
International Smoking Statistics

Web Edition

A collection of worldwide historical data

Netherlands

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¹ See footnotes to Tables

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¹ See footnotes to Figures

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) included data for 30 countries up to 1995. Since 2006, work has been ongoing to make individual country updates available online. Please register at 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 20th 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 <http://www.pnlee.co.uk/iss.htm> 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, including extended versions of Tables 4 and 6 and a customisable version of Figure 3;

Supplement 1: *Estimation of sex-specific smoking statistics by standardized age groups and time periods.* [The web edition comprises a brief Update

Note, together with tables (in Excel format only) for the countries with a chapter in the web edition. The original Supplement 1 to the second edition (an extended version of Appendix IV to the second edition) is also available and gives a full description and tables for the other countries].

Also available from the same source are:

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];

An updated version of Appendix V Bibliography. [This bibliography lists published papers that use an indirect method for estimating past smoking habits based on recall];

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

Sales data

See Tables 1-3, Figures 1 and 2 and *Notes on sources of sales data*.

Except for the years of the Second World War, data on the sales of tobacco products have been available since 1923. Before the war, consumption of manufactured cigarettes per adult increased from 1 to 2 cigarettes per day between 1923 and 1939. After the war, consumption continued to increase, with some fluctuations, reaching a peak of 7 cigarettes per day towards the end of the 1970s. It then fell rapidly to 4 cigarettes per day by the mid-1980s, and then gradually to 3 by 2010. Although estimates of hand-rolled cigarette consumption vary, one source gives the consumption of hand-rolled cigarettes per adult as being between 2 and 3 cigarettes per day in the 1920s and 1930s (see *Notes on sources of sales data, Estimates of numbers of hand-rolled cigarettes*, p. 55), and about 2 cigarettes during the 1950s. From 1960 onwards, consumption of hand-rolled cigarettes per adult increased slowly from about 2.5 cigarettes per day to 4 in the mid 1980s, then decreased to 2 by 2010. Consumption of hand-rolled cigarettes was higher than that of manufactured cigarettes before the Second World War, with the opposite ever since, except for the late 1980s when hand-rolled cigarette consumption slightly exceeded manufactured.

Before the Second World War, tobacco products could be bought very cheaply (Hutson (1937)). The consumption of tobacco products per adult was high, with one estimate of 15 g per day for 1920, and generally around 11 g per day through the inter-war period. During the war consumption dropped considerably, but reached its pre-war level again in the 1960s and 1970s. It has since decreased to about 5 g per adult per day in 2010.

Around 1925, 10% of all tobacco was consumed as manufactured cigarettes, increasing to over 50% from about 1971 to 1983. Then for a few years manufactured cigarette consumption was overtaken by cut tobacco, mostly used for hand-rolling, but reached 50% again by the mid-1990s and remained around that level, increasing slightly in the last few years. Cut tobacco consumption had declined from 60% of total tobacco consumption in the 1920s to 30% in the 1960s and 1970s, but rose again to nearly 50% in the mid-1980s, before decreasing gradually to below 40% by 2010. Consumption of cigars and cigarillos accounted for over 30% of all tobacco consumption until the 1940s, then declined gradually to just below 10% by the mid-1980s, and has remained at that level.

In addition to the domestic taxable sales discussed above, consumption of non-legal tobacco products has been estimated as over 20% of total consumption in the late 1990s, and around 10% since 2010. Cross-border and duty-free purchases have also been estimated as about 10% of total consumption in recent years.

Survey data

See Tables 4-8, Figures 3 and 4 and *Notes on sources of survey data*.

In 1958, the prevalence of tobacco smoking among those aged 15 years and over was around 85% in men and 35% in women. The prevalence of cigarette smoking (including hand-rolled cigarettes) was 70% in men; very few women smoked products other than cigarettes. Trends in the prevalence of smoking are complex

owing to the need to consider three categories: all products, all cigarettes, and manufactured cigarettes, with data rarely available from any single source for all three definitions or using the same definition of smoking frequency. Estimates for all three are available between the mid-1960s and late 1970s (see sources 5-8). For men, the prevalence in each category fell over this period, from about 80% to 55% for all products, 65% to 45% for all cigarettes, and, the steepest fall, 50% to 25% for manufactured cigarettes. For women, the prevalence of all cigarette smoking was about 42% in 1967, with manufactured cigarette smoking only 1 or 2 percentage points lower. A gap then opened up between these two categories. The prevalence of cigarette smoking fell only slightly to 37% in 1979 while the prevalence of manufactured cigarette smoking fell to 33%. The steep fall in prevalence of manufactured cigarette smoking among men was such that it fell below the level for women. More recently, data are available only for all or unspecified products, or are of questionable reliability (see source 6 note g, source 29-30 note b). Most sources show the prevalence of smoking any product continuing to fall, to about 40% among men and 30% among women by 1995, although some industry estimates (source 27) around that time were higher – about 50% among men and 40% among women. By 2012, the prevalence was around 27% for men and 24% for women for all smokers, and around 22% for men and 17% for women for regular smoking. The limited data for cigarette smoking show that the prevalence of manufactured cigarette smoking continues to be lower among men than among women (15% and 19% respectively in 2012), while the prevalence of all cigarette smoking has continued to decrease for both sexes, with little difference between the sexes in the last few years (around 23% for both men and women since 2010).

Data on adult smoking by age are available since 1958, but virtually all (with the exception of the Eurobarometer series of surveys, sources 29-30) for the all products category. The decrease in the prevalence of smoking was seen at all ages in men, although since the late 1980s it has been less evident among the younger than older age groups; in women, the decrease since then occurred only among younger age groups. The prevalence of smoking was about equal in all age groups from 20 up to about 65 years of age for men, but the prevalence in women, and of cigarette smoking in men over 20, decreased with age.

A series of surveys at the beginning of the 20th century (source 16) showed that smoking was very common among boys. It was then assumed that few girls smoked. The prevalence decreased among teenage boys and increased among girls until, by the mid-1970s, most surveys reported that more girls smoked than boys. Prevalence has since dropped for both boys and girls, and has been about equal since the mid-1980s. For instance, one survey (source 13) reported that 37% of boys and 42% of girls aged 13-14 smoked in 1978, decreasing to around 10% in both sexes in 2011-12.

Comparison of survey and sales data suggests that most surveys under-reported consumption by 20-35%. Between 1958 and about 1980, the estimated number of cigarettes smoked per person per day (sales-adjusted) remained about 10-12 for men and increased for women from 3 to 8. It then decreased to 5 for men and 4 for women by 2010. The estimated number of manufactured cigarettes smoked per person per day was about 6 for men and 4 for women in the late 1960s, and equalised around 7 in the late 1970s; it then fell for both sexes to 4 around 1990, and continued a gradual decline to below 3 by 2010.

Table 1.1 Total annual sales of tobacco products, 1923-1973

Year	Manufactured cigarettes		Cigars		Cigarillos		Cut tobacco tonnes	All tobacco products tonnes
	tonnes	millions	tonnes	millions	tonnes	millions		
1923	1 960	1 958	5 960	1 043			12 700	20 620
1924	2 510	2 507	5 930	1 037			14 610	23 040
1925	1 980	1 982	6 080	1 063			10 610	18 670
1926	2 370	2 369	6 540	1 145			12 560	21 480
1927	2 590	2 591	6 850	1 198			11 840	21 280
1928	2 790	2 791	7 240	1 267			11 750	21 780
1929	3 180	3 180	7 690	1 346			11 290	22 170
1930	3 590	3 590	7 830	1 370			11 570	22 990
1931	3 550	3 554	7 820	1 369			12 290	23 670
1932	3 660	3 655	7 740	1 355			12 930	24 330
1933	3 910	3 914	8 050	1 409			12 750	24 710
1934	3 930	3 926	6 910	1 015	940	414	10 520	22 290
1935	4 010	4 009	7 130	1 048	860	380	10 570	22 570
1936	3 970	3 969	7 590	1 116	800	353	10 980	23 340
1937	4 350	4 349	8 060	1 185	710	314	10 800	23 920
1938	4 770	4 766	8 420	1 238	710	311	10 070	23 960
1939	5 230	5 234	9 100	1 338	770	340	11 390	26 490
1946	3 330	3 332	3 570	525	600	264	4 720	12 220
1947	5 360	5 362	4 260	626	630	278	8 030	18 280
1948	5 330	5 334	4 580	673	480	211	8 940	19 330
1949	6 090	6 092	5 070	745	410	181	11 250	22 820
1950	8 050	8 048	4 460	655	300	134	11 700	24 510
1951	8 440	8 442	4 040	594	280	123	10 610	23 380
1952	9 470	9 472	4 690	690	270	121	10 430	24 880
1953	10 140	10 134	5 330	783	250	112	10 020	25 740
1954	11 300	11 296	5 780	850	330	145	9 890	27 300
1955	11 740	11 734	6 160	906	340	150	8 300	26 540
1956	13 150	13 149	6 410	942	340	151	8 210	28 110
1957	13 460	13 457	6 580	967	440	195	8 120	28 600
1958	13 050	13 043	6 590	968	460	202	8 890	28 980
1959	13 450	13 452	6 910	1 016	550	244	9 390	30 310
1960	13 760	13 753	7 310	1 074	680	299	9 530	31 270
1961	14 640	14 635	7 810	1 148	680	299	9 660	32 790
1962	15 190	15 190	7 530	1 107	720	319	9 210	32 660
1963	16 300	16 297	8 320	1 223	880	389	9 480	34 980
1964	14 080	14 073	7 770	1 142	1 090	479	9 890	32 820
1965	17 950	17 950	7 660	1 126	930	409	11 200	37 750
1966	14 200	14 201	7 480	1 100	910	401	10 480	33 070
1967	16 650	16 647	7 270	1 068	820	363	11 340	36 080
1968	18 500	18 497	7 460	1 096	910	403	11 880	38 760
1969	16 250	16 251	6 500	955	780	342	11 700	35 230
1970	18 680	18 675	7 200	1 058	800	354	11 790	38 470
1971	19 560	19 559	6 380	937	840	371	11 750	38 530
1972	21 660	21 660	6 140	903	770	338	12 610	41 180
1973	23 430	23 423	6 330	930	760	334	13 430	43 940

Source: see *Notes on sources of sales data: Sales data for 1923-1973*, p. 53.

Table 1.2 Total annual sales of tobacco products, 1974-2012

Year	Manufactured cigarettes		Cigars and cigarillos				Cut tobacco tonnes	All tobacco products tonnes
	tonnes	millions	total tonnes	total millions	≥ 3g millions	< 3g millions		
1974	23 428	23 428	6 703	1 197	896	301	14 446	44 577
1975	23 892	23 892	6 726	1 201	900	301	14 223	44 841
1976	22 523	22 523	6 619	1 182	874	308	14 900	44 042
1977	26 875	26 875	6 070	1 084	812	272	15 801	48 746
1978	23 463	23 463	5 891	1 052	784	268	14 811	44 165
1979	26 784	26 784	5 191	927	677	250	15 301	47 276
1980	22 975	22 975	5 051	902	648	254	14 669	42 695
1981	21 189	21 189	4 592	820			15 509	41 290
1982	22 127	22 127	4 211	752			15 737	42 075
1983	23 113	23 113	4 049	723			18 073	45 235
1984	16 032	16 032	3 870	691			18 336	38 238
1985	16 289	16 289	3 791	677			18 407	38 487
1986	16 528	16 528	3 545	633			18 309	38 382
1987	16 185	16 185	3 315	592			17 560	37 060
1988	16 263	16 263	2 957	528			17 230	36 450
1989	16 345	16 345	2 906	519			16 996	36 247
							HR¹ tobacco tonnes	
							Pipe tobacco tonnes	
							Chewing tobacco tonnes	
1990	17 300	17 300	2 727	487			16 587	36 614
1991	18 398	18 398	2 710	484			17 408	38 516
1992	17 590	17 590	2 671	477			15 588	35 849
1993	16 116	16 116	2 610	466			14 096	32 822
1994	16 530	16 530	2 638	471			14 754	33 922
1995	17 150	17 150	2 548	455			14 424	34 122
1996	15 425	15 425	2 380	425			13 576	31 381
1997	16 640	16 640	2 475	442			13 670	32 785
1998	16 623	16 623	2 654	474			13 922	33 199
1999	16 543	16 543	2 845	508			13 834	33 222
2000	16 679	16 679	2 873	513			13 681	33 416
2001	16 309	16 309	2 884	515			12 432	31 785
2002	16 852	16 852	2 884	515			13 230	33 126
2003	17 030	17 030	2 800	500			13 074	33 039
2004	14 844	14 844	2 526	451			12 053	29 544
2005	13 546	13 546	2 604	465			11 067	27 314
2006	14 115	14 115	2 565	458			10 903	27 675
2007	15 190	15 190	2 537	453			10 772	28 549
2008	14 905	14 905	2 408	430			10 348	27 691
2009	13 396	13 396	2 184	390			9 647	25 251
2010	13 451	13 451	2 150	384			9 090	24 713
2011			2 128	380			7 720	
2012							7 777	

1 Tobacco for hand-rolled cigarettes

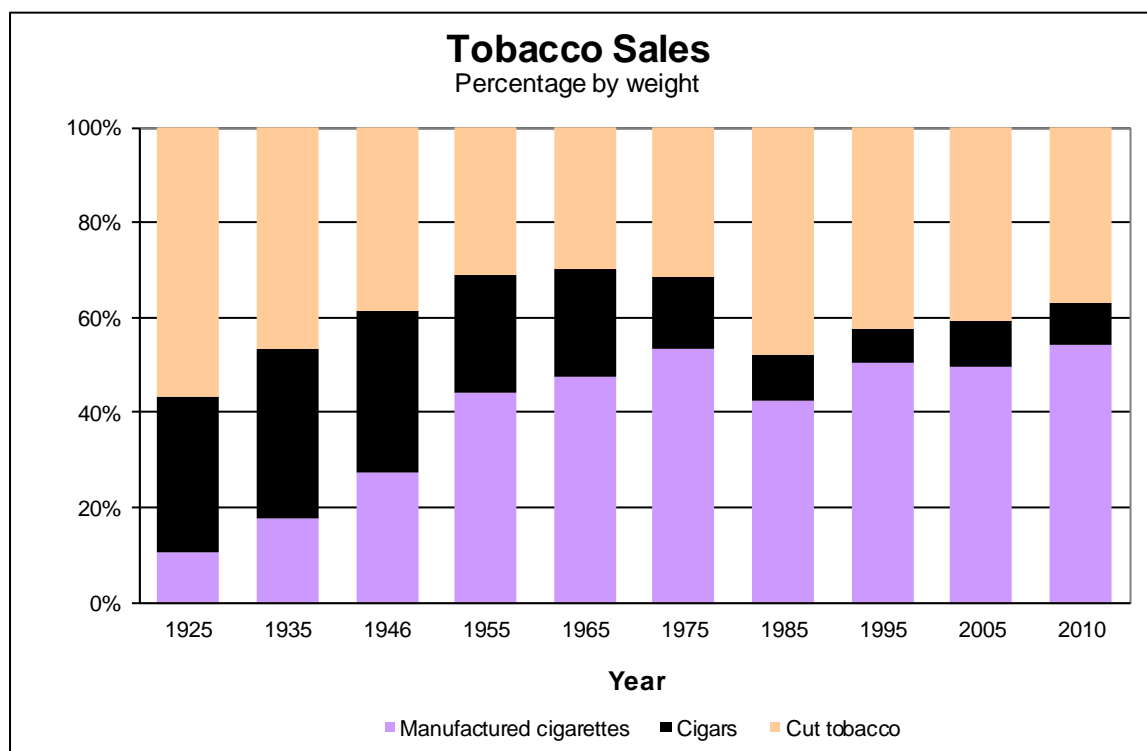
Source: see *Notes on sources of sales data: Sales data for 1974 onwards*, p. 53.

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

Year	Manufactured cigarettes %	Cigars %	Cut tobacco %
1925	10.6	32.6	56.8
1935	17.8	35.4	46.8
1946	27.3	34.1	38.6
1955	44.2	24.5	31.3
1965	47.6	22.8	29.7
1975	53.3	15.0	31.7
1985	42.3	9.9	47.8
1995/1	50.3	7.5	42.3
2005	49.6	9.5	40.9
2010	54.4	8.7	36.9

1 No data for pipe or chewing tobacco for 1995
Source: calculated from Tables 1.1 & 1.2.

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



Source: Table 1.3.

