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# International Smoking Statistics

Web Edition

A collection of worldwide historical data

## Germany

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## Preface

International Smoking Statistics is a collection of smoking data covering most of Europe and various other economically developed countries. The second edition (published by Wolfson Institute of Preventive Medicine and OUP, 2002, [www.oup.co.uk/isbn/0-19-850856-5](http://www.oup.co.uk/isbn/0-19-850856-5)) included data for 30 countries up to 1995. It is planned to update the chapter for each country separately, and make them available online. Please register at [www.pnlee.co.uk](http://www.pnlee.co.uk) if you wish to be informed when updates are posted.

The methods used in the web edition are essentially unchanged from those of the second edition, although some minor changes are included in the online Methods chapter. Readers are strongly recommended to consult the Methods chapter.

The two main types of data presented are sales data and survey data. We give the results of the original authors as closely as possible, whilst presenting them in a uniform format.

Sales data give the total national consumption of tobacco. Data on sales of cigarettes and of all tobacco products are presented, usually from about 1920. Estimates of the consumption of hand-rolled cigarettes are included where possible, as are data on the types of manufactured cigarettes sold. The Tobacco Research Council provided most of the sales data until 1973, while later sales data were obtained from government and industry sources.

Survey data provide information on the prevalence and amount of smoking according to age and sex. These were obtained from a wide variety of surveys. Some survey data are available for the early part of the 20<sup>th</sup> century, but for most countries they are available only from the 1950s or 1960s onwards.

In additional tables we calculate further statistics by combining sales and survey data using certain standardized assumptions. The figures are intended to provide an easily interpretable summary of the data presented in the tables, and the commentary has deliberately been kept to a minimum.

### Downloads

Updates currently available to download from [www.pnlee.co.uk](http://www.pnlee.co.uk) include:

Methods, including

Appendix I: *Estimated size of adult population;*

Appendix II: *Comparisons of manufactured and hand-rolled cigarettes and differences in the way they are smoked;*

Appendix III: *Consumption category estimation;*

Comparisons between countries;

Updated country chapters (see *Methods* for current list);

Tables from each updated chapter, in Excel format.

Also available from the same source are:

Supplement 1: *Estimation of sex-specific smoking statistics by standardized age groups and time periods.* [Supplement 1 to the second edition is an

extended version of Appendix IV. The web edition of Supplement 1 comprises a brief Update Note, together with tables (in Excel format only) for the countries with a chapter in the web edition];

Supplement 2 to the second edition: *Estimating past smoking habits by an indirect method. An investigation into a method based on recall, with application to Great Britain*. [This supplement is an extended version of Appendix V to the second edition];

IMASS, a comprehensive Excel database system, based on WHO mortality data and smoking statistics from Supplement 1. The IMASS system includes powerful routines for creating graphs and tables.

## Acknowledgements

We would like to acknowledge the tobacco industry for their financial support and for providing some of the sales data in International Smoking Statistics.

We would also like to thank the many government and research organizations and individuals who supplied much of the information included.

We thank Yvonne Cooper, Pauline Wassell and Diana Morris for maintenance of our references database.

We are indebted to G. F. Todd, past director of the Tobacco Research Council, who, shortly before he died in 1988, had prepared a draft report from which the first edition of International Smoking Statistics developed.

Professor Nicholas Wald was an editor of earlier editions, and we thank him for his support and encouragement.

We alone bear the responsibility for the analysis and interpretation of the data presented.

# Introduction

## Countries considered

This chapter includes both the former Federal Republic of Germany (Bundesrepublik Deutschland) and the former Democratic Republic of Germany (Deutsche Demokratische Republik), as well as pre-war and post-unification Germany. For convenience throughout this chapter, we refer simply to West and East Germany as meaning the earlier countries and the equivalent regions since unification (the alte and neue Bundesländer), and to Germany as meaning the country as a whole.

## Sales data

See Tables 1-3 and *Notes on sources of sales data*.

Tobacco processing has a long history in Germany. The first tobacco and cigarette factory was founded in Hamburg in 1788 and part-mechanized cigarette production began in Dresden in 1882 (Kneist (1981)).

Data are available on consumption of tobacco products from 1906. No data at all are available for the years of the two world wars. Data for East Germany are limited to manufactured cigarettes, from 1960 to 1990, the year of unification. Data for West Germany end at 1989. Before the First World War consumption of manufactured cigarettes was less than 1 per adult per day and this increased to around 2 between the wars. Immediately after the Second World War consumption in West Germany was very low, but it is difficult to estimate this reliably (Proctor (1997a)). Consumption rose steadily until the early 1970s when it reached a peak of 7 manufactured cigarettes per day before decreasing to 6 in the 1980s. In East Germany consumption rose from 4 in 1960 to 7 per day in the late 1980s. Shortly after unification, consumption of manufactured cigarettes dipped, then remained at 5 to 6 per day until the end of the decade, but has since fallen to below 4 cigarettes. We estimate that, at the beginning of the 1950s, consumption of hand-rolled cigarettes per adult was about 1 cigarette per day, but decreased to very low levels by the mid-1960s. In the mid-1970s it started to increase again, returning to about 1 cigarette per day in the mid-1980s, and has since varied between 0.5 and 1 cigarette. At times, this was influenced by a tax advantage, for instance for tobacco rolls.

The consumption of all tobacco products combined per adult was about 6 g per day between the wars. After the Second World War it rose to a peak of nearly 9 g in the early 1970s (West Germany), before falling back nearly to 7 g by 1990. Since unification, consumption has been between 6 and 7 g. However these figures may overestimate the contribution from cigars in recent years, as there are no recent data on the average weight of cigars or separate data for cigarillos. Although the official statistics do not give comprehensive data for all products in the early 20<sup>th</sup> century, an alternative source showed that in 1913, 14% of all tobacco was consumed in manufactured cigarettes (Hutson (1937)). Between the wars, the proportion was around 30-35%. In West Germany, it increased after the Second World War to about 85% in 1975, but then varied around 80-85% over the next 20 years reflecting changes in consumption of hand-rolled cigarettes. Since 2000, the proportion has dropped sharply to 60%, owing to increases in both hand-rolling and cigars (although, as mentioned above, the contribution from

cigars may be overestimated). In 1960, filter cigarettes accounted for about 70% of manufactured cigarettes in West Germany, but less than 10% in East Germany. The proportion rose in both countries, more rapidly in East Germany so that it exceeded the proportion in West Germany by the mid-1970s. By 1990, it had reached 95% in both regions and now exceeds 98%. Apart from the immediate post-war period, consumption of cigars accounted for over 30% of sales by weight until the mid-1950s, declining to a low of 5% in the mid-1990s, since when they have increased to over 20%. No data are available for smokeless tobacco for recent decades, but in 1913 chewing tobacco and snuff accounted for 12% of all tobacco consumed, falling to 5% by the mid-1920s (Hutson (1937)), and smokeless tobacco is now of very minor importance (Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) (2008)).

### Survey data

See Tables 4-8 and *Notes on sources of survey data*.

Representative surveys of smoking have been carried out in West Germany since 1950, but few are available for East Germany. In West Germany in 1950, the prevalence of tobacco smoking among those aged 15 years and over was nearly 90% in men and about 20% in women. The difference between the percentages of men and women who smoke has decreased since then, mainly because of a reduction in the prevalence of smoking among men, to 32% for regular smoking in 1992 based on the Mikrozensus (source 67). The prevalence among women increased somewhat, with most estimates in the 1970s and 1980s varying around 20-30%, although the Mikrozensus estimates were below 20%. A further 4-5% of both men and women smoke occasionally. The prevalence of cigarette smoking among men fell from about 60% in 1950 to about 30% in 1992. Very few women smoked products other than cigarettes.

The prevalence of tobacco smoking, and of cigarette smoking, in East Berlin was similar to that in West Germany when surveyed in 1971 (source 47). In representative surveys conducted around the time of unification, the prevalence in East Germany was a little higher among men and lower among women than in West Germany (sources 36, 66, 67).

Since unification, the overall prevalence of regular tobacco smoking has continued to decline among men to 28%, but has remained level at 19% among women, according to the Mikrozensus. Regional trends are difficult to assess as those other sources which have continued to report the regions separately (e.g. Eurobarometer and health surveys, sources 70-73) have tended to provide higher estimates for the whole country than the Mikrozensus, and have shown little evidence of the overall decline among men. They generally showed that the East/West differences persisted through the 1990s, but the more recent evidence is conflicting, with Eurobarometers since 2002 suggesting that prevalence is now higher in the East for both sexes, whereas conversely, the 2003 health survey showed prevalence slightly higher in the West for both sexes.

Very few data on adult smoking by age in West Germany are available before 1978, while early data for East Germany are mostly on a local basis. More men smoked than women at all ages, except below age 20 where some surveys in the West in the 1980s show that there were more young women who smoked than young men. A lower percentage of smokers in older age groups was more marked in women than in men. There are few data on prevalence by type of cigarette, but

one survey in 1984 (source 4) showed that the prevalence of smoking of only hand-rolled cigarettes appeared to be 1% among both men and women, and concentrated among those aged 20-39. In the 1990s, smoking of hand-rolled cigarettes was mainly in the West (source 68 – notes, and source 72-73), but since 2000 has increased among men in the East.

Comparison of survey and sales data suggests that the Mikrozensus under-reported consumption by about 45% before unification (West), and by 40% after unification, reducing to 32% in 2005, while other surveys under-reported by 10-25%. Between 1950 and the late 1960s in West Germany, the estimated number of cigarettes smoked per person per day (sales-adjusted) increased for men from about 4 to 10. Although the number of manufactured cigarettes smoked started to fall, the total number of cigarettes (including hand-rolled) remained level through to the mid-1980s, decreasing to about 9 by 1990. For women the increase continued for longer, rising from 1.5 to 5 cigarettes by the late 1970s. Information is sparse for East Germany, but the estimated number of cigarettes was 7 for men in 1971, increasing to 9 or 11 around 1990, and between 3 and 4 for women. Since unification, the number of cigarettes smoked has continued to decrease for men from 9 to 7. For women, it has remained fairly steady at just over 4 cigarettes, dropping below that figure in the latest (2005) surveys.

**Table 1.1** Total annual sales of tobacco products, 1906-1973**Germany**

Year	Manufactured cigarettes		Cigars		Fine-cut tobacco tonnes	Pipe tobacco tonnes	All tobacco products tonnes
	tonnes	millions	tonnes	millions			
1906		3 639			200		
1907		5 805			278		
1908		6 471			252		
1909		7 271			313		
1910		8 353			299		
1911		9 852			303		
1912		11 518			333		
1913		12 990			375		
1925	30 530	30 529	30 480	5 746	32 610		93 630
1926	29 160	29 156	31 750	5 980	38 510		99 420
1927	32 770	32 768	35 200	6 635	38 510		106 480
1928	31 610	31 601	34 970	6 589	37 600		104 180
1929	32 880	32 877	37 010	6 973	37 380		107 270
1930	29 370	29 367	37 920	7 146	39 140		106 440
1931	28 070	28 064	32 890	6 194	32 110		93 070
1932	31 760	31 759	30 120	5 678	15 380	18 600	95 860
1933	33 710	33 701	34 880	6 570	13 880	19 190	101 650
1934	36 170	36 162	41 680	7 854	13 380	18 510	109 740
1935	37 480	37 471	41 870	7 892	14 200	17 370	110 910
1936	38 460	38 455	44 720	8 424	15 150	16 560	114 890
1937	42 430	42 420	47 400	8 932	16 370	15 200	121 400
1938	47 310	47 306	48 580	9 150	18 190	13 790	127 870

**West Germany**

Year	Manufactured cigarettes		Cigars		Fine-cut tobacco tonnes	Pipe tobacco tonnes	All tobacco products tonnes
	tonnes	millions	tonnes	millions			
1948	9 850	9 852	8 300	1 453	6 890	2 000	27 040
1949	22 090	22 090	12 750	2 232	16 060	5 190	56 090
1950	26 490	24 089	22 720	3 785	17 330	4 850	71 400
1951	31 840	28 967	25 360	4 157	17 330	4 900	79 420
1952	33 930	30 840	27 900	4 592	15 920	4 490	82 240
1953	39 420	35 868	27 580	4 520	14 330	3 900	85 230
1954	43 640	39 663	27 440	4 472	13 240	3 450	87 770
1955	49 940	45 411	27 940	4 585	12 200	3 270	93 350
1956	55 750	50 663	28 080	4 601	10 660	2 950	97 430
1957	62 640	55 875	26 220	4 724	9 660	2 630	101 150
1958	67 810	60 482	25 720	4 629	8 750	2 400	104 690
1959	70 440	65 245	25 220	4 544	8 940	2 270	106 870
1960	76 610	70 956	24 130	4 349	8 300	2 000	111 040
1961	81 010	78 039	27 400	4 111	7 890	1 810	118 110
1962	85 550	83 286	25 810	3 988	7 530	1 630	120 520
1963	86 450	85 276	23 540	3 786	7 570	1 540	119 110
1964	90 760	90 156	24 180	4 098	7 850	1 770	124 560
1965	96 210	96 055	23 500	3 953	7 080	1 500	128 280
1966	102 470	101 488	23 360	3 778	6 800	1 500	134 130
1967	96 980	99 139	23 590	3 597	6 940	2 040	129 550
1968	105 190	105 444	22 140	3 595	6 490	2 000	135 800
1969	110 490	112 431	21 230	3 420	5 990	1 910	139 620
1970	116 030	118 051	19 910	3 212	5 810	1 950	143 700
1971	123 330	125 493	19 230	3 100	4 940	1 810	149 320
1972	124 280	126 469	18 910	3 051	5 310	2 090	150 590
1973	123 290	125 461	17 280	2 802	5 940	2 040	148 550

Source: see *Notes on sources of sales data: Sales data for 1906-1913, Germany*, p. 63 and *Sales data for 1925-1973, Germany and West Germany*, p. 63

**Table 1.2** Total annual sales of tobacco products, 1974-2007**West Germany**

Year	Manufactured cigarettes		Cigars & Cigarillos			Fine-Cut tobacco tonnes	Pipe tobacco tonnes	All tobacco products tonnes
	tonnes	millions	tonnes	cigars	cigarillos			
				millions	millions			
1974	125 214	127 769	16 443		2 652	5 674	1 863	149 194
1975	122 070	124 561	15 346		2 475	5 475	1 705	144 595
1976	126 813	129 401	15 275		2 464	6 191	1 722	150 002
1977	113 366	115 680	15 522		2 503	10 776	1 885	141 548
1978	120 342	122 798	14 679		2 368	10 307	1 832	147 159
1979	122 031	124 521	13 587		2 192	10 904	1 662	148 184
1980	125 857	128 426	12 984	974	1 120	10 658	1 732	151 231
1981	126 534	129 117	12 426	865	1 139	11 963	1 825	152 749
1982	109 723	111 962	11 202	870	937	20 719	1 919	143 563
1983	116 159	118 530	11 023	852	926	17 697	1 762	146 641
1984	116 983	119 371	10 770	795	942	15 701	1 714	145 168
1985	118 000	120 409	10 122	709	923	15 398	1 611	145 131
1986	115 153	117 503	9 490	657	874	15 765	1 575	141 983
1987	115 669	118 029	8 787	575	842	15 597	1 833	141 885
1988	115 451	117 807	8 139	501	812	14 804	1 331	139 725
1989	118 128	120 539	7 570		1 221	14 269	1 256	141 223

**Germany**

Year	Manufactured cigarettes		Cigars & Cigarillos		Fine-cut tobacco tonnes	Pipe tobacco tonnes	All tobacco products tonnes
	tonnes	millions	tonnes	millions			
				millions			
1991	143 550	146 480	8 426	1 359	15 169	1 280	168 425
1992	128 530	131 153	7 775	1 254	19 593	1 227	157 125
1993	125 538	128 100	7 161	1 155	17 556	1 227	151 482
1994	131 363	134 044	8 736	1 409	15 706	1 102	156 907
1995	132 328	135 029	6 584	1 062	15 624	1 096	155 633
1996	133 519	136 244	8 426	1 359	13 909	1 040	156 894
1997	134 923	137 677	9 870	1 592	14 134	1 039	159 967
1998	135 620	138 388	12 350	1 992	14 752	1 003	163 726
1999	142 360	145 265	14 192	2 289	13 996	983	171 531
2000	136 833	139 625	15 853	2 557	14 611	909	168 206
2001	139 695	142 546	15 568	2 511	16 273	925	172 461
2002	142 250	145 153	19 022	3 068	15 473	847	177 592
2003	129 951	132 603	19 325	3 117	18 603	870	168 749
2004	109 526	111 761	22 568	3 640	24 265	884	157 243
2005	93 910	95 827	24 974	4 028	33 232	804	152 920
2006	91 596	93 465	34 379	5 545	22 702	922	149 599
2007	89 667	91 497	40 418	6 519	22 381	1 609	154 075

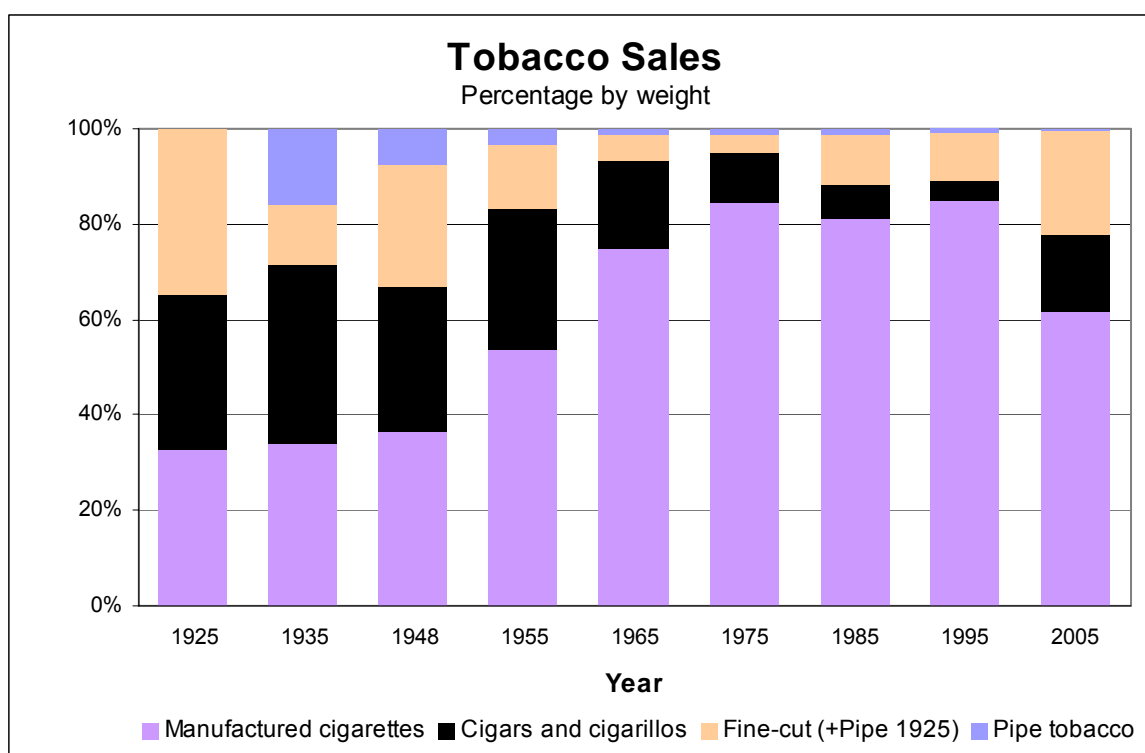
Source: see *Notes on sources of sales data: Sales data for 1974 onwards, West Germany and Germany*, p. 64

**Table 1.3** Percentage of sales of tobacco in different forms (by weight), selected years, 1925-2005

	Year	Manufactured cigarettes %	Cigars and cigarillos %	Fine-cut tobacco %	Pipe tobacco %
<b>Germany</b>	1925	32.6	32.6	34.8	
	1935	33.8	37.7	12.8	15.7
<b>West Germany</b>	1948	36.4	30.7	25.5	7.4
	1955	53.5	29.9	13.1	3.5
	1965	75.0	18.3	5.5	1.2
	1975	84.4	10.6	3.8	1.2
	1985	81.3	7.0	10.6	1.1
	1989	83.6	5.4	10.1	0.9
	<b>Germany</b>	1995	85.0	4.2	10.0
2005		61.4	16.3	21.7	0.5

Source: calculated from Tables 1.1 & 1.2.  
No data available for East Germany.

**Figure 1** Percentage of sales of tobacco in different forms (by weight), selected years, 1925-2005



Source: Table 1.3

**Table 2** Sales of cigarettes (including estimated number of hand-rolled cigarettes) and of all tobacco products; 1906-2007  
Annual total and average per adult (age 15 years and over) per day

### Germany

Year	Manufactured cigarettes		Hand-rolled cigarettes		Total cigarettes		All tobacco products	
	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Grams/ adult/day
1906	3 639	0.2	140	0.0	3 779	0.2		
1907	5 805	0.3	195	0.0	6 000	0.3		
1908	6 471	0.4	176	0.0	6 647	0.4		
1909	7 271	0.4	219	0.0	7 490	0.4		
1910	8 353	0.5	209	0.0	8 562	0.5		
1911	9 852	0.6	212	0.0	10 064	0.6		
1912	11 518	0.7	233	0.0	11 751	0.7		
1913	12 990	0.7	263	0.0	13 253	0.8		
1925	30 529	1.7					93 630	5.3
1926	29 156	1.6					99 420	5.6
1927	32 768	1.8					106 480	6.0
1928	31 601	1.8					104 180	5.8
1929	32 877	1.8					107 270	5.9
1930	29 367	1.6					106 440	5.9
1931	28 064	1.5					93 070	5.1
1932	31 759	1.7	10 766	0.6	42 525	2.3	95 860	5.2
1933	33 701	1.8	9 716	0.5	43 417	2.4	101 650	5.5
1934	36 162	2.0	9 366	0.5	45 528	2.5	109 740	5.9
1935	37 471	2.0	9 940	0.5	47 411	2.5	110 910	5.9
1936	38 455	2.0	10 605	0.6	49 060	2.6	114 890	6.1
1937	42 420	2.2	11 459	0.6	53 879	2.8	121 400	6.4
1938	47 306	2.5	12 733	0.7	60 039	3.1	127 870	6.7

### West Germany

Year	Manufactured Cigarettes		Hand-rolled cigarettes		Total cigarettes		All tobacco products	
	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual tonnes	Grams/ adult/day
1948	9 852		4 823		14 675		27 040	
1949	22 090		11 242		33 332		56 090	
1950	24 089	1.8	12 131	0.9	36 220	2.7	71 400	5.4
1951	28 967	2.2	12 131	0.9	41 098	3.1	79 420	5.9
1952	30 840	2.3	11 144	0.8	41 984	3.1	82 240	6.0
1953	35 868	2.6	10 031	0.7	45 899	3.3	85 230	6.2
1954	39 663	2.8	9 268	0.7	48 931	3.5	87 770	6.2
1955	45 411	3.2	8 540	0.6	53 951	3.8	93 350	6.5
1956	50 663	3.5	7 462	0.5	58 125	4.1	97 430	6.8
1957	55 875	3.9	6 762	0.5	62 637	4.3	101 150	7.0
1958	60 482	4.0	6 125	0.4	66 607	4.4	104 690	7.0
1959	65 245	4.3	6 258	0.4	71 503	4.7	106 870	7.1
1960	70 956	4.7	5 810	0.4	76 766	5.0	111 040	7.3
1961	78 039	5.1	4 063	0.3	82 102	5.4	118 110	7.7
1962	83 286	5.1	3 966	0.2	87 252	5.4	120 520	7.4
1963	85 276	5.2	3 911	0.2	89 187	5.5	119 110	7.3
1964	90 156	5.5	3 842	0.2	93 998	5.7	124 560	7.5
1965	96 055	5.8	3 733	0.2	99 788	6.0	128 280	7.7
1966	101 488	6.0	3 590	0.2	105 078	6.2	134 130	8.0
1967	99 139	5.9	4 066	0.2	103 205	6.1	129 550	7.7
1968	105 444	6.3	3 757	0.2	109 201	6.5	135 800	8.1
1969	112 431	6.6	3 709	0.2	116 140	6.8	139 620	8.2

