensatory payments (damages granted under certain circumstances for loss of property as a result of events of war). Finally, the government grants financial premiums and tax relief for the promotion of housing construction and savings; an amount of over 9 thousand million DM (4.3 per cent) was allocated to this purpose in the 1972 social budget.

Social developments can be traced not only on the basis of the government's social expenditures to the benefit of certain sectors of the population, but also by consideration of the regulation of working hours and leave, the extent of social security, measures undertaken in the health sector and improvement in housing conditions. The following sections will deal briefly with these aspects.

Table 52
Expenditures of the Social Budget by functions, 1972 (in percent)

Family and housing	19.5
Health	32.6
Employment	3.4
Old age	22.5
Surviving dependants	11.9
Charges resulting from political events	5.8
Savings incentives	4.3

Table 53
Average number of working hours per week for economically active persons, 1961 and 1971

Year	Total	Male	Female
1961	45.5	47.1	42.7
1971	42.6	44.8	38.9

7.3.2. Working Hours and Leave

In the same period which, apart from the recession of 1967, saw favourable economic development, rising incomes, full employment, at times even over-employment, a general reduction in working hours was achieved. According to labour contracts, working hours for workers and salaried employees up to 1956 still amounted to 48 hours per week. By 1959, this was reduced to 45 hours. In 1967, working hours under 42 were achieved. Since 1970, labour contract regulations provide for an average of around 41 hours. Over-time hours worked have generally caused the average number of actual working hours to be above these levels, which applies in particular to the self-employed, for whom there are no such labour contracts, as well as to unpaid family workers.

The notable difference in average working hours between male and female economically active persons can above all be traced to the continuously rising proportion of women in part-time employment, in particular amongst married women (Table 53). Thus in 1964 there were 204,000 men in part-time employment, as opposed to just short of 1.2 million women (including 924,000 married women) in part-time employment; the corresponding figures for 1971 were 243,000 men and more than 1.8 million (of whom 1.5 million were married) women.

If working hours are broken down by self-employed persons, unpaid family workers, civil servants, salaried employees and workers, it is revealed that in all groups, with the exception of the self-employed, working hours have decreased.

At a weekly average of 55.3 hours in 1971, self-employed persons were working half an hour longer than in 1961. The sharpest decrease has occurred for salaried employees, who were working more than three and a half hours less per week by 1971 than ten years before.

Besides increased income and reduced working hours, a further labour contract improvement in the form of entitlement to longer leave periods has been achieved by dependently employed persons in the sixties. Whilst civil servants, salaried employees or workers were entitled to an average of 14 days leave at the beginning of the decade, this figure had increased to 20 by 1969. The entitlement for civil servants (25 days) is still more favourable than that for salaried employees (21 days) and workers (20 days).

7.3.3. Social Security and Family Allowance Benefits

The high proportion of expenditures for the welfare of the aged and sick has already been dealt with in section 7.3.1., which covered the social budget. This

accounted for more than two thirds of the total social expenditures in the year 1972. Social security for the economically active and their dependents covers health insurance and old age benefits. All workers and salaried employees are subject to compulsory old age insurance, irrespective of the level of their income. Health insurance coverage is compulsory for all dependently employed persons whose monthly earnings do not exceed DM 1,875 (rate level 1974). If their income is higher, insurance coverage is voluntary. It is also possible for self-employed persons to join the old age and health insurance schemes on a voluntary basis. Overall the percentage of economically active persons covered by old age insurance is higher than that reflected by the number of contributors to the obligatory old age insurance scheme, since, for example, a special scheme applies to civil servants and old age insurance can be effected by other means, such as life insurance, private property and capital, and so on.

In 1971, 88 per cent of all male and more than 90 per cent of all female persons out of the total population were covered by the legal health insurance. Workers are, almost without exception, members of this insurance scheme, whilst the proportion for salaried employees is 93 per cent for men and 97 per cent for women. A considerable proportion of the self-employed are also thus insured, namely 61 per cent of men and 71 per cent of women. The group of those not covered by insurance has steadily diminished and now amounts to less than 1 per cent of the population.

According to the Constitution of the Federal Republic of Germany, the institutions of marriage and the family are under the special protection by the state. A system of government aids for families with children has been developed in fulfilment of this principle, which provides for financial and other assistance. It is the intention thereby to compensate for the particular burden placed on families with children, whilst ensuring the children equal chances in education and training. According to the official concept of family policy, the system of assistance to the family is motivated predominantly by considerations of social and family welfare rather than considerations of population policy.

The primary source of assistance to the family is the family allowance. This is granted to effect a compensation for the burden of maintaining a family, independent of respective income achieved through economic activity. Persons with two or more children receive family allowance for the second and each subsequent child. The entitlement of those with two children, however, only exists if the annual income, including that of the spouse, does not exceed DM 18,360. Family allowance is only granted upon application. Its rates are as follows (as of May 1974):

- DM 25.— for the second child,
- DM 60.— for the third child,
- DM 60.— for the fourth child,
- DM 70.— for the fifth and every subsequent child.

Around 3.19 thousand million DM was paid out in family allowance in 1972.

A new system is intended to come into force on January 1, 1975. From that date, all parents, irrespective of income, are to receive family allowance starting with the first child, at a monthly rate of DM 50.— for the first child, DM 70.— for the second and DM 120.— for the third and each subsequent child.

Other assistance provided for families with children include:

Promotion of education and vocational training: Young people whose families are not in a position to bear the high costs of education and vocational training receive financial support for their livelihood and the individual educational costs. In 1972, the amount of 1.76 thousand million DM was paid for the promotion of around 400,000 young persons. The average monthly amount per person receiving promotion amounted to DM 312. —.