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

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
1923	1 958	1.1					20 620	11.7
1924	2 507	1.4					23 040	12.7
1925	1 982	1.1					18 670	10.2
1926	2 369	1.3					21 480	11.4
1927	2 591	1.4					21 280	11.1
1928	2 791	1.4					21 780	11.2
1929	3 180	1.6					22 170	11.3
1930	3 590	1.8					22 990	11.6
1931	3 554	1.7					23 670	11.5
1932	3 655	1.8					24 330	11.7
1933	3 914	1.9					24 710	11.8
1934	3 926	1.8					22 290	10.5
1935	4 009	1.9					22 570	10.5
1936	3 969	1.8					23 340	10.5
1937	4 349	1.9					23 920	10.6
1938	4 766	2.1					23 960	10.5
1939	5 234	2.3					26 490	11.5
1946	3 332	1.4					12 220	5.0
1947	5 362	2.2					18 280	7.4
1948	5 334	2.1					19 330	7.6
1949	6 092	2.4					22 820	8.8
1950	8 048	3.1					24 510	9.4
1951	8 442	3.2					23 380	8.8
1952	9 472	3.6					24 880	9.3
1953	10 134	3.8					25 740	9.6
1954	11 296	4.2					27 300	10.0
1955	11 734	4.3					26 540	9.6
1956	13 149	4.7					28 110	10.1
1957	13 457	4.8					28 600	10.2
1958	13 043	4.6					28 980	10.1
1959	13 452	4.6					30 310	10.5
1960	13 753	4.7	7 560	2.6	21 313	7.3	31 270	10.7
1961	14 635	4.9	7 668	2.6	22 303	7.5	32 790	11.0
1962	15 190	5.0	7 308	2.4	22 498	7.4	32 660	10.7
1963	16 297	5.2	7 524	2.4	23 821	7.7	34 980	11.2
1964	14 073	4.4	7 848	2.5	21 921	6.9	32 820	10.4
1965	17 950	5.6	8 892	2.8	26 842	8.3	37 750	11.7
1966	14 201	4.3	8 316	2.5	22 517	6.9	33 070	10.1
1967	16 647	5.0	9 056	2.7	25 703	7.7	36 080	10.9
1968	18 497	5.5	9 757	2.9	28 254	8.4	38 760	11.5
1969	16 251	4.8	9 719	2.9	25 970	7.6	35 230	10.3
1970	18 675	5.4	9 914	2.9	28 589	8.3	38 470	11.1
1971	19 559	5.6	9 999	2.8	29 558	8.4	38 530	11.0
1972	21 660	6.1	10 953	3.1	32 613	9.2	41 180	11.6
1973	23 423	6.5	11 669	3.2	35 092	9.7	43 940	12.2
1974	23 428	6.4	13 001	3.5	36 429	9.9	44 577	12.2
1975	23 892	6.4	13 085	3.5	36 977	9.9	44 841	12.0
1976	22 523	6.0	13 708	3.6	36 231	9.6	44 042	11.6
1977	26 875	7.0	14 695	3.8	41 570	10.8	48 746	12.7
1978	23 463	6.0	14 239	3.7	37 702	9.7	44 165	11.4
1979	26 784	6.8	14 383	3.6	41 167	10.4	47 276	12.0

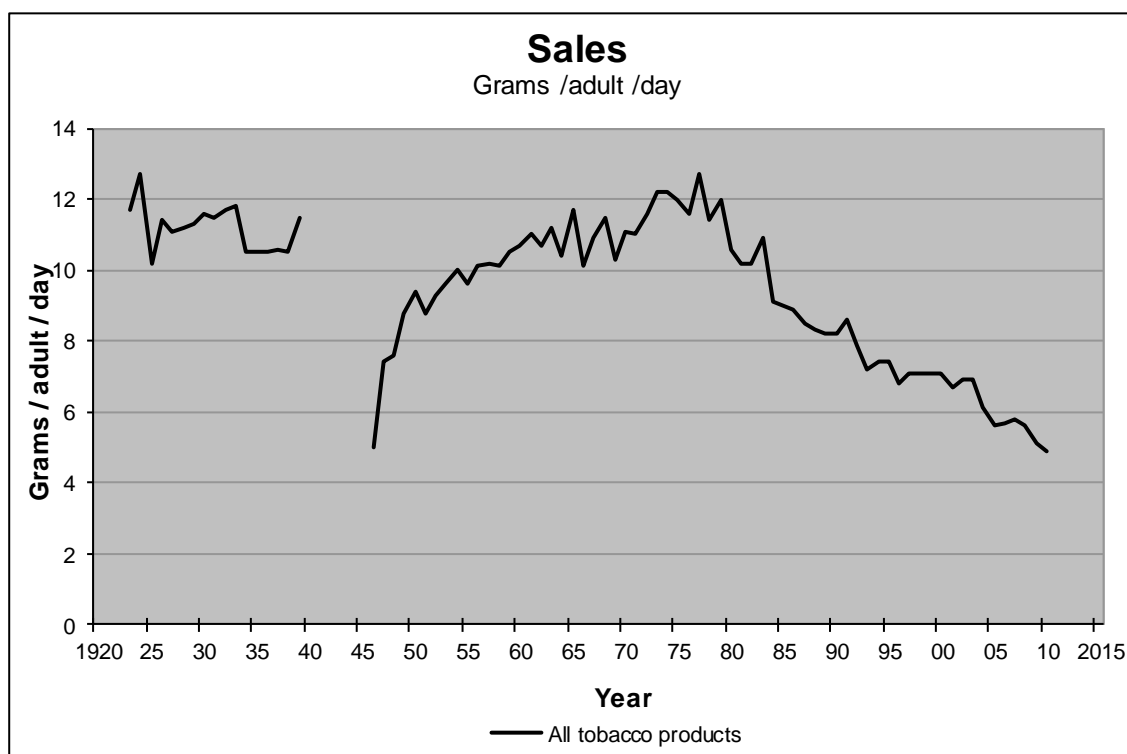
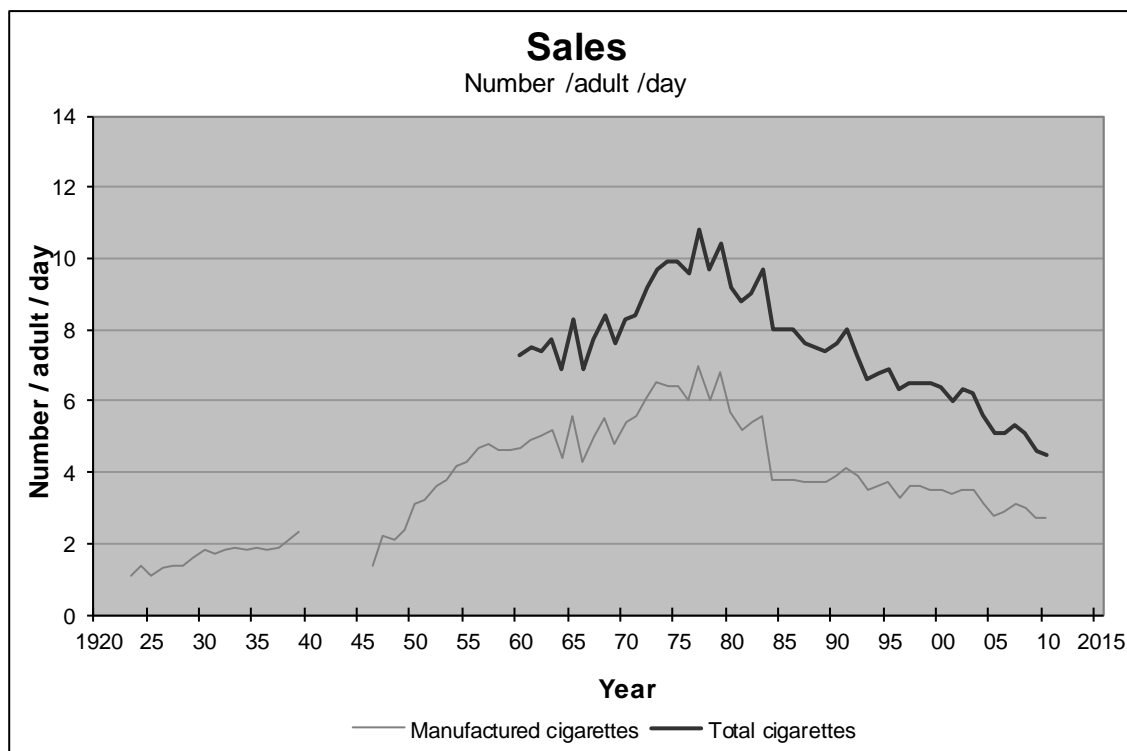
Table 2 (continued)

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
1980	22 975	5.7	13 935	3.5	36 910	9.2	42 695	10.6
1981	21 189	5.2	14 733	3.6	35 922	8.8	41 290	10.2
1982	22 127	5.4	15 107	3.7	37 234	9.0	42 075	10.2
1983	23 113	5.6	17 350	4.2	40 463	9.7	45 235	10.9
1984	16 032	3.8	17 785	4.2	33 817	8.0	38 238	9.1
1985	16 289	3.8	17 855	4.2	34 144	8.0	38 487	9.0
1986	16 528	3.8	17 760	4.1	34 288	8.0	38 382	8.9
1987	16 185	3.7	17 033	3.9	33 218	7.6	37 060	8.5
1988	16 263	3.7	16 684	3.8	32 947	7.5	36 450	8.3
1989	16 345	3.7	16 636	3.8	32 981	7.4	36 247	8.2
1990	17 300	3.9	16 587	3.7	33 887	7.6	36 614	8.2
1991	18 398	4.1	17 408	3.9	35 806	8.0	38 516	8.6
1992	17 590	3.9	15 588	3.4	33 178	7.3	35 849	7.9
1993	16 116	3.5	14 096	3.1	30 212	6.6	32 822	7.2
1994	16 530	3.6	14 754	3.2	31 284	6.8	33 922	7.4
1995	17 150	3.7	14 424	3.1	31 574	6.9	34 122	7.4
1996	15 425	3.3	13 576	2.9	29 001	6.3	31 381	6.8
1997	16 640	3.6	13 670	2.9	30 310	6.5	32 785	7.1
1998	16 623	3.6	13 922	3.0	30 545	6.5	33 199	7.1
1999	16 543	3.5	13 834	2.9	30 377	6.5	33 222	7.1
2000	16 679	3.5	13 681	2.9	30 360	6.4	33 416	7.1
2001	16 309	3.4	12 432	2.6	28 741	6.0	31 785	6.7
2002	16 852	3.5	13 230	2.8	30 082	6.3	33 126	6.9
2003	17 030	3.5	13 074	2.7	30 104	6.2	33 039	6.9
2004	14 844	3.1	12 053	2.5	26 897	5.6	29 544	6.1
2005	13 546	2.8	11 067	2.3	24 613	5.1	27 314	5.6
2006	14 115	2.9	10 903	2.2	25 018	5.1	27 675	5.7
2007	15 190	3.1	10 772	2.2	25 962	5.3	28 549	5.8
2008	14 905	3.0	10 348	2.1	25 253	5.1	27 691	5.6
2009	13 396	2.7	9 647	1.9	23 043	4.6	25 251	5.1
2010	13 451	2.7	9 090	1.8	22 541	4.5	24 713	4.9
2011			7 720	1.5				
2012 ¹			7 777	1.5				

1 Per adult data based on 2011 population.

Source: Manufactured cigarettes and all tobacco products, Tables 1.1 and 1.2. Hand-rolled cigarettes, see *Notes on sources of sales data: Estimates of numbers of hand-rolled cigarette*, p. 55. Population, see *Population, Methods* p. 14.

Figure 2 Sales of (i) manufactured and total¹ cigarettes and (ii) all tobacco products. Average per adult (aged 15 years and over) per day



1 Includes estimated hand-rolled cigarette consumption.
Source: Table 2.
See also *Notes on sources of sales data, Sales data before 1923*, p. 53 for earlier data.

Table 3 Manufactured cigarettes: percentage of total sales¹ as filter cigarettes

Year	Filter %
1960	12.1
1961	12.9
1962	14.4
1963	15.7
1964	17.6
1965	19.5
1966	21.0
1967	23.0
1968	27.2
1969	32.1
1970	37.0
1971	40.3
1972	43.7
1973	46.8
1974	49.0
1975	50.9
1976	54.0
1977	55.7
1978	57.9
1979	60.5
1980	65.0
1981	65.0
1982	69.0
1983	70.0
1984	69.8
1985	69.9
1986	75.1
1987	75.0
1988	79.5
1989	81.0
1990	81.1
1991	85.0
1992	85.0
1993	85.0
1994	88.0
1995	89.1
1996	88.5
1997	85.9
1998	85.9
1999	86.0
2000	88.0
2001	88.2
2002	88.9
2003	88.3
2004	90.9

1 Percentage of production for 1981-2004

Source: see *Notes on sources of sales data: Plain/Filter cigarette sales*, p. 56

See also *Notes on sources of sales data, Menthol cigarette sales*, p. 56, *Slim cigarettes*, p.56, and *Tar and nicotine machine yields of cigarettes*, p. 56 for further information not included in the table.

Table 4M Prevalence of smoking, males: selected surveys by age
(continues on p. 18)

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+
10	16	U	U	76																					
47	18	U	U											81											
57	17	U	*	47																					
58	1	TC	U											74											
58	1	A	U											89											
58	2	A	U											91			91		89			89			90
60	19	UC	R											83		82	69	66							75
60	19	A	R											89											
61	4	TC	U											73											
61	4	A	U											*							86			82	
63	3	UC	U											63											
63	3	A	U											78			85		81			76			82
63	25	U	U											87											
65	14	UC	R	26	30	41	50	59	52	56	61														
65	14	UC	A	31	34	44	50	61	52	57	63														
65	19	UC	R											61											
65	19	A	R											82											
66	5	TC	U											67											
66	5	A	U											81											
67	7	MC	U											59			47				52				
67	7	TC	U						65			74		70		62		38			64				
67	7	A	U						58			79		80		82		83			78				
70	7	MC	U											53							42			47	
70	7	TC	U						41			70		71		69		58		30			59		
70	7	A	U						55			77		77		78		74			75				
70	8	A	U											72											
70	11	UC	U											61											
70	11	A	U											75											
70	19	UC	R											53											
70	19	A	R											77											
71	5	TC	U											58											
71	5	A	U											69											
72	5	UC	U											59											
72	5	A	U											70											
72	8	MC	U						48			41				44									
72	8	TC	U											57											
72	8	A	U						66			72				68									
73	5	UC	U											55											
73	5	A	U											66											
74	5	UC	U											53											
74	5	A	U											62											
75	8	MC	U						36			36				36									
75	8	TC	U											53											
75	8	A	U						46			68		69		68		66			66				
76	5	UC	U											48											
76	5	A	U											57											
78	6	UC	U											49											
78	6	A	U											58											
78	6	UC	U											48											
78	6	A	U						36			57		63		59		53			56				
78	13	U	A	21	37																				

Table 4F Prevalence of smoking, females: selected surveys by age
(continues on p. 19)

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+
10	16	U	U																						
47	18	U	U																						
57	17	U	*	11																					
58	1	TC	U																						
58	1	A	U																						
58	2	A	U																						
60	19	UC	R																						
60	19	A	R																						
61	4	TC	U																						
61	4	A	U																						
63	3	UC	U																						
63	3	A	U																						
63	25	U	U																						
65	14	UC	R																						
65	14	UC	A																						
65	19	UC	R																						
65	19	A	R																						
66	5	TC	U																						
66	5	A	U																						
67	7	MC	U																						
67	7	TC	U																						
67	7	A	U																						
70	7	MC	U																						
70	7	TC	U																						
70	7	A	U																						
70	8	A	U																						
70	11	UC	U																						
70	11	A	U																						
70	19	UC	R																						
70	19	A	R																						
71	5	TC	U																						
71	5	A	U																						
72	5	UC	U																						
72	5	A	U																						
72	8	MC	U																						
72	8	TC	U																						
72	8	A	U																						
73	5	UC	U																						
73	5	A	U																						
74	5	UC	U																						
74	5	A	U																						
75	8	MC	U																						
75	8	TC	U																						
75	8	A	U																						
76	5	UC	U																						
76	5	A	U																						
78	6	UC	U																						
78	6	A	U																						
78	6	UC	U																						
78	6	A	U																						
78	13	U	A	10	42																				

Table 4M (continued from p. 16, continues on p. 20)
Prevalence of smoking, males

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+		
79	6	MC	U							20						30					31				18		26
79	6	TC	U							28			45		55		52				49				29		45
79	6	A	U							29			47		61		58				59				47		52
79	8	MC	U							29											23						26
79	8	A	U							29				56		58					61				57		52
79	12	UC	U	3		15			27			54															24
79	13	U	A	17		30																					
80	6	U	A							30				56		54					56				52		52
81	6	U	A							27				49		50					51				51		47
81	13	U	A	16		23																					
82	6	MCA	A							19											22						21
82	6	U	A							18				45		44					45				43		41
82	13	U	A	6		22																					
83	6	U	A							23				46		50					47				41		44
83	9	TC	R							17		30		39		42											32
83	9	TC	A							21		38		46		44											37
83	13	U	A	5		17																					
83	15	A	A	12	16	22	27	29	26	33																	
84	6	U	A							17				48		48					49				43		44
84	13	U	A	4		19																					
85	6	U	A							22				46		48					47				42		43
85	13	U	A	7		22																					
85	19	UC	R																						30		
85	19	A	R																						43		
86	6	U	A							22				46		46					45				41		42
86	13	U	A	2		19																					
86	22	U	*		4		21																				
87	6	U	A							21				41		47					44				39		41
87	13	U	A	3		18																					
87	23	U	U																		49						
87	29	UC	U							37				52		45					36				40		42
87	29	A	U							37				57		52					49				47		49
88	6	U	A							19				39		41					39				35		37
88	29	TC	U							34				38		54					40				40		41
88	29	A	U							37				44		60					47				47		47
88	29	TC	U							47				49		54					37				37		47
88	29	A	U							50				53		58					46				46		52
88	32	U	*	0	3	8	12	18	22																		11
88	32	U	A	7	14	18	22	27	33																		21
88	33	U	*						9																		
88	33	U	A						19																		
89	6	U	A							17				37		42					37				34		36
89	21	A	A																		44						
89	23	U	U																		45						
89	24	U	*	4																							
89	24	U	R	6																							
89	24	U	A	13																							
89	29	TC	U							29				39		46					34				34		37
89	29	A	U							30				43		52					44				44		42
89	29	TC	U							31				43		42					38				38		39
89	29	A	U							32				48		55					44				44		45

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

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+			
99	6*	TC	R	31																								
99	6	MCA	A	15																								
99	6	U	A	23			40			41			38			29			37									
99	13	U	*	20																								
99	13	U	R	25																								
99	13	MCA	A	21																								
99	13	U	A	3	21	45	48															29						
99	21	A	A	36																								
99	28	UC	*	22																								
99	28	UC	A	33																								
99	30	U	U	35			40			39			30			36												
99	32	U	*	2	6	13	22	21	23												14							
99	32	U	A	11	17	26	34	36	38												27							
99	33	U	*	13																								
99	33	U	A	25																								
00	6*	TC	R	32																								
00	6	U	R	34																								
00	6	MCA	A	15																								
00	6	U	A	21			43			42			36			26			37									
00	13	U	*	19																								
00	13	U	R	24																								
00	13	MCA	A	21																								
00	13	U	A	3	16	40	50															27						
00	19	UC	R																		6							
00	19	A	R																		14							
00	20	U	R	27			28			30			29			23			22			16	12	27				
00	21	A	A	36																								
01	6*	TC	R	27																								
01	6	U	R	28																								
01	6	MCA	A	16																								
01	6	U	A	27			38			40			31			18			33									
01	13	U	*	22																								
01	13	U	R	27																								
01	13	MCA	A	25																								
01	13	U	A	3	20	42	53															30						
01	20	UC	R	25			36	36	35	36	35	39	36	31	26	21			32									
01	21	A	A	6			39			45			44			42			33			25			23			37
01	22	A	*	4			19																					
01	22	A	R	7			23																					
01	34	A	R	38																								
01	34	A	A	*			41														*			34				

