International Smoking Statistics

Web Edition

A collection of worldwide historical data

Poland

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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 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*.

In the 1920s and 1930s, consumption of manufactured cigarettes per adult was around 1 cigarette per day. After the Second World War, consumption rose rapidly, virtually doubling from 3 cigarettes per day in 1949 to 6 in 1960. It continued to rise, until about 1980 when it levelled at around 10 cigarettes per day. The highest value, of nearly 11 per day, was seen in 1991. After that it fell steeply, to 4 per day in 2012.

The consumption of all tobacco products per adult was 2-3 g per day before the Second World War. About 30% was consumed as manufactured cigarettes. The remainder was mainly smoked in hand-made cigarettes (in cigarette tubes or rolled in tissue paper). Pipes were smoked only in western Poland (Staszewski (1960b)). By 1949, consumption had risen to 3.5 g, of which 95% was consumed as manufactured cigarettes. Products other than cigarettes virtually disappeared by the mid-1950s then reappeared in the 2000s, to make up 6% of consumption by 2012.

Smuggling of cigarettes increased during the early 2000s from a fairly low base level. Estimates for 2012 of illicit cigarette consumption range from 14% to 24% of the cigarette market. Additionally, consumption of untaxed smoking tobacco (including unmanufactured "green" tobacco) may have been considerable in recent years.

Survey data

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

Based on non-representative surveys in the 1950s and the 1960s, the prevalence of smoking among those aged 15 years and over was 60-80% among men and 10-20% among women. Nationally representative surveys are available from 1974, at which time the estimated prevalence of regular smoking was 58% in men and 17% in women. By 2012 this had fallen to 35% in men. Among women, estimates fluctuate, but were generally 25-30% in the 1980s and 20-25% thereafter. A further 2-6% of both sexes were occasional smokers. More men than women smoke at all ages. A decline in smoking prevalence with increasing age is more marked in women than in men.

Several national and regional surveys have now reported smoking among teenagers. A series of surveys between 1979 and 1985 among pupils in Lódź showed some decline in prevalence, more marked in boys than girls. From 1990 to 2000 national surveys showed no consistent trend in smoking prevalence, but during the 2000s they mostly show a decrease among boys and an increase among girls. Although all surveys before 2000 reported that more boys than girls smoked, this has not been consistently true since then. A survey in Lublin showed substantially higher prevalence in vocational school students than in general schools.

Comparison between survey and sales data suggests that surveys under-reported consumption by 10-50%. The apparent reduction of under-reporting in recent years may be due to increased consumption of illicit tobacco that is not included

in the sales data. Between 1957 and 2010, the estimated number of cigarettes smoked per person per day (sales-adjusted) for men increased from 12 to 16 (in 1980) and then decreased to 5. For women, it increased from 1 to 6 (in 1993) then decreased to 3.

Table 1.1 Total annual sales of tobacco products, 1922-1957

Year	Manufactured cigarettes				Cigars		Other tobacco	Snuff	All tobacco products
	Total tonnes	Total millions	With mouthpiece millions	Without mouthpiece millions	tonnes	millions	tonnes	tonnes	tonnes
1922	3 820	4 775			744	135	6 016	309	10 889
1923	3 476	4 345			553	101	-	5 817 -	9 846
1924	4 115	5 144			349	63	-	7 042 -	11 506
1925	5 402	6 753			348	63	11 252	390	17 392
1926	4 789	5 986			280	51	11 746	436	17 251
1927	5 495	6 869			312	57	12 289	451	18 547
1928	6 502	8 128			367	67	12 972	449	20 290
1929	6 974	8 718			390	71	13 023	446	20 833
1930	6 813	8 516			353	64	13 013	445	20 624
1931	6 192	7 740			277	50	12 223	396	19 088
1932	6 297	7 871			213	39	10 808	356	17 674
1933	6 108	7 635	3 843	3 792	180	33	10 576	315	17 179
1934	5 488	6 860			175	32	11 715	297	17 675
1935	4 843	6 054			155	28	12 251	268	17 517
1937	7 699	7 699	3 951	3 748	116	29	12 583	253	20 651
1949	20 691	20 691	810	19 881	100	25	973	93	21 857
1953	30 517	30 517	428	30 088	90	23	343	95	31 045
1957	42 551	42 551	1 012	41 539	125	31			42 676

Source: see *Notes on sources of sales data: Sales data before 1960*, p. 37.

Table 1.2 Total annual sales of tobacco products, 1960-2013

Year	Manufactured cigarettes				Other tobacco	All tobacco
	Legal domestic millions	Outflows[1] millions	Grey market[1] millions	Net[2] millions	cigarette equivalents millions	cigarette equivalents millions
1960	44 286					44286
1961	49 982					49982
1962	53 079					53079
1963	53 440					53440
1964	47 300					47300
1965	53 377					53377
1966	59 829					59829
1967	58 781					58781
1968	64 418					64418
1969	68 733					68733
1970	69 183					69183
1971	67 832					67832
1972	81 757					81757
1973	76 230					76230
1974	81 403					81403
1975	83 875					83875
1976	89 468					89468
1977	90 600					90600
1978	91 786					91786
1979	92 920					92920
1980	94 851					94851
1981	90 104					90104
1982	91 741					91741
1983	85 717					85717
1984	88 276					88276
1985	92 744					92744
1986	99 038					99038
1987	103 268					103268
1988	95 071					95071
1989	96 073					96073
1990	102 944					102944
1991	112 667					112667
1992	95 878					95878
1993	103 767					103767
1994	95 487					95487
1995	101 117					101117
1996	90 300					90300
1997	92 100					92100
1998	90 300					90300
1999	88 020					88020
2000	73 120					73120
2001	74 360					74360
2002	75 410					75410
2003	72 800					72800
2004	72 000					72000
2005	73 900					73900
2006	72 440	9 940	4 410	66 920	940	67860
2007	69 910	9 470	5 260	65 700	800	66500
2008	63 140	8 810	5 810	60 130	680	60810
2009	61 120	9 430	8 010	59 700	3950	63650
2010	57 320	9 350	6 300	54 270	4690	58960
2011	55 550	10 800	7 230	51 970	5310	57280
2012	52 150	11 360	6 830	47 620	3750	51370

1 See *Estimates of consumption not included in legal sales data*, p. 38 for explanation of these terms
2 Legal domestic sales minus Outflows plus Grey market.
Source: see *Notes on sources of sales data: Sales data for 1960 onwards*, p. 37.

Table 1.3 Annual sales of tobacco products: alternative estimates

Year	Cigarettes per capita	Cigarettes estimated[1]	Other tobacco cigarette equivalents		Euromonitor International estimates			Cigars various sources
			Earlier KPMG estimates	Cyber Service estimates	Cigarettes	Cigars	HRT[2]	
		millions	millions	millions	millions	millions	tonnes	millions
1923	450	12 644						
1929	700	21 210						
1937	600	20 533						
1946	1 000	23 930						
1949	893	21 798						
1950	1 063	26 388						
1960	1 539	45 495						
1962	1 683	51 035						
1970	2 078	67 589						
1971	2 220	72 827						
1972	2 240	74 072						
1973	2 350	78 402						
1974	2 370	80 215						
1975	2 500	85 461						
1976	2 560	87 967						
1977	2 550	88 479						
1978	2 570	89 975						
1979	2 741	97 069						
1980	2 679	95 314						
1981	2 450	87 960						
1982	2 390	86 583						
1983	2 350	85 943						
1984	2 450	90 438						
1985	2 500	93 008						
1986	2 590	97 011						
1987	2 610	98 302						
1988	2 500	94 656						
1989	2 350	89 213						
1990	2 654	101 167						
1991	2 610	99 818						
1992	2 500	95 912						
1993	2 620	100 763						
1994	2 500	96 358						208
1995	2 612	100 791						401
1996	2 341	90 404						56
1997	2 378	91 910						44
1998	2 390	92 412						20
1999	2 333	90 179						
2000	1 954	74 752						
2001	1 956	74 819						
2002	2 010	76 847						
2003	1 920	73 335	3 360					
2004	1 927	73 574	5 930		71 930	7		8
2005	1 974	75 330	3 790		73 787	7	1 276	8
2006	1 997	76 150	4 690		72 469	8	1 051	9
2007	1 887	71 925	6 320	2 700	69 907	9	915	12
2008	2 091	79 701	9 870	4 400	63 097	10	1 422	13
2009	1 749	66 730	8 770	6 500	59 205	12	2 069	11
2010	1 805	69 523	5 620	4 200	56 393	13	2 899	14
2011	1 795	69 153	5 530	4 200	54 399	14	2 754	20
2012/3	1 728	66 572		3 200	50 947	15	1 790	

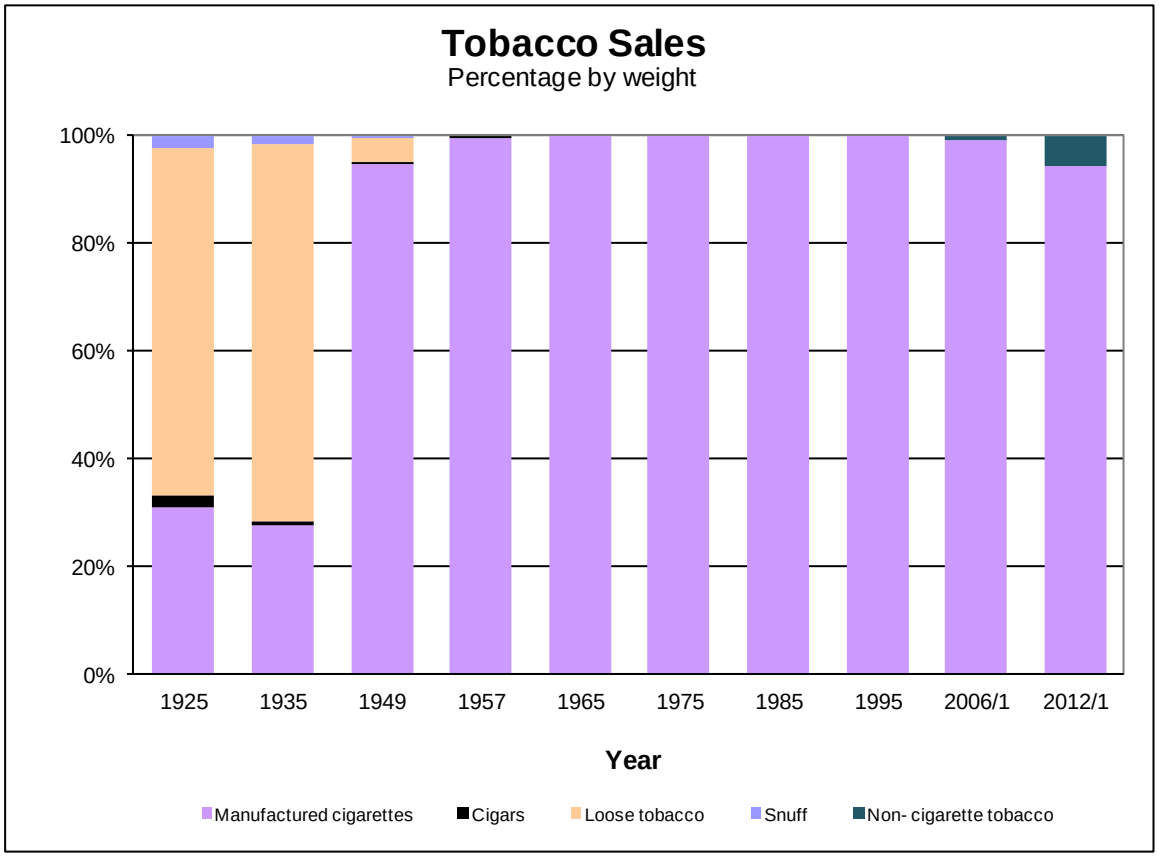
1 Estimated by us as cigarettes per capita multiplied by population.
2 Hand-rolling tobacco.
3 Cigarettes, estimated, for 2012 used population values for 2011.
Source: see *Notes on sources of sales data: Alternative sales estimates*, p. 38.

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

Year	Manufactured cigarettes	Cigars	Loose tobacco	Snuff	Non- cigarette tobacco
	%	%	%	%	%
1925	31.1	2.0	64.7	2.2	
1935	27.6	0.9	69.9	1.5	
1949	94.7	0.5	4.5	0.4	
1957	99.7	0.3	0.0	0.0	
1965	100.0				
1975	100.0				
1985	100.0				
1995	100.0				
2006/1	99.0				1.0
2012/1	94.4				5.6

1 Manufactured cigarettes value uses Net consumption.
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 1.5 Cigarette consumption not included in legal domestic sales data, estimated, selected years

Year	Euromonitor International Illicit	KPMG EU Flows Model			PMI Empty Pack Surveys Non-domestic packs	ALMARES Empty Pack Surveys Non-domestic packs	Business press
		Counterfeit and contraband	Legal non-domestic	Total			
	%	%	%	%	%	%	%
1997	12.3						
1998	12.5						
1999	13.5						10
2000	15.5						
2001	16.0						15, 17, 20
2002	15.3						
2003	15.7						
2004	16.0						15
2005	15.9						
2006	16.5	5.7	0.9	6.6	6.6	4.9	
2007	17.4	7.1	0.9	8.0	8.0	6.6	10
2008	19.2	8.2	1.5	9.7	9.6	9.1	
2009	20.6	11.8	1.6	13.4	12.7	13.2	
2010	21.7	10.6	1.0	11.6	11.3	11.4	
2011	22.7	12.9	1.1	13.9	13.5	12.8	16
2012	24.1	13.0	1.3	14.3	14.1	14.1	
2013						15.1	25

Source : see *Notes on sources of sales data: Estimates of consumption not included in legal sales data*, p. 38.