Medical prophylactic measures: The system of medical prophylactic services for the entire family has been extended within the framework of the health insurance system. Up to the age of four, children enjoy a legal right to examination for detection of such diseases as jeopardize normal physical or mental development. Women from the beginning of their thirtieth year and men from their forty-fifth are entitled to an annual examination for the early detection of cancer diseases. Hitherto, however, only every fifth woman and every tenth man have taken advantage of the free examination. The proportion of children in whose cases use is made of this entitlement to examination is estimated at about 40 per cent.

Maternity protection: Special legislation has been enacted for the protection of economically active mothers. Employment activity is forbidden for at least six weeks prior and eight weeks following confinement. The place of work must be so arranged as to ensure no danger to the mother-to-be, the nursing mother or the child. Mothers-to-be or nursing mothers may not be engaged in heavy work, on the assembly line or with piece work, nor may they be exposed to materials dangerous to health. Notice to terminate employment is not admissible during pregnancy and up to four months following confinement. The legal health insurance scheme grants a maternity benefit, as well as other allowances associated with confinement, and medical care.

Travel and holidays: Varying price reductions for children and families are granted by the Federal Railways and the public transport systems within a great number of communities. Holiday homes for families have been built with the aid of government and municipal subsidies to enable in particular large and young families in lower income brackets to have a holiday. In 1971, there were around 16,000 beds in 130 such holiday homes.

Other social measures, such as the old-age insurance scheme, war victim welfare, unemployment and social welfare funds also include special provisions for the benefit of families with children. Tax legislation makes allowance, in particular in the case of income tax, for the number of children under 18 years of age for whom tax-free amounts are granted. These tax exemptions are granted up to completion of the 27th year for children undergoing education or training. Special measures are intended to provide better housing conditions for families with children (see section 7.3.5.).

7.3.4. Health Services and Nutrition

As already reflected in the review of the social budget (section 7.3.1.), one third of the outlay for social services is applied in the area of medical policy, the treatment of illness and prophylactic medical care.

Surveys (microcensus), in which households and families are questioned as to illness in the course of the month under review, provide a general indication of health conditions. In the survey carried out in October 1972, 12.6 million persons, which represents 20.5 per cent of the population, described themselves as ill. In the same period almost 1 million persons, namely 1.6 per cent of the population, reported having suffered an accident injury. Most frequent were accidents on the job (345,000 or 33 per cent) and in the home (147,000 or 15 per cent). A 1966 survey established that 4.1 million persons were physically or mentally handicapped, which represented 6.9 per cent of the population.

Major notifiable, communicable diseases showed retrogressive development, the incidence of diseases being reported as shown in Table 54.

The trend is marked by a rapid decline in tuberculosis and other infectious diseases such as, for example, following the introduction of oral vaccine, cases of poliomyelitis. In contrast to this, incidences of infectious hepatitis and enteritis have shown a marked increase. Cases of scarlet fever, on the other hand, reflect a strongly fluctuating trend.

The figures for causes of death (Table 55) reflect the development of fatal diseases. The general mortality rate has risen between 1950 and 1972.

Table 54
Notifiable, communicable diseases, 1950—1972

	1950	1961	1972 ²⁾
Tuberculosis	130 080	65 040	41 014
Venereal diseases	116 661	.	87 977
Scarlet-fever	95 793	23 630	36 058
Diphtheria	42 888	1 317	34
Infectious hepatitis	.	14 708 ¹⁾	23 321
Typhus abdominalis	5 735	1 355	385
Infectious enteritis	2 016	2 889	14 458
Poliomyelitis	2 911	4 673	15

¹⁾ 1962.

²⁾ Preliminary results.

Table 55
Development of major causes of death, 1950—1972

	1950	1961	1972
	per 100 000 inhabitants		
Total	1 060	1 117	1 083
among which:			
cardiovascular diseases (including impaired vessels of central nerve system)	350	462	543
malignant tumours (excluding lymphatic and sanguifying organs)	174	203	219
accidents	44	58	61
suicides	20	20	20

Table 56
Maternal and infant mortality, 1950—1972

	1950	1961	1972	
Maternal deaths per 100 000 live births	205.5	97.7	42.7	(actual number) 300
Infant deaths per 1 000 live births	55.3	32.0	22.4	(actual number) 15 907

Table 57
Persons occupied in health services per 10 000 inhabitants, 1952—1972

	1952	1961	1972
Practising doctors	13.6	14.3	17.4
Practising dental surgeons ¹⁾	5.6	5.8	5.0
Nurses	20.0	18.9	21.9
Dispensing chemists	1.3	1.7	2.0

¹⁾ 1952 and 1961 incl. non-university-trained dentists.

Causes of death associated with illness of a cardiovascular nature and malignant tumours (cancer) show the highest figures and sharpest increase, an increase which above all can be traced to the ever increasing proportion of older persons in this period of time. Deaths due to accidents have also risen, in particular as a result of the increase in fatal traffic accidents. The figures for suicide, however, remained unchanged.

Maternal and infant incidences of death, which are of social hygienic significance, have decreased, but these mortality rates are still relatively high in comparison with other countries (Table 56).

An increasing number of members of health service professions, together with health service institutions, is available for the medical care of the population (Table 57).

