

Smoking Cessation in Germany:

Drivers and Barriers



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ANALYSIS

SMOKING CESSATION IN GERMANY: DRIVERS AND BARRIERS

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Prepared by BOTECH Analysis for the Foundation for a Smoke Free World

November 2021



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This report was funded with a grant from the Foundation for a Smoke-Free World, a U.S. nonprofit 501(c)(3) private foundation with a mission to end smoking in this generation. The Foundation accepts charitable gifts from PMI Global Services Inc. (PMI); under the Foundation's Bylaws and Pledge Agreement with PMI, the Foundation is independent from PMI and the tobacco industry. The contents, selection, and presentation of facts, as well as any opinions expressed herein are the sole responsibility of the authors and under no circumstances shall be regarded as reflecting the positions of the Foundation for a Smoke-Free World, Inc.

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List of Abbreviations

ARPL	Average Revenue Product of Labor
ASH	Action on Smoking and Health
BAT	British American Tobacco
BfR	Federal Institute for Risk Assessment
BMEL	Federal Ministry of Food and Agriculture
BVL	Federal Office of Consumer Protection and Food Safety
BZgA	Federal Center for Health Education
COREPER	Committee of Permanent Representatives in the European Union
DEBRA	The German Study on Tobacco Use
DG	Directorate General
DHS	German Bureau of Addiction
DKFZ	German Cancer Research Centre
ECU	European Currency Unit, the precursor to the Euro
EM	Euromonitor
ENDS	Electronic Nicotine Delivery Systems
ESA	Epidemiological Survey on Substance Abuse in Germany
EU-CEG	EU Common Entry Gate
FCTC	Framework Convention on Tobacco Control
FDA	Food and Drug Administration
GDP	Gross Domestic Product
GHW	Graphic Health Warning
GMASH	German Medical Group - Smoking and Health
HNB	Heat, Not Burn. Another name for HTPs
HTP	Heated tobacco product
ICOSI	International Committee on Smoking Issues
IQOS	Unofficially, “I Quit Ordinary Smoking”; PMI’s leading HTP
ITTP	Illicit Trade in Tobacco Products
JuSchG	Youth Protection Act
NGO	Non-governmental organization
NRT	Nicotine Replacement Therapy
OECD	Organization for Economic Co-operation and Development
PHE	Public Health England
PMI	Philip Morris International, a leading tobacco company.
RCP	The Royal College of Physicians
RTC	Randomized Controlled Trial
RYO	Roll Your Own (loose cut tobacco)
SDP	Social Democratic Party
SHS	Secondhand Smoke
SOEP	German Socio-Economic Panel Study
SSS	Stop Smoking Services
TCS	Tobacco Control Score
TIRSP	Tax Included Retail Sales Price
TPA	Tobacco Products Act
TPD	Tobacco Products Directive
TPO	Tobacco Products Ordinance
VAT	Value Added Tax
VdC	Association of the Cigarette Industry
WHO	World Health Organization

Executive Summary

Despite a range of tobacco control policies enacted since the mid-2000s, rates of tobacco smoking in Germany are significantly higher than in many EU nations, and cessation rates remain lower. Today, tobacco is responsible for about one in seven deaths in Germany.

This report explores the structural reasons for Germany's historical opposition to tobacco control both at the national and international level, examining historical, political, cultural, procedural, and economic impediments to reducing smoking. Tobacco control policies have recently been strengthened greatly in Germany as a result of EU, national and regional legislation. The new policies are examined to explore reasons why they may have been less successful than similar measures adopted elsewhere.

125,000 Germans die each year as a result of smoking-related illness

Data from a wide range of sources including Germany's Federal Statistical Office, Euromonitor, the Eurobarometer surveys, the Epidemiological Survey on Substance Abuse in Germany (ESA), the World Bank, UN COMTRADE, Tabakatlas, the European Commission, and the World Health Organization (WHO) are presented to describe the context for smoking and smoking cessation in Germany over the past three decades. We use data on the prevalence of smoking, tobacco consumption from market reports and consumer surveys to describe the evolution of the demand for tobacco and nicotine products. This context helps inform evaluations of proposed policy changes, including the new taxes on e-cigarettes and heated tobacco products slated to come into effect in 2022, extension to e-cigarettes of the restrictions on the advertising of tobacco products, and potential revisions to the EU's Tobacco Products Directive.

Germany's reluctance to enact robust tobacco control policies in the past can be attributed to industry financing of political parties; the cultural and political preference for self-regulation over legislation and the corporatist tradition of industry involvement in regulatory affairs; the popular association between Nazism and tobacco control; German federalism and constitutional

In 2016, smoking cost the German taxpayer an estimated 79 billion Euros

considerations; and the relatively isolated position of the tobacco control community in Germany. Pro-tobacco groups, party politics, Germany's relatively weak tradition of academic research in public health and a relative absence of well-funded organizations opposing tobacco control in Germany also contributed to weak tobacco control in the past (and today, to a lesser extent) and high rates of smoking.

Recent progress in the fight against smoking can be attributed to a reversal of many of these barriers. EU legislation forced Germany into adopting national-level legislation for tobacco control. The Framework Convention on Tobacco Control (FCTC) and the EU Tobacco Products Directive (TPD) put pressure on Germany to consider adopting the kinds of interventions that had

been implemented by pioneers in tobacco control, thus reversing the international isolation that formerly reinforced German resistance to tobacco control. Assigning regulatory responsibilities to the health ministry eroded the power of the tobacco industry by reducing the influence of the industry's relationships with the economic ministries that formerly presided over the tobacco industry and regulation of its products. The gradual move from a corporatist model for tobacco-related policy development towards a legislative model amplified this effect. EU-level anti-tobacco efforts also provided a platform for German NGOs from which to disseminate public health messaging about tobacco control. Media coverage of EU-level developments, progress with national legislation, stronger regional tobacco controls, and judicial proceedings related to smoke-free laws helped raise public awareness of tobacco use-related harms and foster support for additional controls.

Despite much progress in tobacco control in the last decade, barriers to further reductions in smoking remain

However, barriers remain. Germany's relatively lax smoke-free policies are inside the purview of the 16 states, which may be more susceptible to economic arguments made by the tobacco industry and the hospitality lobby, both of which have resisted more comprehensive tobacco control efforts. Lack of public funding for NRTs and pharmacotherapies exacerbates disparities in smoking and related harms by inhibiting the quit rate among the poor who cannot afford the NRTs and pharmacotherapies available to wealthier smokers.

In this environment, e-cigarettes appear to take on an especially important role aiding cessation attempts among German smokers who are unable or unwilling to pay for NRTs and pharmacotherapies. E-cigarettes, which have been shown in randomized controlled trials around the world to help smokers quit combustible tobacco, are now the most-used cessation aid in

Heavily regulating or taxing e-cigarettes signals that experts and the government want to discourage their use, even by smokers using e-cigarettes to quit smoking

Germany. However, the success of cessation attempts involving e-cigarettes likely depends heavily on support and encouragement from the physicians, counselors, and therapists engaged with the smoker in the quit attempt. Heavy regulation and taxation of e-cigarettes signal that experts and the government want to discourage their use, even by smokers using e-cigarettes to quit smoking. Proposed

regulations, which would reduce the relative appeal of e-cigarettes by restricting advertising and imposing new taxes on e-liquids, could therefore undermine smoking cessation in Germany.

Increases in sales on unregulated (and hence illicit) e-vapor products should also be anticipated in response to tax increases, and enforcement at the border and on the streets will be needed. Indeed, Estonia has already reduced taxation of vaping products in response to significant growth in illicit trade. Unfortunately, unregulated products may expose the consumer to more of the very harms that concern public health officials. The cases of E-cigarette Involved Lung Injury (EVALI) in the USA in 2019 demonstrate such exposure to harms; EVALI has been attributed

almost exclusively to illicit cannabis vape products. Such cases should remind regulators of the need for robust product oversight and quality controls, which requires minimizing incentives for black markets to spring up, and that overly stringent regulation and taxes can have unintended consequences which harm public health.

This report provides context to help inform evaluations of proposals for policy changes including the new taxes on e-cigarettes and heated tobacco products slated to come into effect in 2022, extension to restrictions on tobacco and nicotine product advertisement, and potential revisions to the EU TPD.

I. Introduction

Despite progress in tobacco control since 2006, the prevalence of smoking in Germany exceeds that of many Western European nations. About 28% of German adults are current smokers,¹ and more than 120,000 Germans die each year as a result of smoking-related illness,² representing 14% of all deaths.³ Smoking does not just steal a few years from the old-age of lifetime smokers: about a quarter of tobacco-related deaths occurred among Germans of working age.⁴ Smoking exacerbates health inequities, since socially disadvantaged groups are more likely to smoke and less likely to quit. Moreover, smoking imposes vast costs on society, including expenses borne by statutory health insurance—and ultimately the taxpayers—for smoking related morbidity. In 2014, these costs were estimated at 80 billion euro.⁵ The World Health Organization designated Germany as a “high burden country” based on the social cost of the country’s tobacco use.

The high rates of smoking in Germany have been blamed on the corporatist tradition of industry involvement in policymaking, a preference for allowing industry to regulate itself, and the legacy of a perceived association between tobacco control and Nazism. Germany opposed the EU’s efforts regarding tobacco control in the 1990s and allowed industry to weaken proposed national and EU-level legislation. While other federal democracies such as the U.S. permitted their states to experiment with tobacco control, contributing to policy innovation and valuable learning from comparison of outcomes, the German states (*Länder*) were not permitted to enact regional tobacco control policies until 2006. A comprehensive explanation of Germany’s history of weak tobacco control involves a number of structural factors including Germany’s epistemic and linguistic isolation, the absence of a tradition of German-language research in public health until the late twentieth century, and the absence of a well-organized anti-tobacco movement of the type that undermined tobacco industry interests in other countries such as the U.S. and UK. Such factors are explored in section VI.A

Despite its late start, Germany has enacted a number of tobacco control policies since 2000: increasing the taxes levied on tobacco and the minimum age for tobacco purchases, restricting sales of cigarettes from vending machines, and imposing smoke-free laws in the 16 states. The provision of Nicotine Replacement Therapies and Stop Smoking Services, as well as the introduction of e-cigarettes (largely unregulated prior to 2014) have contributed to a gradual reduction in smoking prevalence in Germany in the last two decades. However, in both absolute and relative terms (absolute smoking prevalence and relative decline since 2000) Germany still lags behind other European nations. For example, in 2000, Great Britain’s age-standardized smoking prevalence for those older than 14 (35%) was approximately 2 percentage points higher than Germany’s,⁶ but 18 years later, the UK number had fallen below 20% thanks to a combination of comprehensive tobacco control policies including smoke-free laws, advertising bans and some of the highest tobacco taxes in Europe. In contrast, 28% of Germans continued to smoke – with even greater prevalence among men, older middle-aged Germans, and residents of former East Germany. This suggests that beyond the deep-rooted barriers to tobacco control in

Germany, the new policies were less robust than analogous policies adopted in other countries. This theme is explored further in section VI.B in relation to smoke-free laws.

This report analyzes policies that affect smoking cessation in Germany. To set the stage for the discussion of current and future policies to accelerate cessation, a timeline in section II presents several decades of historical smoking rates and tobacco control efforts in graphical and tabular form. Given its importance for the topic, in the analytic section of the report the tobacco industry in the country is described first (section III). The major industry players, their behavior, and their importance in the German economy—and therefore their political clout—are presented in turn. In section IV, a profile of the country's smoking behavior is developed. The prevalence of smoking is covered first, with the smoking rate broken out by gender, age, and region (section IV.A). Total consumption of tobacco, which combines the extensive margin of prevalence with the intensive margin of smoking frequency, is described next (section IV.B). The figures generally show that the markets for manufactured cigarettes are declining in volume, whereas consumption of e-cigarettes, heated tobacco, and loose smoking tobacco are increasing. Here and elsewhere in the report, data from key public and private sources are analyzed, including Germany's Federal Statistical Office, Euromonitor, Eurobarometer surveys, the Epidemiological Survey on Substance Abuse in Germany (ESA), the World Bank, UN COMTRADE, Tabakatlas, the European Commission, and the World Health Organization (WHO). The regulatory situation regarding tobacco control is described in section V, first in terms of the relevant authorities (section V.A) and next in terms of the rules on the books (section V.B).

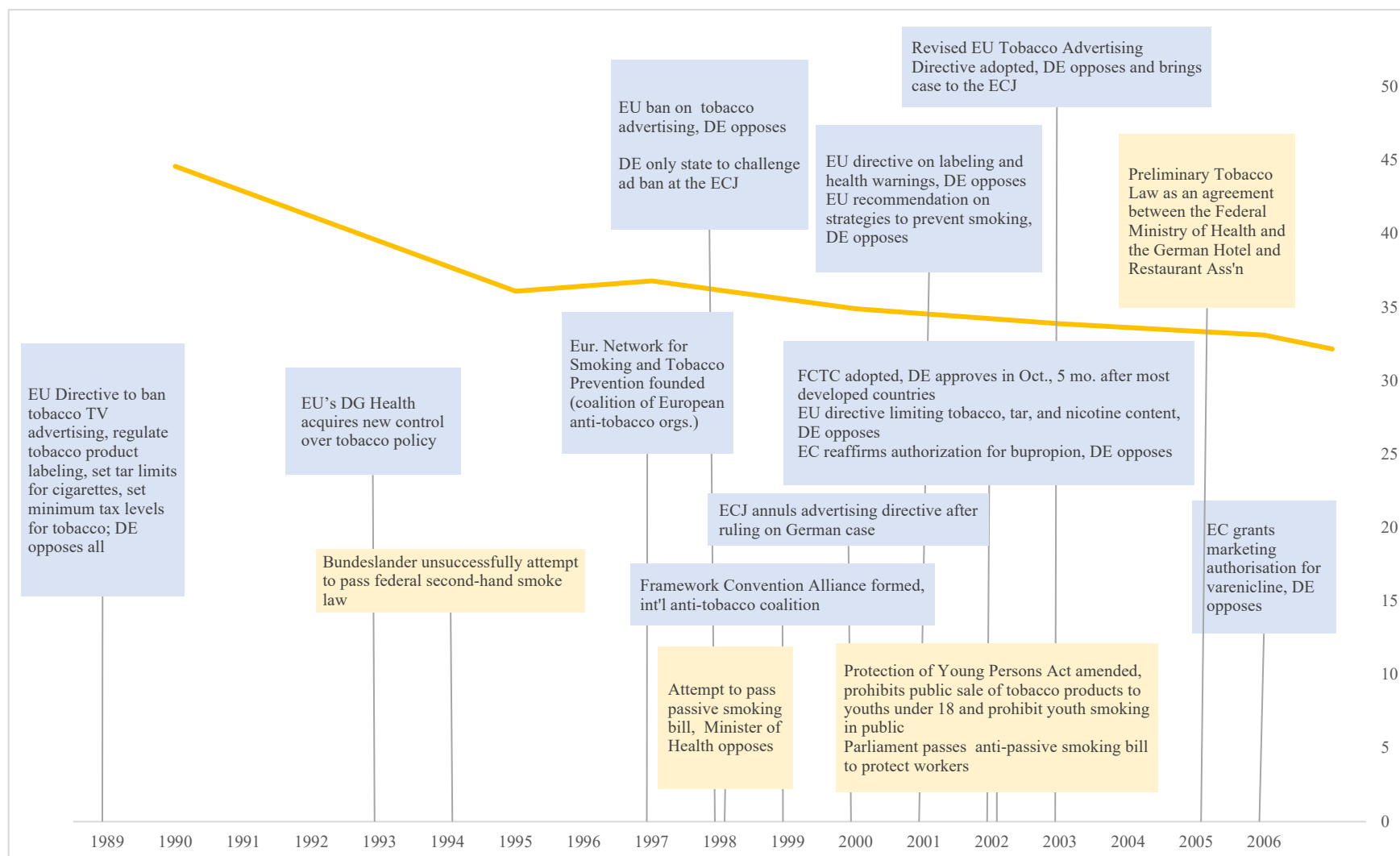
The heart of the report, section VI, is our analysis of the policies that either drive smoking cessation in Germany or create barriers to it. First, we discuss the many past and present structural barriers to tobacco control (section VI.A). Next, we address Germany's relatively ineffective policies in the past (section VI.B) and why they changed recently (section VI.C). and The factors driving cessation are covered in detail (section VI.D), including both the usual elements of tobacco control and newer alternatives such as e-cigarettes. The report closes with a discussion of the findings and their application to current and suggested policy proposals.

II. Timeline of Smoking and Tobacco Regulation

Smoking rates in Germany have traditionally been significantly higher than those of other EU nations. In 1995, for example, 42.8% of German adult men and 29.3% of women smoked. (ESA). German tobacco control was relatively weak, compared to other EU nations. Germany voiced fierce opposition to tobacco regulation at the national level, strenuously opposed EU tobacco regulation in the 1990s, and has also been criticized for lackluster implementation of the original Tobacco Products Directive (TPD; approved by the EU in 2001). Germany's traditional culture of non-interference and pro-choice policymaking have been offered as explanations for the apparent reluctance towards tobacco control. However, a comprehensive explanation must also account for structural factors including historical, political, and cultural realities. These subjects are explored in Section VI.

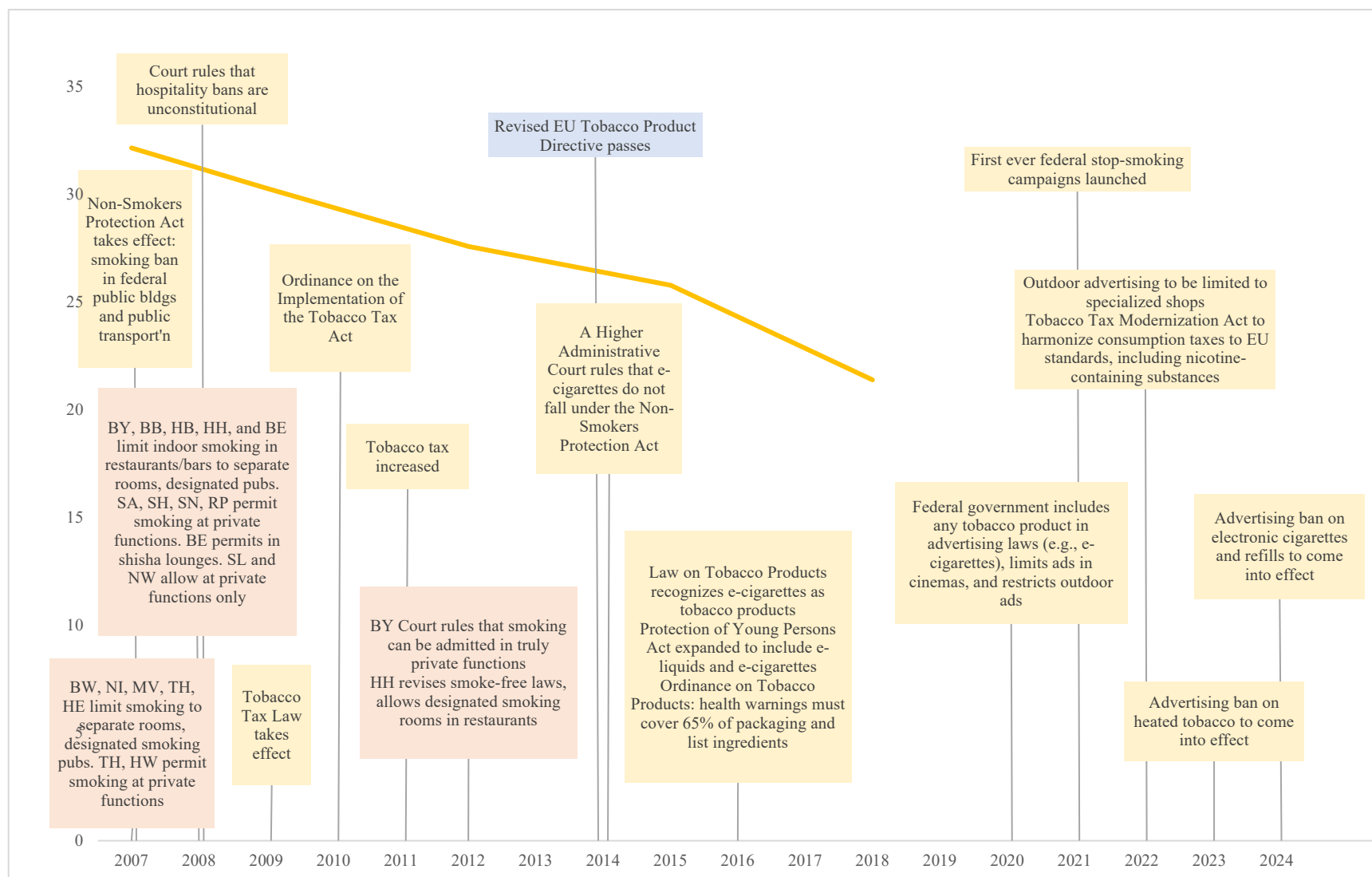
Notwithstanding its history, in the past 20 years, Germany has seen a decrease in smoking prevalence after implementing incremental tax increases, smoke free laws, ad bans, and sales restrictions. As has been observed elsewhere, the prevalence of smoking in Germany has declined following the introduction of these policies. The charts in figures 1 and 2 show the significant events in German tobacco control. Recent reductions in smoking prevalence have also co-occurred with the increased use of e-cigarettes and, more recently heated tobacco products (HTPs). Germany plans further restrictions on tobacco and nicotine products including, notably, the Tobacco Tax Modernization Act which aims to harmonize tobacco taxes to EU standards and will ban outdoor tobacco advertising. Additional restrictions are also planned for e-cigarettes and HTPs in 2022 and 2023. The implications for the proposed regulations will be discussed in Section VII.

Figure 1: Adult Smoking Prevalence and Tobacco Control Timeline in Germany (1989–2006)



Source: Epidemiological Survey on Substance Abuse in Germany 2018 (ESA). Statistics are for German-speaking individuals aged 18 to 64 years living in private households

Figure 2: Adult Smoking Prevalence and Tobacco Control Timeline in Germany (2007–2024)



Source: Epidemiological Survey on Substance Abuse in Germany 2018 (ESA). Statistics are for German-speaking individuals aged 18 to 64 years living in private household

Table 1: Major Milestones in the Modern Tobacco Industry and Tobacco Control in Germany

Date of Implementation	Federal EU or EC Law	Tobacco Control Measure
January 1, 1975	The Provisional Tobacco Act	Regulated advertising, promotion, and sponsorship of tobacco products, banning tv and radio advertising.
December 20, 1977	The Tobacco Ordinance	Regulates allowable and prohibited substances in tobacco products
January 1, 2002	Law to finance counterterrorism	Raised tobacco taxes.
June 21, 2002	National Law for Regulation on workplaces	Workplace smoking restrictions
July 23, 2002	Youth Protection Act	Banned advertising tobacco in the cinema before 6 p.m.
November 20, 2002	EU Directive 2001/37/EC	Implemented content and ingredient disclosure regulations
November 21, 2002	The Tobacco Product Ordinance	Regulates packaging and labeling including health messages, and tar, nicotine, and carbon monoxide information.
April 1, 2003	The Protection of Young Persons Act	Prohibits the sale of tobacco products to children and adolescents and prohibits smoking by children and adolescents in restaurants, stores, and other public places. The law also regulates the sale of tobacco products through vending machines
June 20, 2003	Directive 2003/33/EC	Restricted advertising and sponsorship of tobacco products
August 25, 2004	The Ordinance on Workplaces	Further limits smoking in the workplace
December 12, 2004	Germany signs the WHO Framework Convention on Tobacco Control	International treaty to enact a set of universal standards stating the dangers of tobacco and limiting its use in all forms.
January 1, 2007	National Law for the Protection of Minors	Electronically restricted vending machine sales of cigarettes to minors
January 9, 2007	The Federal Non-Smokers Protection Act (Modified Youth Protection Act)	Raised the age limit for tobacco purchases raised to 18 (previously 16)

September 1, 2007	Law for Protection from the Hazards of Passive Smoking (The Federal Non-Smokers Protection Act)	Banned smoking on federally owned public transport and in federal buildings
April 20, 2014	Tobacco Products Directive 2014/40/EU of the European Parliament and of the Council of April 3, 2014, becomes applicable law implemented by the Law on Tobacco Products and Related Products (2016)	The goal of the revision to the TPD is to harmonize regulations for tobacco and related products in the EU, to improve health protection and, in particular, to discourage young people from starting to use them. All member nations must implement the regulations starting 05.20.16
January 6, 2016	The law for the protection of children and young people	Extends age limits on tobacco purchases to e-cigarettes.
April 27, 2016	Ordinance on Tobacco Products and Related Products	Specifies graphic design requirements and minimum dimensions to ensure their visibility and maximum effectiveness.
May 20, 2016	Law on Tobacco Products and Related Products Implemented the EU TPD.	Specifies graphic design requirements and minimum dimensions to ensure their visibility and maximum effectiveness. Contains regulations on ingredients, packaging design, package inserts and notification requirements, among other things.
Due to come into effect 2021	Second law amending the Provisional Tobacco Act (implementation of European Directive 2007/65 / EC)	Bans tobacco advertising in films at which children may be present, replacing previous limit on films playing after 6 p.m.; bans the distribution of free samples; clarifies scope of law applying to non-nicotine e-cigarettes.
Due to come into effect 2022	Second amendment to the Law on Tobacco Products and Related Products	Will ban outdoor advertising for conventional tobacco products, except for specialized shops, and provided that advertisements are placed on the exterior walls or in the shop window

Due to come into effect 2022	Tobacco Tax Modernization Act	Heat-not-burn products (e.g., IQOS) will be reclassified as “cigarettes” for tax purposes, instead of the former “pipe tobacco” classification which carried a lower tariff. E-liquids will be taxed for the first time.
Due to come into effect 2023	Implementation of Second amendment to the Law on Tobacco Products and Related Products	Will introduce advertising restrictions for HTPs
Due to come into effect 2024	Implementation of Second amendment to the Law on Tobacco Products and Related Products	Will introduce advertising restrictions for e-cigarettes and re-fill cartridges

Sources: Grüning et al. (2008); tobaccocontrolaws.org

III. Tobacco Industry Overview

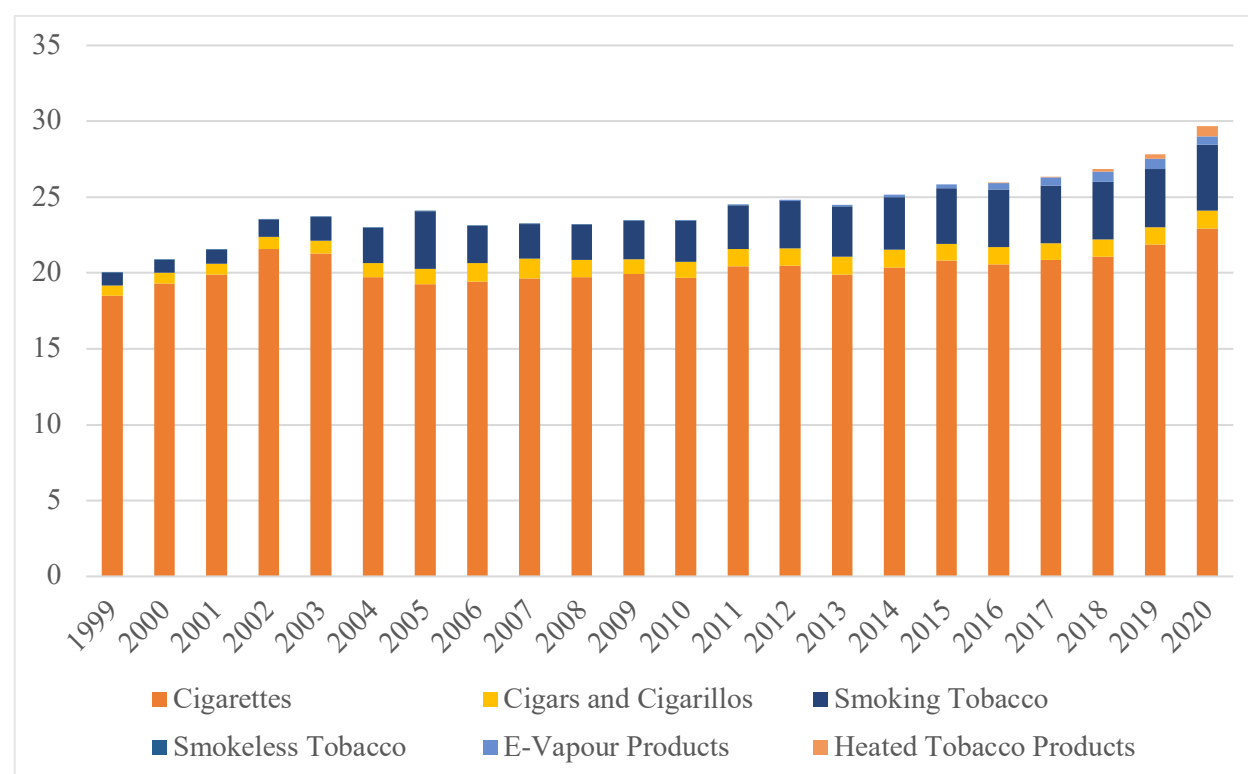
Despite a decline in the number of units sold, the German tobacco industry is still a sizeable and relatively productive, high-wage part of the manufacturing sector. In addition to an active import and export market in tobacco products, Philip Morris International (PMI), British American Tobacco (BAT), and Imperial Brands (formerly Imperial Tobacco) have manufacturing facilities in Germany. Tobacco manufacturers and the larger ecosystem of wholesalers and retailers have capitalized on the economic importance of the industry and nurtured close connections with policymakers to maintain influence on regulation over the years (which will be covered in section VI.A).