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

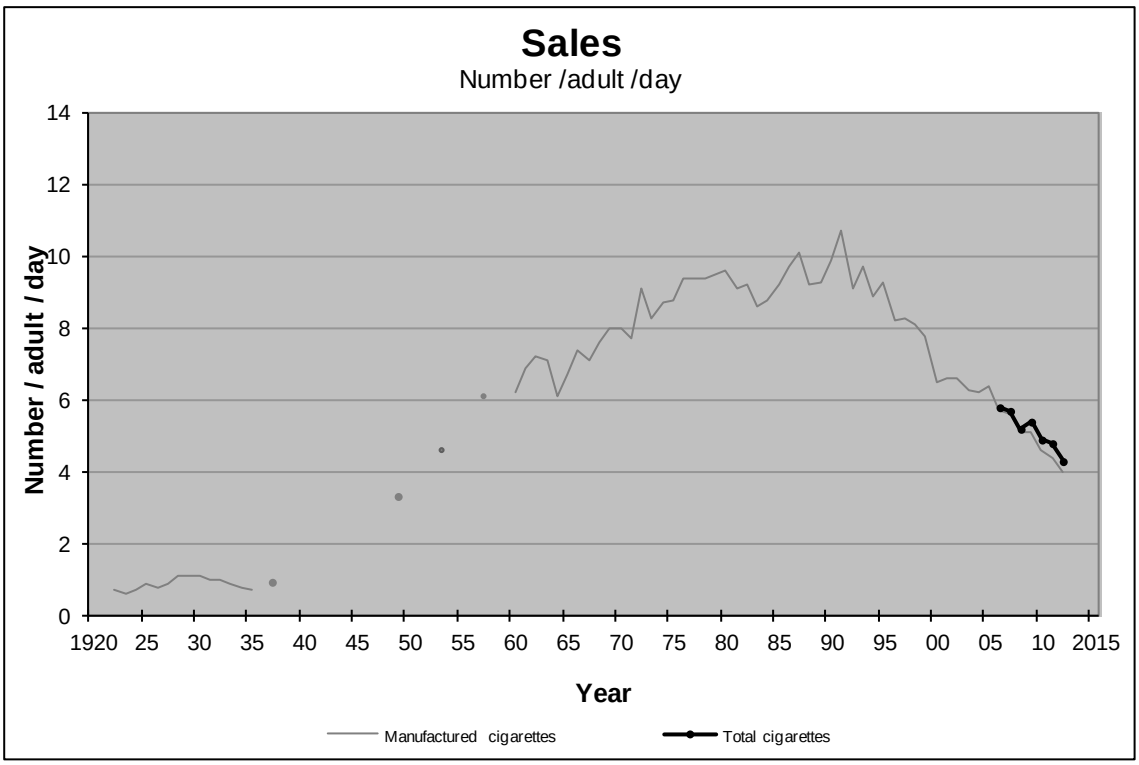
Year	Manufactured cigarettes		Hand-rolled cigarettes		Total cigarettes		All tobacco products	
	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual millions	Number/ adult/day	Total annual tonnes	Grams/ adult/day
1922	4 775	0.7					10 889	1.5
1923	4 345	0.6					9 846	1.4
1924	5 144	0.7					11 506	1.6
1925	6 753	0.9					17 392	2.3
1926	5 986	0.8					17 251	2.3
1927	6 869	0.9					18 547	2.4
1928	8 128	1.1					20 290	2.6
1929	8 718	1.1					20 833	2.7
1930	8 516	1.1					20 624	2.6
1931	7 740	1.0					19 088	2.4
1932	7 871	1.0					17 674	2.1
1933	7 635	0.9					17 179	2.0
1934	6 860	0.8					17 675	2.1
1935	6 054	0.7					17 517	2.0
1937	7 699	0.9					20 651	2.3
1949	20 691	3.3					21 857	3.5
1953	30 517	4.6					31 045	4.6
1957	42 551	6.1					42 676	6.1
1960	44 286	6.2					44 286	6.2
1961	49 982	6.9					49 982	6.9
1962	53 079	7.2					53 079	7.2
1963	53 440	7.1					53 440	7.1
1964	47 300	6.1					47 300	6.1
1965	53 377	6.7					53 377	6.7
1966	59 829	7.4					59 829	7.4
1967	58 781	7.1					58 781	7.1
1968	64 418	7.6					64 418	7.6
1969	68 733	8.0					68 733	8.0
1970	69 183	8.0					69 183	8.0
1971	67 832	7.7					67 832	7.7
1972	81 757	9.1					81 757	9.1
1973	76 230	8.3					76 230	8.3
1974	81 403	8.7					81 403	8.7
1975	83 875	8.8					83 875	8.8
1976	89 468	9.4					89 468	9.4
1977	90 600	9.4					90 600	9.4
1978	91 786	9.4					91 786	9.4
1979	92 920	9.5					92 920	9.5
1980	94 851	9.6					94 851	9.6
1981	90 104	9.1					90 104	9.1
1982	91 741	9.2					91 741	9.2
1983	85 717	8.6					85 717	8.6
1984	88 276	8.8					88 276	8.8
1985	92 744	9.2					92 744	9.2
1986	99 038	9.7					99 038	9.7
1987	103 268	10.1					103 268	10.1
1988	95 071	9.2					95 071	9.2
1989	96 073	9.3					96 073	9.3

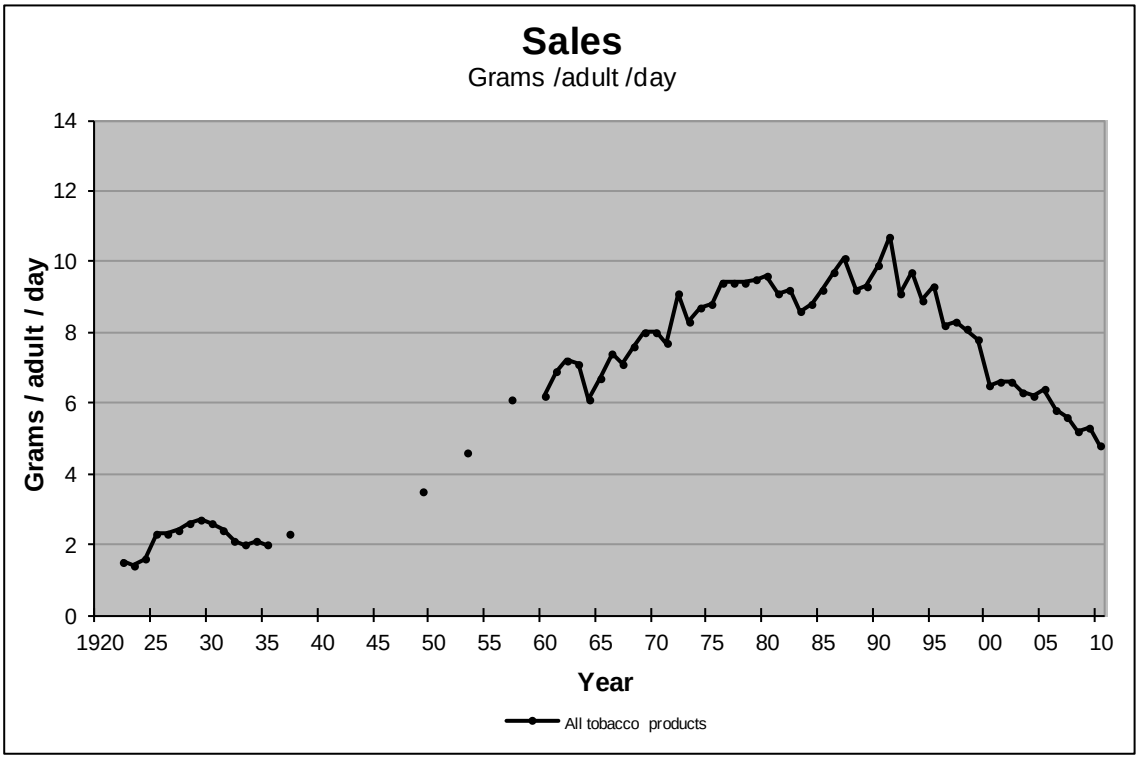
Table 2 *(continued)*

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
1990	102 944	9.9					102 944	9.9
1991	112 667	10.7					112 667	10.7
1992	95 878	9.1					95 878	9.1
1993	103 767	9.7					103 767	9.7
1994	95 487	8.9					95 487	8.9
1995	101 117	9.3					101 117	9.3
1996	90 300	8.2					90 300	8.2
1997	92 100	8.3					92 100	8.3
1998	90 300	8.1					90 300	8.1
1999	88 020	7.8					88 020	7.8
2000	73 120	6.5					73 120	6.5
2001	74 360	6.6					74 360	6.6
2002	75 410	6.6					75 410	6.6
2003	72 800	6.3					72 800	6.3
2004	72 000	6.2					72 000	6.2
2005	73 900	6.4					73 900	6.4
2006/1	66 920	5.7	940	0.1	67 860	5.8	67 625	5.8
2007/1	65 700	5.6	800	0.1	66 500	5.7	66 300	5.6
2008/1	60 130	5.1	680	0.1	60 810	5.2	60 640	5.2
2009/1	59 700	5.1	3 950	0.3	63 650	5.4	62 663	5.3
2010/1	54 270	4.6	4 690	0.4	58 960	4.9	57 788	4.8
2011/1	51 970	4.4	5 310	0.4	57 280	4.8	55 953	4.7
2012/1,2	47 620	4.0	3 750	0.3	51 370	4.3	50 433	4.2

1 Manufactured cigarettes – net consumption.
2 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: Sales data for 1960 onwards*, p. 37 and *Estimates of numbers of hand-rolled cigarette*, p. 41. Population, see *Population*, Methods p. 14.

Figure 2 Sales of (i) manufactured and total[1] 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.

Table 3 Manufactured cigarettes: percentage of total sales as filter cigarettes and as menthol or slim cigarettes; and machine yields per cigarette of tar and nicotine (popular brands)

Year	Filter		Menthol	Slim	Tar, mg/cigarette[1]		Nicotine range
	% sales	% production	%	%	average	range	mg/cigarette[1]
1967	4.8						
1968	5.9						
1969	9.4						
1970	11.8						
1971	14.1						
1972	17.8						
1973	22.8						
1974	30.7						
1975	30.9						
1976	33.7						
1977	36.9						
1978	40.9						
1979	43.1						
1980	44.8					17.1 - 23.6	0.9 - 2.05
1981		38.4					
1982		42.2					
1983		43.9			21.3	19.5 - 24.4	1.04 - 1.88
1984		43.8			24.1	20.1 - 28.4	1.49 - 2.24
1985		42.6			23.6	18.9 - 31.9	1.13 - 2.63
1986		56.4			23.0	18.0 - 26.3	0.92 - 2.12
1987		48.5			21.5	17.2 - 25.7	0.69 - 1.94
1988		57.2			23.2	20.2 - 25.4	0.97 - 1.50
1989		61.9					
1990		63.9			18.2	17.0 - 20.3	1.17 - 1.44
1991		67.1			18.2	15.3 - 21.6	0.97 - 1.44
1992		72.3			17.6	14.1 - 21.2	0.92 - 1.39
1993		80.2			17.9	16.7 - 18.6	1.06 - 1.81
1994		80.3			16.0	15.6 - 16.9	1.13 - 1.52
1995		80.2			14.9	13.9 - 16.1	1.17 - 1.55
1996		84.0			14.0	5.1 - 19.0	
1997		86.9			12.5	2.1 - 19.6	
1998		89.1					
1999	94.0	91.0			10.3	1.3 - 17.9	
2000	94.0	93.4			9.8	0.7 - 16.7	
2001	95.0	93.9					
2002	95.0	95.7	8.6				
2003	96.9	96.0	9.4				
2004	97.6	96.3	11.3				
2005			12.2				
2006			13.8	12.2			
2007			15.6	14.1			
2008			16.6	14.1			
2009			17.0	15.9			
2010			18.0	19.1			
2011			18.9	20.0			0.156-1.232
2012			19.5	20.0			

1 The average and range refer to the cigarettes tested. The average is not sales-weighted.
Source: see *Notes on sources of sales data: Plain/Filter cigarette sales,* p. 41; *Menthol cigarette sales*, p. 41; *Slim cigarette sales*, p. 41 and *Tar and nicotine machine yields of cigarettes*, p. 42.