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

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+																								
99	6*	TC	R	33																																													
99	6	MCA	A	21																																													
99	6	U	A	28				33				36				31				14					31																								
99	13	U	*	19																																													
99	13	U	R	24																																													
99	13	MCA	A																																														
99	13	U	A	2	22	41	47														27																												
99	21	A	A	32																																													
99	28	UC	*	29																																													
99	28	UC	A	26																																													
99	30	U	U	29				30				34				15					26																												
99	32	U	*	3	6	13	20	24	21														14																										
99	32	U	A	12	18	28	37	39	35														27																										
99	33	U	*	13																																													
99	33	U	A	27																																													
00	6*	TC	R	28																																													
00	6	U	R	27																																													
00	6	MCA	A	21																																													
00	6	U	A	24				33				36				28				15					29																								
00	13	U	*	18																																													
00	13	U	R	22																																													
00	13	MCA	A	24																																													
00	13	U	A	3	23	40	44														26																												
00	19	UC	R																																														
00	19	A	R																																														
00	20	U	R	26				26				29				27				18				15					7		2	23																	
00	21	A	A	29																																													
01	6*	TC	R	25																																													
01	6	U	R	23																																													
01	6	MCA	A	21																																													
01	6	U	A	29				32				34				23				14					27																								
01	13	U	*	16																																													
01	13	U	R	21																																													
01	13	MCA	A	23																																													
01	13	U	A	2	20	36	44														24																												
01	20	UC	R	23				21				28				27				29				32				36				26				24				23				12					25
01	21	A	A	8				36				35				36				34				26				17				9					29												
01	22	A	*	6				20																																									
01	22	A	R	10				24																																									
01	34	A	R	29																																													
01	34	A	A	*				32								*									26																								

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

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+
02	6*	TC	R																				28		
02	6	U	R																					28	
02	6	MCA																						17	
02	6	U	A																						34
02	13	U	*																						
02	13	U	R																						
02	13	MCA																							
02	13	U	A	5	21																				29
02	20	U	R																						
02	21	A	A																						
02	30	MCR																							
02	30	TC	R																						
02	30	A	R																						
02	30	MCU																							
02	30	TC	U																						
02	30	A	U																						
03	6*	TC	R																						
03	6	U	R																						
03	6	MCA																							
03	6	U	A																						
03	13	U	*																						
03	13	U	R																						
03	13	MCA																							
03	13	U	A	3	19																				
03	20	U	R																						
03	21	A	A																						
03	28	UC	*																						
03	28	UCA																							
03	32	U	*	0	3	8	13	17	18																8
03	32	U	A	6	11	17	24	28	31																18
03	33	U	*																						
03	33	U	A																						
04	6*	TC	R																						
04	6	U	R																						
04	6	MCA																							
04	6	U	A																						
04	13	U	*																						
04	13	U	R																						
04	13	MCA																							
04	13	U	A	2	13																				
04	20	U	R																						
04	21	A	A																						

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

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+								
02	6*	TC	R	25																													
02	6	U	R	23																													
02	6	MCA		22																													
02	6	U	A	28				31				35				26				15					28								
02	13	U	*	17																													
02	13	U	R	22																													
02	13	MCA		24																													
02	13	U	A	2	22	44	44														26												
02	20	U	R	24																													
02	21	A	A	6	35				29				36				36				26				17				9				28
02	30	MCA	R	35				25				27				16																	24
02	30	TC	R	39				28				39				19																	30
02	30	A	R	39				28				39				19																	30
02	30	MCA	U	37				29				30				19																	28
02	30	TC	U	41				35				42				22																	34
02	30	A	U	41				35				42				22																	34
03	6*	TC	R	27																													
03	6	U	R	23																													
03	6	MCA		21																													
03	6	U	A	26				31				34				25				15					27								
03	13	U	*	14																													
03	13	U	R	19																													
03	13	MCA		20																													
03	13	U	A	2	16	35	38														22												
03	20	U	R	24																													
03	21	A	A	4	34				31				35				34				24				16				11				27
03	28	UC	*	21																													
03	28	UC	A	31																													
03	32	U	*	1	3	11	16	19	17														10										
03	32	U	A	5	12	24	31	36	29														22										
03	33	U	*	10																													
03	33	U	A	22																													
04	6*	TC	R	25																													
04	6	U	R	21																													
04	6	MCA		19																													
04	6	U	A	21				28				31				27				13					25								
04	13	U	*	13																													
04	13	U	R	18																													
04	13	MCA		21																													
04	13	U	A	2	17	35	36														22												
04	20	U	R	22																													
04	21	A	A	4	30				31				31				32				25				16				10				26

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

Year	Source	Product	Frequency	Age Groups														All ages					
				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
05	6*	TC R		28																			
05	6	U R		26																			
05	6	MCA		15																			
05	6	U A		24			35			36			30			16			31				
05	13	U *		16																			
05	13	U R		20																			
05	13	MCA		19																			
05	13	TC A		23																			
05	13	U A	1	16	31	46															24		
05	20	U R		28																			
05	21	A R		29																			
05	21	A A	1	33			46	37	38	36	24	15					34						
05	22	A *	2	11																			
05	22	A R	4	16																			
05	30	MCR		20			17	11	8							13							
05	30	TC R		20			27	27	18							24							
05	30	A R		20			28	30	22							26							
05	30	MCU		26			21	14	10							17							
05	30	TC U		28			34	33	20							29							
05	30	A U		28			37	38	28							34							
06	6*	TC R		29																			
06	6	U R		26																			
06	6	MCA		16																			
06	6	U A		28			38			34			31			15			31				
06	13	U *		15																			
06	13	U R		20																			
06	13	MCA		17																			
06	13	TC A		22																			
06	13	U A	2	12	27	44															22		
06	20	U R		29																			
06	21	A A	4	33			47	36	38	31	28	20					34						
06	30	MCR		24			16	12	9							14							
06	30	TC R		29			26	25	16							23							
06	30	A R		29			26	29	19							25							
06	30	MCU		26			18	14	13							17							
06	30	TC U		31			28	29	20							27							
06	30	A U		31			30	38	26							31							
07	6*	TC R		28																			
07	6	U R		25																			
07	6	MCA		16																			
07	6	U A		23			37			33			31			15			31				
07	13	U *		16																			
07	13	U R		20																			
07	13	MCA		20																			
07	13	TC A		23																			
07	13	U A	2	15	32	46															24		
07	20	U R		25																			
07	21	A A	4	28			41	37	33	31	25	12					31						
07	28	UC *		19																			
07	28	UC A		27																			
07	32	U *	1	2	6	12	12	20															8
07	32	U A	5	9	15	26	27	36															19
07	33	U *		6																			
07	33	U A		17																			

Table 4F (continued from p. 27, continues on p. 31)
Prevalence of smoking, females

Year	Source	Product	Frequency	Age Groups																All ages				
				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
05	6*	TC	R	24																				
05	6	U	R	21																				
05	6	MCA	A	19																				
05	6	U	A	19				28				30				24				13				25
05	13	U	*	14																				
05	13	U	R	19																				
05	13	MCA	A	21																				
05	13	TC	A	22																				
05	13	U	A	1	15	34	40													22				
05	20	U	R	22																				
05	21	A	R	25																				
05	21	A	A	3	26				30	31	31	25	20	10					25					
05	22	A	*	2	17																			
05	22	A	R	4	21																			
05	30	MCR	R	25				17				19				14				18				
05	30	TC	R	25				23				25				16				22				
05	30	A	R	25				23				25				16				22				
05	30	MCU	U	30				22				23				16				21				
05	30	TC	U	30				27				30				20				26				
05	30	A	U	30				28				30				20				27				
06	6*	TC	R	25																				
06	6	U	R	21																				
06	6	MCA	A	19																				
06	6	U	A	28				28				30				25				13				25
06	13	U	*	14																				
06	13	U	R	18																				
06	13	MCA	A	20																				
06	13	TC	A	21																				
06	13	U	A	2	13	34	39													21				
06	20	U	R	22																				
06	21	A	A	2	26				30	29	33	25	20	10					25					
06	30	MCR	R	17				21				20				17				19				
06	30	TC	R	17				23				26				19				22				
06	30	A	R	17				23				27				19				22				
06	30	MCU	U	32				26				23				19				24				
06	30	TC	U	32				28				29				22				27				
06	30	A	U	32				28				31				23				28				
07	6*	TC	R	24																				
07	6	U	R	21																				
07	6	MCA	A	19																				
07	6	U	A	20				27				30				27				13				25
07	13	U	*	14																				
07	13	U	R	18																				
07	13	MCA	A	19																				
07	13	TC	A	20																				
07	13	U	A	1	15	30	37													20				
07	20	U	R	21																				
07	21	A	A	1	33				30	29	30	23	18	10					25					
07	28	UC	*	22																				
07	28	UC	A	33																				
07	32	U	*	0	2	8	12	10	13													7		
07	32	U	A	4	10	22	25	25	31													18		
07	33	U	*	7																				
07	33	U	A	18																				

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

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+
08	6*	TC	R																				27		
08	6	U	R																				24		
08	6	MCA																					16		
08	6	U	A					20				35			32			32				15		30	
08	13	U	*					18																	
08	13	U	R					23																	
08	13	MCA						21																	
08	13	TC	A					24																	
08	13	U	A	2		14		39			45													25	
08	20	U	R																				26		
08	21	A	A		6				35			41		38		34		27		21		14		31	
09	6*	TC	R																				26		
09	6	U	R																				22		
09	6	MCA																					17		
09	6	U	A						31			36		34		30					15			30	
09	13	U	*					14																	
09	13	U	R					18																	
09	13	MCA						19																	
09	13	TC	A					22																	
09	13	U	A	2		13		31			41													22	
09	20	U	R																				25		
09	21	A	R																				27		
09	21	A	A						31			44		36		34		29		19		16		31	
09	22	A	*			2		10																	
09	22	A	R			4		15																	
09	30	MCR							19			13		12						6				11	
09	30	TC	R						36			24		22						14				22	
09	30	MCA							37			24		17						10				20	
09	30	TC	A						36			25		22						16				23	
09	30	A	A						37			28		25						19				26	
10	6*	TC	R																				23		
10	6	U	R																				22		
10	6	MCA																					16		
10	6	U	A						27			37		34		27					16			29	
10	13	U	*					15																	
10	13	U	R					19																	
10	13	MCA						18																	
10	13	TC	A					21																	
10	13	U	A	1		12		35			42													22	
10	20	U	R																				23		
10	21	A	R			3			18			30		24		25		29		22		15		13	22
10	21	A	A			6			25			40		34		32		35		26		17		14	28

Table 4F (continued from p. 29, continues on p. 33)
Prevalence of smoking, females

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
08	6*	TC	R	24																				
08	6	U	R	20																				
08	6	MCA		19																				
08	6	U	A	17			27			29			27			12			24					
08	13	U	*	14																				
08	13	U	R	19																				
08	13	MCA		20																				
08	13	TC	A	22																				
08	13	U	A	2	18	32	40														22			
08	20	U	R	21																				
08	21	A	A	3	24			26		29		31		28		17		12		24				
09	6*	TC	R	25																				
09	6	U	R	21																				
09	6	MCA		20																				
09	6	U	A	28			27			28			29			12			26					
09	13	U	*	14																				
09	13	U	R	18																				
09	13	MCA		17																				
09	13	TC	A	21																				
09	13	U	A	1	17	37	35														21			
09	20	U	R	20																				
09	21	A	R	22																				
09	21	A	A	6	28			26		27		29		24		14		11		23				
09	22	A	*	2	12																			
09	22	A	R	4	17																			
09	30	MCA	R	14			10			9			14			12								
09	30	TC	R	19			18			21			19			19								
09	30	MCA		19			18			20			17			19								
09	30	TC	A	19			20			22			20			20								
09	30	A	A	21			21			23			22			22								
10	6*	TC	R	23																				
10	6	U	R	21																				
10	6	MCA		21																				
10	6	U	A	27			29			28			28			13			26					
10	13	U	*	12																				
10	13	U	R	16																				
10	13	MCA		20																				
10	13	TC	A	20																				
10	13	U	A	1	15	33	35														20			
10	20	U	R	19																				
10	21	A	R	3			18			23		19		22		24		19		15		7		18
10	21	A	A	6			26			31		25		26		28		23		18		8		23

Table 4M (continued from p. 30)
Prevalence of smoking, males

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+						
11	6*	TC	R	23																											
11	6	U	R	20																											
11	6	MCA		15																											
11	6	U	A	23				36				30				27				15					27						
11	13	U	*	12																											
11	13	U	R	17																											
11	13	MCA		19																											
11	13	TC	A	21																											
11	13	U	A	1	13	35	39															21									
11	20	U	R	24																											
11	21	A	R	2			18			26			27			24			29			26			17			13			23
11	21	A	A	4			27			39			36			32			34			29			20			15			29
11	28	UC	*	20																											
11	28	UC	A	30																											
11	32	U	*	1	2	6	11	15	19															9							
11	32	U	A	5	9	15	27	32	33															19							
11	33	U	*	7																											
11	33	U	A	18																											
12	6*	TC	R	23																											
12	6	MCA		15																											
12	6	U	A	26				36				30				26				15					27						
12	13	U	*	12																											
12	13	U	R	16																											
12	13	MCA		17																											
12	13	TC	A	18																											
12	13	U	A	0	7	33	42															19									
12	21	A	R	2			19			24			24			21			23			23			16			8			20
12	21	A	A	4			28			35			33			29			28			28			18			10			26

Source: see *Notes on sources of survey data*, p. 56
 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. 56
 All ages: relates to ages reported; as given in original source

Table 4F (continued from p. 31)
Prevalence of smoking, females

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+						
11	6*	TC	R	22																											
11	6	U	R	17																											
11	6	MC	A	18																											
11	6	U	A	25				24				25				24				13					23						
11	13	U	*	13																											
11	13	U	R	17																											
11	13	MC	A	20																											
11	13	TC	A	20																											
11	13	U	A	1	9	37	42															20									
11	20	U	R	18																											
11	21	A	R	2			12			21			20			21			25			21			14			6			18
11	21	A	A	5			19			29			27			25			29			24			15			8			22
11	28	UC	*	19																											
11	28	UC	A	29																											
11	32	U	*	0	1	5	8	15	12															6							
11	32	U	A	2	9	17	24	31	27															18							
11	33	U	*	6																											
11	33	U	A	16																											
12	6*	TC	R	23																											
12	6	MC	A	19																											
12	6	U	A	22				28				26				28				13					24						
12	13	U	*	10																											
12	13	U	R	14																											
12	13	MC	A	17																											
12	13	TC	A	17																											
12	13	U	A	0	10	27	35															17									
12	21	A	R	4			14			18			16			19			23			18			12			7			16
12	21	A	A	5			26			28			23			23			26			20			14			8			21

Source: see *Notes on sources of survey data*, p. 56
 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. 56
 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
(continues on p. 36)

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
58	1	A	E																				18	
58	2	TC																					18	
60	19	UC	E											13	12	11	11							11
65	14	UC	E	1.0	0.9	1.8	2.8	3.4	4.6	5.3	5.1													
70	19	UC	E*														15							
71	5*	TC															14							
72	8	TC	*														20							
79	6	TC						11		14	16		17		16				14					15
81	6	TC	*					15		19	22						*							23
81	13	UC		2	5																			
83	9	TC	E				9.1	11	15	18														
83	15	UC	E	4.2			7.2	9.3																
87	29	UC	E				12			16		18							17					16
88	6	TC	E										14											
88	29	TC	E				14			15		16							13					15
89	6	TC	E										14											
89	21	TC											19											
89	29	TC	E				15			15		18							17					16
90	6	TC	E										14											
90	21	TC											17											
90	29	TC	E				14			16		15							16					16
91	6	TC	E										15											
91	21	TC											17											
91	29	TC	E				15			17		18							14					16
92	6	TC	E										14											
92	21	TC											17											
92	29	TC	E				14			15		19							16					16
93	6	TC	E										14											
93	21	TC											17											
94	6	TC	E										14											
94	21	TC											17											
94	29	TC	E				14			14		18							13					15
94	30	TC	E				14			14		18							13					15
95	6	TC	E										15											
95	21	TC											17											
95	30	TC	E				15			14		19							17					16
96	6	TC	E										14											
96	21	TC											17											
97	6	TC	E										14											
97	21	TC											17											
97	34	A	E*									15												
98	6	TC	E										15											
98	21	TC											16											
99	6	TC	E										15											
99	21	TC											17											
99	28	UC	E				13																	
00	6	TC	E										16											
00	19	UC																				3		
00	21	TC											16											
01	6	TC	E										16											
01	21	TC		*			12			13		12		15		11			8.7					12

Table 5M (continued from p. 34)
Number of cigarettes smoked per smoker per day, males

Year	Source	Product	Estimated	Age Groups																	All ages	
				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
02	6	TC	E	16																		
02	21	TC		*	11			12		12		13		12		9.4			12			
02	30	TC	E	13			12			15			13			13						
03	6	TC	E	16																		
03	21	TC		*	12			12		13		13		11		9.7			12			
03	28	UC	E	12																		
04	6	TC	E	15																		
04	21	TC		*	10			11		12		12		13		9.6			11			
05	6	TC	E	16																		
05	21	TC		*	8.6			12		12		13		13		11			12			
05	30	TC	E	12			13			13			18			14						
06	6	TC	E	15																		
06	21	TC		*	9.8			11		12		13		12		9.4			11			
06	30	TC	E	11			14			12			11			12						
07	6	TC	E	15																		
07	21	TC		*	9.3			11		12		14		12		9.2			12			
07	28	UC	E	12																		
08	6	TC	E	15																		
08	21	TC		*	8.6			11		13		14		12		10			12			
09	6	TC	E	14																		
09	21	TC		*	9.4			11		12		14		11		12			12			
09	30	TC		11			16			17			16			15						
09	31	TC	E	15																		
10	6	TC	E	15																		
10	21	TC		*	8.4			9.8		10		11		13		12		8.6		8.9		11
11	6	TC		15																		
11	21	TC		*	7.6			8.5		9.7		12		13		11		9.7		11		10
11	28	UC	E	13																		
11	32	UC		7.8																		
12	13	MC		7.2																		
12	21	TC		*	7.6			8.3		9.5		12		11		11		9.9		*		9.9