Whereas a doctor in 1952 was responsible for the care of 735 inhabitants, by 1972 this had fallen to 575. Dental care has become more difficult, in 1952 the ratio was one dentist per 1,790 inhabitants, in 1972, however, one per 1,984. The proportion of women doctors has risen to 19.5 per cent of the total, that of alien physicians to 5.4 per cent. The structure of the medical profession is altering increasingly in favour of hospital doctors. In 1972, 48.2 per cent of doctors were engaged in private practice, 42 per cent in full-time hospital appointments and 10 per cent in administration and research. The proportion of specialists has risen steadily over the years and in 1972 amounted to 42.3 per cent.

In the year 1972 there were about 3,500 hospitals in the Federal Republic. Their number has decreased slightly in recent years concurrent with an increase in bed capacity (Table 58). One of the causes of the trend to bigger hospitals, as expressed in this development, is the increasing cost of modern diagnostic and therapeutic facilities.

Table 58
Hospital beds and inpatients per 10000 inhabitants, 1950—1972

	1950	1961	1972
Regular beds	109.0	105.1	113.5
Inpatients	1 240	1 332	1 594

¹⁾ 1954.

With a total of 224 million patient care days, the average hospital stay in 1972 was 23.9 days per patient; regular beds were, on an average, occupied at a rate of 87.4 per cent in 1972.

As in most industrial countries, there has been insufficient adjustment in the Federal Republic to the altered nutritional requirements of a highly developed industrial society, in which the proportion of persons with predominantly sedentary and non-manual occupations requiring reduced calory consumption is large and continuously increasing. Increased provision of information and education of the public, together with the development of the nutritional sciences, are intended to control the harmful effects of a sometimes excessive fat and sugar consumption.

7.3.5. Housing Conditions

The destruction brought about by World War II and the persistent war- and post-war-induced migrations of large sections of the population inspired an exceptional drive in housing construction in the fifties. Dwellings had to be produced as a first emergency measure for millions of persons. In the sixties, housing and construction activity was related increasingly to the population's growing aspirations and the qualitative improvement in housing. In addition, an increase in housing demand had arisen as a result of the rising number of one-person-households (see Chapter 3).

The number of dwellings has risen from 10.9 million in 1950 to around 21 million by the end of 1972 and has thus almost doubled in two decades (Table 59). Numerous financial benefits provided by the government have promoted this expansion in housing construction. The increase in the population's real income has also contributed to the ability to meet new housing demands.

Table 59
Dwellings, 1950—1972

	Unit	1950	1960	1968	1972
Owner-occupied dwellings	1 000	4 194	5 854	7 077	7 463
Rented dwellings	1 000	6 685	9 271	12 645	13 602
Total dwellings	1 000	10 879	15 125	19 722	21 065
Dwellings with bath	% ¹⁾	21	50	70	82
Dwellings with central heating ²⁾	% ¹⁾	8	12	33	45

¹⁾ In percent of total dwellings.

²⁾ Or equivalent heating (single-unit and district heating systems).

Table 60
Rooms, area and persons per dwelling/room, 1950—1972

	1950	1968	1972
Rooms per dwelling	4.0	4.0	4.2
Area per dwelling in square meters	62.0	70.7	74.6
Persons per dwelling	4.6	2.9	2.8
Persons per room	1.2	0.7	0.7

Differences in quality are to be found mainly between old and new dwellings. Of the around 22 million dwellings available to the population at the end of 1972, 56 per cent were built since 1948 and only 44 per cent prior to 1949, 28 per cent before 1919.

The sharp increase in new dwellings has led to a continuous improvement in the quality of dwellings, which is chiefly characterized by the equipment with sanitary installations and the type of heating installation. Four fifths of all dwellings are equipped with baths, almost half have central heating. As a result of the increased demand for quality in housing, baths and central heating have subsequently been installed in many older dwellings.

Better quality dwellings nowadays have bath, WC and central heating. In 1960, 11 per cent of dwellings had achieved this standard, in 1968, 31 per cent, and in 1972, 43 per cent.

The number and demand for dwellings are dependent on population figures, size of families and migratory movements. The average dwelling size, in terms of the number of rooms, has risen slightly since 1950 (Table 60). The area of dwellings has on an average increased far more rapidly, reaching 75 square metres in 1972. The trend to smaller families and to smaller households has effected an obvious decline in the number of persons per dwelling. Whilst in 1950, 4.6 persons occupied one dwelling, this figure had fallen to 2.8 persons in the year 1972. The number of persons per room has decreased accordingly.

Despite this favourable development, there are still families today living in so-called quarters, namely accommodation which was not originally intended for permanent dwelling, e.g. barracks, Nissen huts, caravans, railway carriages, etc. The number of these families was around 90,000 in 1972. It is to be expected that continued housing construction and the measures of urban renewal which have been initiated will lead to the disappearance of these living quarters.

There is no evidence of a direct association between housing conditions and the number of marriages and births. Between 1945 and 1960, at a time when millions of destroyed homes had to be reconstructed and the housing shortage was extremely grave, the birth rate was high. During the housing construction expansion of the sixties, however, which was accompanied by qualitative improvements, a reduction in average number of persons per dwelling/room and an increase in average living area, the number of births has steadily declined. On the other hand, in the view of many families, the dwellings, in particular rented housing, are not spacious enough for more than two children, all the more in view of the tendency towards as large a living room as possible for the use of the entire family. The

location of the dwelling is also important. Dwellings in major cities and agglomerations without their own gardens and with neither playgrounds nor open spaces in the vicinity are considered less suitable for children than dwellings on the urban periphery with their own gardens or other playing facilities for children. An additional factor is the rising proportion that rent takes of the net income. In the fifties to mid-sixties, this proportion was 9 to 10 per cent for a middle-income employee, from 1966 onwards this has risen from 11 per cent to over 13 per cent in 1972. This development, together with other price increases which have a greater effect on large families than on small ones, may alongside many other factors be influential in the limitation of the number of children. It is not, however, possible to prove a direct association; this is due in part to the lack of motivation research which could clarify the influence of dwelling size and the rent-income ratio on the number of children within given income groups.

