
International Smoking Statistics

Web Edition

A collection of worldwide historical data

Japan

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¹ See footnotes to Tables

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Preface

International Smoking Statistics is a collection of smoking data covering most of Europe and various other economically developed countries. The second edition (published by Wolfson Institute of Preventive Medicine and OUP, 2002, www.oup.co.uk/isbn/0-19-850856-5) 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 www.pnlee.co.uk include:

Methods, including

Appendix I: *Estimated size of adult population;*

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

Appendix III: *Consumption category estimation;*

Comparisons between countries;

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

Tables from each updated chapter, in Excel format, 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 all the included

countries (although for countries with chapters only partially updated in the web edition, the original Supplement tables have been reproduced without being updated). 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].

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*.

In the 19th century, kizami (very finely-cut tobacco) smoked in kiseru (a long-stemmed pipe) was the predominant form of smoking. Consumption of manufactured cigarettes rose in the early years of the 20th century. From 1920 until about 1943 the consumption of manufactured cigarettes per adult increased slowly from 2 to 3 cigarettes per day. Towards the end of the Second World War there was a sharp drop in consumption, but thereafter consumption continued to increase until the late 1970s when it reached a peak of nearly 10 manufactured cigarettes per adult per day. It decreased gradually to 8 cigarettes by the early 2000s then dropped quite rapidly to around 4.5 cigarettes by 2015. Consumption of hand-rolled cigarettes is believed to have been rare apart from during the immediate post-war period. [*See note, p. 8*]

The consumption of all tobacco products per adult was about 4 g per day from 1920 to 1944; it dropped to 2 g per day in 1945. After the war it increased to nearly 10 g per day by the late 1970s. It decreased to 9 g per adult per day in the 1980s, after which estimates cannot be made because the data available concern cigarettes only.

Apart from the immediate post-war period, the proportion of tobacco consumed in manufactured cigarettes increased, from 45% around 1920 to 90% about 1950 and to almost 100% about 1970, while kizami correspondingly decreased; consumption of other products was negligible.

Early cigarettes had paper mouthpieces. These were gradually replaced by western-style plain cigarettes. Filter cigarettes became popular during the 1960s, and virtually all tobacco was consumed as filtered manufactured cigarettes after the 1970s.

Survey data

See Tables 4-8, Figures 1 and 2 and *Notes on sources of survey data*.

Information on smoking for those aged 20 years and over has been available annually since 1949 from industry sources (source 1), and since 1986 from a government sponsored health and nutrition survey (source 22). No data were available on smoking among teenagers until 1979, smoking by minors having been illegal since 1900 (see *Additional information*, p. 52). It has therefore been particularly difficult to estimate the overall adult (aged 15 years and over) prevalence of smoking in Japan as shown in Table 8. The assumed extensions to the age distribution for ages 15-19 are of a more speculative nature than in other countries. However, we hope that any error is relatively unimportant as the assumed extensions apply only to a small proportion of the adult population and are consistent over the years. [*See note, p. 8*]

From 1949 until the mid-1970s, the estimated prevalence of cigarette smoking among those aged 15 years and over was about 70-75% in men. It then declined steadily to around 30% by 2016. Among women it remained at about 10-15% throughout that period. Estimates from source 22 are generally lower than those from source 1. From 1968 to 1975, when separate data on occasional smoking

were available, the prevalence of regular smoking was 2-4 percentage points lower than of all smoking (regular and occasional) for both men and women. Similar data are available for 2003 onwards: in these later years, the differences in prevalence of regular compared with all smoking was 2-3 percentage points lower in men and 1-2 percentage points in women.

Data on adult smoking by age have been available since 1965. The prevalence of smoking decreased somewhat among men at all ages. Prevalence among the youngest age group (20-29) was greater than that in the oldest age group (60+) throughout, but this difference varied over time: initially prevalence reduced with age (from around 80% in the youngest to around 70% in the oldest during 1965-1979) but gradually the highest prevalence moved into the middle years with prevalence in 2015-2016 being below 30% in the lowest and highest ages and in the high 30% in the middle years. For women, in the earliest surveys the prevalence increased with age. For young women the prevalence of smoking increased then decreased (peaking at above 20% in 2000-2005 for ages 20-29) but for older women (aged 60+) prevalence decreased rapidly, from around 20% in 1965-1975 to below 10% by 1995, and stayed below 10% thereafter. By the mid-2010s, prevalence was, as for men, highest in the middle years.

Surveys on teenage smoking, locally based in the 1980s and nationally based from 1989, show the prevalence of smoking to be much lower among girls than among boys. Although smoking below age 20 is illegal in Japan, some quite high levels of smoking were reported among older teenagers between 1980 and 2000: among 17-18 year olds, as high as 51% of boys and 25% of girls reported current smoking. In later years this fell to single figures in both sexes.

Comparison of survey and sales data suggests that there has been a gradual shift from overstatement by about 10% in the 1960s to understatement by 20-30% since 2000. Between 1949 and the mid-1970s, the estimated number of cigarettes smoked per person per day (sales-adjusted) increased for men from about 5 to 17.5, and then declined to 7.5 around 2015. For women it increased from 1 to 3 (in 2002) then fell to around 2 by 2010.

Note: We have withdrawn estimates, included in previous editions of this book, which were based on the assumption that all fine-cut tobacco was used in hand-rolled cigarettes. We have also revised downwards our assumed extensions to the age distribution for ages 15-19 from 1985, resulting in lower estimates in Table 8 than in earlier editions.

Table 1.1 Total annual sales of tobacco products, 1920-1973

Year	Manufactured cigarettes		Cigars		Fine-cut tobacco tonnes	Pipe tobacco tonnes	All tobacco products tonnes
	tonnes	millions	tonnes	millions			
1920	20 960	20 954	20	3	26 220	0	47 200
1921	22 740	22 732	20	3	26 130	0	48 890
1922	24 030	24 031	20	3	25 170	0	49 220
1923	27 220	27 220	30	5	24 630	0	51 880
1924	28 950	28 943	20	3	23 770	0	52 740
1925	27 280	27 273	30	4	23 630	0	50 940
1926	27 210	27 205	20	3	23 810	0	51 040
1927	29 180	29 178	20	3	23 900	0	53 100
1928	30 960	30 954	20	3	22 950	0	53 930
1929	31 670	31 664	20	3	23 590	0	55 280
1930	30 210	30 201	10	1	23 540	0	53 760
1931	29 370	29 368	10	1	22 860	0	52 240
1932	31 840	31 831	10	1	23 180	0	55 030
1933	33 540	33 536	20	3	22 720	0	56 280
1934	36 630	36 625	20	3	22 230	50	58 930
1935	37 910	37 907	20	3	21 590	0	59 520
1936	38 480	38 477	10	2	20 910	0	59 400
1937	40 650	40 641	10	1	21 590	0	62 250
1938	40 980	40 974	10	1	20 180	0	61 170
1939	48 130	48 125	10	1	18 600	0	66 740
1940	51 390	51 381	10	2	19 600	0	71 000
1941	52 440	52 428	10	1	18 730	0	71 180
1942	53 840	53 830	10	1	19 280	0	73 130
1943	54 270	54 258	0	0	18 910	0	73 180
1944	45 780	45 770	10	1	18 510	0	64 300
1945	14 690	14 691	0	0	16 330	0	31 020
1946	15 720	15 715	0	0	31 660	0	47 380
1947	17 850	17 843	0	0	29 350	0	47 200
1948	34 270	34 263	20	3	22 630	230	57 150
1949	52 750	52 744	30	5	13 110	50	65 940
1950	65 310	65 298	10	2	9 840	50	75 210
1951	74 010	73 995	10	1	8 980	50	83 050
1952	80 190	80 177	0	0	8 030	50	88 270
1953	89 530	89 516	0	0	7 300	50	96 880
1954	95 630	95 614	0	0	7 210	50	102 890
1955	97 660	97 646	0	0	6 490	50	104 200
1956	97 250	97 212	10	1	5 810	50	103 120
1957	101 420	101 403	10	1	5 220	50	106 700
1958	107 410	107 415	10	1	4 850	50	112 320
1959	113 170	113 196	10	1	4 260	50	117 490
1960	122 740	122 760	10	1	3 720	50	126 520
1961	134 400	134 431	10	1	3 040	50	137 500
1962	142 020	142 013	10	2	2 490	50	144 570
1963	150 950	151 111	10	1	2 040	50	153 050
1964	160 660	160 807	10	1	1 770	50	162 490
1965	171 280	171 449	10	1	1 500	50	172 840
1966	181 300	181 488	10	2	1 410	50	182 770
1967	193 910	193 932	20	3	1 040	90	195 060
1968	196 720	196 709	10	2	950	90	197 770
1969	211 330	211 316	10	2	860	50	212 250
1970	222 120	222 132	10	2	640	50	222 820
1971	235 500	235 449	10	2	410	50	235 970
1972	252 690	252 665	10	2	410	90	253 200
1973	266 760	266 692	10	2	410	90	267 270

Source: see *Notes on sources of sales data: Sales data before 1974*, p. 44

Table 1.2 Total annual sales of tobacco products, 1970-2015

Year	Manufactured cigarettes		Cigars		Fine-cut tobacco tonnes	Pipe tobacco tonnes	All tobacco products tonnes
	tonnes	millions	tonnes	millions			
1970	222 880	222 880	128	19	614	113	223 735
1971	236 324	236 324	130	19	405	131	236 990
1972	253 984	253 984	199	29	408	184	254 775
1973	268 727	268 727	269	40	376	244	269 616
1974	287 118	287 118	283	42	359	286	288 046
1975	293 112	293 112	193	28	360	338	294 003
1976	291 448	291 448	242	36	327	286	292 303
1977	303 845	303 845	963	142	294	223	305 325
1978	304 719	304 719	928	136	292	183	306 122
1979	310 774	310 774	481	71	94	163	311 512
1980	307 665	307 665	249	37	13	153	308 080
1981	312 054	312 054	201	30	18	152	312 425
1982	315 073	315 073	172	25	10	144	315 399
1983	311 731	311 731	169	25	9	136	312 045
1984	312 597	312 597	161	24	8	119	312 885
1985 ¹	310 726	310 726	67	10			310 793
1986 ¹	308 438	308 438	56	8			308 494
1987 ¹	308 286	308 286	54	8			308 340
1988 ¹	306 415	306 415	52	8			306 467
1989		313 800					
1990		322 000					
1991		328 300					
1992		328 900					
1993		332 600					
1994		334 400					
1995		334 700					
1996		348 300					
1997		328 000					
1998		336 600					
1999		332 200					
2000		324 500					
2001		319 300					
2002		312 600					
2003		299 400					
2004		292 600					
2005		285 200					
2006		270 000					
2007		258 500					
2008		245 800					
2009		233 900					
2010		210 200					
2011		197 500					
2012		195 100					
2013		196 900					
2014		179 300					
2015		183 300					

1 All tobacco products based on cigarettes and cigars only

Source: see *Notes on sources of sales data: Sales data for 1974-2015 and additional data for 1970-1973*, p. 44

Table 1.3 Total annual sales of various types of cigarettes, 1970-1988

Year	Filter cigarettes millions	Non-filter cigarettes millions	Cigarettes with mouthpiece millions	Imperial Household (cigarettes) millions	Imported cigarettes millions
1970	200 588	21 062	482	3	745
1971	218 404	16 652	393	3	872
1972	238 335	14 005	326	3	1 315
1973	254 488	11 952	252	3	2 032
1974	273 438	10 507	210	3	2 960
1975	280 124	9 551	167	3	3 267
1976	280 127	8 458	145	3	2 715
1977	292 916	7 901		3	3 025
1978	293 860	7 264		3	3 592
1979	300 185	6 599			3 990
1980	298 109	5 852			3 704
1981	302 192	5 354			4 508
1982	305 406	4 850			4 817
1983	301 657	4 387			5 687
1984	302 046	4 004			6 547
1985	299 517	3 709			7 500
1986	293 288	3 250			11 900
1987	275 054	2 932			30 300
1988	266 593	2 622			37 200