Source: see *Notes on sources of survey data*, p. 56
 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. 56
 All ages: relates to ages reported; as given in original source

Table 5F (continued from p. 35)
Number of cigarettes smoked per smoker per day, females

Year	Source	Product	Estimated	Age Groups																	All ages	
				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
02	6	TC	E	15																		
02	21	TC		*	9.8				11		13		13		14		11			12		
02	30	TC	E	12				14			13			16				14				
03	6	TC	E	15																		
03	21	TC		*	11				11		13		13		13		11			12		
03	28	UC	E	11																		
04	6	TC	E	15																		
04	21	TC		*	9.6				9.3		13		14		13		11			12		
05	6	TC	E	14																		
05	21	TC		*	9.1				9.5		13		13		13		12			12		
05	30	TC	E	13				13			14			12				13				
06	6	TC	E	14																		
06	21	TC		*	8.6				9.1		12		14		14		11			12		
06	30	TC	E	10				14			14			13				14				
07	6	TC	E	14																		
07	21	TC		*	9.0				8.8		13		12		13		11			11		
07	28	UC	E	11																		
08	6	TC	E	14																		
08	21	TC		*	7.9				9.8		12		13		13		11			11		
09	6	TC	E	14																		
09	21	TC		*	8.3				9.3		12		13		13		9.8			11		
09	30	TC		6.5				13			14			15				13				
09	31	TC	E	15																		
10	6	TC	E	14																		
10	21	TC		*	7.5				8.2		9.3		12		12		13		11		*	10
11	6	TC		14																		
11	21	TC		*	7.7				8.6		9.5		12		12		12		9.9		*	10
11	28	UC	E	10																		
11	32	UC		6.9																		
12	13	MC		6.3																		
12	21	TC		*	5.7				7.7		8.3		11		11		12		11		*	9.6

Source: see *Notes on sources of survey data*, p. 56
 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. 56
 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; with percentage total sales
(continues on p. 40)

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
58	1	A	16																	83%A		
58	2	TC	13																	101%T		
60	19	UC																	8.5	**		
65	14	UC	0.3	0.3	0.7	1.4	2.0	2.4	3.0	3.1												**
70	19	UC																	8.0	**		
71	5*	TC	8																	83%T		
72	8	TC	11																	--		
79	6	TC	3.1					6.3	8.8	8.8	7.8	4.1						6.8	56%T			
79	10	MC	6.5																	--		
81	6	TC*	4.7					8.9	11	*								11	--			
81	13	UC	0.3	1.2															**			
83	9	TC	1.9			4.2	6.8	8.0												**		
83	15	UC	0.7	2.0	2.6															**		
87	29	UC*	4.4					8.2	8.1	6.1					6.7	79%T						
88	29	TC*	4.6					5.5	8.9	5.3					6.0	73%T						
89	21	TC	7.3																	82%T		
89	29	TC*	4.2					5.7	8.4	5.7					6.0	70%T						
90	21	TC	6.4																	72%T		
90	29	TC*	4.7					8.3	5.5	4.5					6.1	72%T						
91	21	TC	6.5																	69%T		
91	29	TC*	6.4					8.2	8.3	3.6					6.7	71%T						
92	21	TC	6.1																	71%T		
92	29	TC*	5.4					6.1	10	4.4					6.5	77%T						
93	21	TC	6.2																	82%T		
94	21	TC	6.0																	79%T		
94	29	TC*	7.9					7.3	8.1	3.5					6.7	87%T						
94	30	TC*	8.2					7.4	7.8	3.4					6.7	87%T						
95	21	TC	6.1																	76%T		
95	30	TC*	6.1					6.4	6.8	4.6					6.0	80%T						
96	21	TC	5.7																	79%T		
97	6*	TC	4.8																	69%T		
97	21	TC	5.4																	75%T		
97	34	A*	5.8																	66%A		
98	6*	TC	5.0																	70%T		
98	21	TC	5.3																	74%T		
99	6*	TC	4.6																	71%T		
99	21	TC	5.0																	72%T		
99	28	UC	2.9																	**		
00	6*	TC	5.1																	71%T		
00	19	UC																	0.2	**		
00	21	TC	4.5																	65%T		
01	6*	TC	4.3																	66%T		
01	21	TC	0.2	4.5					6.3	5.3	5.9	3.6	2.3	1.6	4.6	71%T						

Table 6F Number of cigarettes smoked per person per day, females:
selected surveys by age; with percentage total sales
(continues on p. 41)

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
58	1	A	2.7																		83%A		
58	2	TC	3.0																		101%T		
60	19	UC																			**		
65	14	UC																			**		
70	19	UC																			**		
71	5*	TC	6																		83%T		
72	8	TC	4.9																		--		
79	6	TC	3.9				7.2		6.6		5.2			3.6			1.2			4.9	56%T		
79	10	MC	7.1																		--		
81	6	TC*	4.8				11		8.3		*											6.8	--
81	13	UC	0.1	1.6																		**	
83	9	TC	2.8		3.8		6.3		7.7														**
83	15	UC	0.9		2.3		2.4														**		
87	29	UC*	5.8				6.5			5.0			3.8				5.4	79%T					
88	29	TC*	4.3				6.9			4.7			3.4				4.9	73%T					
89	21	TC	5.1																		82%T		
89	29	TC*	3.5				6.1			6.1			2.2				4.4	70%T					
90	21	TC	4.8																		72%T		
90	29	TC*	4.7				6.9			5.1			3.0				4.9	72%T					
91	21	TC	4.7																		69%T		
91	29	TC*	3.6				6.3			5.8			2.9				4.7	71%T					
92	21	TC	4.5																		71%T		
92	29	TC*	6.3				6.2			4.4			2.8				4.8	77%T					
93	21	TC	4.8																		82%T		
94	21	TC	4.9																		79%T		
94	29	TC*	8.8				4.4			5.6			3.6				5.3	87%T					
94	30	TC*	8.9				4.4			5.9			3.7				5.3	87%T					
95	21	TC	4.5																		76%T		
95	30	TC*	4.9				5.1			7.5			3.0				5.0	80%T					
96	21	TC	4.3																		79%T		
97	6*	TC	4.2																		69%T		
97	21	TC	4.5																		75%T		
97	34	A*	4.4																		66%A		
98	6*	TC	4.1																		70%T		
98	21	TC	4.5																		74%T		
99	6*	TC	4.6																		71%T		
99	21	TC	4.4																		72%T		
99	28	UC	3.1																		**		
00	6*	TC	4.0																		71%T		
00	19	UC																			**		
00	21	TC	4.0																		65%T		
01	6*	TC	3.7																		66%T		
01	21	TC	0.3		3.4			3.8		5.5		4.9		3.7		1.8		0.9		3.6	71%T		

Table 6M (continued from p. 38)
Number of cigarettes smoked per person per day, males

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+
02	6*	TC	4.5																		66%T				
02	21	TC	0.2	4.2				5.7			4.9		5.7			3.7		2.4		1.5		4.3	64%T		
02	30	TC	3.0				4.6			5.3			3.0				4.1	65%T							
03	6*	TC	4.5																		67%T				
03	21	TC	0.2	4.0				4.9			5.2		5.1			3.6		2.3		2.2		4.1	62%T		
03	28	UC	3.0																		**				
04	6*	TC	4.2																		70%T				
04	21	TC	0.0	3.4				4.4			4.6		4.5			4.0		2.8		2.1		3.8	63%T		
05	6*	TC	4.3																		77%T				
05	21	TC	0.0	2.8				5.5			4.3		5.0			4.7		2.7		1.6		4.0	71%T		
05	30	TC	2.4				3.4			3.6			3.2				3.2	60%T							
06	6*	TC	4.2																		76%T				
06	21	TC	0.2	3.2				5.2			4.2		4.9			3.7		2.8		1.6		3.8	68%T		
06	30	TC	3.2				3.7			3.0			1.9				2.9	56%T							
07	6*	TC	4.3																		72%T				
07	21	TC	0.3	2.6				4.6			4.3		4.7			3.9		2.3		1.0		3.6	62%T		
07	28	UC	2.2																		**				
08	6*	TC	4.0																		72%T				
08	21	TC	0.2	3.0				4.5			4.8		4.7			3.3		2.1		1.5		3.6	64%T		
09	6*	TC	3.7																		78%T				
09	21	TC	0.2	2.9				4.7			4.4		4.7			3.3		2.2		1.7		3.6	68%T		
09	30	TC	4.0				3.8			3.6			2.3				3.3	63%T							
10	6*	TC	3.3																		73%T				
10	21	TC	0.3	2.0				3.9			3.5		3.6			4.4		3.0		1.5		1.3		3.0	62%T
11	6*	TC	3.3																		76%T				
11	21	TC	0.2	2.0				3.3			3.5		3.7			4.3		3.1		2.0		1.6		3.0	64%T
11	28	UC	2.5																		**				
11	32	UC	0.7																		**				
12	13	MC	1.2																				**		
12	21	TC	0.2	2.1				2.9			3.1		3.3			3.0		3.0		1.7		0.7		2.6	55%T

Source: *Notes on sources of survey data*, p. 56
 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. 56
 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
 -- = adjusted by original author

Table 6F (continued from p. 39)
Number of cigarettes smoked per person per day, females

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
02	6*	TC	3.7																		66%T	
02	21	TC	0.1	3.4			2.8		4.9		4.9		3.8		1.6		1.4		3.4	64%T		
02	30	TC	4.6			3.9			5.2			3.1			4.1	65%T						
03	6*	TC	3.9																		67%T	
03	21	TC	0.0	4.1			3.5		4.4		4.4		3.0		1.9		1.1		3.3	62%T		
03	28	UC	2.2																		**	
04	6*	TC	3.7																		70%T	
04	21	TC	0.2	2.7			2.8		3.8		4.5		3.1		2.1		1.1		3.0	63%T		
05	6*	TC	3.5																		77%T	
05	21	TC	0.1	2.4			2.8		3.9		4.0		3.2		2.4		1.2		2.9	71%T		
05	30	TC	3.4			3.0			3.6			1.8			2.8	60%T						
06	6*	TC	3.5																		76%T	
06	21	TC	0.1	2.2			2.7		3.5		4.6		3.5		2.2		0.8		2.9	68%T		
06	30	TC	1.7			3.3			3.7			2.6			2.9	56%T						
07	6*	TC	3.3																		72%T	
07	21	TC	0.0	2.9			2.7		3.6		3.6		2.9		2.2		0.8		2.8	62%T		
07	28	UC	2.3																		**	
08	6*	TC	3.4																		72%T	
08	21	TC	0.1	1.9			2.6		3.4		3.9		3.6		1.8		1.2		2.7	64%T		
09	6*	TC	3.5																		78%T	
09	21	TC	0.2	2.3			2.4		3.4		3.7		3.1		1.4		1.0		2.6	68%T		
09	30	TC	1.2			2.3			2.9			2.9			2.5	63%T						
10	6*	TC	3.3																		73%T	
10	21	TC	0.3	1.9		2.6		2.3		3.1		3.4		2.9		1.9		0.9		2.4	62%T	
11	6*	TC	3.0																		76%T	
11	21	TC	0.2	1.5			2.5		2.5		2.9		3.4		2.9		1.5		0.5		2.3	64%T
11	28	UC	2.0																		**	
11	32	UC	0.4																		**	
12	13	MC	1.1																			**
12	21	TC	0.3	1.5		2.1		1.9		2.5		2.9		2.4		1.6		0.7		1.9	55%T	

Source: *Notes on sources of survey data*, p. 56
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. 56
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
-- = adjusted by original author

Table 7M Number of cigarettes smoked per person per day, sales-adjusted, males: selected surveys¹ by age; with percentage total sales (continues on p. 44)

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+			
58	1	A	20																		83%A							
58	2	TC	13																		101%T							
71	5*	TC	10																		83%T							
72	8	TC	11																		--							
79	6	TC	5.5					11			16			16			14			7.4			12	56%T				
79	10	MC	6.5																		--							
81	6	TC*	4.7					8.9			11			*										11	--			
87	29	UC*	5.5					10			10			7.8						8.4	79%T							
88	29	TC*	6.4					7.6			12			7.2						8.3	73%T							
89	21	TC	8.9																		82%T							
89	29	TC*	6.0					8.1			12			8.2						8.6	70%T							
90	21	TC	8.8																		72%T							
90	29	TC*	6.6					12			7.7			6.3						8.5	72%T							
91	21	TC	9.4																		69%T							
91	29	TC*	8.9					11			12			5.0						9.4	71%T							
92	21	TC	8.6																		71%T							
92	29	TC*	7.0					7.9			13			5.7						8.4	77%T							
93	21	TC	7.6																		82%T							
94	21	TC	7.6																		79%T							
94	29	TC*	9.1					8.4			9.3			4.0						7.7	87%T							
94	30	TC*	9.3					8.5			9.0			3.9						7.7	87%T							
95	21	TC	8.0																		76%T							
95	30	TC*	7.6					8.0			8.5			5.7						7.5	80%T							
96	21	TC	7.3																		79%T							
97	6*	TC	6.9																		69%T							
97	21	TC	7.2																		75%T							
97	34	A*	8.8																		66%A							
98	6*	TC	7.2																		70%T							
98	21	TC	7.2																		74%T							
99	6*	TC	6.5																		71%T							
99	21	TC	7.0																		72%T							
00	6*	TC	7.2																		71%T							
00	21	TC	6.9																		65%T							
01	6*	TC	6.5																		66%T							
01	21	TC	0.3	6.3					8.9			7.5			8.3			5.1			3.2			2.3			6.5	71%T

Table 7F Number of cigarettes smoked per person per day, sales-adjusted, females: selected surveys¹ by age; with percentage total sales (continues on p. 45)

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
58	1	A	3.3																		83%A	
58	2	TC	2.9																		101%T	
71	5*	TC	7																		83%T	
72	8	TC	4.9																		--	
79	6	TC	7.0					13	12			9.3			6.5			2.2			8.8	56%T
79	10	MC	7.1																		--	
81	6	TC*	4.8					11	8.3			*									6.8	--
87	29	UC*	7.4					8.2			6.4			4.8						6.8	79%T	
88	29	TC*	5.9					9.5			6.4			4.7						6.7	73%T	
89	21	TC	6.2																		82%T	
89	29	TC*	4.9					8.7			8.7			3.2						6.3	70%T	
90	21	TC	6.6																		72%T	
90	29	TC*	6.6					9.7			7.1			4.1						6.8	72%T	
91	21	TC	6.8																		69%T	
91	29	TC*	5.0					8.8			8.2			4.0						6.5	71%T	
92	21	TC	6.3																		71%T	
92	29	TC*	8.2					8.0			5.7			3.6						6.3	77%T	
93	21	TC	5.9																		82%T	
94	21	TC	6.2																		79%T	
94	29	TC*	10					5.1			6.5			4.2						6.1	87%T	
94	30	TC*	10					5.0			6.8			4.3						6.1	87%T	
95	21	TC	5.9																		76%T	
95	30	TC*	6.1					6.3			9.3			3.8						6.2	80%T	
96	21	TC	5.5																		79%T	
97	6*	TC	6.1																		69%T	
97	21	TC	6.0																		75%T	
97	34	A*	6.7																		66%A	
98	6*	TC	5.9																		70%T	
98	21	TC	6.1																		74%T	
99	6*	TC	6.4																		71%T	
99	21	TC	6.1																		72%T	
00	6*	TC	5.7																		71%T	
00	21	TC	6.1																		65%T	
01	6*	TC	5.6																		66%T	
01	21	TC	0.4	4.8					5.4	7.8	6.9	5.2	2.5	1.3	5.1	71%T						

Table 7M (continued from p. 42)
Number of cigarettes smoked per person per day, sales-adjusted, males:

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
02	6*	TC	6.9																		66%T	
02	21	TC	0.3	6.6			8.9		7.7		8.9		5.8		3.8		2.3		6.7	64%T		
02	30	TC	4.6			7.0			8.1			4.6					6.3	65%T				
03	6*	TC	6.6																		67%T	
03	21	TC	0.3	6.5			7.9		8.4		8.2		5.8		3.7		3.6		6.6	62%T		
04	6*	TC	5.9																		70%T	
04	21	TC	0.0	5.4			7.0		7.3		7.1		6.3		4.4		3.3		6.0	63%T		
05	6*	TC	5.6																		77%T	
05	21	TC	0.0	4.0			7.8		6.1		7.1		6.7		3.8		2.3		5.7	71%T		
05	30	TC	4.0			5.7			6.0			5.3					5.4	60%T				
06	6*	TC	5.6																		76%T	
06	21	TC	0.3	4.7			7.7		6.2		7.2		5.5		4.1		2.4		5.6	68%T		
06	30	TC	5.6			6.5			5.3			3.3					5.1	56%T				
07	6*	TC	5.9																		72%T	
07	21	TC	0.5	4.2			7.5		7.0		7.6		6.3		3.7		1.6		5.8	62%T		
08	6*	TC	5.5																		72%T	
08	21	TC	0.3	4.7			7.0		7.5		7.4		5.2		3.3		2.3		5.6	64%T		
09	6*	TC	4.7																		78%T	
09	21	TC	0.3	4.2			6.9		6.4		6.9		4.8		3.2		2.5		5.3	68%T		
09	30	TC	6.4			6.1			5.7			3.7					5.3	63%T				
10	6*	TC	4.5																		73%T	
10	21	TC	0.5	3.3			6.3		5.7		5.9		7.2		4.9		2.4		2.1		4.9	62%T
11	6*	TC	4.4																		76%T	
11	21	TC	0.3	3.1			5.1		5.5		5.8		6.7		4.8		3.1		2.5		4.7	64%T
12	21	TC	0.4	3.8			5.2		5.6		5.9		5.4		5.4		3.1		1.3		4.7	55%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).