Table 4M Prevalence of smoking, males: selected surveys by age
(continues on p. 20)

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	80+	
57	2	U	A									83													
68	3*	A	R								67		70		65		67		47		46				65
69	30	U	A				64																		
70	4	UC	U				49																		
73	3*	A	R										69		67		62		58		43		46		62
73	5	U	A				75																		
73	31	U	A			49																			
74	1	A	R					*				64		66		69		65		48					59
74	1	A	A					64																	
75	6	UC	R					59																	
75	6	UC	A					*					72					*							64
76	1	A	A					69					77			75				65					73
79	9	U	*			29																			
80	1	A	R					*				70		67		70		59		44					53
80	1	A	A					63																	
80	32	U	A				47																		
81	3	A	R											67		60		50		45		29		31	53
82	1	A	R					31				67		61		81		69		70		65		50	62
82	11	UC	U			21		15						67											
82	12	UC	U				60			81															
83	9	U	*			19																			
83	13	U	U					63																	
83	33	U	A				29																		
84	14	UC	R												61		62		47						58
84	14	UC	A												62		63		48						59
84	14	A	A												63		63		48						59
84	15	UC	R												67		58		48						59
84	15	UC	A												69		58		48						60
84	15	A	A												69		59		49						60
84	29	UC	*				16																		
84	29	UC	A				38																		
85	1	A	R							*		56		57		58		51		49					55
85	1	A	A							60															
85	9	UC	*			13																			
85	9	UC	R			17																			
85	9	UC	A			24																			
86	1	A	R					*				51		61		60		46		38					54
86	1	A	A					49					70			66				45					61
87	1	A	R					*				61		55		64		54		29					53
87	1	A	A					57																	
87	16	UC	*				4	12		32															16
88	1	A	R					*				67		60		47		55		41					52
88	1	A	A					56																	
88	14	UC	R												62		59		51						58
88	14	UC	A												65		60		52						60
88	14	A	A												65		60		52						60
88	15	UC	R												62		51		47						54
88	15	UC	A												62		51		47						54
88	15	A	A												62		51		48						54
88	29	UC	*				9																		
88	29	UC	A				25																		

Table 4F Prevalence of smoking, females: selected surveys by age
(continues on p. 21)

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	80+	
57	2	U	A									8													
68	3*	A	R									30		23		28		25		13	3				24
69	30	U	A				34																		
70	4	UC	U				22																		
73	3*	A	R										40		26		26		22		12	3			26
73	5	U	A				40																		
73	31	U	A			34																			
74	1	A	R					*				27		18		23		18		6					18
74	1	A	A					21																	
75	6	UC	R					18																	
75	6	UC	A					*				35		*											21
76	1	A	A					37					35			20				7					25
79	9	U	*		13																				
80	1	A	R					*				50		44		23		16		10					20
80	1	A	A					29																	
80	32	U	A				37																		
81	3	A	R											43		26		25		18		8		0	25
82	1	A	R					14				40		54		57		34		24		24		6	30
82	11	UC	U			0		4				23													
82	12	UC	U				24			56															
83	9	U	*		8																				
83	13	U	U					29																	
83	33	U	A				20																		
84	14	UC	R												18		9		2						11
84	14	UC	A												20		10		2						12
84	14	A	A												20		10		2						12
84	15	UC	R												43		27		29						34
84	15	UC	A												45		28		30						35
84	15	A	A												45		28		30						35
84	29	UC	*				9																		
84	29	UC	A				26																		
85	1	A	R						*			39		40		29		18		9					28
85	1	A	A						34																
85	9	UC	*			5																			
85	9	UC	R			9																			
85	9	UC	A			15																			
86	1	A	R					*				36		40		37		11		11					27
86	1	A	A					34					43			25				4					28
87	1	A	R					*				27		41		19		20		9					22
87	1	A	A					26																	
87	16	UC	*																						
88	1	A	R					*				36		47		31		14		4					25
88	1	A	A					30																	
88	14	UC	R												35		11		3						18
88	14	UC	A												36		11		3						19
88	14	A	A												36		11		3						19
88	15	UC	R												53		33		23						38
88	15	UC	A												54		33		23						38
88	15	A	A												54		33		23						38
88	29	UC	*				5																		
88	29	UC	A				19																		

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 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80+	
89	17	UC	U																						
90	1	A	R					*				60		62		61		48		34					52
90	1	A	A					40					81			53				35					55
90	18	U	*		3		14																		
90	18	U	R		5		20																		
90	18	U	A		15		31																		
91	1	A	R					*				56		58		46		55		27					48
91	1	A	A					56																	
92	1	A	R					*				50		61		66		50		38					53
92	1	A	A					55																	
92	26	UC	R										63		67		63		56						63
92	29	UC	*				11																		
92	29	UC	A				26																		
93	1	A	R					*				45		63		55		44		39					48
93	1	A	A					51																	
93	14	UC	R												62		55		42						54
93	14	UC	A												64		57		44						57
93	14	A	A												66		57		45						57
93	15	UC	R												62		51		37						52
93	15	UC	A												63		53		38						53
93	15	A	A												65		54		41						55
93	20	A	R					51																	
94	1	A	R					*				45		63		63		50		39					50
94	1	A	A					52																	
94	18	U	R		8		23																		
94	18	U	A																						
94	37	UC	A							54															
95	1	A	R					*				53		59		56		51		33					47
95	1	A	A					50																	
95	7	UC	*				23																		
95	7	UC	A				34																		
96	1	A	R				42																		
96	1	A	A				54																		
96	8	U	R				23						51		54		51		39		28		18	6	41
96	8	U	A				32						58		61		57		44		33		21	10	48
96	20	A	R				44																		
96	29	UC	*				15																		
96	29	UC	A				35																		
97	1	A	R									43		52		52		47		30					45
97	1	A	A									49													
97	10	A	A							48															
97	28	U	R				40																		
97	34	U	A				31																		
98	18	A	*		3		22																		
98	18	A	R		8		27																		
98	18	U	A																						
98	28	U	R				39																		
99	7	UC	*				27																		
99	7	UC	A				39																		
99	20	A	R				42																		
99	22	UC	A			26																			
99	22	A	A			33																			
99	28	U	R				40																		

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 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80+	
89	17	UC	U				35																		
90	1	A	R					*				28		46		35		16			6				25
90	1	A	A					20					45			25					7				28
90	18	U	*		0		6																		
90	18	U	R		1		10																		
90	18	U	A		3		16																		
91	1	A	R					*				39		32		36		16			7				25
91	1	A	A					31																	
92	1	A	R					*				26		31		38		14			9				23
92	1	A	A					26																	
92	26	UC	R										56		58		37			23					46
92	29	UC	*				8																		
92	29	UC	A				27																		
93	1	A	R					*				22		42		38		23			7				25
93	1	A	A					29																	
93	14	UC	R												39		12		4						21
93	14	UC	A												42		15		6						23
93	14	A	A												42		15		6						23
93	15	UC	R												46		32		17						34
93	15	UC	A												49		35		18						36
93	15	A	A												49		35		18						36
93	20	A	R					29																	
94	1	A	R					*				30		45		34		23			7				23
94	1	A	A					27																	
94	18	U	R		2		13																		
94	18	U	A		4		20																		
94	37	UC	A							33															
95	1	A	R					*				21		42		40		24			8				23
95	1	A	A					25																	
95	7	UC	*				12																		
95	7	UC	A				23																		
96	1	A	R				21																		
96	1	A	A				27																		
96	8	U	R				10						29		35		26		10		5		1	1	20
96	8	U	A				15						38		42		31		14		7		2	1	25
96	20	A	R				24																		
96	29	UC	*				13																		
96	29	UC	A				32																		
97	1	A	R									23		37		36		21			6				23
97	1	A	A									26													
97	10	A	A							26															
97	28	U	R				23																		
97	34	U	A				12																		
98	18	A	*		2		14																		
98	18	A	R		4		20																		
98	18	U	A		10		28																		
98	28	U	R				21																		
99	7	UC	*				17																		
99	7	UC	A				28																		
99	20	A	R				23																		
99	22	UC	A			20																			
99	22	A	A			23																			
99	28	U	R				22																		

Table 4M *(continued from p. 20, continues on p. 24)*
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	80+	
00	28	U	R				40																		
00	29	UC	*				14																		
00	29	UC	A				28																		
01	26	UC	R																		20		7		16
01	26	UC	A							38											15				
01	28	U	R				40																		
01	36	U	*	4		13		26		35															
01	36	U	R	6		17		32		42															
01	36	U	A	23		37		48		55															
02	1	A	R									39		52		52		46			28				43
02	1	A	A									46													
02	18	A	*		8		21																		
02	18	A	R		12		26																		
02	20	A	R				40																		
02	23	U	U				31						51			59					35				45
02	28	U	R				40																		
03	1	A	R				23					40		43		53		38			31				39
03	1	A	A				23					48		45		56		39			33				42
03	7	UC	*				25		37																
03	7	UC	A				35		47																
03	22	TC	A		20																				
03	22	A	A		25																				
03	28	U	R				37																		
03	37	UC	A							52															
04	8	A	R				34																		
04	8	A	A				38																		
04	20	A	R				38																		
04	24	UC	R									39			44		46		36		22				42
04	28	U	R				37																		
04	29	UC	*				9																		
04	29	UC	A				22																		
05	20	A	R				42																		
05	23	MC	R				28						41			48					28				37
05	23	TC	R				28						41			48					32				38
05	23	A	R				28						41			48					32				38
05	23	MC	U				43						45			56					32				44
05	23	TC	U				43						45			57					37				46
05	23	A	U				43						45			57					37				46
05	25	U	A				20						29				*				12				22
05	28	U	R				36																		
05	35	U	A					38																	
06	18	A	*		4		15																		
06	18	A	R		5		19																		
06	18	A	A		8		24																		
06	20	A	R				37																		
06	23	MC	R				18						43			38					38				35
06	23	TC	R				18						43			38					38				35
06	23	A	R				18						43			38					38				35
06	23	MC	U				26						45			42					43				40
06	23	TC	U				26						46			42					43				40
06	23	A	U				26						46			42					43				40
06	28	U	R				37																		

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 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80+	
00	28	U	R				25																		
00	29	UC	*				14																		
00	29	UC	A				37																		
01	26	UC	R																		8		1		6
01	26	UC	A							23											5				
01	28	U	R				25																		
01	36	U	*	2		11		29		32															
01	36	U	R	3		18		40		42															
01	36	U	A	14		37		62		57															
02	1	A	R									26		33		40		33			9				26
02	1	A	A									28													
02	18	A	*		4		12																		
02	18	A	R		7		17																		
02	20	A	R				25																		
02	23	U	U				22						30			40				8					24
02	28	U	R				25																		
03	1	A	R				3					26		33		33		29			11				23
03	1	A	A				3					27		33		36		30			11				24
03	7	UC	*				15		25																
03	7	UC	A				27		38																
03	22	TC	A		17																				
03	22	A	A		21																				
03	28	U	R				21																		
03	37	UC	A							47															
04	8	A	R				19																		
04	8	A	A				23																		
04	20	A	R				26																		
04	24	UC	R									21		32		31		16			5				25
04	28	U	R				21																		
04	29	UC	*				15																		
04	29	UC	A				31																		
05	20	A	R				25																		
05	23	MC	R				7						28			26				10					18
05	23	TC	R				7						27			26				10					18
05	23	A	R				7						27			26				10					18
05	23	MC	U				19						39			36				11					26
05	23	TC	U				19						39			36				11					26
05	23	A	U				19						39			36				11					26
05	25	U	A				10						21				*				3				12
05	28	U	R				21																		
05	35	U	A					37																	
06	18	A	*		3		10																		
06	18	A	R		5		14																		
06	18	A	A		8		21																		
06	20	A	R				23																		
06	23	MC	R				23						29			31				17					25
06	23	TC	R				24						30			31				17					25
06	23	A	R				24						30			31				17					25
06	23	MC	U				25						37			37				20					29
06	23	TC	U				27						37			37				19					30
06	23	A	U				27						37			37				19					30
06	28	U	R				21																		

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	80+	
07	1	A	R				6					35		39		43		43		25					34
07	1	A	A				36																		
07	7	UC	*				14																		
07	7	UC	A				22																		
07	10	A	A							38															
07	28	U	R				36																		
08	10	A	A							38			47		40		43		46			23			40
08	28	U	R				36																		
08	29	UC	*				8																		
08	29	UC	A				27																		
08	37	UC	A							41															
09	8	A	R				10					32		33		43		38		28		14		8	31
09	8	A	A				16					40		40		18		43		32		16		10	37
09	20	A	R				34																		
09	22	TC	A		18																				
09	22	A	A		26																				
09	23	MC	R				26						34			47				25					33
09	23	TC	R				27						36			50				27					36
09	23	MC	A				27						39			51				27					37
09	23	TC	A				27						38			50				27					36
09	23	A	A				27						39			54				29					38
09	28	U	R				36																		
10	10	A	A							28			42		48		45		45			29			40
10	18	A	*		5		12																		
10	18	A	R		7		16																		
10	19	UC	*	1	7		14		20																
10	19	UC	R	2	10		17		26																
10	19	UC	A	4	15		23		32																
10	21	A	R				16					32		39		43		42		21					34
10	21	MC	A				23					36		41		43		40		21					35
10	21	TC	A				23					36		43		45		44		23					37
10	21	A	A				23					36		43		45		44		23					37
10	27	TC	R							29															
10	27	TC	A							22			32				43					15			33
10	28	U	R				35																		
10	37	UC	R							22															
10	37	UC	A							38															
11	7	UC	*				18																		
11	7	UC	A				30																		
11	10	A	A							30			36		32		46		38			27			35
11	28	U	R				35																		
12	10	A	A							31			36		32		46		38			27			40
12	28	U	R				35																		

Source: see *Notes on sources of survey data*, p. 42
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. 42
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 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80+	
07	1	A	R				1					32		27		32		30		12					23
07	1	A	A				26																		
07	7	UC	*				11																		
07	7	UC	A				21																		
07	10	A	A							24															
07	28	U	R				20																		
08	10	A	A							13		27		39		44		19		6					24
08	28	U	R				22																		
08	29	UC	*				9																		
08	29	UC	A				37																		
08	37	UC	A							36															
09	8	A	R				5					16		21		27		27		16		4		2	18
09	8	A	A				8					22		28		33		33		19		5		2	23
09	20	A	R				21																		
09	22	TC	A		28																				
09	22	A	A		32																				
09	23	MC	R						17				26			36				15					23
09	23	TC	R						23				24			39				15					24
09	23	MC	A						23				32			41				16					27
09	23	TC	A						23				26			40				15					25
09	23	A	A						23				33			42				16					28
09	28	U	R				22																		
10	10	A	A							19		24		25		29		25		9					21
10	18	A	*		5		8																		
10	18	A	R		7		12																		
10	19	UC	*	0	5		8		17																
10	19	UC	R	1	8		13		25																
10	19	UC	A	2	11		20		35																
10	21	A	R				8					22		22		32		33		8					21
10	21	MC	A				10					26		25		34		35		9					23
10	21	TC	A				12					27		25		34		37		10					24
10	21	A	A				12					27		26		35		37		10					24
10	27	TC	R							18															
10	27	TC	A							21			26				25			9					23
10	28	U	R				23																		
10	37	UC	R							24															
10	37	UC	A							43															
11	7	UC	*				14																		
11	7	UC	A				27																		
11	10	A	A							19		23		34		40		29		9					25
11	28	U	R				25																		
12	10	A	A							38		23		26		28		22		8					23
12	28	U	R				27																		

Source: see *Notes on sources of survey data*, p. 42
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. 42
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