7.4. Probable Medium-Term and Long-Term Economic and Social Developments

The forecast of economic growth in the Federal Republic of Germany up to 1985, as calculated in the autumn of 1970 and submitted to the ECE Secretariat, was based on an average annual increase in the real gross national product of 4.7 per cent for the period of 1971 to 1980. In the meantime, new facts and new political objectives have to be taken into consideration which, on balance, suggest that the rate of economic growth will be less than forecast.

From today's standpoint, social development prospects up to 1985 are good. The expected rate of economic growth should ensure a high average rate of employment. The unemployment rate (ratio of unemployed to the number of dependently economically active persons) is expected to vary within a margin of 0.7 per cent and 1.2 per cent. The Federal Republic will continue to be dependent on the employment of foreign labour.

Projections for development in the period beyond 1985 are not available for the Federal Republic of Germany.

Changes in economic structure and efforts of the Federal and Laender Governments to achieve better training possibilities are giving rise to changes in occupational structure and employment. It is therefore to be expected that the number of self-employed and of unpaid family workers will continue to decline, particularly as a consequence of the continuing shrinking of the agricultural sector. A medium- and long-term decrease in the number of workers is matched by a considerable increase in the number of salaried employees, which is to a great extent the result of an expansion of the tertiary sector, in particular the personnel demand in public administration. The multiplicity of overspecialized and outdated occupations is no longer in keeping with current mobility requirements and the aim of equal educational opportunities. As a result, the number of occupations with traditional training will decline in the future. The effects of planned guidelines for vocational training and the long-term prospects for the major occupational groups are currently the subject of intensive study by labour market and occupational research.

7.5. Ecological Consequences to Be Drawn from Long-Term Demographic and Economic Projections

The population projections (see Chapter 6) show that the population will decline in the next three to four decades. The projected development of families and households has indicated that their number will continue to rise until 1985, although to a lesser extent than in the past. Larger households with more than three persons will decrease, households of one and two persons, on the other hand, will increase, the average household size will decline.

For the investigation of non-demographic influences on the ecological system, extensive research projects are in progress, above all from the point of view of environmental protection and regional planning. The objectives of these research projects include the investigation of the interrelations between environmental pollution, ecological factors and the shortage of natural resources, and the evolution of proposals for specific environmental protection policies intended to achieve a rational and low-pollution utilization of natural resources. The measures planned by the Federal Government aim for continual improvement in the quality of human life.

In terms of regional planning, the primary consequences and requirements are as follows:

- alteration of land utilization must be preceded by investigations of its ecological significance, one of the most important planning criteria;
- living and working areas as well as their infrastructure facilities should be integrated or grouped together to a greater degree than hitherto;
- the increased development of recreation and leisure-time facilities is necessary, particularly in the vicinity of densely populated areas and taking into consideration the increasing demand for short periods of recreation;
- to prevent further haphazard building in rural areas as well, residential settlements and working areas must be locationally concentrated;
- certain areas should be kept free as “compensatory areas” to ensure the possibility of maintaining an ecological balance between rural and densely populated areas;
- industrial and business establishments of a disturbing type are to be separated from residential and recreational areas in the towns and cities;
- particular consideration is to be given to adequate local transport in the planning of residential areas;
- areas no longer utilized for agriculture must, where necessary, be turned over to forms of utilization which are not detrimental to their function of maintaining the ecological balance.

7.6. Population Policy as Element of Social and Economic Policy

7.6.1. General Remarks

Since the founding of the Federal Republic of Germany in the year 1949, a variety of measures have been taken which, directly or indirectly, have exercised influence on the population. Mention must be made of: the resettlement during the fifties

within the Federal Republic of major parts of the population which had immigrated in the aftermath of World War II; labour market policy measures, in particular the assimilation of the alien workers in the sixties and the beginning of the seventies; and measures relating to family policy, which are not considered, however, as population policy measures, despite their social political effect on population developments. Legislative measures covering marriage and divorce, contraception, induced abortion and sterilization, as well as in the fields of health and education, can exercise influence on the development of the population; this influence is, however, of a more indirect than direct nature, and in no case are legislative measures determined by considerations of population policy.

Discussion of population policy objectives has only begun very recently, mainly prompted by the long-standing decline in the birth rate. One reason for the reserve hitherto expressed by official agencies has been the conscious reluctance to consider any type of political measure which could be interpreted as interference with the freedom of the individual. The misconception which identifies population policy with the politically and racially motivated ideology of National Socialism is today only occasionally encountered amongst the general public.

7.6.2. Family Planning Programmes

There is no government-backed family planning in the Federal Republic of Germany. Advisory services mainly run by private organizations are available for individual contraceptive consultation, and these receive financial subsidy from the Federal and Laender Governments.

Health, economic, social and moral considerations are decisive in individual family planning. The Federal Government promotes the education and further training of specialist personnel who work in an advisory capacity in family planning.

Under present laws, hormonal contraceptives may only be issued on medical prescription. All other non-hormonal contraceptives can be purchased without limitation or obtained by mail order.