A. The size of the tobacco industry

While the tobacco industry today is a much smaller segment of the manufacturing universe than in the past, production turnover is still valued at €12 billion (turnover is a rough equivalent to revenue excluding taxes) in 2020.⁷ The major manufacturers employed 7,300 people who were more productive than the average German manufacturing worker as reflected in revenue per hours worked; the average revenue product of an hour of labor (ARPL) was €1,066 for tobacco manufacturing but only €212 for the entire manufacturing sector.⁸ German workers in tobacco manufacturing were paid an average of €44.6/hour, compared to a manufacturing overall average of €36.6/hour. The high productivity of workers in the tobacco manufacturing sector can also be seen by noting that they accounted for only 0.15% of hours worked in the manufacturing sector but created 0.74% of the production value. The latter figure for 2020 is down from 1.3% of manufacturing sector turnover in 2005.⁹

The figures above include both tobacco manufacturing and export revenue. Considered a consumer marketplace in Germany, the tobacco sector is larger, since many products are imported. Evaluating the size of the market in terms of revenue also leads to larger figures since taxes compose so much of the sales prices of tobacco. Figure 3 shows domestic tobacco industry revenue since 1999, broken out by product type. Even though the amount of tobacco sold has dropped over the years, as people move away from smoking, the tax-inclusive revenue has continued to increase. This is due mainly to the large price increases in the products, due to tobacco tax increases (see section V.B.1). In 2020, tobacco revenue neared € 30 billion, in part because retail sales of cigarettes declined only slightly during the pandemic, and the number of smokers may have increased a bit. In prior years, volume and incidence were declining more rapidly (Euromonitor, 2021a).

Figure 3: Tobacco Market by Retail Revenue, Billions EUR (1999–2020)



Source: Euromonitor. Data are for Germany and are not adjusted for inflation.

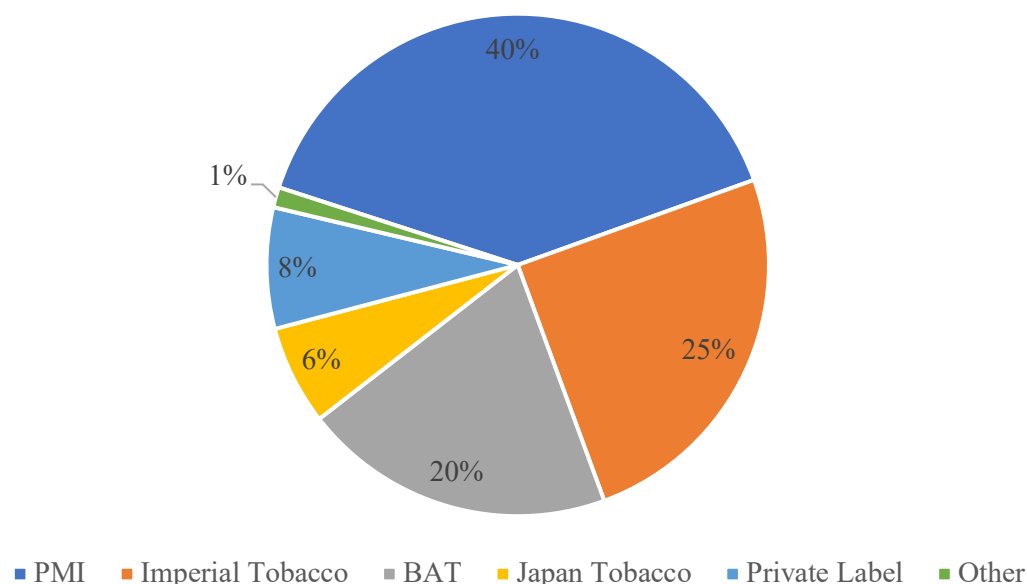
The importance of the tobacco industry to the German economy, fostered by close industry ties to political parties through campaign donations and advertisements in party newspapers allowed it to influence the regulation of its business and products.¹⁰ Two leading tobacco manufacturers, PMI and BAT, are top-100 lobbying firms in the EU.¹¹ Section VI.A delves deeper into the historical influence of the industry on government. Tobacco control advocates view this influence as a significant impediment to reducing smoking in the country. To this end, a recent initiative put forth by public health and civil society organizations, Strategy for a Tobacco-Free Germany 2040, specifically calls for effectively protecting “political decisions [regarding tobacco control] from the influence of manufacturers of tobacco and related products and their associations.”¹² As in many other countries, the frame of the debate over tobacco in Germany has shifted from focus on the economic importance of the industry to emphasis on the public health benefits of control.¹³

B. Major players

As mentioned above, PMI, Imperial Brands, and BAT are the “big three” in the German market for cigarettes. As shown in Figure 4, PMI sells two of every five cigarettes in Germany. Imperial and BAT have market shares in the vicinity of 20-25% each. These market shares have been relatively stable since at least 2011, per older data from Euromonitor. Japan Tobacco (JTI) holds the fourth market position, with a 6% share. The top brands sold by these companies and

others are shown in Figure 5. As in much of the world elsewhere, PMI's Marlboro is the top brand, with another PMI product, L&M, in second place.

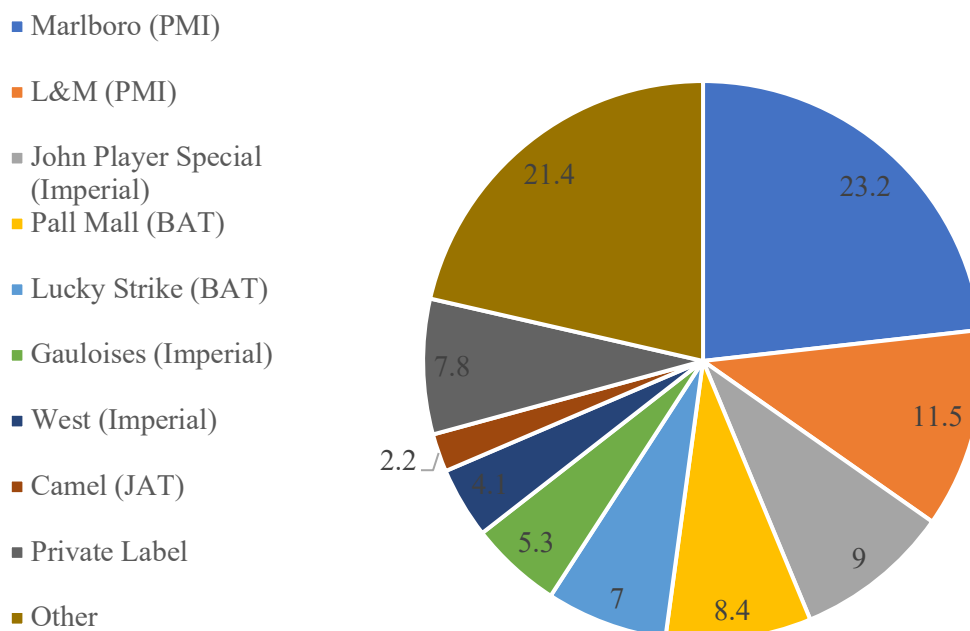
Figure 4: Market Shares for Cigarette Manufacturers (2020)



Source: Euromonitor. Data are for Germany.

Some of the traditional tobacco companies also have a foot in the e-cigarette market; mainly producing closed-system devices and refills. While closed pods (pre-filled, branded containers of e-liquids meant to be used in an associated e-cigarette device) make up only about one-fifth of the market in 2021, this share has grown since 2017-2018, when closed pods held only a tenth of the market.¹⁴ After Juul withdrew from the German market at the end of 2020 (part of the company's retreat from European markets), the two most popular closed system ENDS are produced by Imperial Brands and British American Tobacco (BAT).¹⁵ Imperial Brands, whose top three cigarette brands hold about 18% share of that market, sells the myBlu vape device and pods. BAT has the top two cigarette brands command about 15% of that market and sells the Vuse vaping system (which brand name now includes products formerly sold under the Vype moniker). Blu is the top selling closed pod brand in almost 60% of retail stores, while Vuse is the top seller in about 35% of stores.¹⁶

Figure 5: Market Shares for Cigarette Brands (2020)



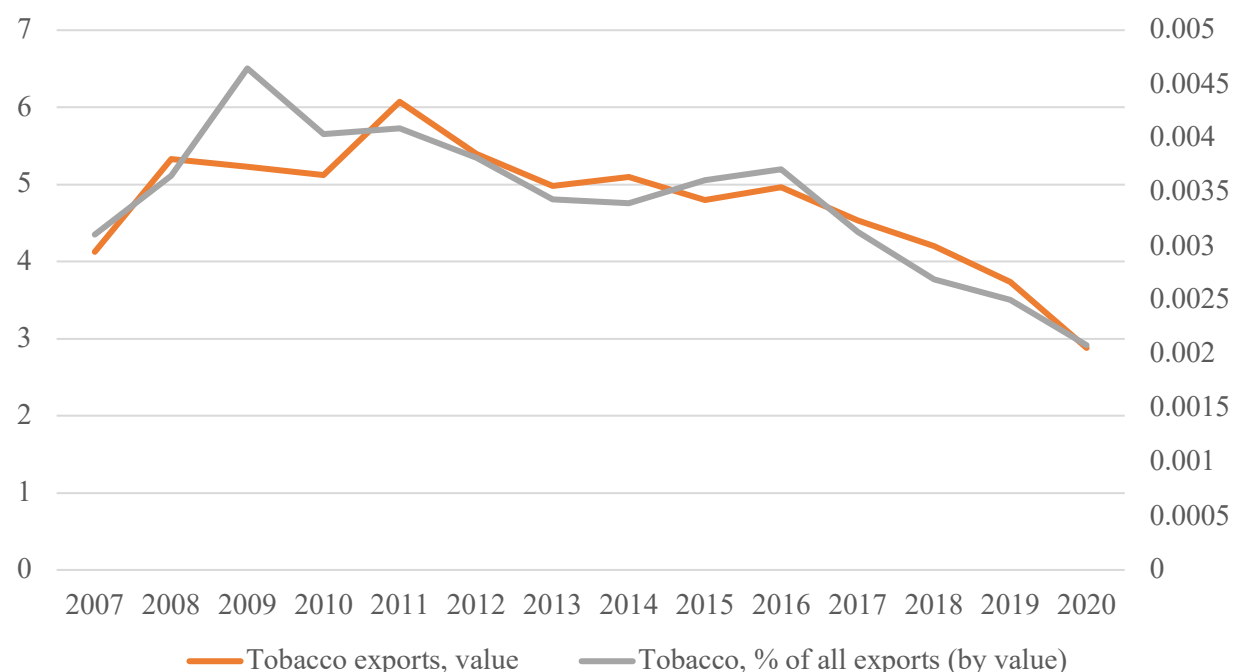
Source: Euromonitor. Data are for Germany.

Heated tobacco entered the German market first with PMI's IQOS brand device. IQOS has been available in Germany since 2016 and was the only HTP marketed in the country until BAT began selling its Glo devices in the summer of 2020, a date delayed by the pandemic.¹⁷ By 2021, IQOS had a 3.6% share of the national tobacco market in Germany, a larger share than in France (0.6%) but far behind the share in Italy (11.2%). Market growth for IQOS has been slower than first anticipated. PMI announced in 2017 that it intended to open a manufacturing facility for IQOS heatsticks in 2019 in Dresden, but it has put those plans on hold.¹⁸

C. Exports and imports

Germany has a large but shrinking tobacco export sector. Tobacco exports, including the raw commodity and manufactured products, had passed USD 6 billion in 2011, but the value of the export market had declined by more than half to less than USD 3 billion by 2020. The trend in the size of the tobacco export market largely reflects its importance among German exports; the trends for export value and the percentage of all exports composed of tobacco are highly correlated. The largest difference between the export value and its share of all exports was in 2009, when the global recession hit exports generally harder than tobacco in particular.¹⁹ Tobacco is not a recession-proof commodity, though, as shown by the concomitant decline of tobacco exports and tobacco's share of all German exports in 2018 to 2020 (a recessionary period in the country).²⁰

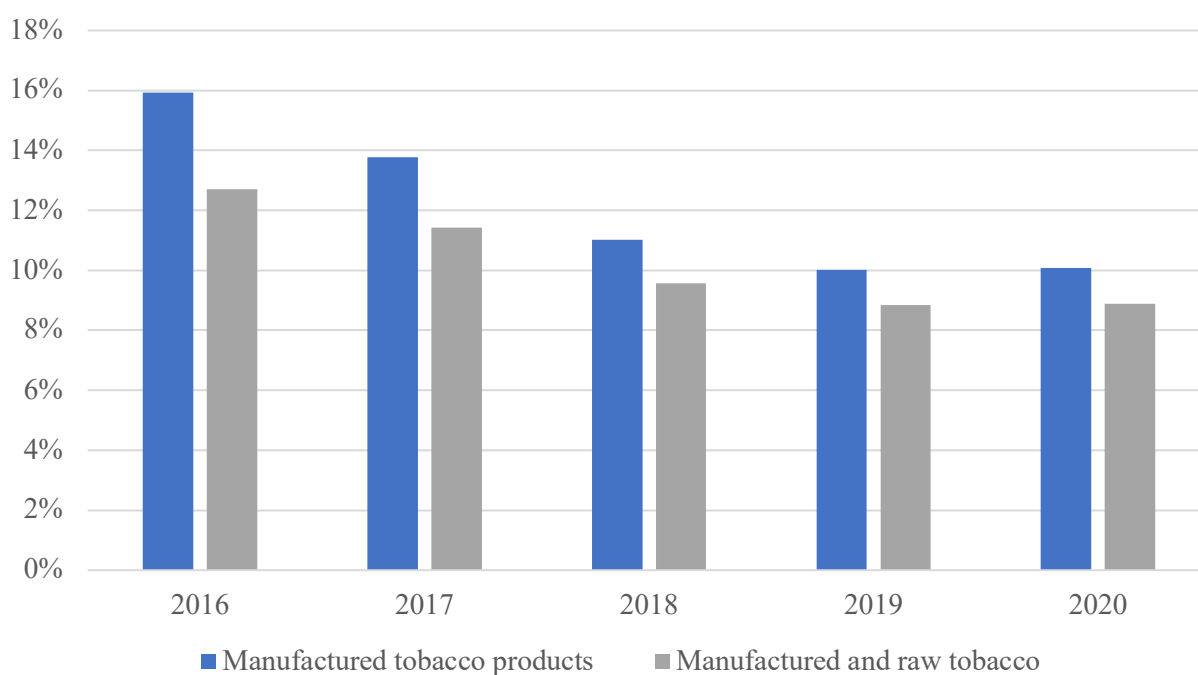
Figure 6: Tobacco Exports, Billion USD (Left) and Tobacco as Percentage of Total Exports (2007–2020)



Source: WITS/World Bank, UN COMTRADE. Data are for Germany.

Taken as a share of global tobacco exports, Germany is a greatly outsized player in the world's international tobacco trade. Germany had the world's largest export share of manufactured tobacco products until 2018, when it was overtaken by Poland.²¹ The next year, Poland surpassed Germany for the world's largest share of total tobacco exports. While Germany has less than 2% of the world's smoking population, it accounts for 8.9% of exported total tobacco and 10.1% of exported manufactured tobacco products across the globe.²² These figures, however, are down from 12.7% and 15.9% of global exports, respectively, in 2016, a decline that follows in attenuated form Germany's diminishing export volume. While the value of tobacco exports fell 42% between 2016 and 2020, the country's share of global total tobacco exports fell only 9% and its share of exports of manufactured tobacco products fell only 30%.

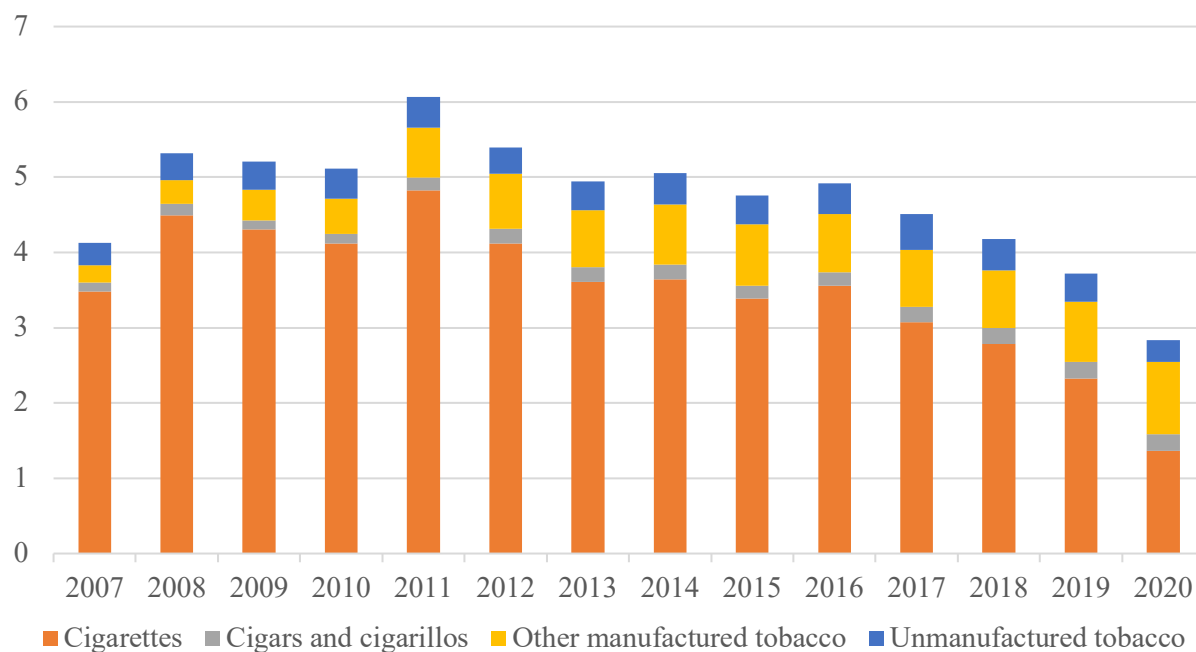
Figure 7: Germany's Share of Global Exports of Tobacco (2016–2020)



Source: UN COMTRADE. Export shares are measured by value.

As expected, the large majority of export value through 2019 comes from cigarettes, with manufactured tobacco products other than cigarettes, cigars, and cigarillos making up most of the rest (Figure 8). The “other products” category has gained export share throughout the years shown in the figure, and by 2021 that category was almost rivaling cigarettes for the largest share. This product category includes smoking tobacco and heated tobacco, but the former composed 90% of the “other products” export category in 2019.²³

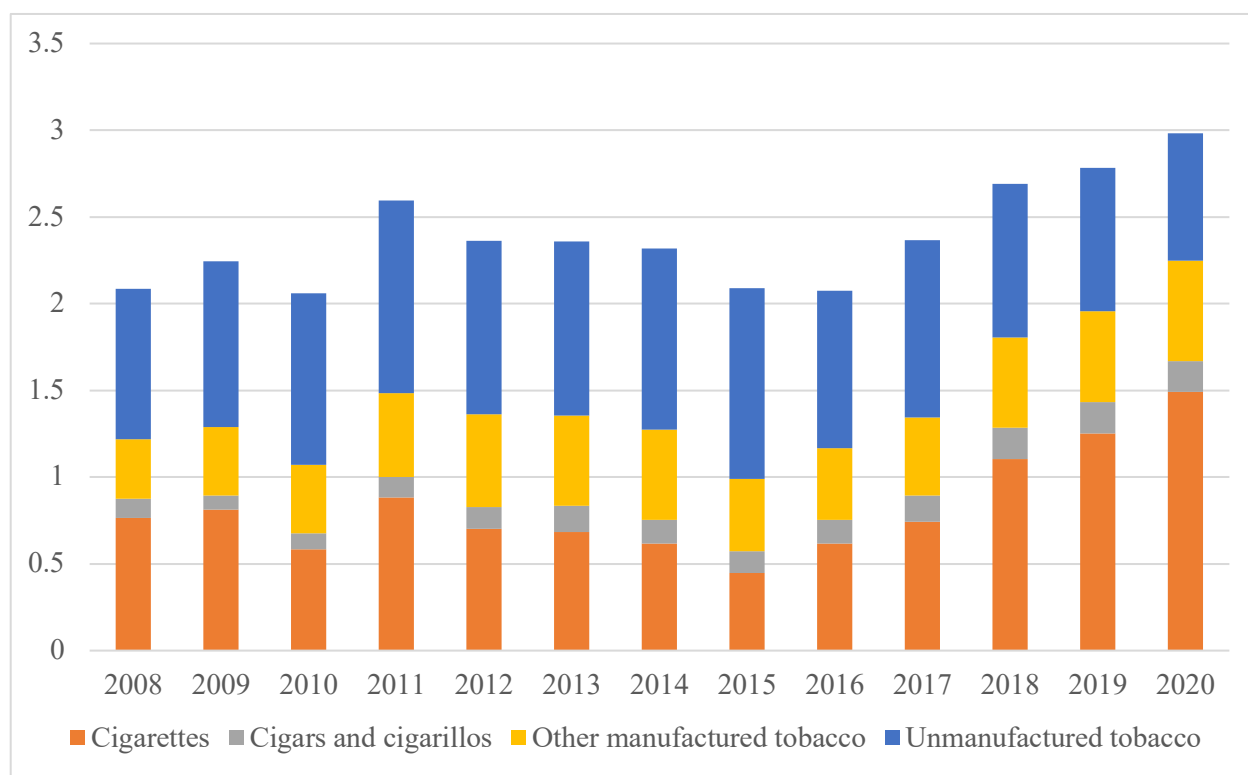
Figure 8: Tobacco Exports by Category, Billions USD (2007–2020)



Source: WITS/World Bank, UN COMTRADE. Data are for Germany.

Germany also imports some of the tobacco products sold in the country, although imports of manufactured tobacco products as an aggregated commodity class were only 60% as large as exports in 2019. See Figure 9.

Figure 9: Tobacco Imports by Category, Billions USD (2008–2020)



Source: Federal Statistical Office (DESTATIS), series 51000-0005. Data are for Germany.

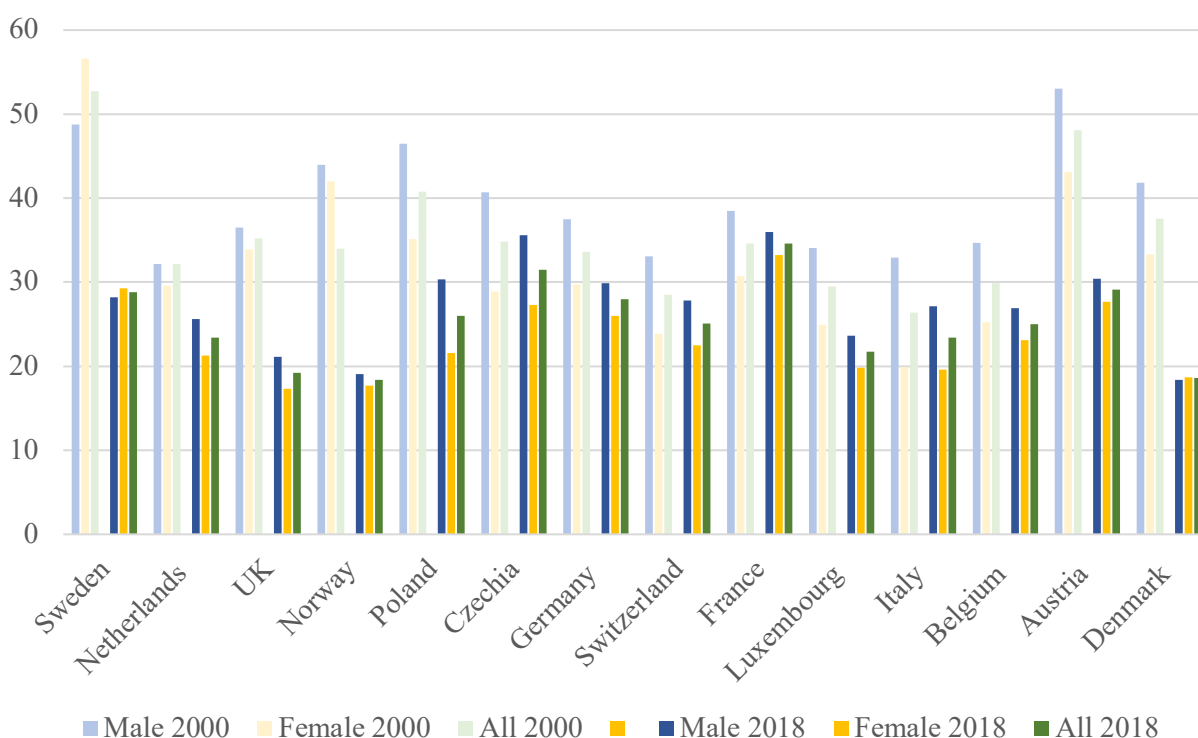
IV. Smoking Behavior

This section describes the prevalence of smoking in Germany and the consumption of tobacco.