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+	
57	2	A										13													
68	3	A									18														
73	3	A										20													
74	1	UC						13																	
75	6	UC	E					16																	
76	1	UC	E						18				21			20				20					
80	1	UC						15																	
82	1	UC						14																	
84	14	UC													21		20		18						20
84	15	UC													20		20		17						20
85	1	UC								*		16	19	22	20		21		21			18			13
85	9	UC				7.5																			
86	1	UC	E						13				19			19				19					19
87	1	UC						19																	
88	1	UC						19																	
88	14	UC													21		19		19						20
88	15	UC													19		19		16						18
90	1	UC	E						15				18			19				16					18
91	1	UC						21																	
92	1	UC						19																	
93	1	UC						17																	
93	14	UC													21		20		16						20
93	15	UC													20		20		17						19
94	1	UC						19																	
95	1	UC						19																	
95	7	UC	E				10																		
96	8	UC	E*						17				20		21		22		20		18		17	16	20
98	18	UC			0.4		2.9																		
99	7	UC	E				12																		
03	7	UC	E				9.8	12																	
04	8	UC	E						19																
04	24	UC										18													
05	23	TC	E						11				17			16				17					16
06	18	UC					9.9																		
06	23	TC	E						8.7				15			17				15					15
07	7	UC	E				11																		
09	8	UC	E						12			17		19		21		20		19		16		14	19
09	23	TC							16				17			18				16					17
10	21	TC							14			15		19		20		20		18					18
10	27	MC													18										
10	27	TC													21										
11	7	UC	E				9.3																		

Source: see *Notes on sources of survey data*, p. 42
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. 42
All ages: relates to ages reported; as given in original source

Table 5F 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+	
57	2	A										8.5													
68	3	A												13											
73	3	A														14									
74	1	UC						8.7																	
75	6	UC	E					11																	
76	1	UC	E						14				15				17				13				
80	1	UC						8.8																	
82	1	UC						9.6																	
84	14	UC													15		17		7.1						13
84	15	UC													15		15		12						14
85	1	UC								*		10	14	15	16		19		14			17			11
85	9	UC				7.8																			
86	1	UC	E						11				13				14				12				14
87	1	UC							15																
88	1	UC							16																
88	14	UC													13		13		13						13
88	15	UC													14		14		13						14
90	1	UC	E						11				14				14				14				14
91	1	UC							14																
92	1	UC							15																
93	1	UC							14																
93	14	UC													12		18		13						15
93	15	UC													15		13		15						15
94	1	UC							14																
95	1	UC							14																
95	7	UC	E				8.1																		
96	8	UC	E*				12						14		16		17		16		15		12	16	15
98	18	UC			0.3		1.4																		
99	7	UC	E				7.8																		
03	7	UC	E				7.5		8.0																
04	8	UC	E				15																		
04	24	UC											14												
05	23	TC	E				7.7						12				13				13				12
06	18	UC					7.5																		
06	23	TC	E				11						12				12				14				12
07	7	UC	E				8.5																		
09	8	UC	E				9.0					13		15		16		15		16		13		9.4	15
09	23	TC					10						12				15				13				13
10	21	TC					*					13		15		16		17			15				16
10	27	MC													15										
10	27	TC													16										
11	7	UC	E				7.8																		

Source: see *Notes on sources of survey data*, p. 42
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. 42
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

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+		
57	2	A									10														79%m
68	3	A								12															84%m
73	3	A										12													**
74	1	UC					7.9																		52%m
75	6	UC					9.3																		61%m
76	1	UC						13					16				15				13				93%m
80	1	UC					7.9																		48%m
82	1	UC					9.0																		62%m
84	14	UC												13		12		8.5						12	**
84	15	UC												14		12		8.3						12	**
85	1	UC							*		9.8	11	13	11		12		11			8.6			7.3	55%m
85	9	UC			1.0																				**
86	1	UC						6.6					13			12					8.4			10	72%m
87	1	UC					10																		64%m
88	1	UC					9.9																		73%m
88	14	UC												13		11		9.7						12	**
88	15	UC												12		9.5		7.4						9.7	**
90	1	UC						6.0					15			10					5.7			9.4	67%m
91	1	UC					10																		61%m
92	1	UC					10																		72%m
93	1	UC					8.1																		58%m
93	14	UC												13		11		6.9						11	**
93	15	UC												12		10		6.2						9.9	**
94	1	UC					9.6																		70%m
95	1	UC					8.8																		62%m
95	7	UC				2.3																			**
96	8	UC*				3.9						10		12		11		7.6		5.1		3.0	0.9	8.4	67%m
98	18	UC		0.0		0.8																			**
99	7	UC				3.2																			**
03	7	UC				2.5	4.3																		**
04	8	UC				6.4																			73%m
04	24	UC									7.5														77%m
05	23	TC				3.1						7.0				7.8				5.5				6.0	63%m
06	18	UC				1.5																			**
06	23	TC				1.6						6.7				6.5				5.8				5.3	72%T
07	7	UC				1.5																			**
09	8	UC				1.1					5.3		6.4			8.9		7.7		5.3		2.2	1.1	5.9	78%T
09	23	TC				4.4						6.2				8.8				4.3				6.0	85%T
10	21	TC*				2.2					4.7		7.4			8.7		8.4		3.9				6.1	94%T
10	27	TC					7.0																		**
11	7	UC				1.7																			**

Source: *Notes on sources of survey data*, p. 42
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. 42
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 (m – see Methods p. 12)
** = cannot be calculated
-- = adjusted by original author

Table 6F Number of cigarettes smoked per person per day, females: selected surveys by age; with percentage total sales

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+		
57	2	A									0.7														79%m
68	3	A										3.2													84%m
73	3	A											3.8												**
74	1	UC						1.5																	52%m
75	6	UC						2.0																	61%m
76	1	UC						5.3					5.1				3.3					0.9			93%m
80	1	UC						1.7																	48%m
82	1	UC						2.9																	62%m
84	14	UC												2.7		1.5		0.1						1.6	**
84	15	UC												6.4		4.0		3.4						4.8	**
85	1	UC							*		3.7	5.7	7.1	5.2	5.4		2.5			1.5				3.0	55%m
85	9	UC			0.4																				**
86	1	UC						3.7					5.5				3.5					0.5			72%m
87	1	UC						3.3																	64%m
88	1	UC						4.1																	73%m
88	14	UC												4.6		1.4		0.4						2.4	**
88	15	UC												7.6		4.7		3.0						5.4	**
90	1	UC						2.2					6.1				3.5					1.0			67%m
91	1	UC						3.6																	61%m
92	1	UC						3.4																	72%m
93	1	UC						3.6																	58%m
93	14	UC												4.9		2.2		0.6						2.9	**
93	15	UC												7.1		4.3		2.6						4.9	**
94	1	UC						3.3																	70%m
95	1	UC						3.1																	62%m
95	7	UC				1.0																			**
96	8	UC*						1.3					4.2		5.5		4.4		1.6		0.7		0.2	0.1	3.0	67%m
98	18	UC		0.0		0.3																			**
99	7	UC				1.3																			**
03	7	UC				1.1	2.0																		**
04	8	UC						2.8																	73%m
04	24	UC										3.4													77%m
05	23	TC						0.5					3.2				3.5					1.3			63%m
06	18	UC				0.8																			**
06	23	TC						2.6					3.7				3.7					2.3			72%T
07	7	UC				0.9																			**
09	8	UC						0.5				2.1		3.1		4.2		4.2		2.7		0.5	0.2	2.7	78%T
09	23	TC						2.3					3.0				5.9					1.9			85%T
10	21	TC*						*				3.0		3.3		5.2		5.7				1.2			94%T
10	27	TC					3.7																		**
11	7	UC				1.1																			**

Source: *Notes on sources of survey data*, p. 42
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. 42
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, (m – see Methods p. 12)
** = cannot be calculated
-- = adjusted by original author

Table 7M Number of cigarettes smoked per person per day, sales-adjusted, males: selected surveys[1] by age; with percentage total sales

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+		
57	2	A									13														79%m
68	3	A								14															84%m
74	1	UC					15																		52%m
75	6	UC					15																		61%m
76	1	UC					14					17				17				14					93%m
80	1	UC					17																		48%m
82	1	UC					14																		62%m
85	1	UC							*		18	20	24	20	22		19			16				13	55%m
86	1	UC					9.1					19				17				12				14	72%m
87	1	UC					16																		64%m
88	1	UC					14																		73%m
90	1	UC					8.8					22				15				8.4				14	67%m
91	1	UC					16																		61%m
92	1	UC					14																		72%m
93	1	UC					14																		58%m
94	1	UC					14																		70%m
95	1	UC					14																		62%m
96	8	UC*				5.8						15		17		16		11		7.7		4.5	1.4	12	67%m
04	8	UC				8.8																			73%m
04	24	UC									9.7														77%m
05	23	TC				4.8						11				12				8.7				9.4	63%m
06	23	TC				2.2						9.3				9.1				8.1				7.4	72%T
09	8	UC				1.4					6.8		8.3			12		10		6.8		2.9	1.5	7.6	78%T
09	23	TC				5.2						7.4				10				5.1				7.1	85%T
10	21	TC*				2.4					5.0		7.9			9.3		8.9		4.1				6.6	94%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. 42
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. 42
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. (m – see Methods p. 12)
-- = adjusted by original author

Table 7F Number of cigarettes smoked per person per day, sales-adjusted, females: selected surveys[1] by age; with percentage total sales

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+		
57	2	A									0.9														79%m
68	3	A								3.8															84%m
74	1	UC					3.0																		52%m
75	6	UC					3.3																		61%m
76	1	UC					5.7					5.5				3.6				1.0					93%m
80	1	UC					3.6																		48%m
82	1	UC					4.7																		62%m
85	1	UC							*	6.7	10	13	9.5		9.8		4.6			2.8				5.4	55%m
86	1	UC					5.1					7.6				4.9				0.7				5.3	72%m
87	1	UC					5.1																		64%m
88	1	UC					5.5																		73%m
90	1	UC					3.3					9.0				5.2				1.4				5.0	67%m
91	1	UC					5.8																		61%m
92	1	UC					4.7																		72%m
93	1	UC					6.1																		58%m
94	1	UC					4.7																		70%m
95	1	UC					5.1																		62%m
96	8	UC*						1.9				6.2		8.2		6.5		2.4		1.1		0.2	0.2	4.4	67%m
04	8	UC						3.9																	73%m
04	24	UC									4.4														77%m
05	23	TC						0.8				5.0			5.5			2.0						3.3	63%m
06	23	TC						3.5				5.2			5.2			3.2						4.3	72%T
09	8	UC						0.6			2.7		4.0		5.5		5.4		3.4		0.7		0.2	3.5	78%T
09	23	TC						2.8				3.5			7.0			2.3						3.8	85%T
10	21	TC*						*			3.2		3.5		5.6		6.1			1.3				3.5	94%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. 42

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. 42

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. (m – see Methods p. 12)

-- = adjusted by original author

Table 8 Estimated[1] prevalence of smoking and estimated[1] 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]			
									Number/ person/day		Total sales %	Manufactured cigarettes[9] number/ person/day		Total cigarettes[10] number/ person/day	
			M	F	M	F	M	F	M	F		M	F	M	F
1957	2	**U**+A					76	8	9.4[11]	0.7[11]	79	12.0	0.9		
1968	3	A					57	20	10.5[11]	2.7[11]	84	12.5	3.2		
1970	4	*UC*			49	22						(12.0	4.4)		
1973	5	**U**					75	40				(11.9	5.1)		
1974	1	UC+A					58	17	7.7	1.5	52	15.0	2.9		
	1	**A**					63	21							
1975	6	UC			58	18			9.1	1.9	61	15.0	3.2		
	6	**UC**			63	21									
1976	1	UC+**A**					71	25	14.2	3.7	93	15.3	3.9		
1980	1	UC+A					53	19	7.8	1.7	48	16.3	3.5		
	1	**A**					62	28							
1982	1	UC+A					62	29	8.8	2.9	62	14.2	4.6		
1983	13	*U*					62	29				(12.8	4.7)		
1985	1	UC+A					53	27	7.3	3.0	55	13.3	5.4		
	1	**A**					58	33							
1986	1	UC+A					53	27	10.9	3.5	72	15.1	4.8		
	1	**A**					60	27							
1987	1	UC+A					52	22	10.0	3.2	64	15.6	5.1		
	1	**A**					56	26							
1988	1	UC+A					51	25	9.8	4.0	73	13.3	5.5		
	1	**A**					55	29							
1989	17	*UC*				35									
1990	1	UC+A					51	24	10.1	3.5	67	15.0	5.2		
	1	**A**					57	26							
1991	1	UC+A					47	24	9.8	3.5	61	16.1	5.7		
	1	**A**					55	31							
1992	1	UC+A					52	22	10.0	3.3	72	13.9	4.6		
	1	**A**					55	25							

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]			
									Number/ person/day		Total sales %	Manufactured cigarettes[9] number/ person/day		Total cigarettes[10] number/ person/day	
			M	F	M	F	M	F	M	F		M	F	M	F
1993	1	UC+A					47	25	8.0	3.5	58	13.8	6.0		
	1	**A**					50	29							
	20	A					51	29				(13.6	6.2)		
1994	1	UC+A					50	23	9.4	3.2	70	13.5	4.6		
	1	**A**					51	27							
1995	1	UC+A					47	23	8.6	3.1	62	14.0	5.0		
	1	**A**					49	25							
1996	1	A					42	21				(12.0	4.8)		
	1	**A**					54	27							
	8	UC+U					41	19	8.3	3.0	67	12.4	4.4		
	8	**U**					48	25							
	20	A					44	24				(11.7	5.1)		
1997	1	A					42	22				(11.9	5.0)		
	1	**A**					46	25							
	10	**A**					46	25				(11.8	5.1)		
	28	U					40	23				(11.6	5.3)		
1998	28	U					39	21				(11.4	5.0)		
1999	20	A					42	23				(11.0	4.8)		
	28	U					40	22				(10.9	4.9)		
2000	28	U					40	25				(8.8	4.4)		
2001	26	**UC**			34	19						(9.3	4.1)		
	28	U					40	25				(8.9	4.4)		
2002	1	A					41	25				(9.0	4.4)		
	1	**A**					44	27							
	20	A					40	25				(8.9	4.5)		
	23	*U*					45	24				(9.4	4.0)		
	28	U					40	25				(8.9	4.5)		
2003	1	A					39	23				(8.8	4.1)		
	1	**A**					42	24							
	28	U					37	21				(8.8	4.0)		
2004	8	UC+A					34	19	6.4	2.8	73	8.8	3.9		
	8	**A**					38	23							
	20	A					38	26				(8.2	4.4)		
	24	UC			37	20			6.9	2.9	77	8.9	3.8		
	28	U					37	21				(8.7	3.9)		