7.6.3. Policy and Measures Affecting Internal Migration

The solution of the problems arising from internal migration and urbanization represents one of the main tasks facing the federal regional planning programme (see section 7.5.). In particular, improvements in living and working conditions are planned for rural areas and those areas which have fallen behind general developments, with the aim of removing the main motivation for migration from rural zones.

7.6.4. Policy and Measures Affecting the Employment of Aliens

With reference to the employment of alien workers, the Federal Government has stated that limits exist to the assimilation capacity of the Federal Republic and that it is necessary to discuss proposals for solving this problem. Basic freedom of movement exists for aliens from the area of the European Community. Since November 1973 there has been no recruitment of workers from countries other than

those in the European Community. Exceptions have been made for certain occupations, e.g. the social and health services (see Chapter 2).

7.6.5. Population Policy Objectives

The demographic processes of greatest significance to the development of the population and the economy of the Federal Republic, namely migratory movements across the borders and within the Federal Republic, as well as the continuously declining birth rate since 1966, are being closely observed by the Federal Government. Whilst the measures mentioned in sections 7.6.3. and 7.6.4. have been developed to control migratory movements, it is not at the present time the intention of the Federal Government to initiate direct population policy measures for the purpose of influencing procreative behaviour. This attitude is based on the following principles.

The Federal Republic of Germany has a free and social system based on the rule of law, with special protection of marriage and the family. This gives rise to the following criteria for government population policy:

- married couples' freedom of choice regarding the number of children they want to have and the timing of their birth must be guaranteed;
- the government must guarantee all its citizens the right to living conditions worthy of human beings;
- protection of marriage and family does not oblige the government to promote large families as a population policy objective; whilst respecting the complete freedom of the individual, the government is not, however, prevented from facilitating a specific population development.

The results of recent population research and discussions of the subject, such as those that took place at the last European Conference on Population held in Strasbourg in 1971, have shown that, at least for central Europe, an increase in national populations should not be the objective of government population policy.

Given the conditions of a densely populated country such as the Federal Republic of Germany, a constant population level would seem more appropriate than a sharp increase, at least for the immediate future. Reliable information on the subject will depend, however, on further scientific research that can serve as a basis for population policy objectives. The Federal Institute for Population Research was established by the Federal Government in 1973 for the purpose of preparing such material. This is a government institution which, on the one hand, is closely associated with the Federal Statistical Office from which it receives data, and on the other, in cooperation with a university institute, promotes the training of young demographers. The Federal Statistical Office as well as the Institute for Population Research cooperate with all government agencies concerned with economic and social development planning. Besides carrying out scientific research and publishing its results, the Federal Institute for Population Research is charged with keeping the Government continuously informed of important events and advising it on individual questions. To accomplish these tasks, the Federal Institute maintains contact to similar scientific institutes both at home and abroad.

The Federal Government has thus ensured that it is in possession of the decisive scientific material enabling constant observation of demographic development and, if necessary, indirect intervention for its control.

Appendix

Brief Outline of Data Collection for Demographic Statistics

The monography is for the most part based on figures provided by official German statistics. Statistics from unofficial sources were only applied in exceptional cases. The main source was provided by the publications of the Federal Statistical Office, which also made available for the purposes of the monography extensive hitherto unpublished material.

The following provides a brief summary of the most important demographic statistics produced in the Federal Republic of Germany.

1. Territory and Population

1.1. *Population Census*

Apart from the first census held in 1946, which in the immediate post-war conditions produced little useful and soon outdated material, censuses have been held in the Federal Republic of Germany in accordance with the recommendations of the United Nations in the years 1950, 1961 and 1970. These censuses provide a comprehensive picture of both the demographic and social structure of the population and its economic activity. At the same time, the results form the basis for continual statistical observation of the population and updating of population figures. All data are processed to yield detailed information by subject matter and regional classifications.

Population statistics provided by the 1970 census included: resident population by sex, age, marital status, religion, nationality; the population in institutions, aliens, type and composition of households and families, married couples, wives and children—partly combined with data on participation in economic activity, income and education.

1.2. *Microcensus*

Swift and radical structural changes in society and the economy have been brought about by the economic and demographic development of the post-war period and by increased industrialization with its consequent rise in the general standard of living. Censuses, carried out at ten year intervals, are no longer adequate for their statistical clarification. In 1957, a sample survey of population and employment, known as the microcensus, was introduced.

1 per cent of households are surveyed annually, 0.1 per cent quarterly, which, expressed in figures, amounts to more than 200,000 and 20,000 households, respectively, and approximately three times as many persons.

The microcensus provides the opportunity for yearly analyses of the population according to characteristics also covered by the general census, but beyond this for ascertaining more complex factors. Supplementary surveys make possible the statistical clarification of special problems. Trained interviewers are appointed for the surveys.

Population statistics on sex, age, income groups, health insurance coverage for the population, households, household members and number of children are collected in an invariable basic programme. A series of surveys with special investigative objectives has been carried out within the framework of variable supplementary programmes. Surveys were made of vocational training, Sunday and night work, the economic activity of women (in particular, on the timing and motivation for termination or resumption of employment), the characteristics of occupations practised by the economically active, the care of children of employed mothers, length of leave periods, education and further vocational training. The microcensus has thus in the last ten years developed not only into a source of employment figures for general economic observation purposes, but has also become a flexible instrument for the clarification of special problems associated with legislative deliberations and measures.