**Table 2** (continued)**West Germany** (continued)

Year	Manufactured Cigarettes		Hand-rolled cigarettes		Total cigarettes		All tobacco products	
	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual tonnes	Grams/ adult/day
1970	118 051	6.9	3 651	0.2	121 702	7.2	143 700	8.4
1971	125 493	7.3	3 322	0.2	128 815	7.5	149 320	8.7
1972	126 469	7.3	3 566	0.2	130 035	7.5	150 590	8.7
1973	125 461	7.1	4 382	0.2	129 843	7.4	148 550	8.5
1974	127 769	7.2	4 780	0.3	132 549	7.5	149 194	8.4
1975	124 561	7.0	4 606	0.3	129 167	7.3	144 595	8.2
1976	129 401	7.3	5 550	0.3	134 951	7.6	150 002	8.4
1977	115 680	6.5	9 039	0.5	124 719	7.0	141 548	7.9
1978	122 798	6.8	8 221	0.5	131 019	7.3	147 159	8.2
1979	124 521	6.9	8 740	0.5	133 261	7.3	148 184	8.2
1980	128 426	7.0	9 384	0.5	137 810	7.5	151 231	8.2
1981	129 117	7.0	11 147	0.6	140 264	7.6	152 749	8.2
1982	111 962	6.0	17 178	0.9	129 140	6.9	143 563	7.7
1983	118 530	6.3	17 223	0.9	135 752	7.2	146 641	7.8
1984	119 371	6.3	15 404	0.8	134 775	7.2	145 168	7.7
1985	120 409	6.4	15 089	0.8	135 497	7.2	145 131	7.7
1986	117 503	6.2	14 411	0.8	131 914	7.0	141 983	7.5
1987	118 029	6.2	15 209	0.8	133 239	7.0	141 885	7.5
1988	117 807	6.2	14 180	0.7	131 987	6.9	139 725	7.3
1989	120 539	6.3	14 269	0.7	134 808	7.0	141 223	7.3

**East Germany**

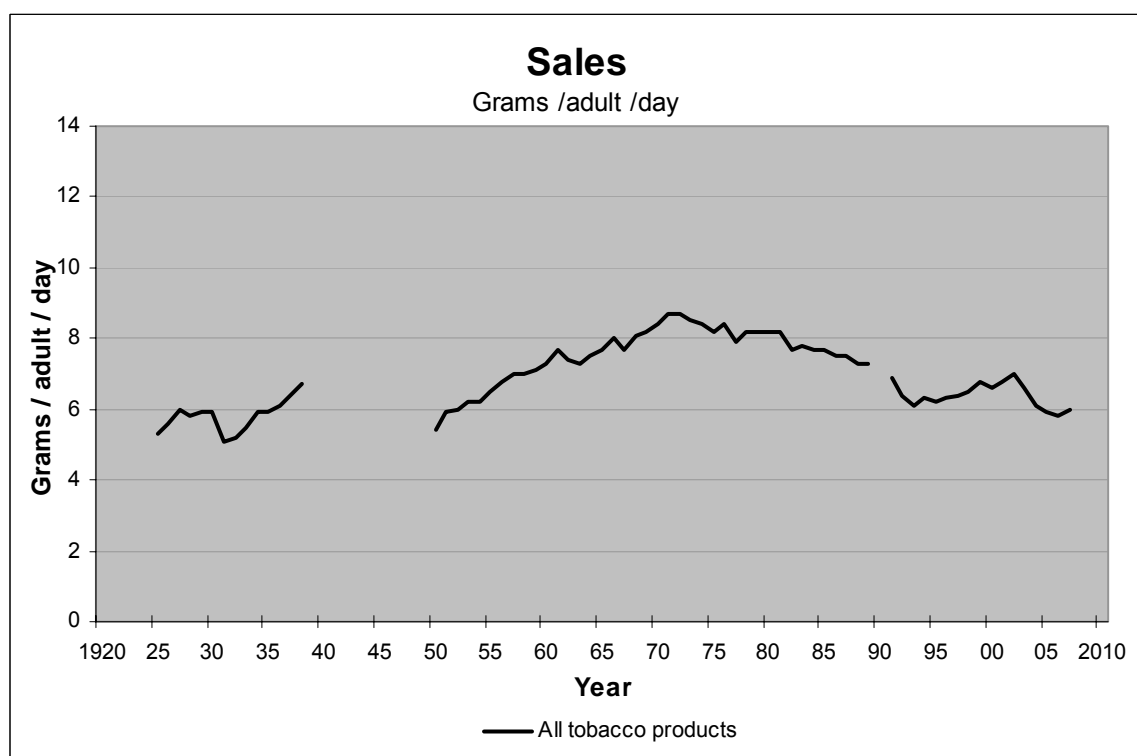
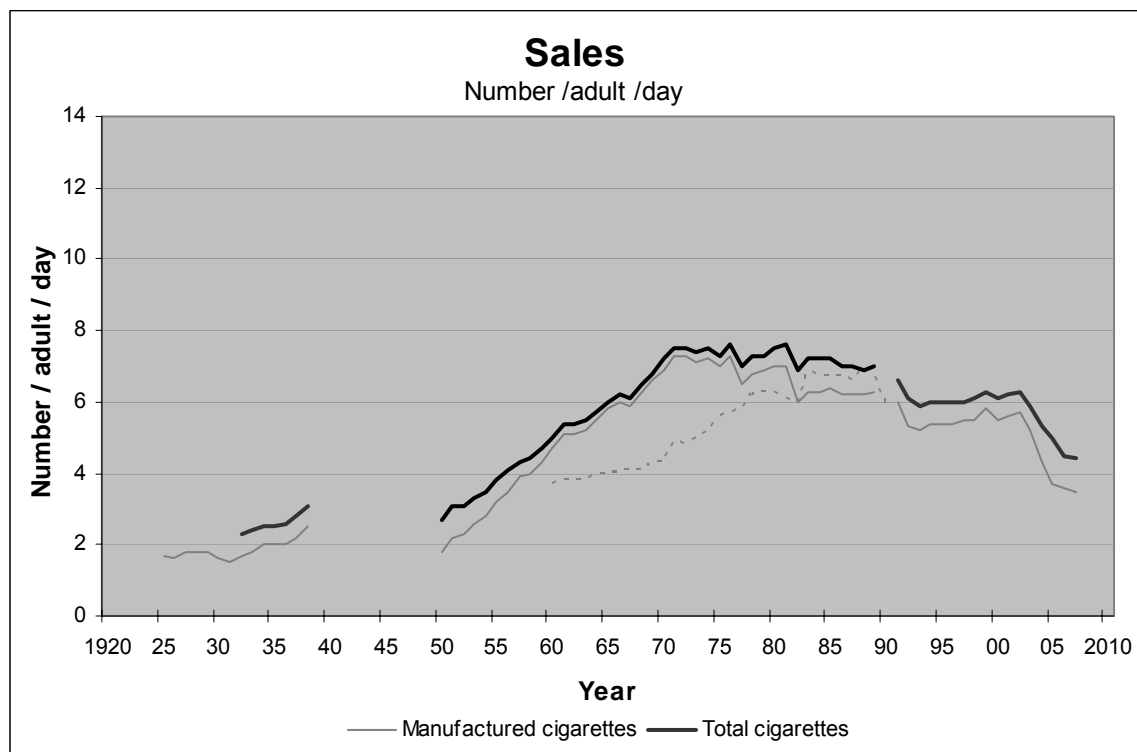
Year	Manufactured cigarettes		Hand-rolled cigarettes		Total cigarettes		All tobacco products	
	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual tonnes	Grams/ adult/day
1960	18 542	3.7						
1961	18 431	3.8						
1962	18 501	3.8						
1963	18 323	3.8						
1964	18 745	4.0						
1965	19 088	4.0						
1966	19 471	4.1						
1967	19 692	4.1						
1968	19 745	4.1						
1969	20 385	4.3						
1970	20 572	4.3						
1971	23 464	4.9						
1972	23 086	4.8						
1973	23 952	5.0						
1974	25 136	5.2						
1975	26 929	5.6						
1976	27 328	5.7						
1977	28 340	5.8						
1978	30 033	6.2						
1979	31 000	6.3						
1980	31 080	6.3						
1981	29 978	6.1						
1982	29 363	6.0						
1983	33 977	6.9						
1984	32 985	6.7						
1985	32 899	6.7						
1986	32 625	6.7						
1987	32 209	6.6						
1988	34 528	7.0						
1989	32 727	6.7						
1990	27 702	5.9						

**Table 2** (continued/2)**Germany**

Year	Manufactured cigarettes		Hand-rolled cigarettes		Total cigarettes		All tobacco products	
	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Grams/ adult/day
1991	146 480	6.0	15 169	0.6	161 649	6.6	168 425	6.9
1992	131 153	5.3	19 593	0.8	150 746	6.1	157 125	6.4
1993	128 100	5.2	17 556	0.7	145 656	5.9	151 482	6.1
1994	134 044	5.4	15 706	0.6	149 750	6.0	156 907	6.3
1995	135 029	5.4	15 624	0.6	150 653	6.0	155 633	6.2
1996	136 244	5.4	13 909	0.6	150 153	6.0	156 894	6.3
1997	137 677	5.5	14 134	0.6	151 811	6.0	159 967	6.4
1998	138 388	5.5	14 752	0.6	153 140	6.1	163 726	6.5
1999	145 265	5.8	13 996	0.6	159 261	6.3	171 531	6.8
2000	139 625	5.5	14 611	0.6	154 236	6.1	168 206	6.6
2001	142 546	5.6	16 273	0.6	158 819	6.2	172 461	6.8
2002	145 153	5.7	15 473	0.6	160 626	6.3	177 592	7.0
2003	132 603	5.2	18 603	0.7	151 206	5.9	168 749	6.6
2004	111 761	4.3	24 265	0.9	136 026	5.3	157 243	6.1
2005	95 827	3.7	33 232	1.3	129 059	5.0	152 920	5.9
2006	93 465	3.6	22 702	0.9	116 167	4.5	149 599	5.8
2007	91 497	3.5	22 381	0.9	113 878	4.4	154 075	6.0

Source: Manufactured cigarettes and all tobacco products, West Germany and Germany, Tables 1.1 and 1.2. Manufactured cigarettes, East Germany, see *Sales data for 1960-1990, East Germany*, p. 64. Hand-rolled cigarettes, see *Notes on sources of sales data: Estimates of numbers of hand-rolled cigarettes, West Germany and Germany*, p. 64. Population, see *Population, Methods* p. 14.

**Figure 2** Sales of (i) manufactured and total<sup>1</sup> cigarettes and (ii) all tobacco products; 1925-2007  
Average per adult (aged 15 years and over) per day



<sup>1</sup> Includes estimated hand-rolled cigarette consumption

Source: Table 2.

For 1948-1990, the solid lines refer to West Germany and the dashed line to East Germany (manufactured cigarettes only).

**Table 3** Manufactured cigarettes: percentage of total sales as filter cigarettes, 1960-2004 sales-weighted average machine yields per cigarette of tar (SWAT), 1961-1985 and nicotine (SWAN), 1961-1975; and total annual sales of cigarette papers 1961-1985

### West Germany

Year	Filter		SWAT Moist mg/cig	SWAT Dry mg/cig	SWAN mg/cig	Cigarette papers millions
	consumption %	production %				
1960	67.8					
1961	72.8		28.3		1.44	4 515
1962	75.9		26.8		1.40	4 407
1963	77.9		25.8		1.35	4 345
1964	80.0		25.5		1.29	4 269
1965	81.6		23.7		1.24	4 148
1966	82.9		22.7	20.7	1.18	3 989
1967	83.3		21.8	19.8	1.14	4 518
1968	82.5		20.9	19.1	1.10	4 175
1969	84.1		20.0	18.4	1.05	4 121
1970	84.2		18.2	17.4	1.00	4 056
1971	84.8		18.5	16.5	0.94	3 691
1972	85.1		17.6	15.5	0.89	3 962
1973	85.2		16.9	15.7	0.91	4 869
1974	84.8		15.9	15.2	0.77	5 311
1975	86.0		15.2	14.1	0.66	5 118
1976	86.4					6 167
1977	86.9					10 044
1978	87.2			14.0		9 134
1979	87.5			13.6		9 711
1980	88.2			13.2		10 427
1981	88.9					12 385
1982	89.0	92.2		12.8		19 086
1983	92.0	92.5				19 137
1984		93.4				17 116
1985		93.9		12.8	0.78	16 765
1986		94.4				
1987		94.5				
1988		94.8				
1989		95.2				
1990		95.7				

### East Germany

Year	Filter	
	consumption %	production %
1960	< 10	
1969	79	
1975	91	
1981		95.0
1982		95.0
1983		95.0
1984	93	95.0
1985		95.0
1986		95.0
1987		94.9
1988		94.7
1989		95.1
1990		96.5

**Table 3** (continued)**Germany**

Year	Filter	
	consumption	production
	%	%
1991		96.6
1992		96.9
1993		97.0
1994		97.3
1995		97.5
1996		97.3
1997	96.6	97.4
1998	96.8	97.4
1999		97.8
2000		98.3
2001		98.4
2002		98.4
2003		98.6
2004		98.6

Source: see *Notes on sources of sales data: Plain/Filter cigarette sales*, p. 65, *Tar and nicotine machine yields of cigarettes*, p. 65, and *Sales of cigarette papers*, p. 66

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**Table 4M** Prevalence of smoking, males: selected surveys by age, 1950-2006  
(continues on p. 22)

**West Germany**

Year	Source	Product	Frequency	Age Groups																		All ages	
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60	65		70
50	11	UC	U	60																			
50	11	A	U	88																			
55	11	UC	U	64																			
55	11	A	U	83																			
58	12	UC	U	63																			
58	12	A	U	77																			
60	11	UC	U	61																			
60	11	A	U	78																			
60	13	MCR		49																			
60	13	A	U	77																			
63	14	UC	U	56																			
63	14	A	U	70																			
65	11	UC	U	61																			
65	11	A	U	74																			
65	12	UC	U	57																			
65	27	U	U	42																			
65	28	U	U		41			59															
65	29	U	U		45			62															
67	5	MCR	U	53																			
67	5	A	U	66																			
67	9	U	U		43		61																
67	15	UC	U	61																			
70	3	A	A	59																			
70	8	UC	U		60																		
70	8	A	U		63																		
70	11	UC	U	55																			
70	11	A	U	67																			
71	13	MCR		49																			
71	16	UC	U	53																			
71	16	A	U	63																			
73	6	U	U		65			64			67												60
73	7*	U		54																			
73	11	UC	U	52																			
73	11	A	U	65																			
73	31	U	A	47																			
73	68	U	A		63																		
74	5	MCR	U	42																			
74	5	A	U	49																			
74	11	UC	U	47																			
74	11	A	U	55																			
74	12	UC	U	46																			
74	22	U	A	41																			
74	33	A	U		58																		
75	1	TC	A		50			43			39			43			26			41			
75	1	A	A	48																			
75	11	UC	U	50																			
75	11	A	U	60																			
75	13	MCR		39																			
75	15	UC	U	45																			
75	15	A	U	53																			
75	18*	U	U		10	26	34	42	49														47
75	19	U	U		60	61	62	59	64														



**Table 4M** (continued from p. 20, continues on p. 24)  
Prevalence of smoking, males

**West Germany** (continued)

Year	Source	Product	Frequency	Age Groups																	All ages	
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65
76	3	A	A	51																		
76	11	UC	U	47																		
76	11	A	U	55																		
76	13	MCR		39																		
76	31	U	A	44																		
76	68	U	A	55																		
77	1	TC	A	52				46		47		38		24					43			
77	1	A	A	48																		
77	11	UC	U	45																		
77	11	A	U	53																		
77	13	MCR		36																		
77	17	UC	U	45																		
77	17	A	U	50																		
78	11	UC	U	47																		
78	11	A	U	55																		
78	13	MCR		37																		
78	16	UC	U	48																		
78	16	A	U	55																		
78	20	U	U	25																		
78	34	UC	U	43																		
78	67	UC	R	*	4	21	39	47	48	44	42	39	31	27			34					
78	67	A	R	*	4	22	39	48	50	47	45	44	38	36			37					
78	67	A	A	*	7	30	49	56	57	53	51	49	45	36			43					
79	1	TC	A	49				43		40		42		28					41			
79	1	A	A	48																		
79	2	TC	A	39				56		43		40		42		28					41	
79	2	A	A	39				63		49		43		52		42					48	
79	11	UC	U	44																		
79	11	A	U	52																		
79	13	MCR		38																		
79	35	U	*	2	8	17	28	40														
79	35	U	A	29	29	36	49	53														
79	68	U	A	20			58			63												47
80	3	A	A	47																		
80	11	UC	U	49																		
80	11	A	U	53																		
80	31	U	A	42																		
81	1	TC	R	18				51		37		33		30		18					31	
81	1	TC	A	21				57		42		38		35		23					36	
81	1	A	A	25				68		55		46		45		40					47	
81	3	A	A	46																		
82	3	A	A	51																		
82	68	U	A	14			50			58												42
83	3	A	A	48																		
83	21	U	A	35				51		41		44		45								
84	1	A	A	46																		
84	3	UC	A	38																		
84	3	A	A	49																		
84	4	MCA		22				56		59		47		29		33					43	
84	4	TC	A	24				59		60		47		29		34					44	
84	4	A	A	24				62		66		49		31		40					47	
84	23	UC	A					64		48		44		40							44	

**Table 4F** (continued from p. 21, continues on p. 25)  
Prevalence of smoking, females

**West Germany** (continued)

Year	Source	Product	Frequency	Age Groups																			All ages
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60	65	70	
76	3	A	A	22																			
76	11	UC	U	28																			
76	11	A	U	28																			
76	13	MCR		21																			
76	31	U	A	37																			
76	68	U	A	52																			
77	1	TC	A	45																			25
77	1	A	A	25																			
77	11	UC	U	28																			
77	11	A	U	29																			
77	13	MCR		28																			
77	17	UC	U	26																			
77	17	A	U	26																			
78	11	UC	U	31																			
78	11	A	U	31																			
78	13	MCR		19																			
78	16	UC	U	27																			
78	16	A	U	28																			
78	20	U	U	21																			
78	34	UC	U	28																			
78	67	UC	R	*	2	14	28	36	31	22	16	14	9	4						15			
78	67	A	R	*	2	14	28	36	31	22	16	14	9	4						15			
78	67	A	A	*	5	22	38	45	39	29	20	18	12	5						19			
79	1	TC	A	45																			28
79	1	A	A	28																			
79	2	TC	A	42																			28
79	2	A	A	42																			28
79	11	UC	U	28																			
79	11	A	U	28																			
79	13	MCR		22																			
79	35	U	*	4	6	29	32	68															
79	35	U	A	21	26	53	52	81															
79	68	U	A	19																			40
80	3	A	A	24																			
80	11	UC	U	29																			
80	11	A	U	29																			
80	31	U	A	35																			
81	1	TC	R	14																			18
81	1	TC	A	22																			22
81	1	A	A	23																			23
81	3	A	A	25																			
82	3	A	A	26																			
82	68	U	A	14																			38
83	3	A	A	28																			
83	21	U	A	36																			
84	1	A	A	23																			
84	3	UC	A	26																			
84	3	A	A	27																			
84	4	MC	A	31																			28
84	4	TC	A	31																			29
84	4	A	A	31																			29
84	23	UC	A	49																			29

**Table 4M** (continued from p. 22, continues on p. 26)  
Prevalence of smoking, males

**West Germany** (continued/2)

Year	Source	Product	Frequency	Age Groups																All ages																									
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		60	65	70	75	80+																				
85	5	MC	U	29																																									
85	5	A	U	36																																									
85	24	UC	R					47				32				32				25					30																				
85	24	UC	A					49				35				34				26					32																				
85	24	A	A					54				40				39				32					37																				
85	25	UC	R					47				41				36				30					36																				
85	25	UC	A					54				42				37				30					37																				
85	25	A	A					55				45				39				33					40																				
85	26	UC	R					43				32				28				28					30																				
85	26	UC	A					49				37				32				34					34																				
85	26	A	A					51				40				35				38					38																				
85	36	U	U					49				51				39				36				31					42																
85	37	A	R					54				49				39				37					45																				
86	68	U	A	10			41			59																			46																
87	72	UC	U					38				58				39				28					40																				
87	72	A	U					38				68				50				34					47																				
88	23	UC	A					58				51				40				40					44																				
88	23	A	A					58				52				40				40					45																				
88	36	U	U					50				54				44				34				35					44																
88	72	TC	U					26				53				47				37					42																				
88	72	A	U					26				54				51				43					45																				
88	72	TC	U					34				39				31				29					33																				
88	72	A	U					34				48				38				33					38																				
89	67	UC	R	*	16			36			41			42			39			36			32			29			27			24			19			14			10				29
89	67	A	R	*	17			37			43			44			41			39			35			32			31			28			23			18			16				31
89	67	A	A	*	22			44			48			49			47			44			40			37			35			32			27			24			21				36
89	68	U	A	9			43			56																			46																
89	72	TC	U					27				51				41				33					38																				
89	72	A	U					27				54				45				43					43																				
89	72	TC	U					41				53				41				28					40																				
89	72	A	U					43				57				46				39					46																				
90	25	UC	R					39				38				32				25					32																				
90	25	UC	A					46				42				33				27					35																				
90	25	A	A					46				44				35				29					37																				
90	26	UC	R					35				35				27				19					28																				
90	26	UC	A					38				39				29				23					31																				
90	26	A	A					39				40				30				26					33																				
90	36	U	U					46				48				40				33				25					39																
90	38	U	*	5			13																																						
90	38	U	A	1	12																																								
90	72	MC	U					36				52				38				30					38																				
90	72	TC	U					41				59				38				31					42																				
90	72	A	U					42				60				42				38					45																				
91	23	UC	A					55				47				44				32					42																				
91	23	A	A					55				47				44				32					42																				
91	39	UC	*	14																																									
91	39	UC	A	23																																									
91	72	MC	U					38				49				40				21					37																				
91	72	TC	U					39				53				43				22					39																				
91	72	A	U					39				55				46				28					42																				

**Table 4F** (continued from p. 23, continues on p. 27)  
Prevalence of smoking, females

**West Germany** (continued/2)

Year	Source	Product	Frequency	Age Groups																	All ages		
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70
85	5	MC	U	16																			
85	5	A	U	17																			
85	24	UC	R						39		31		17		15							22	
85	24	UC	A						42		36		19		17							25	
85	24	A	A						42		36		19		18							25	
85	25	UC	R						35		24		18		11							18	
85	25	UC	A						42		27		21		14							21	
85	25	A	A						42		27		21		14							21	
85	26	UC	R						25		16		11		7							12	
85	26	UC	A						31		22		13		9							15	
85	26	A	A						31		22		13		9							16	
85	36	U	U						43	40		24		19		13							27
85	37	A	R						43		35		17		11							27	
86	68	U	A	14		42			51												44		
87	72	UC	U						28			45			29			11			26		
87	72	A	U						28			46			29			11			26		
88	23	UC	A						53			36		27		23							29
88	23	A	A						53			36		27		23							29
88	36	U	U						47	37		27		19		15							27
88	72	TC	U						29			42			26			24			29		
88	72	A	U						30			44			26			24			30		
88	72	TC	U						25			40			28			17			26		
88	72	A	U						26			42			28			17			27		
89	67	UC	R	*	12			29	32	31	28	26	19	14	12	11	8	6	2				17
89	67	A	R	*	12			29	32	31	29	26	19	14	12	11	8	7	2				17
89	67	A	A	*	16			35	39	38	35	31	24	17	15	14	11	9	3				21
89	68	U	A	10		34			50												40		
89	72	TC	U						19			40			25			17			25		
89	72	A	U						19			41			25			17			25		
89	72	TC	U						47			36			29			13			27		
89	72	A	U						49			37			29			14			29		
90	25	UC	R						34		38		23		17							27	
90	25	UC	A						40		42		24		19							30	
90	25	A	A						40		42		24		19							30	
90	26	UC	R						24		22		16		6							16	
90	26	UC	A						30		25		19		6							18	
90	26	A	A						30		25		19		6							18	
90	36	U	U						41	41		31		19		12							28
90	38	U	*	4		8																	
90	38	U	A	1	6																		
90	72	MC	U						31			38			27			16			26		
90	72	TC	U						32			41			27			17			27		
90	72	A	U						32			41			27			18			28		
91	23	UC	A						48		47		24		19							31	
91	23	A	A						48		47		24		19							31	
91	39	UC	*	16																			
91	39	UC	A	28																			
91	72	MC	U						32			39			29			9			24		
91	72	TC	U						36			43			29			11			27		
91	72	A	U						36			43			29			11			27		

**Table 4M** (continued from p.24, continues on p. 28)  
Prevalence of smoking, males

**West Germany** (continued/3)

Year	Source	Product	Frequency	Age Groups																	All ages					
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70	75	80+	
92	40	U	*	2																						
92	41	U	*	2																						
92	67	UC	R	*	16			34	39	41	41	36	33	28	25	22	18	15	9			28				
92	67	A	R	*	16			35	40	43	43	38	36	31	28	25	21	18	13			30				
92	67	A	A	*	20			40	45	47	48	43	41	35	31	29	24	22	16			35				
92	72	MC	U		40			39			36			24						34						
92	72	TC	U		46			44			40			25						38						
92	72	A	U		47			48			44			30						42						
93	68	U	R		29																					
93	68	U	A		20			52														41				
94	42	UC	*		11																					
94	42	UC	A	8	17	29	40															22				
94	72	MC	U		36			41			35			21						33						
94	72	TC	U		45			48			41			21						38						
94	72	A	U		45			49			46			30						42						
94	73	MC	U		36			41			38			20						34						
94	73	TC	U		46			49			44			20						39						
94	73	A	U		46			50			49			30						44						
94	75	UC	R	8		21																				
95	25	UC	R					42			43			35			24			35						
95	25	UC	A					46			47			40			26			39						
95	25	A	A					46			49			42			28			41						
95	26	UC	R					33			32			21			18			24						
95	26	UC	A					39			34			25			19			27						
95	26	A	A					39			36			27			22			29						
95	73	MC	U		33			41			31			22						31						
95	73	TC	U		36			47			33			23						34						
95	73	A	U		36			47			38			31						38						
97	68	U	A		27			53														43				
98	70	U	U		48			46			48			39			32			18			16			36
98	75	UC	*	9		22																				
98	75	UC	R	14		28																				
99	42	UC	*		14																					
99	42	UC	A	16	24	37	53															28				
01	68	U	A		26			46																		
02	73	MC	R		25			36			37			20						30						
02	73	TC	R		36			41			42			21						35						
02	73	A	R		36			41			42			26						36						
02	73	MC	U		33			43			40			23						35						
02	73	TC	U		42			49			45			24						40						
02	73	A	U		45			50			46			28						42						
03	71	A	A		55			44			33			16						38						
04	68	U	A		22			44																		
05	73	MC	R		30			33			36			14						27						
05	73	TC	R		37			41			45			15						33						
05	73	A	R		37			43			46			17						34						
05	73	MC	A		39			39			39			15						31						
05	73	TC	A		44			48			48			18						37						
05	73	A	A		44			51			49			20						39						