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]			
									Number/ person/day		Total sales %	Manufactured cigarettes[9] number/ person/day		Total cigarettes[10] number/ person/day	
			M	F	M	F	M	F	M	F		M	F	M	F
2005	20	A					42	25				(8.7	4.2)		
	23	MC+TC+A	37	18	38	18	38	18	6.0	2.2	63	9.5	3.4		
	23	*MC +TC +A*	44	26	46	26	46	26							
	25	**U**					22	12				(8.9	4.0)		
	28	U					36	21				(8.8	4.1)		
2006	20	A					37	23						(7.9	3.9)
	23	MC+TC+A	35	25	35	25	35	25	5.4	3.1	72			7.5	4.3
	23	*MC +TC +A*	40	29	40	30	40	30							
	28	U					37	21						(8.1	3.7)
2007	1	A					34	24						(7.4	4.1)
	1	**A**					36	26							
	10	**A**					37	23						(7.6	3.9)
	28	U					36	20						(7.9	3.6)
2008	10	**A**					39	24						(7.0	3.4)
	28	U					36	22						(7.1	3.4)
2009	8	UC+A					31	18	5.9	2.6	78			7.6	3.4
	8	**A**					37	23							
	20	A					34	21						(7.3	3.7)
	23	MC+TC	33	23	36	24			6.0	3.2	85			7.1	3.8
	23	**MC+TC+A**	37	27	36	25	38	28							
	28	U					36	22						(7.3	3.6)
2010	10	**A**					40	21						(7.1	3.0)
	21	**MC+TC**+A	35	23	37	24	33	21	6.1	3.3	94			6.5	3.5
	21	**A**					37	24							
	27	TC			28	17								(6.8	3.3)
	27	**TC**			32	21									
	28	U					35	23						(6.6	3.5)
2011	10	**A**					35	25						(6.2	3.5)
	28	U					35	25						(6.2	3.5)
2012/12	10	**A**					35	22						(5.8	3.0)
	28	U					35	27						(5.4	3.3)

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(s) 4 and/or 6 and 7 in those surveys for which some age-specific data are not available (age groups marked as * in Table(s) 4 and/or 6 and 7)

2 See *Notes on sources of survey data*, p. 42.

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. Estimates based on prevalence of smoking (any product or product unspecified) have been included because sales data suggest that smoking was primarily of cigarettes.

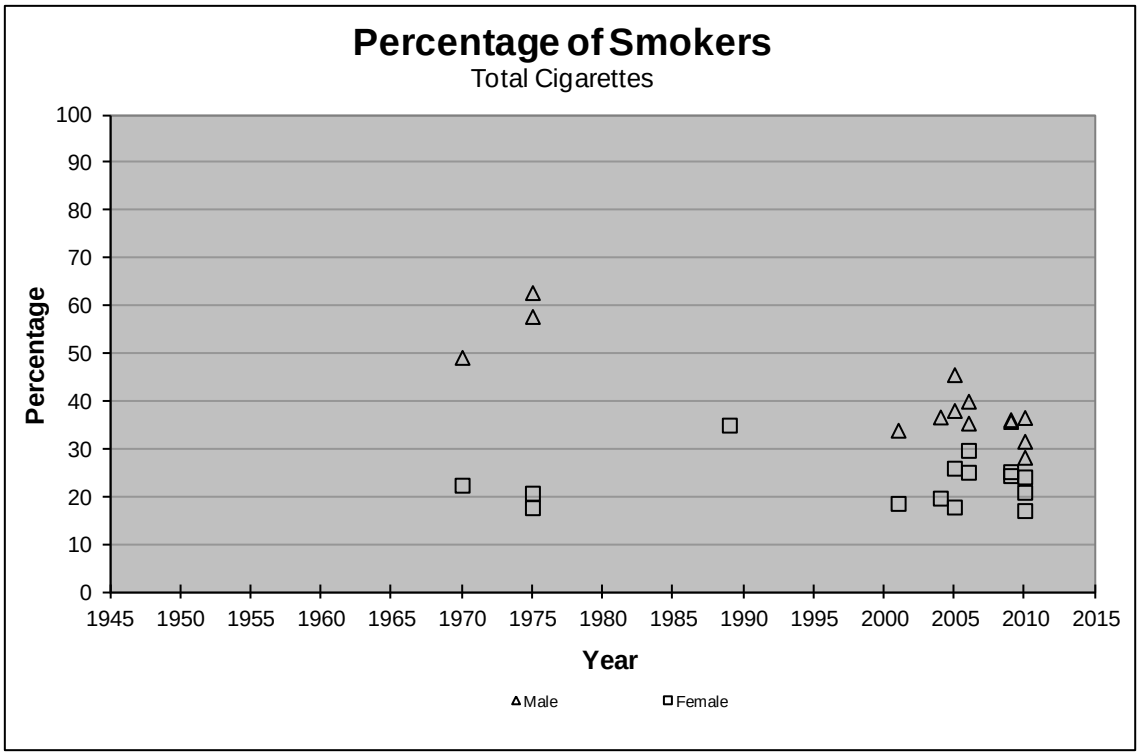
9 Prior to 2006, number of cigarettes classified as TC = total cigarettes (including hand-rolled), UC = cigarettes (type unspecified), and grams of tobacco have been adjusted to manufactured cigarette sales and included in this column. (See also *Estimates of numbers of hand-rolled cigarettes*, p. 41)

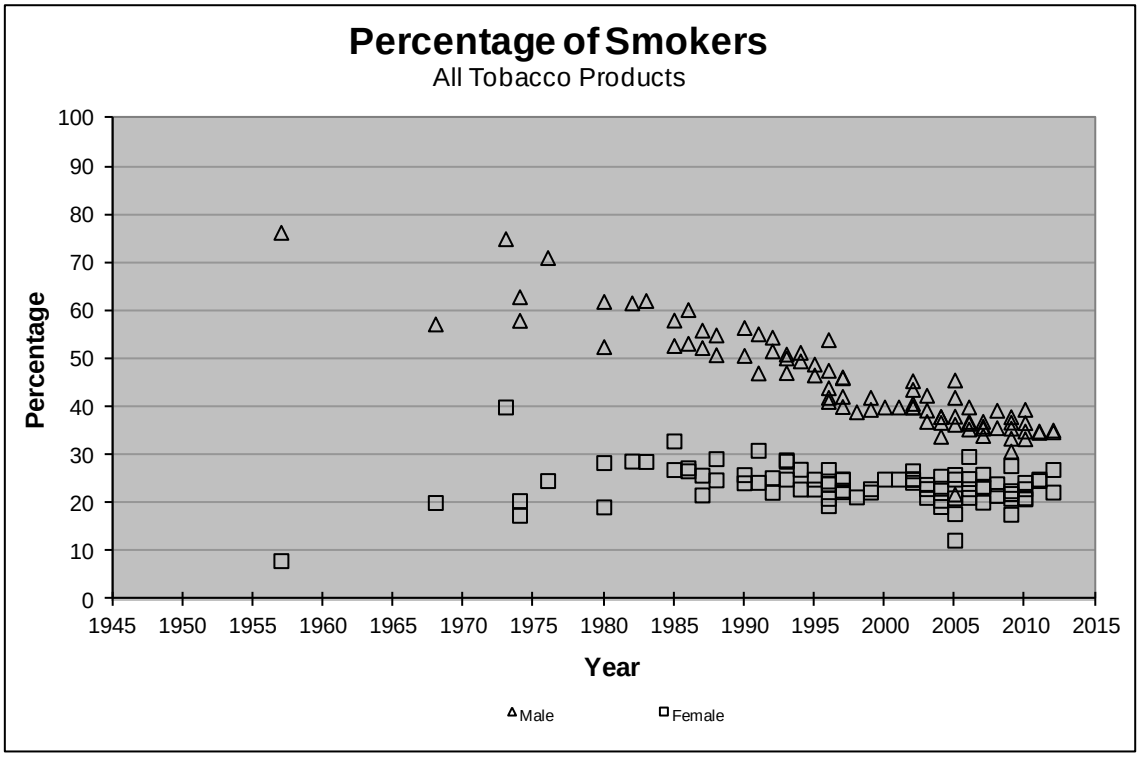
10 From 2006 onwards, number of cigarettes classified as UC = cigarettes (type unspecified) has been adjusted to total cigarette sales and included in this column.

11 All tobacco products, grams.

12 Calculations based on 2011 population.

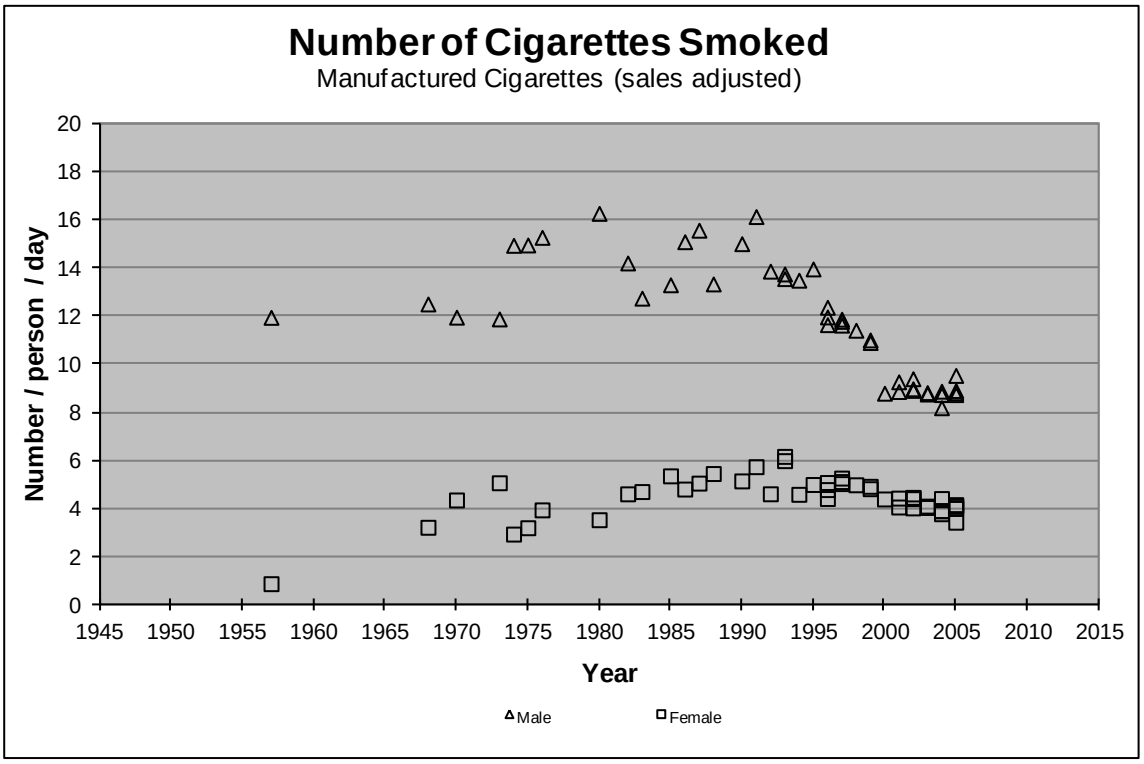
Figure 3 Estimated prevalence of smoking of (i) total cigarettes and (ii) all tobacco products; by year of survey.
Males and females aged 15 years and over

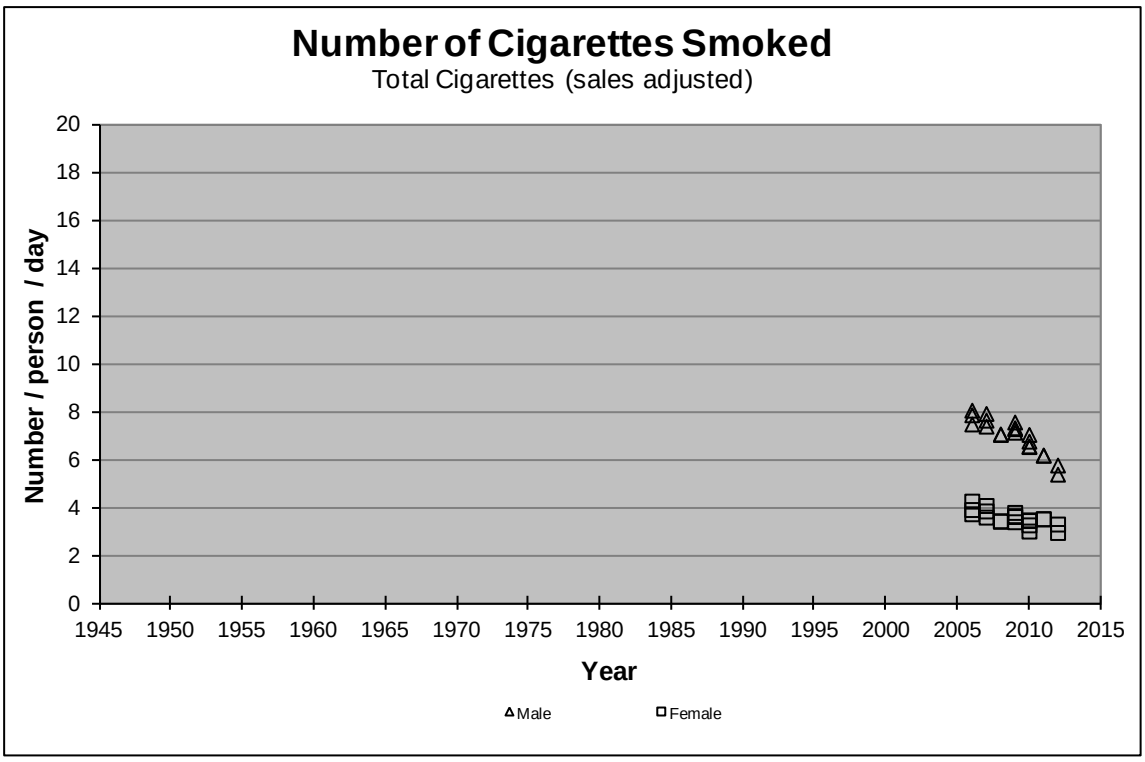




Source: Table 8.
See also customisable version of Figure 3 in the Excel workbook.