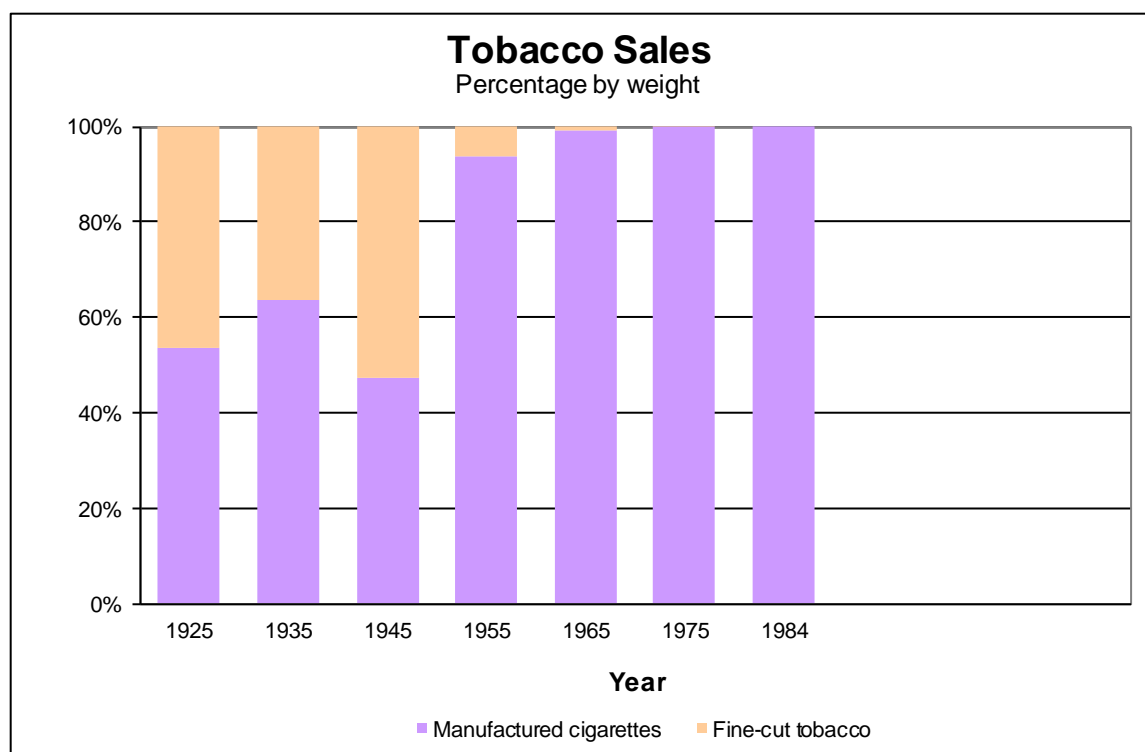
Source: see *Notes on sources of sales data: Sales data for 1974-2015 and additional data for 1970-1973*, p. 44

Table 1.4 Percentage of sales of tobacco in different forms (by weight), selected years

Year	Manufactured cigarettes %	Cigars %	Fine-cut tobacco %	Pipe tobacco
1925	53.6	0.1	46.4	0.0
1935	63.7	0.0	36.3	0.0
1945	47.4	0.0	52.6	0.0
1955	93.7	0.0	6.2	0.0
1965	99.1	0.0	0.9	0.0
1975	99.7	0.1	0.1	0.1
1984	99.9	0.1	0.0	0.0

Source: calculated from Tables 1.1 & 1.2

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



Source: Table 1.4

Table 2 Sales of 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
1920	20 954	1.6					47 200	3.6
1921	22 732	1.7					48 890	3.8
1922	24 031	1.8					49 220	3.7
1923	27 220	2.0					51 880	3.9
1924	28 943	2.1					52 740	3.9
1925	27 273	2.0					50 940	3.7
1926	27 205	2.0					51 040	3.7
1927	29 178	2.1					53 100	3.8
1928	30 954	2.2					53 930	3.8
1929	31 664	2.2					55 280	3.8
1930	30 201	2.0					53 760	3.6
1931	29 368	2.0					52 240	3.5
1932	31 831	2.1					55 030	3.6
1933	33 536	2.2					56 280	3.6
1934	36 625	2.3					58 930	3.7
1935	37 907	2.4					59 520	3.7
1936	38 477	2.4					59 400	3.7
1937	40 641	2.5					62 250	3.8
1938	40 974	2.5					61 170	3.7
1939	48 125	2.9					66 740	4.0
1940	51 381	3.1					71 000	4.3
1941	52 428	3.1					71 180	4.3
1942	53 830	3.2					73 130	4.3
1943	54 258	3.2					73 180	4.3
1944	45 770	2.7					64 300	3.7
1945	14 691	0.9					31 020	1.8
1946	15 715	0.9					47 380	2.7
1947	17 843	1.0					47 200	2.6
1948	34 263	1.9					57 150	3.1
1949	52 744	2.8					65 940	3.5
1950	65 298	3.3					75 210	3.8
1951	73 995	3.7					83 050	4.1
1952	80 177	3.9					88 270	4.3
1953	89 516	4.3					96 880	4.6
1954	95 614	4.5					102 890	4.8
1955	97 646	4.5					104 200	4.8
1956	97 212	4.4					103 120	4.6
1957	101 403	4.5					106 700	4.7
1958	107 415	4.6					112 320	4.8
1959	113 196	4.8					117 490	5.0
1960	122 760	5.1					126 520	5.3
1961	134 431	5.6					137 500	5.7
1962	142 013	5.7					144 570	5.8
1963	151 111	5.9					153 050	6.0
1964	160 807	6.2					162 490	6.2
1965	171 449	6.4					172 840	6.5
1966	181 488	6.7					182 770	6.7
1967	193 932	7.0					195 060	7.1
1968	196 709	7.0					197 770	7.1
1969	211 316	7.5					212 250	7.5
1970	222 880	7.8					223 735	7.8
1971	236 324	8.2					236 990	8.2
1972	253 984	8.6					254 775	8.6
1973	268 727	8.9					269 616	9.0
1974	287 118	9.5					288 046	9.5
1975	293 112	9.5					294 003	9.6
1976	291 448	9.4					292 303	9.4
1977	303 845	9.7					305 325	9.7
1978	304 719	9.6					306 122	9.6
1979	310 774	9.6					311 512	9.6

Table 2 (continued)

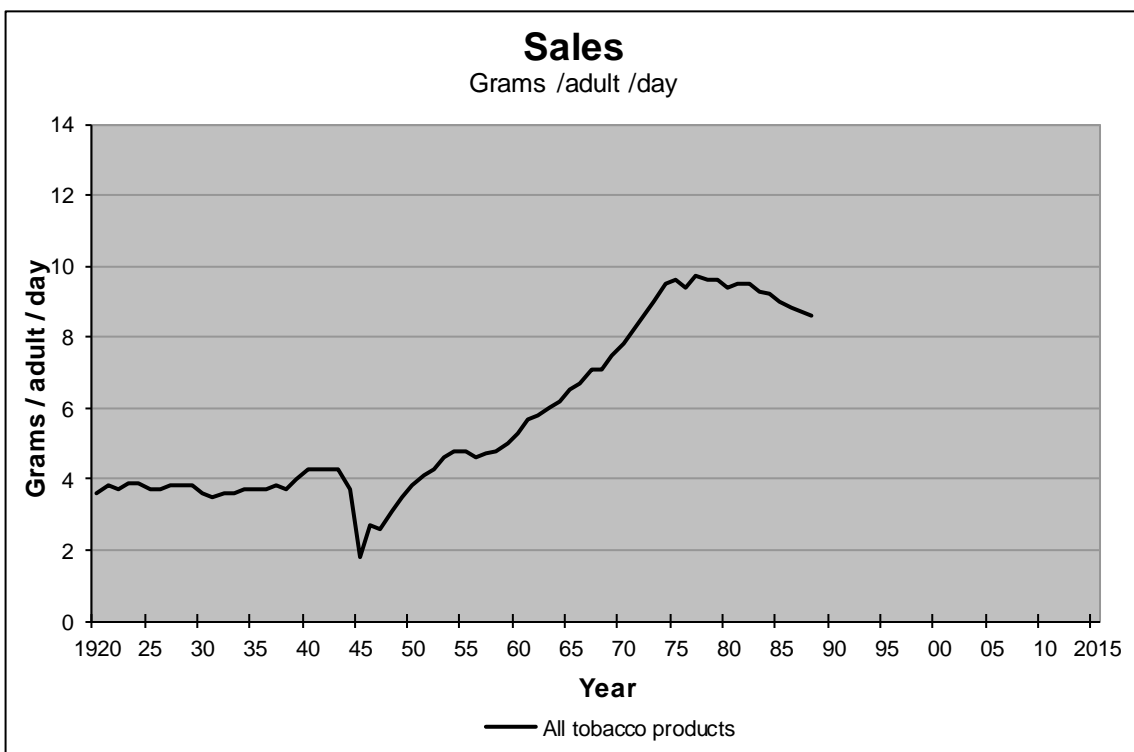
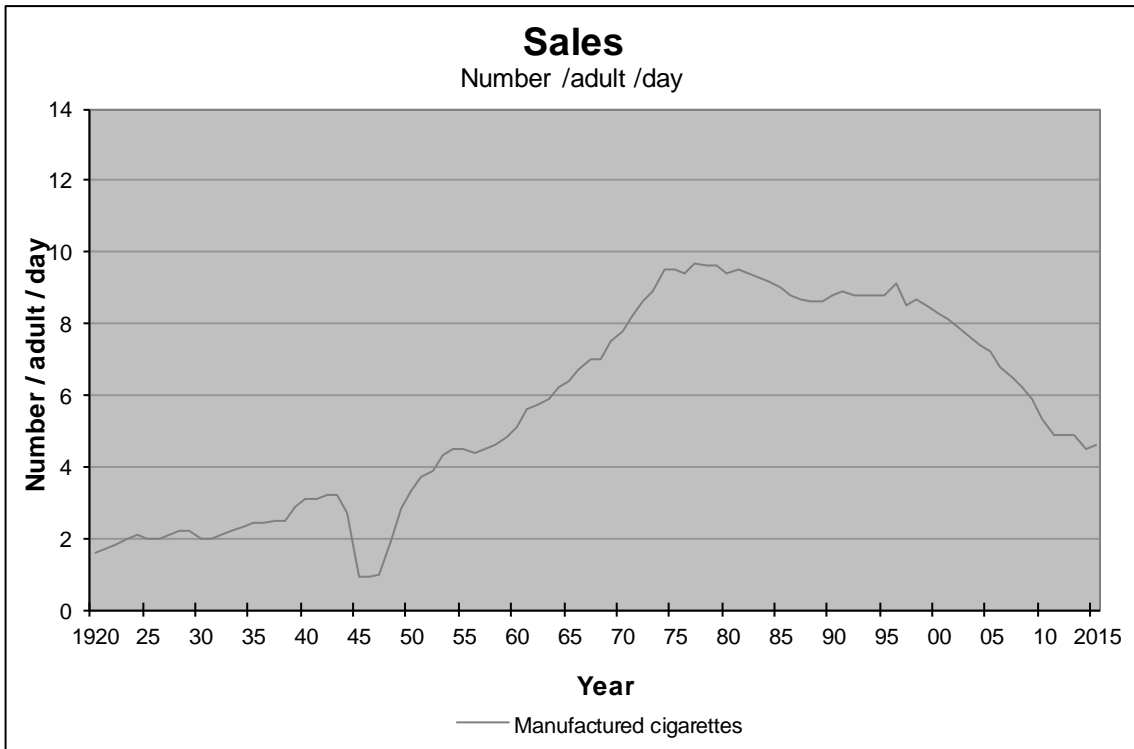
Year	Manufactured Cigarettes		Hand-rolled cigarettes		Total cigarettes		All tobacco products	
	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual tonnes	Grams/ adult/day
1980	307 665	9.4					308 080	9.4
1981	312 054	9.5					312 425	9.5
1982	315 073	9.4					315 399	9.5
1983	311 731	9.3					312 045	9.3
1984	312 597	9.2					312 885	9.2
1985	310 726	9.0					310 793	9.0
1986	308 438	8.8					308 494	8.8
1987	308 286	8.7					308 340	8.7
1988	306 415	8.6					306 467	8.6
1989	313 800	8.6						
1990	322 000	8.8						
1991	328 300	8.9						
1992	328 900	8.8						
1993	332 600	8.8						
1994	334 400	8.8						
1995	334 700	8.8						
1996	348 300	9.1						
1997	328 000	8.5						
1998	336 600	8.7						
1999	332 200	8.5						
2000	324 500	8.3						
2001	319 300	8.1						
2002	312 600	7.9						
2003	299 400	7.6						
2004	292 600	7.4						
2005	285 200	7.2						
2006	270 000	6.8						
2007	258 500	6.5						
2008	245 800	6.2						
2009	233 900	5.9						
2010	210 200	5.3						
2011	197 500	4.9						
2012	195 100	4.9						
2013	196 900	4.9						
2014 ¹	179 300	4.5						
2015 ¹	183 300	4.6						

1 Per adult data based on 2013 population.

Source: Manufactured cigarettes and all tobacco products, Tables 1.1 (to 1969) and 1.2 (1970 onwards).