A. Prevalence

By global standards, the prevalence of smoking in Germany remains extremely high. In 2018, more than one in four Germans over the age of 14 were current smokers, ranking Germany 37th on the list of the world's worst performing countries for smoking frequency.²⁴ Compared with its neighbors, Germany also performs poorly. Only Austria and Czechia have greater prevalence (see Figure 10). Further, while Germany reduced the prevalence of adult smoking by more than 16% between 2000 and 2018, many of Germany's neighbors achieved greater reductions over the same timeline. Luxembourg, the Netherlands, Poland, and Austria dropped prevalence by 26% and 40%; Sweden, the UK, Norway and Denmark achieved reductions of between 40% and 50%.

Figure 10: Prevalence of Current Tobacco Use (Age 15+ Years) among Germany and Its Neighbors, 2000 and 2018

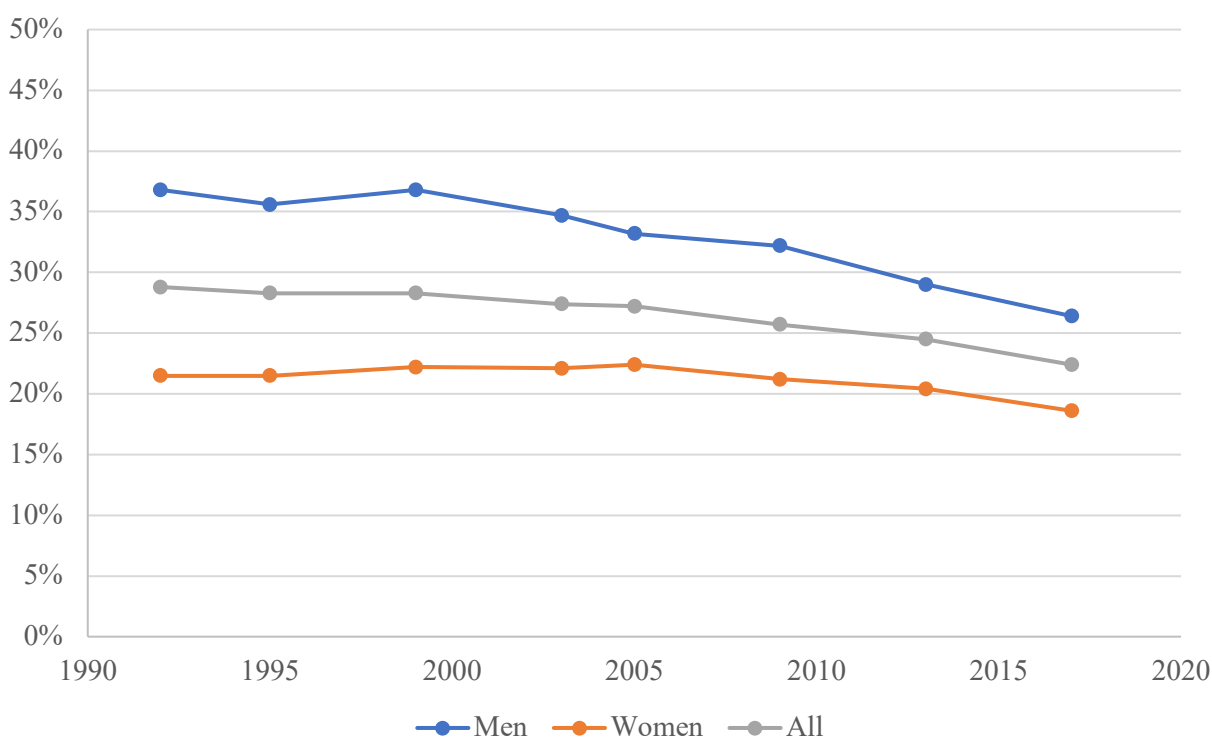


Source: WHO. Available at: <https://www.who.int/data/gho/data/indicators/indicator-details/GHO/age-standardized-prevalence-of-current-tobacco-smoking-among-persons-aged-15-years-and-older>. Rates are age-standardized across countries.

1. By gender

As is common in many national contexts, smoking continues to be more common among German men than women, but the gap is narrowing (Figure 11). In 1992, 36.8% of German men were current smokers, compared with 21.5% of women, but 25 years later, the disparity had been declined to just 4 percentage points (26.4% versus 18.6%). However, that reduction was largely concentrated in males who saw a decline in smoking prevalence of more than 10 percentage points, compared to a decline in smoking prevalence of less than 3 percentage points among women.

Figure 11: Prevalence of Current Smoking by Gender (1992–2017)

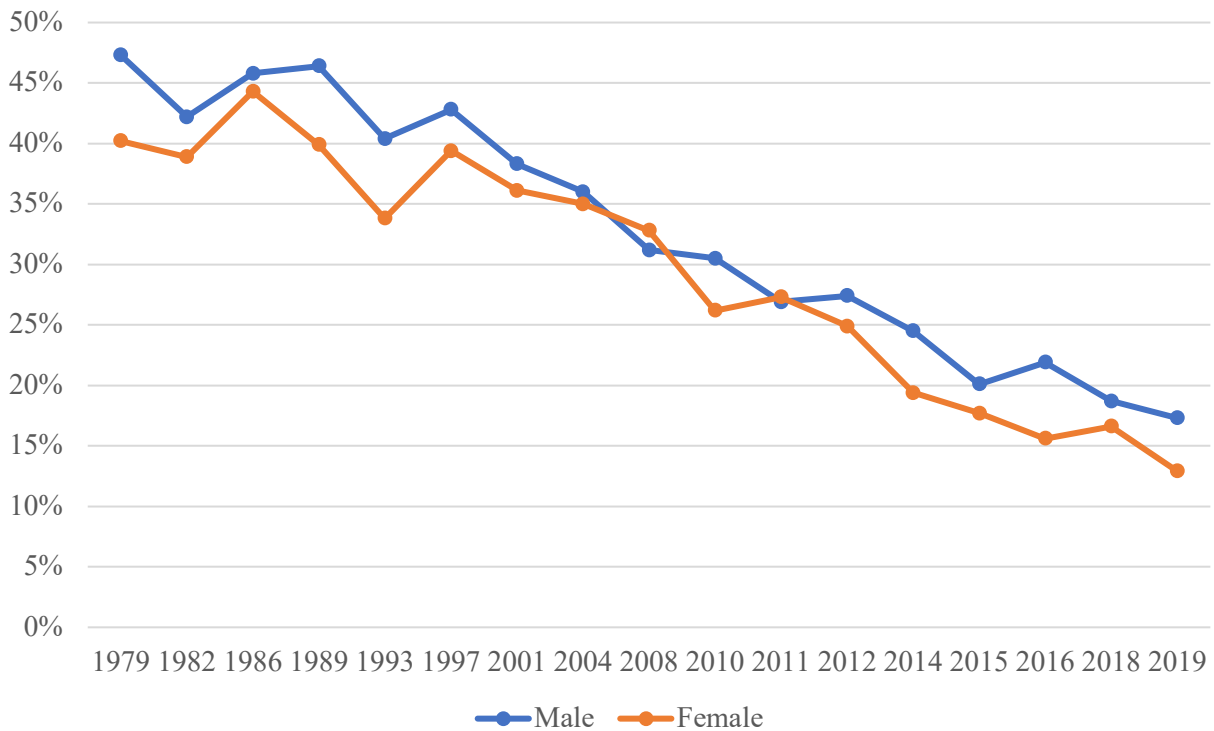


Source: Tabakatlas 2020: 42. Data are for Germany.

2. By age and birth cohort

Germany has made progress in reducing youth smoking. Prevalence in the 12 - 25 age group declined by 63% among males and 68% of females between 1979 to 2019.²⁵ The fastest decrease occurred after 1997, as shown in Figure 12.

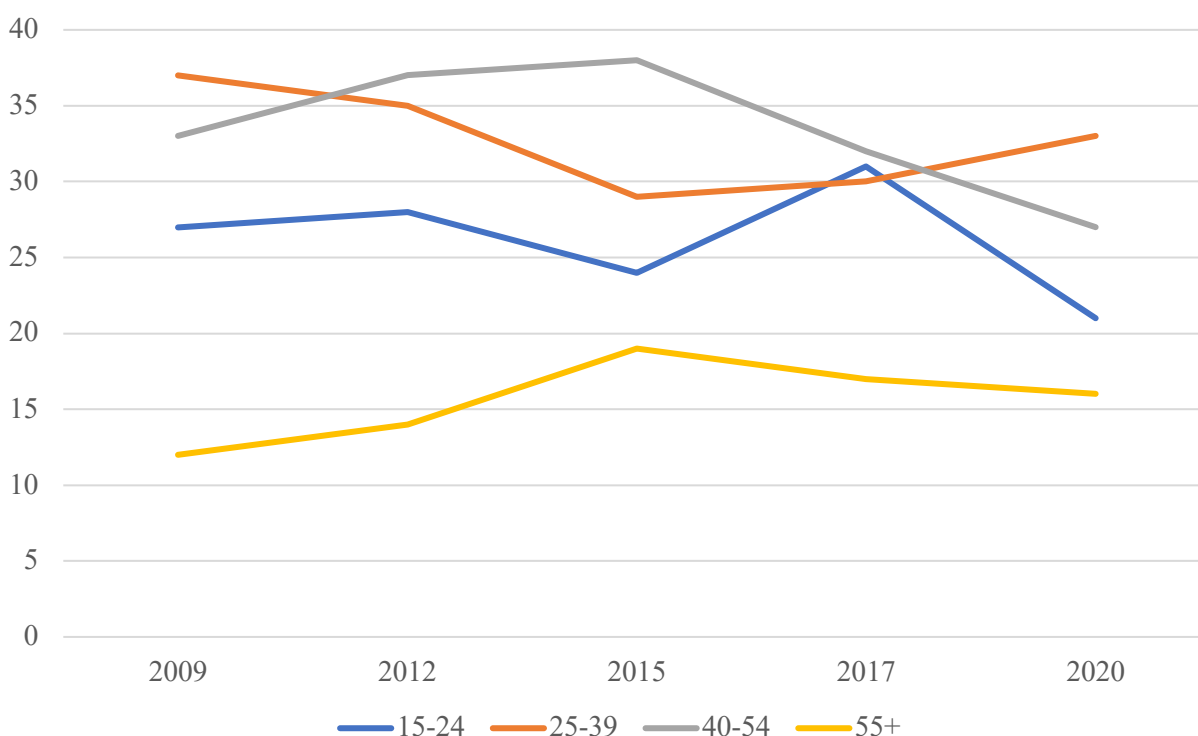
Figure 12: Prevalence of Smoking Among Age Group 12-25 years (1979–2019)



Source: Statista. Available at: <https://de.statista.com/statistik/daten/studie/444502/umfrage/raucheranteil-unter-jugendlichen-und-jungen-erwachsenen-nach-geschlecht/>; Original source: https://www.bzga.de/fileadmin/user_upload/PDF/studien/Drogenaffinitaet_Jugendlicher_2019_Basisbericht.pdf. Data are for Germany.

Germans aged 55 and older have the consistently lowest rates of smoking, while the highest rate is among adults aged 25 to 39.

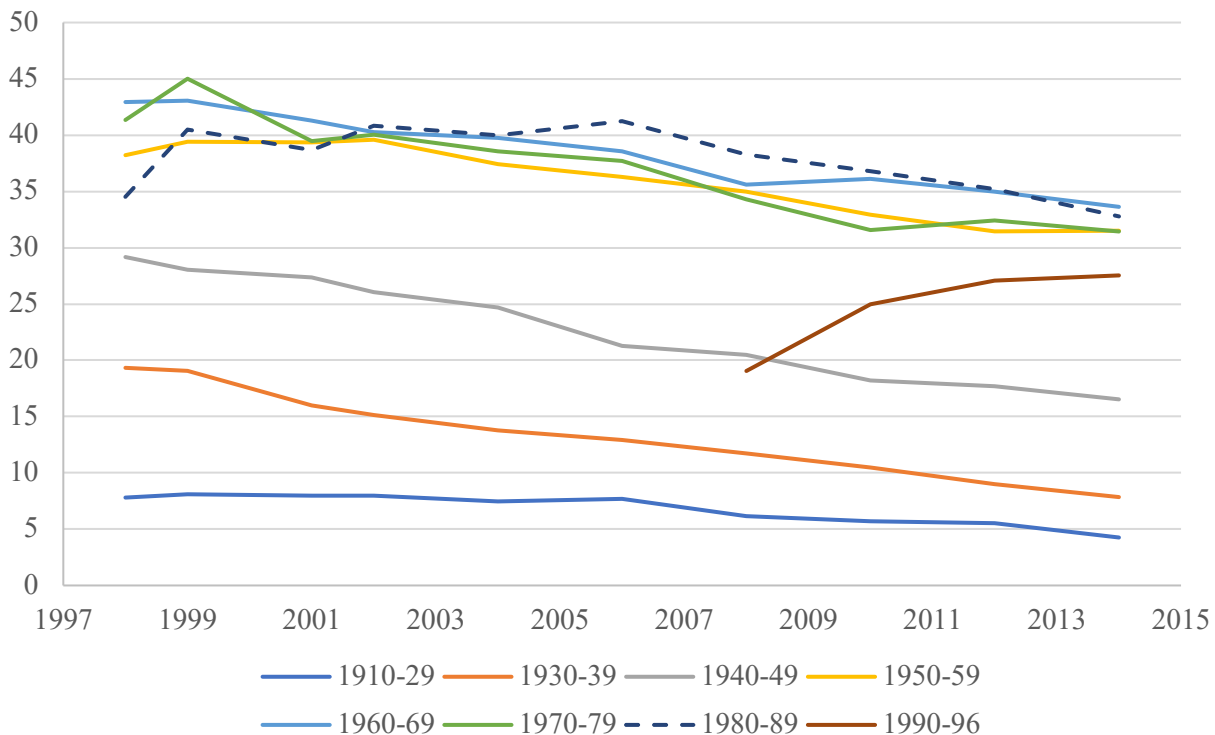
Figure 13: Smoking Prevalence (%) by age (2012–2020)



Source: Eurobarometer Fact Sheets. Data are for Germany.

Birth cohorts are a useful group for study. Whereas trends by age group reflect prevalence for different people in each year, since some individuals age into the category while others age out, trends by birth cohort show how the same group of people (subject to compositional changes from deaths, emigration, and immigration) change their smoking behavior over time. While some of the differences between Figure 13 and Figure 14 may be inherent in the data sources, the trends by cohort in Figure 14 reveal that smoking has been more or less decreasing since 1999 for all but three cohorts. For those born in the 1950s and 1970s, we see essentially no decrease in the prevalence of smoking between 2010 and 2014. (For the intervening decade of birth, the 1960s, there was only a slight decline.) Most members of this group have been smoking long enough to seriously contemplate or attempt quitting if they wished to do so, and thus their failure to do so (whether by desire or success in attempt) is significant. Also striking in Figure 14 is the increase in smoking for the youngest cohort, those born 1990 to 1996. Even though individuals in this cohort were already 16 to 22 years of age in 2012, their prevalence of smoking had increased by 2014.

Figure 14: Smoking Prevalence (%) by Birth Cohort (1997–2014)

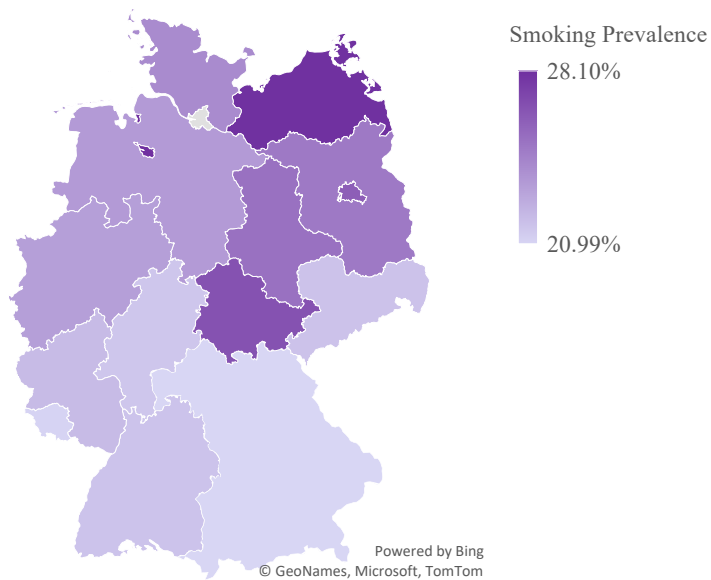


Source: Data are from Heilert & Kaul (2017); the underlying data are from SOEP. Data are for Germany.

3. By region

There are also differences in smoking rates by region, though economics rather than physical geography likely inform these differences. For example, in 2017, approximately 21% of adults living in Bavaria were current smokers, while 28% of residents of Bremen smoked. The states (Länder) with the lowest household income per person (2016), Mecklenburg-Vorpommern, Sachsen-Anhalt and Thüringen, also host some of the highest rates of smoking in Germany. Similarly, Bavaria – the wealthiest state by household income in 2016 – is also home to the lowest rates of smoking in 2017.

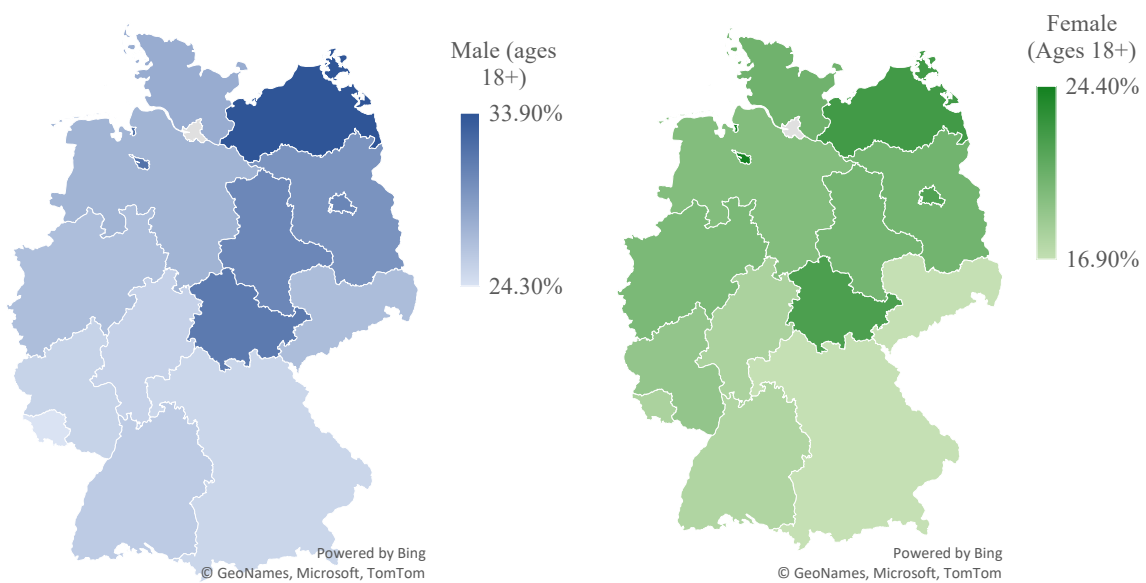
Figure 15: Smoking Prevalence by State, All Adults (2017)



Source: Tabakatlas

Gender-specific rates of smoking also vary between regions, though states with the highest rates of smoking among males also appear to host the highest rates of female smoking.

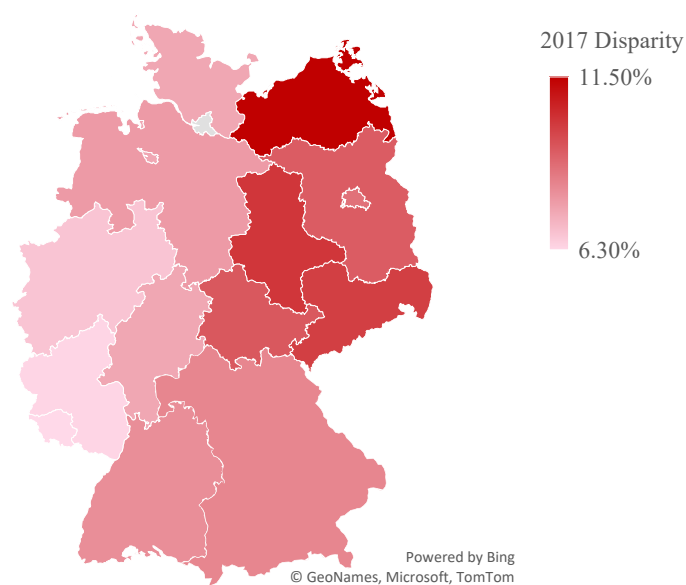
Figure 16: Smoking Prevalence among Adult Males and Females (2017)



Source: Tabakatlas

Despite some progress, significant disparities persist in the rates of smoking among German men and women, and the disparities are not uniform between regions. For example, in 2017, Mecklenburg-Vorpommern saw rates of smoking among males 11 percentage points higher than smoking among women. Comparatively, contemporaneous smoking rates for men in Saarland was a little more than 6 percentage points higher than among women. Once again, those states with the largest disparities appear to be the poorest states, and those with generally higher levels of smoking.

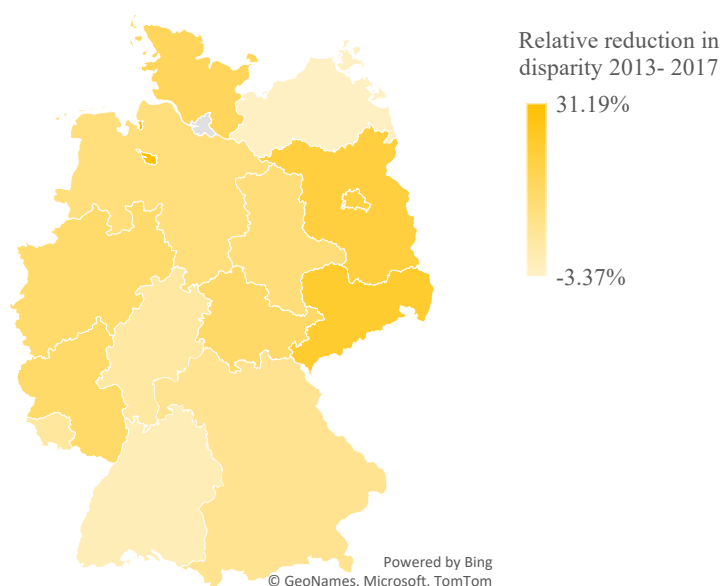
Figure 17: Disparities between Male and Female Smoking Prevalence in Percentage Points (2017)



Source: Tabakatlas

The largest reductions in smoking disparity have occurred in Bremen and Saxony, both of which saw reductions in disparity of more than 3 percentage points; relative to 2013, the disparity in each state narrowed by 31% and 23% respectively. In contrast, Baden-Württemberg saw no change to its disparity between male and female smoking, and both Hamburg and Mecklenburg-Vorpommern saw gender disparities increase fractionally in the same period. It is interesting that the largest declines occurred in states with lower household income per capita, but the state of Baden-Württemberg and Hamburg are relatively wealthy.

Figure 18: Reductions in Disparity of Smoking Prevalence between Males and Females (2013–2017)

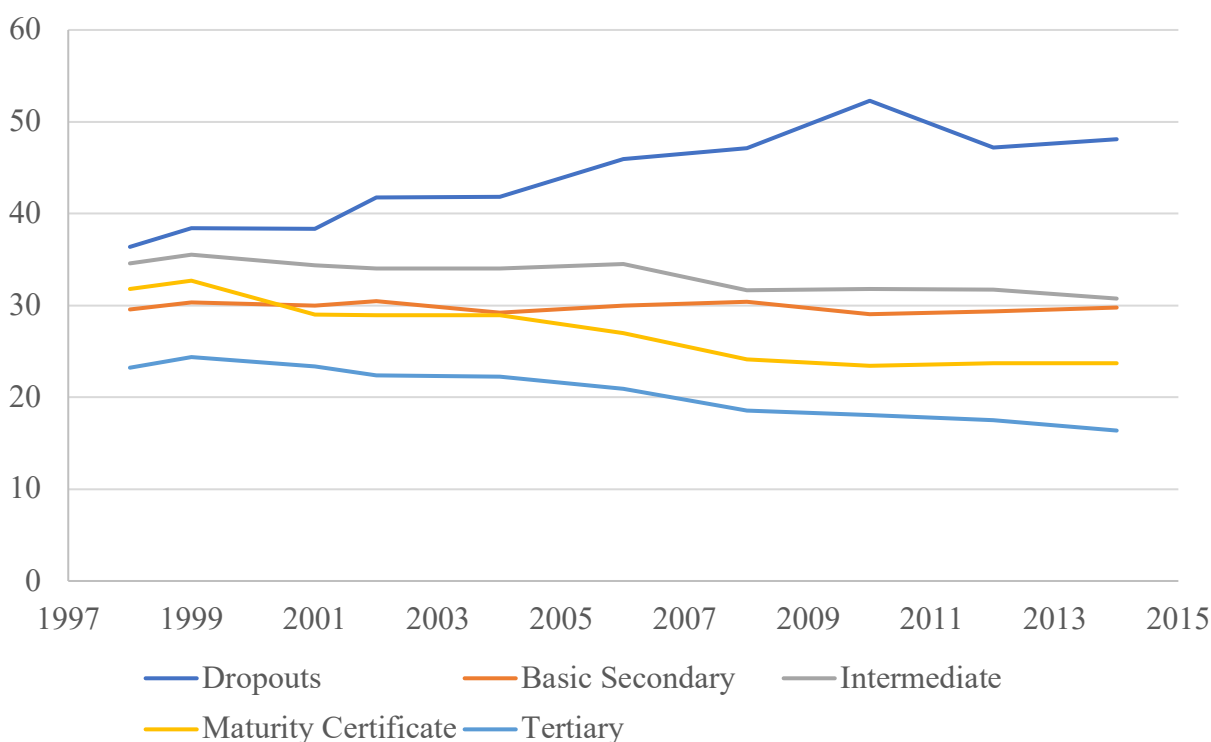


Source: Tabakatlas

4. By educational attainment

Much of the decline in smoking prevalence in recent decades has occurred among Germans with the highest levels of educational attainment.²⁶ From 1999 to 2014, smoking prevalence among Germans with tertiary education²⁷ fell from almost 25% to 16%. The opposite trend applies to school dropouts (i.e., those without a basic secondary level of attainment),²⁸ with prevalence rising from 36.6% to 48% during that time. Of course, given overall increasing levels of educational attainment, the average dropout in 1999 probably differs in many ways from the average dropout in 2014. Thus, the upward trend in smoking among dropouts may reflect the increasingly socioeconomically disadvantaged position of those not completing secondary education (for example, a greater number of immigrants from less developed countries). Between these extremes, the smoking rate barely moved over time for those with a basic secondary degree. Together with the results for income in the next section, the breakdown by education shows that, as found in many other developed countries, there is a steep “socio-economic gradient” in smoking.