Figure 4 Estimated number of (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.

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. 51 under *References*.

Several sources provide estimates of tobacco sales. In the *Notes* below, we first describe the sources used in Tables 1.1 and 1.2. These data are used in our subsequent calculations. Some alternative estimates are then described (p. 38) and shown in Table 1.3.

Sales data before 1960

See Table 1.1.

1922-1935 Hutson (1937)
1922 represents 1922-1923, and so on. Data were originally given to the nearest 1 000 pounds and have been converted to tonnes and given to the nearest tonne (1 000 lbs = 0.45359 tonnes). For conversion from weights to numbers we assumed an average weight of 0.8g per cigarette and 5.5 g per cigar, based on a comparison of data by weight from this source with data in numbers of pieces from Staszewski (1960b) for 1925, 1929 and 1933.

1937-1957 Staszewski (1960b) citing Polish Tobacco Industry
Data were presented by the original author for every 4th year. No data were available for 1938-44. Data for 1945-1947 were not provided due to inaccuracy. We have converted data given in numbers to weight assuming 1 g per cigarette and 4 g per cigar, as stated in this source.

Sales data for 1960 onwards

See Table 1.2.

1960-1995: US Department of Agriculture (2005)
Values for sales of cigarettes were calculated by USDA as Production + Imports – Exports. 1960 represents 1959-1960, and so on.

1996-1998: Poradnik Handlowca (2002) citing industry sources
1999-2002: Borowska (2009)
2003-2005: KPMG LLP (2012)
2006-2012: KPMG LLP (2013)

Data are available for legal domestic sales of cigarettes for all years, with outflows of cigarettes to other countries, grey market cigarettes (legal non-domestic sales, counterfeit and contraband) and sales of other tobacco products given separately for the years 2006-2012 only. For these years the values shown as All tobacco (cigarette equivalents) are net values, including legal domestic cigarette sales, grey market cigarettes and other tobacco, and deducting outflows. (See *Estimates of consumption not included in legal sales data*, p. 38, for explanations of these terms.)

For 2006-2012 we have given data from the most recent KPMG report. See also Table 1.3 and *Alternative sales estimates*, p. 38.

KPMG LLP (2013) estimates that over 6 000 million cigarettes worth of green leaf tobacco were consumed in Poland in 2012. This tobacco category is not included in the sales data. See also *Additional information on illicit tobacco use* p. 39.

In Table 2 (and subsequent calculations) we have assumed that sales of tobacco other than legal domestic sales of manufactured cigarettes were negligible for 1960-2005. For the years 2006-2013 we exclude outflows and include grey market cigarettes in total manufactured cigarettes and we assume that all other tobacco is used for hand-rolling. The weight of a manufactured cigarette was reported as approximately 1 g (Zatoński (1998)) while an average weight of 0.75 g per cigarette for smoking tobacco was given by KPMG LLP (2012). We have used these values to convert numbers of cigarettes and cigarette equivalents to weight in Table 2.

Alternative sales estimates

See Table 1.3.

The estimates for cigarettes do not differ greatly from those presented in Tables 1.1 and 1.2, but those for other tobacco vary considerably. However, regardless of source, other tobacco is estimated to make up less than 10% of total tobacco sales and so using an alternative source would have only a small effect on our calculations.

Cigarettes:
1923, 1929, 1937, 1949, 1959, 1962, 1976, 1979: Zatoński *et al* (1986)
1946, 1950, 1960, 1970, 1980, 1990, 1995, 1999-2005: Glówny Urzad Statystyczny (Central Statistical Office) (2006)
1996, 1997: Poradnik Handlowca (2002)
1971-1975, 1977, 1978, 1981-1989, 1991-1994, 1998: Jalowiecka and Jalowiecki (2006), (estimates taken from a chart).
2006-2012: Dmochowska (2009, 2010, 2011, 2012, 2013)
These sources presented values for cigarettes per capita. Cigarette sales for each year were estimated by us by multiplying cigarettes per capita by the total of male and female population in that year (see *Population*, Methods p14).

Other tobacco, cigarette equivalents:
Earlier KPMG estimates: KPMG LLP (2012)
Cyber Service estimates: Gwiazdowskiego *et al* (2013)

Euromonitor International estimates for cigarettes, cigars and hand-rolling tobacco: Calderoni *et al* (2013)

Cigars:
1994-1998: Biuro Informacji i Wydawnictw (1999)
Cigars and cigarillos, production.

2004-2011: Bundesverband der Zigarrenindustrie (accessed Oct 2013)
Cigars, no other description.

Estimates of consumption not included in legal sales data

Table 1.5 attempts to assess the scale of the tobacco consumption that is not included in the legal domestic sales data shown in Tables 1.1 to 1.3 (see also *Additional information on illicit tobacco use*, p. 39 and *Evidence of illicit tobacco use from survey data*, p. 40). This additional tobacco consumption exists in several different categories. These are described by KPMG LLP (2013) as follows:

Contraband: genuine product that has been bought in a low-tax country and which exceeds legal border limits or was acquired without taxes for export purposes to be illegally re-sold (for financial profit) in a higher priced market.

Counterfeit: cigarettes that are illegally manufactured and sold by a party other than the original trademark owner.

Illicit tobacco: tobacco product that is either contraband or counterfeit.

Illicit whites: cigarette brands manufactured outside the EU and/or in Free Trade Zones, and distributed in such a way that a large share of their volumes is sold at a very low price and consumed in EU countries, although these brands are in general not registered there and not destined to be sold at legitimate retail in such markets.

Legal domestic: sales of genuine domestic product through legitimate, domestic channels.

Legal non-domestic: product that is brought into the market legally by consumers, such as during a cross-border trip.

Outflows: outflows of product from the market (legal domestic product bought in Poland but consumed elsewhere, thereby reducing domestic consumption).

In addition, we define:
Grey market: tobacco product that is contraband, counterfeit or legal non-domestic.

Data sources for Table 1.5:

Euromonitor International: Calderoni *et al* (2013)
The values represent the penetration of illicit cigarettes into the cigarette market. Euromonitor International's sources include trade press, customs offices, interviews with manufacturers and retailers, as well as local knowledge of the market. Values for 1997-1999 were taken from a chart.

KPMG EU Flows Model: KPMG LLP (2013), Calderoni *et al* (2013)
Values represent the share of total consumption. The PMI Empty Pack Survey results (see below) are used within this model to identify the proportion of cigarette consumed that are not legal domestic consumption. This proportion is then split into estimates of legal non-domestic consumption and illicit (contraband and counterfeit) consumption based on consumer surveys of cross-border purchases (target sample size 7 000 interviews with people aged 19 or more). The model does not include estimates of illicit consumption of tobacco products other than cigarettes. Note that consumption is net of outflows.

PMI Empty Pack Surveys: KPMG LLP (2013)
Empty pack surveys carried out in one or more quarters of the year. Where more than one quarterly survey was reported for a year Table 1.5 shows the average value for the year, calculated by us. Values represent the share of total consumption. Cigarette packs were collected in cities throughout the country. Target sample size 10 000 packs minimum. The estimates for 2012 were adjusted for pack size. This source cites Almares Research as the source for the November 2010 empty pack survey.

ALMARES Empty Pack Surveys: Calderoni *et al* (2013), ALMARES Institute for Consulting and Market Research (2013)
The surveys were carried out in cities and towns, collecting cigarette packs from streets and public bins. The estimate for 2012 is the average, calculated by us, of three quarterly surveys. The estimate for 2013 is based on a single quarterly survey, target sample size 70 000 packs. The 2013 estimate was adjusted for pack size. Values represent the share of all packs collected.

Business press:
1999: Polish News Bulletin (2000) quoting tobacco wholesalers. Described as the percentage of the cigarette market.
2001, three estimates: Polish News Bulletin (2001a, 2001b), Warsaw Business Journal (2002). Described as the smugglers' share of the market, smuggled imports and the smuggled segment of the tobacco market respectively.
2004: Polish News Bulletin (2004) quoting a BAT spokesman. Described as a percentage of the cigarettes sold in Poland.
2007: Polish News Bulletin (2007) quoting manufacturers. Described as the percentage of cigarettes that come from an illegal source.
2011: Polish News Bulletin (2011). Described as a percentage of total cigarette sales.
2013: Polish News Bulletin (2013). Described as a percentage of the legal cigarette market.

Additional information on illicit tobacco use

50% of the smoking tobacco consumed in 2011 was estimated to be illicit (Fundacji Republikanskiej (2012) quoting AC Nielsen, and Polonia Christiana (2012) quoting Imperial Tobacco Poland)

In Poland there are no official data on the consumption of illicit tobacco products (Calderoni *et al* (2013)). According to World Health Organization (2009), assessment of smuggling and the illegal trade in tobacco products should focus on cigarettes, as smuggling of other products, such as cigars, cigarillos, and hand-rolling tobacco was of marginal significance.

Poland is a transit country for illicit cigarettes bound for Western EU markets. Russia, Ukraine and Belarus are the main source countries of illicit tobacco products (Calderoni *et al* (2013)). A substantial percentage of seizures of cigarettes coming into Poland in the first half of 2007 (approximately 22%) was of brands popular exclusively in the British market and the Customs Service has seized substantial quantities of cigarettes being smuggled out of Poland around crossings on the western and southern borders (World Health Organization (2009)). KPMG LLP (2013) estimated the scale of outflows of domestic cigarette sales (see Table 1.2), naming Germany, UK and France as the main destination countries.

Calderoni *et al* (2013) estimated that in 2011 the illicit tobacco market was made up of the following categories:

Illicit tobacco category	Proportion of the illicit market (%)
Illicit whites	53.6
Smuggled	26.4
Counterfeit	12.1
Legal non-domestic	7.9
Total	100.0

Here the term Smuggled is assumed to be equivalent to contraband.

Some authors argue that smuggling is increasing because of the increasing retail prices of legal cigarettes, which is, to a great extent, due to increases in taxation (e.g. Rzeczpospolita (2011), Puls Biznesu (2011), Fundacji Republikanskiej (2012), Calderoni *et al* (2013), Polish News Bulletin (2014)). Gwiazdowskiego *et al* (2013) gives the lowest available prices for a legal pack of 20 cigarettes as:

Year	Lowest retail price for a pack of 20 cigarettes (PLN)
2007	3.88
2008	4.78
2009	5.37
2010	7.95
2011	9.06
2012	10.01
2013	10.90

If price is actually the main motivation for smuggling, this would suggest that smuggling was a relatively small proportion of sales before the mid 2000s.

Allen (2013) reported decreasing sales of smoking tobacco but increases in sales of cigarette papers and tubes during 2009-2011. This author states that unmanufactured tobacco leaves (also called dried tobacco or green tobacco) were being sold to the consumer who used domestic shredding machines (noodle or tea cutting machines or document shredders) to create smoking tobacco. KPMG LLP (2013) estimated that over 6 000 million cigarettes worth of green tobacco was consumed in 2012 and they imply that this type of tobacco was not included in estimates of consumption because it was sold as unprocessed tobacco. Green tobacco was not subject to excise tax in Poland until the start of 2013 (KPMG LLP (2013)). We believe that green tobacco sales are not included in the sales data shown in Tables 1.1-1.3.

Evidence of illicit tobacco use from survey data

A nationally-representative sample of smokers aged 18-64, carried out in November-December 2005, (sample size 1 763) asked about average daily smoking. Samples of cigarette packs were collected from the respondents. From this it was estimated that duty-not-paid cigarettes comprised 10% of consumption (British-American Tobacco Polska S.A. (2006)). This source also reported an estimate of 9% for 2004, presumably from a similar survey.

In the GATS survey carried out from 2 November 2009 to 7 March 2010, sample size 7 840, (see survey source **21**) subjects were asked to show the interviewer a pack of their currently smoked cigarettes. From this it was estimated that 8.5% of smokers of manufactured cigarettes were buying smuggled cigarettes (Ministerstwo Zdrowia (2010)).

A multinational survey in 2010 by PPACTE was reported by Gallus *et al* (2012) and Joossens *et al* (2012) (see survey source **27**). The Polish sample size was 938 of which 250 were current smokers, who reported their sources of cigarettes bought in the previous 30 days (as percentages of the total number bought), summarised as follows:

Source	Proportion of cigarettes bought (%)	
	Smokers aged 18-24	All smokers
Legal shops	87.6	86.9
Vending machines	0.0	0.2
Internet	0.0	0.0
Other countries/duty free	0.0	0.3
Smuggled (markets, door-to-door sellers etc)	8.2	8.8
Offered by peers	4.2	3.8

13.6% of current smokers reported having bought smuggled cigarettes (more than 1% of their total purchasing) in the previous 30 days. Participants were asked to show their most recently bought pack. Packs identified as illicit (defined as purchased from an illicit source or at an extremely low price, or lacking the appropriate health warning or tax stamp), comprised 15.2% of manufactured cigarette packs and 17.8% of hand-rolled packs (although the latter figure is based on only 15 packs).

Some Eurobarometer surveys enquired about contact with smuggled cigarettes and cross-border purchasing. In 2008, 9.4% of Polish respondents had, in the last 6 months, often seen cigarettes being sold that they thought were smuggled, with a further 14.3% seeing them occasionally (Flash Eurobarometer 253, Gallup Organization Hungary (2009)). In 2012, 4% reported having purchased tobacco products abroad in the previous year (Eurobarometer 77.1, European Commission (2012)).

Estimates of numbers of hand-rolled cigarettes

Several authors (e.g. Staszewski (1960b), Zatoński (2003)) reported that virtually all tobacco consumed in Poland was in the form of cigarettes. Staszewski (1960b) stated that since the Second World War smoking of hand-rolled cigarettes had been almost entirely given up and that the smoking of pipes and cigars was disappearing (i.e. around 1960). Therefore we assume hand-rolled cigarette consumption to be zero for the years 1960-2005.