Source: Notes on sources of survey data, p. 56
 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. 56
 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 (continued from p. 43)
Number of cigarettes smoked per person per day, sales-adjusted, females:

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		
02	6*	TC	5.7																		66%T
02	21	TC	0.2	5.3			4.4	7.7	7.7	5.9	2.5	2.2	5.3	64%T							
02	30	TC	7.1			6.0	7.9	4.8						6.3	65%T						
03	6*	TC	5.9																		67%T
03	21	TC	0.0	6.6			5.7	7.1	7.1	4.8	3.1	1.8	5.3	62%T							
04	6*	TC	5.2																		70%T
04	21	TC	0.3	4.3			4.4	6.0	7.1	4.9	3.3	1.7	4.7	63%T							
05	6*	TC	4.6																		77%T
05	21	TC	0.1	3.4			4.0	5.5	5.7	4.5	3.4	1.7	4.1	71%T							
05	30	TC	5.7			5.1	6.0	3.1						4.8	60%T						
06	6*	TC	4.7																		76%T
06	21	TC	0.1	3.2			4.0	5.2	6.8	5.2	3.2	1.2	4.3	68%T							
06	30	TC	3.1			5.9	6.5	4.6						5.2	56%T						
07	6*	TC	4.7																		72%T
07	21	TC	0.0	4.7			4.4	5.8	5.8	4.7	3.6	1.3	4.5	62%T							
08	6*	TC	4.7																		72%T
08	21	TC	0.2	3.0			4.1	5.3	6.1	5.6	2.8	1.9	4.2	64%T							
09	6*	TC	4.5																		78%T
09	21	TC	0.3	3.4			3.5	5.0	5.4	4.5	2.0	1.5	3.8	68%T							
09	30	TC	2.0			3.7	4.7	4.6						4.0	63%T						
10	6*	TC	4.5																		73%T
10	21	TC	0.5	3.1			4.2	3.7	5.0	5.5	4.7	3.1	1.5	3.9	62%T						
11	6*	TC	4.0																		76%T
11	21	TC	0.3	2.3			3.9	3.9	4.5	5.3	4.5	2.3	0.8	3.6	64%T						
12	21	TC	0.5	2.7			3.8	3.4	4.5	5.2	4.3	2.9	1.3	3.4	55%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).

Source: See *Notes on sources of survey data*, p. 56
 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. 56
 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 Estimated¹ prevalence of smoking and estimated¹ number of cigarettes per person per day (unadjusted and sales-adjusted): summary of Tables 4, 6 and 7. Males and females aged 15 years and over

Year	Source ²	Product ³	Prevalence ⁴				Number of cigarettes								
			Manufactured cigarettes		Total cigarettes ⁵		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸			
			M	F	M	F	M	F	Number/ person/day	Total sales %	Manufactured cigarettes number/ person/day	Total cigarettes ⁹ number/ person/day			
			M	F	M	F	M	F	M	F	M	F	M	F	
1958	1	TC+A			70	38	85	38	14.4	2.6	83			17.4	3.2 /10
	2	TC+A					86	33	11.9	2.8	101			11.8	2.8
1961	4	TC+A			73		82	34							
1963	3	UC+A			61	33	77	31						(10.7	4.7)
	25	U					87	30							
1966	5	TC+A			67	40	81	40						(9.4	4.5)
1967	7	MC+TC+A	52	40	64	42	78	42				(6.2	3.8)	(10.2	5.3)
1970	7	MC+TC+A	47	40	59	41	74	42				(6.4	4.4)	(10.7	5.9)
	8	A					72	41							
	11	UC+A			60	46	73	37						(10.3	6.3)
1971	5	TC+A			58	40	69	40	8.0	6.0	83			9.6	7.2
1972	5	UC+A			59	44	70	44						(11.5	6.9)
	8	MC+TC+A	44	41	57	41	69	41	11.4	4.9	--			11.4	4.9
1973	5	UC+A			55	42	66	42						(12.1	7.4)
1974	5	UC+A			53	42	62	42						(12.2	7.7)
1975	8	MC+TC+A	36	36	53	40	65	41				(7.2	5.7)	(12.4	7.5)
1976	5	UC+A			48	37	57	37						(11.9	7.3)
1978	6	UC+A			49	36	58	38						(12.3	7.2)
	6	UC+A			48	39	56	38						(11.8	7.7)
1979	6	MC+TC+A	26	33	46	37	53	37	7.1	4.6	56			12.7	8.2
	8	MC+A	26	33			54	37				(6.7	6.9)		
	10	MC							6.5	7.1	--	6.5	7.1		
1980	6	U					52	33							
1981	6	TC+U					47	34	10.8	6.8	--			10.8	6.8
1982	6	MC+U	21	26			41	32				(5.3	5.4)		
1983	6	U					44	33							
1984	6	U					44	32							
1985	6	U					44	32							
1986	6	U					43	32							
1987	6	U					41	31							
	23	U					49	39							
	29	UC+A			43	38	49	38	6.8	5.2	79			8.7	6.6

Table 8 (continued)

Year	Source ²	Product ³	Prevalence ⁴				Number of cigarettes										
			Manufactured cigarettes		Total cigarettes ⁵		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸					
			M	F	M	F	M	F	M	F	Total sales %	Manufactured cigarettes number/person/day		Total cigarettes ⁹ number/person/day			
1988	6	U					37	28									
	29	TC+A			42	38	47	38	6.1	4.9	73				8.3	6.7	
	29	TC+A			47	37	52	38									
1989	6	U					36	28									
	21	TC+A					43	31	7.2	5.0	82				8.8	6.2	
	23	U					45	34									
	29	TC+A			37	33	43	33	6.1	4.4	70				8.6	6.3	
	29	TC+A			39	35	45	35									
1990	6	U					39	30									
	21	TC+A					42	31	6.3	4.7	72				8.7	6.5	
	29	MC+TC+A	23	29	38	36	45	36	6.0	4.9	72	(3.9	3.9)		8.4	6.9	
1991	6	U					38	29									
	21	TC+A					44	32	6.4	4.6	69				9.3	6.7	
	23	U					46	33									
	29	MC+TC+A	24	27	41	34	47	35	6.7	4.7	71	(4.4	3.8)		9.4	6.5	
1992	6	U					38	30									
	21	TC+A					42	31	6.0	4.4	71				8.5	6.2	
	29	MC+TC+A	23	24	40	33	46	34	6.5	4.8	77	(4.2	3.6)		8.5	6.2	
1993	6	U					37	28									
	21	TC+A					42	31	6.1	4.7	82				7.5	5.8	
	27	A					49	39									
1994	6	U					36	28									
	21	TC+A					43	32	5.9	4.8	79				7.5	6.2	
	23	U					45	36									
	27	A					49	40									
	29	MC+TC+A	28	27	45	36	48	36	6.7	5.2	87	(4.1	3.1)		7.7	6.0	
	30	MC+TC+A	28	27	45	36	48	37	6.7	5.3	87	(4.1	3.2)		7.6	6.1	
1995	6	U					39	30									
	21	TC+A					41	31	6.0	4.5	76				7.9	5.8	
	27	A					49	39									
	30	MC+TC+A	21	25	37	35	41	35	6.0	5.0	80	(3.8	3.7)		7.5	6.2	
1996	6	U					39	30									
	21	TC+A					40	31	5.6	4.3	79				7.2	5.4	
	27	A					49	40									
1997	6	MC+TC+U	15	21	33	30	36	29	4.8	4.2	69	(3.3	3.8)		6.9	6.1	
	21	TC+A					39	32	5.3	4.5	75				7.1	5.9	
	27	A					49	39									
	34	A					37	28	5.4	3.9	66				8.2	6.0	/10
	34	A					39	30									
1998	6	MC+TC+U	16	21	34	30	37	29	5.0	4.1	70	(3.5	3.6)		7.2	5.9	
	21	TC+A					38	31	5.2	4.5	74				7.1	6.0	
	27	A					48	39									
1999	6	MC+TC+U	15	21	31	33	37	29	4.6	4.6	71	(3.3	3.7)		6.5	6.4	
	21	TC+A					36	32	4.9	4.4	72				6.9	6.1	
	30	U					36	26									

Table 8 (continued/2)

Year	Source ²	Product ³	Prevalence ⁴				Number of cigarettes										
			Manufactured cigarettes		Total cigarettes ⁵		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸					
			M	F	M	F	M	F	Number/ person/day	Total sales %	Manufactured cigarettes number/ person/day	Total cigarettes ⁹ number/ person/day	M	F	M	F	
2000	6	TC+U			32	28	34	27	5.1	4.0	71					7.2	5.7
	6	MC+U	15	21			37	29				(3.4	3.7)				
	20	U					26	23									
	21	TC+A					36	29	4.4	4.0	65				6.8	6.0	
2001	6	TC+U			27	25	28	23	4.3	3.7	66				6.5	5.6	
	6	MC+U	16	21			33	27				(3.4	3.5)				
	20	UC			32	24											
	21	TC+A					39	30	4.8	3.8	71				6.8	5.3	
	34	A					36	26									
34	A					34	26										
2002	6	TC+U			28	25	28	23	4.5	3.7	66				6.9	5.7	
	6	MC+U	17	22			34	28				(3.5	3.6)				
	20	U					31	24									
	21	TC+A					38	29	4.5	3.5	64				7.1	5.5	
	30	MC+TC+A	16	24	31	29	33	29	4.1	4.1	65	(3.2	3.8)	6.3	6.3		
30	MC+TC+A	21	27	38	34	42	34										
2003	6	TC+U			29	27	27	23	4.5	3.9	67				6.6	5.9	
	6	MC+U	17	21			33	27				(3.5	3.6)				
	20	U					29	24									
	21	TC+A					36	28	4.3	3.5	62				6.9	5.6	
2004	6	TC+U			27	25	26	21	4.2	3.7	70				5.9	5.2	
	6	MC+U	15	19			31	25				(3.0	3.1)				
	20	U					29	22									
	21	TC+A					35	26	4.0	3.1	63				6.3	4.9	
2005	6	TC+U			28	24	26	21	4.3	3.5	77				5.6	4.6	
	6	MC+U	15	19			30	24				(2.8	2.8)				
	20	U					28	22									
	21	TC+A					28	22	4.2	3.0	71				5.9	4.3	
	21	A					35	26									
30	MC+TC+A	13	18	23	21	26	21	3.2	2.8	60	(2.7	2.9)	5.4	4.7			
30	MC+TC+A	16	21	29	26	33	26										
2006	6	TC+U			29	25	26	21	4.2	3.5	76				5.6	4.7	
	6	MC+U	16	19			31	25				(2.9	2.8)				
	20	U					29	22									
	21	TC+A					35	26	4.0	3.0	68				5.9	4.4	
	30	MC+TC+A	14	19	23	22	25	22	2.8	2.9	56	(2.8	3.0)	5.0	5.2		
30	MC+TC+A	16	24	26	27	31	27										
2007	6	TC+U			28	24	25	21	4.3	3.3	72				5.9	4.7	
	6	MC+U	16	19			30	25				(3.2	3.0)				
	20	U					25	21									
	21	TC+A					32	26	3.7	2.8	62				6.0	4.6	
2008	6	TC+U			27	24	24	20	4.0	3.4	72				5.5	4.7	
	6	MC+U	16	19			29	24				(3.1	2.9)				
	20	U					26	21									
	21	TC+A					32	25	3.8	2.8	64				5.9	4.4	

Table 8 (continued/3)

Year	Source ²	Product ³	Prevalence ⁴						Number of cigarettes							
			Manufactured cigarettes		Total cigarettes ⁵		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸				
			M	F	M	F	M	F	Number/ person/day	Total sales %	Manufactured cigarettes number/ person/day	Total cigarettes ⁹ number/ person/day				
						M	F	M	F	M	F	M	F			
2009	6	TC+U			26	25	22	21	3.7	3.5	78				4.7	4.5
	6	MC+U	17	20			30	25				(2.7	2.7)			
	20	U					25	20								
	21	TC+A					25	20	3.7	2.7	68				5.4	3.9
	21	A					32	24								
	30	MC+TC	11	12	22	19			3.3	2.5	63	(2.9	2.5)		5.2	4.0
	30	MC+TC+A	20	19	23	20	25	22								
2010	6	TC+U			23	23	22	21	3.3	3.3	73				4.5	4.5
	6	MC+U	16	21			29	25				(2.6	2.8)			
	20	U					23	19								
	21	TC+A					22	18	3.1	2.5	62				5.0	4.0
	21	A					28	23								
2011/11	6	TC+U			23	22	20	17	3.3	3.0	76				4.4	4.0
	6	MC+U	15	18			27	22				(2.7	2.7)			
	20	U					24	18								
	21	TC+A					22	17	3.1	2.3	64				4.8	3.6
	21	A					29	22								
2012/12	6	MC+TC+U	15	19	23	23	27	24				(2.6	2.7)	(4.7	3.8)	
	21	TC+A					20	16	2.7	2.0	55				4.8	3.6
	21	A					26	20								

- 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, shown in the extended versions of Tables 4 and 6 in the Excel tables workbook. Method: see *Summary of adult smoking*, Methods p. 13. Exceptionally, calculation is based on the *All ages* value from Table 4 in those surveys for which some age-specific data are not available (age groups marked as * in Table 4).
- 2 See *Notes on sources of survey data*, p. 56.
- 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 Estimated from data in Table 4 (see also extended version of Table 4 in the Excel tables workbook)
- 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 Estimated from data in Table 6 (see also extended version of Table 6 in the Excel tables workbook)
- 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.
- 9 Number of cigarettes classified as UC = cigarettes (type unspecified) has been adjusted to total cigarette sales and included in this column.
- 10 All tobacco products, grams/person/day.
- 11 Calculations based on 2010 sales data.
- 12 Calculations based on 2010 sales data and 2011 population.