Figure 19: Smoking Prevalence (%) by Educational Attainment (1997-2014)

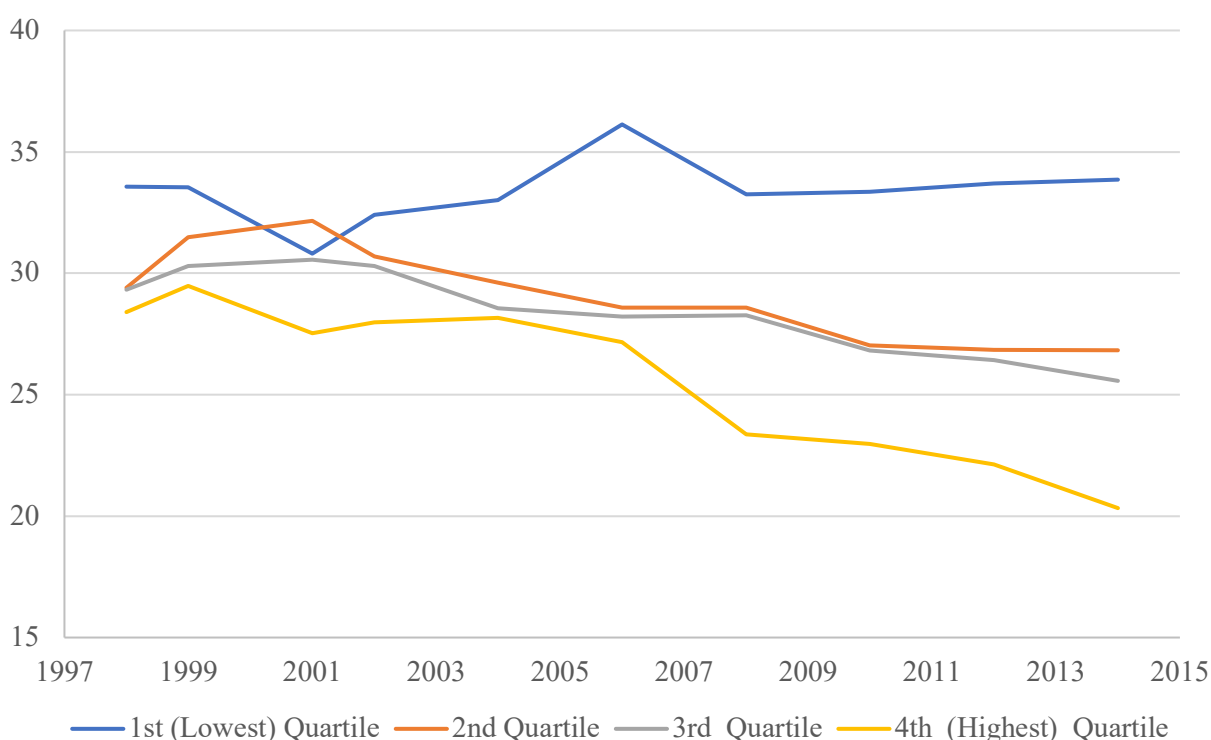


Source: Data are from Heilert & Kaul (2017) and are for Germany; the underlying data are from SOEP. Basic Secondary = *Hauptschulabschluss*; Intermediate = *Realschulabschluss*; Maturity Certificate = *Abitur*; Tertiary Educ. = *Uni Abschluss* or *Fachhochschulabschluss*.

5. By income

As in many (but not all) other countries, the prevalence of smoking is inversely related to income. Figure 20 shows trends in smoking rates by the quartile group of the income distribution. Smoking has increased since 2001 among the lowest income individuals, while it has declined the most among those with the highest income.

Figure 20: Smoking Prevalence (%) by Income (1997-2014)



Source: Data are from Heilert & Kaul (2017) and are for Germany; the underlying data are from SOEP.

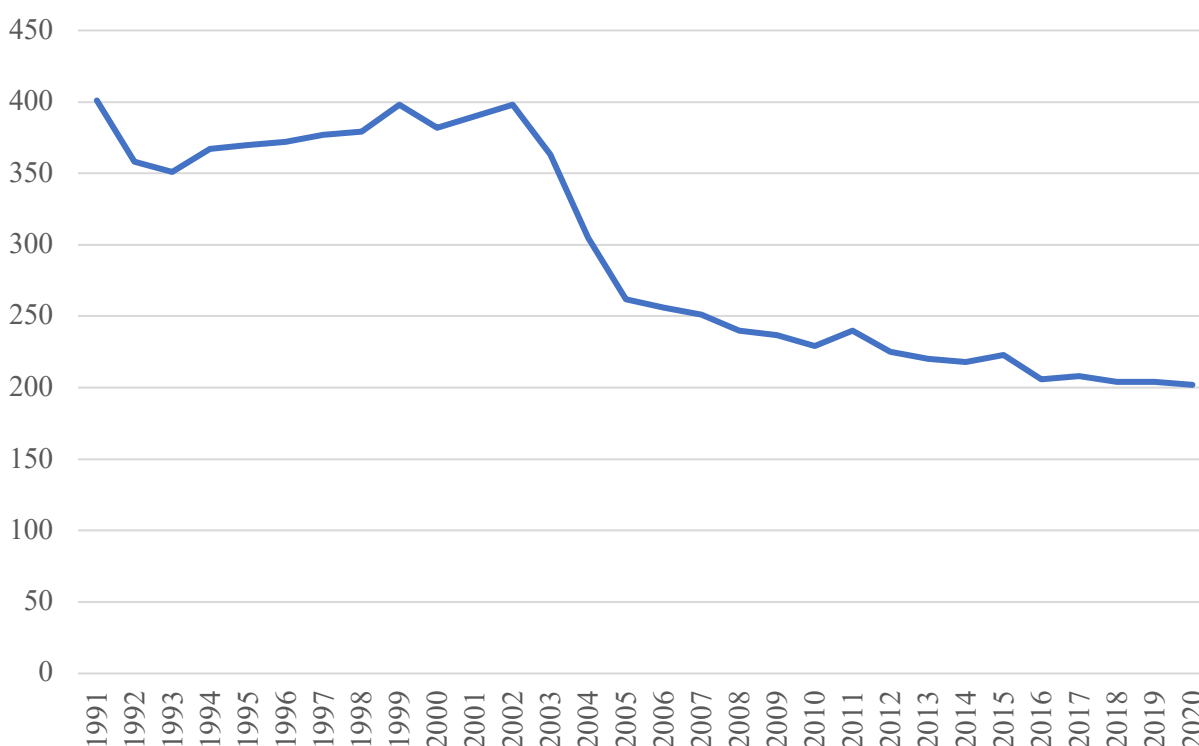
B. Consumption

1. At the national level

Public health researchers distinguish between the *extensive margin* of smoking prevalence (the number of people who smoke at all) and the *intensive margin* (how much tobacco a smoker consumes). Changes in total national consumption of cigarettes reflect the sum of changes in both margins, although changes in the extensive margin typically account for the largest part of decline in consumption. Between 1999 and 2019 the number of cigarettes consumed by German smokers each day approximately halved from 398 million sticks to 202 million sticks. Figure 21 depicts that reduction over time.

Note that the majority of that decline has occurred between 2000 and 2005, a time of large cigarette tax increases. Note further that, despite being presented as consumption statistics by the government agency calculating the time series, the data actually reflect sales of taxed (and therefore licit) cigarettes. No attempt is made to account for any other sources. Illicit trade, as is discussed in section VI.B.3, is a non-trivial factor in Germany. As noted by analysts of earlier tax increases, part of the decline in apparent consumption when the taxes rose is likely due to an increase in illicit sources of cigarettes.²⁹

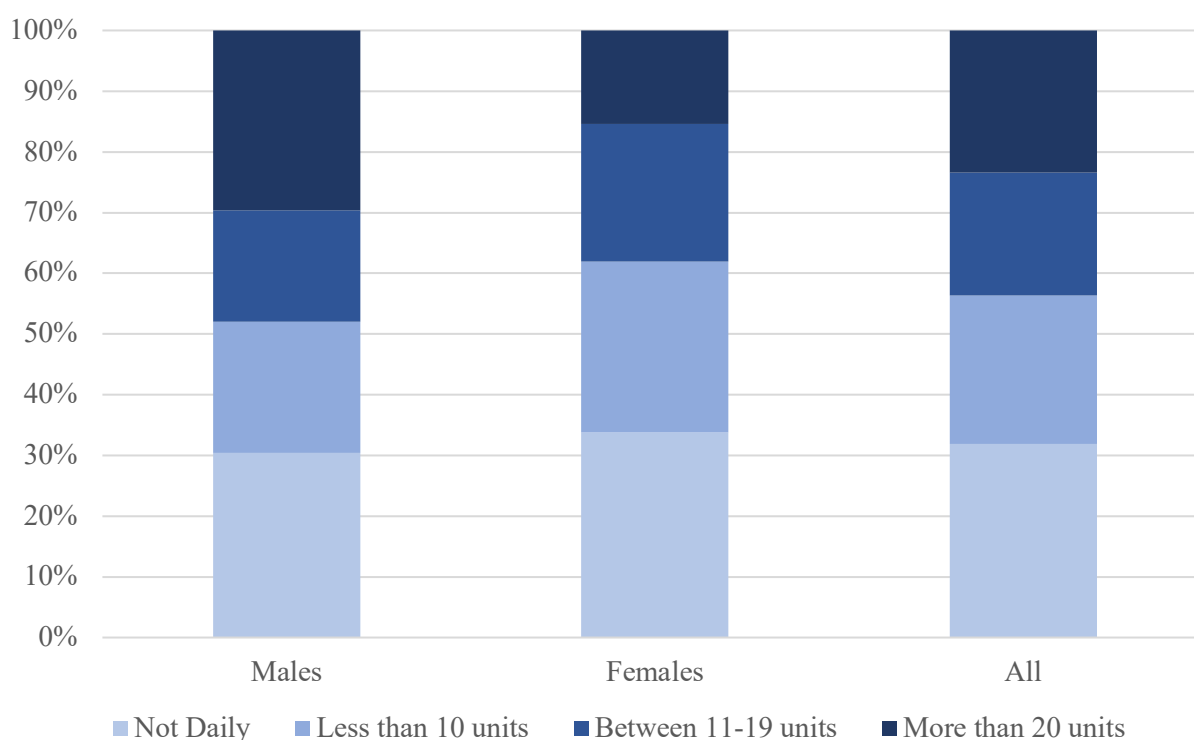
Figure 21: Cigarettes Consumed Daily from Taxed Sources (Millions) (1991–2019)



Source: Statista - <https://www.statista.com/statistics/507124/daily-cigarette-consumption-germany/>. Original source: https://www.destatis.de/DE/Themen/Staat/Steuern/Verbrauchsteuern/Publikationen/Downloads-Verbrauchsteuern/absatz-tabak-jahr-2140911197004.pdf?__blob=publicationFile. Data are for Germany.

A little over half the smokers in Germany (56%) say that they consumed 10 or less cigarette-equivalent units of tobacco each day in 2018 (Figure 22). As well as being less likely to smoke, women appear to smoke less frequently than men. Proportionately, the consumption of more than 20 cigarette-equivalent units of tobacco per day is more common among men than women (29.6% of male smokers versus 15.4% of female smokers).

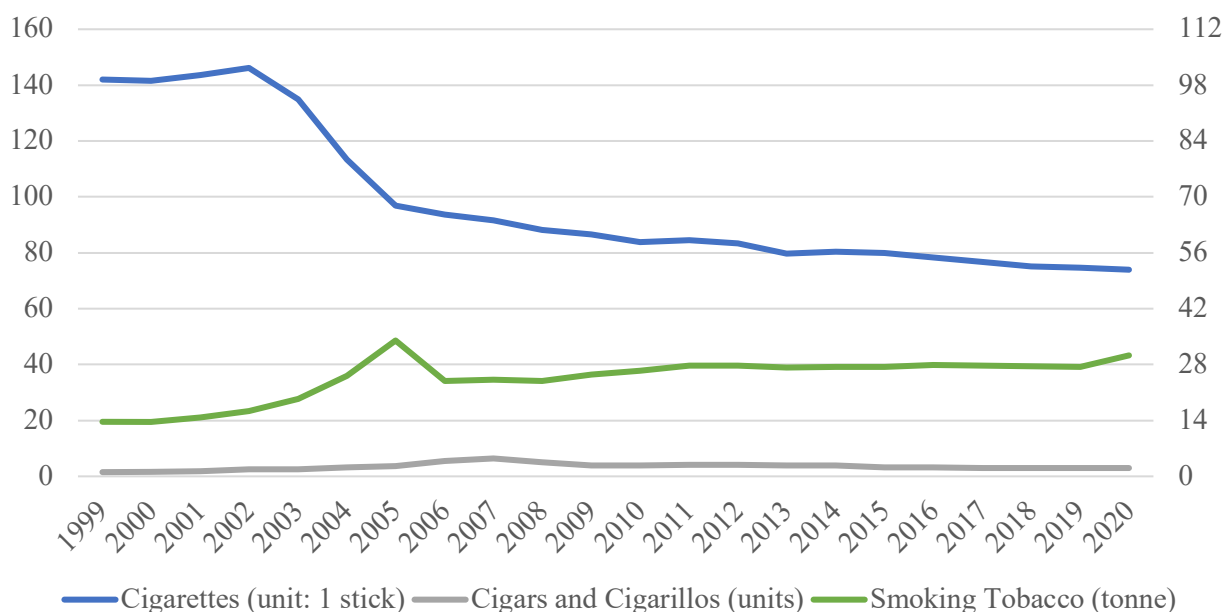
Figure 22: Daily Consumption of Tobacco (Cigarette Equivalent Units), 2018



Source: Epidemiological Survey of Addiction. Data are for Germany.

German tobacco consumers buy more manufactured cigarettes than any other form. Loose tobacco sold as roll-your-own (RYO) cigarettes is taxed differently to manufactured cigarettes and smokers may switch to RYO cigarettes as a cost-saving measure. The uptick in 2020 in purchases of smoking tobacco reflects two events. The pandemic led to border closures, shutting off the supply of cheaper cigarettes from Poland or Czechia, which pushed poor smokers toward RYO cigarettes. Second, the closure of shisha (waterpipe) bars in 2020 led some consumers to purchase their own smoking tobacco for use at home.³⁰ The market share of fine-cut tobacco, in equivalent consumption units, rose markedly while that of pre-made cigarettes dropped rapidly between 2002 and 2005. The average tax rates are much lower on smoking tobacco, which includes both fine-cut and pipe tobacco, (used for shisha). See Figure 29. Shisha's increasing popularity during the early 2000s, probably results from increasing cigarette taxes. Cigars and cigarillos are not nearly as popular as cigarettes or smoking tobacco, although far more cigarillos are sold than cigars by a ratio of 19 to 1, an indication that cigarillos may be used as replacements for cigarettes, since cigarillos have much lower taxes than cigarettes (see Figure 29). The two most popular brands are Dannemann Moods and Goldfield, produced by German companies Dannemann and Cigarrenfabrik GmbH, respectively (Euromonitor, 2021e).

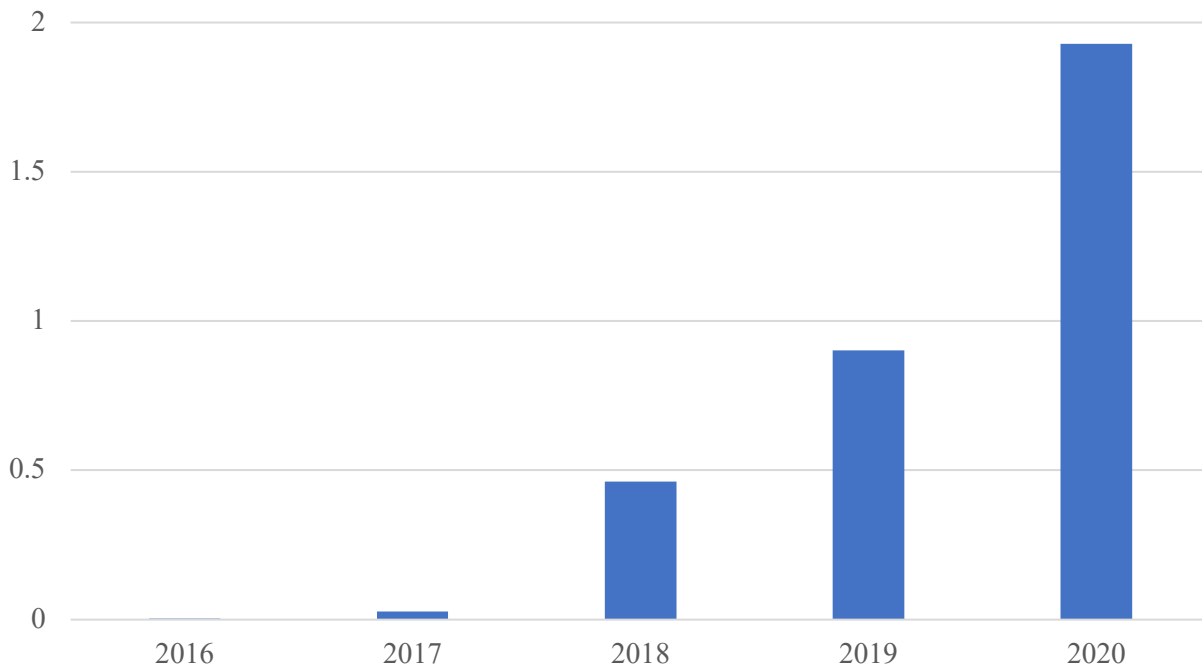
Figure 23: Tobacco Sales (1999–2020), Billion Units (Left), Thousand Tonnes (Right)



Source: Euromonitor Passport. The left and right axes are scaled to reflect an equivalence of 0.7 grams smoking tobacco per cigarette (a ratio adopted in OECD statistics). Data are for Germany.

In addition to the main categories shown in the figure above, there are also smaller markets for heated tobacco, e-cigarettes, and oral nicotine pouches. Purchases of heated tobacco devices and sticks have grown rapidly since introduction in 2016, although by 2020 there were still only about 2 billion sticks sold (see Figure 24).³¹ Thus, for each stick of heated tobacco consumed in Germany, there are about two packs of cigarettes consumed. Data are not available on how many units of e-cigarettes and e-liquids were consumed, but the market for ENDS in terms of revenue was surpassed by heated tobacco in 2020. There is also a new, small market for tobacco-free oral nicotine pouches (50 million euros in sales during 2020, about half of which is BAT's Velo brand).³² Analysts expect the pouches to be banned this year or next unless an EU regulation is promulgated that permits them. Bavaria and Lower Saxony have already banned the pouches, and some stores in other regions are voluntarily pulling the products from their shelves. Since many of these products are flavored, they are prime candidates for further state-level or a national ban in Germany, along with flavored e-cigarettes (Euromonitor, 2021c).

Figure 24: Sales of Heated Tobacco Sticks, Million Units (2016–2020)



Source: Euromonitor Passport. Data are for Germany.

The chart below depicts the distribution of retail cigarettes sold in Germany between 2002 and 2020. Note that while the majority of cigarettes were (and continue to be) sold in stores, until 2007 more than 20% of cigarettes were sold via vending machines. However, the passage of the National Law for the Protection of Minors restricted vending machine sales for youth under 16 years of age via electronic verification. The law came into effect on January 1, 2007 and appears to have had an immediate and lasting effect reducing the market share of automated sales.

Figure 25: Retail Distribution of Cigarettes (2002–2020)



Source: Euromonitor. Data are for Germany.

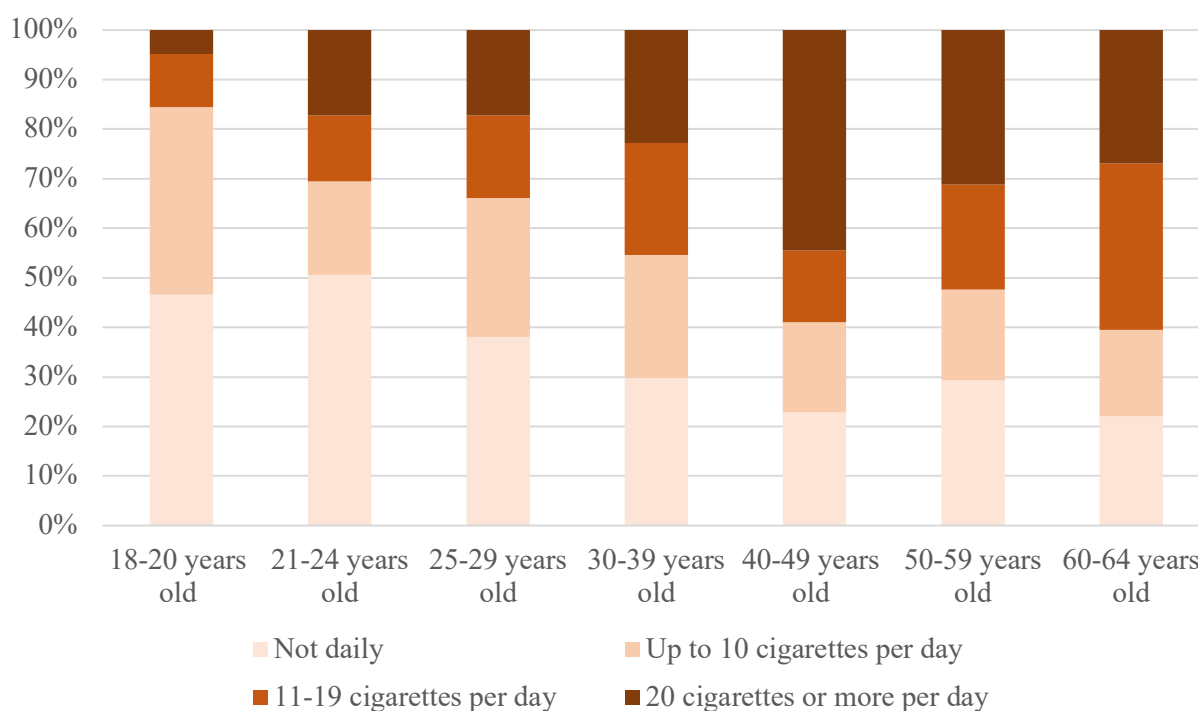
2. The effect of the COVID-19 pandemic on consumption

As shown above, the aggregate prevalence of smoking and total consumption of cigarettes have been declining since the early 2000s. However, the pandemic year of 2020 saw the retail sales volume of cigarettes decline only slightly, and the total number of smokers increased a bit.³³ Evidence of changes in the consumption of tobacco and nicotine products during the pandemic frequently comes from self-reported survey data and is therefore vulnerable to reporting biases. Nonetheless, available evidence suggests that smokers had a bifurcated response to the pandemic, with both increases and decreases in smoking frequency reported.³⁴ Elsewhere (Europe, the U.S., and the UK), increases in smoking frequency have apparently been driven by changes in employment or income,³⁵ personal stress,³⁶ isolation,³⁷ reductions in time spent in areas subject to smoke-free laws, reduction in environmental triggers for smoking behaviors, and concerns about health; all resulting from the pandemic.³⁸ German media has also reported that working from home, coupled with the stress of the pandemic, led some smokers to increase their consumption. The social and personal stress from the pandemic may also have caused some former smokers to relapse into using cigarettes again.³⁹

3. Consumption by age and gender

As with prevalence, consumption of cigarettes varies by age for both male and female smokers. Among men, smoking frequency increases relatively steadily with age, with the heaviest consumption (smoking 20 or more cigarettes per day) concentrated among smokers in their forties, before declining again in the fifties and early sixties (Figure 26).

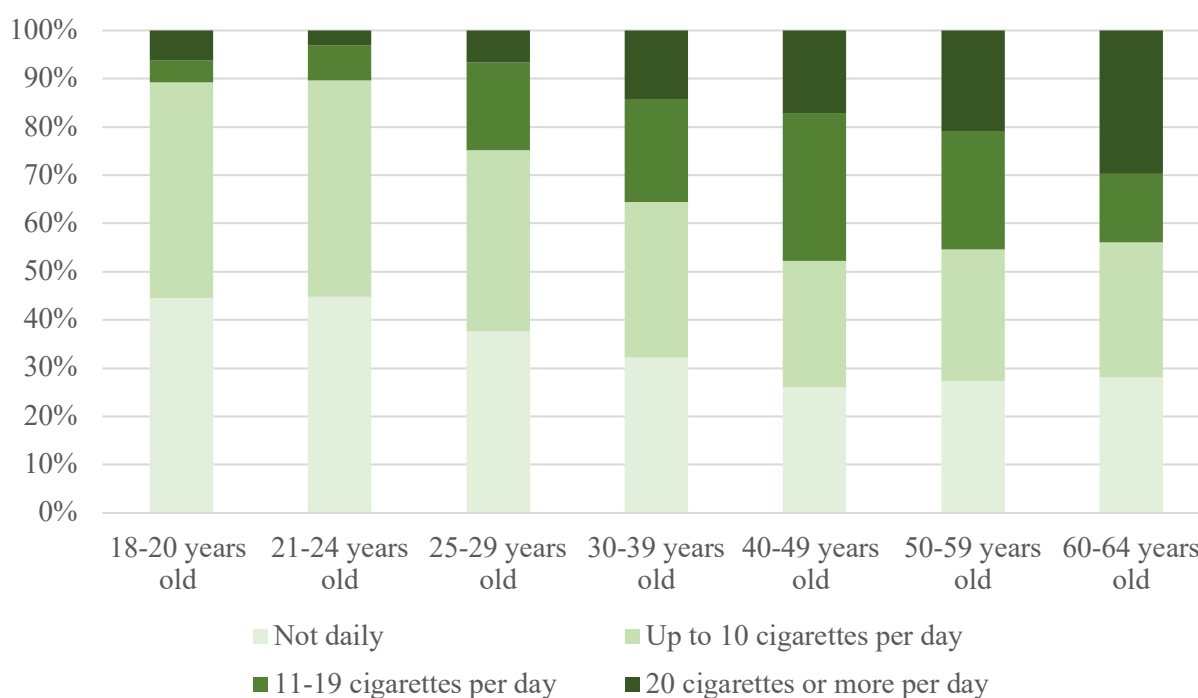
Figure 26: Daily Cigarette Consumption of Male Smokers, by Age (2017)



Source: 2020 Tobacco Atlas (Tabakatlas 2020: 44-45). Data are for Germany.