**Table 4F** (continued from p. 25, continues on p. 29)  
Prevalence of smoking, females

**West Germany** (continued/3)

Year	Source	Product	Frequency	Age Groups															All ages					
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50		55	60	65	70	75
92	40	U	*	4																				
92	41	U	*	1																				
92	67	UC	R		*	11	26	29	30	30	26	23	14	12	10	7	6	3	17					
92	67	A	R		*	12	26	30	31	31	27	23	15	13	11	8	6	3	18					
92	67	A	A		*	15	32	35	36	36	31	27	18	15	13	10	8	4	21					
92	72	MC	U			30	35	28	9											23				
92	72	TC	U			34	36	30	10											25				
92	72	A	U			34	36	30	10											25				
93	68	U	R		24																			
93	68	U	A		22		46																	36
94	42	UC	*		9																			
94	42	UC	A		11	16	29	43																21
94	72	MC	U			33	40	25	13											25				
94	72	TC	U			33	44	31	14											28				
94	72	A	U			33	44	31	14											28				
94	73	MC	U			33	42	25	13											26				
94	73	TC	U			33	45	31	14											29				
94	73	A	U			33	45	31	14											29				
94	75	UC	R		9	29																		
95	25	UC	R			39	35	22	13											25				
95	25	UC	A			45	38	26	14											27				
95	25	A	A			45	38	26	14											27				
95	26	UC	R			21	20	17	8											16				
95	26	UC	A			23	25	19	9											19				
95	26	A	A			23	25	19	9											19				
95	73	MC	U			24	35	22	9											20				
95	73	TC	U			24	37	25	9											22				
95	73	A	U			24	37	25	9											22				
97	68	U	A		26		46																	38
98	70	U	U			46	42	40	32	20	12	10											28	
98	75	UC	*		9	25																		
98	75	UC	R		13	33																		
99	42	UC	*		15																			
99	42	UC	A		15	24	39	61																28
01	68	U	A		27		42																	
02	73	MC	R			38	28	26	12											23				
02	73	TC	R			38	30	27	13											24				
02	73	A	R			38	30	27	13											24				
02	73	MC	U			45	32	31	15											27				
02	73	TC	U			46	35	32	16											28				
02	73	A	U			46	35	32	16											28				
03	71	A	A			44	38	28	7											29				
04	68	U	A		20		42																	
05	73	MC	R			27	17	16	9											15				
05	73	TC	R			31	26	19	12											19				
05	73	A	R			31	26	20	12											20				
05	73	MC	A			28	23	19	9											17				
05	73	TC	A			33	32	22	12											22				
05	73	A	A			33	32	23	12											22				

**Table 4M** (continued from p. 26, continues on p.30)  
Prevalence of smoking, males

**East Germany**

Year	Source	Product	Frequency	Age Groups																All ages						
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		60	65	70	75	80+	
60	43	UC	R													53	49	42	36							46
69	44	UC	*				36																			
69	44	UC	R				47																			
69	44	A	U				48																			
70	45	A	*		10																					
70	45	A	A		38																					
70	65	U	U			15	15	39	26	61	57	54														
71	43	UC	R										56	53	51	44										51
71	45	A	*			17																				
71	45	A	A			40																				
71	46	U	U							58																
71	47	UC	U							56	58	53	58	52					37							51
71	47	A	U							58	63	60	65	68					57							62
71	48*	UC	U										60	57	55	55	49	43								53
71	48	A	U										64	66	63	63	64	61								63
72	45	A	*				38																			
72	45	A	A				54																			
73	48*	UC	U																							
73	48	A	U																							
73	49	UC	U													48										
73	49	A	U												58											
75	45	A	*										56													
75	45	UC	A										62													
75	45	A	A										65													
75	50	U	U										55													
76	51	UC	*	0	2	4	22	30																		
77	43	UC	R										54	47	49	45										49
77	52	U	*	2	2	22	39																			
77	52	U	R	7	11	35	48																			
77	52	U	A	12	22	43	56																			
81	45	A	*				12																			
81	45	A	A				31																			
81	54	UC	*	2																						
81	54	UC	A	15																						
81	62	UC	*				21	42	*																	31
81	62	UC	A				43	60	*																	50
82	45	A	*				25																			
82	45	A	A				47																			
82	55	U	U	18	27	37	51																			
83	45	A	*				40																			
83	45	A	A				53																			
83	46	U	U									55														
83	56	U	*	1	8	19	27																			
83	56	U	R	4	13	26	33																			
83	56	U	A	16	24	37	40																			
83	57	UC	A										59	37	37	39										38
83	61	UC	A										55	44	32	28										36
84	43	UC	R										52	42	35	30										40
84	59	UC	R										58	44	39	28										38
84	59	UC	A										61	47	42	32										41
84	59	A	A										62	51	44	37										45
84	60	UC	A										54	40	37	35										37



**Table 4M** (continued from p. 28, continues on p.32)  
Prevalence of smoking, males

**East Germany** (continued)

Year	Source	Product	Frequency	Age Groups																		All ages					
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60	65		70	75	80+		
85	54	UC	*															41									
85	54	UC	A															62									
85	58	UC	R										39		36		27		27								31
85	58	UC	A										43		37		32		31								33
85	58	A	A										44		41		37		39								39
86	63	UC	R	12	36	44	50																				
86	63	UC	A	16	42	50	55																				
88	43	UC	R										52		36		33		29								38
88	57	UC	R										56		38		33		33								35
88	57	UC	A										62		43		36		34								38
88	57	A	A										62		45		39		38								41
88	60	UC	R										52		39		28		31								33
88	60	UC	A										60		43		31		34								36
88	60	A	A										60		44		32		37								38
88	64	U	R				42		60				51		48		36		41						24		
89	58	UC	R										44		28		32		27								29
89	58	UC	A										51		30		33		31								31
89	58	A	A										51		31		34		31								32
89	59	UC	R										53		40		32		27								34
89	59	UC	A										58		42		34		30								36
89	59	A	A										59		42		35		31								37
90	72	MC	U					56					60		32				29								45
90	72	TC	U					59					61		32				30								46
90	72	A	U					59					64		33				35								48
91	43	UC	R										53		45		32		23								39
91	66	U	U										53		52		38		33					22			41
91	72	MC	U					38					51		38				26								39
91	72	TC	U					41					51		39				26								40
91	72	A	U					41					53		40				30								42
92	67	UC	R	*				18				41	47	48	42	38	35	29	27	24	16	16		10		31	
92	67	A	R	*				19				42	48	48	43	39	36	31	29	26	20	19		16		33	
92	67	A	A	*				25				48	54	54	47	43	40	35	33	29	23	22		21		37	
92	72	MC	U					33					44		34				21								34
92	72	TC	U					36					46		35				23								36
92	72	A	U					36					46		36				30								38
93	57	UC	R										45		42		27		22								32
93	57	UC	A										50		46		31		25								35
93	57	A	A										50		46		30		26								35
93	68	U	R					28																			
93	68	U	A					24					48														38
94	72	MC	U					55					54		40				27								44
94	72	TC	U					57					55		41				30								45
94	72	A	U					57					56		43				35								47
94	73	MC	U					55					54		40				27								44
94	73	TC	U					57					55		41				30								45
94	73	A	U					57					56		43				35								47
95	73	MC	U					38					47		41				24								38
95	73	TC	U					38					47		41				26								39
95	73	A	U					40					49		44				30								41
97	68	U	A					28					59														45
98	70	U	U							70			54		54		43		29		18			19			41



**Table 4M** (continued from p. 30, continues on p. 34)  
Prevalence of smoking, males

**East Germany** (continued/2)

Year	Source	Product	Frequency	Age Groups																All ages				
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		60	65	70	75
01	68	U	A	31				48																
02	73	M	R					39				47				45				19				37
02	73	T	C					46				49				47				20				40
02	73	A	R					46				50				47				21				40
02	73	M	C					45				52				50				22				42
02	73	T	C					53				56				53				23				45
02	73	A	U					54				57				53				25				46
03	71	A	A					48				46				32				16				36
04	68	U	A	32				49																
05	73	M	R					43				43				36				18				33
05	73	T	C					49				53				42				19				38
05	73	A	R					49				53				45				19				39
05	73	M	C					50				49				40				19				37
05	73	T	C					56				58				48				20				42
05	73	A	A					56				62				51				22				45

**Germany**

Year	Source	Product	Frequency	Age Groups																All ages																																					
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		60	65	70	75	80+																																
90	72	M	C					40				54				37				29				40																																	
90	72	T	C					45				59				37				30				43																																	
90	72	A	U					46				61				40				37				46																																	
91	36	U	U									47				49				40				33				25				40																									
91	72	M	C					38				50				39				22				37																																	
91	72	T	C					39				52				42				23				39																																	
91	72	A	U					39				54				45				28				42																																	
92	67	U	C	*	16				35				40				42				41				36				34				28				25				23				17				15				9				29
92	67	A	R	*	17				36				41				44				43				39				36				31				28				25				21				18				13				31
92	67	A	A	*	21				42				47				49				48				43				41				35				32				29				24				22				17				35
92	72	M	C					39				40				35				24				34																																	
92	72	T	C					45				44				39				25				38																																	
92	72	A	U					45				48				43				30				41																																	
93	68	U	R	29																																																					
93	68	U	A	21				51																				40																													
93	68*	U	A	11				44				47																																													
94	72	M	C					39				44				36				22				35																																	
94	72	T	C					48				50				41				22				39																																	
94	72	A	U					48				50				45				31				43																																	
94	73	M	C					40				44				38				22				36																																	
94	73	T	C					48				50				43				22				41																																	
94	73	A	U					48				52				47				31				44																																	
95	67	U	C	*	17				35				39				41				41				37				33				28				24				21				17				13				8				28
95	67	A	R	*	17				36				40				42				43				39				35				31				27				23				19				15				12				29
95	67	A	A	*	22				42				46				48				48				43				40				35				30				26				23				18				14				33
95	73	M	C					34				42				33				22				33																																	
95	73	T	C					36				47				35				24				35																																	
95	73	A	U					36				48				39				31				39																																	
97	68	U	A	27				54																				43																													
97	68*	U	A	15				50				55																																													

**Table 4F** (continued from p. 31, continues on p. 35)  
Prevalence of smoking, females

**East Germany** (continued/2)

Year	Source	Product	Frequency	Age Groups																All ages				
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		60	65	70	75
01	68	U	A	33				44																
02	73	MC	R					49				37				30				8				26
02	73	TC	R					49				37				32				8				26
02	73	A	R					49				37				32				8				26
02	73	MC	U					56				51				38				10				33
02	73	TC	U					56				52				40				10				34
02	73	A	U					56				52				40				10				34
03	71	A	A					46				32				23				7				25
04	68	U	A	35				51																
05	73	MC	R					36				26				16				5				16
05	73	TC	R					43				37				21				5				21
05	73	A	R					43				37				21				5				21
05	73	MC	A					54				26				21				9				22
05	73	TC	A					62				37				26				9				26
05	73	A	A					62				37				26				9				26

**Germany**

Year	Source	Product	Frequency	Age Groups																All ages						
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		60	65	70	75	80+	
90	72	MC	U					32				36				25				15				25		
90	72	TC	U					33				39				26				16				26		
90	72	A	U					33				39				26				16				27		
91	36	U	U									41	39				28				17				12	27
91	72	MC	U					31				41				29				9				25		
91	72	TC	U					35				44				29				11				27		
91	72	A	U					35				44				29				11				27		
92	67	UC	R	*	11				26	29	30	29	25	21	14	12	10	7	6	3	17					
92	67	A	R	*	11				26	30	31	29	25	21	14	12	10	7	6	3	17					
92	67	A	A	*	14				32	36	37	35	30	25	17	14	13	10	8	4	21					
92	72	MC	U					29				33				27				8				22		
92	72	TC	U					33				33				29				9				23		
92	72	A	U					33				33				29				9				23		
93	68	U	R	23																						
93	68	U	A	20				44												34						
93	68*	U	A	12				36				42														
94	72	MC	U					33				40				23				12				25		
94	72	TC	U					33				43				28				13				27		
94	72	A	U					33				43				28				13				27		
94	73	MC	U					33				41				23				12				25		
94	73	TC	U					33				44				28				13				27		
94	73	A	U					33				44				28				13				27		
95	67	UC	R	*	11				25	29	30	30	26	22	16	12	9	8	5	3	17					
95	67	A	R	*	11				25	29	31	30	26	23	16	12	9	8	5	3	17					
95	67	A	A	*	14				31	35	37	35	31	27	20	14	11	10	7	4	20					
95	73	MC	U					28				33				20				8				20		
95	73	TC	U					28				35				23				8				21		
95	73	A	U					28				35				23				8				21		
97	68	U	A	29				47												40						
97	68*	U	A	19				41				47														

**Table 4M** (continued from p. 32)  
Prevalence of smoking, males

**Germany** (continued)

Year	Source	Product	Frequency	Age Groups																All ages			
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		60	65	70
98	70	U	R					44	39			42		34		25		14		13			31
98	70	U	U					54	47			49		40		31		18		16			37
99	67	UC	R	22				37	38	39	41	39	35	30	24	19	16	12	7			29	
99	67	A	R	22				38	39	40	42	41	38	32	26	22	18	15	9			31	
99	67	UC	A	28				42	43	43	45	42	38	32	26	22	18	14	8			33	
99	67	A	A	28				43	44	45	46	44	41	36	29	25	20	17	11			35	
99	73	U	U	45				48			39			31						41			
01	68	U	R	24																			
01	68	U	A	27				46												38			
01	68*	U	A	18		44			48														
02	73	M	R	28				38			39			20						31			
02	73	T	R	38				42			43			21						36			
02	73	A	R	38				42			43			25						37			
02	73	M	U	36				45			42			23						36			
02	73	T	U	45				50			47			24						41			
02	73	A	U	47				52			48			28						43			
02	74	A	U					40			40			27						34			
02	75	A	*	10	26																		
02	75	A	R	14	32																		
03	67	UC	R	21				39	37	38	37	37	35	29	25	19	14	12	8			28	
03	67	A	R	22				40	39	39	38	39	37	32	28	21	15	14	10			30	
03	67	UC	A	26				45	42	41	40	40	38	32	28	21	15	13	9			31	
03	67	A	A	27				46	44	43	42	43	40	35	31	23	18	16	11			33	
03	71	A	R	40				39			37			35		25		16		11		29	
03	71	UC	A	34																			
03	71	A	A	55				54			45			43			32		21		15		37
03	76	UC	*	31																			
03	76	UC	A	43																			
04	68	U	R	23																			
04	68	U	A	24				45												36			
04	69	UC	*	23																			
04	69	UC	A	34																			
04	77	U	*	1	7	16	29	34														21	
04	77	U	R	2	9	19	36	38														26	
04	77	U	A	2	9	13	25	43	43														
05	67	UC	R	19				37	36	35	35	35	34	29	24	18	13	10	6			26	
05	67	A	R	20				38	38	36	36	37	36	31	27	20	14	11	8			28	
05	67	UC	A	25				44	43	40	39	39	38	32	27	20	15	12	7			30	
05	67	A	A	26				45	44	41	41	41	40	35	31	23	17	13	9			32	
05	73	M	R	35				35			36			14						28			
05	73	T	R	40				43			45			16						34			
05	73	A	R	40				45			46			17						35			
05	73	M	A	42				41			39			16						32			
05	73	T	A	47				50			48			18						38			
05	73	A	A	47				53			49			20						40			
06	75	A	*	3	14																		
06	75	A	R	5	17																		

Source: see *Notes on sources of survey data*, p. 66  
 Product: MC = manufactured cigarettes  
 TC = total cigarettes (including hand-rolled)  
 UC = cigarettes (type unspecified)  
 A = all products  
 Frequency: A = all smokers (including occasional)  
 R = regular or daily smokers  
 U = unspecified  
 \* = refer to *Notes on sources of survey data*, p. 66  
 All ages: relates to ages reported; as given in original source

**Table 4F** (continued from p. 33)  
Prevalence of smoking, females

**Germany** (continued)

Year	Source	Product	Frequency	Age Groups																	All ages				
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70	75	80+
98	70	U	R							37		30		33		26		17		9		7			22
98	70	U	U							48		43		41		31		20		12		10			28
99	67	UC	R					16		26	27	30	30	29	25	20	13	10	7	6		3			18
99	67	A	R					16		27	27	30	31	29	25	21	14	10	8	6		3			19
99	67	UC	A					21		32	32	34	35	33	28	24	16	11	9	8		4			22
99	67	A	A					21		33	33	35	35	34	29	24	16	12	9	8		4			22
99	73	U	U					44				37		33			12								27
01	68	U	R					21																	
01	68	U	A					28				42													36
01	68*	U	A					21				45		40											
02	73	MC	R					40				30		27					12						24
02	73	TC	R					40				31		28					12						24
02	73	A	R					40				31		28					12						24
02	73	MC	U					47				36		32					14						28
02	73	TC	U					48				38		34					15						30
02	73	A	U					48				38		34					15						30
02	74	A	U									39		38			20								31
02	75	A	*			10		29																	
02	75	A	R			15		34																	
03	67	UC	R					18		29	26	27	28	29	26	21	16	11	7	5		3			18
03	67	A	R					18		30	26	27	29	30	27	22	17	11	7	6		3			19
03	67	UC	A					23		35	30	31	32	33	30	24	19	12	8	6		4			22
03	67	A	A					23		35	31	32	33	33	31	25	19	13	9	7		4			22
03	71	A	R					43		32		30		28		24		11		4					22
03	71	UC	A																						
03	71	A	A					52		43		37		36		28		15		6					28
03	76	UC	*					34																	
03	76	UC	A					46																	
04	68	U	R					20																	
04	68	U	A					23				44													35
04	69	UC	*					20																	
04	69	UC	A					30																	
04	77	U	*		1	10	20	25	29																21
04	77	U	R		2	13	25	30	34																26
04	77	U	A		2	8	18	31	36	42															
05	67	UC	R					16		29	26	24	26	28	27	22	17	12	8	5		3			18
05	67	A	R					17		30	27	24	26	29	28	23	18	12	8	6		3			19
05	67	UC	A					21		35	32	29	31	33	32	26	20	14	9	7		4			22
05	67	A	A					22		36	33	29	31	34	32	27	21	15	10	7		4			22
05	73	MC	R					28				19		16					8						15
05	73	TC	R					34				28		20					10						20
05	73	A	R					34				28		20					10						20
05	73	MC	A					34				24		19					9						18
05	73	TC	A					39				33		23					11						22
05	73	A	A					39				33		24					11						23
06	75	A	*			4		15																	
06	75	A	R			7		22																	

Source: see *Notes on sources of survey data*, p. 66  
 Product: MC = manufactured cigarettes  
 TC = total cigarettes (including hand-rolled)  
 UC = cigarettes (type unspecified)  
 A = all products  
 Frequency: A = all smokers (including occasional)  
 R = regular or daily smokers  
 U = unspecified  
 \* = refer to *Notes on sources of survey data*, p. 66  
 All ages: relates to ages reported; as given in original source

**Table 5M** Number of cigarettes smoked per smoker per day, males:  
selected surveys by age, 1965-2005  
(continues on p. 38)

**West Germany**

Year	Source	Product	Estimated	Age Groups																	All ages				
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70	75	80+
65	28	UC	E						6.8																
65	29	UC	E						6.8																
66	30	UC	E	3.7	4.8	7.2	8.4																		
67	5	MC													14										
70	8	UC	E*			2.1																			
73	32	UC					12																		
74	5	MC												20											
74	33	A					13																		
75	18	UC					12																		
78	34	UC								20															
78	67	UC	E	*			14	15	17	19	20	20	18	17		16									18
79	35	UC	E	2.5	2.1	3.1																			
81	1	TC					16		19	27	21	17			17										20
84	4	TC	E								21														
84	23	UC						21	24	23	17														22
85	5	MC									22														
85	24	UC						19	21	18	18														19
85	25	UC						21	24	21	16														21
85	26	UC						20	23	21	17														21
85	37	UC						18	22	20	17														20
87	72	UC	E				17		19	19			17												18
88	23*	UC						20	22	21	19														21
88	36	UC	E					19	21	21	19														
88	72	TC	E				15		20	22			18												19
89	67	UC		*			14	15	17	18	19	19	19	18	18	16	15	15	14						17
89	72	TC	E				12		19	19			14												17
90	25	UC						21	23	20	17														21
90	26	UC						18	23	22	17														21
90	36	UC						19	20	22	19	14													19
90	72	TC	E				16		18	20			16												18
91	23*	UC						19	21	23	20														21
91	39	UC	E*	13																					
91	72	TC	E				18		21	20			16												20
92	67	UC		*			14	15	16	18	19	19	19	18	16	15	15	14							17
92	72	TC	E				17		21	19			19												19
93	68	UC					15																		
94	42	UC	E*	10																					
94	72	TC	E				16		19	21			14												18
94	73	TC	E				16		19	21			14												18
95	25	UC						21	21	22	19														20
95	26	UC						18	19	20	18														19
95	73	TC	E				16		20	23			20												20
98	70	UC					15	18	21	23	21	19	15												20
98	75	UC		1.4	4.2																				
99	42	UC	E*	10																					
02	73	TC	E				16		16	19			15												17
05	73	MC	E				12		14	21			15												16
05	73	TC	E				12		16	21			16												17





**Table 5F** (continued from p. 37, continues on p. 41)  
Number of cigarettes smoked per smoker per day, females

**East Germany**

Year	Source	Product	Estimated	Age Groups																		All ages			
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60	65		70	75	80+
69	44	UC	E																						
71	47	A	E	9.2																					
71	48	A																							
73	48	A		9.0																					
75	45	UC	E*	3.8																					
78	53	UC	E	4.2																					
81	62	UC		4.7 4.1 *																		4.4			
82	55	UC		1	1	3	3																		
83	57	UC		9.8 8.7 8.6 8.3																		8.6			
83	61	UC		9.9 11 11 10																		11			
84	59	UC		9.1 8.6 9.5 9.3																		9.1			
84	60	UC		10 8.3 7.4 7.5																		7.8			
85	54	UC	E	7.3																					
85	58	UC		9.9 11 8.9 9.3																		9.7			
88	57	UC		9.6 10 10 9.0																		9.8			
88	60	UC		8.3 11 8.7 8.7																		9.4			
88	64	UC	E	12 11 10 11 9.7 9.8 10																					
89	58	UC		11 8.6 8.3 9.5																		8.7			
89	59	UC		10 11 8.9 6.8																		9.1			
90	72	TC	E	7.7 11 12 12																		10			
91	66	UC		9.5 11 12 11 7.5																		10			
91	72	TC	E	9.4 10 11 11																		10			
92	67	UC		* 11 12 12 13 12 13 12 12 12 12 11 9.7 11																		12			
92	72	TC	E	9.1 11 12 7.4																		10			
93	57	UC		11 11 13 11																		11			
93	68	UC		9.4																					
94	72	TC	E	8.3 13 8.9 11																		11			
94	73	TC	E	8.3 13 8.9 11																		11			
95	73	TC	E	11 11 10 8.4																		10			
98	70	UC		12 15 13 14 12 12 11																		13			
02	73	TC	E	11 11 12 10																		11			
05	73	MC	E	8.7 12 14 11																		11			
05	73	TC	E	8.9 13 15 11																		12			