2. Population Development and the Updating of Population Figures

2.1. Statistics on Natural Population Growth

Since 1872, marriages, births and deaths have had to be registered with the local authorities (registry office). Statistical material is collated monthly on the basis of reports submitted by the registry offices to the statistical offices. Official material is processed according to various characteristics: for example, marriages by age, previous marital status, religion; births by sex, birth order as well as the age and religion of parents; deaths by sex, age and marital status. Marriage, birth and mortality tables are prepared on the basis of these data.

2.2. Migration Statistics

The basis for information on changes of residence are the registrations with local registration officials, which every person changing residence is required to make. Migration statistics are thus secondary statistics, arising from an administrative procedure. They are processed in their entirety, that is to say all registrations of arrivals and departures are collected and statistically processed. Under registration legislation, aliens residing in the Federal Republic are also subject to compulsory registration.

Material on persons arriving and departing is provided monthly and annually, and these migrations within the federal territory (internal migrations) as well as migrations across the borders of the federal territory (external migrations) are processed by region according to various classifications such as areas of origin and destination, sex, age, marital status and nationality.

3. Schooling and Education

3.1. School Statistics

Surveys are carried out annually covering general and vocational schools, the number and type of schools, school bodies, classes, pupils and teachers, according to various characteristics. Additional data are collected for the individual types of school.

Annual statistics on engineering and technical schools supply material on schools, students and teaching staff in accordance with various characteristics.

3.2. University Statistics

Exhaustive surveys are held each term in the universities. Students are questioned on various characteristics covering basic personal data, study subject, terms already attended, financing of studies, etc. Furthermore, surveys are held at half-yearly intervals in universities, teacher training colleges and other teacher training institutes, covering the number of students, study objectives and examinations taken.

4. Employment

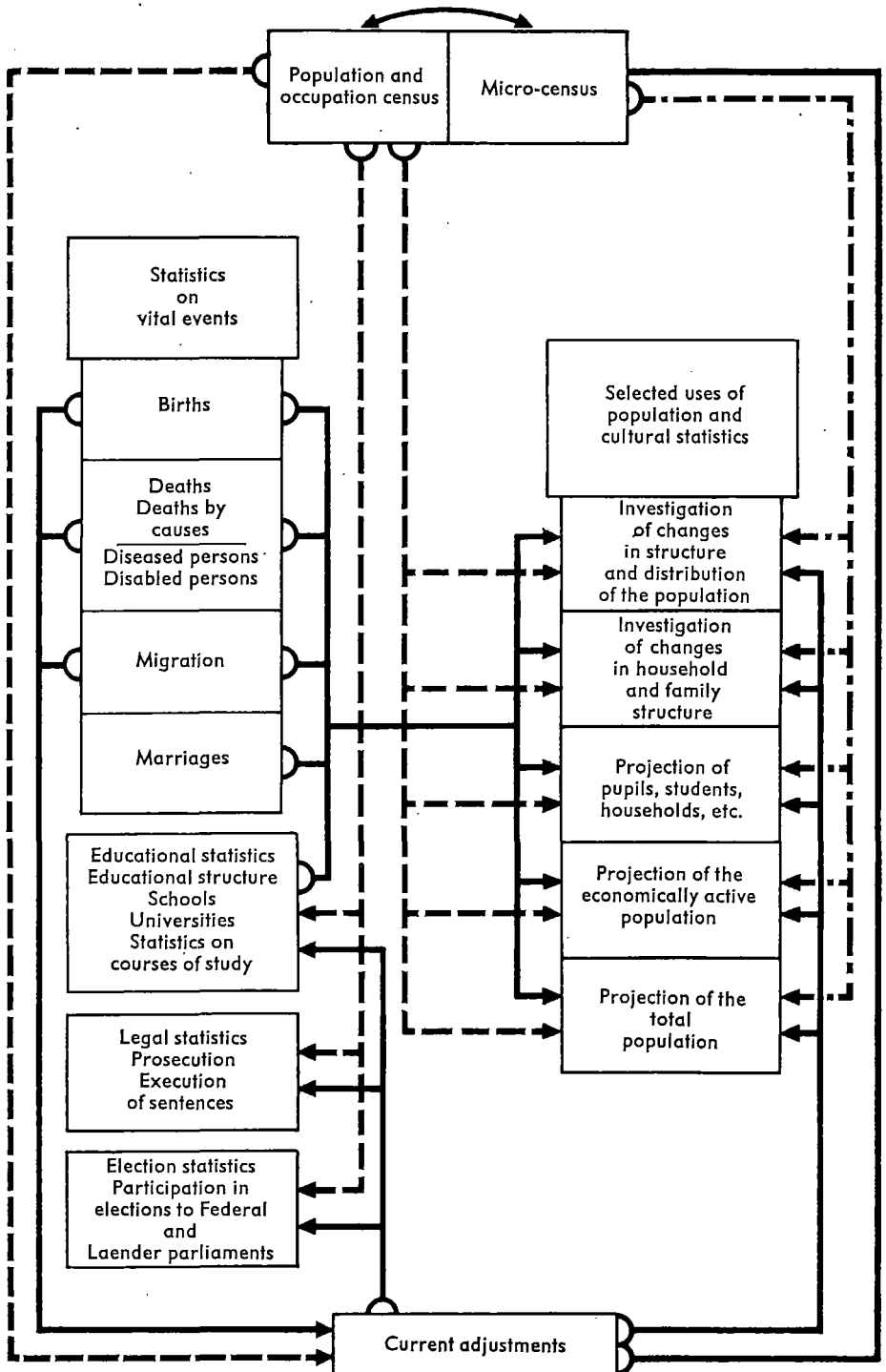
4.1. Census

A comprehensive review of the population's economic activity is provided by the population censuses held at intervals of ten years. Data on economic activity provided by the 1970 census included: participation of the population in the labour force and main source of livelihood; employed persons by various characteristics such as sex, age, marital status, occupational groups, occupational status, socio-economic groups, type of employment, income, working hours, time used for commuting between residence and place of work, schooling and vocational training, etc. In addition, the population in households and institutions, women, aliens, commuters and those undergoing training were characterized according to economic activity, school and vocational training, etc.