Columns for hand-rolled cigarettes and for total cigarettes including hand-rolled are shown as standard for all chapters, although for Japan no estimates are available. See also *Consumption of hand-rolled cigarettes*, p.45. Population, see *Population*, Methods p. 14.

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



Source: Table 2

Table 3 Manufactured cigarettes: percentage of total sales as filter cigarettes, and as menthol cigarettes; sales-weighted average machine yield per cigarette of tar (SWAT), and of nicotine (SWAN)

Year	Filter %	Menthol %	SWAT mg/cig	SWAN mg/cig
1960	7.9			
1961	12.0			
1962	11.2			
1963	17.4			
1964	24.8			
1965	42.5			
1966	58.0			
1967	76.0		23.7	
1968	82.0			
1969	87.0		20.7	1.64
1970	89.7		20.3	1.62
1971	92.5		19.9	1.57
1972	94.2		19.3	1.50
1973	95.1		18.7	1.43
1974	96.1		18.0	1.31
1975	96.5		17.6	1.28
1976	97.1		17.4	1.22
1977	97.0		17.2	1.20
1978	97.6		16.5	1.10
1979	98.0		16.1	1.06
1980	97.8		15.9	1.04
1981	98.1		15.5	1.02
1982	98.4		15.5	1.01
1983	98.6		15.1	1.00
1984	98.7		14.6	0.98
1985	98.8		14.2	0.97
1986	98.9		13.8	0.96
1987	98.9		13.7	1.00
1988	99.0		13.3	1.00
1989	99.1		12.7	1.06
1990	99.1		12.3	1.04
1991	99.2		11.7	1.00
1992	99.3		11.0	0.94
1993	99.5	4.2	10.0	0.83
1994	99.4	4.8	9.5	0.78
1995	99.4	5.5	9.0	0.75
1996	99.5	6.3	8.7	0.72
1997	99.5	7.4	8.4	0.71
1998	99.6	8.5	8.0	0.68
1999	99.6	8.6	7.9	0.67
2000	99.5	10.0	7.7	0.65
2001	99.5	11.3	7.5	0.63
2002	99.5	12.7	7.4	0.62
2003	99.6	14.0	7.4	0.62
2004	99.6	16.4	7.2	0.60
2005		17.2	7.0	0.60
2006		17.4	7.0	0.60
2007		19.3	6.8	0.56
2008		19.8	6.6	0.55
2009		19.8	6.6	0.55
2010		21.0	6.7	0.56
2011		22.0	6.8	0.56
2012		25.8	6.9	0.57
2013		26.3	6.9	0.57
2014		26.8	6.9	0.57
2015		28.0		

Source: see *Notes on sources of sales data: Plain/Filter cigarette sales*, p. 46, *Menthol cigarette sales*, p. 46 and *Tar and Nicotine machine yield of cigarettes*, p. 46

There is also limited information in the *Notes on Electronic nicotine delivery device sales*, p. 47,

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Table 4M (continued from p. 18, continues on p. 22)
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+		
82	1	UC	A															76	75	68	72			59		70	
82	2	UC	*																								
82	2	UC	A																								
82	7	U	R																								
82	7	U	A																								
82	8	U	R																								
82	9	U	R																								
82	10	U	A																								
83	1	UC	A																								
83	11	U	U																								
83	12	U	U																								
84	1	UC	A																								
85	1	UC	A																								
85	13	U	U																								
86	1	UC	A																								
86	22	U	U																								
87	1	UC	A																								
87	14	U	U																								
87	22	U	U																								
88	1	UC	A																								
88	15	U	U																								
88	22	U	A																								
89	1	UC	A																								
89	16	UC	A																								
89	17	UC	A																								
89	22	U	A																								
90	1	UC	A																								
90	18	U	R																								
90	18	U	A																								
90	19	U	R																								
90	19	U	A																								
90	22	U	A																								
90	26	U	U																								
90	27	UC	U																								
91	1	UC	A																								
91	22	U	A																								
92	1	UC	A																								
92	20	UC	R																								
92	22	U	A																								
93	1	UC	A																								
93	22	U	A																								
93	28	UC	U																								
93	30	U	*																								
93	30	U	A																								
94	1	UC	A																								
94	22	U	A																								
95	1	UC	A																								
95	22	U	A																								

Table 4F (continued from p. 19, continues on p.23)
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 -
82	1	UC	A													17	16	16	14			13	15	
82	2	UC	*														1							
82	2	UC	A														1							
82	7	U	R			0	0	1																
82	7	U	A			1	2	3																
82	8	U	R														3	4	4					3
82	9	U	R																					
82	10	U	A														3	4	14					
83	1	UC	A														15	15	13	12		12	14	
83	11	U	U			2	3	2																2
83	12	U	U			0	5	10	2	6														
84	1	UC	A														17	15	13	11		13	14	
85	1	UC	A														17	14	13	13		12	14	
85	13	U	U														10							
86	1	UC	A														16	13	12	11		11	13	
86	22	U	U														11	10	8	8	8	7	9	
87	1	UC	A														16	15	13	12		11	13	
87	14	U	U																			7		
87	22	U	U														12	12	9	9	8	8	10	
88	1	UC	A														15	15	13	12		11	13	
88	15	U	U			0	0	0	4	22	25													
88	22	U	A														11	12	9	7	9	8	9	
89	1	UC	A														16	15	14	10		9	13	
89	16	UC	A	1	1	2	3	8	14	15														
89	17	UC	A	0	1	3	4	6	13	15														
89	22	U	A														9	12	11	9	7	8	9	
90	1	UC	A														20	17	14	12		9	14	
90	18	U	R			1	1	2	1	3	3													2
90	18	U	A			2	2	4	3	5	5													3
90	19	U	R			1	1	1																1
90	19	U	A			2	3	4																4
90	22	U	A														12	11	11	8	9	7	10	
90	26	U	U																		9			
90	27	UC	U																9	7				8
91	1	UC	A														18	18	14	12		10	14	
91	22	U	A														11	14	12	8	7	5	10	
92	1	UC	A														17	18	13	12		8	13	
92	20	UC	R	0	2	2	5	17	29	23														
92	22	U	A														10	12	11	7	7	7	9	
93	1	UC	A														21	18	13	11		8	13	
93	22	U	A														11	10	12	8	6	6	9	
93	28	UC	U																10	7	5		9	
93	30	U	*			0	0	0																0
93	30	U	A			1	1	1																1
94	1	UC	A														20	19	15	12		8	15	
94	22	U	A														13	11	10	9	6	6	9	
95	1	UC	A														23	19	14	13		8	15	
95	22	U	A														17	13	11	9	8	6	11	

Table 4F (continued from p. 21, continues on p. 25)
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+
96	1	UC	A													20	21	14	11	8				14	
96	21	U	*		0	1	1	2	5	7															
96	21	U	A		4	5	6	9	13	16															
96	22	U	A													13	15	10	9	7	6		10		
96	23	U	U													18	18	16	12	8			14		
97	1	UC	A													22	18	17	12	8			15		
97	22	U	A													21	16	14	10	6	6		12		
98	1	UC	A													24	17	13	12	7			13		
98	22	U	A													19	14	13	10	8	5		11		
98	24	U	A													4		23	20	16	10	7	5		13
98	30	U	A		5	8	10																	7	
99	1	UC	A													24	18	17	13	7			15		
99	22	U	A													16	15	14	8	8	4		10		
00	1	UC	A													22	18	17	12	7			14		
00	21	U	*		0	1	2	3	5	8															
00	21	U	R		4	6	7	11	13	16															
00	22	U	A													21	19	14	10	7	4		12		
00	30	U	A		4	7	10																	7	
01	1	UC	A													24	20	19	13	7			15		
01	22	U	A													16	16	12	10	7	3		10		
01	25	U	A													17		19	14				17		
01	25	U	A													7									
02	1	UC	A													24	20	15	15	6			14		
02	22	U	A													17	17	14	9	8	3		10		
02	30	U	A		3	6	8																	6	
03	1	UC	A													20	21	16	13	7			14		
03	22	U	R													16	17	14	11	6	4		11		
03	22	U	A													21	19	16	12	7	4		12		
04	1	UC	A													20	21	16	13	6			13		
04	21	U	*		0	1	1	2	3	4															
04	21	U	R		2	4	5	7	9	10															
04	22	U	R													18	17	13	13	7	5		12		
04	22	U	A													21	20	16	15	8	5		13		
04	30	U	A		3	5	7																	5	
05	1	UC	A													21	21	18	14	6			14		
05	22	U	R													17	19	14	12	7	3		11		
05	22	U	A													21	21	16	13	8	3		13		
06	1	UC	A													19	18	17	12	6			12		
06	22	U	R													15	16	14	9	6	3		9		
06	22	U	A													20	17	14	10	7	3		11		
06	30	U	A		2	3	5																	3	
07	1	UC	A													18	19	16	14	6			13		
07	22	U	R													15	16	17	9	7	3		10		
07	22	U	A													18	19	18	10	8	4		12		
08	1	UC	A													18	19	18	13	6			13		
08	21	U	*		0		2																		
08	21	U	A		2		5																		
08	22	U	R													12	17	12	8	4	3		8		
08	22	U	A													14	18	13	10	5	3		9		
08	30	U	A		1	3	4																	3	

Table 4M (continued from p. 22)
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	75 - 79
09	1	UC	A														40	47	45	45			28	39
09	22	U	R														38	50	47	42		32	18	36
09	22	U	A														40	51	49	44		34	19	38
09	29	UC	A					4	5	9														5
10	1	UC	A														38	43	43	43			26	37
10	21	U	*			1			4															
10	21	U	A			3			7															
10	22	U	R														32	39	41	39		27	16	31
10	22	U	A														38	44	44	42		29	17	34
10	30	U	A		2	3	6																	4
11	1	UC	A														35	41	39	41			24	34
11	22	U	R														36	42	38	35		28	14	30
11	22	U	A														39	44	40	37		29	17	32
12	1	UC	A														32	40	39	39			24	33
12	21	U	*			1			2															
12	21	U	A			2			5															
12	22	U	R														33	40	41	40		30	15	32
12	22	U	A														38	43	43	41		32	17	34
12	30	U	A		1	3	5																	3
13	1	UC	A														30	39	41	36			24	32
13	22	U	R														33	42	36	39		32	13	30
13	22	U	A														36	44	40	42		33	15	32
14	1	UC	A														29	37	39	37			21	30
14	22	U	R														34	43	43	35		30	14	31
14	22	U	A														37	44	44	36		33	15	32
14	30	U	A		2	2	3																	2
15	1	UC	A														28	37	37	39			23	31
16	1	UC	A														27	35	38	35			22	30

Source: see *Notes on sources of survey data* p. 47
 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. 47
 All ages: relates to ages reported; as given in original source

Table 4F (continued from p. 23)
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 -
09	1	UC	A													16	17	15	15		6		12	
09	22	U	R													13	16	14	10		7		4	10
09	22	U	A													16	17	15	12		7		5	11
09	29	UC	A				2	2	4															3
10	1	UC	A													15	16	17	14		7		12	
10	21	U	*			0		1																
10	21	U	A			2		4																
10	22	U	R													13	13	13	11		5		2	8
10	22	U	A													14	15	14	13		5		2	9
10	30	U	A		1	3	4																	3
11	1	UC	A													14	15	14	12		6		11	
11	22	U	R													11	15	15	10		6		3	9
11	22	U	A													13	17	16	10		6		3	10
12	1	UC	A													11	15	16	12		6		10	
12	21	U	*			0		1																
12	21	U	A			1		2																
12	22	U	R													10	11	12	11		7		2	8
12	22	U	A													12	12	13	12		8		3	9
12	30	U	A		1	1	2																	2
13	1	UC	A													11	15	14	14		6		11	
13	22	U	R													10	10	12	10		6		2	7
13	22	U	A													13	12	12	12		6		2	8
14	1	UC	A													10	13	15	13		6		10	
14	22	U	R													9	13	12	11		6		2	8
14	22	U	A													12	14	13	12		6		2	9
14	30	U	A		1	1	1																	1
15	1	UC	A													10	12	14	14		6		10	
16	1	UC	A													9	12	15	14		6		10	