Among women, a similar trend is apparent (Figure 27), but there appears to be a slower increase in consumption frequency before female smokers reach their thirties, and unlike males, the portion of female smokers consuming more than 20 cigarettes per day continues to rise with age across the cohort, suggesting the need for interventions to be targeted to different age groups and genders.

Figure 27: Daily Cigarette Consumption of Female Smokers, by Age (2017)



Source: 2020 Tobacco Atlas (Tabakatlas 2020: 44-45). Data are for Germany.

4. Waterpipes

Immigrants to Germany bring tobacco habits formed in their homelands, introducing them to their new communities. Germans now have access to waterpipes, also called hookahs and the tobacco used with them, known as shisha. Of the overall German population in 2019, 1.8% identified as current waterpipe tobacco users and 13% had ever used a waterpipe tobacco product. First- and second-generation immigration status, male sex, and smokers and/or e-cigarette users are more likely to use waterpipe tobacco products.⁴⁰ More than 26% of Germans are either first- or second-generation immigrants, amounting to 21.9 million people. No literature covering an association between waterpipe tobacco use and reduced smoking was available, but a 2020 meta-analysis suggests waterpipe tobacco usage may be a gateway to combustible cigarette smoking.⁴¹

Germany has limited the glycerin content of flavored waterpipe tobacco, though other sweeteners have been substituted and flavored alternatives remain on the market.⁴² Relative to other tobacco products, waterpipe tobacco has historically enjoyed lower taxation. However, a 2021 amendment of the Tobacco Tax Law will impose higher taxes on waterpipe tobacco, and waterpipes themselves as of January 1, 2022.

V. Regulatory Profile

This section discusses governmental authorities involved in regulating tobacco and reviews the main regulations.

A. Regulatory authorities

1. Federal legislation

As a federal republic, Germany has law and regulation at both the national and state levels. The interplay of federal and state power is evidenced in the process of the federal legislation, which requires the approval of bodies of both federal and state representatives to pass any bill into law.⁴³ The involved entities are the Federal Government, the National Parliament (Bundestag) and representatives of each state (Bundesrat). All three bodies can introduce a new bill, though the Federal Government draws up most of them. In the latter case, the Bundesrat has six weeks to add any comments before the Chancellor delivers the bill to the Bundestag, where three debates (readings) are held and amendments can be proposed.⁴⁴ If the bill obtains the necessary majority, it then must also pass the Bundesrat with a majority and review by the President.⁴⁵ The law is ultimately published in the Federal Law Gazette (Bundesgesetzblatt).⁴⁶

2. Legislative responsibility for smoking and tobacco regulations

Germany's regulations on smoking and tobacco emerge from a patchwork of EU, federal, and state authorities. However, the German constitution (Grundgesetz) precisely regulates the assignment of legislative responsibilities under the general principal that all legislative power vests in the states unless the constitution explicitly transfers it to the federal government.⁴⁷ Under a German constitutional doctrine known as competing legislative competence, the federal states may only legislate on a subject if the federal government declines to regulate the topic on a national scope.

The following is a brief outline of the legal bases for legislative power to regulate smoking and tobacco at each level.

For federal law:

- The Federal Non-Smoker Protection Act, banning smoking from federal facilities and public transport, is grounded in Article 74 § 1(19) of the German constitution, which allows for measures against diseases that endanger the public or are communicable and regulating “narcotics and poisons” at the federal level. Competence is also given by § 1(20) concerning the “law on alcohol and tobacco”, as well as § 1(24) ensuring air pollution control.⁴⁸

- A national ban on smoking in indoor workplaces is found in Article 5 of the Workplace Ordinance. Here, Article 74 § 1(12) applies, assigning employment protection as a national duty. Interestingly, employers still have some leeway implementing this (Art. 5 § 1) and specifically restaurateurs must only take protective measures to the extent that the nature of the business and the type of employment allow it.⁴⁹
- The Youth Protection Legislation, banning sales of tobacco products to youth below the age of 18 and well as criminalizing usage of such products by youth, is founded on Article 74 § 1(7), which extends concurrent legislative power to matters involved in the public welfare.

At the state level, there are 16 different bans on smoking in public, for example in buildings or restaurants. The states have authority to promulgate their own such laws since the protection of health is mainly listed as a competing legislative competence, implying that since the federal government does not regulate smoking in public the matter is left to the states.⁵⁰

The European Union is an internal European market able to pass EU-wide directives and laws for customs and foreign trade policy as exclusive competences for all member states, legitimatizing the tobacco regulations concerning trade. Consumer protection is a topic only applicable to products and actions crossing national borders. Thus, a smoking ban in restaurants cannot be in the EU's jurisdiction since the smoking behavior in a German restaurant does not affect anyone outside of Germany. Tobacco advertising in print and digital media on the other hand can cross borders very easily and is consequently part of the EU's consumer protection responsibility.⁵¹

3. Responsible authorities

The EU Tobacco Products Directive required every member state to implement the regulations published in the directive and to provide a comprehensive list of the authorities responsible for implementation and enforcement.⁵² At the national level, this responsibility is assumed in Germany by the Federal Ministry of Food and Agriculture which in turn is home to the Federal Institute for Risk Assessment (BfR) and the Federal Office of Consumer Protection and Food Safety. The BfR is responsible for “the assessment of existing and the identification of new health risks, the drawing up of recommendations on risk reduction,”⁵³ mainly by publishing expert reports and opinions. The Federal Office of Consumer Protection and Food Safety coordinates and undertakes the surveillance and risk management of consumer products including tobacco products.⁵⁴

Germany's heterogenous administrative apparatus is apparent in the assignment of authority by each federal state over market surveillance of tobacco and related products. Four states have a state ministry, while the others simply delegate the surveillance to an office in the county seat.⁵⁵

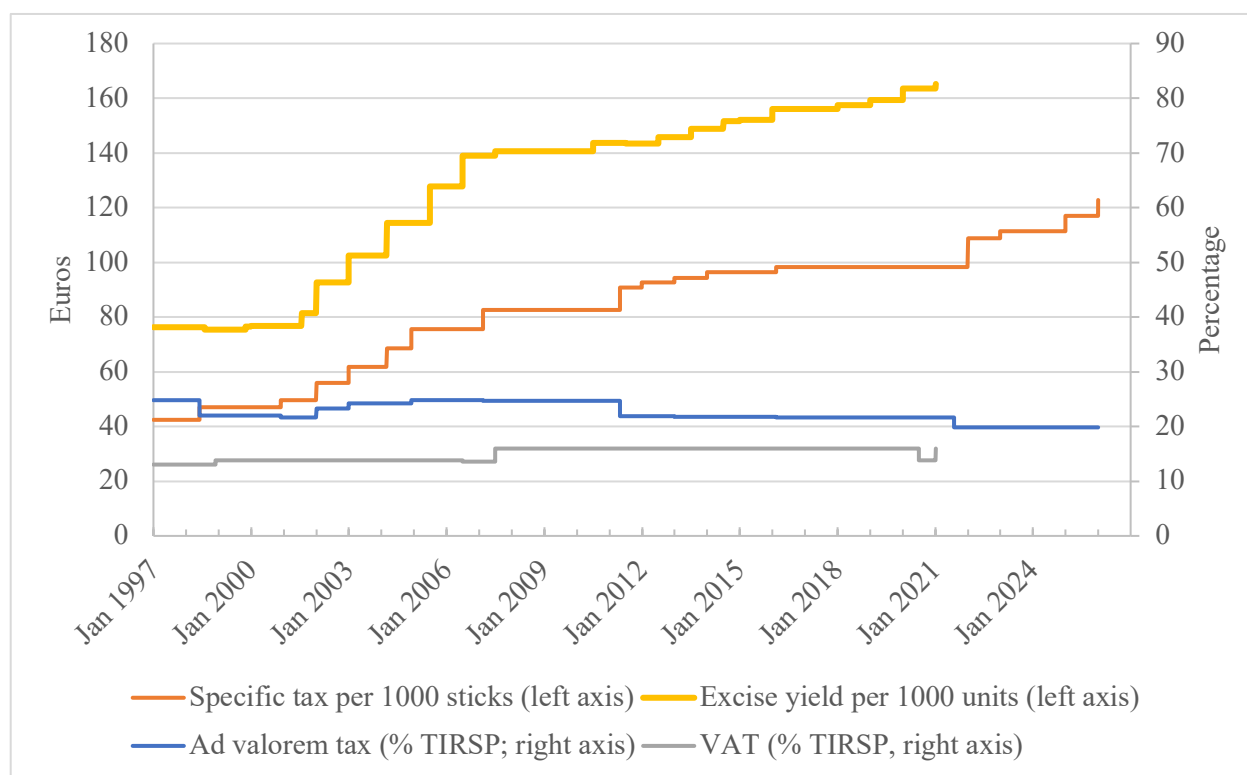
B. Regulations

As recently as the turn of the millennium, Germany was described by some public health researchers as a “paradise” for the tobacco industry.⁵⁶ Smoking was allowed in many public spaces unlike any other nations in Western Europe, underage smoking was common, cigarette vending machines were easy to find, and regulation of advertising was left to the industry. However, the situation has changed in the past two decades, as this section reviews.

1. Tax

Tobacco has long been a special source of tax revenue in Germany, as in many other countries. The excise tax structure includes both specific (fixed amounts per unit sold) and ad valorem (percentage of sales price) components. The tax rates and excise tax yields for cigarettes since 1997 are shown in the chart below. (A complete list of all tobacco taxes and rates are in the appendix.) During the time shown in Figure 28, we see a slight shift toward specific taxes and away from ad valorem taxes; in the decade preceding the period shown, that shift was much more dramatic. In 1990, the specific excise tax on cigarettes was only 30.5 ECU⁵⁷ per thousand units (more than 25% lower than in 1997) and the ad valorem tax rate was 31.5% (about 50% higher than in 1997).⁵⁸ The shift toward specific taxes may be driven by a preference of public health officials and regulators because they (alone or in mixed systems including ad valorem taxes) have been empirically found to lead to the highest prices in cross-country comparisons.⁵⁹ On the industry side of political economy, manufacturers and retailers of high-quality products (i.e., those with likely to most political clout) in the oligopolistic tobacco industry prefer specific taxes because they dampen the demand for cheaper, lower-quality products from competitors.

Figure 28: Cigarette Tax Rate and Yield (1997–2024) EUR (Left), % (Right)



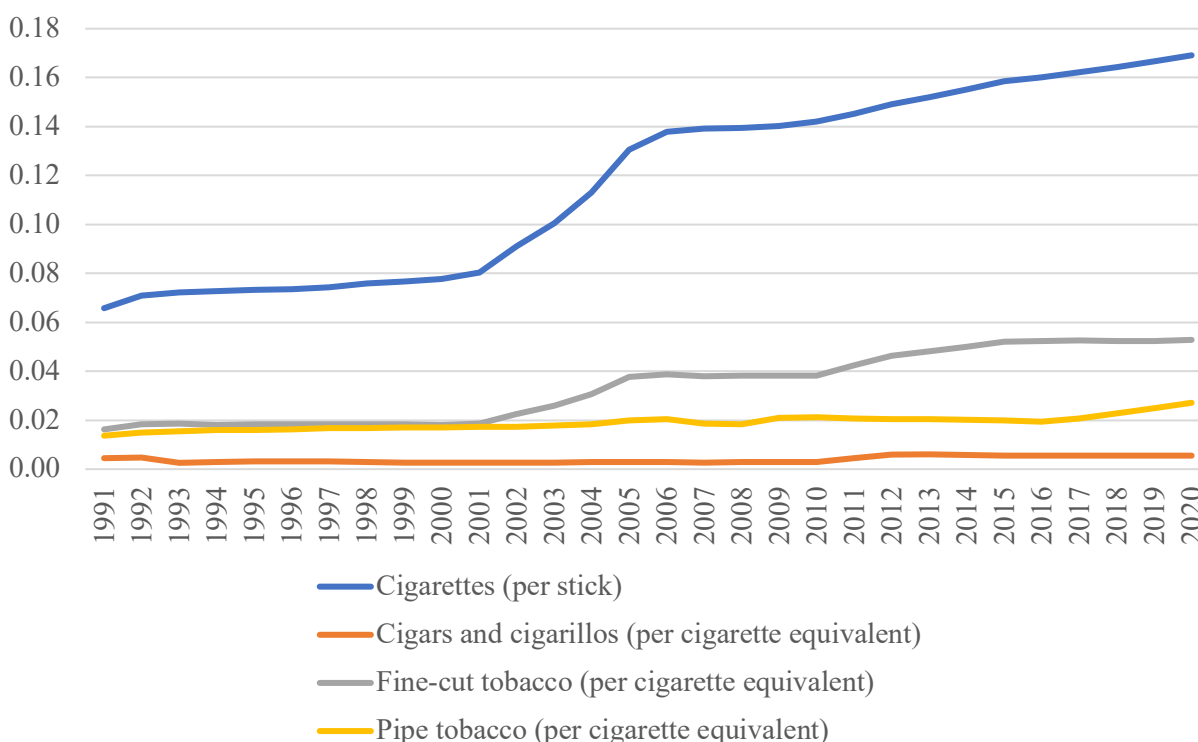
Source: European Commission; BGBl. I 2001 p. 3436; §2 of old versions of the Tobacco Tax Act using <https://www.buzer.de/gesetz/137/al0-9130.html>; BGBl. I 2006 p. 2830; §2 of Tobacco Tax Act; Tobacco Tax Modernization Act. TIRSP is tax-included retail sales price. Future tax rates are those set by current legislation and are subject to revision. Before 1999, specific tax rates were denominated in Deutschmark and the official exchange rate in place when Germany adopted the Euro was used to convert the currency for the early years of the chart. The reduction in the VAT in the second half of 2021 was due an economy-wide stimulus package during the pandemic.

More striking than the composition of the taxes, however, is the large increase in the excise yield over the years shown, a measure of total taxes on a pack of cigarettes. Roughly speaking, the total tax on cigarettes doubled between 1997 and 2020. At the beginning of this period, cigarette taxes were low in Germany compared to other EU countries.⁶⁰ The increase reflects both the upward ratcheting of the required minimum excise tax yield mandated by the EU and the desires of German tax authorities to exceed the minimum. However, the excise taxes in Germany do not exceed the EU-wide minimums by much.⁶¹ The increases explain a large part of the upward trend in German cigarette prices over the past two decades, especially since tobacco taxes tend to be passed through by the industry at a multiple greater than one (so-called “overshifting”), especially with specific taxes and for premium products.⁶² The real price of cigarettes remained roughly constant from 1983 through 2001, after which it increased sharply,⁶³ coinciding with the tax increases seen in the early 2000s in the figure above. Current law already sets out intended tax increases through 2026. The tax law passed in 2021, as discussed below, put in place near yearly increases in the specific tax. While the new taxes are a change from the

stable tax structure since 2015, the increases mainly bring the specific tax back in line with its average trend line since about 2005 (as can be seen in the chart above).

The next figure shows the average taxes per cigarette-equivalent unit by product type, allowing comparison of the relative taxes on cigarettes, cigars and cigarillos, RYO cigarettes using fine-cut tobacco, and pipe tobacco. It is clear that a nicotine consumer can avoid a lot of taxation by switching away from manufactured cigarettes. The only product that reflects a similar trend in taxation, in the sense that the tax rises whenever the tax on cigarettes rises, is fine-cut tobacco. However, at the size of 0.7 grams per RYO cigarette (a figure used in computations by the WHO), the taxes on fine-cut tobacco were about a third of those for cigarettes.

Figure 29: Tobacco Taxes in Euros, By Category (1991–2020)



Source: Destatis. The trends shown are for average revenue per cigarette stick equivalent, where a cigarette is assumed to hold 0.7g of tobacco and the average cigar/cigarillo is assumed to hold 4g of tobacco (and thus 5.7 cigarette equivalents). Source data are from Destatis (Statistisches Bundesamt) Table 73411-0001, “Taxation of tobacco products: Germany, years”, from which the tax rate equivalents are computed by the authors.

Although multiple studies demonstrate that tobacco taxes reduce consumption (a 10% increase in tobacco prices results in about a 4% decrease in consumption)⁶⁴ the industry has consistently countered with concerns about illicit trade in tobacco products (ITTP), leading to criticism from the academy and public health professionals that the tobacco taxes were not as significant a driver of ITTP as is frequently claimed.⁶⁵ However, the association between greater

cigarette taxes and ITTP has in fact been corroborated.⁶⁶ Policy-makers may decide that the reductions in consumption resulting from increased taxation justify tax increases anyway, but the threat of ITTP and plans to combat it should be properly considered in the design of tobacco control policies.

2. Advertising restrictions

In Germany, tobacco advertisers have enjoyed freedom from regulation for longer than many other European countries. The UK and Czechia implemented extensive bans in 2002.⁶⁷ The freedom was granted, in part, because the industry signed a voluntary, self-regulatory agreement with the government in the 1960s to limit advertising in certain ways that were not made public. The legacy of industry self-regulation continues to be felt – until loopholes are closed by the legislature. In fact, Germany is currently the only country in the European Union that still allows unrestricted outdoor advertising for tobacco products.

A recent amendment of the Tobacco Products Act filled some gaps in the advertising bans in Germany. The products covered by the bans now include e-cigarettes, regardless of whether they contain nicotine, as well as refill containers and herbal smoking products. In addition, new restrictions were added. At times leading up to January 1, 2021, the following actions have been banned:

- Advertising in print and internet, including sponsoring in radio and television;
- Cross-border sponsoring (tobacco companies may not sponsor events or activities that have a cross-border impact);
- Misleading advertising (health benefits, taste, environmental benefits, etc.);
- Advertising for these products in cinematic films accessible to minors;
- Commercial gambling for these products (especially lotteries);
- Free distribution of cigarettes, roll-your-own tobacco and water pipe tobacco outside the premises of a specialized trade.

Starting January 2022, outdoor advertising will be banned for conventional tobacco products, with bans for heated tobacco beginning in January 2023 and for e-cigarettes and refill containers as of January 2024. The only remaining exception will be the placement of ads on the property of specialized tobacco stores.⁶⁸

3. Age limits

As of September 1, 2007, Article 10 of the Protection of Young Persons Act bans the sale of tobacco products to people under 18 and prohibits them from smoking in restaurants and public spaces.⁶⁹ Germany raised the age-of-sale from 16 to 18 around ten years later than the

Scandinavian nations and only when many other Central European countries such as Spain, England and France did so.⁷⁰ The German age restrictions were expanded in 2016 to include other nicotine-containing and nicotine-free products, such as e-cigarettes and e-shishas.⁷¹

Selling tobacco products to adolescents or allowing them to smoke in restaurants, tobacco shops or in public spaces violates the law and commands a minimum fine of 1,000 EUR for business owners (200 EUR for private persons) but can fines can be levied up to 50,000 EUR (Art. 28 § 5 Youth Protection Act). As is common in Germany's federal system, seven states currently have their own catalogue of fines.⁷²

4. Product authorization and characteristics

To ensure that marketed tobacco products conform to the EU's Tobacco Products Directive and other quality standards, Germany regulates the introduction, ingredients, packaging, and allowed quantities in great detail with the Tobacco Products Act and Tobacco Products Ordinance.

Authorization and notification

Before their products enter the German market, manufacturers or importers of cigarettes and chewing tobacco must first notify the national authorities through the electronic EU-CEG portal with detailed information on their company, measurement of the product's emissions, the ingredients, and their reasons for inclusion in the product (Article 6 TPO). This is to be done for every brand and tobacco product type.

E-cigarettes and refills must be registered through EU-CEG six months before launch. The rule also applies to nicotine-free e-cigarettes as of January 2021. In addition to the notification requirement, a detailed description of the production process, the refill mechanism and further toxicological information on the ingredients and their effects on health must also be submitted (Article 24 TPO).

Manufacturers and importers of heated tobacco products must apply for approval for any novel tobacco product at the Federal Office for Consumer Protection and Food Safety (Article 12 TPA). Relevant studies on the addictive effects of the product are to be included with a description, use instructions and ingredients, as well as market research and expected effect on smoking cessation. The distinction between smokeless and smoked tobacco products will be important to the approval process in future regulation (Article 9 TPO). Once approved, the annual sales figures are to be submitted to the EU-CEG portal each year.⁷³

Since May 2019, all cigarettes and fine-cut tobacco must be recorded in an EU-wide track-and-trace system using a unique identifier for every product. Consequently, the entire path along the (legitimate) supply chain can be digitally traced for goods produced and sold in the EU.⁷⁴ In Germany, the Bundesdruckerei⁷⁵ is the central issuing office for these unique identifiers.

As of 2024, the mandatory tracing will be expanded to include all other tobacco products such as cigar and pipe tobacco.⁷⁶

Ingredient Regulations

Currently prohibited ingredients include:⁷⁷

- For cigarettes and fine-cut tobacco: Substances that give a characteristic aroma (e.g., vanilla).
- For smoking tobacco products: Additives that facilitate inhalation or facilitate nicotine intake (e.g., menthol).
- For all tobacco products:
 - Vitamins and additives that suggest a health benefits or lower health risks (e.g., amino acids such as taurine).
 - Stimulating substances (e.g., caffeine).
 - Additives that color the emissions (e.g., make them lighter and thus less visible).
 - Additives which have CMR properties (carcinogenic, mutagenic, reprotoxic) in unburned form.

Packaging and Quantity Regulations

Textual health warnings have been placed on cigarette packaging since 1983, but for the first several decades they were weakly worded by current standards.⁷⁸ The intensity of the health warnings was ratcheted up to “mild” levels in 2003 following the EU’s original Tobacco Products Directive.

As of May 2016, the Tobacco Products Ordinance requires cigarettes, fine-cut tobacco, and hookah tobacco to carry large picture warnings in addition to text. More specifically, two general text-warnings “smoking kills” and “tobacco smoke contains over 70 substances that have been shown to cause cancer” are to be displayed (Article 12 TPO). An additional combined text-image warning must occupy 65 percent of the front and back sides of the packaging (Article 14 TPO), where a “shocking or repulsive” picture combined with a text are to be taken from the EU’s database. Other tobacco product including e-cigarettes and refill tanks are less heavily regulated than cigarettes; only specific text warnings are mandatory. Misleading labeling about the product’s risks and benefits is prohibited (Article 18 § 2 TPA).⁷⁹

Under Article 10 of the Tobacco Products Act, cigarettes sold in Germany must be in packs with a minimum of 20 sticks, while units of fine-cut tobacco must contain at least 30 grams.

5. Smoke free laws

While Germany's smoke-free laws still lag behind those of many other EU member states, laws have been strengthened and now provide more protection. In this section, the national laws are reviewed first, following by the state laws.

National

The 2007 Federal Non-Smokers' Protection Act bans smoking in federal buildings, public transport, and train stations, allows smoking in physically separate rooms.⁸⁰ In a 2012 statement, the federal government determined that vaping is covered by the Act (the German word *rauchen* used in the Act was judged to apply to vaping as well as smoking).⁸¹

States (Länder)

Due to the constitutional details of the German federalist system, the German national government can ban smoking only in public spaces that fall under its limited jurisdiction, leaving all other legislative power to each of the 16 states. The states may impose smoking bans for public facilities, health, cultural and educational institutions, restaurants, and bars. During 2007 and 2008, each German state issued its own Non-Smokers' Protection law.⁸² The stringency of these laws and their exceptions vary widely.

Among the states' smoke free laws, North Rhine-Westphalia, Bavaria, and Saarland appear to have the most comprehensive protection for non-smokers.⁸³ These states do not allow any exceptions for smoking in restaurants and bars (which are the venues with the greatest variance in protections under the state laws). In all other states, a separate room may be designated for smoking, usually off-limits to minors. Many states allow small restaurants and bars to have a smoking area that is not a separate room as long as it is clearly labeled, no meals are served, and it is inaccessible to those under 18. Further exceptions may apply to festival tents and outdoor catering or shisha lounges.

Smoking in gymnasiums and at swimming pools is banned without any exceptions for all 16 states whereas hospitals and rehabilitation centers are all equipped with exceptions regarding the patients' path of therapy. State governments have broadly outlawed smoking in day care centers and facilities for minors, but Rhineland-Palatinate permits facilities to allow smoking if a ban is conceptually unjustifiable due to the mission statement.⁸⁴ Baden-Wuerttemberg remains the only state to allow teachers and students of age to use approved smoking areas on school grounds.⁸⁵

Germany's legislation on smoke-free spaces expresses hesitance to broadly prohibit smoking in areas where non-smokers will be affected. Each new ban has exceptions and exemptions. To illustrate Germany's smoke free laws in context, the table below compares them to fellow EU-members Ireland and Spain.

Table 2: Smoke-Free Regulations in Germany, Spain and Ireland (2021)

	Germany		Spain		Ireland	
	100% Smoke Free	Some Restrictions	100% Smoke Free	Some Restrictions	100% Smoke Free	Some Restrictions
All workplaces		✓		✓		✓
Government facilities		✓	✓		✓	
Private offices		✓	✓		✓	
Hospitals		✓	✓		✓	
Residential healthcare facilities - public areas		✓		✓		✓
Non-residential healthcare facilities		✓	✓		✓	
Childcare facilities/preschools	✓		✓		✓	
Primary and secondary schools	✓		✓		✓	
Universities/vocational facilities		✓	✓			✓
Shops		✓	✓		✓	
Cultural facilities		✓	✓		✓	
Indoor stadium/arenas		✓	✓		✓	
Bars/pubs/nightclubs		✓	✓		✓	
Casinos		✓	✓		✓	
Hotels/lodging - public areas	✓			✓	✓	
Hotels/lodging- guest rooms		✓		✓		✓
Prisons/detention facilities - public areas		✓		✓		
Trains, buses and other shared ground transportation		✓	✓		✓	
Taxis	✓		✓		✓	
Aircraft	✓		✓		✓	
Watercraft		✓	✓		✓	
Transport facilities		✓	✓		✓	

Source: <https://www.tobaccocontrol.org/legislation/factsheet> “Smoke Free Places” for Germany, Ireland and Spain.