4.2. Microcensus

Quarterly random sample surveys provide important statistical data on employment. The standard basic programme includes information on the labour force and the economically active according to sex, occupational status, occupational group, working hours, membership in legal pension and health insurance schemes, employed women and mothers. The variable supplementary programme has hitherto included surveys of vocational training, Sunday and night work, the economic activity of women, characteristics of occupations practised, care of children, leave, education and further vocational training, as well as on the occupational and social mobility of the population of the Federal Republic, collected retrospectively for two generations.

System of statistical observation of population processes in the Federal Republic of Germany



4.3. Labour Market Statistics

Various labour market statistics are produced at monthly to annual intervals by the Federal Institute of Labour, as, for example, placement, vocational guidance, alien workers, workers commuting across federal borders, unemployment, short-time work, work in the home, further vocational training and schooling.

5. The System of Statistical Observation

Population censuses and microcensuses, current statistics on natural population development and migrations, together with additional statistics on education and public health, provide a system of statistical observation of population processes whose individual parts, as the following diagram makes clear, are interrelated in many ways, albeit to varying degrees.

The diagram primarily illustrates the instruments of statistical observation. It has also been attempted to indicate by key-words the most important objectives of data collection. The interrelations existing between the individual survey instruments and the possible uses of data are exemplified by lines and directions. In reality, the net is far closer than is possible to show in a general diagram of this type. Thus, births and deaths as well as arrivals and departures provide the basis for current adjustments. At the same time, however, these are events affecting the formation of families and households and their structures. In the Federal Republic, updated population figures are instrumental for administrative decisions on about 100 laws and ordinances within the Federation and the Laender. The Ministries of Education and the school boards would be unable to practise school policy without information on pupils and students. Data on marriages, births, deaths and migration are indispensable sources of information for many administrative policy decisions at the local, district and state level. The diagram shows some of the possibilities of interlinking the various statistics, although not to the extent to which these possibilities have already been realized. Thus, for example, the results of the microcensus are adjusted to the updated population figures; in turn, they provide the basis for furnishing reference figures of different types required for the analysis of school statistics, statistics on causes of death, prosecution statistics, etc. The microcensus supplements the population and occupational censuses, facilitating continuous observation of significant characteristics. The supplementary surveys which have been carried out since 1962 (see section 4.2.) have substantially widened our knowledge of population processes.

In cooperation between the Federal Institute for Population Research and the Federal Statistical Office this system of observation of demographic processes is continuously adjusted to meet new requirements, its results being made available for scientific analysis.

Bibliography

A. Statistisches Bundesamt (Federal Statistical Office), Wiesbaden:

Bevölkerung und Wirtschaft 1872—1972. Stuttgart-Mainz, 1972.

Das Arbeitsgebiet der Bundesstatistik. Stuttgart-Mainz, 1971.

Fachserie A: Bevölkerung und Kultur (Publication series and special issues at irregular intervals based on the 1961 and 1970 censuses).

Journal "Wirtschaft und Statistik":

Adams, J.: Der Berufswechsel erwerbstätiger Männer und Frauen (Ergebnis einer Verlaufsuntersuchung aus dem Mikrozensus). In: Number 3/1971, pp. 174—178.

Borries, H.-J.: Zum Verlauf des Erwerbslebens der Frauen (Ergebnis des Mikrozensus April 1966). In: Number 10/1968, pp. 498—501.

Borries, H.-J.: Aufnahme und Unterbrechung der Erwerbsbeteiligung der Frauen (Ergebnis des Mikrozensus April 1966). In: Number 1/1969, pp. 20—24.

Borries, H.-J.: Vorausschätzung der Zahl der Privathaushalte bis 1985. In: Number 6/1973, pp. 345—349.

Borries, H.-J.: Der Besuch von Kindergärten und Sozialstruktur der Kinder und ihrer Eltern. Ergebnisse der Mikrozensuszusatzserhebung Juli 1972. In: Number 1/1974, pp. 19—22.

Cless, H.: Regionale Gliederung der Bevölkerung nach der Religionszugehörigkeit (Ergebnisse der Volkszählung am 27. 5. 1970). In: Number 12/1972, pp. 679—684.

Fleischer, H.: Ausländer im Bundesgebiet. In: Number 8/1972, pp. 435—437.

Fleischer, H. und Putz, F.: Bevölkerungsentwicklung 1961 bis 1970. In: Number 8/1972, pp. 423—427.

Linke, W.: Umfang des Urlaubsanspruchs (Ergebnis des Mikrozensus Oktober 1969). In: Number 1/1971, pp. 23—25.

Linke, W. und Rückert, G.-R.: Voraussichtliche Bevölkerungsentwicklung bis 1985. In: Number 2/1973, pp. 82—87.

Rückert, G.-R.: Entwicklung der Sterblichkeit seit 1961 nach den abgekürzten Sterbetafeln. In: Number 7/1971, pp. 405—410.

Schubnell, H.: Die Bevölkerungsentwicklung in Deutschland. In: Number 4/1964, pp. 203—208.