**Table 5M** (continued from p. 38)  
Number of cigarettes smoked per smoker per day, males

Germany

Year	Source	Product	Estimated	Age Groups																	All ages					
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70	75	80+	
90	72	TC	E				16					18			19					15					17	
91	36	UC									18		19		20		18		13							18
91	72	TC	E				17					20			19					15						18
92	67	UC		*			13		15	16	17	18	18	19	18	17	16	15	15	13						17
92	72	TC	E				16					19			18					18						18
93	68	UC					15																			
94	72	TC	E				14					18			19					14						17
94	73	TC	E				14					18			19					14						17
95	67	UC		*			13		15	16	17	17	18	18	18	17	16	15	15	13						16
95	73	TC	E				15					19			21					20						19
98	70	UC						15		18		20			22		20			18		14				20
99	67	UC	E*				14		16	17	18	18	19	19	19	19	17	17	15	14						18
02	73	TC	E				15					16			18					15						16
03	67	UC	E*				14		15	16	17	17	18	18	18	18	18	17	16	15						17
03	71	UC						12		15		18		20		21				17						18
03	76	UC	E						11																	
04	77	UC	E		8.3	10	12	13																		9.2
05	67	UC	E*				14		15	16	17	18	18	19	18	18	18	17	16	15						17
05	73	MCE					12					14			20					15						16
05	73	TC	E				12					15			20					16						16

Source: see *Notes on sources of survey data*, p. 66  
 Product: MC = manufactured cigarettes  
 TC = total cigarettes (including hand-rolled)  
 UC = cigarettes (type unspecified)  
 A = all products  
 U = unspecified

Estimated: E = mean estimated from percentage distribution  
 (see also *Consumption category estimation*, Methods p. 11, and Appendix III)  
 \* = refer to *Notes on sources of survey data*, p. 66  
 All ages: relates to ages reported; as given in original source

**Table 5F** (continued from p. 39)  
Number of cigarettes smoked per smoker per day, females

**Germany**

Year	Source	Product	Estimated	Age Groups																	All ages					
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70	75	80+	
90	72	TC	E					12					12			15					14				13	
91	36	UC										15	14		17		15		9.3						15	
91	72	TC	E					14					15			15					14				15	
92	67	UC		*				13	14	14	15	15	15	15	14	14	14	14	13	13	12				14	
92	72	TC	E					14					15			17					11				15	
93	68	UC						13																		
94	72	TC	E					14					15			17					12				14	
94	73	TC	E					14					14			17					12				14	
95	67	UC		*				12	14	14	14	15	15	15	15	14	14	14	13	13	12				14	
95	73	TC	E					12					15			18					12				15	
98	70	UC							13				15			16					16			9.4	16	
99	67	UC	E*					12	14	14	14	15	15	15	15	15	15	14	13	13	13				14	
02	73	TC	E					12					14			14					13				14	
03	67	UC	E*					12	13	14	14	14	14	14	15	15	15	15	14	14	14	14			13	14
03	71	UC						12	12			15		15		16				14			11		14	
03	76	UC	E						10																	
04	77	UC	E		10	9.4	9.5	12																	7.9	
05	67	UC	E*					12	13	14	14	14	15	15	15	14	14	14	14	14	14	13			14	
05	73	MC	E					12					11			13					15				13	
05	73	TC	E					12					13			14					14				13	

Source: see *Notes on sources of survey data*, p. 66  
Product: MC = manufactured cigarettes  
TC = total cigarettes (including hand-rolled)  
UC = cigarettes (type unspecified)  
A = all products  
U = unspecified

Estimated: E = mean estimated from percentage distribution  
(see also *Consumption category estimation*, Methods p. 11, and Appendix III)  
\* = refer to *Notes on sources of survey data*, p. 66  
All ages: relates to ages reported; as given in original source

**Table 6M** Number of cigarettes smoked per person per day, males:  
selected surveys by age, 1965-2005; with percentage total sales  
(continues on p. 44)

**West Germany**

Year	Source	Product	Age Groups																	All ages	% Total sales				
			12	13	14	15	16	17	18	19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64			65 69	70 74	75 79	80+
65	28	UC					4.0																		**
65	29	UC					4.2																		**
67	5	MC													7.4										**
70	8	UC*					1.3																		**
74	5	MC													8.2										**
74	33	A					7.2																		**
75	18	UC					5.8																		**
78	34	UC													8.6										78%T
78	67	UC		*			3.0	5.9	7.9	8.8	8.7		8.2		7.2	5.1				4.2				6.2	55%T
79	35	UC		0.2	0.5	1.0																			**
80	10	MC													9.3										--
81	1	TC					3.4			11	11		8.0		6.0					3.9				7.2	75%T
82	10	MC													7.7										--
84	4	TC*													9.2										90%T
84	23	UC								13	11		9.7		6.7									9.5	**
85	5	MC													6.3										**
85	24	UC								9.0		6.6		5.9		4.5								5.8	**
85	25	UC								10		9.8		7.5		4.7								7.7	**
85	26	UC								8.5		7.5		5.8		4.8								6.2	**
85	37	UC*								9.9		11		8.0		6.4								8.8	**
87	72	UC*					6.3				11		7.1							4.7				7.1	83%T
88	23*	UC								11		11		7.9		6.8								8.7	**
88	36	UC*								9.3		11		9.3		6.5									**
88	72	TC*					3.9				10		10							6.7				8.1	91%T
89	67	UC		*			2.2	5.5	6.9	7.4	7.2	6.9	6.3	5.3	4.8	4.0	2.8	2.0		1.4				5.0	56%T
89	72	TC*					3.4			9.8		7.8								4.7				6.5	73%T
90	25	UC								8.1		8.9		6.4		4.1								6.8	**
90	26	UC								6.2		7.9		5.9		3.2								6.0	**
90	36	TC*							8.9	9.5		8.8		6.2		3.5								7.5	**
90	72	TC*					6.8				11		7.6							4.9				7.4	82%T
91	23*	UC								10		9.2		9.5		5.6								8.4	**
91	39	UC*		1.8																					**
91	72	TC*					7.0				11		8.7							3.6				7.6	**
92	67	UC		*			2.1	5.2	6.3	7.3	7.5	6.9	6.4	5.4	4.4	3.6	2.7	2.2		1.3				4.9	**
92	72	TC*					7.8			9.0		7.5								4.7				7.2	**
93	68	UC					6.2																		**
94	42	UC*		1.1																					**
94	72	TC*					7.4			9.1		8.4								2.8				6.8	**
94	73	TC*					7.3			9.2		9.1								2.8				7.0	**
95	25	UC								8.9		8.9		7.6		4.4								7.3	**
95	26	UC								5.8		6.1		4.1		3.2								4.6	**
95	73	TC*					7.4				10		11							6.0				8.8	**
98	70	UC*					7.3	8.4		9.8		9.0		6.5		3.5				2.4				7.3	**
98	75	UC		0.2		1.2																			**
99	42	UC*		1.4																					**
02	73	TC					5.8			6.6		8.0								3.1				5.8	**
05	73	MC					3.7			4.7		7.6								2.1				4.4	**
05	73	TC					4.4			6.4		9.5								2.4				5.6	**



**Table 6M** (continued from p. 42, continues on p. 46)  
Number of cigarettes smoked per person per day, males

**East Germany**

Year	Source	Product	Age Groups																	All ages	% Total sales		
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60			65	70
69	44	UC	1.6																		**		
71	47	A	8.6																		**		
71	48*	A	9.3																		**		
73	48*	A																			**		
75	45	UC	6.7																		**		
81	62	UC	1.6 3.0 *																	2.4	**		
82	55	UC	0.4	0.8	1.9	2.6																	**
83	57	UC	8.8 5.8 6.1 4.8																	5.6	**		
83	61	UC	8.2 7.6 4.7 3.6																	5.5	**		
84	59	UC	9.2 7.1 5.9 3.9																	5.8	**		
84	60	UC	8.4 5.7 5.9 4.3																	5.4	**		
85	54	UC	4.0																		**		
85	58	UC	5.8 5.8 4.0 4.1																	4.7	**		
88	57	UC	9.7 6.7 5.3 4.2																	5.5	**		
88	60	UC	8.0 6.0 4.0 3.8																	4.7	**		
88	64	UC	2.7 8.1 7.4 8.9 5.5 6.0 2.5																		60% <sup>m</sup>		
89	58	UC	6.6 5.0 5.3 3.7																	4.8	**		
89	59	UC	8.6 6.8 4.9 3.4																	5.2	**		
90	72	TC*	7.6 9.8 4.8 3.6																	6.6	**		
91	66	TC*	7.4 8.9 6.3 4.9 2.7																	6.4	**		
91	72	TC*	4.6 7.7 6.1 3.2																	5.6	**		
92	67	UC	*	2.3 5.5 6.6 7.0 6.3 5.7 5.4 4.2 3.8 3.4 2.2 2.1 1.1																	4.4	**	
92	72	TC*	3.6 6.7 5.2 3.0																	4.9	**		
93	57	UC	7.7 7.6 4.3 3.5																	5.4	**		
93	68	UC	5.7																		**		
94	72	TC*	5.7 8.7 6.1 3.8																	6.2	**		
94	73	TC*	5.7 8.7 6.1 3.8																	6.2	**		
95	73	TC*	4.4 6.5 6.0 4.1																	5.4	**		
98	70	UC*	9.6 9.8 10 8.0 4.8 2.4 2.1																	7.2	**		
02	73	TC	4.9 7.0 7.7 3.5																	5.8	**		
05	73	MC	4.8 5.8 5.3 2.6																	4.5	**		
05	73	TC	5.3 7.1 6.5 3.0																	5.3	**		



**Table 6M** (continued from p. 44)  
Number of cigarettes smoked per person per day, males

**Germany**

Year	Source	Product	Age Groups																	All ages	% Total sales				
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60			65	70	75	80+
90	72	TC*	6.9						10				7.2			4.7				7.3	82%T				
91	36	UC							8.5	9.3		8.2			5.9		3.3			7.3	**				
91	72	TC*	6.5						10				8.1			3.6				7.2	85%T				
92	67	UC	*	2.1				5.2	6.4	7.2	7.2	6.7	6.2	5.1	4.3	3.6	2.6	2.2	1.2		4.9	62%T			
92	72	TC*	7.1						8.6				7.1			4.5				6.8	83%T				
93	68	UC	6.0																					**	
94	72	TC*	6.9						9.0				7.9			3.0				6.6	88%T				
94	73	TC*	6.9						8.9				8.4			3.0				6.8	89%T				
95	67	UC	*	2.1				5.1	6.1	6.8	7.0	6.6	6.1	5.1	4.1	3.4	2.5	1.9	1.1		4.6	61%T			
95	73	TC*	5.5						8.7				7.2			4.8				6.6	81%T				
98	70	UC*	6.5						7.1				8.4			7.5		5.0		2.6		1.8		6.0	74%T
99	67	UC*	2.9						5.7	6.4	6.8	7.2	7.3	6.8	5.7	4.4	3.3	2.7	1.9	1.0		5.1	62%T		
02	73	TC	5.5						6.6				8.0			3.2				5.7	71%T				
03	67	UC*	2.9						5.9	6.0	6.5	6.4	6.7	6.4	5.4	4.6	3.3	2.3	1.9	1.1		4.8	63%T		
03	71	UC*	5.0						6.0		6.5		7.1		5.3		2.8		1.9		5.2	69%T			
03	76	UC	3.4																					**	
04	77	UC*	0.1	0.7	2.0	3.8																3.1	**		
05	67	UC*	2.6						5.6	5.9	5.9	6.1	6.4	6.3	5.3	4.5	3.2	2.2	1.6	0.9		4.5	72%T		
05	73	MC	4.1						4.8				7.2			2.1				4.5	86%M				
05	73	TC	4.6						6.6				8.9			2.5				5.5	82%T				

Source: Notes on sources of survey data, p. 66  
 Product: MC = manufactured cigarettes  
 TC = total cigarettes (including hand-rolled)  
 UC = cigarettes (type unspecified)  
 A = all products  
 U = unspecified

\* = refer to Notes on sources of survey data, p. 66  
 All ages: relates to ages reported; as given in original source  
 % Total sales: estimated % of total sales of M = manufactured or T = total cigarette consumption implied by survey, sexes combined  
 \*\* = cannot be calculated (including post-1990 for West and East Germany)  
 -- = adjusted by original author

**Table 6F** (continued from p. 45)  
Number of cigarettes smoked per person per day, females

**Germany**

Year	Source	Product	Age Groups																All ages	% Total sales						
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55			60	65	70	75	80+	
90	72	TC*	4.1					4.6				3.9			2.2				3.5	82%T						
91	36	UC						6.2	5.6			4.9		2.5		1.1						3.9	**			
91	72	TC*	4.8					6.7				4.4			1.5							3.9	85%T			
92	67	UC	*	1.4				3.5	4.1	4.4	4.3	3.8	3.1	2.0	1.6	1.4	1.0	0.7	0.3			2.4	62%T			
92	72	TC*	4.6					4.9				5.0			1.0							3.5	83%T			
93	68	UC	4.4																				**			
94	72	TC*	4.7					6.2				4.7			1.5							3.9	88%T			
94	73	TC*	4.6					6.3				4.7			1.5							3.9	89%T			
95	67	UC	*	1.2				3.4	4.0	4.3	4.4	3.9	3.4	2.3	1.7	1.2	1.0	0.7	0.3			2.4	61%T			
95	73	TC*	3.3					5.3				4.2			0.9							3.1	81%T			
98	70	UC*					5.0	4.4		5.3		4.6		2.7		1.4		0.7						3.5	74%T	
99	67	UC*	1.9					3.6	3.8	4.2	4.4	4.3	3.7	3.1	1.9	1.4	1.0	0.8	0.4						2.6	62%T
02	73	TC	5.0					4.5				4.0			1.6							3.3	71%T			
03	67	UC*	2.1					3.8	3.5	3.7	4.0	4.1	3.8	3.2	2.4	1.4	1.0	0.8	0.4						2.6	63%T
03	71	UC*					4.9	3.9		4.5		4.3		3.9		1.6		0.4						3.1	69%T	
03	76	UC					3.5																**			
04	77	UC*		0.1	0.9	1.9	2.9															2.3	**			
05	67	UC*	2.0					3.8	3.6	3.3	3.8	4.1	4.0	3.3	2.5	1.7	1.1	0.7	0.4						2.6	72%T
05	73	MC	3.3					2.2				2.2			1.2							1.9	86%M			
05	73	TC	4.1					3.6				2.8			1.5							2.6	82%T			

Source: *Notes on sources of survey data*, p. 66  
 Product: MC = manufactured cigarettes  
 TC = total cigarettes (including hand-rolled)  
 UC = cigarettes (type unspecified)  
 A = all products  
 U = unspecified

\* = refer to *Notes on sources of survey data*, p. 66  
 All ages: relates to ages reported; as given in original source  
 % Total sales: estimated % of total sales of M = manufactured or T = total cigarette consumption implied by survey, sexes combined,  
 \*\* = cannot be calculated (including post-1990 for West and East Germany)  
 -- = adjusted by original author

**Table 7M** Number of cigarettes smoked per person per day, sales-adjusted, males: selected surveys<sup>1</sup> by age, 1978-2005; with percentage total sales

### West Germany

Year	Source	Product	Age Groups																	All ages	% Total sales
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		
78	34	UC	11																		78%T
78	67	UC	*	5.5	11	14	16	16	15	13	9.3	7.5	11	55%T							
80	10	MC	9.3																		--
81	1	TC	4.6				14	15	11	8.0	5.2				9.6	75%T					
82	10	MC	7.7																		--
84	4	TC*	10																		90%T
87	72	UC*	7.6				13	8.6	5.7				8.6	83%T							
88	72	TC*	4.2				11	11	7.3				8.8	91%T							
89	67	UC	*	3.9	9.8	12	13	13	12	11	9.4	8.5	7.1	5.0	3.6	2.5	8.9	56%T			
89	72	TC*	4.6				13	11	6.4				8.9	73%T							
90	72	TC*	8.2				13	9.2	6.0				9.0	82%T							

### East Germany

Year	Source	Product	Age Groups																	All ages	% Total sales
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		
88	64	UC	4.5				14	12	15	9.2	10	4.2					60%M				

### Germany

Year	Source	Product	Age Groups																	All ages	% Total sales
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		
90	72	TC*	8.5				13	8.8	5.7				8.9	82%T							
91	72	TC*	7.7				12	9.5	4.2				8.5	85%T							
92	67	UC	*	3.4	8.4	10	12	12	11	10	8.3	7.0	5.8	4.2	3.6	1.9	8.0	62%T			
92	72	TC*	8.5				10	8.6	5.4				8.2	83%T							
94	72	TC*	7.8				10	9.0	3.5				7.6	88%T							
94	73	TC*	7.8				10	9.5	3.4				7.7	89%T							
95	67	UC	*	3.4	8.3	10	11	11	11	10	8.3	6.7	5.5	4.1	3.1	1.8	7.5	61%T			
95	73	TC*	6.8				11	8.9	5.9				8.2	81%T							
98	70	UC*	8.7				9.6	11	10	6.7	3.5	2.4	8.2	74%T							
99	67	UC*	4.7				9.2	10	11	12	12	11	9.2	7.1	5.3	4.3	3.1	1.6	8.2	62%T	
02	73	TC	7.7				9.3	11	4.5				8.0	71%T							
03	67	UC*	4.6				9.3	9.5	10	10	11	10	8.6	7.3	5.2	3.6	2.9	1.8	7.6	63%T	
03	71	UC*	7.3				8.7	9.4	10	7.7	4.1	2.7	7.6	69%T							
05	67	UC*	3.7				7.8	8.2	8.3	8.5	8.9	8.8	7.4	6.2	4.4	3.0	2.2	1.3	6.3	72%T	
05	73	MC	4.7				5.6	8.4	2.5				5.2	86%M							
05	73	TC	5.6				8.0	11	3.1				6.8	82%T							

1 Based on those surveys in Table 6 with data for both sexes and age range at least 21-64 (see *Cigarette consumption per person*, Methods p. 11), but excluding post-1990 for West and East Germany

Source: Notes on sources of survey data, p. 66  
 Product: MC = manufactured cigarettes  
 TC = total cigarettes (including hand-rolled)  
 UC = cigarettes (type unspecified)  
 A = all products  
 U = unspecified

\* = refer to Notes on sources of survey data, p. 66  
 All ages: relates to ages reported; as given in original source  
 % Total sales: Adjustment factor used, estimated % of total sales of M = manufactured or T = total cigarette consumption implied by survey, sexes combined  
 -- = adjusted by original author

**Table 7F** Number of cigarettes smoked per person per day, sales-adjusted, females: selected surveys<sup>1</sup> by age, 1978-2005; with percentage total sales

### West Germany

Year	Source	Product	Age Groups																All ages	% Total sales
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		
78	34	UC	5.6																	78%T
78	67	UC	*	3.2	6.8	9.1	8.3	6.0	4.1	3.5	2.1	0.9					3.8	55%T		
80	10	MC	5.0																	--
81	1	TC	4.2				9.1	8.2	5.6	4.7	2.0	0.9					5.0	75%T		
82	10	MC	4.5																	--
84	4	TC*	4.2																	90%T
87	72	UC*	5.5				7.9	7.1	2.3				5.2	83%T						
88	72	TC*	4.5				7.9	5.0	3.4				5.0	91%T						
89	67	UC	*	2.8	7.1	8.4	8.4	8.0	7.1	5.0	3.7	3.0	2.8	2.0	1.6	0.5	4.5	56%T		
89	72	TC*	4.0				6.4	5.5	4.1				5.0	73%T						
90	72	TC*	5.4				6.0	5.1	3.1				4.6	82%T						

### East Germany

Year	Source	Product	Age Groups																All ages	% Total sales
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		
88	64	UC	3.9				6.5	5.8	4.2	3.2	2.2	1.5						60% <sup>m</sup>		

### Germany

Year	Source	Product	Age Groups																All ages	% Total sales
			12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55		
90	72	TC*	5.1				5.6	4.7	2.7				4.3	82%T						
91	72	TC*	5.6				7.9	5.2	1.8				4.6	85%T						
92	67	UC	*	2.3	5.7	6.7	7.1	7.0	6.2	5.0	3.2	2.6	2.3	1.6	1.1	0.5	3.9	62%T		
92	72	TC*	5.5				5.9	6.0	1.2				4.2	83%T						
94	72	TC*	5.3				7.1	5.4	1.8				4.5	88%T						
94	73	TC*	5.2				7.1	5.3	1.7				4.4	89%T						
95	67	UC	*	2.0	5.5	6.5	7.0	7.2	6.4	5.5	3.8	2.8	2.0	1.6	1.1	0.5	3.9	61%T		
95	73	TC*	4.1				6.6	5.2	1.1				3.8	81%T						
98	70	UC*	6.7				6.0	7.2	6.3	3.7	2.0	0.9					4.7	74%T		
99	67	UC*	3.1				5.8	6.1	6.8	7.1	7.0	6.0	5.1	3.1	2.2	1.6	1.3	0.6	4.3	62%T
02	73	TC	7.0				6.4	5.5	2.2				4.7	71%T						
03	67	UC*	3.3				6.1	5.6	5.9	6.3	6.5	6.0	5.0	3.8	2.3	1.6	1.2	0.6	4.1	63%T
03	71	UC*	7.2				5.6	6.6	6.2	5.6	2.4	0.6				4.5	69%T			
05	67	UC*	2.8				5.3	5.0	4.7	5.2	5.7	5.6	4.6	3.5	2.4	1.5	1.0	0.5	3.6	72%T
05	73	MC	3.8				2.5	2.5	1.4				2.2	86%M						
05	73	TC	5.0				4.4	3.4	1.8				3.2	82%T						

1 Based on those surveys in Table 6 with data for both sexes and age range at least 21-64 (see *Cigarette consumption per person*, Methods p. 11), but excluding post-1990 for West and East Germany

Source: See *Notes on sources of survey data*, p. 66  
 Product: MC = manufactured cigarettes  
 TC = total cigarettes (including hand-rolled)  
 UC = cigarettes (type unspecified)  
 A = all products  
 U = unspecified

\* = refer to *Notes on sources of survey data*, p. 66  
 All ages: relates to ages reported; as given in original source  
 % Total sales: Adjustment factor used, estimated % of total sales of M = manufactured or T = total cigarette consumption implied by survey, sexes combined  
 -- = adjusted by original author

**Table 8** Estimated<sup>1</sup> prevalence of smoking and estimated<sup>1</sup> number of cigarettes per person per day (unadjusted and sales-adjusted): summary of Tables 4, 6 and 7; 1950-2005  
Males and females aged 15 years and over

### West Germany

Year	Source <sup>2</sup>	Product <sup>3</sup>	Prevalence <sup>4</sup>				Number of cigarettes									
			Manufactured cigarettes		Total cigarettes <sup>5</sup>		All products <sup>6</sup>		Unadjusted <sup>7</sup>		Total sales %		Sales-adjusted <sup>8</sup>		Total cigarettes <sup>9</sup>	
			M	F	M	F	M	F	M	F	M	F	M	F	M	F
1950	11	UC+A			60	21	88	21							( 4.5 1.3 )	
1955	11	UC+A			64	21	83	21							( 6.3 1.6 )	
1958	12	UC+A			62		75									
1960	11	UC+A			61	22	78	22							( 8.2 2.4 )	
	13	MC+A	49	13			77	23			( 8.1 1.7 )					
1963	14	UC+A			55	16	68	16							( 9.3 2.2 )	
1965	11	UC+A			61	24	74	24							( 9.5 3.0 )	
	12	UC			56	18									( 10.0 2.5 )	
1967	15	UC			60	26									( 9.4 3.3 )	
1970	3	<b>A</b>					58	24								
	11	UC+A			55	27	67	27							( 10.6 4.2 )	
1971	13	MC	49	21							( 11.2 3.8 )					
	16	UC+A			49		59									
1973	6	U					60	24								
	7	*					49	23								
	11	UC+A			51	30	64	30							( 10.3 4.8 )	
1974	11	UC+A			47	29	55	28							( 10.3 5.1 )	
	12	UC			45	26									( 10.5 4.8 )	
1975	1	<b>TC+A</b>			41	23	48	23							( 10.3 4.6 )	
	11	UC+A			50	29	60	29							( 10.2 4.7 )	
	13	MC	39	20							( 10.2 4.2 )					
	15	UC+A			45	21	53	23							( 10.9 4.2 )	
1976	3	<b>A</b>					51	22								
	11	UC+A			47	28	55	28							( 10.5 5.0 )	
	13	MC	39	21							( 10.5 4.5 )					
1977	1	<b>TC+A</b>			43	25	48	25							( 9.7 4.6 )	
	11	UC+A			45	28	53	29							( 9.5 4.7 )	
	13	MC	36	28							( 8.1 5.0 )					
	17	UC+A			43	22	49	22							( 10.2 4.2 )	
1978	11	UC+A			47	31	55	31							( 9.7 5.1 )	
	13	MC	37	19							( 9.9 4.1 )					
	16	UC+A			45	23	51	24							( 10.6 4.4 )	
	34	UC			40	24			7.9	3.7	78				10.2 4.7	
	67	UC+A			38	16	41	16	6.2	2.1	55				11.2 3.8	
	67	<b>A</b>					47	21								
1979	1	<b>TC+A</b>			41	28	48	28							( 9.7 5.2 )	
	2	<b>TC+A</b>			42	28	48	28							( 9.8 5.2 )	
	11	UC+A			44	28	52	28							( 9.9 5.1 )	
	13	MC	38	22							( 9.6 4.4 )					