6. Cigarette vending machines

In 2004, Germany had more than 700,000 cigarette vending machines, which amounted to one machine for every 113 inhabitants-- one of the highest concentrations worldwide. The anonymous dispensers were mainly located outdoors creating easy access for young people.⁸⁶ Legislation in 2007 restricted the machines to areas that were not accessible to minors, constantly supervised or had a technical mechanism that verifies the age of the consumer. Age verification was accomplished by a feature that only accepted payment by a debit or credit card that contained integrated information on the owner's age.⁸⁷ By 2018, the number of cigarette machines had decreased to around 320,000.⁸⁸

7. Cessation services

Until recently, German clinical guidelines did not include tobacco dependency as a disease, which restricted insurance coverage to services found in Article 20 of the Social Security Code, i.e., classes and group therapy. German researchers such the founders of DEBRA pushed for policy change, arguing that financial support for evidence-based cessation treatments was obviously needed, since lower-income people tend to smoke more.⁸⁹

On July 11, 2021, the German government passed the Health Care Expansion Act,⁹⁰ finally implementing a broader reimbursement for cessation treatments by statutory health insurance. More specifically, patients diagnosed with severe tobacco dependence are entitled to a single supply of tobacco cessation medicines as part of evidence-based tobacco cessation programs. Further provision of such medicines will only be possible three years after completion of the initial treatment.⁹¹

Cessation services and their relationship to success in quitting smoking are discussed in section VI.D.3, below.

C. Judicial developments

The adoption of the Tobacco Duty Modernization Act in March 2021 caused an uproar among German e-cigarette manufacturers and distributors. According to national media outlets from June 2021, the e-cigarette industry association called the Alliance for Tobacco-Free Enjoyment⁹² intends to bring legal action before the Federal Constitutional Court.⁹³ The representatives see a violation of equal treatment concerning the taxation of e-cigarette products. Along with yearly tax increases on tobacco products, the law will introduce a tax on e-cigarette liquids previously only subject to sales tax. By 2026, the tax on 10 ml of liquid will rise to EUR 3,20, making it about three times more expensive than the same product in neighboring Poland.

In 2013, PMI's German subsidiary appealed a decision by the government of Bavaria to ban an advertising campaign for PMI's Marlboro brand that the state considered to encourage teen smoking by associating their product with daring and rebellious activities. PMI argued that

the campaign was aimed at adults, seeking to encourage adult smokers to switch to Marlboros but the Bavarian Administrative court in Munich did not find that argument credible and upheld the ban.⁹⁴

In 2012, the industry appealed a decision of the 5th Chamber of the Administrative Court affirming the action of the Federal Office of Consumer Protection and Food Safety that prohibited the sale of cigarettes with menthol capsules in the filter. The Federal Office of Consumer Protection and Food Safety found that the flavorings would encourage dependency, violating the provision in the Framework Convention on Tobacco Control that novel products should not increase the appeal of tobacco.⁹⁵

In 2008, two pub owners and a club owner challenged the non-smoking laws in Baden-Württemberg and Berlin, arguing that smaller venues were economically disadvantaged by the exemption allowing restaurants to permit smoking in separate rooms. The Federal Constitutional Court agreed, finding that the challenged provisions violated the complainants' fundamental right of occupational freedom.⁹⁶ However in a contemporaneous case, the same court upheld the constitutionality of the Public Health Protection Act, holding that legislators may give preference to public health over the liberties of individual smokers.⁹⁷

VI. Barriers and Drivers of Smoking Cessation in Germany

Historically, opposition to tobacco control has limited national tobacco regulation within Germany and led to Germany opposing international tobacco control initiatives at the EU level. For example, throughout the 1990s, Germany sought to block EU tobacco control efforts in the form of advertising bans. In 1995, Germany introduced a “compromise advertising directive,” that was later shown to have been developed by the industry.⁹⁸ Further, Germany, along with major tobacco companies, successfully challenged the 1998 Directive 1998/43/EC, which banned tobacco advertising. Germany later unsuccessfully challenged a subsequent, more limited, tobacco advertising directive (2003/33/EC).

However, in the following decade, proponents of domestic German tobacco control finally began to gain traction. Tobacco taxes increased eight times between 2000 and 2010, and the minimum age for tobacco purchase was raised from 16 to 18 in 2007. The 2002 Workplace Ordinance and the 2007 Federal Non-Smoking Protection Act made most workplaces smoke-free, along with federal facilities and public transportation.

The efficacy of these policies is measured in reduced smoking prevalence. According to the WHO, the prevalence of current smoking among German adults in 2018⁹⁹ was 28% (29.9% males and 26% of females), having fallen by almost 6 percentage points since 2000. In that year, Germany placed 37th in world rankings of highest smoking prevalence; just behind Russia at 36th place (28.3%), but well ahead of neighbors Poland (50th place, with 26% prevalence), and Netherlands (68th place, with a prevalence of 23.4%). However, whereas several European nations such as Poland and the UK have fallen significantly in the world rankings of smoking prevalence since 2000 (Poland fell from 32nd to 50th place, and the UK fell from 51st to 90th place), Germany has risen from 63rd place to 37th place in the global rankings, despite the legislative progress. Two questions therefore arise: what conditions gave rise to Germany’s historic reluctance towards tobacco control, and why have the tobacco control measures passed by Germany not been more effective?

A. Structural barriers to tobacco control

The failure of tobacco control in Germany is probably not the result of a single factor, but is best explained by the aggregate effect of German politics, society, history, cultural and economy.¹⁰⁰ The discussion below addresses each of these factors as well as the suggestions that the legacy of Nazism and the close relationship between industry and regulators explain Germany’s track record with tobacco control.

1. Political finance

The German tradition allowing industry to finance political parties gives tobacco companies influence over policy. As one journalist put it, “cigarettes smell but the tobacco tax

money doesn't stink.”¹⁰¹ The payment stream flowing from industry to politicians and their parties no doubt contributes to tobacco control failures, but by itself is insufficient to explain Germany's weak stance on tobacco control.¹⁰² First, compared with other nations where political parties and candidates receive campaign financing from special interest groups, the sums paid to German political parties by the tobacco industry are relatively small. Of course, the influence that such funding has on decision making is likely relative not to the size of similar contributions in foreign elections but competing donations in German elections. Tobacco company money is just a fraction of all donations received; the lion's share of political financing comes from individual donations and public money. This implies that the actual effect of tobacco industry campaign finance may be relatively small. Still, unless those other, larger, funding sources are balanced in opposition to tobacco industry funding, the influence of the tobacco industry on policy decision making cannot be ruled out.

2. Self-regulation and corporatism

Another structural explanation for Germany's relative reluctance about tobacco control is to the German preference for self-regulation over legislation, and the corporatist tradition of industry involvement in regulatory affairs. Unlike, many countries where tobacco is regulated from the top down by one or more national agencies, German tobacco regulation is a patchwork of different, albeit related areas of public life such as the workplace, youth protection, pharmaceuticals, and foodstuffs.¹⁰³ Furthermore, in place of binding legislation, voluntary agreements between industry stakeholders often passed for tobacco control in Germany. For example, in the 1960s and 1970s, agreements of this type restricted advertising tobacco on billboards, marketing to youth, and advertising on TV and radio. Such agreements were far from comprehensive: for example, billboard advertising was not banned outright, but limited by location and frequency. Crucially, these agreements lacked an enforcement mechanism, relying instead on industry stakeholders to call out violations and levy relatively inconsequential fines. The public played no role in pointing out violations, since at least initially the terms of the agreement between industry and government were not made public. Unsurprisingly, despite frequent violations, sanctions on offenders were few and far between.¹⁰⁴ This changed with the passage of the TPD which implemented enforceable EU-wide advertising restrictions.

Germany's weak tobacco control, it has been suggested, also stems from the close involvement of the tobacco industry in regulatory decisions. Beyond the cash donations already discussed, Germany has provided interest groups with a significant degree of opportunity to influence political decision-making via public consultation and comment on proposed rulemaking. In particular, the tobacco industry—namely, the major international manufacturers and the Association of Cigarette Industries (VdC)—played a major role in shaping the country's negotiating positions regarding the Framework Convention on Tobacco Control.¹⁰⁵ But Germany is not unusual in allowing industry a voice as part of the policy-making process. The U.S. tobacco regulator, the FDA, provides advance notice of rulemaking and significant periods of public comment on proposed regulatory changes in which stakeholders including industry may

submit comments with the goal of shaping regulations in their interest. Nations with similar consultative processes have both more robust tobacco control and lower rates of smoking, which is evidence that undermines the explanatory power of this argument.¹⁰⁶

However, perhaps there are features of Germany's consultation process that make it especially vulnerable to the influence of the tobacco industry. Grüning et al. (2008), suggest that the lack of robust tobacco control is not necessarily due to the involvement of the German tobacco industry in regulatory affairs, but the absence of a strong, well organized, anti-tobacco lobby. Ultimately, the success of the legislative process is contingent upon the inclusion of stakeholders with diverse positions, so that extreme views are balanced to form acceptable consensus. In the case of Germany, associations of German health professions lacked political commitment necessary to counter-balance the tobacco industry. The reasons for this apparent apathy require further investigation, though the Germany's political history and culture appear to have contributed to a lack of public health research in the later part of the twentieth century, which might go some way to explain the absence of public health scientists and physicians in German political decision-making.

Regardless, Germany did sign the FCTC in October 2003 and ratified the treaty in 2004. Compared to other nations, Germany was not particularly slow to either sign or ratify the FCTC, either, although the other Western European countries apart from Belgium signed before Germany. In terms of implementing the provisions of the FCTC, for the most part Germany's actions were in line with the rest of the EU member states (with weaker restrictions on advertising being an exception).

3. Political history and culture

Cultural memory of twentieth century fascism and the association of Nazism with the general suppression of personal liberties may have contributed to German apathy towards tobacco control. Evidence that the Nazis funded research identifying the link between smoking and lung cancer and that the National Socialist German Workers' Party disapproved of tobacco may also have further suppressed the appetite for stronger tobacco regulation in Germany. But although cultural revulsion is a comfortable excuse, it is not based in fact. German anti-tobacco movement predates the German Reich. Nazi research on tobacco harms had limited effect on Nazi policy; indeed, troops were given cigarette rations and tobacco advertisements appeared in leading party newspapers. Of course, the historical validity of the association between Nazism and tobacco control is not a prerequisite for the power of that association. Pro-tobacco messaging has leveraged the presumed link between tobacco control and Nazism to bolster public support for smoking.¹⁰⁷

The more compelling argument linking Germany's stance on tobacco control with the legacy of Nazism may be found in the lack of research and teaching in epidemiology and health until the very end of the twentieth century. In contrast to U.S. and British academies, which had

continuous traditions of public health research throughout the twentieth century, in Germany we see a stark absence of public health research during that time, reflected in the lack of German language research on topic of addiction until the 1990s.

Grüning et al. conclude that the Nazi heritage may have contributed indirectly to the weak state of tobacco control in Germany by producing a scientific and epistemic (knowledge) environment that lacked the capacity to address tobacco control issues appropriately. This argument may have some explanatory power in relation to public perceptions, too. The apparent apathy of the German public towards tobacco control may be “a reaction to the Nazis’ ideological approach to public health.”¹⁰⁸

As in other countries in the postwar period, most Germans viewed smoking exclusively as a private choice. However, throughout the latter half of the twentieth century tobacco control began increasingly to be framed a public issue, as the awareness grew that tobacco harms both the immediate consumer and those around them; and that smoking imposes significant costs on states with public health services provision. But perhaps Germany’s experiences of Nazism kept this component of the national psyche dominant longer than in other nations.

4. Constitutional considerations

German federalism and the German constitution also influence the tobacco control in Germany. Federalism may foster policy innovation because jurisdictional complexity provides for a greater number of regulatory frameworks. Differences in the characteristics of different sub-national groups may allow for policy experiments occurring at the regional level that would perhaps not be possible at the national level, including experimentation with more radical policy positions than might be tolerated in a unitary system. The “laboratory of the states” could be fruitful for Germany as it is in the United States. Popular or successful regional policies usually spread to neighboring jurisdictions as has already happened to a degree with tobacco control in Germany.¹⁰⁹ We have seen in Canada, Australia, and the U.S. that once a critical mass of subnational jurisdictions embraces a policy, it is more likely to be adopted by the national legislature, contributing to the development of more robust tobacco control policies.¹¹⁰

For Germany, the “laboratory of the states” for tobacco control is a relatively recent phenomenon. In 2006, constitutional reform removed tobacco regulation from exclusive control by the federal government, transferring some legislative power over tobacco to the Länder. The proliferation of smoke-free laws at the state level would not have been possible without this change, but the concept is not established in German lawmaking and public participation. The German constitution does not typically provide for the use of referenda at the regional level (a process which has the additional benefit of creating policy interest groups).

Federalism does not always benefit tobacco control because a patchwork of policies, allows citizens to evade laws simply by moving and may create loopholes. Regarding taxation

especially, regulatory differentials create opportunities for illicit arbitrage (although there are no regional variations in tobacco taxes in Germany). Thus, while jurisdictional complexity may drive policy innovation, real success requires minimization of regulatory differences between jurisdictions, which is why the TPD sought to iron out national differences within the EU.

5. Isolation of the German public health community

Constitutional considerations explain why tobacco control initiatives might not have spread within Germany prior to 2006, but they do not account for Germany's failure to import tobacco control innovations from other nation states. Nations typically borrow effective policies from one another when the first mover's effort is shown to be successful. This process of policy transfer is facilitated by international networks of NGOs, international health agencies, philanthropic research funders, and academia. However, shared language is a key component of international discourse, especially in the years prior to the Internet and free digital translation services. It is no accident that tobacco control policies in the UK, Canada, Australia, the U.S. and New Zealand often resemble one another, both in substance and chronology. Germany's relative economic independence, linguistic isolation, and tradition of German-language academic publication likely limited the epistemological transfer from other nations.¹¹¹ This phenomenon has been given its own name describing the exclusion of German anti-tobacco groups from the global network of tobacco control advocates: "Autarkic Epistemic Isolation." Of course, it is difficult to ascertain whether such isolation was a cause of underdeveloped tobacco control in Germany, a result of lack of interest in tobacco control due to other factors, or both. It is also clear that linguistic isolation alone cannot be determinative of weak policy since many countries around the world outside of the Anglophone (or Francophone) tradition have eagerly embraced tobacco control as championed by the WHO.

In contrast, the tobacco manufacturing industry has always, by necessity, been an international enterprise with elements of cooperation. In 1977, seven tobacco company chief executives created the International Committee on Smoking Issues with the goal of fostering common anti-tobacco control strategies and building a global network of regional and national manufacturing associations. This international collaboration meant that tobacco advocates were better resourced, better organized, and had closer, more long-standing ties with domestic governments than the anti-tobacco forces. Industry documents demonstrate that this pro-tobacco global advocacy network was highly influential in Germany."¹¹²

6. Party politics

Given the premium that conservatives place on personal liberty, it might be suggested that the left favors tobacco control legislation more than the right.¹¹³ A superficial look at Germany's parliamentary history supports this view; the country experienced weaker periods of tobacco control during conservative governments such as the Kohl administration (1982–1998), and stronger tobacco control policy steps, under Merkel's leadership, when successive coalition

governments included the left-of-center SPD. However, it bears remembering that most of Germany's political parties have ties to the tobacco industry and tobacco control did not progress much during the Red-Green coalition government between 1998 and 2005 under Gerhard Schröder.¹¹⁴

7. Pro-tobacco groups

Influencing policy

Tobacco industry advocates and industry associations supporting smoking such as the hospitality sector have influenced both policy and public opinion in Germany over the years. German tobacco industry documents revealed in U.S. tobacco litigation provided evidence of tobacco industry influence on political decision-makers, health policy and bills, confirming that industry influence is one of the most significant barriers to the implementation of effective tobacco control policy in Germany.¹¹⁵

Over the years, the German Association of the Cigarette Industry, impeded, opposed, delayed and minimized tobacco control measures including taxes, advertising bans, and prohibitions on vending machine sales.¹¹⁶ The industry hired scientists of dubious qualification¹¹⁷ to communicate directly with legislators, often without declaring their industry ties.¹¹⁸ Politicians were invited to industry-sponsored “scientific meetings,” and scientists with close industry ties were invited to join government working groups or contribute to government debates.

To influence policy, the tobacco industry employed threats and barely concealed bribes. By threatening to close a production plant in Berlin a cigarette tax planned for 2002 is said to have been halved.¹¹⁹ In 2000, the industry quashed a proposal to ban cigarette vending machines by offering the Ministry of Health €11.8 million to fund a five-year youth prevention campaign.¹²⁰ In a much-criticized quid pro quo, the Ministry agreed to avoid “measures [which] discriminate against the cigarette industry, its products or the cigarette trade or denigrate adult smokers.”¹²¹

The industry exceeded the bounds of ethics by using wealth to generate false scientific evidence supporting its position. The industry published research purporting to show that cigarette advertising did not influence consumption – a claim now recognized to be false¹²² – to prevent a pan-European tobacco advertising ban in the early 1990s.

The industry argued that tobacco is essential to Germany's economy, but the veracity of these claims, even in the late twentieth century, was dubious (see section III.A). Employment in the tobacco industry represented less than one third of one per cent of the workforce, while tobacco's contribution to Germany's GDP and the proportion of Germany's total exports represented by tobacco were both less than 1%. Cigarette taxes represent only 3% of total tax revenue and 1.5% of public revenue, once state contributions are considered.¹²³ In politics, like the advertising business, perception can be more important than reality. Public officials are not

always able to see through duplicitous “research,” and deeply held beliefs such as the economic importance of the tobacco industry to the German economy are difficult to dislodge in the voting public.

The German government’s reluctance to implement tobacco control policies beyond taxation may evidence their perception of a conflict between the fiscal goal of higher tobacco tax revenue and the public health goals central to other tobacco control interventions. The earmarking of tobacco taxes to the federal budget may also have created a perverse incentive for the federal would-be regulators since governments would lose a potential source of tax revenue if tobacco control succeeded in bringing tobacco purchases below a certain threshold.

Influencing public opinion

Tobacco advocates have avoided tougher control measures by attempting to influence public perceptions of tobacco and smoking. Pro-tobacco groups push the classical libertarian line that individuals are the best judges of how to spend their money, and that the best allocation of goods and services is produced through informed decisions made by rational consumers. Smoking, in other words, should be a personal choice and the market should be left alone to determine prices and allocations of goods such as cigarettes. In contrast, opponents claim that addiction to nicotine removes tobacco from the rational consumer model, and the concept of liberty in general. In this argument, tobacco users repeatedly ingest chemicals that bind to their neuroreceptors, changing the brain and compromising the neural system that produces rational decision-making, without which there can be no successful negotiation of a free market. Even though the smoker eagerly buys his tobacco product, he regrets the feelings that compel him to do so, making tobacco entirely different from other consumer goods. However, denial of the agency of the smoker—i.e., the claim that the addicted smoker has no free will with regard to consumption of tobacco—has been refuted on philosophical and practical grounds. Although smokers may lose control of their desires, by standard measures they appear to retain agency and the ability to control their actions (otherwise, no one would ever reduce tobacco use or quit altogether).¹²⁴

Tobacco opponents also counter the argument that smokers should be “free to choose” by appealing to the economic concept of negative externalities. The existence of health harms to others resulting from second-hand smoke imply that freedom of consumer choice does not always lead to socially efficient outcomes, a fact long known in economics and acknowledged privately by the industry as early as 1977.

The tobacco industry sought to challenge the scientific evidence that smoking causes disease, first by undermining the evidence before them on scientific grounds; second by denying that the evidence presented unequivocally supports the conclusion; and third, by downplaying the demonstrated risks.¹²⁵ In general, the tactics are known as denialism (rhetorical argument under the appearance of a legitimate debate with the aim of rejecting findings that are considered scientifically confirmed)¹²⁶ which may include conspiracy theories undermining scientific

consensus; reliance on frauds posing as experts; selective use of facts; excessive or unrealistic demands on science, and flawed logic. Industry arguments against smoke-free laws and graphic health warnings serve as one example. Opponents to smoke-free laws suggested that epidemiological studies demonstrating second-hand smoke harms were methodologically flawed.^{127,128} Tobacco lobbyists engaged in ad hominem arguments to claim that support for tobacco control was being financed by the pharmaceutical industry to serve their economic interests.¹²⁹ There have also been reductio ad absurdum arguments suggesting that tobacco control amounts to an attempt by a minority of fundamentalist zealots to curtail personal freedoms of the majority.¹³⁰

8. Relatively weak public health agencies

Germany's policy development was not aided by a coordinated and vociferous response from public health agencies that dominated the discourse on tobacco control in other countries. In the UK, for example, Action on Smoking and Health, Cancer Research UK, The Royal College of Physicians and Public Health England campaigned to raise awareness of tobacco harms and support for tobacco control, produced and commissioned research on the effects of tobacco and the efficacy of tobacco control policies and lobbied elected representatives. In Germany, public health policy had traditionally been the exclusive domain of government agencies and public funded organizations, specifically the German Cancer Research Centre, the German Bureau of Addiction, and the Federal Office of Health Communication. Governmental consumer protection left little room for grassroots health organizations and private interest groups focused on tobacco control.

Perhaps as a result of Germany's isolation from international public health practice (discussed previously), a tradition of physician activists did not emerge until relatively recently. Constitutional restrictions on regional regulations and voter-led ballot initiatives made for fewer rallying points for German tobacco control advocates. Germany's tradition of self-regulation, informed by corporatist policy-making the absence of strong tobacco control advocacy, meant that the tobacco industry's influence on regulators was not balanced by strong voices for public health. Non-governmental tobacco control groups such as the German Smoke Free Alliance and German Medical Group Smoking and Health have emerged, but their influence on policy seems to have been more limited than comparable organizations in other nations, due to internal disagreements, lack of resources, dependence on governmental support, poor planning and an apparent lack of commitment.¹³¹

However, by the mid 2000s, there were signs of significant changes in German attitudes to tobacco control. The 2004 German ratification of the EU' Framework Convention on Tobacco Control seems to have been a key moment. German press reported with increasing negativity on the German failure to comply with EU regulations, and on the relationship between Germany's tobacco industry group and regulators. In 2005, the German Cancer Research Center reported its finding that 3,300 non-smokers die each year from second-hand smoke. Public approval of

smoking bans in restaurants gained 11 percentage points between February 2005 and September 2006. Constitutional changes in 2007 allowed the German states to enact regional tobacco controls for the first time and the tobacco industry group (VdC) was dissolved later that year.

By 2018, support for further tobacco control policies was gaining traction. Among the 71.5% of Germans who supported banning smoking in cars where children are present, 67% of were current smokers.¹³²

B. Ineffective tobacco control policy?

Since 2000, Germany has implemented tax increases, smoke free laws, ad bans, a lower age limit for purchases, and restrictions on vending machines without achieving the smoking cessation successes of other countries. Evaluating the efficacy of these policies is related, but not identical to the issues that delayed these measures in the first place.

While Germany's tobacco control efforts have succeeded in reducing smoking prevalence, the nation's performance on tobacco control still lags behind other EU nations,¹³³ Germany takes last place among 35 European nations in the 2019 Tobacco Control Scale, which ranks nations according to a score encompassing tobacco prices, smoke-free law implementation, spending on public information, ad bans, health warnings, SSS, illicit trade and industry interference.¹³⁴ With the exception of the 2014 EU Tobacco Products Directive and the Illicit Trade Protocol in the Framework Convention on Tobacco Control, Germany has not adopted any novel tobacco control policies since 2010.

1. Relatively late policy

Germany is still awaiting many of the tobacco control policies that operate in neighboring counties. For example, France and the UK have had plain pack rules in place since 2017, and Denmark, Belgium, the Netherlands, Slovenia, and Ireland followed soon thereafter. German still allows distinctive packaging, tobacco advertising on billboards, and smoking in cars when children are present. Germany's sluggishness in tobacco control can be seen in the national age limit on tobacco purchases. Germany did not raise the age for tobacco purchase from 16 to 18 until 2007. Iceland, Sweden; Czechia had done so in the late 1990s.¹³⁵

2. Relatively lenient policy

German tobacco regulations are also laxer than those in the EU. The sale of cigarette by vending machine is banned outright in France, Poland, and the UK, but in Germany, (along with Austria and Denmark) the machines remain, albeit requiring age-verification. As discussed in section A.4 above, devolving aspects of tobacco control to the regional level creates a patchwork of regulations that may allow consumers to change location to avoid the rules. This is most evident with regards to smoke-free laws. For example, while Bavaria, North Rhine-Westphalia

and Saarland ban smoking in all bars, pubs and clubs, many other states have exemptions including for premises offering separate smoking rooms or based on square footage.