Source: see *Notes on sources of survey data*, p. 47
 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. 47
 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. 28)

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	70 74	75 79
58	3	UC	E*												19	21	20	20						20
60	4	UC	E*												19	19	17	17						18
61	5	UC	E												16									
64	1	UC													19									
66	1	UC													19									
66	6	UC	E												16									
67	1	UC													20									
68	1	UC													20									
69	1	UC													21									
70	1	UC								20	22	22	21	18								21		
71	1	UC								21	22	22	22	19								21		
72	1	UC								21	23	23	23	20								22		
73	1	UC								22	23	23	23	20								22		
74	1	UC								22	24	23	23	20								23		
75	1	UC													24									
76	1	UC													24									
77	1	UC													24									
78	1	UC													24									
79	1	UC													24									
80	1	UC													25									
81	1	UC													25									
82	1	UC													25									
82	2	UC	E*					7.7																
83	1	UC													25									
83	11	UC	E		14	11	12															12		
84	1	UC								22	27	27	25	21								25		
85	1	UC													25									
86	1	UC													25									
87	1	UC													25									
88	1	UC													25									
88	15	UC	E					9.8																
89	1	UC													25									
90	1	UC													25									
90	18	UC	E*		6.7	6.5	8.6	9.4	10	11														
90	27	UC										23	22									23		
91	1	UC													25									
92	1	UC													24									
93	1	UC													25									
93	28	UC										26	25	19								25		
94	1	UC													25									
95	1	UC													25									
96	1	UC													24									
96	21	UC	E*		9.2	8.3	9.4	9.2	10	11														
97	1	UC													24									
98	1	UC								21	24	27	27	22								24		
98	24	UC	E					14		18	20	24	25	20	16							21		
99	1	UC								21	24	27	28	22								24		
03	1	UC								19	23	25	27	21										
03	22	UC	E*							19	21	25	25	22	17							22		
04	22	UC	E*							18	22	23	25	21	17							22		

Table 5F Number of cigarettes smoked per smoker per day, females:
selected surveys by age
(continues on p. 29)

Year	Source	Product	Estimated	Age Groups																	All ages				
				12	13	14	15	16	17	18	19	20	25	30	35	40	45	50	55	60		65	70	75	80+
58	3	UC	E*																						
60	4	UC	E*																						
61	5	UC	E*																						
64	1	UC																							
66	1	UC																							
66	6	UC	E																						
67	1	UC																							
68	1	UC																							
69	1	UC																							
70	1	UC																							
71	1	UC																							
72	1	UC																							
73	1	UC																							
74	1	UC																							
75	1	UC																							
76	1	UC																							
77	1	UC																							
78	1	UC																							
79	1	UC																							
80	1	UC																							
81	1	UC																							
82	1	UC																							
82	2	UC	E*																						
83	1	UC																							
83	11	UC	E																						
84	1	UC																							
85	1	UC																							
86	1	UC																							
87	1	UC																							
88	1	UC																							
88	15	UC	E																						
89	1	UC																							
90	1	UC																							
90	18	UC	E*																						
90	27	UC																							
91	1	UC																							
92	1	UC																							
93	1	UC																							
93	28	UC																							
94	1	UC																							
95	1	UC																							
96	1	UC																							
96	21	UC	E*																						
97	1	UC																							
98	1	UC																							
98	24	UC	E																						
99	1	UC																							
03	1	UC																							
03	22	UC	E*																						
04	22	UC	E*																						

Table 5F (continued from p. 27)
 Number of cigarettes smoked per smoker per day, females:
 selected surveys by age

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	70 - 74	75 - 79	80+
05	22	UC	E*														14	15	15	17	18		14		16
06	22	UC	E*														13	16	16	16	16		14		15
07	22	UC	E*														14	15	16	15	18		15		15
08	22	UC	E*														13	14	15	16	17		13		15
09	22	UC	E*														11	15	16	15	16		14		15
10	1	UC																	16						
10	22	UC	E*														12	13	13	13	14		12		13
11	1	UC															14	15	15	16		17			15
11	22	UC															12	14	14	15	14		13		14
12	1	UC															13	14	16	16		16			15
13	1	UC															13	14	15	16		16			15
14	1	UC															13	13	15	17		17			15
14	22	UC															12	13	16	16	15		15		15
15	1	UC															12	14	16	15		15			15
16	1	UC															12	14	16	15		15			15

Source: see *Notes on sources of survey data*, p. 47
 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. 47
 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. 32)

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
58	3	UC*											14	15	14	13							14	**
60	4	UC*											14	16	14	12							14	**
61	5	UC															12							**
64	1	UC*														15								**
66	1	UC*														16								113%M
66	6	UC*														12								**
67	1	UC*														16								116%M
68	1	UC														15								104%M
69	1	UC														15								98%M
70	1	UC														15								97%M
70	1	UC*						16		17		18		17					12			16	105%M	
71	1	UC														16								94%M
71	1	UC*						17		17		17		17					13			17	102%M	
72	1	UC														16								93%M
72	1	UC*						17		18		18		18					13			17	100%M	
73	1	UC														17								93%M
73	1	UC*						18		18		19		18					14			18	99%M	
74	1	UC						18		18		18		18					14			17	91%M	
75	1	UC														17								92%M
76	1	UC*														18								100%M
77	1	UC*														18								96%M
78	1	UC*														18								98%M
79	1	UC*														18								95%M
80	1	UC*														17								94%M
81	1	UC*														18								96%M
82	1	UC*														18								97%M
82	2	UC*					0.4																	**
83	1	UC*														17								92%M
83	11	UC	0.4	0.7	1.4																	0.8	**	
84	1	UC*						16		19		17		17					11			16	92%M	
85	1	UC*														16								92%M
86	1	UC*														16								90%M
87	1	UC*														15								92%M
88	1	UC*														15								91%M
89	1	UC*														15								92%M
90	1	UC*														15								91%M
90	18	UC*	0.1	0.1	0.4	0.8	1.5	2.3																**
90	27	UC											13		11								12	**
91	1	UC*														15								92%M
92	1	UC*														15								88%M
93	1	UC*														15								88%M
93	28	UC											15		13		8.3					14	**	
94	1	UC*														15								90%M
95	1	UC*														15								90%M
96	1	UC*														14								84%M
96	21	UC*	0.0	0.1	0.2	0.4	0.9	1.5																**
97	1	UC*														14								88%M
98	1	UC*														15								84%M
98	24	UC*					2.6			11		13		14		13		9.3		5.0		11	70%M	
99	1	UC*								13		15		17		15				8.5		13	85%M	
03	1	UC*								10		14		14		13				6.9				83%M
03	22	UC*								10		11		13		13		7.6		4.3		9.8	73%M	
04	22	UC*								8.8		12		12		12		6.8		4.1		9.1	71%M	

Table 6M (continued from p. 30)
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
05	22	UC*									8.2	12	9.9	10	6.8	3.3	8.2	68%M		
06	22	UC*									7.3	11	10	11	7.3	3.0	8.1	68%M		
07	22	UC*									8.0	11	10	10	6.8	3.2	8.1	72%M		
08	22	UC*									6.0	8.4	11	9.1	7.7	3.7	7.6	68%M		
09	22	UC*									6.1	10	9.6	9.5	6.6	2.7	7.2	72%M		
10	1	UC*												7.5				85%M		
10	22	UC*									4.2	6.3	7.5	7.5	4.9	2.4	5.3	59%M		
11	1	UC*									5.5	7.5	8.1	9.2	4.9		6.7	79%M		
11	22	UC									5.4	7.4	6.7	7.5	5.5	2.3	5.5	67%M		
12	1	UC*									4.9	7.2	7.7	8.2	4.7		6.2	75%M		
13	1	UC*									4.4	6.7	8.4	7.6	4.7		6.2	74%M		
14	1	UC*									4.3	6.4	7.4	7.7	4.3		5.8	76%M		
14	22	UC									5.6	7.0	8.4	7.0	5.7	2.1	5.5	74%M		
15	1	UC*									4.1	6.2	7.3	8.2	4.4		5.8	74%M		
16	1	UC*									3.9	5.8	7.3	7.2	4.2		5.5	71%M		

Source: see *Notes on sources of survey data*, p. 47
 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. 47
 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. 31)
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	70 - 74
05	22	UC*								2.4		2.9		2.1		2.1		1.3		0.4		1.7	68%M
06	22	UC*								1.9		2.5		2.2		1.4		0.9		0.4		1.4	68%M
07	22	UC*								2.2		2.4		2.7		1.4		1.2		0.5		1.6	72%M
08	22	UC*								1.6		2.3		1.8		1.3		0.7		0.3		1.2	68%M
09	22	UC*								1.5		2.5		2.2		1.6		1.1		0.6		1.5	72%M
10	1	UC*													1.9								85%M
10	22	UC*								1.5		1.6		1.7		1.5		0.6		0.3		1.1	59%M
11	1	UC*								1.9		2.1		2.0		1.8			1.1			1.6	79%M
11	22	UC								1.3		2.1		2.2		1.5		0.9		0.3		1.2	67%M
12	1	UC*								1.5		2.2		2.5		1.9			0.9			1.6	75%M
13	1	UC*								1.5		2.1		2.1		2.2			1.0			1.6	74%M
14	1	UC*								1.3		1.7		2.3		2.2			0.9			1.5	76%M
14	22	UC								1.1		1.7		1.9		1.8		0.9		0.3		1.1	74%M
15	1	UC*								1.2		1.7		2.1		2.1			0.9			1.4	74%M
16	1	UC*								1.1		1.7		2.3		2.1			0.9			1.4	71%M

Source: see *Notes on sources of survey data*, p. 47
 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. 47
 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. 36)

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
66	1	UC*															14		113%M					
67	1	UC*															14		116%M					
68	1	UC															14		104%M					
69	1	UC															15		98%M					
70	1	UC															16		97%M					
70	1	UC*															15	16	17	16	12	15	105%M	
71	1	UC															17		94%M					
71	1	UC*															16	17	17	17	13	16	102%M	
72	1	UC															17		93%M					
72	1	UC*															17	18	18	18	13	17	100%M	
73	1	UC															18		93%M					
73	1	UC*															18	18	19	18	14	18	99%M	
74	1	UC															19	20	20	20	15	19	91%M	
75	1	UC															19		92%M					
76	1	UC*															18		100%M					
77	1	UC*															19		96%M					
78	1	UC*															19		98%M					
79	1	UC*															19		95%M					
80	1	UC*															18		94%M					
81	1	UC*															18		96%M					
82	1	UC*															18		97%M					
83	1	UC*															18		92%M					
84	1	UC*															17	21	19	18	12	18	92%M	
85	1	UC*															17		92%M					
86	1	UC*															17		90%M					
87	1	UC*															17		92%M					
88	1	UC*															17		91%M					
89	1	UC*															17		92%M					
90	1	UC*															17		91%M					
91	1	UC*															17		92%M					
92	1	UC*															17		88%M					
93	1	UC*															17		88%M					
94	1	UC*															16		90%M					
95	1	UC*															16		90%M					
96	1	UC*															17		84%M					
97	1	UC*															16		88%M					
98	1	UC*															16	18	20	18	11		84%M	
98	24	UC*															15	18	20	18	13	7.2	16	70%M
99	1	UC*															15	17	20	18	10		15	85%M
03	1	UC*															13	16	17	16	8.4			83%M
03	22	UC*															14	16	18	18	10	5.9	14	73%M
04	22	UC*															12	17	16	17	9.6	5.8	13	71%M