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

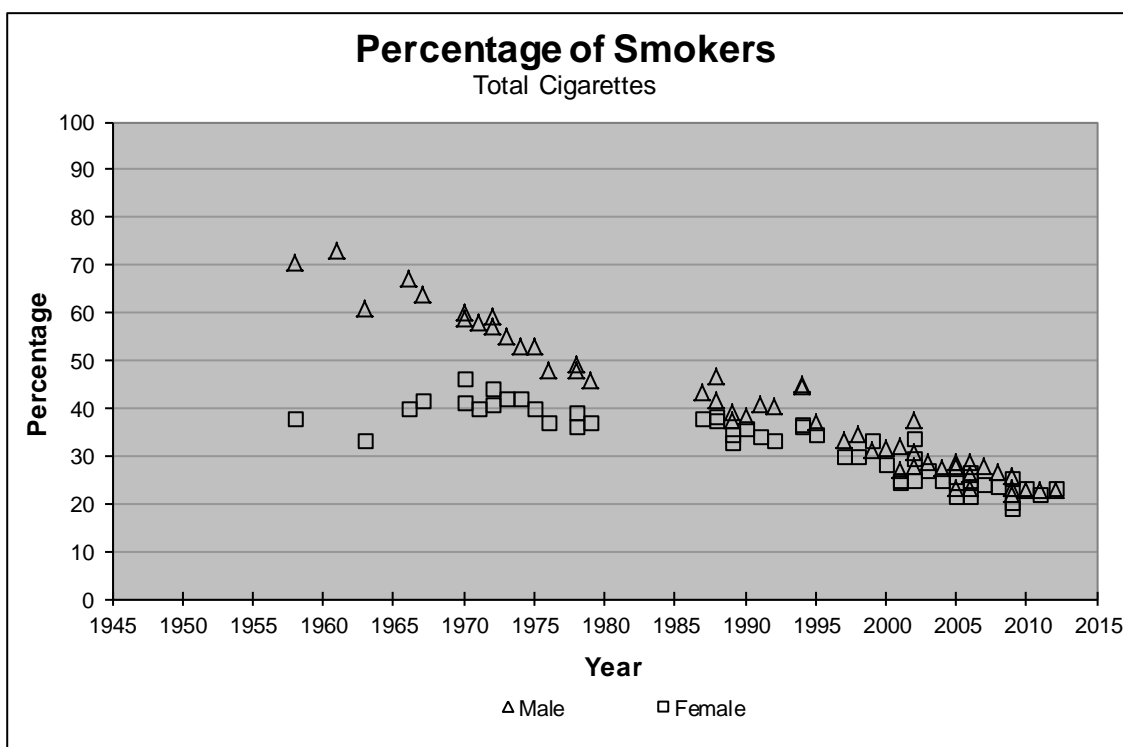
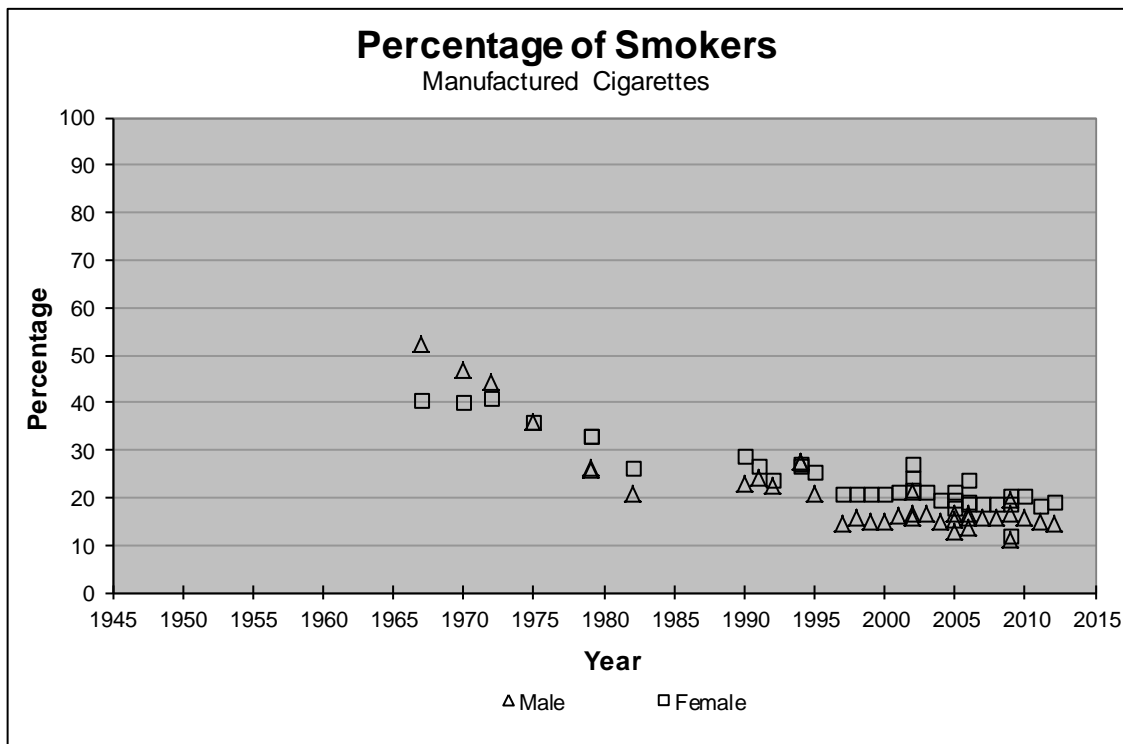
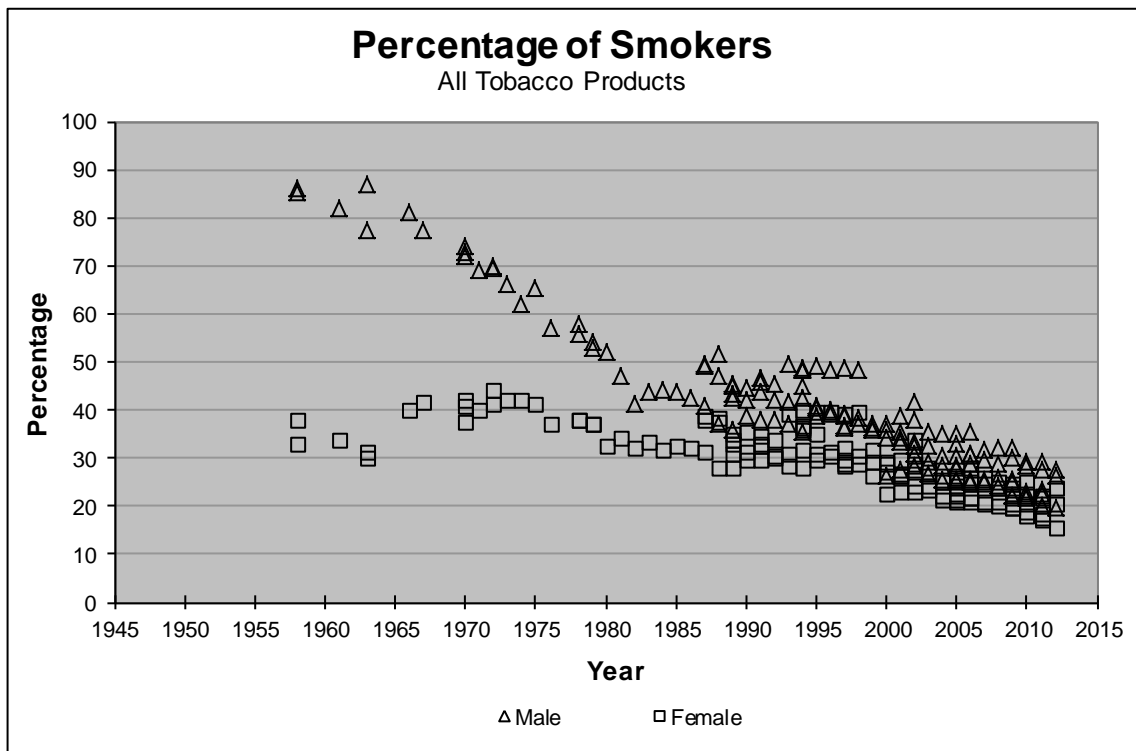
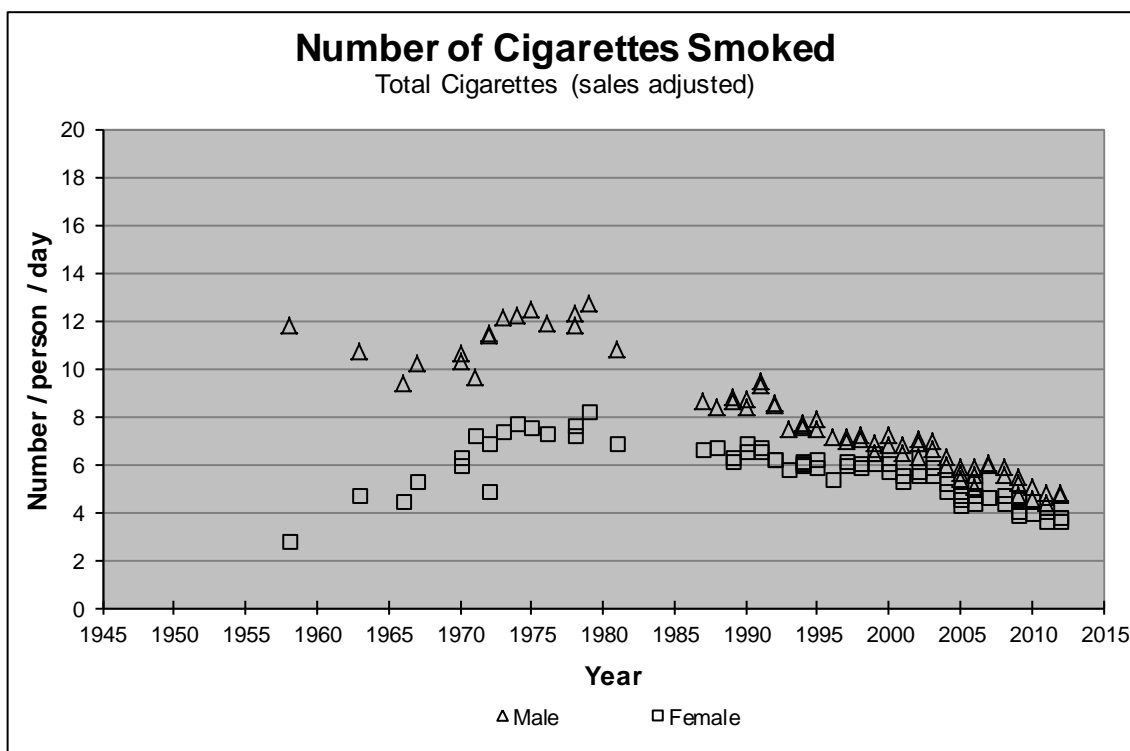
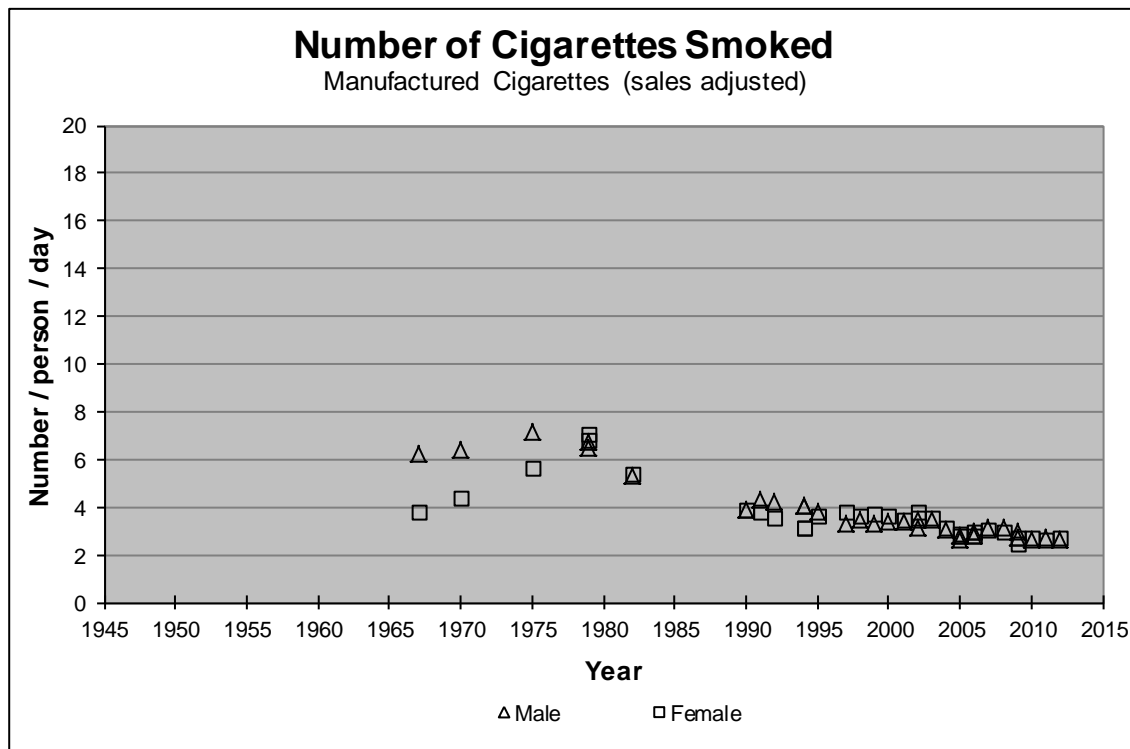


Figure 3 (continued)



Source: Table 8.
See also customisable version of Figure 3 in the Excel workbook.

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



Source: Table 8.
Table 8 includes estimates from 2 sources for number of grams of tobacco per person per day years (not shown in this figure).

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. 67 under *References*.

Sales data before 1923

Hutson (1937)

The per-capita consumption of all tobacco products for 1913 and 1920 (3-year averages) were 6.84 and 8.35 pounds respectively, which we estimate as equivalent to 12.8 and 15.5 g per adult per day. These are the highest consumptions among the 9 and 14 European countries for which data were available, exceeding the next highest by nearly 70%.

Sales data for 1923-1973

RP6 (Lee (1975))

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) in Table 1.1. 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, cigars and cigarillos and of the weight of cut tobacco consumed were obtained from *Produktiestatistieken Tabakverwerkende Industrie*, 1956, published by the Netherlands Central Bureau of Statistics and *Statistics of Banderoles Issued*, published by the Stichting Tabakverwerkende Industrie.
- (b) Cigarette consumption in pounds weight has been estimated from the number of cigarettes consumed by using a conversion factor of 2.205 lbs per 1 000. The conversion factors used for cigars and cigarillos were 15 lbs per 1 000 and 5 lbs per 1 000 respectively.
- (c) The source of the figures of tobacco consumption given above also provides information for the years 1940-45. These years have been omitted as, according to the Central Bureau of Statistics, the figures are quite unreliable.

Data given by Hutson (1937) for selected years (not shown) were similar for 1924, but somewhat higher later (e.g. equivalent to 13.8 g/adult/day in 1932).

Kunst and Mackenbach (1993) quoting Central Bureau of Statistics (1935) analysed an inventory of enterprises that sold tobacco in 1930. The number of points of sale for tobacco per head of the population was calculated on a regional basis, and was considered to be an indicator of the amount of tobacco consumed. They concluded that high tobacco consumption in 1930 was limited to prosperous areas in the centre of The Netherlands.

Sales data for 1974 onwards

Cigarettes and cut tobacco 1974-1989: Centraal Bureau voor de Statistiek (Lock (1990))

Cigarettes and hand-rolled tobacco 1990-2010: Stivoro (1996-2012) quoting Vereniging Nederlandse Kerftabakindustrie (VNK, Dutch Fine-cut Tobacco Industry Association)

Pipe and chewing tobacco 2000-2012, and hand-rolled tobacco 2011-2012 only: VNK (accessed Oct 2013)

Cigars:

1974-1989: Centraal Bureau voor de Statistiek (Hirdes (1982), Lock (1990))

1990: Crescenti (1998)

1991-2000: United States Department of Agriculture (USDA) (1996, 1997, 2002)

2001-2010: Bundesverband der Zigarrenindustrie (accessed Nov 2007, 2013)

With the exception of hand-rolled tobacco for the years 2011-2012 and the data for pipe and chewing tobacco, data in Table 1.2 are based on delivery of fiscal bands. The remaining data are based on reported sales by member companies of the VNK.

Data for cigarettes, hand-rolled tobacco and cigars are given in numbers and have been converted to weight assuming an average of 1 g per cigarette and 5.6 g per cigar or cigarillo (based on a weighted average of the values in RP6). Due to growing popularity of cigarillos relative to cigars in recent years, the conversion factor for cigars and cigarillos combined may overestimate (USDA Economic Research Service (1996), Nederlandse Vereniging voor de Sigarenindustrie (Dutch Cigar Manufacturers' Association) (accessed November 2007)). Data for pipe and chewing tobacco are given by weight and no attempt has been made to convert these to numbers.

No data for pipe and chewing tobacco are available for 1990-1999, and the totals for all tobacco products have been calculated without them (data for later years suggesting that quantities would have been low).

Alternative data from KPMG LLP (2013) for manufactured cigarettes for 2006-2010 are shown in the Table below. The data for legal domestic sales are quite similar to those given in Table 1.2, but the estimates of total consumption, after taking into account outflows, legal cross border sales, counterfeit and contraband (see also next section), are higher, by between 8%-35%.

	Manufactured cigarettes (millions)	
	Legal domestic sales	Total consumption
2006	14 110	19 010
2007	14 510	19 050
2008	14 620	16 840
2009	13 390	14 470
2010	13 160	16 230
2011	12 710	15 420

Source: KPMG LLP (2013), p149.

Estimates of smuggling and cross-border sales

The table below summarises estimates for the market share (%) of non-legal sales of cigarettes. The sources and bases of the estimates are described below the table.

Year:	Source:					
	1	2	3	4	5	6
1995	8					
1997		3-4				
1998			5-10			
2006				24.2		
2007				15.6		
2008				8.6	9.0	
2009				4.1		
2010				11.0		
2011				10.2		9.5
2012				11.0		

Sources:

1. Merriman *et al* (2000) quoting Joossens (1998). Smuggling as a percentage of domestic sales, estimated from a variety of official and non-official sources.
2. USDA (1997). Market share of smuggling.
3. Joossens and Raw (1998). Contraband market share, year not specified.
4. KPMG LLP (2013). Counterfeit and contraband, as a percentage of total consumption (estimates based on KPMG EU Flow Model, Philip Morris International (PMI) Empty Packs Surveys and data provided by PMI).
5. Shafey *et al* (2009) quoting Tobacco Reporter (2008). Smuggled cigarettes as a percentage of the total cigarette market, year not specified.
6. Eriksen *et al* (2012). Illicit share of the total cigarette market.

It was estimated that some 70 million (4%) of the illegal cigarettes consumed in 2012 were "illicit whites" (defined as cigarette brands manufactured outside the EU and /or in Free Trade Zones, and distributed in such a way that a large share of their volume is sold at a very low price and consumed in EU countries), down from 80 million (5%) in 2011 (KPMG LLP (2013)).

Some Eurobarometer surveys enquired about contact with smuggled cigarettes and cross border purchasing. In 2008, 1.5% of Dutch respondents had, in the previous 6 months, often seen cigarettes being sold that they thought were smuggled, with a further 3% seeing them occasionally (Flash Eurobarometer 253 Gallup Organisation Hungary (2009)). In 2012, 15% reported having purchased tobacco products abroad in the previous year (Eurobarometer 77.1, European Commission (2012)).

Data from KPMG LLP (2013) also show legal non-domestic sales, i.e. cross-border and duty-free sales, making up a significant proportion of total cigarette consumption, as shown below:

	Legal non-domestic sales (millions)	% of total consumption
2006	870	4.6
2007	2 380	12.5
2008	1 300	7.7
2009	970	6.7
2010	1 770	10.9
2011	1 410	9.1
2012	1 550	10.4

Estimates of numbers of hand-rolled cigarettes

1960-1966: Merzdorf *et al* (1982), quoting Stichting Sigarettenindustrie (1980)

Hand-rolled cigarette consumption was estimated as 80% of fine-cut tobacco sales, at 1 g per cigarette.

1967-2010: Stichting Volksgezondheid en Roken (Foundation for Smoking and Health) (1983, 1988), Stivoro (1996-2012)

The data were presented as millions of hand-rolled cigarettes at 1 g per cigarette. The estimates for 1967 were based on 80% of shag sales, increasing to 97% from 1984-1988 (basis not stated thereafter). Due to missing data, we have estimated the figure for 1989 as the average of adjacent years.

2011-2012: we estimated consumption on the basis of 100% of cut tobacco at 1 g per cigarette.

For comparison, alternative estimates by de Haas (1973) up to 1972, and by de Haas and de Haas-Posthuma (1980) for 1970-1979 are shown here:

Year	Total annual in millions	Number/adult /day	As a percentage of estimate in Table 2
1925-1929	4 621	2.4	
1930-1934	5 751	2.8	
1935-1939	5 117	2.3	
1946-1949	3 494	1.4	
1950-1954	5 512	2.0	
1955-1959	5 505	1.9	
1960-1964	6 093	2.0	81
1965-1969	7 535	2.2	77
1970-1972	8 200	2.3	75
1970-1974	11 196	3.1	102
1975-1979	13 441	3.5	91

These data were originally given on a per capita basis, and have been converted using the mid-point population. De Haas (1973) used estimates of numbers of hand-rolled cigarettes based on 1.25 g per cigarette, which can largely explain the difference between these estimates and those of other authors, who used a basis of 1 g per cigarette.

Dymond (1996) reported studies where cigarettes made by randomly selected regular hand-rolled smokers were tested. The average weights of the hand-rolled cigarettes were as follows:

Year	Mean weight of fine-cut tobacco/hand-rolled cigarette (mg)
1978	869
1987	782
1994	771
1996	784

Mandatory labelling of tar and nicotine levels on fine-cut tobacco packets assumes a “standard” cigarette of 750mg (Vereniging Nederlandse Kerftabakindustrie (accessed May 2014)).

It was reported that in 2012, approximately 80% of the home-made cigarettes were made with cigarette papers and approximately 20% by tubing (“filterhulzen”), and that sales of tubes had increase by 50% in 4 years. (NSO (accessed Feb 2014))

Plain/Filter cigarette sales

1960-1980: Maxwell, Jr. (successive years)

1981-2004: USDA (accessed Jul 2013)

For 1981 onwards the data represent percentages of production rather than of sales. As imports and exports are high (e.g. in 2004 exports amounted to 91% of production, and imports to 60% of consumption, USDA (accessed Jul 2013)), these data may not accurately reflect consumption in the Netherlands.

Menthol cigarette sales

In 2010, menthol cigarettes accounted for 4.2% of total cigarette consumption (Oxford Economics (2012)). By 2012, this proportion had increased to 5% (KPMG LLP (2013)).