Schwarz, K.: Abwanderung aus den Großstädten in die Randgebiete. In: Number 9/1968, pp. 451—453.

Schwarz, K.: Bevölkerungsentwicklung in Stadt und Land 1961 bis 1970. In: Number 11/1972, pp. 626—628.

Schwarz, K.: Gründe des Geburtenrückgangs. In: Number 12/1973, pp. 698—700.

Schwarz, K.: Veränderung der Geburtenabstände und Auswirkungen auf die Geburtenentwicklung. In: Number 11/1973, pp. 638—641.

Statistische Berichte: Die Altersgliederung der Wohnbevölkerung nach Bevölkerungsgruppen, Wirtschaftsabteilungen und Stellung im Beruf. Number VIII/8/27, 1953.

Statistisches Jahrbuch für die Bundesrepublik Deutschland (Statistical Yearbook of the Federal Republic of Germany), Volumes 1952 to 1973.

Statistik der Bundesrepublik Deutschland: Die berufliche und soziale Gliederung der Bevölkerung der Bundesrepublik Deutschland nach der Zählung vom 13. 9. 1950:

Volume 36, Part I, Number 2: Die Erwerbspersonen in der beruflichen Gliederung nach Alter und Familienstand. Stuttgart-Köln, 1953.

Volume 37, Part II, Number 5: Textheft. Stuttgart-Köln, 1953.

B. Other Literature

Boustedt, O.: Stadtregionen. In: Handwörterbuch der Raumforschung und Raumordnung. Hannover, 1970.

Bundesanstalt für Arbeit (Federal Institute of Labour): Repräsentativuntersuchung 1972 über die Beschäftigung ausländischer Arbeitnehmer im Bundesgebiet und ihre Familien- und Wohnverhältnisse. Nürnberg, 1973.

Bundesanstalt für Arbeit (Federal Institute of Labour): Amtliche Nachrichten der Bundesanstalt für Arbeit, Arbeitsstatistik 1972, Jahreszahlen. Nürnberg, 1973.

Bundesministerium des Innern (Federal Ministry of the Interior): Bevölkerungswachstum und Entwicklung in der Bundesrepublik Deutschland, Publication Series, Number 3. Stuttgart, 1973.

Bundesministerium für Arbeit und Sozialordnung (Federal Ministry of Labour and Social Affairs): Auszubildende in Lehr- und Anlernberufen in der Bundesrepublik Deutschland 1971. Bonn, 1973.

Bundesministerium für Arbeit und Sozialordnung (Federal Ministry of Labour and Social Affairs): Hauptergebnisse der Arbeits- und Sozialstatistik 1971. Bonn, 1972.

Deutsches Institut für Wirtschaftsforschung (German Institute for Economic Research): Regionale Verteilung der Binnen- und Außenwanderungen in der Bundesrepublik Deutschland, Weekly Report, Number 6/1974, pp. 41—50.

Feichtinger, G.: Bevölkerungsstatistik. Berlin, New York, 1973.

Gross, J.: Längerfristige Veränderungen im Altersaufbau der Bevölkerung. In: Arbeits- und sozialstatistische Mitteilungen, Volume 24, 1973, Number 12, pp. 348—351.

Herberger, L.: Erwerbsstatistische Gliederungsgesichtspunkte in der Berufszählung von 1961. In: Allgemeines Statistisches Archiv, Volume 47, 1963, pp. 24—54.

Herberger, L.: Quantitative Auswirkungen der Konzeptänderung bei der Volks- und Berufszählung von 1961 im Zeitvergleich 1950—1961. In: Allgemeines Statistisches Archiv, Volume 48, 1964, pp. 331—353.

Hofbauer, H., und König, P.: Berufswechsel bei männlichen Erwerbspersonen in der Bundesrepublik Deutschland. In: Mitteilungen aus der Arbeitsmarkt- und Berufsforschung des Instituts für Arbeitsmarkt- und Berufsforschung, Number 1/1973, pp. 37—66.

Presse- und Informationsamt der Bundesregierung (Press and Information Office of the Federal Government): Gesellschaftliche Daten 1973 in der Bundesrepublik Deutschland. Bonn, 1973.

Presse- und Informationsamt der Bundesregierung (Press and Information Office of the Federal Government): Tatsachen über Deutschland: Die Bundesrepublik Deutschland. Bonn, 1972.

Raumordnungsbericht 1972 der Bundesregierung (1972 Regional Planning Report by the Federal Government). Bonn, 1972.

- Schubnell, H.: Der Trend der Bevölkerungsentwicklung in Deutschland. Publication of the German Academy for Population Studies at the University of Hamburg (Deutsche Akademie für Bevölkerungswissenschaft an der Universität Hamburg). Hamburg, 1964.
- Schubnell, H.: Der Geburtenrückgang in der Bundesrepublik Deutschland. Publication Series of the Federal Minister of Youth, Family and Health (Bundesminister für Jugend, Familie und Gesundheit). Volume 6. Stuttgart, 1973.
- Schwarz, K.: Analyse der räumlichen Bevölkerungsbewegung. Publications of the Academy for Environmental Research and Regional Planning (Akademie für Raumforschung und Landesplanung), Abhandlungen, Volume 58. Hannover 1969.
- Sozialbudget 1973 (1973 Social Budget). Bundesdrucksache (Publication by the Federal Printing Office). Number 7/1167, October 25, 1973.
- Statistisches Amt des Saarlandes (Statistical Office of the Saarland): Statistisches Handbuch des Saarlandes 1955 (1955 Statistical Handbook of the Saarland). Saarbrücken, 1956.