Table 7M (continued from p. 34)
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	70-74	75-79
05	22	UC*									12		17		15		15		10		4.9		12	68%M
06	22	UC*									11		16		15		16		11		4.4		12	68%M
07	22	UC*									11		15		14		14		9.4		4.4		11	72%M
08	22	UC*									8.9		12		16		13		11		5.4		11	68%M
09	22	UC*									8.6		14		13		13		9.2		3.8		10	72%M
10	1	UC*															8.9							85%M
10	22	UC*									7.2		11		13		13		8.3		4.0		9.0	59%M
11	1	UC*									7.0		9.5		10		12			6.2			8.5	79%M
11	22	UC									8.0		11		10		11		8.1		3.4		8.2	67%M
12	1	UC*									6.5		9.6		10		11			6.3			8.3	75%M
13	1	UC*									6.0		9.1		11		10			6.4			8.3	74%M
14	1	UC*									5.7		8.4		9.7		10			5.7			7.6	76%M
14	22	UC									7.5		9.4		11		9.5		7.7		2.8		7.4	74%M
15	1	UC*									5.6		8.4		9.9		11			5.9			7.8	74%M
16	1	UC*									5.5		8.2		10		10			6.0			7.7	71%M

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. 47
 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. 47
 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. 35)
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			65 - 69	70 - 74
05	22	UC*								3.6		4.3		3.1		3.0		1.9		0.5		2.5	68%M
06	22	UC*								2.8		3.6		3.2		2.1		1.3		0.6		2.1	68%M
07	22	UC*								3.0		3.4		3.7		1.9		1.7		0.7		2.2	72%M
08	22	UC*								2.3		3.4		2.7		1.9		1.1		0.5		1.7	68%M
09	22	UC*								2.1		3.5		3.1		2.2		1.5		0.9		2.0	72%M
10	1	UC*														2.3							85%M
10	22	UC*								2.5		2.8		2.9		2.5		1.1		0.4		1.8	59%M
11	1	UC*								2.4		2.7		2.6		2.3			1.4			2.1	79%M
11	22	UC								1.9		3.2		3.3		2.2		1.3		0.5		1.8	67%M
12	1	UC*								2.0		2.9		3.3		2.5			1.2			2.1	75%M
13	1	UC*								2.0		2.8		2.9		3.0			1.4			2.1	74%M
14	1	UC*								1.7		2.2		3.0		2.9			1.2			2.0	76%M
14	22	UC								1.5		2.2		2.6		2.4		1.1		0.4		1.5	74%M
15	1	UC*								1.6		2.4		2.9		2.8			1.2			1.9	74%M
16	1	UC*								1.5		2.4		3.2		2.9			1.2			2.0	71%M

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. 47
 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. 47
 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 ⁵		Total cigarettes ⁶		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸			
			M	F	M	F	M	F	number/ person/day	Total sales %	Manufactured cigarettes ⁹ number/ person/day	Total cigarettes number/ person/day	M	F	
1949	1	UC	77	17								(4.7	0.9)		
1950	1	UC	74	12								(6.0	0.8)		
1951	1	UC	74	14								(6.6	1.0)		
1952	1	UC	73	12								(7.1	0.9)		
1953	1	UC	75	11								(7.9	0.9)		
1954	1	UC	75	12								(8.2	1.1)		
1955	1	UC	76	11								(8.3	1.0)		
1956	1	UC	76	11								(8.1	0.9)		
1957	1	UC	75	13								(8.1	1.1)		
1958	1	UC	70	11								(8.4	1.1)		
1959	1	UC	76	13								(8.6	1.2)		
1960	1	UC	74	12								(9.4	1.2)		
1961	1	UC	76	12								(10.1	1.3)		
1962	1	UC	73	12								(10.4	1.3)		
1963	1	UC	71	11								(10.8	1.4)		
1964	1	UC	71	10				13.1				(11.4	1.3)		
1965	1	UC	75	14								(11.5	1.7)		
1966	1	UC	77	16				13.7	1.7	113	12.2	1.5			
1967	1	UC	76	16				14.5	2.2	116	12.5	1.9			
1968	1	UC	70	11				13.4	1.5	104	12.9	1.5			
	1	UC	73	14											
1969	1	UC	70	11				13.6	1.5	98	13.8	1.5			
	1	UC	74	14											
1970	1	UC	69	11				13.9	1.6	97	14.3	1.6			
	1	UC	73	14				14.7	2.0	105	14.1	1.9			
1971	1	UC	69	10				14.3	1.5	94	15.2	1.6			
	1	UC	73	14				15.1	2.0	102	14.8	1.9			
1972	1	UC	70	10				14.9	1.5	93	16.0	1.6			
	1	UC	74	14				15.6	2.0	100	15.5	2.0			

Table 8 (continued)

Year	Source ²	Product ³	Prevalence ⁴				Number of cigarettes												
			Manufactured cigarettes ⁵		Total cigarettes ⁶		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸							
			M	F	M	F	M	F	M	F	Total sales %	Manufactured cigarettes ⁹ number/person/day	Total cigarettes number/person/day	M	F				
1973	1	UC	72	11															
	1	UC	74	14					15.5	1.7	93	16.6	1.8						
1974	1	UC	72	12					15.9	1.8	91	17.5	2.0						
	1	UC	75	16															
1975	1	UC	70	12					16.1	1.9	92	17.5	2.0						
	1	UC	73	14															
1976	1	UC	72	15					16.8	2.4	100	16.8	2.4						
1977	1	UC	72	14					16.6	2.3	96	17.4	2.4						
1978	1	UC	71	15					16.8	2.5	98	17.1	2.5						
1979	1	UC	70	15					16.4	2.4	95	17.2	2.5						
1980	1	UC	68	14					16.0	2.2	94	17.0	2.3						
1981	1	UC	68	14					16.4	2.3	96	17.0	2.4						
1982	1	UC	67	14					16.3	2.5	97	16.8	2.5						
1983	1	UC	64	13					15.3	2.1	92	16.7	2.3						
1984	1	UC	63	13					15.1	2.2	92	16.4	2.4						
1985	1	UC	63	13					14.7	2.2	92	16.1	2.4						
1986	1	UC	61	12					14.4	2.0	90	15.9	2.2						
	22	U	58	8								(16.2	1.9)						
1987	1	UC	59	13					14.2	2.2	92	15.4	2.4						
	22	U	54	9								(15.6	2.2)						
1988	1	UC	58	12					13.9	2.0	91	15.3	2.2						
	22	U	54	10								(15.3	2.2)						
1989	1	UC	58	12					14.1	2.1	92	15.4	2.3						
	22	U	54	9								(15.6	2.1)						
1990	1	UC	58	13					13.8	2.4	91	15.2	2.7						
	22	U	51	9								(15.7	2.3)						
1991	1	UC	59	13					14.2	2.4	92	15.5	2.6						
	22	U	49	9								(15.7	2.4)						
1992	1	UC	57	12					13.7	2.2	88	15.5	2.5						
	22	U	48	9								(15.7	2.3)						
1993	1	UC	56	13					13.8	2.2	88	15.6	2.4						
	22	U	44	9								(15.6	2.5)						

Table 8 (continued/2)

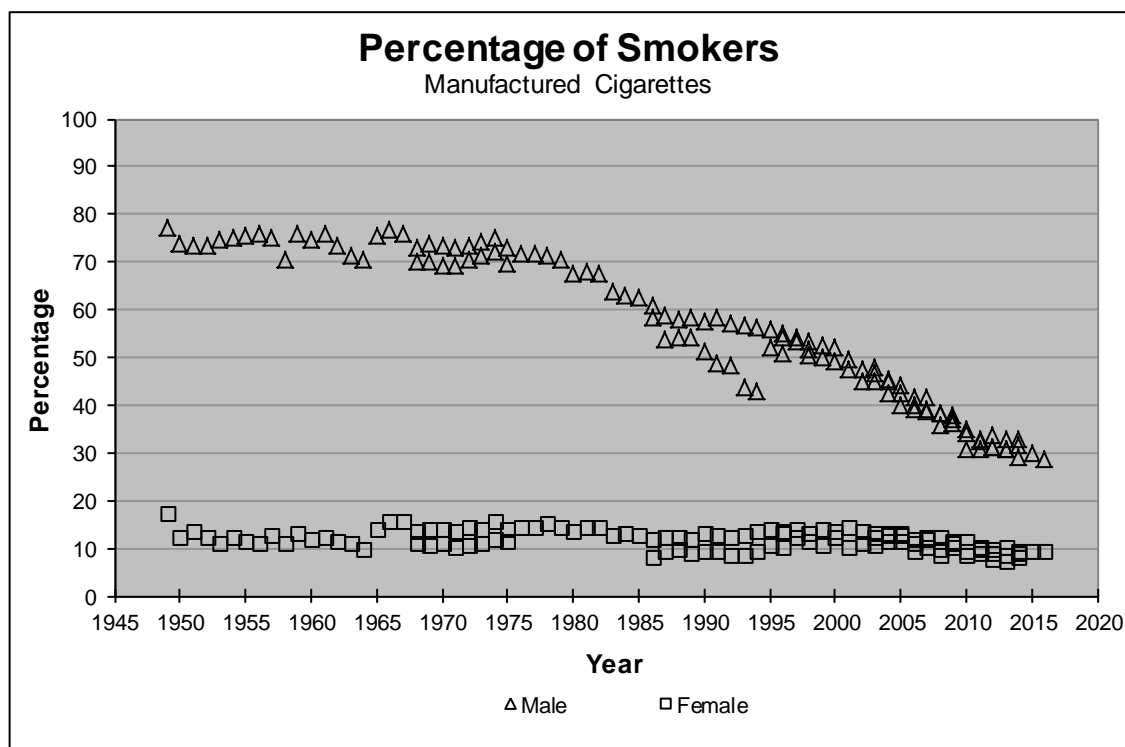
Year	Source ²	Product ³	Prevalence ⁴				Number of cigarettes							
			Manufactured cigarettes ⁵		Total cigarettes ⁶		All products ⁶		Unadjusted ⁷			Sales-adjusted ⁸		
			M	F	M	F	M	F	number/ person/day	Total sales %	Manufactured cigarettes ⁹ number/ person/day	Total cigarettes number/ person/day		
M	F	M	F	M	F	M	F	M	F	M	F			
1994	1	UC	56	14				13.7	2.4	90	15.3	2.7		
	22	U	43	9							(15.4	2.7)		
1995	1	UC	56	14				13.7	2.5	90	15.2	2.8		
	22	U	52	11							(15.4	2.6)		
1996	1	UC	55	14				13.2	2.4	84	15.7	2.8		
	22	U	51	10							(16.0	2.5)		
	23	U	54	13							(15.5	3.0)		
1997	1	UC	54	14				12.9	2.4	88	14.6	2.7		
	22	U	53	12							(14.7	2.7)		
1998	1	UC	53	13				12.6	2.2	84	15.1	2.6		
	22	U	52	11							(15.0	2.7)		
	24	UC+U	51	13				10.6	1.8	70	15.1	2.6		
1999	1	UC	53	14				12.6	2.2	85	14.8	2.6		
	22	U	50	11							(14.8	2.6)		
2000	1	UC	52	13							(14.0	2.9)		
	22	U	49	12							(14.1	2.8)		
2001	1	UC	50	15							(13.4	3.1)		
	22	U	48	10							(14.1	2.5)		
2002	1	UC	47	14							(13.1	3.0)		
	22	U	45	11							(13.5	2.7)		
2003	1	UC	47	13				10.6	2.2	83	12.8	2.7		
	22	UC+U	45	11				9.7	1.6	73	13.3	2.2		
	22	U	48	13										
2004	1	UC	45	13							(12.3	2.8)		
	22	UC+U	43	12				9.0	1.7	71	12.8	2.3		
	22	U	45	13										
2005	1	UC	44	13							(11.8	2.8)		
	22	UC+U	40	11				8.3	1.7	68	12.1	2.5		
	22	U	42	13										
2006	1	UC	40	12							(11.2	2.7)		
	22	UC+U	39	10				8.0	1.4	68	11.8	2.1		
	22	U	42	11										
2007	1	UC	39	12							(10.6	2.7)		
	22	UC+U	39	10				8.0	1.6	72	11.1	2.2		
	22	U	42	12										

Table 8 (continued/3)