**Table 8** (continued)

**West Germany** (continued)

Year	Source <sup>2</sup>	Product <sup>3</sup>	Prevalence <sup>4</sup>				Number of cigarettes										
			Manufactured cigarettes		Total cigarettes <sup>5</sup>		All products <sup>6</sup>		Unadjusted <sup>7</sup>			Sales-adjusted <sup>8</sup>					
			M	F	M	F	M	F	number/ person/day	Total sales %	Manufactured cigarettes number/ person/day	Total cigarettes <sup>9</sup> number/ person/day	M	F			
1980	3	<b>A</b>					47	24									
	10	MC							9.3	5.0	--	9.3	5.0				
	11	UC+A			49	29	53	29							( 10.4	4.9 )	
1981	1	TC			32	18			7.6	3.9	75				10.2	5.2	
	1	<b>TC+A</b>			37	22	48	23									
	3	<b>A</b>					46	25									
1982	3	<b>A</b>					51	26									
	10	MC							7.7	4.5	--	7.7	4.5				
1983	3	<b>A</b>					48	28									
	21	<b>U</b>					41	28							( 9.6	5.1 )	
1984	1	<b>A</b>					46	23									
	3	<b>UC+A</b>			38	26	49	27							( 9.4	5.1 )	
	4	<b>MC+TC+A</b>	43	28	44	29	47	29	9.3	3.9	90	( 8.5	4.4 )	10.4	4.3		
1987	72	UC+A			41	26	48	26	7.4	4.4	83			8.9	5.3		
1988	72	TC+A			42	30	45	30	8.2	4.6	91			8.9	5.1		
	72	TC+A			33	26	38	27									
1989	67	UC+A			31	18	33	18	5.3	2.7	56			9.4	4.8		
	67	<b>A</b>					38	23									
	72	TC+A			39	25	44	25	6.7	3.7	73			9.2	5.0		
	72	IC+A			41	28	47	29									
1990	72	MC+TC+A	39	27	43	28	46	28	7.7	3.8	82			9.3	4.7 /10		
1991	72	MC+IC+A	37	25	40	27	43	27	7.9	4.4							
1992	67	UC+A			30	18	32	19	5.2	2.7							
	67	<b>A</b>					37	22									
	72	MC+IC+A	34	23	38	25	42	25	7.3	3.8							
1994	72	MC+TC+A	33	26	38	28	42	28	6.9	4.3							
	73	MC+IC+A	34	26	39	29	43	29	7.0	4.3							
1995	73	MC+TC+A	32	21	35	22	39	22	8.8	4.6							
1998	70	UC+U					36	27	7.0	4.2							
2002	73	MC+TC+A	30	23	34	24	36	24	5.8	3.4							
	73	MC+IC+A	35	27	39	28	41	28									
2003	71	<b>A</b>					37	28									
2005	73	MC	27	15					4.5	2.0							
	73	TC+A			33	20	34	20	5.7	2.7							
	73	<b>MC+TC+A</b>	31	17	38	22	39	22									

**Table 8** (continued/2)

**East Germany**

Year	Source <sup>2</sup>	Product <sup>3</sup>	Prevalence <sup>4</sup>						Number of cigarettes							
			Manufactured cigarettes		Total cigarettes <sup>5</sup>		All products <sup>6</sup>		Unadjusted <sup>7</sup>			Sales-adjusted <sup>8</sup>				
			M	F	M	F	M	F	number/ person/day	Total sales %	Manufactured cigarettes number/ person/day	Total cigarettes <sup>9</sup> number/ person/day				
M	F	M	F	M	F	M	F	M	F	M	F					
1971	47	UC+A			49	27	59	26	8.2	2.5	/11	( 7.1	3.1 )	/9		
1988	64	UC+U					44	22	6.4	2.3	60	10.7	3.8			
1990	72	MC+TC+A	44	21	45	22	48	22	6.5	2.3		( 8.7	3.3 )			
1991	72	MC+IC+A	39	26	40	27	41	27	5.6	2.7						
1992	67	UC+A			33	15	35	15	4.8	1.8						
	67	<b>A</b>					40	20								
	72	MC+IC+A	34	19	35	19	37	19	4.8	2.0						
1994	72	MC+TC+A	43	22	45	22	47	22	6.2	2.4						
	73	MC+IC+A	43	22	45	22	47	22	6.2	2.4						
1995	73	MC+TC+A	38	17	38	17	41	17	5.4	1.8						
1998	70	UC+U					40	27	6.8	3.5						
2002	73	MC+TC+A	36	26	39	26	40	26	5.8	2.9						
	73	MC+IC+A	41	32	44	33	45	33								
2003	71	<b>A</b>					36	25								
2005	73	MC	33	16					4.5	1.8						
	73	TC+A			38	20	39	20	5.3	2.5						
	73	MC+TC+A	37	22	42	26	45	26								

**Table 8** (continued/3)

**Germany**

Year	Source <sup>2</sup>	Product <sup>3</sup>	Prevalence <sup>4</sup>						Number of cigarettes						
			Manufactured cigarettes		Total cigarettes <sup>5</sup>		All products <sup>6</sup>		Unadjusted <sup>7</sup>			Sales-adjusted <sup>8</sup>			
			M	F	M	F	M	F	number/ person/day	Total sales %	Manufactured cigarettes number/ person/day	Total cigarettes <sup>9</sup> number/ person/day			
						M	F	M	F	M	F	M	F		
1990	72	<i>MC+TC+A</i>	40	25	43	27	47	27	7.5	3.5	82			9.2	4.3 / <sup>10</sup>
1991	72	<i>MC+TC+A</i>	38	25	40	27	42	27	7.3	4.0	85			8.7	4.7
1992	67	UC+A			31	18	33	18	5.1	2.5	62			8.3	4.1
	67	<b>A</b>					37	22							
	72	<i>MC+TC+A</i>	34	22	38	23	41	23	6.9	3.5	83			8.2	4.2
1994	72	<i>MC+TC+A</i>	35	25	39	27	43	27	6.7	4.0	88			7.7	4.5
	73	<i>MC+TC+A</i>	36	25	40	27	44	27	6.8	3.9	89			7.7	4.5
1995	67	UC+A			30	18	32	18	5.0	2.5	61			8.1	4.1
	67	<b>A</b>					36	22							
	73	<i>MC+TC+A</i>	33	20	36	21	39	21	6.7	3.2	81			8.3	3.9
1998	70	UC+U					30	21	5.8	3.3	74			7.9	4.4
	70	<i>U</i>					36	27							
1999	67	UC+A			30	19	32	19	5.2	2.7	62			8.4	4.3
	67	<b>UC+A</b>			33	22	35	23							
	73	<i>U</i>					40	27							
2002	73	<i>MC+TC+A</i>	31	24	35	24	36	24	5.7	3.3	71			8.0	4.7
	73	<i>MC+TC+A</i>	36	28	40	29	42	29							
2003	67	UC+A			29	19	30	19	4.9	2.6	63			7.7	4.2
	67	<b>UC+A</b>			32	22	34	23							
	71	<i>A</i>					29	22							
	71	<b>UC+A</b>			34	28	37	28	5.1	3.1	69			7.4	4.5
2005	67	UC+A			27	19	28	19	4.6	2.6	72			6.4	3.7
	67	<b>UC+A</b>			31	22	33	23							
	73	MC	28	15					4.5	2.0	86	5.2	2.3		
	73	TC+A			34	20	35	20	5.6	2.6	82			6.9	3.2
	73	<b>MC+TC+A</b>	32	18	39	23	40	23							

- 1 Surveys covering an age range of at least 21-64 are included. Any gaps in the data for ages 15-20 and 65 years and over are filled in by assumed extensions to the age distribution, given in *Notes on sources of survey data*, p. 66. Method: see *Summary of adult smoking*, Methods p. 13. Exceptionally, calculation is based on the *All ages* value from Tables 4, 6 and 7 in those surveys for which some age-specific data are not available (age groups 15+ marked as \* in Tables 4, 6 and 7).
- 2 See *Notes on sources of survey data*, p. 66
- 3 Product: MC = manufactured cigarettes, TC = total cigarettes (including hand-rolled), UC = cigarettes (type unspecified), A = all products, U = unspecified. Frequency of smoking is indicated by: regular or daily smokers in normal type, all smokers (including occasional) in bold, unspecified in italics
- 4 From Table 4. Calculations for West and East Germany from 1990 onwards use regional population data (omitting Berlin from 2000 onwards) from [www.gbe-bund.de](http://www.gbe-bund.de)
- 5 This column includes prevalence of smoking classified as UC = cigarettes (type unspecified)
- 6 This column includes prevalence of smoking classified as U = unspecified product
- 7 From Table 6, which does not show % total sales post-1990 for West and East Germany
- 8 From Table 7, except data in parentheses, which are derived from the prevalence of smoking from Table 4 as described in *Summary of adult smoking*, Methods p. 13. Not shown post-1990 for West and East Germany
- 9 Number of cigarettes classified as UC = cigarettes (type unspecified) has been adjusted to total cigarette sales and included in this column, except for East Germany 1971, where they have been adjusted to manufactured cigarette sales
- 10 Calculations based on 1989 sales for West Germany, and on 1991 sales and population for Germany
- 11 Grams; not sales adjusted due to lack of appropriate sales data

**Figure 3** Estimated prevalence of smoking of (i) manufactured cigarettes, (ii) total cigarettes and (iii) all tobacco products; by year of survey, 1950-2005  
Males and females aged 15 years and over

**West Germany**

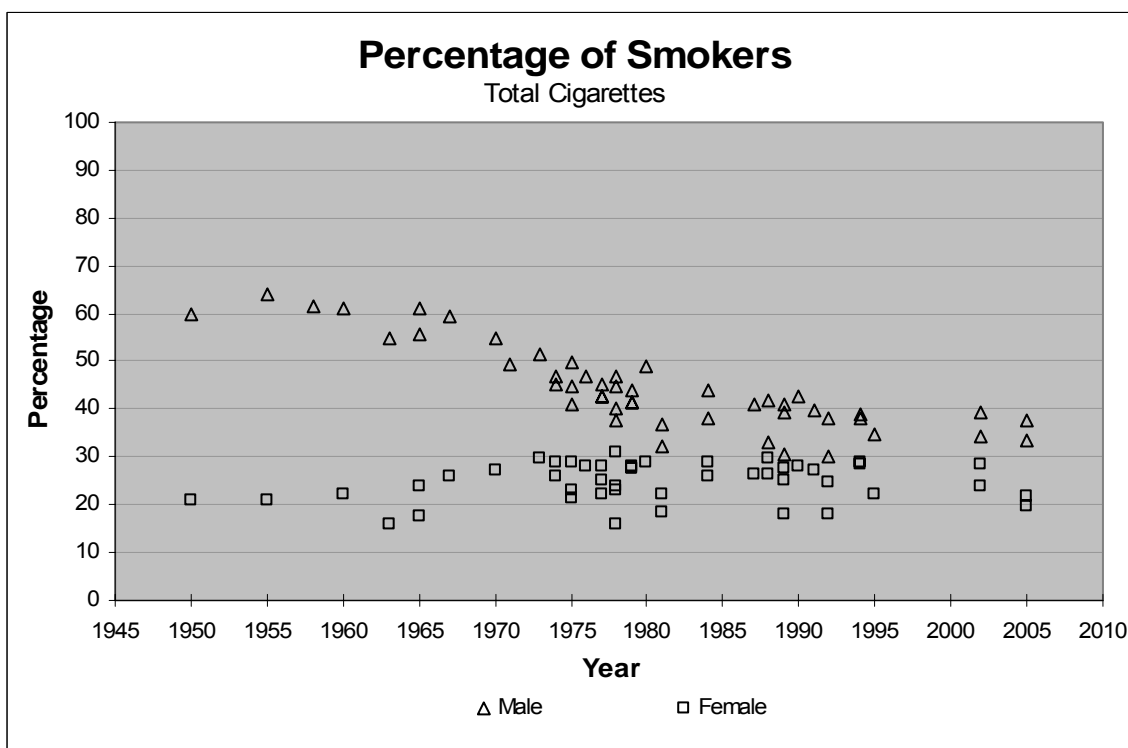
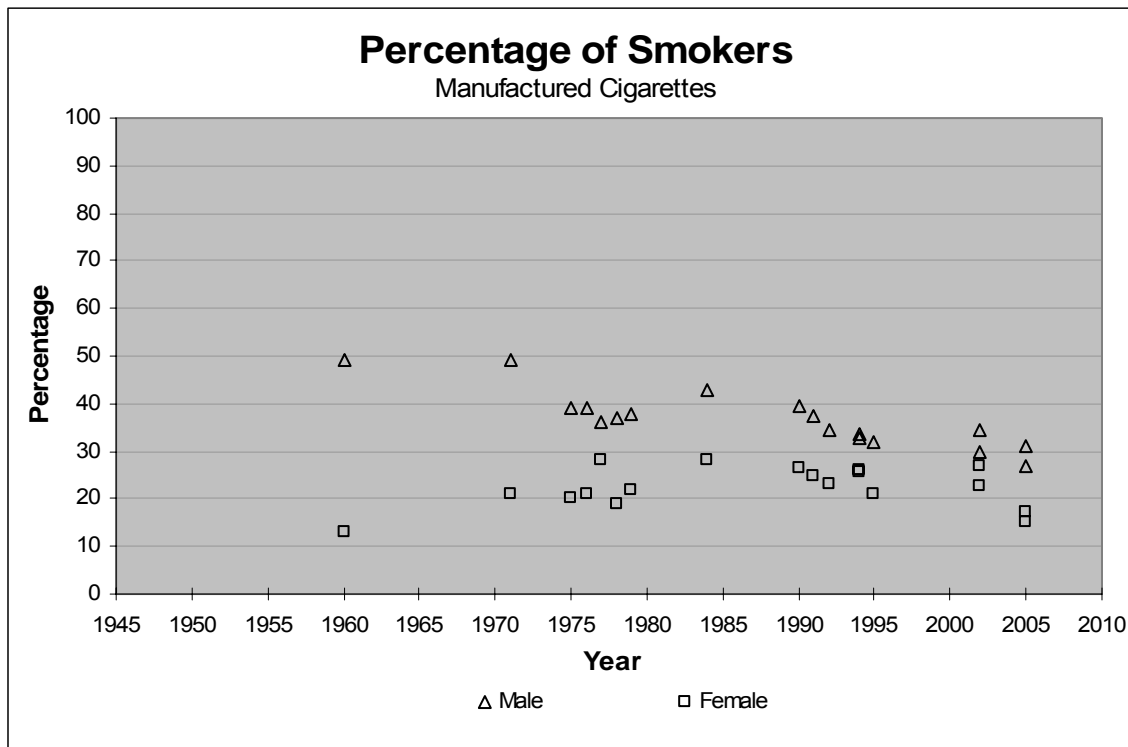


Figure 3 (continued)

West Germany (continued)

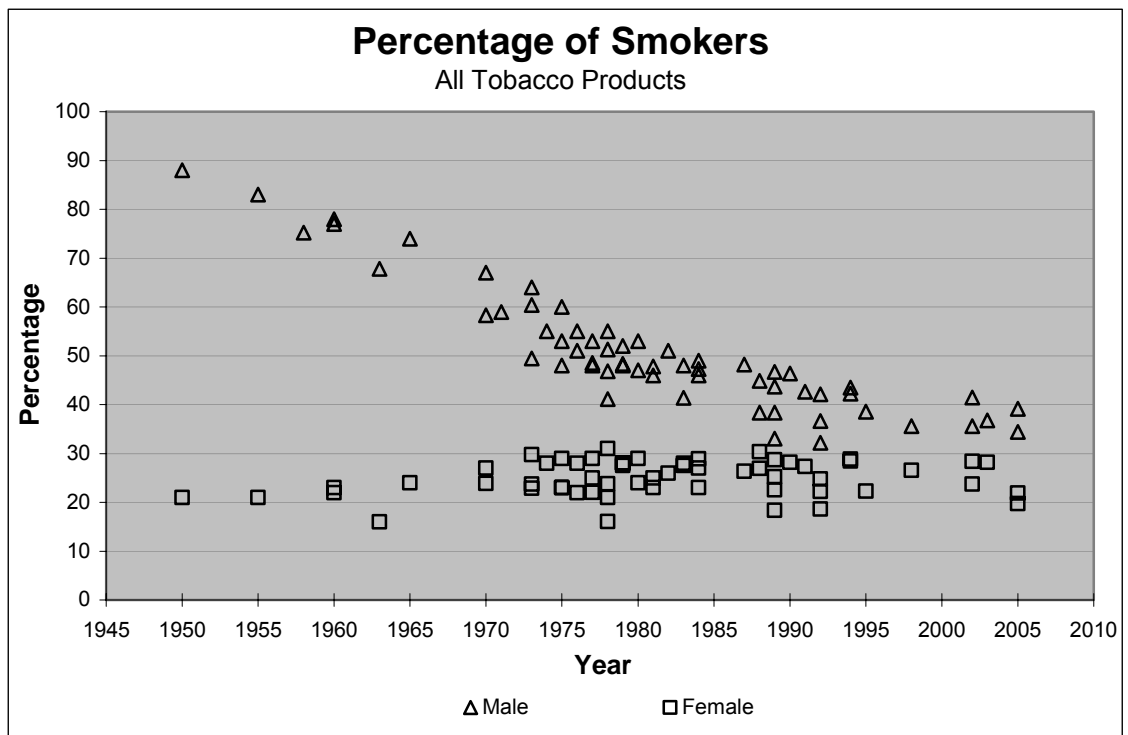
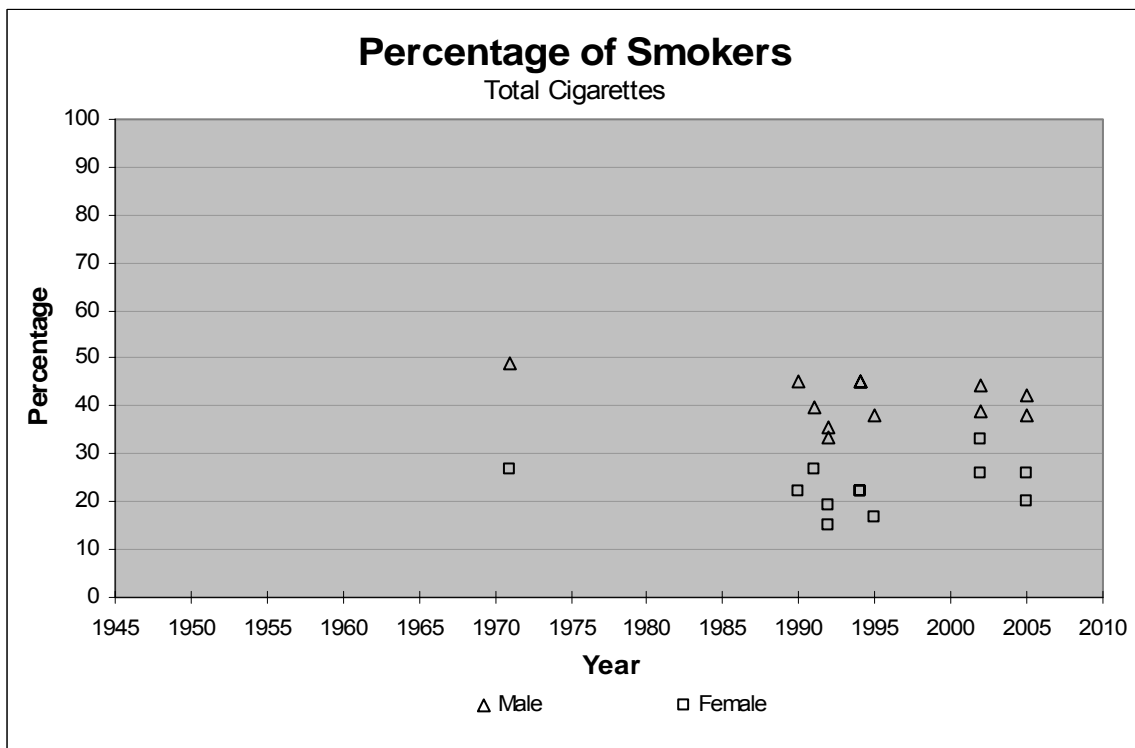
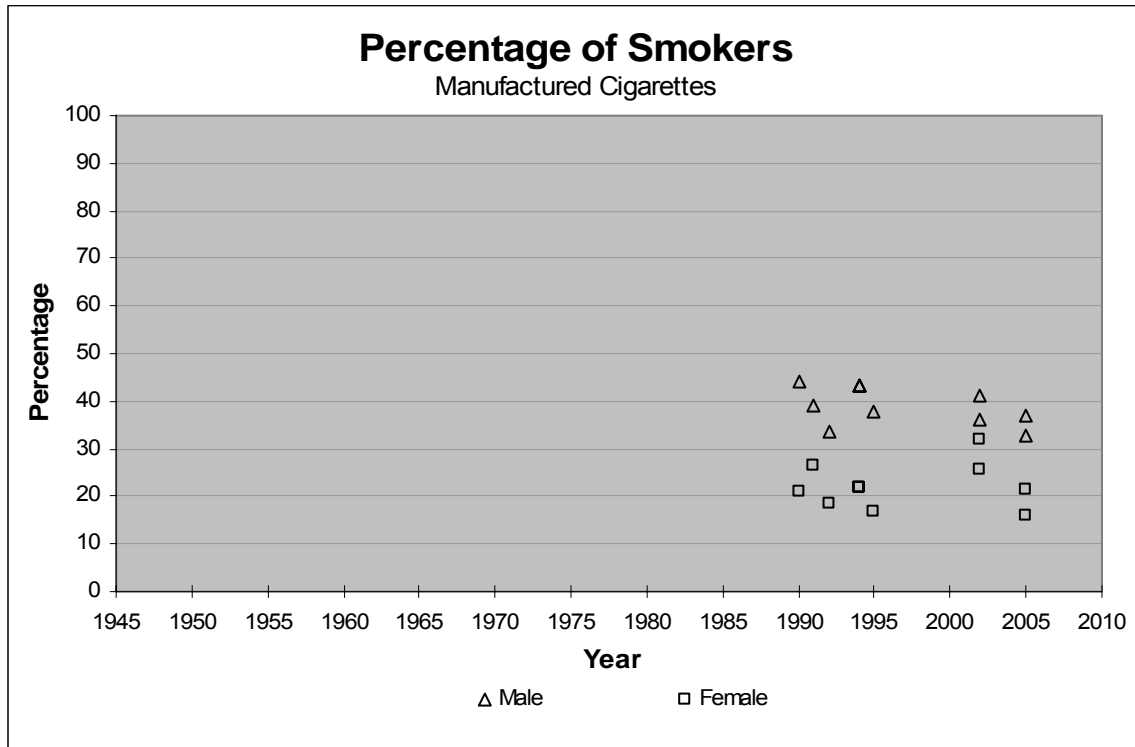


Figure 3 (continued/2)

East Germany



East Germany (continued)