Slim cigarettes

In 2012, slim cigarettes accounted for 1% of total cigarette consumption (KPMG LLP (2013)).

Tar and nicotine machine yields of cigarettes

In 1978, Merzdorf *et al* (1982) estimated that the sales-weighted tar yield for filter cigarettes and shag tobacco was 20.6 mg, and the nicotine yield 1.3 mg. In 1982, the sales-weighted average tar was reported to be in the 11-16 mg category (Lee (1984) quoting data supplied by the tobacco industry).

The tar levels of 25 brands of manufactured cigarette for 1976 and 1982 were reported by the Belgian Association for Smoking Prevention (1989). The average (not sales-weighted) decreased from 16.3 in 1976 to 14.2 in 1982.

The Netherlands conforms to EU regulations on tar and nicotine yields of cigarettes although the implementation of the 15 mg limit was delayed until July 1994, and of the 12 mg limit until January 1998 (Joossens *et al* (1994)). From January 2004 the tar, nicotine and CO level of one cigarette cannot exceed 10 mg, 1 mg and 10 mg, respectively, and the tar level of one hand-rolled cigarette of 750 mg cannot exceed 12 mg. (ASPECT (2004))

According to annual data from Philip Morris International (2004) for 1992-2003, the market share of “ultra-light” cigarettes (1-3 mg tar) was 1.5-2.0% from 1992-2000, then fell to 1.4% in 2001-02 and to 0.4% in 2003.

de Kok *et al* (1993) reported testing of more than 40 brands of hand-rolling tobacco in each of three years, using cigarettes weighing 1g made by standard methods. The range of tar and nicotine yields per cigarette for the brands were:

	Tar	Nicotine
1986	23.3 - 32.5	0.92 - 4.02
1988	20.7 - 31.4	1.18 - 3.97
1991	22.7 - 30.5	1.42 - 4.14

Dymond (1996) reported a study in 1994 in which 140 smokers of the leading brand of hand-rolling tobacco each rolled 22 cigarettes. The mean tar per hand-rolled cig was 13.2 mg and mean nicotine was 1.16 mg.

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. Full citations of the sources are given on p. 67 under *References*.

**Source
number****1-2 Gadourek and Nass (1963), van Reek (1983)**

- a. Research project 'Risky habits'. Random sample of the Dutch population, including all municipalities with population >100 000, and a random sample proportional to size of smaller municipalities. A sample was drawn from each municipality (proportional to size in the larger, or 20 in the smaller), and any persons born since 1937 were omitted (thus, as the field work was conducted in the autumn of 1958, some 20 year olds were included). Interviews at home, interviewers being mainly sociology or psychology students. 85 municipalities were sampled. Interviews attempted 1 382, final sample 1 297, response rate 94%.
- b. Smokers: answered positively to "what do you smoke?"
- c. The product(s) smoked were reported in detail for the sexes combined and partially for men, from which we estimate as follows (as % of smokers):

	Males	Females	Sexes combined
Cigarettes only	44.4	94.6	60.5
Cigars only	8.0	1.2*	5.8
Pipe only	2.0	0.0	1.4
Cigarettes (only or in combination)	82.4	99.6*	88.0
Hand-rolled cigarettes (only or in combination)	34.6		
Pipe (only or in combination)	21.2	3.1	15.4
Cigars (only or in combination)	50.8	5.0	15.4
Pipe and/or cigar (with or without cigarettes)	55.6	5.4†	
Cigarettes and cigars	26.3	1.2	18.3
Cigarettes and pipe			2.0
Cigars and pipe			4.8
Cigarettes, cigars and pipe			7.2

Male data variously presented originally as numbers of smokers, or as % of sample. With the exception of item marked †, female data are estimated by subtraction, and should be regarded with caution. The evident discrepancy between the items marked * is probably due to inaccuracy in the estimates caused by missing values in the different source tables.

- d. Results for prevalence (Table 4) shown as source 1 are taken from a table given by Gadourek for all ages combined. Results shown as source 2 are taken from van Reek (1983), and are similar to age-specific results given by Gadourek (although for wider age groups). The reason for the discrepancy in the all-ages result, particularly for females, is unknown. The source 2 results appear more compatible with Gadourek's statement that female smoking prevalence had increased when reported in a later survey (see source 4).
- e. Results shown as source 1 for amount smoked per smoker (Table 5) are based on data given by Gadourek and consumption category estimation (see note g), and refer to any smoking in cigarette equivalents, assuming 7g per cigar, 4g per cigarillo and 1 g per cigarette. Results shown as source 2 were given by Van Reek as cigarettes per cigarette smoker. Gadourek also gave the median amount smoked, as 17.2 for men and 2.8 for women.
- f. Gadourek calculated the % of total sales as 70.0%.
- g. Consumption category estimation (source 1) based on 1, 2-3, 6-9, 10-13, 14-17, 18-21, 22-25, 26-29 and 30+ cigarette equivalents per smoker/day.
- h. Assumed extensions to age distribution for percentage smokers and for cigarettes/person/day are shown in the extended versions of Tables 4 and 6 respectively in the Excel tables workbook.

3 Readers Digest (1963), van Reek (1983)

- a. Series of surveys conducted in European countries using identical questionnaires. The Dutch survey was conducted by Nederlandse Stichting voor Statistiek, as the 'Products and people' study. Random sample of about 2 000 people.
- b. For both sexes combined (where 48% smoked cigarettes), filter cigarettes were smoked by 10% and non-filter by 40%. It is also reported that 17% of men (14% age <40 and 20% age 40+) smoked a pipe, and that 46% of men (32% age <40 and 56% age 40+) smoked cigars.
- c. Assumed extensions to age distribution for percentage smokers are shown in the extended version of Table 4 in the Excel tables workbook.

- 4 Gadourek and Nass (1963) quoting Geillustreerde Pers N.V. (Illustrated Press) (1962)**
- Lezerskringonderzoek (Readership survey) REVUE conducted by Attwood Statistics Ltd., for Geillustreerde Pers N.V. (Illustrated Press). Sample size 7 444.
 - The prevalence among men of cigar smoking was 39% and of pipe smoking 12%.
 - The *All ages* values refer to ages 15+; age-specific data are not available for the age group marked *.

- 5-6 Surveys by NIPO (Nederlands Instituut voor de Publieke Opinie en het Marktonderzoek)**
Various surveys by NIPO for 1966-1976 are shown as source 5, while those from 1978 onwards, commissioned by Stichting Volksgezondheid en Roken (STIVORO) are shown as source 6.

- 5 1966, 1971: de Haas (1973), de Haas and de Haas-Posthuma (1980)
1972-1976: Merzdorf *et al* (1982), quoting personal communication**

- Surveys by NIPO. The 1966 and 1971 studies were commissioned by the Koningin Wilhelmina Fonds (Queen Wilhelmina Fund). Sample size (1971) 2 622. No further information available for the 1972-1976 surveys.
- In 1966 and 1971, women were reported to smoke only cigarettes or shag. For men, the prevalences of smoking different products (only or in combinations) were:

	1966	1971
Cigarettes/shag	67	58
Cigars	33	25
Pipe	14	9

- Cigarettes per person data for 1971 (Tables 6-7, marked * against the source number) are medians (de Haas (1973)), and were not clearly defined as referring to manufactured or to all cigarettes, or to per person or to per smoker. We assume that they refer to total cigarettes per person, and thus derive the cigarettes per smoker data shown in Table 5. The original author stated that the % total sales was 99%, whereas 83% is estimated by our method. These figures should be regarded with caution.

- 6 1978 (first survey): Merzdorf *et al* (1982) quoting personal communication
1978 (second survey): Baan (1984), and Merzdorf *et al* (1982) quoting personal communication
1979: de Haas and de Haas-Posthuma (1980)
1980 onwards: Stichting Volksgezondheid en Roken (1983, 1988), Stivoro (1996-2012, 1997-2012, 2012b), van Laar *et al* (2012)**

Additional information 1981: van Reek (1983), 1982: van Reek (1982, 1984)

- Continu Onderzoek Rookgewoonten (COR, Continuous Survey of Smoking Habits). Surveys by NIPO (later TNS NIPO) for Stichting Volksgezondheid en Roken (Foundation for Smoking and Health, later STIVORO). From 1978-2000, consistent methods were used, described in note c below, with methods for 2001 onwards described in note d.
- Two surveys reported for 1978 by Merzdorf *et al* (1982), the first for ages 13+ and the second for 15+, are assumed to be part of this series.
- Until 2000, interviews were conducted at home with all members of the household. Proxy interviews were conducted if the subject was not at home when the interviewer called, for example in 1979, this applied to 53% of males and 18% of females (among 15-19-year-olds: 63% males, 53% females). As this procedure was found to have produced systematic bias in 15-24-year-olds, van Reek (1982) gave alternative estimates (not shown) by increasing the prevalence estimates by 4 percentage points in that age group.

Year	Sample size
1978	15 466
1979	21 058
1980	16 977
1981	15 070
1982	13 841
1983	16 133
1984	17 384
1985	22 479
2000	20 279

- d. From 2001, the research method was changed to self-completed questionnaires returned to NIPO via the Internet, as part of the omnibus survey Capi @ home. TNS NIPO Base is a database of 200,000 respondents who indicated that they wished to participate in research by TNS regularly; a representative sample of approximately 200 households was drawn weekly, from which up to 2 persons (specified in advance, aged 15 or more) were interviewed, with proxy responses allowed if they were unable to fill in the questionnaire themselves. This resulted in higher response rates and fewer proxy interviews. From 2009, the sample was drawn at individual (rather than household) level.

Year	Sample size	Response rate (%)
2001	18 361	
2002	18 212	
2006	18 031	
2009	19 693	69
2010	18 768	70
2011	18 586	70
2012	18 289	68

- e. Smokers: answered yes to "Rookt u (wel eens)?" (Do you smoke at all?). Regular smokers (from 2000): smoked daily. Regular cigarette smokers: see note g below.
- f. The prevalence of manufactured cigarette (MC) smoking (Table 4) for 1982 was given by van Reek (1984); for 1997-2012, MC smoking is estimated from the prevalence of smoking any product and the proportion within smokers smoking manufactured cigarettes (as shown for selected years in note i).
- g. We estimated the prevalence of total cigarette (TC) smoking (1997-2012, marked * against the source number in Table 4) by adjusting the prevalence of smoking any product by the number of respondents who reported their amount smoked (1+ manufactured or hand-rolled cigarette per day) compared with the number who reported smoking any product. These estimates are then used to derive the estimates of cigarettes per person (Table 6-8). The TC estimates for these years in Tables 4, 6-8 should be regarded with caution.
- h. In 1979, the product(s) smoked were as follows (as % among smokers):

	Males					Females				
	15-24	25-49	50-64	65+	15+	15-24	25-49	50-64	65+	15+
MC	26	28	30	21	27	65	77	85	83	75
MC + P/C	4	5	10	8	6	0	1	1	4	1
HR	41	31	24	16	29	17	11	9	8	12
HR + P/C	4	7	7	8	6	1	0	0	1	1
MC + HR	18	14	9	6	13	16	9	5	2	10
MC + HR + P/C	3	5	3	3	4	1	1	0	0	1
C	2	5	12	28	9	0	1	0	1	0
P	1	2	2	4	2	0	0	0	0	0
P + C	1	3	4	6	3	0	0	0	0	0

MC = manufactured cigarettes, HR = hand-rolled cigarettes (shag), P/C = pipe and/or cigars, C = cigars, P = pipe.
Source: de Haas and de Haas-Posthuma (1980)

- i. The product(s) smoked were as follows (% among smokers age 15+):

	Males				Females			
	MC	HR	Pipe	Cigar/ cigarillo	MC	HR	Pipe	Cigar/ cigarillo
1997	39.7	67.6	3.4	15.5	68.5	47.6	0.1	1.6
2000	40.9	66.7	2.9	12.9	70.3	45.6	0.1	1.0
2005	49	62	2	23	79	42	0.1	3
2010	55	54	3	25	79	38	0	5

MC = manufactured cigarettes, HR = hand-rolled cigarettes (shag).

Note: Multiple responses possible. Selected years shown – available annually 1997-2010.

Source: Stivoro (1997-2012)

The prevalence of e-cigarette use (sexes-combined, age 15+) was 1% throughout 2009-2012 (Stivoro (2010, 2011, 2012a, 2013)).

In 2011-12, the categories reported changed, and the responses in 2012 were as follows:

	Males	Females
Manufactured cigarettes	54	79
Self-made with filter tubing (Filterhulzen)	17	31
HR cigarettes (Shag)	51	37
Pipe	23	5
Cigar	3	0
E-cigarette	1	2

Note: Multiple responses possible. Source: Stivoro (1997-2012)

It was also reported that in 2011, 0.3% of men and 0.1% of women used smokeless tobacco (World Health Organisation (2013)).

Among manufactured cigarette smokers, the cigarette type most often smoked was:

	Males				Females			
	L T/N* filter	other filter	without filter	no answer	L T/N* filter	other filter	without filter	no answer
1997	14	63	18	5	27	66	5	2
2000	11	72	14	3	20	75	4	1
2005	16	72	10	2	27	68	3	2
2010	17	74	6	–	28	68	2	–

* Low tar and nicotine. Selected years shown – available annually 1997-2011. Source:Stivoro (1997-2012)

- j. For 1981, consumption per smoker (Table 5) is consumption of cigarettes in grams, adjusted (by van Reek (1982, 1983)) for 32% under-reporting. We used these, together with prevalence estimates adjusted to account for proxy bias (as mentioned in note c), to estimate cigarettes per person (Table 6), and found that under-reporting agrees exactly with our method of calculation. (Van Reek (1984) gives the same results for consumption per smoker, but relating to 1982.) The *All ages* values refer to ages 15+; age-specific data are not available for the age group marked *.
- k. Consumption category estimation based on 1-2, 3-7, 8-12, 13-17, 18-22, 23-27, 28-34, 35-44, 45-54, 55-64, 65-74 cigarettes (manufactured or HR) per cigarette smoker/day. For 2011, estimates by this method (not shown) were virtually identical to data (Table 5) given directly by Stivoro (accessed Dec 2013b).
- l. For 1988-1996 we have not made estimates of consumption per person because of the lack of prevalence (Table 4) and cigarettes per smoker (Table 5) estimates for the same product definition (TC), the estimate being possible only for 1979 (Table 6). See also note j above for 1981 and note g for 1997-2011.

7 TON (Tijdschriften Onderzoek Nederland) surveys

1967: de Haas (1973), de Haas and de Haas-Posthuma (1980), van Reek (1983, 1984)

1970: de Haas (1973), van Reek (1983, 1984)

- a. Sample size: (1967) 9 200 from 8 000 households, (1970) 12 648 from 10 000 households. Household response rate (1967) 83%, (1970) 84%.
- b. For women, only cigarette smoking prevalence was reported. For men, the prevalence of cigar and pipe smoking (with or without other products), by age, was as follows:

		13-24	25-34	35-49	50-64	65+	13+
Cigars	1967	11	25	30	51	63	33
	1970	6	17	18	39	55	23
Pipe	1967	9	9	11	12	21	12
	1970	5	9	5	10	17	8

8 NOP (Nationaal Onderzoek Persmedia, National Press Research) surveys

1970: Merzdorf *et al* (1982)

1972: Merzdorf *et al* (1982) quoting Ministerie van Volksgezondheid en Milieu Hygiene (1975), van Reek (1984)

1975: Merzdorf *et al* (1982)

1979: van Reek (1983, 1984)

- a. Sample size:(1972) 30 746, (1975) 10 215, (1979) 9 930.
- b. Data for 1970 relates to same survey as source 7 (before 1972, NOP surveys were called TON surveys).
- c. In 1972, consumption per smoker (Table 5) is consumption of cigarettes in grams, adjusted (by van Reek) for 23% under-reporting. By our method of calculation on consumption per person, the survey represents 89% of total cigarette consumption.

9 Sijlbing (1984)

- a. Report for SWOAD (Stichtingvoor Wetenschappelijk Onderzoek van Alcohol- en Druggebruik, Amsterdam). Sample size 1 306, representative national sample. Interviews in September 1983.
- b. Regular cigarette smokers: defined themselves as such. All smokers: smoked regularly or only at a party.
- c. Consumption category estimation based on <3 (assume 1-2), 3-5, 6-10, 11-15, 16-20, 21-25, and 26+ cigarettes/smoker/day. Calculations of consumption per person based on all smokers (including occasional).

10 Todd (1986)

- a. Cigarettes per person (1979) estimated by Todd.

11 Merzdorf *et al* (1982), quoting Ministerie van Volksgezondheid en Milieu Hygiene (1975)

- a. Assumed extensions to age distribution for percentage smokers are shown in the extended version of Table 4 in the Excel tables workbook.

12 Merzdorf *et al* (1982), quoting Nederlandse Stichting voor Statistiek

- a. Lowest age group 10-12.

13 van Reek (1982), Baan (1988), Stichting Volksgezondheid en Roken (1983, 1988), Stivoro (1996-2012, 1998-2012, accessed Dec 2013a)

- a. Roken Jeugd Monitor (RJM, Smoking Youth Monitor). Nationally representative surveys by NIPO (Nederlands Instituut voor de Publieke Opinie en het Marktonderzoek, later TNS NIPO) for Stichting Volksgezondheid en Roken (Foundation for Smoking and Health, later STIVORO). Face-to-face interviews, outside the parental home. From 1995, information was recorded on a laptop computer, and interviews for those of school age took place at school; interviews with those not in education took place elsewhere; in both cases, interviews were not in the presence of teachers, parents or other students. Lowest age group 10-12.

Year	Sample size
1978	712
1979	2 474
1981	2 592
1982	2 435
1983	2 457
1984	2 390
1985	2 434
1992-1999	about 5 000
2000onward	about 4 400

- b. The product smoked was as follows (percentages among 10-19 year olds who had smoked in the last 4 weeks):

	Boys				Girls			
	Cigarettes	HR	Both	Other	Cigarettes	HR	Both	Other
1998	62	11	27	–	36	25	39	–
2005	52	18	26	4	74	4	22	0
2012	66	10	22	3	91	2	7	0

Selected years only shown, annual data available 1998-2012. HR = hand-rolled, "shagjes", Both = cigarettes and HR. Source: Stivoro (1998-2012)

As the "other" category was not shown before 2005, estimates of total cigarette (TC) smoking prevalence for 1998-2004 (not shown) can be assumed to be the same as for all smokers (product code U in Table 4), and estimates in Table 4 of manufactured (MC) and TC smoking prevalence for 2005-2012 exclude any "other" smokers who smoked cigarettes as well as other products.