Year	Source ²	Product ³	Prevalence ⁴				Number of cigarettes							
			Manufactured cigarettes ⁵		Total cigarettes ⁶		Unadjusted ⁷				Sales-adjusted ⁸			
			M	F	M	F	number/person/day		Total sales %	Manufactured cigarettes ⁹ number/person/day		Total cigarettes number/person/day		
		M	F	M	F	M	F	M	F	M	F	M	F	
2008	1	UC	38	12								(10.0	2.6)	
	22	UC+U	36	9			7.4	1.2	68	10.8	1.8			
	22	U	38	10										
2009	1	UC	37	11								(9.6	2.4)	
	22	UC+U	36	10			7.1	1.5	72	10.0	2.0			
	22	U	38	11										
2010	1	UC	35	12			7.2	1.9	85	8.5	2.2			
	22	UC+U	31	8			5.3	1.1	59	8.9	1.8			
	22	U	34	9										
2011	1	UC	32	10			6.4	1.5	79	8.1	2.0			
	22	UC+U	31	9			5.5	1.3	67	8.2	1.9			
	22	U	33	10										
2012	1	UC	31	10			6.0	1.5	75	7.9	2.0			
	22	U	31	8						(8.3	1.6)			
	22	U	34	9										
2013	1	UC	31	10			5.9	1.5	74	8.0	2.1			
	22	U	31	7						(8.5	1.6)			
	22	U	33	8										
2014/10	1	UC	29	9			5.5	1.4	76	7.3	1.9			
	22	UC+U	31	8			5.7	1.1	74	7.6	1.5			
	22	U	33	9										
2015/10	1	UC	30	9			5.5	1.4	74	7.5	1.9			
2016/10,11	1	UC	29	9			5.3	1.4	71	7.4	1.9			

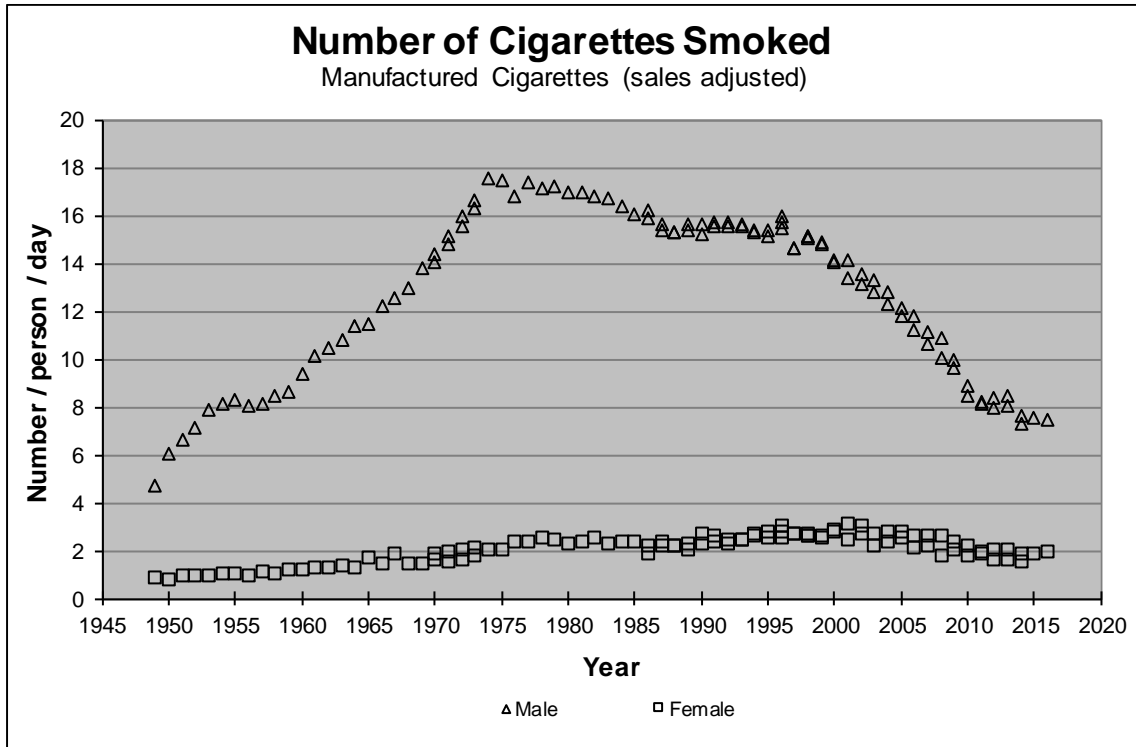
- 1 Surveys covering an age range of at least 21-64 are included. Any gaps in the data for ages 15-20 and 65 years and over are filled in by assumed extensions to the age distribution, shown in the extended versions of Tables 4 and 6 in the Excel tables workbook. Method: see *Summary of adult smoking*, Methods p. 13. We have revised the assumed extensions to age distribution for prevalence after 1985, so the estimates shown here are lower than in the equivalent table of earlier editions.
- 2 See Notes on sources of survey data, p. 47.
- 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), and prevalence classified as U = unspecified product after 1985.
- 6 This column is shown as standard for all chapters but is empty because we believe that the prevalence of smoking reported by our sources relates to cigarette smoking (see also footnote 5).
- 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 manufactured cigarette sales and included in this column.
- 10 Calculations based on 2013 population.
- 11 Calculations based on 2015 sales data.

Figure 3 Estimated prevalence of smoking of manufactured cigarettes; by year of survey. Males and females aged 15 years and over



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

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



Source: Table 8

Notes

Notes on sources of sales data

The data presented in the tables and figures were obtained from several sources, details of which are given below, together with estimations and related assumptions. Full citations of the sources are given on p. 55 under *References*.

Sales data before 1974

RP6 (Lee (1975))

See Table 1.1

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

Notes as given in RP6:

- a) Details of the number of cigarettes and cigars, and of the weight of fine-cut and pipe tobacco consumed were obtained from *Sales of Manufactured Tobacco Classified by Brands, 1904-1955*, published by the Japan Monopoly Corporation. The figures for 1956-1973 were provided by the Japan Monopoly Corporation.
- (b) Cigarettes were converted from number to weight using a factor of 2.205 lbs per 1 000 cigarettes up to 1955. From 1956 onwards details of the number and weight of cigarettes consumed were provided by the Japan Monopoly Corporation. The conversion factor used for cigars was 15 lbs per 1 000 cigars.

Traditional products and their replacement by cigarettes:

Tobacco and Salt Museum (2007), Segi *et al* (1957), Sato (1999), Sato *et al* (2000)

The kiseru (煙管 a long-stemmed pipe with a bamboo tube between metal bowl and mouthpiece) was the only traditional method of smoking in Japan, using very finely cut tobacco known as kizami (創作). From the late 19th century, cigars and cigarettes were introduced. The government monopolized leaf cultivation in 1898 and tobacco manufacturing in 1905. Early forms of cigarette had paper mouthpieces, and it was not until 1930 that production of these was exceeded by western-style plain cigarettes. European-style pipe tobacco was first produced in Japan around 1930.

Sobue *et al* (1988) reported that “during World War II, cigarettes were rationed equally to all Japanese, helping to make cigarette smoking generally prevalent.”

Sales data for 1974-2015 and additional data for 1970-1973

Ikeda (1990b), Hamazume (1998), Tobacco Institute of Japan (2016a).

See Table 1.2, and see also Table 1.3 for various categories which were excluded from RP6, but are presented here for completeness. The data for 1970-1988 include imports which were excluded from RP6 (e.g. 0.3% of cigarettes, 49% of pipe tobacco, and 56% of cigars in 1970). Sales to Imperial Household Agency (assumed to be cigarettes) have also been included (available for 1970-1984). Data from RP6 do not include cigarillos; these are included with cigars from 1974-1988. Data for domestic and imported pipe tobacco are shown combined. Data for fine-cut tobacco are not comparable over time, being variously grouped under domestic cigarettes (1970-1981), imports (1982-1984), and domestic cigars/pipe tobacco/fine-cut tobacco (1985-1988) (not shown).

The tobacco products market opened up to competition in 1985 and data are not available from that year for imports of products other than cigarettes. In 1984 imports accounted for 2% of cigarettes (see also text table later in this section), 70% of pipe tobacco, and 52% of cigars. From 1989 onwards only cigarette data are available.

The custom of giving cigarettes by the Imperial Household was set to end in 2007 (Agence France Presse (2005)).

Data are for fiscal years beginning 1st April up to 2014, and 1st January for 2015. Cigarette sales for January to March 2015 are assumed to be included in both the 2014 and 2015 figures; an

alternative figure, referring to calendar year 2014, is 186 200 millions (Japan Tobacco Inc. (2016a)).

Data for cigarettes and cigars were given in numbers and have been converted to weight (to 1988) assuming an average of 1 g per cigarette, 6.8 g per cigar or cigarillo (based on values in RP6). Fukumoto *et al* (1997) tested 33 cigarette brands representing 68% of sales: the weight of tobacco per cigarette was 1.02 g for plain cigarettes (1 brand) and an average of 0.67 g for the 32 filter brands (0.66 g for imported and 0.70 g for domestic brands). Later, Hyodo *et al* (2007) tested 106 filter brands and reported that the weights ranged from 0.52 to 0.85 g per cigarette. These figures suggest that our estimates of weight may be too high for the later years.

According to Sato (1999), Sato *et al* (2000), the Japan Public Monopoly Corporation (JPMC) was established in 1948 to assume a managerial role in the tobacco business. It controlled Japan's tobacco market, while high tariffs on foreign brands virtually prevented their import for a long time. In 1985, the JPMC was privatized and soon thereafter Japan's tobacco market was liberalised. The tariff on tobacco products was reduced to zero in April 1987.

The following table shows imported cigarettes as a percentage of all cigarettes:

	Imported cigarettes (%)
1982	1.5
1983	1.8
1984	2.1
1985	2.4
1986	3.9
1987	9.8
1988	12.1
1989	14.7
1990	15.9
1991	16.5
1992	17.1
1993	17.9
1994	19.6
1995	21.2
1996	22.3
1997	22.4
1998	23.5
1999	24.7
2000	25.1
2001	25.7
2002	26.7
2003	27.1
2004	27.1
2005	33.6
2006	35.2
2007	35.1

Source: Japan Health Promotion & Fitness Foundation (2011)

According to Euromonitor, in 2015 all cigars and cigarillos were imported; cigarillos accounted for 99% of these sales, with some smokers switching from cigarettes to cigarillos following tax increases in 2010. They also reported that the only smokeless tobacco product on the market was one brand of Swedish-style snus, introduced in 2013, but no data on its sales are available (Euromonitor International (2015a, 2015b)).

Estimates of smuggling and cross-border sales

Illicit cigarettes sales were reported to be equivalent to 1.7% of legal sales in 2006 (Joossens *et al* (2009) quoting Euromonitor International (2008)), and as 0.1% of the total cigarette market in 2011 (Eriksen *et al* (2012) quoting Euromonitor International (2011)).

Consumption of hand-rolled cigarettes

No estimates of hand-rolled cigarette consumption are available, but it has probably been negligible, except when wartime economies obliged consumers to roll their own cigarettes from rationed allotments of shredded tobacco (Tobacco and Salt Museum

(2007)). More recently, it has been reported that some, particularly younger, smokers have started smoking hand-rolled cigarettes to economise. Nevertheless, sales of loose tobacco (for hand-rolled and pipe) were still predicted to remain below 0.1% of all tobacco sales (Euromonitor International (2015c, 2016)). Due to lack of any further information, hand-rolled cigarettes have been assumed negligible, and ignored in all calculations.

Note: we have withdrawn estimates, included in previous editions of this book, which were based on the assumption that all fine-cut tobacco was used in hand-rolled cigarettes; fine-cut tobacco (kizami) was smoked in traditional pipes (Segi et al (1957)).

Plain/Filter cigarette sales

1960-1981: Maxwell (successive years)

1982-1988: Hiruta (1985)

1989-2004: US Department of Agriculture (2007)

See Table 3

For 1982 onwards the data are based on production rather than on sales. Earlier data from Hiruta (1985) are quite similar to those shown in the Table.

Endo *et al* (2009) reported that the first filter brand was introduced in 1957, and that adoption of filter cigarettes was slow, reaching only 3% in 1960, rather lower than the figure reported by Maxwell and shown in Table 3. Charcoal filters are an important feature of the Japanese market. They were first introduced in 1968; by 1991 over 80% of cigarettes had charcoal filters, and by 2004 almost all cigarettes (both domestic and imported) were reported to have charcoal filters (Assunta and Chapman (2008)).