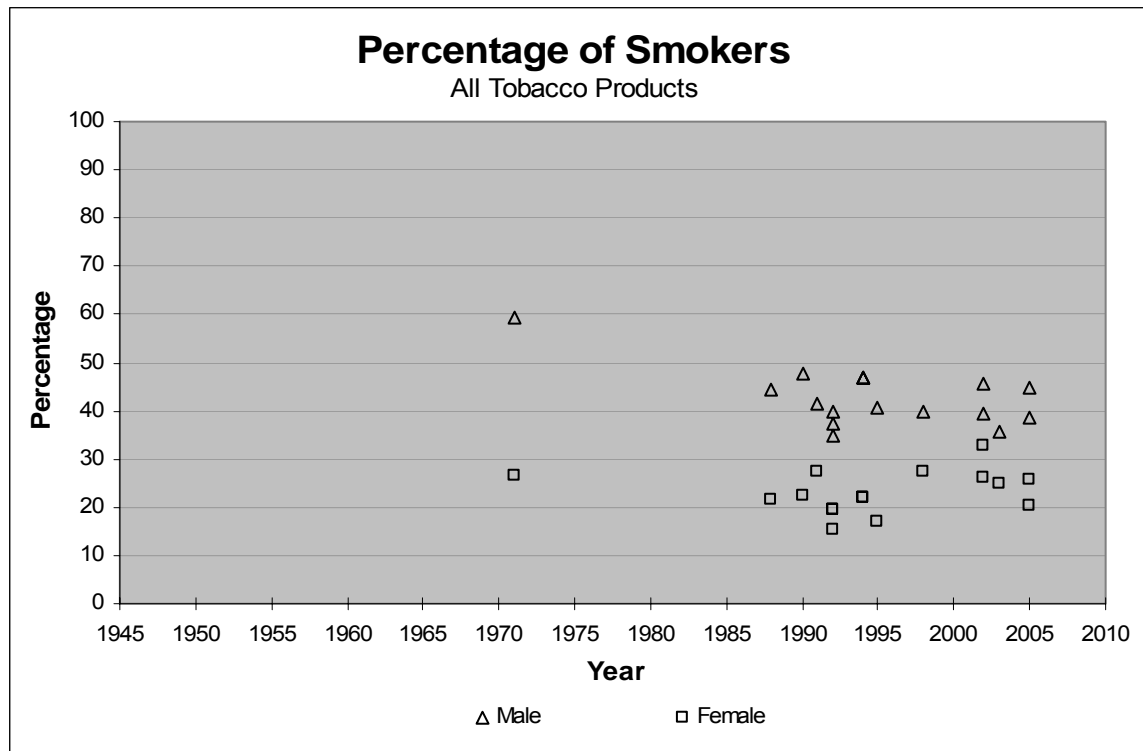
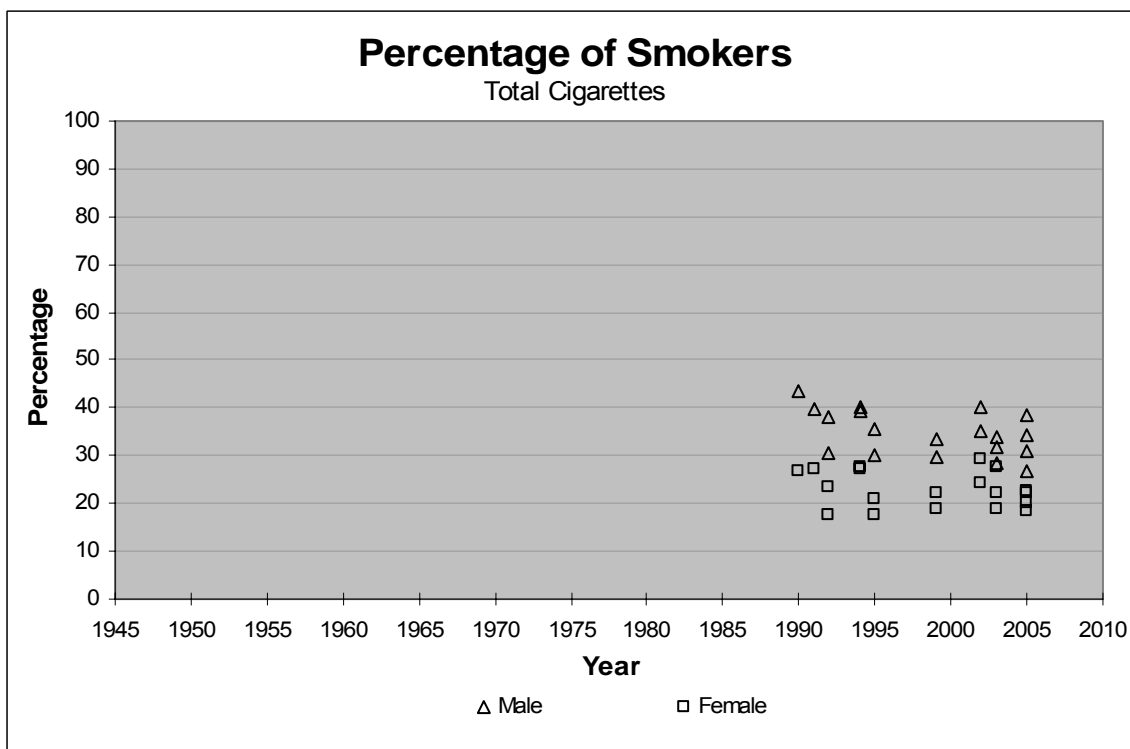
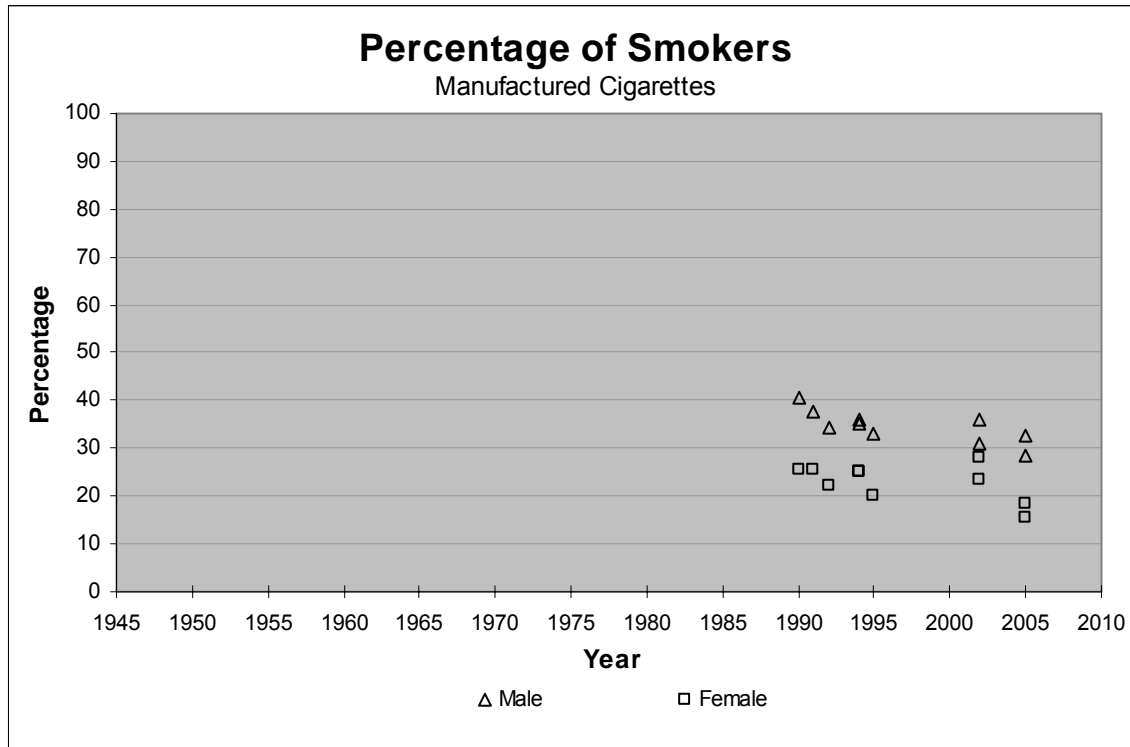
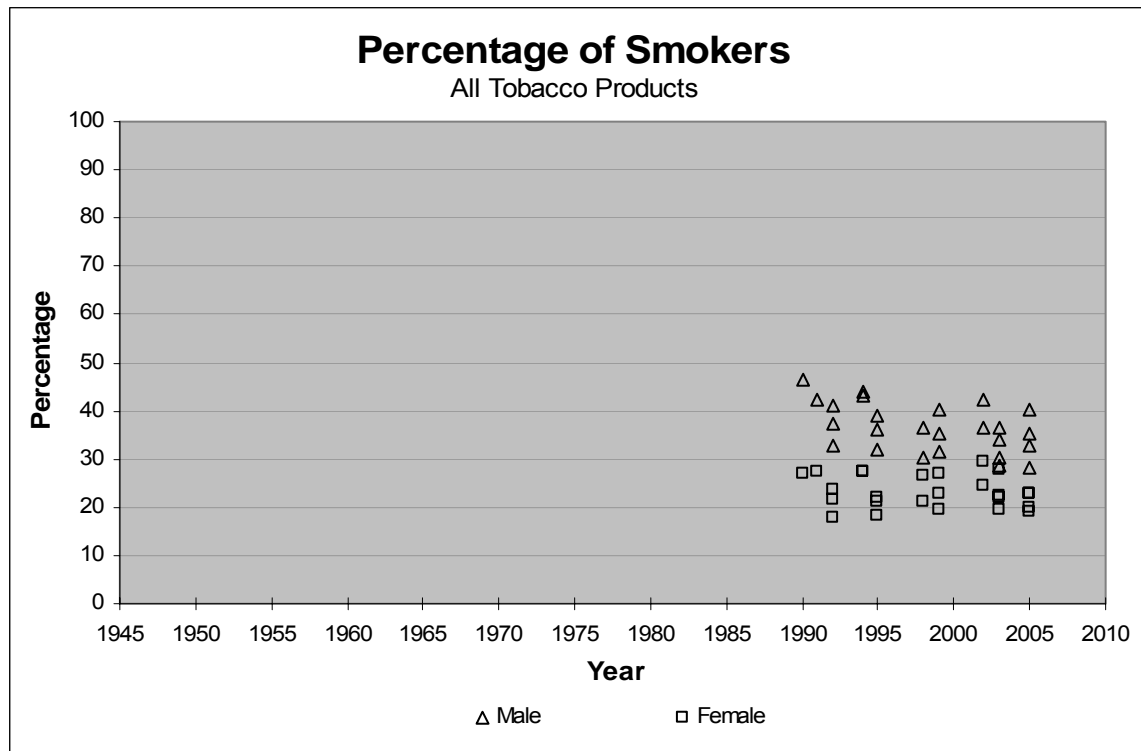


Figure 3 (continued/4)

Germany



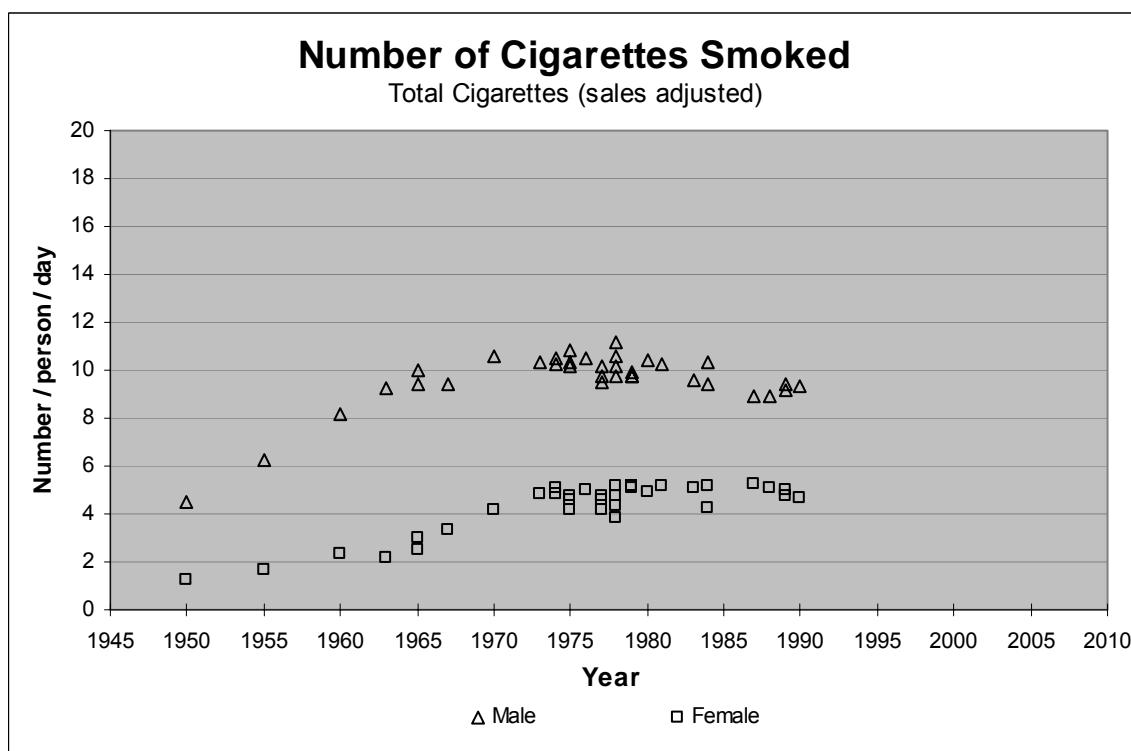
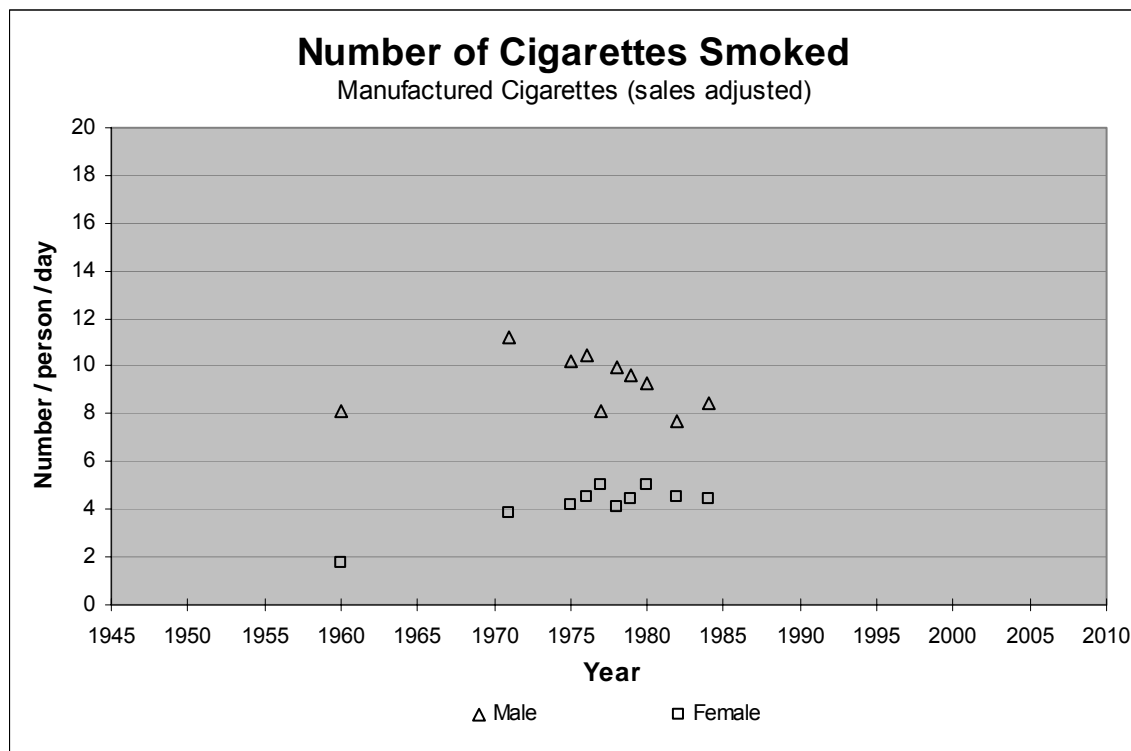
Germany (continued)



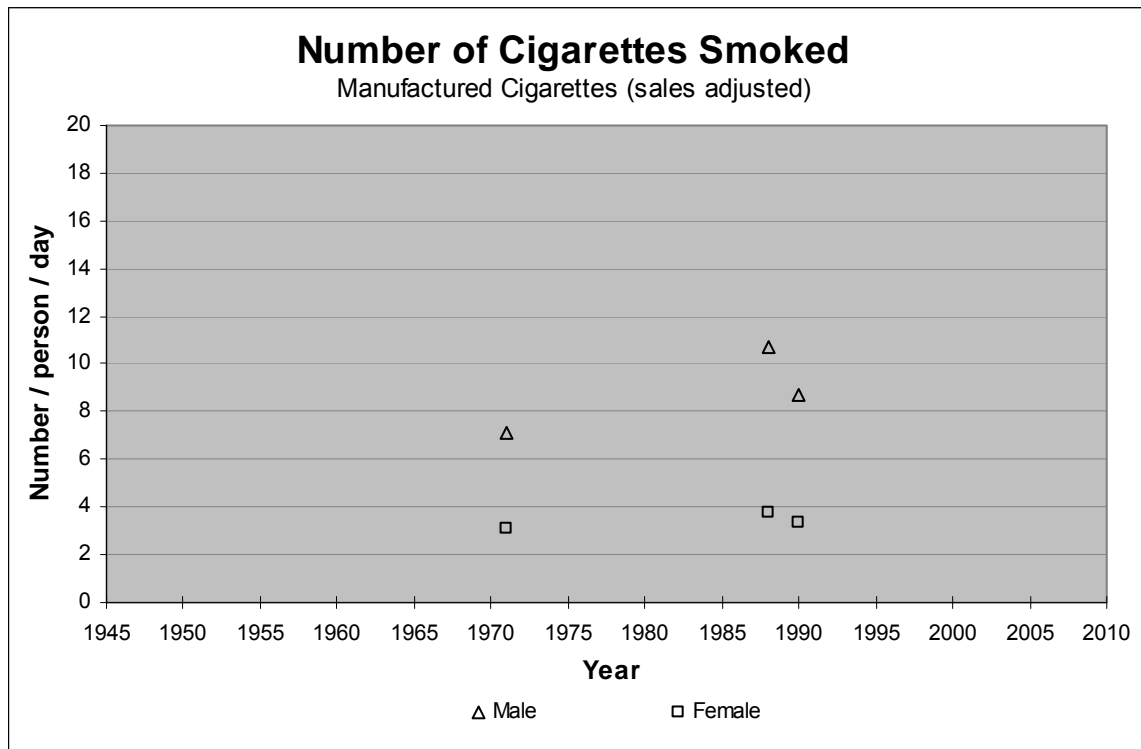
Source: Table 8

**Figure 4** Estimated number of (i) manufactured cigarettes and (ii) total cigarettes smoked per person per day, sales-adjusted; by year of survey, 1950-2005  
Males and females aged 15 years and over

**West Germany**



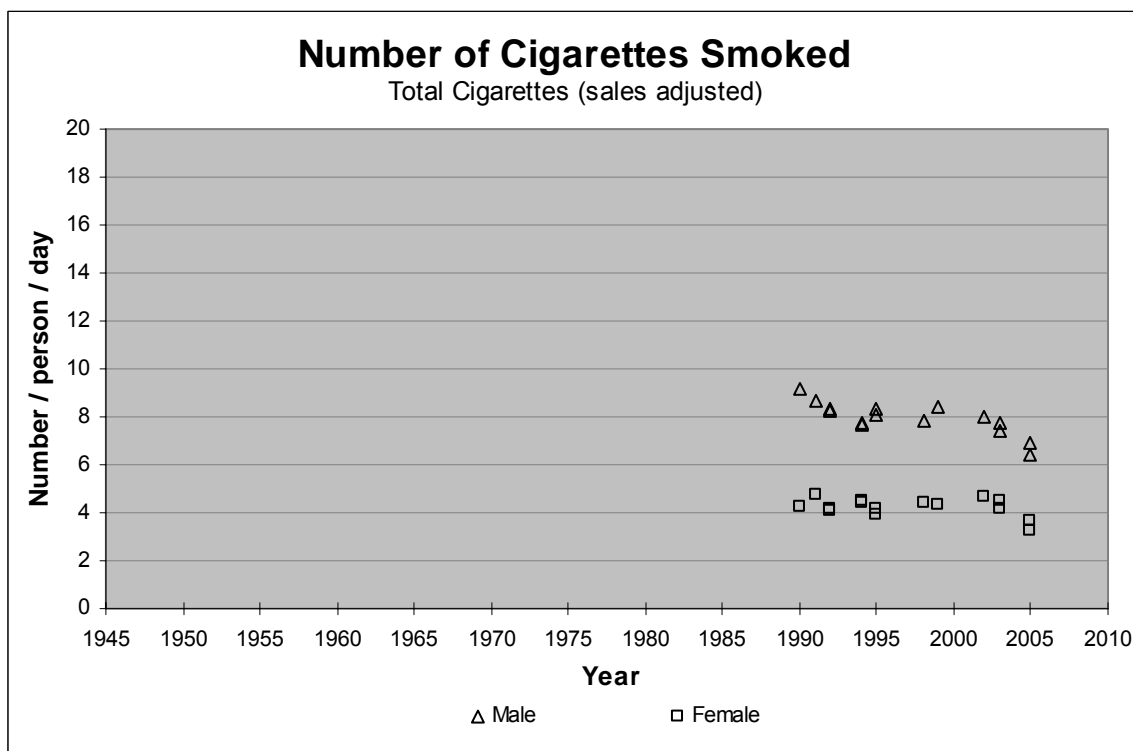
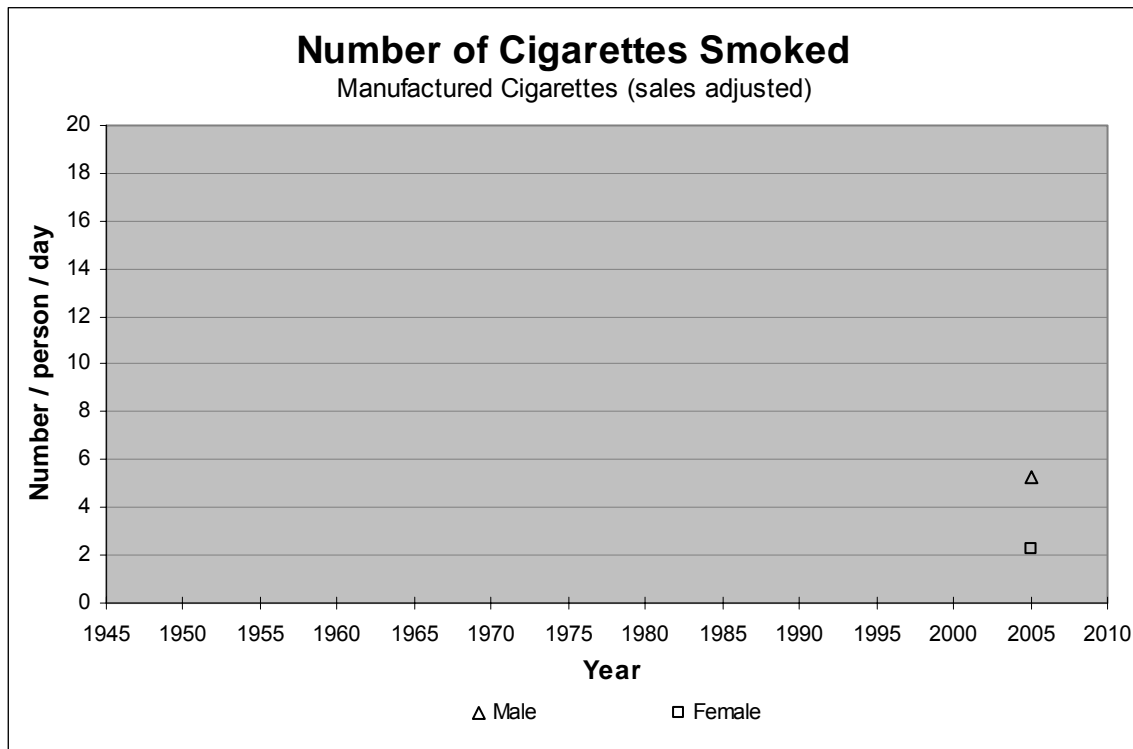
East Germany



Part ii not presented for East Germany due to lack of data

Figure 4 (continued/2)

Germany



Source: Table 8

## Notes

### Notes on sources of sales data

The data presented in the tables and figures were obtained from several sources, details of which are given below, together with estimations and related assumptions. Full citations of the sources are given on p. 78 under *References*.

#### *Sales data for 1906-1913, Germany*

##### Statistisches Bundesamt (b)

Data are given on manufactured cigarettes and fine-cut tobacco. Data for 1906 originally referred to a 9-month period and have been scaled up to be equivalent to a whole year.

Alternative data presented by Hutson (1937) include consumption of tobacco in various forms for 1913:

Product	tonnes
Cigarettes	12 110
Cigars	40 000
Smoking mixtures	26 370
Chewing tobacco	5 600
Snuff	4 900

Thus cigars accounted for 45% of consumption. Hutson noted that these data had been converted from pieces to weight assuming 1 g per cigarette, 5 g per cigar and 12.5 g per piece of chewing tobacco, but that “recent information” indicated that actual weights per piece may have been higher. Data for later years from this source are similar to those given by RP6 (see below).

#### *Sales data for 1925-1973, Germany and West Germany*

##### RP6, with additional data for 1949 from Statistisches Bundesamt (b)

We have followed Statistisches Bundesamt (b) in presenting data against ‘year starting on 1 April’, rather than against ‘year ending 31 March’ as in RP6. Data from 1950 are per calendar year. Data for 1950-1973 are for West Germany.

Data by weight, originally given to nearest 100 000 pounds, have been converted to tonnes and given to the nearest 10 tonnes (100 000 lbs =45.359 tonnes). Where weight conversion factors have been quoted in RP6, the weights have been re-calculated without rounding and then converted to tonnes.

Notes as given in RP6

(a) Details of the number of cigarettes and cigars and of the weight of fine-cut, pipe and other manufactured tobacco consumed were obtained from the following sources:  
1925-49 *Bevölkerung und Wirtschaft*, 1871-1957, published by the Western Germany Federal Statistics Office, Wiesbaden.

1950-63 Estimates from trade sources converted to a calendar year basis.

1964-73 *Finanzen und Steuern—Absatz von Tabakwaren*, published by the Western Germany Federal Statistics Office, Wiesbaden.

(b) Cigarettes consumption in pounds weight was estimated from the number of cigarettes consumed by using a conversion factor of 2.205 lbs per 1 000 up until 1949. From 1950 onwards the conversion factors were provided from trade sources. The conversion factors for cigars were obtained from trade sources for the whole period.

(c) The figures for 1948 onwards include cigarettes which were produced in West Berlin and represent the consumption of tobacco goods in Western Germany including West Berlin.

According to Statistisches Bundesamt, data for 1948 represent the consumption in West Germany without Baden, Württemberg-Hohenzollern, Saarland, and Berlin; data for 1949 represent West Germany without Saarland and Berlin; consequently, data on a ‘per adult’ basis have not been presented in Table 2 for those years. If estimated using the whole population of West Germany, consumption would have amounted to only 0.7 manufactured cigarettes and 0.4 hand-rolled cigarettes per adult per day in 1948.