Cigarette taxes, among the most effective ways to encourage cessation, remain low in Germany. As of March 2019, German taxes accounted for 72.5% of the weighted average retail sales price of €5.64 (\$6.65). Across the EU, the average percentage is 80.3%.¹³⁶ Taxation is discussed in greater detail below (section D.1)

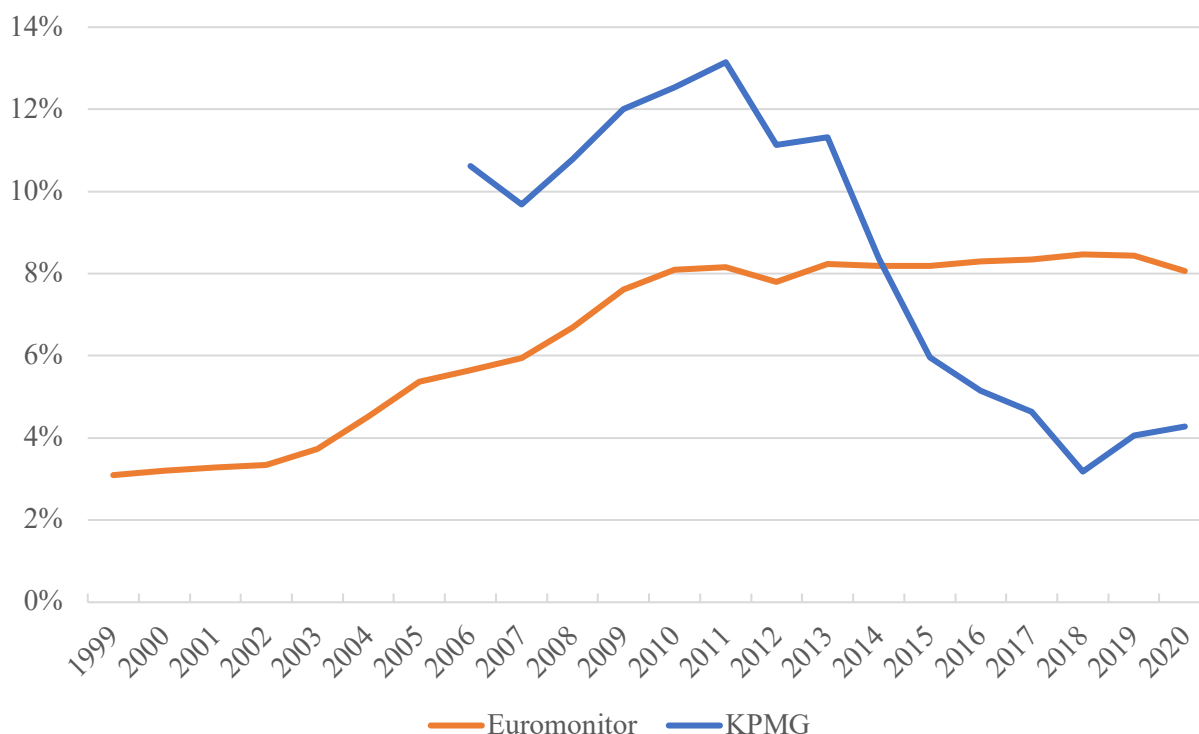
3. Availability of illicitly traded tobacco products

Smuggling tends to increase when regulation creates an incentive. Since the opening of the Iron Curtain in the early 1990s, Germans have supported a thriving illicit market, satisfying a broad demand for untaxed cigarettes.¹³⁷ Before 1987 fewer than 20 million cigarettes were seized per year at German borders, but by 1993 authorities were seizing over 600 million. The origins of illicit supply appear to have shifted from Eastern European sources to those from South East Asia. Illegal cross-border cigarette smuggling in Germany includes genuine, counterfeit, and “illicit white” products.¹³⁸ Also known as cheap whites, illicit whites are cigarettes legally produced in the country of origin but intended to be sold illegally elsewhere. This process avoids the supply chain track and trace systems for legitimate tobacco products, which were put into place to prevent gray market diversion, re-importation, and smuggling of genuine product to avoid taxes. While these forms of illicit trade are organized and often perpetrated by large criminal organizations and networks. Customs agents also interrupt informal bootlegging: residents bringing cheap cigarettes home for personal use in amounts above the allowance. Once in the country, illicitly traded tobacco is retailed mainly on the street rather than in legitimate stores. The illicit market is concentrated in the eastern part of the country, both because of proximity to Eastern European and prevalence of poor smokers¹³⁹ who are more price-sensitive.

In 2018, German law enforcement investigated 3,826 cases of tax crimes regarding cigarettes and 1,108 cases of illegal tobacco products.¹⁴⁰ The federal police investigated 741 cases involving illicit trade of cigarettes in 2016 in Berlin alone. As usual with criminal activity, these case counts are probably only the tip of the iceberg. It’s impossible to know the actual numbers for illicitly traded tobacco but the total figures are certainly larger than the those detected. Two commonly cited estimates of illicit trade in cigarettes, from Euromonitor and KPMG, are shown in figure 30, below.¹⁴¹ Euromonitor estimates show increasing market share for illicit cigarettes over the past 20 years up to 2019, after which there is a small dip in 2020. attributed to border closures caused by the COVID-19 pandemic.¹⁴² Conversely, the data from KPMG show the share of counterfeit and contraband cigarettes peaking in 2011 and falling markedly until 2018, after which there is a lesser increase. For another point of comparison, consider that in 2018 German customs officials confiscated only one-fifth as many illicit cigarettes at the border as in 2008. Although the estimates of the trends conflict, it appears safe to conclude that illicitly traded cigarettes in Germany provide nontrivial but not wide-open

access to cheap, untaxed tobacco (or, equivalently, that many German smokers do not choose to participate in existing illicit markets).

Figure 30: Illicit Trade Share of Cigarettes (1999–2020)



Source: Euromonitor Passport, KPMG (2007-2018, 2021). The illicit trade share is the ratio of the illicit trade volume of cigarettes, in sticks, to the sum of the illicit and licit retail volume of cigarettes. Data are for Germany.

Access to untaxed cigarettes undermines the lynchpin of tobacco control: using taxes to raise prices steeply to encourage cessation. The large illicit trade in cigarettes has undoubtedly rendered illusory some apparent gains in the fight against tobacco. Thus the 7% tax increase in the early 1990s did not lead to the decrease in consumption that sales figures indicate.¹⁴³ While licit sales of cigarettes declined from 1,500 per resident per year in 1991 to about 1,300 a few years later, consumption per person as estimated from surveys declined slightly or not at all. It is thus likely that illicit sales of cigarettes therefore made up most or all of the difference.

C. Stronger policy at last – What changed?

German attitudes toward tobacco control policy at the end of the 2020s, as well as the policies themselves, bear little resemblance to those at the start of the century. While the country's policies are not as stringent as those in some other EU countries, by the middle of the last decade Germany was regarded as comfortably occupying the “middle of the pack” within the European tobacco-control milieu.¹⁴⁴ What changed during that time? It has been argued that the transformation in the approach to tobacco control in Germany stems mainly from pressure from

the EU and international public-health treaties, the involvement of German NGOs in policy negotiations, assigning regulatory responsibilities to the health ministry, and switching toward a legislative instead of a corporatist model for tobacco-related public affairs.¹⁴⁵

Despite recent improvements, Germany continues to lag behind other EU nations in tobacco control. According to the 2013 TCS,¹⁴⁶ only Austria performed worse.¹⁴⁷ On smoke-free laws, ad bans and the provision of cessation services, Germany is especially disappointing. However, we see improvement in other measures scored in the TCS: on public spending and health warnings, Germany is near or above the median. And while Germany's cigarette prices remain lower than those of many other EU nations, these have increased thanks to recent tax measures. In 2015, the WHO placed Germany in the middle of the pack, largely because their comparison gives higher weighting to advertising bans and cessation programs than the TCS assessment.¹⁴⁸ Again, Germany is relatively weak on tobacco taxation and smoke-free policies, despite having at or above the median restrictions in workplaces, enclosed public spaces, healthcare facilities, public transport, hotels, residential care facilities and prisons. Germany's acceptance of smoking in some restaurants, bars and educational facilities are unusual compared with other EU nation and explain the comparative rankings.

As discussed in section A above, Germany's historic hesitancy to enact robust tobacco control policies has been linked to the legacy of Nazism,¹⁴⁹ a lack of policy transfer¹⁵⁰ due to autarkic epistemic isolation,¹⁵¹ a relatively weak tradition of public health,¹⁵² the tradition of voluntary self-regulation,¹⁵³ and the influence of the tobacco industry in policy making.¹⁵⁴ German progress on tobacco control in recent years can be attributed to the reversal of many of these factors.

Through the FCTC, the EU (and to a lesser extent the WHO) have applied direct pressure on the German government, commanding legislative change at the national level. Tobacco control has been reframed by the WHO and EU, moving the debate away from economics and towards public health. This has helped facilitate policy transfer from nations such as France, Ireland, the UK, and Italy, as those countries have generally been more proactive in their implementation of tobacco control policies. The influence of experience in nations with stronger stances against tobacco in general and bans on smoking in public place in particular (including the USA and the Scandinavian nations in addition to some members of the EU), can also be seen in the development of the FCTC. The combined effect of international institutions and public health treaties not only resulted in legislative change at the national level, but also increased popular support for tobacco control interventions by increasing awareness of tobacco harms, including passive smoking, thus benefiting German stakeholders.¹⁵⁵

Once the remit of tobacco control was placed with the EU's Directorate General of Health (SANCO), public health advocates gained access to policy deliberations in the EU. As of 2008 SANCO publishes notes of any consultation with the tobacco industry and mostly avoids such meetings, reducing industry influence at the international level. At the same time, national

health ministers began to attend relevant Council of Ministers meetings and became the most important voices in national tobacco control discourse. In Germany, too, health experts became more involved in the policy design process once tobacco policy shifted to the ministry of health from ministries of industry, finance, and economics. Participation by anti-smoking forces also diluted the lobbying power of the German tobacco industry which had until then been unopposed at the lobbying level. Meanwhile, newly empowered tobacco control NGOs found an agency increasingly receptive to their message. The involvement of German NGOs raised their profile in Germany, amplifying their voice. For example, the EU chose the German Cancer Research Centre (DKFZ)¹⁵⁶ in Heidelberg as a collaboration center in 2002. The DKFZ's unit on cancer prevention¹⁵⁷ began to promote tobacco control and smoking bans in particular; especially after Dr. Martina Pötschke-Langer became its director in 2004. Today, the organization participates in national and international networks, advocating tobacco control and helping educate the medical profession, journalists, NGOs and politicians by disseminating relevant information as widely as possible, thus breaking down epistemic isolation among German elites.¹⁵⁸

The EU Commission's funding of anti-tobacco European-level NGOs also appears to have helped give voice to German tobacco control advocates. These parties were intentionally brought into the EU policy process in an attempt to offset the influence of better organized and funded tobacco industry groups. The European Network for Smoking and Tobacco Prevention (ENSP) was created in 1997 with EC funding. The German Cancer Society, the Coalition Against Smoking, and the German Heart Foundation, have also received support from the ENSP in their attempts to influence policy at the state, federal and EU levels. Other EU-level associations have also helped coordinate and represent national level organizations, raising their profile in the process. The European Heart Network (EHN) for example, of which the German Heart Foundation¹⁵⁹ is a member, provides pathways for the diffusion of scientific knowledge and strategic experience into Germany. As a result of these associations, German health NGOs have gained resources with which to promote tobacco control.

German media has also played an important role in disseminating awareness of smoking harms and by reporting on the successes of tobacco control efforts in other countries. News stories on strict bans in Israel, the Emirates, parts of the U.S., Singapore, Italy, France, Ireland and all of Scandinavia accelerated after the mid-1990s. Between 2006 and 2014, the number of articles on these subjects in the German newspaper *Der Spiegel* increased from 40 to 166.

With Germany's epistemic isolation breached, and tobacco control NGOs mobilized and enjoying enhanced political resources, political parties were forced to deal with the issue. In the process, tobacco control was shifted out of the corporatist setting and into the legislative arena.¹⁶⁰ Junior ministers such as Lothar Binding took up the issue of smoking bans and effectively wrestled the issue from corporatists to the floor of the legislature.

The combined effect of all this appears to have driven significant changes in German behavior and attitudes towards smoking: Germany's adult smoking prevalence fell from 37% in

2002 to 26% in 2009. The decline was particularly marked in youth smoking rates: By 2014 smoking prevalence among German young adults (aged 18-25) was 30%, having been 44% in 2005, and smoking rates among children aged 12-17 was cut in half in the same period from 20% to 10%. Concerns for passive smoking also increased rapidly in the mid-2000s, from 75% in 2005 to 88% in 2006. By then, 90% of Germans supported smoking bans in the workplace and indoor public spaces such as shops, subways, and airports. Support for smoke-free bars, restaurants, and clubs increased from 52.9 per cent in February 2005 to 77.5 per cent in February 2012. By 2012, smoking bans in these places was even supported by a majority of smokers.¹⁶¹

Despite this progress, however, constitutional considerations and the judgements of the judiciary continue to be an impediment to greater smoking cessation. In 2006, the federal government declined to enact robust smoke-free laws nationwide after Justice Minister Brigitte Zypries (SPD) and Interior Minister Wolfgang Schäuble (CDU) successfully challenged proposals on constitutional grounds, arguing that federalism reform had given the Länder jurisdiction over entities such as restaurants and schools. The Federal Cabinet ultimately decided on a smoking ban only in federal buildings and agencies (later including trains and airports), leaving the states to regulate smoking in schools, hospitals, restaurants, and the like. State governments are more vulnerable to special interest groups. Economic arguments of the hospitality sector appear to have significant influence on regional governments largely responsible for health policy. The result is greater exceptions and exemptions to smoke-free laws than would have been permitted under federal law. Exemptions to smoke-free laws on the basis of size or category of the establishment have been the subject of litigation, but in 2008, the Federal Constitutional Court effectively ruled that the states could either enact a total smoking ban for all gastronomic establishments, regardless of type or size; or else that all exceptions had to be consistent across establishment type. A number of states loosened their laws to accommodate the ruling, though in 2010 Bavaria enacted an absolute ban as a result of a referendum.

Two other factors inhibit tobacco control progress in Germany. The first is the decentralized nature of the Ministry of Health. Although its influence was enhanced by participation in the EU council of health ministers, the Ministry of Health is a lesser player than the ministries of finance, economics, or the interior. Its public health functions are decentralized among many different agencies and its jurisdictions are spread across the 16 states. Public health lacks centralized leadership and a united voice, which may have reduced the pressure that the federal Ministry of Health could apply on the rest of the federal cabinet regarding a uniform national policy on smoking bans.¹⁶² Second, state governments receive the revenue from tobacco excise taxes (around 14 bn Eur in 2010). This may create a disincentive to enact local restrictions that might limit consumption at the expense of local budgets.

D. Drivers of Cessation

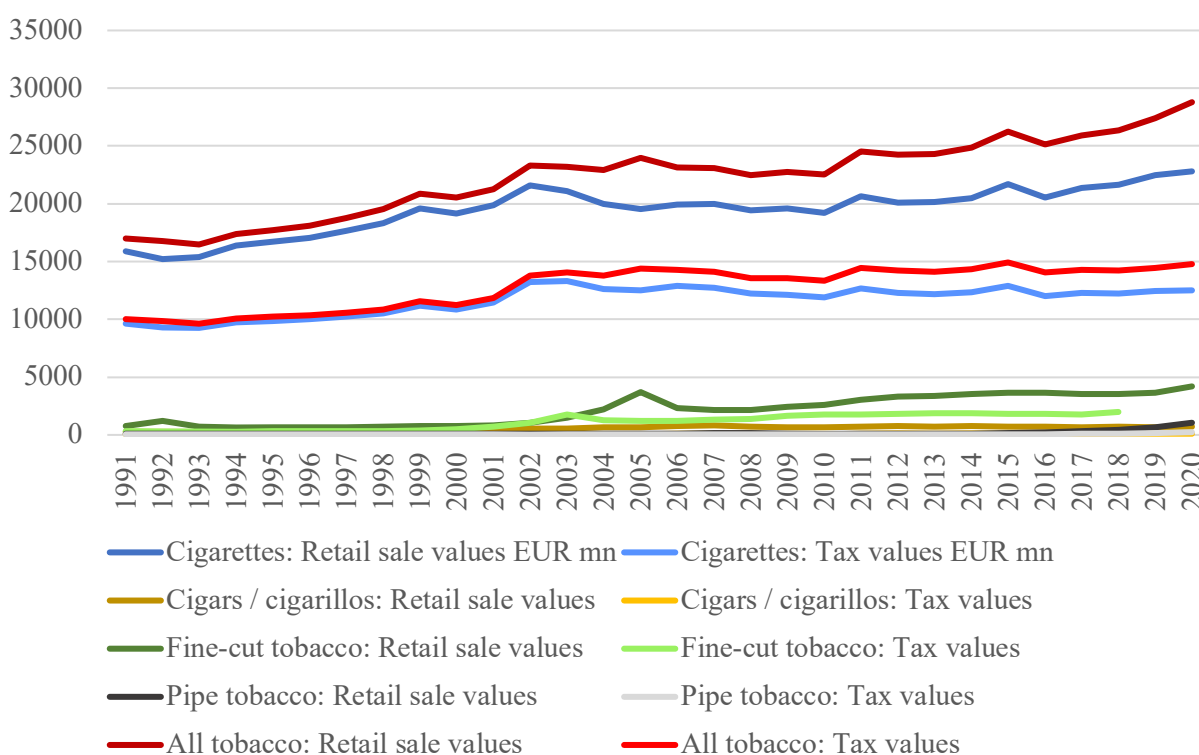
This section reviews the major drivers of cessation, discussing their application in Germany, and also considers novel tobacco products as alternatives to smoking.

1. Taxation

Tobacco taxes are a powerful tool in cessation. Over the past ten years, research has consistently shown a negative relationship between the price of cigarettes and consumption rate.¹⁶³ Even in high-income countries such as Germany, a 10% increase in tobacco prices will decrease consumption by roughly 4 to 5%, and about half of that decreased consumption comes from smokers quitting altogether.¹⁶⁴ Econometric estimates using data specifically from Germany find a price elasticity of demand for cigarettes (the percentage decrease in the quantity demanded following a 1% increase in price) in the range of -0.7 to -0.9 .¹⁶⁵ A research simulation on the effect of a large tax increase in 2011 estimated that it would have reduced the prevalence of smoking among adult males by 5.7% in the first year and 8.5% by 20 years later.¹⁶⁶ This is the largest decline in prevalence among the many policies they analyze.

Taxation has figured substantially in German tobacco control strategy (Figure 31 and 28). Between 2000 and 2021 tobacco taxes were increased eight times. By the mid-2000s, higher taxes were having a marked effect on smokers: a 2007 study found that between 2001 and 2006 between 4 and 7.9% of smokers quit because of the new tobacco taxes, while between 11.5% and 16.6% of smokers reduced consumption. Furthermore, smokers' intentions were significantly associated with larger price increases.¹⁶⁷ Support for tobacco taxation among the German public increased in the early 2000s from 35% in 2002 to 42% in 2005.¹⁶⁸ Interestingly this support did not appear to be contingent on the degree of the price increase, suggesting that citizens endorsed the use of taxation to discourage smoking, unlike taxes on other consumer goods which are generally viewed as needing to strike a balance between individual buying power and the public fisc.¹⁶⁹

Figure 31: Taxation of Tobacco Products, Million EUR (1991–2020)



Source: Federal Statistical Office. *Tax value* is the revenue raised by the excise tax.

2. Regulations

Smoke free laws

At a meeting in 2007, Germany's state health ministers opted to ban smoking in bars and restaurants in each of Germany's 16 states. By August 2008, smoke-free policies had been adopted nationwide. However, significant discrepancies exist between states, left Germany's smoke-free laws less comprehensive than those of other EU nations. For example, exceptions exist for smaller bars, and with the notable exception of Bavaria, many states allow smoking rooms. However, despite these exceptions, a 2018 study¹⁷⁰ found that "smoking bans in German bars and restaurants have been effective in preventing 1.9 cardiovascular disease-related hospital admissions per 1 million (−2.1%), as well as a 6.5% reduction in hospitalizations for asthma. Self-assessed health status improves significantly after German smoking bans especially for non-smokers living in households with at least one smoker."¹⁷¹

If smoke-free laws were intended to reduce aggregate smoking prevalence, then the bans appear to have been only partially successful.¹⁷² Using data from the German Socio-Economic Panel Study (SOEP) to conduct fixed-effects models to address whether the introduction of smoking bans reduced the prevalence and intensity of smoking, researchers found no effect of

public smoking bans on smoking behavior. Similarly, longitudinal data from the German Socio-Economic Panel Study show that the introduction of smoke-free legislation in Germany did not change average smoking behavior within the population.¹⁷³ However, the authors did find greater evidence for behavior change among those who visit bars and restaurants more frequently: in this group a reduction in both smoking prevalence and frequency has been noted following the introduction of smoke-free laws.¹⁷⁴ Another simulation study using a hypothetical comprehensive and complete smoke-free air law commencing in 2011 would have decreased male smoking prevalence by 5.2% in the first year and 6.4% by 2030.¹⁷⁵

Health warnings

Germany's mildly written health warnings on cigarette packages (those in place before graphic health warnings were instituted) were found to be less effective at eliciting thoughts about the harm of smoking, thoughts about quitting, and forgoing of cigarettes than similar warnings in the UK and France.¹⁷⁶

Requiring large, bold, and graphic health warnings on cigarette packages, compared to the weaker warnings actually on packaging in 2010, would bring a minimum decrease in adult male prevalence of smoking by 0.2% in the first year and by 1% after 20 years.¹⁷⁷ Nonetheless, graphic health warnings were not actually adopted until 2016, later than many other EU nations.

Tobacco control campaigns

Highly visible public campaigns to encourage cessation can also be effective. Another simulation modeling a high-intensity tobacco-control campaign in 2011 estimates that a decrease in the adult male prevalence of smoking by 5.7% in the first year and by 7.5% after 20 years.¹⁷⁸ This is the second largest effect size of the many policy changes modeled, second only to high taxation.

In April 2021, the federal government launched the first national stop-smoking campaign, "Living Smoke-free" (Drug Commissioner of the Federal Government of Germany, 2021). It targets long-term and heavy smoking, with roughly 1 million euro committed to the campaign. "Your Chance," another program launched at the same time, emphasizes the monetary benefits of cessation, with a website featuring a large, interactive calculator to determine savings from quitting. The "Your Chance" campaign features the national quit-line telephone number as well as a chat-bot function that engages the user with a computer program designed to simulate a quit-line conversation.¹⁷⁹

Advertising and marketing restrictions

The first German restrictions on tobacco advertising occurred in 1975, with the passage of the Provisional Tobacco Act, prohibiting TV and radio advertising, as well as all print media except publications intended exclusively for those employed in the tobacco industry. The Provisional Tobacco Act was amended through May 22, 2013, and has been supplanted by

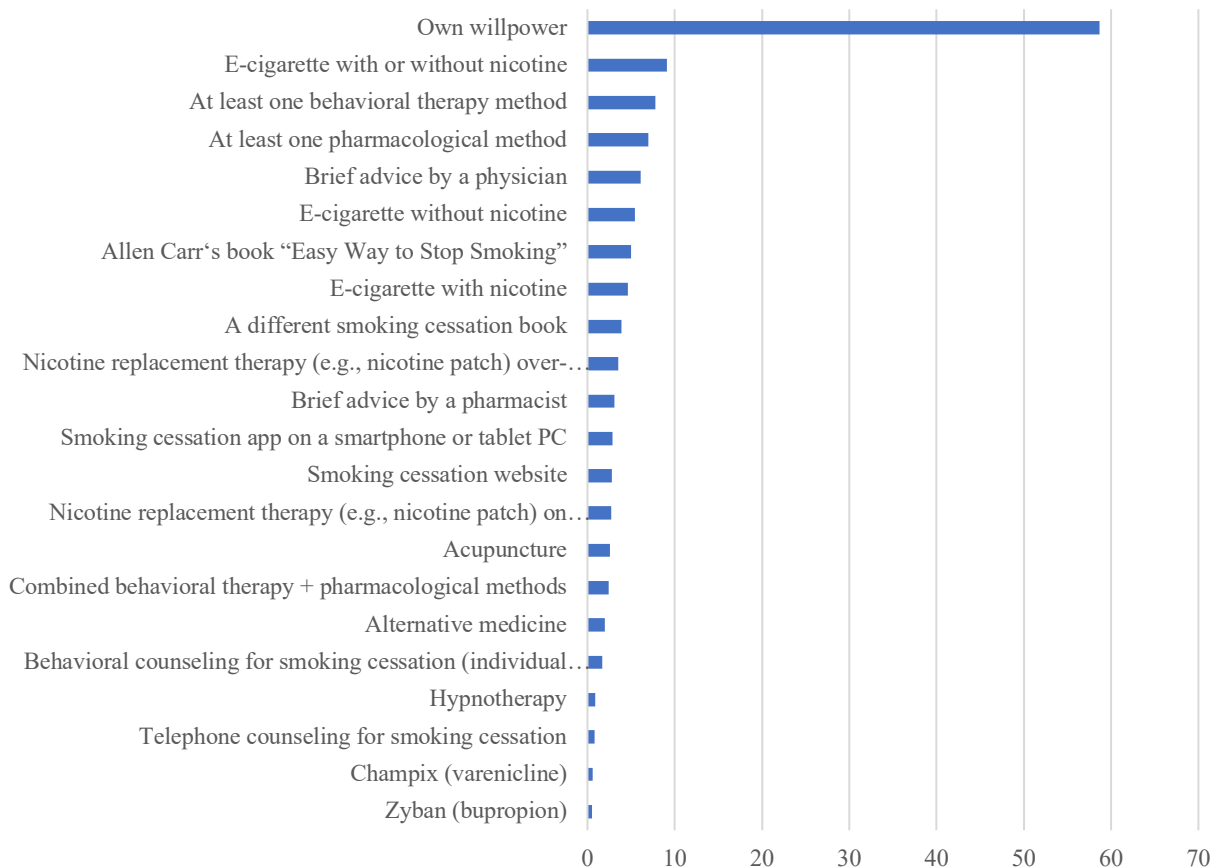
FCTC guidelines on tobacco advertising and promotion in domestic newspapers and magazines. However, Germany's restrictions on tobacco advertising are less comprehensive than many other EU states. In particular Germany allows advertising of tobacco in pamphlets, leaflets, flyers, posters, and signs, categorized as point-of-sale promotion. These exemptions are controversial since they appear to violate Article 13 of the FCTC. Given the evidence that tobacco advertising increases demand¹⁸⁰ there have been calls for further restrictions on tobacco advertising. Angela Merkel's CDU dropped its long-held opposition to more stringent ad bans in 2019, with a proposal to ban advertising in public spaces from 2022, and in cinemas from 2021. The compromise plans to ban advertising for HTPs in 2023, and e-cigarettes from 2024. Volker Kauder, the former secretary-general of the CDU, has been criticized for removing a proposal for a ban on outdoor advertising from the legislative agenda in 2018.¹⁸¹ In 2017, it was reported that high ranking CDU government officials had met with tobacco lobbyists 32 times.

3. Stop Smoking Services

German clinical guidelines recommend the combination of pharmacotherapies and behavioral therapies for the treatment of nicotine addiction, and a quitline has been available since 1999.¹⁸² A wide range of stop smoking services are available in Germany; varenicline and bupropion are available without prescription as are NRTs including nicotine gum, patches, lozenges, inhalers, and sprays. Available behavioral therapies include brief advice by a physician or pharmacist; individual or group counseling; telephone counseling and smoking cessation apps and websites. Some behavioral treatment is covered by health insurance when provided in some offices of health professionals, primary care facilities, hospitals, and elsewhere.¹⁸³

However, despite the range of options and coverage available, engagement with these services remains low. An analysis of surveys conducted during 2016 to 2017 shows that fewer than 13% of those attempting to quit in the past year in Germany supported their quit attempt with one or more evidence-based methods.¹⁸⁴ The most frequently used evidence-based smoking cessation method was receiving brief advice from a physician, at 6.1%. Only 2.4% had used a combination of evidence-based behavioral support methods (brief physician advice, individual/group counseling, or telephone counseling) and evidence-based pharmacotherapy (nicotine replacement therapy, bupropion, or varenicline). The complete findings are in Figure 32. The authors conclude that evidence-based cessation methods are scarcely used in Germany.¹⁸⁵ For contrast, the UK smokers trying to quit used these methods in 50% of their quit efforts.¹⁸⁶ The low demand for stop smoking services probably stems from generally inadequate tobacco control measures in Germany. After all, supports for cessation are only needed if smokers decide to make the attempt.