Estimates for subsequent years are taken from KPMG LLP (2013), which gives values for "other tobacco products" in the form of cigarette equivalents. We assume that all non-cigarette tobacco is used in hand-rolled cigarettes. This assumption seems reasonable given that Sawicki and Lawrence (1977) reported a survey in which "an insignificant percent [of respondents] … reported pipe-smoking" (see survey source **3**); the European Commission (2012) suggested that six times as many people used hand-rolled cigarettes compared to pipes (but did not give any information on the proportion of tobacco used for these two products); elsewhere (US Department of Agriculture (2002), World Health Organization (2009)) it has been stated that pipe smoking is of marginal significance and accounts for less than 0.1% of total tobacco consumption; and, as shown in Table 1.3, very few cigars are smoked.

As mentioned above, there may have been considerable further consumption of unmanufactured green tobacco in the form of hand-rolled cigarettes, which is not reflected in the data.

Plain/Filter cigarette sales

See Table 3.

Percentage of sales:
1967-1980: Maxwell, Jr. (successive years)
1999-2002: Poradnik Handlowca (2002)
2003-2004: Poradnik Handlowca (2006)
Zatoński *et al* (1986) state that sales of filter cigarettes in Poland began in 1959.

Percentage of production:
1981-2004: US Department of Agriculture (2005)
Imports and exports are low compared with production. For example, in 2004 imports and exports amounted to 0.1% and 6.2% of production respectively (US Department of Agriculture (accessed March 2011)).

See also *Notes on sources of survey data* for results from survey source **1**.

Menthol cigarette sales

See Table 3.

2002-2012: Calderoni *et al* (2013)
Data taken from a chart.

Slim cigarette sales

See Table 3.

2006-2012: Calderoni *et al* (2013)
Data taken from a chart.

Tar and nicotine machine yields of cigarettes

See Table 3.

1980: Bednarzewski *et al* (1984)
1983-2000 tar: Zatoński and Przewoźniak (2010); nicotine: Florek *et al* (1996)
2011 (nicotine only): Goniewicz *et al* (2012)
These sources give the range of yields of several of the most popular brands. The tar yield average is the average of all the cigarettes tested in the year and is not sales weighted.

Each brand varies considerably and irregularly over time, with none being consistently low yielding or high yielding across the years tested. Details of two brands are shown below (sources Bednarzewski *et al* (1984), Florek *et al* (1996)). These brands have been tested over many years and are often the highest or lowest yielding of the brands tested for a year (indicated by + or - respectively in the table).

Year	Popularne		Carmen	
	Tar (mg/cig)	Nicotine (mg/cig)	Tar (mg/cig)	Nicotine (mg/cig)
1980	17.1 -	1.23	23.6 +	1.96
1983	19.7	1.04 -	19.5 -	1.88 +
1984	20.1 -	1.56	27.9	2.24 +
1985	18.9 -	1.13 -	31.9 +	2.63 +
1986	18.0 -	0.92 -	26.2	2.12 +
1987	18.5	1.18	25.7 +	1.94 +
1988	20.2 -	0.97 -	25.4 +	1.50 +
1990	17.0 -	1.18	17.8	1.44 +
1991	15.3 -	0.97 -		
1992	15.6	1.12	14.1 -	0.92 -
1993	18.6 +	1.50	16.7 -	1.34
1994	16.9 +	1.52 +		
1995	15.4	1.55 +		

According to annual data for 1995-2003 from Philip Morris International (2004), the market share of "ultra-light" cigarettes (1-3 mg tar) was 0.25% in 1995 and around 1% thereafter.

In 1990 the tar yield per cigarette was limited to 20 mg; nicotine yield was limited to 1.8 mg (Harkin *et al* (1997)). In 1998 these limits were reduced to 15 mg of tar and 1.5 mg of nicotine (US Department of Agriculture (2000)) and on 15 November 2001 they were further reduced to 12 mg of tar and 1.2 mg of nicotine (US Department of Agriculture (2003)). From 1 January 2004 (on Poland's accession to the EU) limits of 10 mg tar, 1 mg nicotine and 10 mg carbon monoxide per cigarette came into force (ASPECT (Analysis of the Science and Policy for European Control of Tobacco) Consortium (2004)).

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. 51 under *References*.

Source number

1 Jokiel (1989, 1996), Przewoźniak and Zatoński (1996), Przewoniak *et al* (1997), Zatoński *et al* (1986, 1988, 2010, accessed 2013), ASPECT (Analysis of the Science and Policy for European Control of Tobacco) Consortium (2004), World Health Organization (2009, accessed October 2013)

a. A series of surveys representative of the adult Polish population using multi-stage stratified sampling and interviewer-administered questionnaires. From 1974 to 1995 these were carried out by the Maria Sklodowska-Curie Cancer Centre and the Institute of Oncology in Warsaw in collaboration with Ośrodek Badania Opinii Publicznej (OBOP, Public Opinion Research Centre, later TNS OBOP), Centrum Badania Opinii Społecznej (CBOS, Public Opinion Research Centre), PENTOR and the Research and University Network (RUN). The

research was funded by the Ministerstwo Zdrowia i Opieki Społecznej (Ministry of Health and Welfare) and the Komitetu Badań Naukowych (KBN, Committee for Scientific Research). The surveys were carried out once a year except for the years 1992-2002 when they were carried out at least twice a year.

b. Only pooled results are available for 1995-99. They are presented in Table 4 against 1997. Similarly, pooled results for 2000-2004 are presented against 2002.

c. Target sample sizes were 1 000-1 500 per year. Actual sample sizes were:

Year	Sample size		
	Males	Females	Overall
1974	452	533	985
1976	939	1 037	1 976
1980	421	503	924
1982	392	488	880
1985	787	910	1 697
1986	413	443	856
1987	414	486	900
1988	413	481	894
1990	408	455	863
1991	477	523	1 000
1992	579	738	1 317
1993	499	574	1 073
1994	514	616	1 130
1995	506	606	1 112
1995-99	6 463	7 811	14 274
2000-04	4 706	5 843	10 549
2003			1 005
2007			1 004

d. Results in the *All ages* column of Table 4 relate to ages 16+ (1974-1982, 1986-1995), 18+ (1985); age-specific data are not available for the age groups marked *.

e. Regular smokers: smoked at least one cigarette (or pipe etc.) per day for a period of not less than six months. All smokers: included those smoking less than daily and those who started smoking in the previous six months.

f. There are inconsistencies in the age-specific results for 1986 between the data for regular smokers (from Przewoźniak and Zatoński (1996)) and those for all smokers (from Jokiel (1989)).

g. Among daily smokers, the breakdown of tobacco product mainly used was:

Year	Men				Women			
	Cigarettes		Other	No data	Cigarettes		Other	No data
	filter	non-filter			filter	non-filter		
1980	39	61			72	28		
1982	28	70	2	0	74	26	0	0
1985	40	57	2	1	75	23	1	1
1986	53	43	4	1	82	17	2	0
1987	50	49	1	0	85	13	2	0
1988	51	48	1	0	81	15	4	0
1990	57	43	1	0	92	8	0	0
1991	61	40	0	0	72	28	0	0
1992	70	30	0	0	86	14	0	0
1993	70	29	0	0	90	9	1	0
1994	71	29	0	0	92	8	0	0
1995	71	29	0	0	93	7	0	0

The category "Other" includes pipe, cigars, cigarillos, chewing tobacco etc.

h. Consumption category estimation based on <1 packet, 1 packet and >1 packet, assuming 1 packet=20 cigarettes.

i. Calculation of cigarettes per person based on percentage smokers of all products, and number of cigarettes per cigarette smoker, so may overestimate.

j. Assumed extension 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.

k. Results provided by Jokiel (1989, 1996) were reported separately (as Source **8**) in the previous edition of this report, as were results provided by Zatoński *et al* (1986) (as Source **10**). Results provided by World Health Organization (accessed April 2013) (see source **20**) may be a reworking of data from this source.

2 Staszewski (1960b, 1960a), World Health Organization (1975)

a. According to World Health Organization (1975), a randomized sample of the population of Upper Silesia (aged over 20) in 1960, reporting "smokers" (not otherwise described); but the same data are given by Staszewski (1960b) as ever smokers among the control group used in a study at the Oncology Institute in Gliwice 1955-1958. This control group was described as consisting of patients who sought medical advice because of symptoms most likely not associated with smoking. The data are presented against 1957 in Tables 4-8.

b. Sample size (males) 912, (females) 1 813.

c. Smokers: consumed at least 1 gram of tobacco a day. Cigarettes per smoker (Tables 5-8) based on total tobacco consumed, using 1 cigarette = 1 g, 1 cigar = 4 g of tobacco.

d. 68% of male smokers smoked only cigarettes. Women smoked cigarettes only.

e. Assumed extension 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 Sawicki and Lawrence (1977), Jedrychowski *et al* (1985)

a. A longitudinal survey of permanent residents of Cracow (1 779 dwellings) aged 19-70 in 1968. Of the 667 not re-interviewed in 1973, 131 had died. Results for smoking prevalence in 1968 and 1973 are based only on those successfully followed up in 1981.

Year	Sample size		Age range	Highest age group
	Males	Females		
1968	1 925	2 430	19-70	68-70
1973	1 581	2 107	24-75	73-75
1981	1 202	1 756	32-83	81-83

b. Cigarettes per smoker (Tables 5-8) results include an 'insignificant' proportion of subjects reporting pipe-smoking, calculating 1 g of the smoked tobacco as equivalent to one cigarette.

c. Assumed extension 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.

4 Czyżyk and Królewski (1976) quoting Mró (1976)

a. Representative sample of the population of Warsaw.

5 World Health Organization (1975)

a. An estimate of the prevalence of smoking in the "total population".

6 Otawska (1975)

a. Representative of the Polish population. Sample size 1 000.

b. The *All ages* values relate to ages 16+; age-specific data are not available for the age groups marked *.

c. The prevalence of regular smoking was deduced by us from the percentage of occasional smokers among all smokers.

d. Consumption category estimation based on <10, 10-20, >20 cigarettes/smoker/day

e. Assumed extension 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.

7 Hibell *et al* (1997, 2000, 2004, 2009, 2012), Andersson *et al* (2007)

a. Nationally representative survey forming part of ESPAD (European School Survey Project on Alcohol and Other Drugs). Survey of pupils in a single grade, selected to be aged approximately 15-16 at the time of the survey. 93-96% of 15-16 year-olds were still in school in each of the survey years. Anonymous questionnaire completed and sealed in an envelope by the pupil, in class. Teachers not present.

Date	Sample size		Participation rate (%)			Target year of birth	Average age
	Males	Females	Schools	Classes	Pupils		
May 1995	4 494	4 349		96	84	1979	–
May-Jun 1999						1983	15.5
May-Jun 2003	2 930	3 025	98	98	85	1987	15.9
May-Jun 2007	988	1 132	100	93	84	1991	15.9
May-Jun 2011	2 838	3 095	94	94	82	1995	15.9

b. In 2003, some countries including Poland conducted a survey using identical methodology targeting students born in 1985 (thus age 17-18). 80% of this age group were still in school. Sample size (boys) 2 367, (girls) 2 370. Response rate (schools) 97%, (classes) 97%, (students) 86%. (Andersson *et al* (2007))

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

8 Ciecielag *et al* (2006), Eurostat (accessed Aug 2007), (accessed May 2013), Bogdanovica *et al* (2011), Koehne *et al* (2011)

a. Stan zdrowia ludności Polski (Health status of the Polish population) surveys carried out by Główny Urząd Statystyczny (Central Statistical Office). Representative of the population of Poland. The surveys followed WHO guidelines, with the most recent study following all the Eurostat guidelines for European Health Interview Survey (EHIS) studies. Questions on smoking were asked of those aged 15 or more.

Survey dates	Sample size (adults)	Response rate (%)
1996	47 924	
Nov-Dec 2004	35 248	70
Oct-Dec 2009	35 100	72

The questions relating to smoking were administered using a self-completion questionnaire (rather than by interview as for the main survey) and so the numbers of subjects considered are lower than the sample sizes given above (presumably because some of the participants did not complete that questionnaire).

b. In 1996 the highest age groups are 75-84 and 85+.
c. Consumption category estimation in 2004 and 2009, cigarettes unspecified is based on <5 (assumed 1-4), 5-9, 10-14, 15-19, 20-29, 30-39 and 40+ cigarettes/smoker/day. Consumption category estimation in other years/categories is based on two categories, <20 and 20+ cigarettes/smoker/day, and resulting figures should be regarded with caution..
d. Calculation of cigarettes per person is based on the percentage of smokers of all products, and the number of cigarettes per cigarette smoker, so may overestimate.
e. In the previous edition Source 8 reported results provided by Jokiel (1989, 1996). These results have now been included with source 1 above.

9 Wijatkowski (1983, 1990)

a. Anonymous surveys of 13-15 year olds in Lódź schools.
b. Sample sizes (1979) unknown, (1983) 378, (1985) 1 082.
c. Smokers marked as frequency *: smoked daily. Regular smokers: smoked once a week or more. All smokers: smoked once a week or more, or has smoked less than weekly for at least 3 months.

10 Feliksiak (2008, 2010, 2011), Huras (2012)

a. From 1997 the survey "Aktualne problemy i wydarzenia" ("Current problems and events") was carried out monthly throughout the year by CBOS. In some years one of the monthly surveys included questions on smoking habits.
b. Months in which the smoking questions were asked and sample sizes were:

Year	Month	Sample size
1997	February	
2007	February	
2008	February	1 137
2010	February	1 021
2011	May	1 189
2012	July	960

c. In the previous edition Source 10 reported results provided by Zatoński *et al* (1986). These results have now been included with source 1 above.

11-12 Bednarzewski *et al* (1984)

a. Survey, using an anonymous inquiry form, in final year of primary, general secondary and vocational schools in the City of Lublin and students of the Faculty of Medicine and the Faculty of Mechanical Engineering in the Technical University of Lublin (years 1 and 5). Sample size 635 boys and 635 girls for age range 13-25 years.
b. Data given as source **11** are for primary and general secondary schools. Data given as source **12** are for vocational secondary schools. Results for older students are not presented because they are not representative of their age group.