Data for the number of cigarettes produced were also presented graphically by Borgers (1995) for 1932-1944. For 1932-1938, the data correspond closely to those shown in Table 1.1, and for subsequent years were approximately:

Year	Cigarettes (billions)
1939	57.5
1940	64.5
1941	64
1942	59
1943	52
1944	52

Difficulties in estimating consumption in the immediate post-war period were discussed by Proctor (1997a), including smuggling (e.g. an estimated 400 million American cigarettes per month in 1948), shipments under the Marshall plan, and home-grown tobacco.

#### *Sales data for 1974 onwards, West Germany and Germany*

Statistisches Bundesamt (a, 2008b)

Data in Table 1.2 are for West Germany up to 1989 and for Germany from 1991 onwards. No data are available for 1990 itself – unification took place during that year.

Data for cigarettes, cigars and cigarillos were given as numbers of pieces and have been converted to weights assuming an average of 0.98 g per cigarette and 6.2 g for cigars and cigarillos combined. These conversion factors were based on values in RP6, and may overestimate the average weight of cigars in recent years, as the proportion of cigarillos has increased (as shown for 1980-1988 in Table 1.2, and as reported by Bundesverband der Zigarrenindustrie (2007)).

Data refer to consumption, and are based on customs office returns. They do not make allowance for sales to tourists or for personal imports. Figures for fine-cut include tobacco rolls which became popular during the 1990s; in several European countries tubes with filters for filling with loose tobacco are available but in Germany tobacco rolls which easily fit into the tubes were also available. Originally this had a tax advantage over manufactured cigarettes but an increase in taxation in January 1996 removed much of the advantage of using this product (Tobacco Europe (1996)). Production of these ‘singles’ or ‘Steckzigaretten’ ceased in 2006 (Dow Jones International News (2005)).

Around 1999-2001, menthol cigarettes accounted for 1.3% of the total cigarette market (Giovino *et al* (2004) quoting ERC Group PLC (1999a, 1999b)).

Smokeless tobacco used in Germany is mainly dry snuff, taken by inhaling up the nostril. This has traditionally been used in the southern regions (i.e. Bavaria). It is now of very minor importance (Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) (2008))

#### *Sales data for 1960-1990, East Germany*

US Department of Agriculture (2008)

Data refer to domestic consumption of cigarettes. No data are available for consumption of other products in East Germany, although some indication can be found by comparing the West German data for 1989 with the (unified) German data for 1991. Due to lack of data on sales of other products and lack of any data on the average weight of cigarettes, data are not shown in Table 1, and we have not included estimates of the consumption of all tobacco products in Table 2.

#### *Estimates of smuggling*

Estimates of the levels of smuggling and illicit sales vary somewhat, but mostly show an increasing level since the mid 2000s. Connolly (1995) quoting ERC Statistics International (1988) estimated that 10% of consumption in the former East Germany had been contraband. According to Merriman *et al* (2000) quoting estimates by “expert sources”, smuggling represented 10% of domestic sales in 1995, and the same figure was given by Joossens and Raw (1998). According to Tobacco Journal International (1999), cross-border trade accounted for 8-10% of cigarette and fine-cut sales in 1994-1998. The German News Digest reported in 2004 that 5% of the cigarettes in Germany were traded on the black market. In 2006, they quoted Philip Morris Germany stating that the share of the smuggled cigarettes in Germany was almost 18%, and in 2008 they quoted Reemtsma Cigarettenfabriken GmbH stating that the share had risen from 12% in 2004 to 20% in 2007 (German News Digest (2004, 2006, 2008)). According to the Verband der

Cigarettenindustrie (VdC), smuggling levels were higher in the east than the west, with 33% vs 13% respectively at the end of 2005 (Lebensmittel Zeitung (2006), von Lampe (2006)).

#### *Estimates of numbers of hand-rolled cigarettes, West Germany and Germany*

We have taken as our estimate of hand-rolled cigarette consumption:

before 1961, 70% of fine-cut tobacco sales, at 1 g per cigarette.

1961-1988, 90% of cigarette paper sales.

1989 onwards, 80% of fine-cut tobacco sales, at 0.8 g per cigarette.

These estimates were based on sometimes conflicting information (discussed below). Estimates for 1985-1988 would have been similar had the later method been used.

Although fine-cut tobacco (listed separately from pipe tobacco) would be expected to be used predominantly in hand-rolled cigarettes, the data on sales of cigarette papers suggest that consumption of hand-rolled cigarettes was in fact lower, particularly until the mid-1970s.

Alternative estimates for consumption of fine-cut tobacco were given by Merzdorf *et al* (1982) (not shown). For 1960-1969, these were estimated on a basis of 80% of fine-cut tobacco at 1g per cigarette, and for 1970-1979 they were supplied by the tobacco industry. These estimates initially exceed our estimates (by around 50% in the mid 1960s), but then fall relatively, and are lower than our estimates for 1976-1979, when they amount to around 86% of sales of cigarette papers.

Dymond (1996) gave mean weights of hand-rolled cigarettes in Germany as 822 mg (1977), 800 mg (1988) and 778 mg (1994), based on consumer studies involving about 600 subjects per study. In a later study of 135 consumers, he reported a mean weight of 830 mg, with a range from 440 to 1580 mg per respondent (Dymond (1999)). A CORESTA study in 1994 of 40 consumers gave a mean weight of 860 mg, and a study in 1995 using pre-made filter tubes gave a weight of 964 mg (Coresta task force on roll-your-own (fine cut) tobacco (1999)). They also reported that 70% of consumer-made cigarettes were made by simple hand-rolling, 10% by machine-rolling and 20% by tubing, with 10% using loose filters. Use of tobacco rolls has already been discussed (see *Sales data for 1974 onwards, West Germany and Germany*, p. 64)

No information on smoking of hand-rolled cigarettes is available for East Germany.

#### *Plain/Filter cigarette sales*

##### *Consumption:*

West Germany (except 1982-1983) and Germany: Maxwell, Jr. (Successive years)

West Germany 1982-1983: Todd (1986)

East Germany: Wilde, *et al* (1990)

##### *Production:* (all regions): US Department of Agriculture (2008)

Weber (1972) gives similar results for West Germany for 1961 (70%) and 1971 (84.5%), and also gives some earlier data (approximate data read from graph): 46% in 1958, 56% in 1959 and 62% in 1960.

#### *Tar and nicotine machine yields of cigarettes*

##### *West Germany:*

1961-1975 Timm (1976)

Although tar yield is usually expressed as dry yield, this is not available before 1966 and so both dry and moist values are given to show the earlier trend. Estimates from 1967 onwards were based on at least 80% of the market, with 99% in 1974.

1978-1982 Klus (1986) quoting unpublished data from VdC.

Data read from graph. Not stated whether moist or dry, but data from this source for earlier years are similar to those from Timm (1976) for dry SWAT.

1985 Junge *et al* (1989)

East Germany and Germany: No data available.

Tobacco Europe (1996) states that the share of the cigarette market for low tar cigarettes in Germany grew from 19.4% in 1991 to 28.6% in 1995. In former East Germany this grew from 4.6% in 1991 to 18.3% in 1995. Former West Germany's low tar share passed 30% in 1995.

In 1965, the yields per filter cigarette were limited to 25 mg of tar and 1.5 mg nicotine under a voluntary agreement with the German tobacco industry (Weber (1972)). The tar yield per cigarette

was limited by EC directive (Directive 90/239/EEC) to 15 mg by the end of 1992, and to 12 mg by the end of 1997 (Harkin *et al* (1997)). From the start of 2004 cigarette yields were further limited by EU directive (Directive 2001/37/EC) to 10 mg tar, 1 mg nicotine and 10 mg carbon monoxide (ASPECT (Analysis of the Science and Policy for European Control of Tobacco) Consortium (2004)).

### *Sales of cigarette papers*

Statistisches Bundesamt (a)

### Notes on sources of survey data

Each source of survey data—either an individual survey or a series of surveys repeated over a number of years—is cited by a source number. This number is shown in the tables and corresponds to the source numbers given below, where details of the source publication and of the survey methodology are given. Sources 1-42 relate to West Germany, sources 43-66 to East Germany, and sources 67-77 to both areas. Full citations of the sources are given on p. 78 under *References*.

Since unification in 1990, some nationally based surveys have continued to present results for West and East Germany separately as well as combined, and we include those results (e.g. source 71 Der telefonische Bundes-Gesundheitssurvey, and sources 72/73 Eurobarometer); where others now publish results only for the whole country and the individual Länder, we include only the combined data and have not attempted to make regional estimates (e.g. source 67 Mikrozensus). No sales adjustment has been done (Tables 6-8) for the separate regions after unification.

### Source number

#### *West Germany*

- 1 Baric (1980), Erben (1980), Institut für Markt- und Werbeforschung (IMW) (1981), Junge *et al* (1989)**
  - a. Representative studies carried out on behalf of BZgA (Bundeszentrale für gesundheitliche Aufklärung, Köln (Federal Centre for Health Education)) by IMW. Sample size 2 000.
- 2 IMW (1979)**
  - a. Cigarette smokers: (combination of two categories) smoked cigarettes regularly (5 or more per day) and occasionally (up to 4 per day). Presumably there were no female smokers of products other than cigarettes.
- 3 Todd (1986), quoting EMNID-Institut**
  - a. Smokers: includes occasional smokers 'smoking now and then'.
  - b. Assumed extension to age distribution for percentage smokers, age 15: (1970 only) males 20% and females 15%.
- 4 Todd (1986) quoting IMW (1984)**
  - a. Consumption category estimation by Todd (1986) based on individual number of cigarettes up to 20, then 21-29, 30-39, 40-49, 50+ cigarettes/smoker/day.
  - b. Calculation of consumption per person based on percentage smokers including occasional smokers and number of cigarettes per regular cigarette smokers (1+ cigarettes per day). Therefore they may overestimate.
- 5 Junge *et al* (1989)**
  - a. Three nationally representative studies 'Umwelteinwirkungen und Beschwerdehäufigkeiten'.

Year		Sample size	
		Males	Females
1967	(May-Sep)	711	964
1974	(Jun-Aug)	733	920
1985	(Aug-Nov)	557	648

First two studies conducted by interviewer – included 32 questions related to smoking.  
Third study used shortened questionnaire (included five smoking questions) and was sent by post.

- 6 Le Meitour-Kaplan (1977), quoting Bundesminister für Jugend Familie und Gesundheit (1974), and WHO (1975)**
- WHO estimates presumably quoting two different surveys (see also source 7).
  - Assumed extension to age distribution for percentage smokers, age 15-19: males 45% and females 27%; age 65+: males 45% and females 10%.
- 7 WHO (1975)**
- Cigarette only smokers. Age group unclear.
  - Assumed extension to age distribution for percentage smokers, age 15-19: males 40% and females 26%; age 65+: males 30% and females 10%.
- 8 Koschorreck *et al* (1973)**
- Representative study in school boys in Bruchsal, North Baden. Anonymous questionnaires completed with teachers absent. Sample size 898, participation rate 98%.
  - Results presented here have been adjusted to exclude the 12% of pupils unclassified on smoking.
  - Consumption category estimation based on 1-9, 10-29, 30+ cigarettes/smoker/week.
- 9 Le Meitour-Kaplan (1977)**
- Data taken from 'Official records of the German Federal Centre for Health Education'.
- 10 Todd (1986)**
- Estimated by Todd.
- 11 Merzdorf *et al* (1982), quoting Institut für Demoskopie Allensbach (IFD) (1965, 1978, (1973-1979)), and Tobacco International (1980)**
- Survey details are only available for 1980: Representative cross-section of West Germany, sample size 3 542.
  - Assumed extension to age distribution for percentage smokers, age 15: (A and UC) (1973 only) males and females 15%.
- 12 Merzdorf *et al* (1982), quoting DIVO (1958, 1966, 1974) (no details)**
- Assumed extension to age distribution for percentage smokers, age 15: males (1958, A and UC) 20%, (1965, 1974) 15%; females (1965, 1974) 10%. For age 80+: males (1958, A) 50%, (1958, UC) 40%, (1965, 1974) 30%; females (1965, 1974) 5%.
- 13 Merzdorf *et al* (1982), quoting tobacco industry**
- Cigarette smokers: smoked at least one manufactured cigarette per day.
- 14 Readers Digest (1963)**
- Series of surveys conducted in European countries using identical questionnaires. West German survey conducted by IFD. Random sample of about 2 000 people.
  - It is also reported that 15% of men (10% age <40 and 19% age 40+) smoke a pipe, and that 27% of men (13% age <40 and 36% age 40+) smoke cigars.
  - Assumed extension to age distribution for percentage smokers, age 15-20: males (A) 50%, (UC) 45%; females 16%.
- 15 Merzdorf *et al* (1982), quoting Burda-Verlag (1967, 1976)**
- Assumed extension to age distribution for percentage smokers, age 70+: males 40% and females 10%.
- 16 Merzdorf *et al* (1982), quoting Spiegel-Verlag (1971, 1978)**
- Assumed extension to age distribution for percentage smokers, age 15-19: (A) males (1971) 45%, (1978) 40% and females (1978) 28%; (UC) males (1971, 1978) 40% and females (1978) 27%. For age 65+: (A) males (1971) 45%, (1978) 40% and females (1978) 8%; (UC) males (1971) 35%, (1978) 30% and females (1978) 8%.
- 17 Merzdorf *et al* (1982), quoting Stern (1977)**
- Assumed extension to age distribution for percentage smokers, age 65+: males (A) 40%, (UC) 30%; females 8%
- 18-19 Laaser *et al* (1977)**
- Study in Cologne schools – 23 Gymnasien (grammar schools) and 17 Berufsschulen (vocational schools). Sample size 6 302.
  - Age-specific prevalence shown in Table 4 as source **18** based on Gymnasien, **19** on Berufsschulen, taken from graph. Results shown in *All ages* column and other tables based on both school types combined.

**20 Harreis *et al* (1980)**

- a. Study in 35 schools, 29 of which were in Baden-Württemberg. Lower age limit 10. Sample size 9 080, response rate 91%.
- b. Results are also available by school type for age 10-14, showing lower prevalence in Gymnasien than other types.

**21 Letzel and Johnston (1984)**

- a. Nationally representative survey, field work conducted by a commercial research institute, face-to-face interviews. Sample size 1 670.
- b. Assumed extension to age distribution for percentage smokers, age 66+: males 35% and females 8%.

**22 Aarø *et al* (1981), quoting Tölle (1974)**

- a. Survey in "a larger town". Year unknown. Age 10-18.

**23-26 Tolonen *et al* (2000), Kuulasmaa *et al* (1998), Wolf *et al* (1998), Molarius *et al* (1999)**

- a. Surveys in four regions carried out in three phases, forming part of WHO MONICA Project:

Region*	Phase	Participation rate (%)**		Sample used		Date
		Males	Females	Males	Females	
23 Bremen (a)	1	73	69	812	852	May 1984-Nov 1984
24 Rhein-Neckar Region (Heidelberg)	1	78	79	1 488	1 606	Sep 1983-Jul 1987
25 Augsburg (urban)	1	83	78	922	880	Oct 1984-May 1985
26 Augsburg (rural)	1	84	85	1 094	1 111	Oct 1984-May 1985
23 Bremen (b)	2	72	69	1 054	1 113	May 1988-Nov 1988
25 Augsburg (urban)	2	78	77	878	895	Oct 1989-Jun 1990
26 Augsburg (rural)	2	80	82	1 074	1 102	Oct 1989-Jun 1990
23 Bremen (b)	3	68	67	1 058	1 110	May 1991-Jan 1992
25 Augsburg (urban)	3	75	76	837	863	Oct 1994-Jul 1995
26 Augsburg (rural)	3	82	84	1 068	1 131	Oct 1994-Jul 1995

\* Bremen (b) comprises 2 study centres, one of which is Bremen (a).

\*\* Participation rate refers to age 35-64 only, except for Bremen (a) where it refers to age 25-69.

Non-German citizens were excluded except in the Rhein-Neckar region. Bremen used self-administered questionnaires, other centres used interviews. See also sources 57-61 for MONICA centres in East Germany.

- b. *All ages* column relates only to age 35-64 and is standardized to world population.
- c. Regular cigarette smokers: smoked cigarettes daily. All smokers: smoked cigarettes daily or occasionally, or smoked 1 g pipe tobacco or 1 cigar per week. Cigarettes per smoker refers to regular and occasional cigarette smokers.
- d. For Bremen, a non-standard questionnaire was used (identical in all 3 phases) which did not allow regular and occasional smokers to be separated. Results for smoking of all products have been omitted for phase 1 due to increased proportions of missing data. An increase in missing data was also noted in phases 2 and 3 for cigarettes per smoker, and results (marked \* against source in Tables 5-6) should be regarded with caution.
- e. For phase 1, there are minor discrepancies between the data shown in Table 4 and equivalent data taken from WHO (1989) used in earlier editions of this report.

**27 Malhotra (1978) quoting Luban-Plozza and Knaak-Sommer (1972)**

- a. Study in Hamburg schoolchildren, year uncertain. Lower age limit 10.

**28-29 von Harnack *et al* (1967)**

- a. Anonymous questionnaire study in 47 schools of all types in Hamburg, urban, shown as source 28, and Düren, rural, shown as source 29. Sample size 6 408.
- b. Consumption category estimation based on 1-7, 8-14, 15-49, 50-99, 100+ cigarettes/smoker/week.

**30 Bach and Bach (1968)**

- a. Anonymous questionnaire survey in small town schools in Kirchain/Mittlehessen. Sample size 712, response rate 99%. The proportions attending different school types and their age ranges were:

School type	% of sample	Age range
Gymnasium	50	12-21
Realschule	35	12-18
Volksschule	15	12-15

- b. The prevalence of smoking was 41% for sexes combined, not reported separately. Among smokers, 72% of boys smoked cigarettes, 19% pipes and 8% cigars, while all girls smoked cigarettes.
- c. Consumption category estimation based on  $\leq 5$ , 6-9, 10-20 and 21+ cigarettes/smoker/day.
- 31 Bayerische Staatsministerien des Innern und für Arbeit und Sozialordnung (1982)**
- a. 'Youth asks youth', series of surveys in Bavaria. Sample size (1973) 2 676, (1976) 2 441, (1980) 2 033.
- b. Smokers: smoked at least occasionally.
- 32 Malhotra (1978) quoting Benad (1973)**
- a. Nationwide representative study.
- b. The prevalence of smoking (sexes combined, age 12-25) was 51%.
- c. Probably the same source as source 68, although there is a discrepancy in the lower age limit.
- 33 Malhotra (1978) quoting Malhotra (1977)**
- a. Study in Wuppertal schoolchildren, 1974-1975.
- 34 Mohl (1979)**
- a. Representative study in West Germany including West Berlin, conducted by GfK (Gesellschaft für Konsum-, Markt-, und Absatzforschung e.V., Nürnberg). Year not stated. Sample size 3 945.
- b. Assumed extension to age distribution for percentage smokers, age 15: males and females 12%. For age 70+: males 25% and females 6%. Number of cigarettes/smoker/day, age 15: males and females 0.5. For age 70+: males 3.0 and females 0.5.
- 35 Lippert *et al* (1980)**
- a. Pilot study in schools (Gymnasien and Hauptschüler) before an intervention project in Berlin. School grades 7-9, predominantly aged 13-15. Sample size 818
- b. Smokers marked as frequency \*: smoked daily. All smokers: smoked daily or occasionally. Cigarettes per smoker based on smokers of 1+ cigarettes per week.
- c. Consumption category estimation based on 1-4, 5-9, 10-19 and 20+ cigarettes/smoker/week.
- 36 Hoffmeister *et al* (1994), Rothenbacher *et al* (1996), Junge and Nagel (1999)**
- a. German Cardiovascular Prevention Study (GCP). Nationally representative samples (West Germany including West Berlin). Subjects invited for physical examination and completed self-administered questionnaire. Results weighted to adjust for non-participation.
- | Midpoint<br>Year | Dates             | Sample size |         | Participation<br>rate (%) |
|------------------|-------------------|-------------|---------|---------------------------|
|                  |                   | Males       | Females |                           |
| 1985             | Jun 1984-May 1986 | 2 417       | 2 373   | 67                        |
| 1988             | Sep 1987-Aug 1989 | 2 649       | 2 686   | 71                        |
| 1990             | Apr 1990-Apr 1991 | 2 623       | 2 688   | 69                        |
- b. Results are also presented in the 'Germany' section of the Tables under this source number, based on combined data from the West German 1990-1991 survey and the East German 1991-1992 survey (source 66).
- c. There are slight discrepancies in the prevalence reported by the different sources.
- d. Consumption category estimation (1988) based on 1-9, 10-19, 20+ cigarettes/smoker/day. Consumption per smoker (1990) refers to regular and occasional cigarette smokers.
- e. Calculation of cigarettes per person based on percentage of smokers (unspecified) and cigarettes per cigarette smoker, and should be regarded with caution.
- 37 Scheuermann *et al* (1991)**
- a. BRUKAMOS study, conducted in Bruchsal, Karlsruhe and Mosbach. Sample size 3 737
- b. Smokers: smoked at least 1 cigarette per day, or smoked pipe or cigars.
- c. Calculation of cigarettes per person based on percentage of smokers of all products, and number of cigarettes per cigarette smoker, so may overestimate.
- 38 van Reek *et al* (1992), van Reek and Adriaanse (1995)**
- a. A series of surveys of Young Europeans. About 800 children aged 11-15 years interviewed in each EC country except Luxembourg (where only 250 interviewed). Lowest age group 11-12. Interviews conducted at home, with parents absent.
- b. Smokers marked as frequency \*: smoked daily. All smokers: smoked at least once a week.

**39 Weiland *et al* (1994)**

- a. Random sample of schoolchildren in the city of Bochum, school grades 7 and 8. Anonymous questionnaire covering respiratory health and active and passive smoking, completed in class with survey administrators present. Part of a study of asthma. Sample size (males) 978, (females) 1 072.
- b. Smokers marked as frequency \*: smoke 1+ cigarettes per day. All smokers: smoked in last month.
- c. Consumption category estimation based on two categories, 1-10 and >10 cigarettes/smoker/day, and resulting figures should be regarded with caution.

**40-41 Scholz and Kaltenbach (1995)**

- a. Study in 2 cities, Offenbach (1991-1992) and Hanau (1992). 31 schools of all types. Anonymous questionnaire on smoking, alcohol and drugs. Sample size 2 979.
- b. Results shown as source **40** relate to inner city, **41** to suburbs.
- c. Table 4 shows approximate age corresponding to school grade 7.
- d. Smokers marked as frequency \*: smoked daily.

**42 Maziak *et al* (2003)**

- a. Surveys conducted in Muenster, in 1994-1995 and 1999-2000 using identical protocols, as part of the ISAAC project. Schools randomly selected from all city schools. Anonymous questionnaires completed at school.

	Sample size			Pupil participation rate (%)
	Schools	Boys	Girls	
1994	35	1 960	1 974	94
1999	36	2 002	2 026	94

- b. Smokers marked as frequency \*: smoked daily. All smokers: smoked in last month.
- c. Consumption category estimation based on two categories, 1-10 and >10 cigarettes/daily smoker/day, and resulting figures should be regarded with caution.

**East Germany****43 Heinemann *et al* (1995)**

- a. Estimates compiled by combining various cross-sectional studies, or baseline of cohort or intervention studies. Results are age-adjusted to 1984 population of West Germany.

Mid-point*	Year	Reference	Area
1960	1960	Werner (1961)	Wurzen, semi-rural
1971	1968	Böthig (1974)	Berlin-Mitte, urban
	1970	Thiele <i>et al</i> (1974)	Sternberg, semi-rural
	1970	Wolff (1981)	Gnoien, urban
	1971	Hüttner <i>et al</i> (1972b, 1972a)	Berlin-Treptow, Friedrichshain, urban
	1974	Barth <i>et al</i> (1978)	Berlin-Lichtenberg, urban
	1974	Faulhaber (unpublished)	Berlin-Pankow
	1974	Knappe (unpublished)	Erfurt (Kaunas-Rotterdam intervention study)
	1977	1975/1976	Gräfner (1979)
1977	1976	Heinemann <i>et al</i> (1984), Eckstein <i>et al</i> (1983), Eckstein (1986)	2 studies in Schleiz and Dippoldiswalde, rural
	1976	Heinrich (unpublished)	Erfurt (Unformtechnik), urban
	1977	Heinrich (unpublished)	Erfurt (Optima), urban
	1975-1979	Hartung and Hartung (1984)	Chemnitz, urban
1984	1982-1984	Heinemann (unpublished)	Multi-centric CANON-Studie, urban and rural
	1984-1985	Heinemann <i>et al</i> (1988), Heinemann (1988)	Multi-centric MONICA I study, urban and rural
1988	1988-1989	MONICA East Germany Team (1993)	Mult-centric MONICA II study, urban and rural
1991	1991-1992	HIES-Team (1992)	HIES representative survey, urban and rural

\*used in Table 4

- b. Regular smokers: smoked more than 1 cigarette per day, based on different questionnaires in the various studies.
- c. Some of the studies included here are also presented as separate sources.