Menthol cigarette sales

Matsunaga (2001), Japan Tobacco Inc. (successive years 2006-2015)

See Table 3

Data for 1993-2013 refer to year beginning April; data for 2014 to the 9 month period Apr-Dec, and data for 2015 to calendar year. The sources give data for these periods because of the company's transition of accounting period to calendar years.

Tar and Nicotine machine yield of cigarettes

1967: Hirayama (1987) quoting Y. Shimizu (personal communication)

1969-1993: Sato and Araki (2000) (data read from a figure)

1994-2015: Tobacco Institute of Japan (2007, 2016b)

See Table 3

Yields were measured according to the Japanese national standard (one 35 ml puff of 2 seconds duration, taken once per minute, to a butt length of 30mm or tip overwrap + 3mm if greater). A change was expected in 2002 to the ISO standard, which differs mainly in the butt length specified of 23mm, tip overwrap + 3mm, or filter length + 8mm whichever is longer. (Baker (2002))

There is no legislative limit on tar or nicotine levels. Ultra-low tar cigarettes (defined as 1-6 mg) were introduced in 1989 (Assunta and Chapman (2008)). The market share by tar category (based on 100 top-selling brands) is shown below for selected years:

	1 mg	2-3 mg	4-6 mg	7-13 mg	14 mg +
1996	7.7	2.2	27.7		
2000	11.7	7.9	25.9	40.8	13.7
2005	18.4	6.7	23.1	39.8	12.1
2010	24.3	8.6	21.0	33.6	12.5
2015	24.5	8.8	19.8	31.8	15.3

Sources:

1996: Tobacco Institute of Japan (2001),

2000-2010: Japan Tobacco Inc. (successive years 2006-2015)

2015: Tobacco Institute of Japan (2016b))

Electronic nicotine delivery device sales

According to The Japan Times (2016), Philip Morris began selling a heat-not-burn device throughout Japan in April 2016, having successfully trialled it in Tokyo; Japan Tobacco began selling a similar device in Fukuoka Prefecture at around the same time. These devices contain tobacco which is heated to release vapour. In Japan electronic cigarette liquid containing nicotine is categorised as a pharmaceutical ingredient and is strictly controlled.

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. 55 under *References*.

Most of the surveys of young people were carried out in schools and report their results by school grade. We present these results against age groups that correspond approximately to the school grades. For details see “Japanese school system” in *Additional information (not presented in tables)*, p. 53.

Source number

1 Japan Tobacco and Salt Public Corporation (1975), Benjamin (1978), Hiruta (1985), Hirayama (1987), Onodera (1988), Ikeda (1990a), Hamazume (1998), US Department of Agriculture (2000, 2004), Funatogawa *et al* (2013), Japan Tobacco Inc. (2016b-m), Japan Health Promotion & Fitness Foundation (2016)

- a. Annual nationwide market survey by JT (formerly Japan Tobacco and Salt Public Corporation and JPMC) using stratified, two-stage random sampling. Until 2005, 16 000 questionnaires were sent out annually by mail and collected in person, response rate (1999-2005) 65-70%. From 2006 onwards the target sample size was increased to 32 000, and replies also returned by mail.

Year	Sample size		Response rate (%)
	Male	Female	
2005	5 491	4 900	65
2006	9 690	8 905	58
2007	9 888	9 317	60
2008	10 107	9 893	63
2009	10 513	10 294	65
2010	10 433	10 198	65
2011	9 503	9 561	60
2012	10 070	9 827	62
2013	9 782	9 848	61
2014	9 615	9 805	61
2015	10 182	9 930	63
2016	9 806	9 844	61

- b. For 1949-1957 the data were taken from a graph.
- c. Consumption per smoker is per regular smoker. For calculation of cigarette consumption per person, percentage regular smokers was used if available; * indicates that the percentage including occasional smokers was used, and therefore cigarette consumption per person is likely to overestimate. For some years, only the prevalence including occasional smoking is available on an age-specific basis, and results from both methods of calculation are shown in Tables 6-8 and Figure 4, but to avoid duplication, only the results including occasional smoking are included in the Supplement.
- d. In previous editions of this report, we cited prevalence values for 1950 from Sato and Araki (2000) quoting Ministry of Health and Welfare (1993) under a separate source number (source 2), but we now believed them to be from this survey series.

- e. For years with Product marked * in Tables 6 and 7: calculation of cigarettes per person based on prevalence of smoking (daily and non-daily) and number of cigarettes per daily smoker, so may overestimate.
- 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.

2 Ikegami *et al* (1983)

- a. High school students, year not stated, 1982 assumed. Sample size (males) 256, (females) 194. Approximate ages corresponding to senior high school grades.
- b. Smokers marked frequency *: smoked 1+ cigarettes/day. All smokers: currently smoked at least occasionally.
- c. Results were also presented for 80 reformatory school youths: 90% smoked daily, and our estimate of cigarettes/smoker/day is 23.
- d. Estimates of prevalence have been adjusted to remove 'unknown' category.
- e. Consumption category estimation based on 1-9, 10-19, 20-29, 30-39 and 40+ cigarettes/smoker/day. Estimates for males based on small numbers of smokers, and should be regarded with caution; estimates for females not presented as there was only one female smoker.

3-4 Keys *et al* (1966)

- a. Baseline of Seven Countries Study on cardiovascular disease. Interview including smoking questions before medical examinations.

	Location	Description	Sample size	Response rate (%)
3	Tanushimaru, Kyushu	Farming village	509	100
4	Ushibuka, Kyushu	Fishing village on offshore island	504	99.6

- b. Consumption category estimation for age-specific groups based on two categories, 1-19 and 20+ cigarettes/smoker/day, and resulting figures should be regarded with caution; for all-ages groups, based on three categories 1-9, 10-19 and 20+ cigarettes/smoker/day.

5 Kiyohara *et al* (1990)

- a. Baseline of a prospective study in Hisayama, a rural community near Fukuoka city. Medical examination, with personal interview covering smoking. 90% of the population age 40+ were examined, analysis restricted to those without a history of stroke or infarction. Sample size (males) 699, (females) 904.
- b. Smokers: includes those who gave up in the last year.
- c. Consumption category estimation for males based on 1-9, 10-19, 20+ cigarettes/smoker/day. For females, based on two categories, 1-9 and 10+ cigarettes/smoker/day and resulting figures should be regarded with caution.

6 Hirayama (1967), Mizuno *et al* (1989)

- a. Baseline of prospective study in 29 selected districts in 6 prefectures in 1965-1966. Interviews by public health nurses. Intended to include all adults aged over 40, response rate ranged from 91.3% to 99.8% in the 6 prefectures. Sample size 265 118.
- b. Prevalence results presented (Table 4) have been adjusted to exclude 'unknown' and 'no answer' categories.
- c. Consumption category estimation (men only) based on 1-4, 5-14, 15-24, 25-34 and 35+ cigarettes/smoker/day, using means 3.1, 9.5, 18.4, 28.7, 41.7 respectively as given by Mizuno *et al* (1989). The resulting estimate (15.9) is slightly lower than would have been obtained by our standard method (16.4). Calculation of consumption per person (Table 6) based on prevalence for age 40-69 and cigarettes/smoker for age 40-64, and should be regarded with caution.

7 Ogawa and Tominaga (1985), Ogawa *et al* (1988)

- a. Surveys in Nagoya City, covering the entire student populations of one junior high school in December 1979 and three junior high schools in January 1982. Questionnaire completed anonymously in class. Approximate ages corresponding to school grades 1-3. Sample size (1979) 946, (1982) 3 090.
- b. Smokers marked as frequency *: smoked daily. Regular smokers: smoked at least one cigarette per week. All smokers: includes smokers of less than one cigarette per week.

8-9 Shibata *et al* (1990)

- a. Survey of 19 senior high schools in Kyushu. Result shown as source 8 were from 15 ordinary co-educational schools, source 9 from 4 male vocational schools. In July 1982 all pupils in selected classes completed an anonymous questionnaire in class with teachers present. Approximate ages corresponding to school grades 1-3. Sample size (males) 3 088, (females) 1 601. Response rate 96% for both sexes.
- b. Regular smoking was undefined (students were classified into 3 categories: never smokers, ex-smokers who had smoked at least one cigarette at some time and had stopped, and current regular smokers).

- 10 Kawabata *et al* (1991a) quoting Nozu (1984)**
 a. Study during October-November 1982 in Akita prefecture.
 b. Smokers: smoked 'just about every day' or 'once in a while but not every day'.
- 11 Shiramizu and Shibata (1985)**
 a. Survey in 1983 of 12 junior high schools in a single city (city name not given). Approximate ages corresponding to school grades 1-3. Sample size (boys) 4 303, (girls) 4 172. Response rate 99%.
 b. Consumption category estimation based on <5, 6-10, and 11+ cigarettes/smoker/day.
- 12 Kawabata *et al* (1991a) quoting Kawabata *et al* (no details)**
 a. Survey in 1983 of five prefectures.
- 13 Shimao (1988)**
 a. Estimates based on reports by several research workers, which showed marked variation. Age corresponds to senior high school. Year not stated, 1985 assumed.
- 14 Geizerova *et al* (1990)**
 a. No original source details given. Schoolchildren in Nagoya City in 1987.
- 15 Matsuzaki (1990)**
 a. Study at 3 junior high and 5 senior high schools in central Hokkaido, an area with a high adult smoking prevalence. Survey carried out during April-November 1988. Self-administered questionnaire after anti-smoking lecture. Sample size (males) 870, (females) 762. Response rate 95%.
 b. Consumption category estimation based on 0-5 (assume 1-5), 6-10, 11-20, 21-30, 31+ cigarettes/smoker/day.
- 16 Kawabata *et al* (1991a)**
 a. 'Japan Know Your Body' study, conducted in 9 prefectures. 49 schools participated, including elementary, junior and senior high schools. Survey carried out during June-July 1989. Total sample size 12 892 at ages 6-18. Results reported here are for approximate ages corresponding to elementary grade 6 to senior high grade 3, sample size (males) 3 400, (females) 3 418.
 b. Smokers: smoked in the last month.
- 17 Kawabata *et al* (1991a, 1991b)**
 a. Japan Adolescent Smoking Survey (JASS) study conducted in June-July 1989 in 9 prefectures. 51 schools participated, including elementary, junior and senior high schools. Total sample size 9 921 at ages 9-18.
 b. Smokers: smoked in the last month.
- 18 Osaki and Minowa (1993, 1996)**
 a. Nationwide survey on smoking at randomly selected middle and high schools carried out December 1990 to January 1991. Teachers distributed and collected questionnaires but left the classroom while students completed an anonymous questionnaire. Participating schools were 70 middle schools and 33 high schools, response rate 70% and 66% respectively; pupils (males) 29 568 and (females) 27 621, response rate (middle school) 97%, (high school) 91%.
 b. Results in Table 4-6 are for approximate ages corresponding to school grades.
 c. Regular smokers: smoked almost every day (3 or more times each week). All smokers: smoked in last month.
 d. Prevalence estimates calculated excluding *unspecified* from the base. Consumption category estimation based on 1-4, 5-9, 10-14, 15-19, 20+ cigarettes/smoker/day. This applied to all smokers. 9% were unable to estimate and 12% did not answer, so that the number replying positively was greater than the number smoking regularly. Estimates by Osaki *et al* (1999) on a similar basis and a fitted model were lower.
 e. Calculation of cigarettes per person based on prevalence of regular smoking (including less than daily) and number of cigarettes per daily smoker, so may overestimate.
- 19 Wada and Fukui (1994)**
 a. Survey at 12 junior high schools in Chiba, selected to represent different regional characteristics. All pupils of all classes, or selected classes of all grades participated except one school where only 3rd grade classes participated. Table 4 shows approximate ages corresponding to school grades 1-3. Anonymous questionnaires, sealed in an envelope by the pupil and returned in a sealed collection box. Sample size (males) 2 702, (females) 2 530. Response rate 96% (based on the 8 schools targeting all pupils).

- b. Regular smokers: smokes almost every day. All smokers: smoked now and then, or almost every day.
- c. For details of the age groups presented, see “Japanese School System” in *Additional information (not presented in tables)* below.

20 Minagawa (1995)

- a. Northern Japan. All pupils in the schools participated at the same time, in December 1992. Anonymous questionnaires completed in class and sealed in envelope by pupils, under examination conditions with teachers present. Total sample size at age 9-18, 4 100. Results presented by age rather than school grade.
- b. Regular smokers: smoked 1+ cigarettes per week.
- c. Prevalence of weekly smoking is also available for ages 10 (0% for both sexes) and 11 (boys 1%, girls 0%).