13 Masironi and Rothwell (1988)

a. No original source. Age group not stated.
b. Assumed extensions to age distribution for percentage smokers are shown in the extended version of Table 4 in the Excel tables workbook.

14, 15 Tolonen *et al* (2000), Kuulasmaa *et al* (1998), Wolf *et al* (1998), Molarius *et al* (1999)

a. Surveys using interviewer-administered questionnaires in two regions carried out in three phases, forming part of WHO MONICA Project:

	Region	Phase	Participation rate (%)		Sample used		Date
			Males	Females	Males	Females	
14	Tarnobrzeg (Krakow)	1	77	85	1 237	1 441	Jun 1983-Nov 1984
15	Warsaw	1	73	74	1 297	1 327	Dec 1983-Jan 1985
14	Tarnobrzeg (Krakow)	2	70	77	616	672	May 1987-Nov 1988
15	Warsaw	2	78	77	705	713	Jan 1988-Jan 1989
14	Tarnobrzeg (Krakow)	3	72	79	620	696	Jun 1992-Jul 1993
15	Warsaw	3	77	78	751	763	Jan 1993-Dec 1993

All figures are for age 35-64 only

b. *All ages* column is standardized to the world population.

c. Regular cigarette smokers: smoked cigarettes daily. All smokers: smoked cigarettes daily or occasionally, or smoked 1 g pipe tobacco or 1 cigar per week.

d. For phase 1, there are minor discrepancies between the data shown in Table 4 and equivalent data taken from World Health Organization (1989) used in earlier editions of this report.

16 Baszczyński *et al* (1988)

a. Survey of 1 483 schoolboys. Year not stated.

b. Smoking marked as frequency *: smoked 5 or more cigarettes a day.

17 Chollat-Traquet (1992)

a. No original source.

18, 19 King and Coles (1992), King *et al* (1996), Currie *et al* (2000, 2004, 2008, 2012), Mazur *et al* (2007), Mazur and Malkowsiej-Szkutnik (2011), World Health Organization (2009)

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.

Year	Mean age		Sample size			
	Target age 13	Target age 15	Target age 13	Target age 15	Total*	Ages 11-18
1990	13.6	15.7			4 613	
1994	13.7	15.7	1 514	1 540		
1998	13.7	15.7	1 598	1 636		
2002	13.7	15.7	2 131	2 152		
2006	13.7	15.7	1 652	2 287		
2010	13.7	15.7	1 436	1 410		6 162

* Includes age 11

b. Results shown as Source **18** are from reports by individual years of age 11, 13 and 15. Those shown as source **19** are from a national report for 2010 (Mazur and Malkowsiej-Szkutnik (2011)) which provides results for students of all ages from 11 to 18.

c. Smokers marked as frequency *: smoked daily. Regular smokers: smoked once a week or more. All smokers: included those smoking less than once a week.

d. Number of cigarettes per smoker per day (Table 5, 1998 only) is derived from the median number smoked per week.

20 World Health Organization (accessed April 2013)

a. Nationwide surveys on Smoking Behaviour and Attitudes. Annual surveys. Randomised sampling of adults.

b. The data presented may be a reworking of the data shown as source **1**.

21 Ministerstwo Zdrowia (2010)

a. Globalny sondaż dotyczący używania tytoniu przez osoby dorosłe (GATS, Global adult tobacco survey). An international survey carried out in Poland by the Maria Sklodowska-Curie Cancer Center and Institute of Oncology, Medical University of Warsaw, and Pentor Research International. Three-stage stratified cluster sample of non-institutionalized adults age 15+. The survey was carried out from 2 November 2009 to 7 March 2010. Sample size 7 840. Overall response rate 65%.

b. Regular smokers: smoked tobacco (cigarettes, pipe, cigars or cigarillos) every day. Smokers: smoked tobacco every day or less than every day.

c. Subjects were asked about using smokeless tobacco "such as tobacco for sniffing (e.g. snuff) or chewing tobacco". The percentages using smokeless tobacco were:

	Male	Female
Daily use	0.2	0.0
Occasional use	0.9	0.0
Any current use	1.0	0.1

d. Among current tobacco users (including smokeless tobacco users), the percentages of subjects using various tobacco types were:

Tobacco type	Percentage of tobacco users*
Any smoked tobacco product	98.4
Any cigarette	98.1
Manufactured cigarettes	93.2
Hand-rolled cigarettes	9.7
Smokeless tobacco	1.6

* Multiple responses possible

e. The *All ages* values refer to ages 15+; age-specific data are not available for the age groups marked *.

f. Calculation of cigarettes per person based on percentage smokers (product unspecified) and number of cigarettes per cigarette smoker, so may overestimate.

22 Global Youth Tobacco Survey Collaborating Group (2003), Ross and Przewozniak (2004), World Health Organization (2008, 2009, 2011)

a. Global Youth Tobacco Survey (GYTS). Representative samples of young people in school aged 11-17. Carried out in Poland in 1999 and 2003 by the Cancer Institute and the Institute of Oncology in Warsaw in collaboration with the polling organisation TNS OBOP. In 1999 the sample size was 3 294, response rate 77%.

b. Smokers: smoked in the 30 days prior to the survey.

c. In 1999, among 13-15 year olds, cigarette smoking and use of other tobacco products (in the 30 days prior to the survey) were, split by rural or urban areas:

	Smoked cigarette		Used other tobacco products	
	Males	Females	Males	Females
Urban	26.3	23.3	15.4	8.0
Rural	20.2	10.4	7.1	3.8

In 2003, among 13-15 year olds, 10% of boys and 5% of girls used tobacco products other than cigarettes.

23 Mohedano-Brethes and Soufflot de Magny (2005), 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. In 2002 (Candidate Country Eurobarometer), the sample consisted of citizens of the country, and thereafter 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.

d. In 2012, the prevalence of smoking (age 15+, sexes combined, sex-specific data not yet available) was 32%. Among smokers, 96% smoked boxed cigarettes, 16% hand-rolled cigarettes, 1% cigars and 1% pipes. (Special Eurobarometer 385 wave 77.1, European Commission (2012))

e. 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 to smokers of each product, which may cause anomalies. The 2009 survey used a questionnaire format that clearly asked about regular and occasional smoking and so frequencies R and A are used.

f. Consumption category estimation based on <5, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39 and 40+ cigarettes/smoker/day. Exact values for cigarettes/smoker/day are available for 2009 (see also Appendix III).

24 Polakowska *et al* (2005, 2010)

a. Wieloośrodkowe Ogólnopolskiego Badanie Stanu Zdrowia Ludności (WOBASZ, National Multicentre Study of Population Health). Survey methodology based on the WHO MONICA methodology. Survey carried out during 2003-2005. Results presented against 2004. Representative sample of the population aged 20-74 years. Sample size 13 285.
b. Regular smokers: smoked at least one cigarette a day.

25 Zdrojewski *et al* (2010)

a. Polskiego Projektu 400 Miast (Polish 400 Cities Project). A project aiming to reduce cardiovascular disease in Poland. The survey was carried out during 2003-2006 (reported against 2005 in Table 4) as the baseline for an intervention study. Sample size 92 378.
b. Lower age limit not stated.
c. The *All ages* values refer to all subjects (ages 15+ assumed); age-specific data are not available for the age groups marked *.
d. Smokers: active smokers, no other description given.

26 World Health Organization (2003, accessed October 2013), Stelmach *et al* (2004a, 2004b), Suwała *et al* (2005)

a. Survey forming part of the WHO CINDI programme, carried out in Lódź in 2001-2002. Subject selection by random samples from health insurance registration. Response rate 59%. Sample size (age 18-64) 1 837, (age 65+) 835.
b. Regular smokers: smoked daily.

27 Gallus *et al* (2012)

a. Surveys by PPACTE in 2010 in 18 European countries. Coordinated by DOXA, the Italian branch of the GALLUP International Association. Face-to-face interviews using computer-assisted personal interviewing. One section of the survey involved asking to see the subject's most recently bought pack of cigarettes or hand-rolling tobacco.
b. The survey in Poland used multi-stage random sampling. Sample size 938, response rate 40%. Age range 18-79.
c. Among smokers (sexes combined), the type of cigarette pack bought most recently was:

Pack type	Proportion (%)
Cigarettes, 20-pack	90.8
Cigarettes, 10-pack	0.6
Hand-rolling tobacco	5.6
Other	2.9

c. Use of smokeless tobacco was reported in 4.1% of males and 6.8% of females.
d. Cigarettes per smoker relates to all smokers rather than regular smokers.

28 Calderoni *et al* (2013)

a. Transcrime elaboration on Euromonitor International data. Transcrime is the Joint Research Centre on Transnational Crime and is an independent academic centre. The report cites Euromonitor International's "Tobacco Dataset".
b. Data taken from a chart.

29 Ostaszewski *et al* (2009)

a. Badania mokotowskie (the Mokotów study). A study of psychoactive drug use in school students aged 15 in the former district of Mokotów in Warsaw (now split into the districts Mokotów, Ursynów and Wilanów). Sample sizes:

Year	Boys	Girls
1984	1 600	1 802
1988	1 830	2 088
1992	918	1 082
1996	1 175	1 309
2000	1 205	1 266
2004	758	703
2008	604	617

b. Smokers marked as frequency *: smoked daily.

30 Sieminska (2008) citing Leowski and Saplis-Krasowska (1969)

a. Survey in 1969 of school students aged 7-19 in Warsaw. Sample size 1 992. Results for secondary school students are reported, assumed to relate to ages 15-19. Smoking frequency undefined.

31 Sieminska (2008) citing Borsuk *et al* (1973)

a. Survey in 1973 of school students aged 13-20 in Lódź. Sample size 6 189. Smoking frequency undefined.

32 Sieminska (2008) citing Korczyk (1980)

a. Survey in 1980 of school students aged 15-19 in Lódź. Sample size 3 056. Smoking frequency undefined.

33 Sieminska (2008) citing Plonka-Syroka (1983)

a. Survey in 1983 of school students aged 15-16 in Wroslaw. Sample size 502. Smoking frequency undefined.

34 Sieminska (2008) citing Sygit *et al* (1997)

a. Survey in 1997 of urban school students aged 14-16. Sample size 1 500. Smoking frequency undefined.

35 Sieminska (2008) citing Tabak *et al* (2005)

a. Survey in 2005 of school students aged 16-18. Sample size 3 123. Smoking frequency undefined.

36 Chodkiewicz and Juczynski (2002)

a. Survey in 2001 of drug use by school children aged 12-19 in Lódź, carried out by the Department of Health Psychology of the University of Lódź. Subjects selected by stratified random sampling. Sample size 1 057 boys and 996 girls.
b. Smokers marked as frequency *: smoked "nearly daily". Regular smokers smoked at least a few times a week. Smokers: smoked at least a few times a month.

37 CBOS (Centre for Studies of Public Opinion) (2004, 2009, 2011)

a. Survey series "Consumption of psychoactive substances among school students". Nationally-representative surveys of secondary and technical school students carried out by CBOS. Age group specified as third graders, mostly 18-19-year-old. We have presented the results against ages 18-19.

Date	Sample size	Survey commissioner
April 1992	1 289	Statutory survey
April 1994	1 260	Statutory survey
April 1996	1 275	Statutory survey
December 1998	1 316	IPiN
December 2003	1 323	KBPN
October 2008	1 400	KBPN
November 2010	1 246	KBPN

Statutory survey : CBOS was required by law to carry out certain surveys.
IPiN : Instytut Psychiatrii i Neurologii (Institute of Psychiatry and Neurology)
KBPN : Krajowe Biuro ds. Przeciwdziałania Narkomanii. (National Bureau for Drug Prevention)

b. Regular smokers: answered "Yes, regularly" to the question "Do you smoke", the alternative positive response being "Yes, but only in exceptional circumstances". Smokers: gave either of the positive responses to the question "Do you smoke".
c. Results (sexes combined) for years in which sex-specific results are not available are:

Year	Smoked cigarettes (%)	
	Regularly	Occasionally
1992	23	18
1996	25	15
1999	30	17

Additional information (not presented in tables)

Staszewski (1960b) states that it is estimated that before the Second World War, smokers constituted about 20% of the entire population and that after the war the percentage increased mainly by a greater number of women smokers (citing a personal communication from the Polish Tobacco Industry).

Poradnik Handlowca (2006) (quoting the market research institute MB SMG/KRC) reported that commercially available tobacco products other than cigarettes were used by the following proportions of the Polish population:

	Proportion of the population using the product (%)
Hand-made cigarettes	2.1
Cigars	0.5
Cigarillos	0.5
Pipe tobacco	0.4

Mach *et al* (2010) report a study of the use of water pipes by 769 adolescents, aged 16-19, in the Silesia region:

	Smoke cigarettes (%)	**Use water pipe (%)**
Males	36	53
Females	33	41

These results may have been biased by the participants being given a description of the purpose of the study and of water pipes before they completed the survey.

Sygit *et al* (2011) reports a study of 15-19 year olds in the Zachodniopomorskie Province of Poland in 2009, comparing urban and rural smoking habits:

	Urban regions		**Rural regions**	
	Boys	**Girls**	**Boys**	**Girls**
Current smokers	24.3	26.9	24.9	36.1

The education system in Poland was changed in 1999:

Before 1999:	**Ages**	**Grades**
Primary school	7-15	1-8
Secondary school, 2-5 years, depending on type : Liceum (general), Technikum (technical), or Szkół Zawodowych (vocational)	15-20	9-13
1999 onwards:		
Primary school	7-13	1-6
Lower secondary (Gimnazjum)	13-16	7-9
Upper secondary, 2-4 years, depending on type : Liceum, Technikum, or Szkół Zawodowych	16-20	10-13

(Sources: King *et al* (1996), http://www.euroeducation.net/prof/polaco.htm and http://www.theglobalvillage.dk/education_in_poland.htm)

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§ Original paper not obtained, but information taken as quoted by another author.