**44 Zuber and Zuber (1973)**

- a. Anonymous study among pupils at all schools, including vocational school, in Zeulenroda, Ostthüringen. Lower age limit 10. Sample size (males) 710, (females) 663.
- b. Cigarette smokers marked as frequency \*: smoked daily. Regular cigarette smokers: smoked weekly. All smokers: smoked cigarettes weekly, or smoked pipe or cigar.
- c. Consumption category estimation based on 1-5, 6-10, >10 cigarettes/smoker/day, males only. All regular female smokers smoked 1-5 cigarettes, except one who smoked 6-10.

**45 Reissig (1977, 1989)**

- a. Longitudinal studies conducted by Zentralinstitut für Jugendforschung in Leipzig school pupils. Sample size (first study 1968-1975) 600.
- b. Table 4 shows approximate ages corresponding to school grades 8-10 (except 1975 when the subjects were in the 12<sup>th</sup> grade, or were apprentices or students).
- c. Smokers marked as frequency \*: smoked daily. All smokers: smoked daily or occasionally.
- d. Consumption category estimation (1975 only) based on occasional (assume 0.5), 1-3, 4-10, 11-15, 16-20, 21+ cigarettes/smoker/day.

**46 Geizerova and Masironi (1988)**

- a. No original source. Age group not stated for 1971 data, assumed same as for 1983.

**47 Hüttner *et al* (1972a, 1972b)**

- a. Representative survey in East Berlin. Sample size 4 983.
- b. Cigarette smokers: smokers who smoke predominantly cigarettes.
- c. Consumption category estimation based on 1-4, 5-9, 10-20, 21+ grams/smoker/day.
- d. Assumed extension to age distribution for percentage smokers, age 15-17: males 30% and females 15%. Number of cigarettes/person/day: males 3.0 and females 1.0.

**48-49 Herrmann and Liehs (1977)**

- a. Cross-sectional study comprising interview and medical check.

	Location	Year	Sample size	
			Males	Females
<b>48</b>	4 towns—Halle, Erfurt, Schwerin, Freiberg (males only)	1971 (males), 1973 (females)	8 369	2 505
<b>49</b>	21 towns	1973	13 807	8 324

- b. Source 48 – results marked with \* against source: Some results were available only for Halle (the age-specific proportion of male smokers who smoke cigarettes or mixed products but not pipe/cigars only), or for Halle, Erfurt and Schwerin (average consumption of tobacco, grams per smoker per day); these have been combined with the prevalence of smoking in the 4 towns to estimate age-specific prevalence of cigarette smoking (Table 4) and the consumption per person (Table 6).

**50 Reissig (1977)**

- a. Study among young workers in Berlin, Leipzig, Karl-Marx-Stadt and Rostock. Stated to be “approximately representative of the working youth of the GDR”. Sample size 4 000.

**51 Wuthe *et al* (1977)**

- a. Part of a study of lung function in schoolchildren in Berlin-Karow. Confidential interview. Ages 6-16 studied, but only results for age 12-16 presented here. Year not stated. Sample size for age 12-16 (males) 210, (females) 164.
- b. Smokers marked as frequency \*: smoked 1+ cigarettes per day.
- c. Most data taken from chart.

**52 Schlegel and Schulz (1987) quoting Eisenblätter *et al* (1982, 1995) (no details)**

- a. Study in Berlin-Pankow, 1977-1978.
- b. Definitions assumed to be the same as for source 56. Smokers marked as frequency \*: smoked daily. Regular smokers: smoked >1 cigarette per week. All smokers: smoked >1 cigarette per month.

**53 Keyl (1979)**

- a. Interview study in school pupils in a rural district. Table 5 shows approximate ages corresponding to school grades 8-12. Sample size (males) 768, (females) 734.
- b. The prevalence of smoking was 41% for both sexes; sex-specific results varied between approximately 50-75% for boys and 25-50% for girls for the individual schools, but overall prevalence estimates could not be derived.
- c. Consumption category estimation based on <3 (assume 1-3), 4-5, 6+ cigarettes/smoker/day, omitting occasional smokers.

**54 Krecklow (1987)**

- Anonymous questionnaire study in Waren. Sample size (1981, age 12) 1 348, (1985, age 16) 613.
- Smokers marked as frequency \*: smoke 1+ cigarettes per day. All smokers: smokes occasionally or 1+ cigarettes per day.
- Consumption category estimation (age 16 only) based on 1-5, 6-10, 11+ cigarettes/smoker/day.

**55 Piorkowski and Piorkowski (1983)**

- Anonymous questionnaire study in 15 schools in Cottbus county. Questionnaires completed at home after classes on the dangers of smoking. Year not stated. Sample size for grades 5-10 (males) 1 679, (females) 1 541.
- Tables 4-6 show approximate ages corresponding to school grades 7-10.
- Some data taken from graphs.

**56 Schlegel and Schulz (1987)**

- Part of an intervention study on cardiovascular risk factors, all schools in Hohenmölsen, a rural district. Self-completion questionnaire, not anonymous. Sample size (males) 637, (females) 635.
- Smokers marked as frequency \*: smoked daily. Regular smokers: smoked >1 cigarette per week. All smokers: smoked >1 cigarette per month.

**57-61 Tolonen *et al* (2000), Kuulasmaa *et al* (1998), Wolf *et al* (1998), Molarius *et al* (1999)**

- Surveys using face-to-face interviews in various regions carried out in three phases, forming part of WHO MONICA Project:

Region*	Phase	Participation rate (%)**		Sample used		Date
		Males	Females	Males	Females	
57 E Germany (a)	1	90	91	620	677	May 1982-Aug 1984
58 Cottbus County	1	79	75	658	739	Oct 1984-Jul 1986
59 Halle County	1	88	89	1 111	1 173	Nov 1983-Jul 1984
60 Karl-Marx-Stadt County	1	91	90	1 108	1 231	May 1982-Dec 1985
61 Rest of DDR	1	78	76	939	975	May 1982-Jun 1985
57 E Germany (a)	2	80	77	1 357	1 548	Sep 1987-Nov 1988
58 Cottbus County	2	74	75	542	530	May 1989-May 1990
59 Halle County	2	89	89	962	1 202	Oct 1988-Jul 1989
60 Karl-Marx-Stadt County	2	80	85	1 024	1 259	Jan 1988-Dec 1989
57 East Germany (a)	3	57	61	1 135	1 186	Sep 1991-Dec 1994

\* There is some overlap between E Germany (a) and other regions, but it is included here as it provides continuity over all 3 phases; E Germany (a) comprises Erfurt, which is also included in Rest of DDR, and Chemnitz and Zwickau which are also included in Karl-Marx-Stadt County. Berlin-Lichtenberg is part of Rest of DDR in phase 1; data are available separately for phase 2 but have not been included here.

\*\* Participation rate refers to age 35-64 only; for E Germany (a) it refers to Chemnitz and Zwickau only.

See also sources 23-26 for MONICA centres in West Germany.

- All ages* column relates only to age 35-64 and is standardized to world population.
- Regular cigarette smokers: smoked cigarettes daily. All smokers: smoked cigarettes daily or occasionally, or smoked 1 g pipe tobacco or 1 cigar per week. Cigarettes per smoker refers to regular and occasional cigarette smokers. Exceptionally, in phase 1 for E Germany (a), Karl-Marx-Stadt County and Rest of DDR, some units used a different questionnaire which asked about smoking (unspecified as to regular and occasional). The results shown for those regions in Table 4 with frequency code A are therefore a combination of *all smokers* (as defined earlier in this paragraph), and unspecified smokers.
- For phase 1, there are minor discrepancies between the data shown in Table 4 and equivalent data taken from WHO (1989) used in earlier editions of this report.

**62 Magdowski and Maahs (1983)**

- Study in 7 schools in an urban district in Sternberg (East Germany). Anonymous questionnaires. Tables 4-6 show approximate ages corresponding to school grades 9-12. Age-specific results for grades 11-12 are omitted as based on very small sample (shown as \* in Tables). Sample size 769, response rate 92%.
- Smokers marked as frequency \*: smoked daily. All smokers: smoked daily or occasionally.

**63 Preuss (1991)**

- a. Anonymous questionnaire study of schoolchildren at all schools in Stendal (county town). Sample size for grades 5-10 (males) 1 401, (females) 1 458.
- b. Table 4 shows approximate ages corresponding to school grades 7-10.
- c. Regular smokers: smoked at least one cigarette per week. All smokers: smoked regularly or occasionally.

**64 Donat (1989)**

- a. Representative survey by Institut für Marktforschung Leipzig. Sample size (males) 946, (females) 1 057.
- b. Regular smokers: smoked at least 1 cigarette per day on average.
- c. Consumption category estimation based on 1-3, 4-6, 7-10, 11-15, 16-20, >20 cigarettes/smoker/day.

**65 Theopold (1972) quoting Lickint (no details)**

- a. Study in schoolchildren in Chemnitz. Year not stated. Last age group relates to age 20.

**66 Junge and Nagel (1999)**

- a. Health study in 1991-1992 in East German region, comparable to source 36 in West Germany in 1990-1991.
- b. Consumption per smoker based on regular and occasional cigarette smokers.
- c. Calculation of cigarettes per person based on percentage of smokers (unspecified) and cigarettes per cigarette smoker, and should be regarded with caution.

**Germany (or both West and East Germany)****67 Statistisches Bundesamt (1978-1995, 2004, 2006, 2008a))**

- a. Mikrozensus. Up to 2003, sample 0.5% of the population age 10+. Personal interviews, conducted in a single week (usually in April). From 2005, sample 1% of population (390,000 households with approximately 830,000 persons in 2005), with a continuous interviewing program throughout the year. Answering of the health-related questions is voluntary. Proxy responses were given for about 25-30% of persons.
- b. Up to 1995, we have not presented the results for age 10-14 (marked \* in Tables 4-7), as they were commonly omitted or marked as unreliable due to small numbers; however the *All ages* column refers to age 10+. From 1999 smoking questions included only persons age 15+.
- c. Results for 1992 reported for both West and East Germany separately and combined. Subsequently, results are included here for (unified) Germany only, although they are also available for individual Länder (e.g. Statistisches Bundesamt (2006)).
- d. For 1999 onwards, prevalence shown as UC/A (Table 4) refers to those who smoke predominantly cigarettes.
- e. For 1978, consumption category estimation based on 1-20, 21-40, 41+. No data available for age 10-13; for age 14-15, no estimate is possible because all categories except 1-20 were shown as unreliable; for males age 16-19 and females age 15-24 and 50+, estimation is based on 1-20 and 21-40 only (because both 41+ and 'no data' categories were shown as unreliable), so may underestimate. For 1999 onwards, consumption category estimation based on 1-4, 5-20, 21-40 and 41+; where the 41+ category was shown as unreliable, it has been estimated by subtraction from the total.

**68, 69 BZgA (1994, 1998, 2002, 2004)**

- a. Drug Affinity among Young People, a series of surveys carried out by BZgA every 3 years on use of alcohol, illegal drugs, medication and tobacco among youth and young adults. The lower age limit was 14 in 1973 and 1976, and 12 thereafter. Until 1997, representative multistage surveys with personal interviews; from 2001, representative sample based on computer-generated random telephone numbers with computer-assisted telephone interviews (CATI). Until 1989, conducted in West Germany (sample size in 1981 was 11 711), thereafter in both west and east, with results available both separately and combined, sample size (West) 2 000, (East) 1 000.
- b. Results using different age groupings are available, and for 1993-2001 for (unified) Germany, results are presented in Table 4 (marked \* against source) using an alternative grouping for comparability with earlier years.
- c. Results shown as source **68**: Regular smokers: self-assessed regular smokers. All smokers: self-assessed regular and occasional smokers. Results shown as source **69** used alternative definitions introduced in 2004: Smokers marked as frequency \*: had smoked at least 100 cigarettes and smoked daily in last 30 days. All smokers: had smoked at least 100 cigarettes and smoked in last 30 days

- d. In 1993, consumption per smoker (Table 5) is based on all smokers, and consumption (sexes combined) is 4.7 cigarettes per day per occasional smoker, and 17.6 per regular smoker. The percentages of all smokers who smoked 20 or more per day were:

	Males	Females
1993	39	28
1997	34	22
2001	24	13
2004	13	12

- e. Among smokers (sexes combined) the percentages smoking different products were:

		Cigarettes			Pipe
		Filter	Plain	Hand-rolled	
1981*	West	76	7	26	1
1993	West	88	1	8	1
1993	East	95	3	2	0

\* Multiple response possible

- f. For 1972/3, 1976 and 1981/2, there are some discrepancies between the data shown in Table 4 and the equivalent data taken from Merzdorf *et al* (1982) and Der Bundesminister für Jugend Familie und Gesundheit (1983) used in earlier editions of this report.

## 70 Junge and Nagel (1999), Thefeld (2000)

- Bundesgesundheitsurvey (Federal Health Survey or German National Health Examination Survey), conducted by the Robert Koch Institut for the Federal Ministry of Health. Representative sample of the residential population, with interview and medical examination. Conducted October 1997-March 1999. Sample size 7 124. Response rate was 61% for full participation, but 78% for at least a short questionnaire.
- Results (not presented here) are also available on a basis directly comparable to the 1990-1992 GCP surveys (sources 36 and 66). (Junge and Nagel (1999))
- Calculation of cigarettes per person based on percentage of smokers (product and frequency unspecified for East and West, daily smokers but product unspecified for combined), and number of cigarettes per daily cigarette smoker, so may overestimate.
- Assumed extension to age distribution for percentage smokers, age 15-17: males and females, regular smokers 20%, unspecified smokers West and unified 25%, unspecified smokers East 30%; for age 80+: males, regular smokers 7%, unspecified smokers West and unified, 10%, unspecified smokers East 12%, females, regular smokers 3%, unspecified smokers 4%. Number of cigarettes per day, age 15-17: males and females 2.0; for age 80+: males 1.0, females 0.5.

## 71 Lampert and Burger (2005)

- Der telefonische Bundes-Gesundheitssurvey (GSTel03, National German Telephone Health Survey). Conducted by the Robert Koch Institut. Randomly selected sample of the German-speaking resident population, computer-assisted telephone interviews. September 2002-March 2003. Sample size 8 313, response rate 60%.
- Cigarette smokers: smokers who smoke mainly or exclusively cigarettes. Smoking of other products was mainly by middle-aged and older men (e.g. among men age 65 or more, 9% smoke pipe and 10% cigars, cigarillos or Stumpfen (Lampert and Burger (2004)).
- Calculation of cigarettes per person based on percentage of smokers of all products, and number of cigarettes per cigarette smoker, so may overestimate, especially for middle-aged and older men.
- Assumed extension to age distribution for percentage smokers, age 15-17: males and females, regular smokers 20%, all smokers West and unified 25%, all smokers East 30%. Number of cigarettes per day, age 15-17: males and females 2.0.

## 72, 73 Rabier *et al* (1989), Reif and Melich (1990, 1991a, 1991b, 1992, 1995, 1998a, 1998b, 2000), Reif and Marlier (1998), Melich (2006), Christensen (2004), Papacostas (2008)

- Eurobarometer Surveys commissioned by the European Commission to monitor public opinion in the European Union. Some Eurobarometer surveys include questions on smoking habits. Sample size 1 000 in West Germany. A separate sample was drawn in East Germany of 1 000 from 1990 (EB 34.1) to 2002 (EB 58.2), reducing to 500 in 2005 (EB 64.1). Results shown for Germany are weighted to the combined population.
- For surveys before 1994 the sample consisted of people aged 15 and over who were resident in the country and had the country's nationality (source 72). For surveys after 1994 the sample consisted of people aged 15 and over who were resident in the country and had the nationality of any of the member states (source 73). For 1994 itself (Eurobarometer survey 41.0) results were available according to both sample definitions and both are presented.

- c. Two waves of the survey were carried out in each of 1988 and 1989. Prevalence data from both waves are presented in Table 4 but data on cigarettes per smoker and per person are available only from the first.
- d. In 2006, the prevalence of smoking (age 15+, sexes combined, sex-specific data not yet available) was 25% for packeted cigarettes, 6% for roll-up cigarettes and 1% for cigars or pipe. 0% reported using chewing tobacco or snuff. 85% of smokers smoked regularly. (Special Eurobarometer 272c) (European Commission (2007))
- e. Frequency U represents positive answers to questions such as “Do you smoke cigarettes?” or “You smoke packeted cigarettes”. From 2002 an additional question made it possible to identify regular smokers also; however the estimated prevalence of regular manufactured cigarette smoking may be too high because the estimate includes any regular smokers of pipe/cigar/hand-rolled who smoked manufactured cigarettes only occasionally (and similarly for regular smoking of total cigarettes).
- f. Consumption category estimation based on <5, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39 and 40+ cigarettes/smoker/day. For 2005, the number of manufactured cigarettes per smoker (Table 5) refers to the number of cigarettes (manufactured or hand-rolled) smoked by manufactured cigarette smokers.
- g. Before 2002 the calculation of cigarettes per person was based on prevalence of smoking (daily and non-daily) and number of cigarettes per daily smoker, so may overestimate.

#### 74 Helmert and Buitkamp (2004) quoting Böcken *et al* (2002)

- a. Bertelsmann-Gesundheitsmonitors (Bertelsmann-Health-Monitor), a nationally representative household sample of ages 18-79. Results presented here are pooled from 3 waves of the survey (spring and autumn 2002, and spring 2003), and refer to ages 25-69 only. Sample size (pooled) (males) 1 753, (females) 2 050.

#### 75 King *et al* (1996), Currie *et al* (2000, 2004, 2008)

- a. Part of the HBSC (Health Behaviour in School-Aged Children) Study, a collaborative cross-national research study sponsored by the WHO. Unlike most other participating countries, the German samples were regional rather than national. The 1994 and 1998 surveys were conducted in the region of Nordrhein-Westfalen (North Rhine-Westphalia) and are presented in the ‘West Germany’ section of the Tables; the 2002 survey was conducted in Berlin, Hessen, North Rhine-Westphalia and Saxony (and 2006 assumed same four regions), and are presented in the ‘Germany’ section of the Tables. School classes or schools were randomly selected, targeting age groups 11 (not presented here), 13 and 15. The target sample size was 1 300 in each age group in 1994 and 1 500 thereafter.

Year	Mean age		Sample size	
	Target age 13	Target age 15	Target age 13	Target age 15
1994	13.5	15.5	1 121	1 050
1998	13.3	15.3	1 613	1 599
2002	13.6	15.7	1 801	1 749
2006	13.3	15.4	2 441	2 552

- b. Number of cigarettes per smoker per day (Table 5, 1998 only) is derived from the median number smoked per week.
- c. Smokers marked frequency \*: smoked daily. Regular smokers: smoke once a week or more.

#### 76 Hibell *et al* (2004)

- a. Representative survey in 6 Bundesländer, forming part of ESPAD (European School Survey Project on Alcohol and Other Drugs). The 6 participating states were Bavaria, Brandenburg, Berlin, Hesse, Mecklenburg-Western Pomerania and Thuringia, which together have 35% of the whole population. Target age 15-16. Approximately 92% of this age group were still enrolled in school (84% in the grades 9-10 included in the survey). Anonymous questionnaire completed in class. Teachers (but not regular class teacher) present, but anonymity of questionnaires guaranteed.

	Sample size		Participation rate (%)	
	Boys	Girls	Classes	Pupils
2003	2 402	2 685	91	89

- b. Smokers marked as frequency \*: smoked 1 or more cigarettes per day in the previous 30 days. All smokers: smoked in the previous 30 days.
- c. Consumption category estimation based on 1-5, 6-10, 11-20, 21+ cigarettes/smoker/day.

**77 Lampert and Thamm (2007)**

- a. Kinder- und Jugendgesundheitsurvey (KiGGS) (German Health Interview and Examination Survey for Children and Adolescents), by the Robert Koch-Institut, Berlin. Conducted May 2003 to May 2006, in 167 districts. Nationally representative. The tobacco part of the study involved ages 11-17. Self-completion questionnaires. Sample size 6 813.
- b. Smokers marked frequency \*: smoked daily. Regular smokers: smoked at least once a week.
- c. Data shown in the *All ages* column relate to ages 14-17 only. Lowest age group (Table 4, frequency \* and R) is 11-13. Data for frequency A for 11-year olds not presented here. The prevalence of any smoking (frequency A) for ages 11-17 was 20.5 in boys and 20.3 in girls.
- d. In Table 5, data shown in *All ages* column are as given by the original authors for age 14-17, and refer to regular smokers (although it is not clear whether daily or weekly smokers). For age-specific data, consumption category estimation was based on 1-9, 10-19 and 20+ cigarettes/smoker/day, and included only daily smokers; by the same method, estimates for age 14-17 were 12.0 for boys and 10.3 for girls, somewhat higher than the data shown in Table 5. Results not presented in Tables 5 and 6 for age 11-13 as the numbers are too small for reliability.
- e. Calculation of cigarettes per person (Table 6) based on percentage of daily smokers of any product and number of cigarettes per smoker per day, and should be regarded with caution.

*Additional information (not presented in tables)*

Anti-smoking polices and propaganda during the Nazi era have been discussed by various authors, e.g. Davey Smith *et al* (1994, 1995), Proctor (1996, 1997b), Lewy (2006), Bachinger *et al* (2008).

**Proctor (1996) quoting Kittel (1944)**

In a survey of 1 000 servicemen in 1944, 87.3% were smokers, and 0.3% smoked 30+ cigarettes per day. As 101 had started smoking and 7 given up during the war, this implies that 77.9% were smokers in 1939; 4.4% smoked 30+ cigarettes per day.

**Müller (1939)**

In a study of lung cancer (years unknown), 84% of a healthy male control group were smokers (sample size 86). The average consumption of cigarette equivalents per smoker per day is estimated as 16, and the consumption per person per day as 14, where cigarette equivalents are based on 1 cigar = 5 g and 1 cigarette = 0.8 g.

Consumption category estimation based on 1-15, 16-25, 26-35 and >35 cigarette equivalents/smoker/day.

**Scholz and Kaltenbach (2000), Fuchs *et al* (2001)**

A number of studies have presented results for the prevalence of smoking among school students by school type. Generally these were conducted in small regions so are not included in the main tables (although sources 18-19 in Cologne are included as they were conducted particularly early). Some other examples are:

Note	Year, Product, Frequency*	School type	Boys					Girls				
			Age					Age				
			12	13	14	15	16	12	13	14	15	16
a.	1997 U U	Realschule	14					9				
		Gymnasien	6					7				
	1999 U U	Realschule			34					27		
		Gymnasien			26					33		
b.	1999 U R	Mittelschulen	11	20	35	44	44	6	16	32	36	39
		Gymnasien	1	3	11	21	30	2	4	24	29	29

\* as in Table 4

- a. Scholz and Kaltenbach (2000): Control arm of an intervention study (investigating use of a non-smoking curriculum) in 3 cities (Hanau, Darmstadt and Offenbach). Anonymous questionnaire on smoking, alcohol and drugs, administered to 7<sup>th</sup> grade pupils, followed up 2 years later. Follow-up rate 81%; sample size (controls only) 720. Years not stated (assumed from publication date).
- b. Fuchs *et al* (2001): Torgau Study, covering all school classes of grades 6-10 in the rural district of Torgau, Saxony. Anonymous questionnaire completed in class. Sample size 5 925, response rate 81%. Approximate ages corresponding to school grades.

**Rohrmann *et al* (2003)**

A baseline study forming part of the EPIC (European Prospective Investigation into Cancer and Nutrition) project was conducted in 1994-1998 in Heidelberg (West Germany) and Potsdam (East Germany). Sample sizes 25 546 and 27 548 respectively. Participants were asked about both current smoking and about smoking at various times in the past. The percentage of non-filter smokers among regular smokers was retrospectively estimated as:

Age*	Males					Females				
	20	30	40	50	60	20	30	40	50	60
<b>Heidelberg</b>										
1950-59	31					9				
1960-69	16	15				3	3			
1970-79	18	14	11			1	3	6		
1980-89		18	14	11		2	2	4	7	
1990-98			13	11	10		1	1	3	2
<b>Potsdam</b>										
1950-59	71					47				
1960-69	33	24				11	12			
1970-79	11	5	5			1	1	2		
1980-89		3	2	2		0.4	0.2	0.4	1	
1990-98			2	1	1		0.0	0.0	0.3	0.2

\* Estimates were based on birth cohorts, so for instance, estimates shown here as age 20 in 1950-59 actually refer to persons born 1930-39.

**Wilde, *et al* (1990) quoting Barth *et al* (1987)**

The prevalence of smoking in the GDR was given as:

	Males						Females					
	Age 14-19	20-29	30-39	40-49	50-59	60-69	14-19	20-29	30-39	40-49	50-59	60-69
<b>1960-1974</b>	37	55	54	50	48	34	5	23	20	20	18	8
<b>1975-1979</b>	40	60	47	47	51	38	25	33	23	24	20	14
<b>1980-1984</b>	40	62	51	37	39	29	25	37	21	14	15	10

No details of the original source given, assumed to be estimated from a variety of sources. Not included in Table 4 due to the wide range of years to which the estimates relate.

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