21 Osaki *et al* (2003, 2006), Osaki (2005), Ohida *et al* (2012), Japan Health Promotion & Fitness Foundation (2016)

- a. National Survey of the Smoking and Drinking Behaviour of Minors by the Ministry of Health, Labour and Welfare. Cluster sampling of middle schools (grades 1-3) and high schools (grades 1-3), each survey taking place from December to the following January. Each student present on the day of the survey completed an anonymous questionnaire in class, and returned it in a sealed envelope to the teacher. Approximate ages corresponding to school grades.

Year		Response rate (%)			Number surveyed	
		schools	pupils	overall	Schools	Students
1996	Middle schools	66	97	64	80	42 798
	High schools	67	91	63	73	73 016
2000	Middle schools	75	90	66	99	47 246
	High schools	76	88	59	77	59 051
2004	Middle schools	70	88	61	92	39 385
	High schools	80	86	68	87	63 066
2008	Middle schools	71			92	40 151
	High schools	73			80	55 529
2010	Middle schools	68			89	38 552
	High schools	72			81	60 315
2012	Middle schools	67			94	38 871
	High schools	69			85	62 263

- b. Smokers marked as frequency *: smoked every day in past 30 days. Smokers: smoked in the last 30 days.
- c. Average numbers of cigarettes per day for daily smokers (sexes combined) were distributed:

Year	Distribution of daily smokers (%), by cigarettes per day				
	1-5	6-10	11-15	16-20	21 or more
2008	17.1	29.0	16.9	16.2	20.5
2010	20.9	30.1	16.3	14.9	17.5
2012	25.6	31.0	13.3	13.2	16.8

- d. Consumption category estimation (1996) based on 1-4, 5-9, 10-14, 15-19 and 20+ cigs/monthly smoker/day omitting those shown as smoking <1 cigarette per day, thus referring to daily smokers, and using the standard distribution derived from adult smoking: the resulting figures should be regarded with caution.

22 Katanoda and Matsumura (2002), Ministry of Health and Welfare (1988, 1989, 1990) quoted by Takahashi (2006), Japan Health Promotion & Fitness Foundation (2016), Ministry of Health, Labour and Welfare (2001, 2002, 2003, 2005, 2006, 2007, 2009, 2010a, 2010b, 2011, 2012, 2013, 2014, 2015, 2016b)

- a. National Health and Nutrition Survey (previously National Nutrition Survey) by the Ministry of Health, Labour and Welfare (previously Ministry of Health and Welfare). 2-stage cluster sampling, targeting all persons aged 1 year and over, in 6 000 households nationwide. The number of participants fell from about 20 000 in 1986 to about 12 000 in 2000. For adults, the survey includes physical examination, blood test and, since 1986, a lifestyle interview including smoking questions. Carried out annually in November. Only those aged 20+ were included in the smoking analyses.

Year	Number of participants in the smoking analyses
1986	11 442
1987	10 283
1988	10 357
1989	9 030
1990	10 202
1991	10 147
1992	9 604
1993	9 677
1994	9 373
1995	7 947
1996	7 617
1997	7 512
1998	7 911
1999	6 639
2000	6 826
2001	6 453
2002	6 021
2003	9 158
2004	7 488
2005	7 498
2006	7 743
2007	7 674
2008	8 153
2009	8 003
2010	7 871
2011	6 997
2012	30 016
2013	7 127
2014	7 626

- b. Regular smokers: smoked every day. Smokers: (1986-87) unspecified, (1988-1994) smoked continuously at time of survey, (1995-2002) smoked continuously (daily or occasionally) at time of survey, (2003-2010) smoked daily or occasionally in the last month and had smoked for 6 months and a total of 100 or more cigarettes, (2011-2012) smoked habitually in the last month, either every day or from time to time, (2013-2014) smoked habitually, either every day or from time to time.
- c. Consumption per smoker (2011, 2014) is per daily smoker. Consumption per smoker (2003-2010) is per habitual smoker (regular and occasional) with occasional smokers asked to give the number smoked on smoking days. For calculation of cigarette consumption per person (Tables 6-7), percentage of daily smokers was used; this was combined with number per daily smoker if available; * indicates that the number per smoker including occasional smokers was used, and cigarette consumption per person should be regarded with caution.
- d. Consumption category estimation (2010) based on smoking 1-10, 11-20, 21-30, 31-40, 41+ times (cigarettes) /day; for the other years average values were available.
- e. 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.

23 Ohida *et al* (2001)

- a. Active Survey of Health and Welfare conducted for the Ministry of Health and Welfare by 640 health centres in 300 randomly selected areas. All inhabitants age 15+ in selected areas were included. Questionnaires were delivered to home and collected a few days later. Sample size 34 464, response rate 89%. Analysis based on 30 547 participants age 20+ who completed smoking data.
- b. Assumed extensions to age distribution for percentage smokers are shown in the extended version of Table 4 in the Excel tables workbook.

24 Ministry of Health, Labour and Welfare (2016a)

- a. Survey on Smoking and Health Problems. Nationwide household survey in 1998 by the Ministry of Health and Welfare of people aged 15 or more. Sample stratified by region. Sample size 12 858.
- b. The *All ages* values relate to adults only, defined as participants aged 20 or more.

- c. Consumption category estimation based on 1-10, 11-20, 21-30 and 31+ cigarettes/smoker/day.
 d. Calculation of cigarettes per person based on percentage smokers (daily and non-daily) and number of cigarettes per daily smoker, so may overestimate.

25 Fukuda *et al* (2005)

- a. Comprehensive Survey of Living Conditions of People on Health and Welfare, conducted by Ministry of Health, Labour and Welfare in 2001. Nationally representative sample, interviews with all household members within 5 240 randomly selected areas. Results available for age 18-54. Sample size (males) 20 206 and (females) 21 093.

26 Liu *et al* (1999), Nakamura *et al* (1996)

- a. National Cardiovascular Surveys. All residents (age 30+) of 300 randomly selected districts were eligible. Self-completion questionnaire distributed ahead of screening survey on physical condition and nutrition. Response rate (1980) 79%, (1990) 81%. Sample size (1980) 10 556 and (1990) 8 385. Results presented for 1980 (Liu *et al* (1999)) are restricted to those who took part in the physical examination and blood test.

27, 28 Sobue *et al* (2001)

- a. Two baseline cohorts of the Japan Public Health Centre Prospective Study on Cancer and Cardiovascular diseases (JPHC Study): cohort I (shown as source **27**) in Ninohe Iwate, Yokote Akita, Saku Nagano, Ishikawa Okinawa, Katsushika Tokyo, and cohort II (shown as source **28**) in Kasama Ibaraki, Kashiwazaki Niigata, Tosayamada Kochi, Arikawa Nagasaki, Miyako Okinawa, Suita (1) Osaka and Suita (2) Osaka. Two centres (Katsushika and Suita (1)) consisted of persons aged 40 or 50 exactly who attended health check-up; otherwise the cohorts included all registered non-institutional residents in the selected areas. Self-administered questionnaire, supplemented by telephone or health-check interview at some centres.

		Sample size	Response rate (%)*
Cohort I	Males	23 029	77
(source 27)	Females	25 914	82
Cohort II	Males	29 297	76
(source 28)	Females	32 656	81

* Questionnaires analysed (Tsugane and Sobue (2001))

- b. For both cohorts, the *All ages* results refer to ages 40-59 and are standardized to the 1985 Japanese population (i.e. age 60-69 for cohort II are not included).

29 Miyoshi and Katsuno (2012)

- a. Japanese School Survey Project on Alcohol and Other Drugs (JSPAD). Nationally representative sample of high school students in 2009. Approximate ages corresponding to school grades. Sample size 25 242.
 b. Smokers: smoked in the previous 30 days.
 c. Data for single grades taken from a graph.

30 Wada (1994), Wada *et al* (1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015)

- a. Nationwide Survey of Junior High School Students' Awareness and Actual Habit of Drinking, Smoking and Drug Abuse. Nationally representative samples of middle school students. The earliest survey (in 1993) surveyed only Kanto region (Tokyo, Tochigi, Gunma, Chiba, Saitama, Yamanashi, Kanagawa), but has been included as the methodology is otherwise similar.

Year	Response rate (%)		Number surveyed	
	Schools	Students	Schools	Students
1993			12	7 166
1998	71	63	148	71 796
2000	74	64	140	62 198
2002	71	58	149	62 900
2004	69	61	147	65 611
2006	66	57	138	56 533
2008	63	55	133	52 541
2010	63	53	121	47 607
2012	53	47	124	54 733
2014	54	47	129	55 986

- b. Smokers marked as frequency * (1993 only): smoked daily. Smokers: smoked during the previous year.
- c. Although the survey was also carried out in 1996, only ever-smoking is reported for that year.

Additional information (not presented in tables)

Japanese school system

The mainstream Japanese education system has three school types as follows:

School type, year	Grade	Age	Compulsory?
Elementary	1	6-7	Yes
	2	7-8	Yes
	3	8-9	Yes
	4	9-10	Yes
	5	10-11	Yes
	6	11-12	Yes
Middle 1	7	12-13	Yes
Middle 2	8	13-14	Yes
Middle 3	9	14-15	Yes
High 1	10	15-16	No
High 2	11	16-17	No
High 3	12	17-18	No

Children who have their sixth birthday on or before 1st April enter first grade Elementary school that year. There is no system for skipping or repeating grades. Because of this, each school grade has pupils of two ages, for example, Middle school year 1 (grade 7) will include pupils aged 12 and pupils aged 13. In Tables 4-7 results for school children are presented against the higher of these ages. Middle and High school are sometimes translated as Junior High and Senior High school respectively. High school is non-compulsory but in 1998, 96% of middle school students continued to high school (Osaki *et al* (2006)).

Sources: Wada and Fukui (1994)

https://www.tokyo-icc.jp/guide_eng/educ/01.html

https://www.city.otaru.lg.jp/sisei_tokei/otaru/foreigner/index.data/school_education.pdf

Early data on smoking prevalence

Segi *et al* (1957) report an epidemiological survey in 1953-1955, with 3 892 male control subjects age 30+ drawn from 420 (out of 758) local health centres. The sample was frequency matched on age to cancer cases (ages 50-69 are particularly heavily represented), but selection of the subjects was otherwise left to the local health centres. The prevalence of ever smoking was 84.5% in urban areas and 80.1% in rural areas. In urban areas, 88% of smokers smoked cigarettes only, 7% kizami only and 6% both or other products; in rural areas the figures were 66%, 22% and 13% respectively. The amount smoked per smoker per day was 13.84 cigarette equivalents in urban areas and 13.17 in rural areas. The authors noted that kizami, the traditional mode of smoking, was becoming obsolete except among the older generations especially in rural areas.

Sobue *et al* (1988) reported that “during World War II, cigarettes were rationed equally to all Japanese, helping to make cigarette smoking generally prevalent” (this is also mentioned in *Sales data before 1974* above).

Smoking by minors

According to Shimao (1988), an Act prohibiting minors (age <20) from smoking came into force in 1900, because the Government was worried about the ill-effects of smoking on soldiers. The law was well observed until the 1950s, but smoking in junior and senior high schools had since become a problem. The existence of the Act meant that this was regarded as a problem of juvenile delinquency rather than of health. Ohmi *et al* (2000) reported that arrests in connection with the law reached a peak of 433 in 1967 and declined to 17 in 1990; and that there had been no prosecutions between 1980 and 1990. However this conflicts with Sato (1999) who reported 213 822 arrests for juvenile smoking in 1965 and 340 337 in 1979.

Sato (1999) reported that, although there were no official surveys of smoking among minors, in 1950, 28.9% of smokers started to smoke before age 19, and in 1960 25.2% before age 20.

With the exception of source 24 (above, 1998 only) and surveys restricted to those still in school (e.g. sources 21 and 29), there are no sex-specific data for the 15-19 age group. As part of the National Resident Survey on Drug Use, Shimane *et al* (2016) reported the prevalence of smoking among 15-19 year olds (sexes combined) as:

Year	Smoked in the previous year (%)
2001	22.2
2003	15.3
2005	9.9
2007	8.4
2009	7.1
2011	6.1
2013	2.6
2015	4.5

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