- c. Smokers marked as frequency *: smoked every day. Regular smokers: smoked 1+ times per week. All smokers: (1978-1981) answered yes to "Rook je wel eens?" (Do you smoke at all?), (1982 onwards) smoked in last 4 weeks.
- d. Cigarettes per smoker (Table 5) for 1981 refers to daily smoking. For 2012 refers to those who smoked in last 4 weeks, counting those who smoked <1 per day as 0.5; the average number of hand-rolled cigarettes per hand-rolled smoker was (males) 6.8, (females) 7.1.

- 14 Wafelbakker (1968)**
- Study among pupils and ex-pupils of a technical school in Leiden, 1965-66. Sample size 1 310.
 - Regular smokers: smoked pipes, or 1+ cigarettes per week. All smokers: additionally includes occasional smokers.
 - Consumption category estimation based on 1-9, 10-39 and 40+ cigarettes/smoker/week, with pipe smokers included in the first category.
- 15 van der Wal (1985)**
- Nationwide survey on smoking, alcohol and cannabis, conducted by school medical services in 300 schools. Sample size 24 989.
 - Survey covered ages 10+, but only results for age 12+ are presented here.
 - Consumption category estimation based on 1, 2, 3-4, 5-6, 7-9, 10-14, 15-19, 20-24, and 25+ cigarettes/smoker/day .
- 16 van Reek *et al* (1985), quoting van Proosdij (1957)**
- 17 local surveys by de Bond van Nederlandse Onderwijzers (Association of Dutch Teachers) in the period 1907-1916. Total sample size 68 296 boys, aged 6-12. Results presented here for the age group 10-12. It is also reported that 26% of boys smoked at age 6-7, and that it was assumed that few girls smoked.
- 17 van Proosdij *et al* (1958)**
- Anonymous questionnaire survey, carried out with the assistance of NOV (Nederlandse Onderwijzers Vereniging, National Association of Teachers) at 24 primary schools in Amsterdam. Total sample size for school grades 4-6, 2 443. Results presented here are for grade 6, shown in Table 4 for approximate corresponding age. Sample size (males) 431, (females) 307.
 - Smokers marked as frequency *: has smoked more than once.
- 18 Council of Europe (1978) quoting Warsink (1948) (no details of reference)**
- Controls in a study of lung cancer, sample size 100. No other details available, assumed to be males only. Age group and year unknown.
- 19 Keys *et al* (1966), Streppel *et al* (2007), Jansen *et al* (2001)**
- Study started in 1960 as the Dutch contribution to the Seven Countries study on cardiovascular disease, in men only. Interview including smoking questions before medical examinations. The study was conducted in Zutphen, a small commercial town in eastern Netherlands. The target was to interview 43% of the population aged 40-59. Sample size 917, response rate 84% (Keys *et al* (1966)). A follow-up (known as the Zutphen Study) was conducted generally every 5 years, results being restricted to those 872 men with both medical and dietary data at baseline, and with an additional sample recruited in 1985. Numbers of participants analysed were as follows:
- | | 1960 cohort | 1985 cohort |
|------|-------------|-------------|
| 1960 | 917/872 | |
| 1965 | 721 | |
| 1970 | 615 | |
| 1985 | 349 | 476 |
| 1990 | 231 | 306 |
| 1995 | 114 | 161 |
| 2000 | 51 | 68 |
- The definition of cigarette smoking was given by Keys *et al* (1966) as smoking of 1+ cigarettes per day. However, according to van Reek *et al* (1991a), frequency of smoking was undefined and would probably have been interpreted as 1+ cigarette, pipe or cigar per week.
 - In 1960, 52% of men smoked both cigarettes and cigars/pipes, 23% cigarettes only and 14% cigars/pipes only – this last group smoking on average 3 cigars and 6 pipes per day. In 1985 (including the newly recruited sample), the percentages were 7%, 23% and 13% respectively (data for other years available from Streppel *et al* (2007)).
 - Consumption category estimation based on 1-9, 10-19, and 20+ cigarettes/smoker/day as given for the full 1960 sample by Keys *et al* (1966) (Table 5); an alternative estimate given directly by Streppel *et al* (2007) based on the smaller sample was 13. The estimate for 1970 was calculated by a similar method by Jansen *et al* (2001), based on 1-4, 5-9, 10-19, 20-29, 30+ cigarettes/smoker/day, assuming means of 2, 7, 15, 25, 35.

20-21 20: Strong and Bonita (2003), European Commission (2003), World Health Organization (accessed April 2013)

21: Centraal Bureau voor de Statistiek (Statistics Netherlands) (2000, accessed Feb 2014a, Feb 2014b, Feb 2014c, Feb 2014d), Statistika Centralbyrå (1995), van Rooij *et al* (2011)

- a. The Gezondheidsenquête (GE, Health Interview survey, HIS) started in 1981, and including questions on smoking from 1989. From 1997 it was incorporated as the Health module in Permanent Onderzoek Leefsituatie (POLS, POLS GEZO), then from 2010 it was again implemented as a stand-alone study. Representative of the non-institutionalized adult population. Sample size 6 000-10 000 per year. Up to 1996, sampling was of households, thereafter of individuals. Up to 1989, interviews were conducted at home with paper questionnaires. From 1990-2009, interviews were at home by CAPI (computer assisted personal interviewing). From 2010, a mixed-mode design was used, with the initial approach by CAWI (computer assisted web interviewing), and non-responders approached by CATI (computer assisted telephone interviewing) or CAPI.
- b. The questionnaire comprises a basic questionnaire and various modules. Smoking was enquired in the basic questionnaire (written) until 2000. Thereafter, the questions were altered, additional questions in the health module were asked orally, and there were changes to the routing of the questions. Results from 2000 onwards are therefore not considered comparable to earlier years (Botterweck *et al* (2003)), although a later analysis (Wong *et al* (2011)) suggested no significant effect on comparability. In 2005 and 2009, the CAPI part of NPO (Nationaal Prevalentie Onderzoek, see also source 34) was incorporated into POLS (Rodenburg *et al* (2007)).
- c. Daily smokers: smoked every day. Smokers: answered yes to “do you smoke at all” (“rookt u wel eens?”). Results shown as source **20** are taken from various international sources, and generally refer to regular smoking; results shown as source **21** are taken from national sources, and generally refer to all smoking, although there are some unexplained discrepancies between the two sets of sources.
- d. Data shown in Table 5 refer to cigarettes smoked per smoker, counted as 0 for smokers of pipes or cigars only, so may underestimate the number of cigarettes per cigarette smoker. Except for the age-specific results for 1998, data shown in Table 6 were given directly in the source reports.
- e. From 2001 onwards, the *All ages* values in Table 5 refer to ages 12+; age-specific data are not available for the age groups marked *.
- f. Assumed extensions to age distribution for percentage smokers and for cigarettes/person/day are shown in the extended versions of Tables 4 and 6 respectively in the Excel tables workbook.

22 van Reek *et al* (1990), Currie *et al* (2004, 2008, 2012)

- a. Part of the HBSC (Health Behaviour in School-Aged Children) Study, a collaborative cross-national research study sponsored by the WHO. School classes or schools were randomly selected, targeting age groups 11 (not presented here), 13 and 15. The target sample size in each age group was 1 000 – 1 500. For the 1985/86 and 1989/90 waves, fieldwork in the Netherlands was carried out after the scheduled dates (Currie *et al* (2008)), and results are not available from the international reports. Results (Table 4) for 1986 are taken from van Reek *et al* (1990).

Year	Mean age				Sample size	
	Target age 13		Target age 15		Target age 13	Target age 15
	Boys	Girls	Boys	Girls		
2001	13.5		15.5		1 519	1 273
2005	13.5		15.4		1 515	1 363
2009	13.5		15.4		1 580	1 457

- b. Smokers marked as frequency *: smoked daily. Regular smokers: smoke once a week or more. All smokers: includes those smoking less than once a week.

23 Joossens *et al* (1999) quoting Commission of the European Community

- a. 1987 represents 1987/1988 etc. Age group not stated.

24 van Reek *et al* (1991b, 1993)

- a. Dutch Cohort Study. Baseline survey in 1989 at 36 randomly selected secondary schools. Questionnaires completed in class with teachers present. Sample size 1 454. A postal follow-up survey in 1991 (to the home address) achieved 76% response, increased to 82% by telephone interviews. Sample size 1 192.
- b. Approximate age corresponding to school grade.
- c. Smokers marked as frequency *: regular daily smoker. Regular smoker: smoked last week. All smokers: smoked last month.

25 Organisation for Economic Co-operation and Development (1993)

- a. No original source.

26 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. Regular smokers: smoked at least once a week.

27 USDA (1996, 1999) quoting Dutch Cigarette Manufacturers Association

- a. It is also reported that in 1995, among smokers of both sexes combined, 35% smoked cigarettes only, 24% smoked roll-your-own, 34% smoked cigarettes and roll-your own, and 7% smoked other products.
- c. Assumed extensions to age distribution for percentage smokers are shown in the extended version of Table 4 in the Excel tables workbook.

28 Hibell *et al* (2000, 2004, 2009, 2013)

- a. Nationally representative survey forming part of ESPAD (European School Survey Project on Alcohol and Other Drugs). Survey of pupils in school grades 3-5 (1999) or 3-4 (2003, 2007), selecting those born within a target year, thus age 15-16 at the time of the survey. At least 85% of 15-16 year-olds were still in school in each survey year, with 92% in the surveyed grade(s). Anonymous questionnaire completed in class, with teachers absent or at the back of the classroom. In 1999, each pupil had a sticker to seal the questionnaire, and in other years the questionnaires were all sealed in a class envelope.

Date	Sample size		Participation rate (%)			Target year of birth	Average age
	Males	Females	Schools	Classes	Pupils		
Oct-Dec 1999	1 256	1 359			94	Jul 1983-Jun 1984	15.4
Oct-Nov 2003	1 061	1 034	72	97	93	Aug 1987-Jul 1998	15.7
Oct-Nov 2007	994	1 097	55	98	93	Aug 1991-Jul 1992	15.8
Oct-Nov 2011	1 037	1 007	50	-	93	Aug 1995-Jul 1996	15.8

- b. The Netherlands did not participate in the first round of ESPAD surveys (1995). Unlike other participating countries, surveys in the Netherlands were conducted in the autumn, and the target population was defined as births some 6 months later than for other countries. In 1999, there were other methodological differences – using quota sampling methods and asking only half the standard ESPAD questions, with some differences in wording (e.g. “last 4 weeks” rather than the usual “last 30 days”) – so results are not fully comparable.
- c. Smokers marked as frequency *: smoked 1 or more cigarettes per day in last 30 days (1999: last 4 weeks). All smokers: smoked in last 30 days (1999: last 4 weeks).
- d. Consumption category estimation based on 1-5, 6-10, 11-20, 21+ cigarettes/smoker/day.

29, 30 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, 2009, 2012)

- a. 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 approximately 1 000.
- b. These surveys provide results that are comparable across countries. However, they have been criticised for having small sample sizes and for generating “estimates that are in some cases widely discrepant from more substantive national sources” (Bogdanovica *et al* (2011)).
- c. 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 29). 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 **30**). For 1994 itself (Eurobarometer survey 41.0) results were available according to both sample definitions and both are presented.
- Two waves of the survey were carried out in each of 1988 and 1989. Prevalence data from both waves are presented in Table 4. Data on cigarettes per smoker and per person are available only from the first wave in each year.
 - Frequency U (in Table 4) represents positive answers to questions such as “Do you smoke cigarettes?” or “You smoke packeted cigarettes”. From 2002-2006 an additional question made it possible to identify regular smokers also; our estimates of regular cigarette smoking assume that the proportion smoking regularly applies equally to smokers of each product, which may overestimate by including any regular smokers of pipe/cigar/hand-rolled who only occasionally smoked manufactured cigarettes (and similarly for regular smoking of total cigarettes). The 2009 survey used a questionnaire format that clearly asked about regular and occasional smoking and so frequency codes R and A are used.
 - In the years when it was enquired, use of smokeless tobacco was negligible (1 user in 1995, none in 2002, 2005 or 2009)
 - In 2012, the prevalence of smoking (age 15+, sexes combined, sex-specific data not yet available) was 24%. Among smokers, 73% smoked boxed cigarettes, 50% hand-rolled cigarettes, 12% cigars and 5% pipes. (Special Eurobarometer 385 wave 77.1, European Commission (2012))
 - Consumption category estimation based on <5, 5-9, 10-14, 15-19, 20-24, 25-30, 31-34, 35-40 and 41+ cigarettes/smoker/day (1987 only) and <5, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39 and 40+ cigarettes/smoker/day (other years). Exact values for cigarettes/smoker/day are available for 2009 (see also Appendix III).
 - 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.

31 ITC Project (2009, 2010)

- International Tobacco Control (ITC) Policy Evaluation Project. Nationally representative telephone and web-based panel survey of current cigarette smokers, started in 2008. Sample size 2 224 (Wave 1), 2 013 (Wave 3).
- Results shown in Table 5 are assumed to refer to wave 3 conducted in 2009.
- The distribution (%) by cigarette type, for the sexes combined, was as follows:

Year	Age	Manufactured only	Roll-your-own only	Both types
2008	<18	47.4	5.8	46.8
2008	18+	45.7	32.1	22.3
2009	18+	45.4	32.2	22.4

- Consumption category estimation based on <10, 11-20, 21-30 and 30+ (assumed 31+) cigarettes/smoker/day.

32-33 Monshouwer *et al* (2008), Verdurmen *et al* (2012)

- Peilstationsonderzoek (Dutch National School Survey), a series of surveys conducted in schools by the Trimbos Institute using a uniform questionnaire since 1988. Results not available for the first wave conducted in 1984. Forming part of the ESPAD series since 2003 (see also source **28**). Multistage sampling of schools and classes, with all students present on the day completing the questionnaire in the classroom with research assistants present. Results presented here refer to secondary school students. Results for the final two years of primary education (ages 10-11) are also available (see also e.g. Verdurmen *et al* (2004)). Results shown as source **32** refer to all students (ages 12-18), while results shown as source **33** refer to ages 12-16 only, when schooling is compulsory, and are representative of Dutch youth except for those in special education. Response rate for schools (2007) 57%, (2011) 48%. Sample size (secondary students) (2007) 7 550, (2011) 7 722.
- Smokers marked as frequency *: smoked daily. All smokers: smoked in the last month. Alternative estimates defined as those who smoked in the last month and smoked an average of 1+ cigarettes per day also available for 2007 and 2011 (not shown), and were somewhat higher than the results shown for daily smokers in Table 4.
- Results in Tables 5 and 6 (2011 only) refer to daily smokers. For other years, distributions of monthly smoking <1, 1-10 and 10+ cigarettes per day are available, but we do not present estimates of average cigarettes per smoker using our standard method because use of the standard distribution based on adult smoking would be inappropriate for this age group, especially with the limited number of categories.

34 Abraham *et al* (2002), van Rooij *et al* (2011)

- a. Nationaal Prevalentie Onderzoek (NPO, National (drug use) Prevalence Survey). Surveys commissioned by CEDRO (Centre for Drug Research, University of Amsterdam), with field work by NIPO, in 1997 and 2001. Nationally representative surveys, ages 12+, using the Municipal Population Registries, thus including high-school drop outs, but excluding homeless persons and illegal residents. Sample size (1997) 21 959, (2001) 17 655. Response rate (1997) 53%, (2001) 44%.
- b. In 1997, interviewing was by Computer Assisted Personal Interviewing (CAPI). In 2001, 20% of the sample used CAPI and for the remainder Multi Method (MM) was used, with respondents initially offered a choice of mailed questionnaire (paper or computer disk) or internet questionnaire, and non-respondents then offered computer assisted telephone interview (CATI). Differences between the methods were found to be small (Abraham *et al* (2002)). Results in Table 4 for 2001 for age 15-64 are based only on the 2 312 CAPI respondents.
- c. Earlier surveys were conducted in specific cities and are not included in this report. Later national surveys (2005, 2009) were conducted by IVO (Instituut voor Onderzoek naar Leefwijzen en Verslaving, Addiction Research Institute), restricted to ages 15-64 (Rodenburg *et al* (2007), van Rooij *et al* (2011)). In 2005, CAPI and an online panel were used, but only results from the CAPI respondents were reported. In 2009, only CAPI was used for the tobacco questions. The CAPI part of these surveys was executed by Statistics Netherlands, incorporated into the POLS survey, and results are presented as part of source **20-21**.
- d. In 1997, questions referred to smoking cigarettes, shag, cigars or pipe, in 2001 to smoking tobacco. Regular smokers: smoked daily. All smokers: smoked in the last month.
- e. In Table 4, in the results for all smokers (frequency code A), the *All ages* values refer to ages 12+; age-specific data are not available for the age groups marked *.
- f. Consumption category estimation (1997 only) based on two categories, 1-19, 20+ cigarettes, cigars or pipes per smoker/day and resulting figures should be regarded with caution.
- g. Assumed extensions to age distribution for percentage smokers and for cigarettes/person/day are shown in the extended versions of Tables 4 and 6 respectively in the Excel tables workbook.

35 de Vries *et al* (2003)

- a. Part of the European Smoking prevention Framework Approach (ESFA). Schools in 5 selected regions ranging from rural to urban were randomised to participate in a smoking prevention programme or as controls. Results refer to the baseline survey. Pupils were informed of confidentiality, then completed questionnaires in class with teacher present, and forms were then sealed in envelopes. Sample size (schools) 33, (students) 3 963.
- b. Table 4 shows approximate ages corresponding to school grade 2.
- c. Smokers marked as frequency *: smoked daily. Regular smokers: smoked weekly.

Additional notes (not presented in tables)

de Haas (1974) quoting Wiberdink and van Blaaderen-Stok (1957) reported that: 'In the fifties 5-10% of 15-year-old boys were regular smokers'.

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