Figure 32: Methods to Support Attempts to Quit Smoking (% of Attempters)



Source: Kotz et al. (2018). Data are from 2016 and 2017. Prevalence figures are among current smokers and recent ex-smokers trying to quit in the preceding year (%); multiple responses were possible.

Medical attitudes may also hinder use of stop smoking services. For example, brief advice from physicians increases rates and success of attempts to quit smoking,¹⁸⁷ and is cost effective.¹⁸⁸ The chances for long-term cessation are further increased when brief medical advice is combined with NRTs or either varenicline or bupropion.¹⁸⁹ Thus, national and international clinical guidelines recommend that primary care practitioners should give brief quit-smoking advice routinely to every smoking patient and make an offer of help to quit.¹⁹⁰

Despite clinical evidence and standard of care, only one in 5 smokers who visited a physician received advice to quit smoking, and barely 4% were offered an evidence-based cessation method.¹⁹¹ In England, about 60% of smokers receive comparable advice.¹⁹² The German situation has been blamed on the lack of training and lack of time on the part of physicians.¹⁹³ Meanwhile the lack of cost-sharing or reimbursement for NRTs, discussed in the following section, means that the full cost must be borne by the user, reducing their appeal – especially among more price-sensitive smokers. The result is that the most popular method of quitting by far is sole reliance on willpower (see Figure 32). Cessation attempts without using

evidence-based methods are highly likely to fail, since only 3% to 5% of unassisted attempts lead to long-term cessation.¹⁹⁴

4. NRTs and pharmacotherapy

Training for smoking cessation treatment is not a part of medical education in Germany, resulting in general practitioners who lack knowledge of and experience with cessation resources.¹⁹⁵ Nevertheless, German clinical practice guidelines recommend both psychotherapeutic¹⁹⁶ and pharmacological¹⁹⁷ support for smoking cessation,¹⁹⁸ but usage of these interventions is low. Rates of quitting attempts among German smokers have declined significantly in recent years, and only 13% of smokers in Germany used an evidence-based method in their attempt to quit. The use of pharmacotherapies has historically been significantly lower in Germany than in other European nations. For example, in England 48% of quitting attempts in 2009 involved pharmacotherapies,¹⁹⁹ and in the Netherlands, 24% of primary care physicians prescribe pharmacotherapy in the context of smoking cessation counseling.²⁰⁰ In contrast, just 8% of German quitting attempts in 2009 involved pharmacological support and only 2% of smokers reported having been given such a recommendation by their primary care physician.²⁰¹ This makes the use of electronic cigarettes for cessation especially important for German smokers, and they are the single most-reported quitting aid in Germany.²⁰²

German health insurers have not historically covered the costs of nicotine replacement therapies and medications, despite a majority of Germans supporting public funding of tobacco dependence treatments.²⁰³ Since smoking rates are consistently higher among poorer communities,²⁰⁴ a vicious cycle develops with poor smokers unable to afford therapies while squandering money on cigarettes, which worsens poverty. As shown below, cessation aids are costly. Pharmacotherapy (nicotine replacement therapy, medication) is used much more frequently by persons with higher incomes.²⁰⁵ The relative affordability of e-cigarettes may also have driven demand among smokers looking to quit, who could not otherwise afford NRTs and pharmacotherapies. If so, German cessation rates may be pushed in the wrong direction by plans to tax e-cigarettes.

Table 3: Costs of Using Cigarettes, E-Cigarettes, NRTs and Pharmacotherapies for 12 weeks

Treatment	Cost	Details	Source
Varenicline	€293	12 week course standard treatment package (starter + maintenance) of varenicline were calculated to be €293 in Germany in 2015	Huber, M. B. et al., 2018
Bupropion	€220	Standard treatment course (2016/2017)	Trapero-Bertran, M. et al., 2018
Nicotine Gum	€269	Avg 4mg gum, 10pc/day for 12 weeks.	Institute for Quality and Efficiency in Health Care (IQWiG) Germany, 2017. Amazon.de, October 28, 2021
Nicotine patch	€549	Avg 2pc/day for 12 weeks	Institute for Quality and Efficiency in Health Care (IQWiG) Germany, 2017. Amazon.de, October 28, 2021
Nicotine Lozenges	€308	Avg 4mg lozenges, 10 pc/day for 12 weeks	Institute for Quality and Efficiency in Health Care (IQWiG) Germany, 2017. Amazon.de, October 28, 2021
Nicotine Inhaler	€443	15mg cartridge, Avg 4 pc/day for 12 weeks	Institute for Quality and Efficiency in Health Care (IQWiG) Germany, 2017. Amazon.de, October 28, 2021
E-cigarettes	€92- €212	10 bottles of e-liquid per month at €1.9-5.9/pc, for 12 weeks, plus €35 starter kit and accessories)	McDonald, J., July 1, 2021. Amazon.de and vapodz.com, October 28, 2021
Cigarettes	€474	20 pc/day for 12 weeks	European Commission

Note: This table presents unadjusted costs (in €) for cigarettes, e-cigarettes, NRTs and pharmacotherapies. Shipping costs not included. Costs are calculated for cigarettes assuming 20 sticks per day priced at €5.64/day; the price listed for the average pack sold in Germany in March 2019 according to European Commission data. Costs for e-cigarettes were calculated assuming 10 bottles of e-liquid per month for 12 weeks, based on €4.00 per bottle (price based on EU-based online e-vapor retailer listing) and includes the cost of a starter-kit and accessories based on a popular online vaping marketplace serving Germany (and the EU). Prices for NRTs were calculated using products listed on the Amazon.de website on October 28, 2021, and assume consumption patterns over 12 weeks as recommended by the Institute for Quality and Efficiency in Health Care (IQWiG). Costs for 12-week courses of varenicline and bupropion were taken from the literature.

Even accounting for the up-front cost of a reusable e-cigarette device, vaping is the least costly option in the table under current market conditions. Amortizing the cost of the vaping device over a year the annual cost savings that German smokers might recognize by switching to exclusive e-cigarette use, we find that a smoker of 20 cigarettes per day at €5.64 per pack can expect to spend €2,053 over the course of a year. By switching to e-cigarette use the consumer could expect to spend €263-743 per year, a saving of €1,310 - 1,790 or between 64 - 87% (these costs are at the prices in place before the recent tax increases).

5. Alternative nicotine products

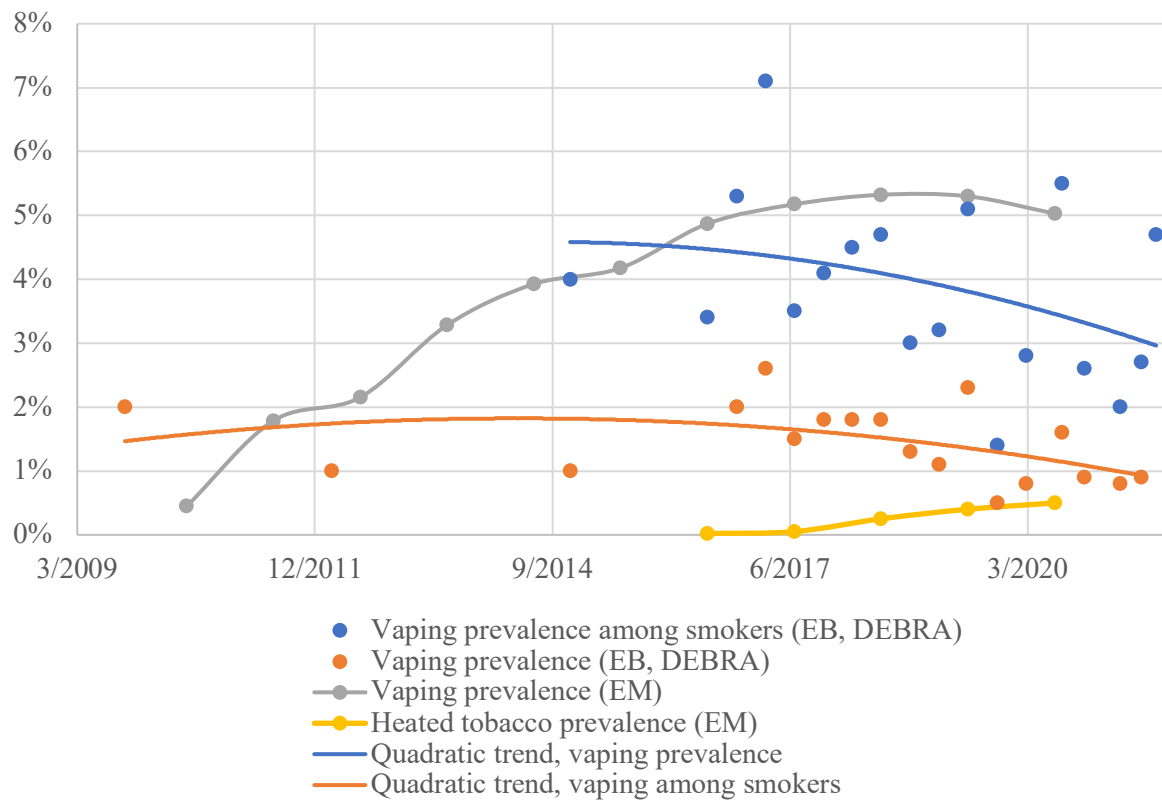
Non-tobacco oral nicotine

Snus, the most popular global oral tobacco product, has been illegal everywhere in the EU since 1992, except in Sweden, where it originated. The most commonly used oral nicotine product in Germany today is the non-tobacco nicotine pouch which is too new to have generated much data on efficacy as a cessation device. In the United States, a survey of 5,000 nicotine pouch users found that 43% were former tobacco smokers, 28% were dual users, and only 4% were never-users.²⁰⁶ Though limited in generalizability, these findings support anecdotal evidence that nicotine pouches are an effective method to reduce conventional cigarette consumption.

ENDS

Other than combustible tobacco, nicotine use in Germany is in the form of NRTs, oral nicotine, and Electronic Nicotine Delivery Systems, which include heated tobacco products. Compared to the smoking rate of about one in five adults, use of ENDS is much less prevalent. The trends shown in Figure 33 from the DEBRA data (an ongoing, independent public health survey) reveal that e-cigarettes are used by fewer than 5% of smokers and 2% of adults, and that their use appears to be declining from mid-2018 through at least the beginning of 2021. estimates Euromonitor prevalence estimates are somewhat higher, but still nowhere near the smoking rates in the country. The market for heated tobacco products continues to grow since its introduction a few years ago, although less than 1% of adults use them.

Figure 33: Prevalence of E-Cigarette Use (2009–2020)



Sources: DEBRA, Eurobarometer (EB), Euromonitor (EM); data are for Germany. For the Euromonitor data, prevalence is computed by dividing the estimated number of vapers or heated tobacco users by the number of persons of legal smoking age. Figures for vaping include heated tobacco use in the Euromonitor data. Figures for vaping include all products involving vaporization of a liquid, including e-shisha, e-cigar, and e-pipes, but excluding heated tobacco.²⁰⁷

While not all use of ENDS is intended to support cessation from smoking, 9.1% of German smokers who tried to quit used e-cigarettes to help.²⁰⁸ The same study also found that e-cigarettes were very rarely (0.3%) used by people who had never smoked tobacco. This research suggests that e-cigarettes (with or without nicotine) is the most frequently used cessation method in Germany (apart from willpower alone). Recent RTCs demonstrate that e-cigarettes may be more effective than popular NRTs.²⁰⁹ However, the appeal of ENDS is contingent, at least in part, on regulatory conditions: For example, 31.9% of e-cigarette users report doing so because it is cheaper, and 35.9% of e-cigarette users cite the available flavors/tastes as a motivating factor. If regulation minimizes these advantages by banning flavored e-cigarettes or raising taxes on e-cigarettes either in absolute terms, or relative to combustible cigarettes, we will likely see a reduction in e-cigarette led cessation.²¹⁰ Still, evidence suggests that use of e-cigarettes in conjunction with behavioral therapy is likely to be the most effective combination for smoking cessation.

Regulation

Since the attractiveness of ENDS and other alternative products as cessation aids depends in part on their regulation, policies regarding their sale and use are reviewed in the following section.

E-cigarettes

The TPD requires manufacturers and importers of e-cigarettes to collect and publish data on sales volumes, market research, mode of sale of the products, and outcomes of market surveys. Manufacturers, importers, and distributors of e-cigarettes are also required to collect information about all suspected adverse health effects of their products and notify relevant authorities six months before introducing a product to the market. That notification must include product ingredients and characteristics (e.g., emissions, toxicological data), and a declaration that the manufacturer and importer bear full responsibility for the quality and safety of the product.

The TPD also establishes standards for e-cigarette devices and liquids. The e-cigarette must deliver a consistent nicotine dose and both the device and refill containers must be childproof, tamperproof, and protected against breakage and leakage.²¹¹ Member States must ensure that packets of e-cigarettes and refill containers include a leaflet reporting all the relevant information. Product packaging must contain one or both of the following health warnings in local languages: “*This product contains nicotine which is a highly addictive substance*” and/or, “*It is not recommended for use by non-smokers.*” Specific information on constituent ingredients must also be provided. The health warning must appear on the front and back of the packaging and cover at least 30% of the surface area.

Table 4: TPD Requirements Concerning the Size and Content of E-Cigarettes

<i>Regulatory aspect</i>	<i>Mandatory provision</i>
Size of e-liquid bottle/tank	Refill containers: maximum 10 ml Single use e-cigarette: tanks/cartridges maximum 2 ml
Nicotine content of e-liquid	Nicotine content in e-liquid: maximum 20 mg/ml
Banned substances in e-liquid	Vitamins or other additives that create the impression that a tobacco product has a health benefit or presents reduced health risks; Caffeine or taurine or other additives and stimulant compounds that are associated with energy and vitality; Additives having coloring properties for emissions; Additives that have CMR (carcinogenic, mutagenic or toxic to reproduction) properties in unburnt form.

With respect to other legislative aspects, Member States are allowed to choose different regulatory routes. For example, the TPD allows Member States to determine whether to allow the promotion of e-cigarettes within the national territory through public or private contributions

to events.²¹² Minimum age to purchase, restrictions on public use restrictions, and regulation of flavors are also left to member states. The TPD also allows but does not require member states to ban Internet sales of e-cigarettes. Further, while the TPD prohibits advertisements in printed publications, on the Internet,²¹³ on the radio, and audiovisual (e.g., television) commercial communications are to be prohibited (European Parliament, 2014) Member States vary regarding the rigor with which the TPD is transposed into national legislation.

As of 2021, Germany treats advertising of combustible and e-cigarettes equally. Neither product may be advertised on German radio, television, or in print (excepting industry publications intended for professionals. Sponsorship at live events, and teleshopping is also restricted.

The Second Law amending the Tobacco Products Act²¹⁴ prohibits cinema advertising (except in films not accessible to minors under the age of 18), the distribution of free samples and will ban almost all outdoor advertising effective as of January 1, 2024. The only remaining marketing options for e-cigarettes are domestic sponsored events, some limited TV and/or film product placement and point-of-sale advertising inside retail premises. The German Länder may implement additional advertising restrictions.

Germany's Youth Protection Act prohibits the sale of e-cigarettes, regardless of nicotine content, to those under 18.²¹⁵ Vending machine rules are the same as those for cigarettes; vaping supplies may not be sold by machines unless they are inaccessible to minors. Online sales are permitted but online stores must have an age verification system to avoid selling to minors. Section 22 of the Tobacco Products Act also requires age-verification for cross-border sales within the EU.²¹⁶

Article 13 of the Tobacco Products Act restricts the ingredients that may be used in e-cigarettes: ingredients other than nicotine must be pure and not hazardous to human health in heated or unheated form, and all ingredients, other than those present at unavoidable trace levels must be reported to the relevant authorities. Effective May 2017, Annex 2 of the Tobacco Products Ordinance also prohibits the inclusion of vitamins or other additives that give the impression of health benefits or lower health risks; caffeine, taurine, or other stimulating substances; additives that color emissions, or that have carcinogenic, mutagenic or reprotoxic properties.²¹⁷

Article 14 of the Tobacco Products Act requires e-cigarette refill containers to hold no more than 10 ml, and disposable e-cigarettes and disposable refill pods may not have a volume greater than 2 ml. Article 27 requires that e-cigarette packaging may not encourage the consumption of e-cigarettes, suggest that one product is less harmful than another; nor categorize the product as having harm reduction properties, or health or lifestyle benefits.²¹⁸ Packaging may not suggest any resemblance to medication, food or cosmetic product nor suggest that the

product offers any environmental advantages. Packaging may not offer economic incentives such as vouchers, discounts, free distribution, two-for-one, or other similar offers.

As described above, e-cigarette packaging must carry health warnings, but we already have evidence of non-compliance. A 2021 study by the regional government of Baden-Württemberg found that 86% of vaping products inspected did not fully comply with existing labelling and packaging regulations.²¹⁹ These violations may undermine public trust in alternative nicotine and tobacco products and their utility as aids to smoking cessation.

Most smoke-free laws in Germany operate at the state level, thus the federal government may only limit public use of e-cigarettes on federal premises and on trains and in train stations of the state-owned company Deutsche Bahn. Most states have not included vaping in their smoke-free legislation, though future restrictions are likely. Business owners may ban vaping on their premises. German courts have been reluctant to extend anti-smoking rules to vaping, but the Youth Protection Act prohibits minors from using vaping products (including non-nicotine) in public places.²²⁰

E-cigarettes are not currently taxed in Germany, making them a more affordable. However, an increase in tobacco taxes planned for 2022 would increase the cigarette tax to €100.07 per 1,000 units and 21.64% of the retail price. However, proposed legislation slated to come into effect in 2022 would also levy a tax on e-liquids for the first time. The planned tax is €0.02 per mg nicotine, rising to €0.04 per mg nicotine from 2024. Future revisions to the TPD may also apply tobacco taxes to e-cigarettes.

HTPs

Heated Tobacco Products are classified as novel smokeless tobacco products and subject to less stringent regulations. As with e-cigarettes, while flavors are permitted, vitamins, caffeine, taurine, or other stimulants; emissions-coloring additives and any that have carcinogenic, mutagenic or toxic properties in unburnt form are prohibited. Similarly, the Tobacco Products Ordinance²²¹ requires manufacturers and importers of HTPs to report information about the additives and their quantities. This information is published by the Federal Ministry of Food and Agriculture (BMEL).²²² Manufacturers and importers of HTPs are required by Article 7²²³ of the Tobacco Products Act, and Articles 19 to 23²²⁴ of the Tobacco Products Ordinance, to ensure their traceability, detection, and other security features.

Like e-cigarettes, Article 18 of the Tobacco Products Act, requires HTP packaging to avoid statements which encourages the consumption, or suggest that one product is less harmful than another or make claims of harm reduction.²²⁵ The packages must not resemble medication, food, or cosmetic products nor suggest that the product offers any environmental advantages, and must also contain information about the nicotine, tar or carbon monoxide content of the tobacco product, or offer economic incentive. HTPs sold in Germany must also carry health warnings.

The health warning must be parallel to any text on the surface reserved for the warning, printed in Helvetica bold type on a white background, centered, and legible. The warning must cover at least 30% of the surface area. Health warnings must be written in German; free of comments, paraphrases, or references; non-removable; not obscured or damaged by the product's use. They must not cover control characters, price tags, individual identification elements or security features, and must be contained in a 1-millimetre-wide black border.²²⁶

HTPs are subject to the same restriction that apply to e-cigarettes. Outdoor advertising of HTPs will be banned as of January 1, 2023. The Youth Protection Act,²²⁷ makes it illegal to sell any tobacco product to under-18s, and that includes HTPs. Online stores must operate an age verification system to prevent sales to minors. Retail restrictions for HTPs are the same as those applied to e-cigarettes. Federal restrictions on smoking in public apply to HTPs.

HTPs are currently taxed as pipe tobacco in Germany, which carries a lower tariff than combustible cigarettes. According to Article 2 (4) of the Tobacco Tax Act²²⁸ pipe tobacco is taxed at €15.66 per kg of tobacco plus the ad valorem excise of 13.13% of retail price, minimum 22 €/kg.²²⁹ The effective tax rate for HTPs is approximately €0.90 per pack, making HTPs relatively less expensive than combustible cigarettes. However, under proposed legislation, HTPs would be taxed on parity with traditional cigarettes from January 2022.

Future iterations of the TPD may seek to harmonize taxes on ENDS and could levy taxes on both combustibles and SNPs as well as taking other measures such as flavor bans and restrictions on online sales. A review of the TPD commences in 2021, with a focus on new tobacco products (HTPs and pouches) that were not addressed in the 2014 directive. An EC study in February 2020 found that 15 of 24 responsive member states favoured designating a specific tax category for HTPs and implementing minimum tax level. Almost all responsive states supported harmonizing the taxation of e-cigarettes. The Committee of Permanent Representatives in the European Union has also called for the adoption of a harmonised tax system for tobacco-alternative products.²³⁰

Non-tobacco oral nicotine pouches

As of July 2021, the Federal Cartel Office banned oral nicotine pouches as an unauthorized food product.²³¹ This followed several court decisions interpreting definitional law to categorize the pouches as food and therefore subject to laws banning nicotine as an ingredient in food products.²³² At the time, British American Tobacco had led the Germany pouch market with the Velo brand, but withdrew from the market in 2021 due to the legal uncertainties.²³³ Prior to the decision, 200 million units of non-tobacco oral nicotine products were sold in 2020.²³⁴ Prior to the Federal Cartel Office's 2021 announcement, Bavaria banned the sale of nicotine pouches in 2020, followed by Lower Saxony in 2021.

Motivations for use and non-use of ENDS

In a 2017 study, the most commonly reported smoking cessation aid was e-cigarette use, with 9.1% of smokers trying to quit listing it as their assistance of choice.²³⁵ Similarly, the 2020 Eurobarometer Special Report found that of all smokers who stopped or tried to stop smoking, 83% tried willpower alone, 7% tried nicotine replacement therapies and/or pharmacotherapy, and only 6% had tried using e-cigarettes. Among current e-cigarette users, 27.5% had switched as a method to quit smoking completely.²³⁶ E-cigarette use appears to be motivated by concerns about smoking-related harms. 33.5% of e-cigarette users were motivated to use e-cigarettes because of the possibility of smoking less tobacco, and 31.4% because they are less harmful. Differences between e-cigarettes and cigarettes resulting from regulatory decisions also add to e-cigarettes appeal: 31.9% of e-cigarette users chose to do so because of their cheaper price relative to smoking tobacco, and range of flavors and/or tastes motivated consumption among 35.9%.²³⁷ The ability to use e-cigarettes in otherwise cigarette smoke-free environments, such as workplaces, may also motivate use, especially among by dual-users.

Taken together these figures demonstrate the importance of e-cigarettes for German quitting attempts. Among non-users in Germany, only 11% of respondents believe that e-cigarettes help tobacco smokers quit and 6% believe that of HNB products. However, these low figures are not unsurprising, considering only 5% of non-users find e-cigarettes appealing.²³⁸

Evidence on efficacy of use for cessation

The prevalence of tobacco consumption appears to have increased in the three months leading up to the implementation of the TPD in May 2017, and the prevalence of e-cigarette use appears to have declined following the introduction of the TPD perhaps in response to the more rigorous regulation of ENDS. suggest that more stringent e-cigarette regulation may have reduced e-cigarette led smoking cessation in Germany,²³⁹ as has been demonstrated in France²⁴⁰ and the U.S.²⁴¹ However, interpretation is obscured by the introduction of well-marketed HTPs, which are taxed at a lower rate than combustible cigarettes and on parity with pipe-tobacco.

As in other countries,²⁴² the use of e-cigarettes is overwhelmingly more frequent among German current and former smokers. Moreover, a growing body of RTCs demonstrates that e-cigarettes may be more effective cessation aids than popular NRTs.²⁴³ Still, the use of e-cigarettes in conjunction with behavioral therapy is likely to be the most effective combination with which to support smoking cessation.²⁴⁴ To that end, policy makers should be concerned about the relatively low rates of engagement with smoking cessation services in Germany. Only 12.5% of German quit attempts made use of the gold standard: brief physician advice, behavioral counseling, and nicotine replacement therapy, compared to approximately 50% of quit attempts in England.²⁴⁵ It is also notable that over two-fifths of physicians in Germany think that ENDS are a “very bad method” for cessation, while only one in six thinks that they are a very good method.²⁴⁶

There is little evidence that German smokers try waterpipes to stop smoking. The odds ratio of currently using waterpipes are in Germany is 3.0 for current smokers but only 1.1 for ex-smokers (and the latter estimate is statistically indistinguishable from 1.0.²⁴⁷ Indeed, given that waterpipes appear to have no health benefits compared to smoking, and may even be more harmful²⁴⁸ this would be an odd route to cessation from smoking cigarettes.

VII. Discussion and Application of Findings to Current Policy Proposals and Considerations

A. New taxes on tobacco and novel products

Novel nicotine products such as e-cigarettes and HTPs have traditionally been taxed at lower rates than combustible cigarettes in Germany. For example, combustible cigarettes are taxed at €98.2 per 1,000 units in addition to an ad valorem tax of 21.69% of the retail price, and the 19% VAT. In contrast, HTPs are currently taxed as pipe tobacco, which carries a lower tariff than combustible cigarettes: €15.66 per kg of tobacco plus the ad valorem excise of 13.13% of retail price, minimum 22 €/kg. The effective tax rate for HTPs is approximately €0.90 per pack, making them significantly less expensive than combustible cigarettes. E-cigarettes are not currently taxed at all other than the standard VAT, and the relative tax advantage contributes to their appeal for the informed, price-conscious consumer. Since ENDS are substitutes for combustible tobacco for many smokers and considering that both products (especially e-cigarettes) carry significantly less risk to the consumer compared with combustible cigarettes, the price differential nudges smokers towards the less risky products. E-cigarettes also offer a cheaper alternative to NRTs which are currently not subsidized in Germany; a factor which may help explain their status as the single most used cessation aid among German smokers.

However, under legislation adopted in June 2021, this differential will be reduced. The Tobacco Tax Modernization Act sets taxes for e-liquid at €0.16 per milliliter beginning July 1, 2022. The tax will apply to any e-liquid whether or not the solution contains nicotine. The tax rises to €0.20/mL in 2024, €0.26/mL in 2025, and tops out at €0.32/mL from 2026 on. The expected impact on the price of a 10 ml bottle of e-liquid – the largest size allowed under the TPD – is a 30% increase between 2021 and 2022 prices, and about a 60% increase between 2021 and 2026 prices.²⁴⁹ HTPs will be taxed at a rate of €2.74 per pack of 20 heat sticks beginning in 2022, rising to €2.89/pack in 2023, €3.03/pack in 2025, and finally €3.15/pack in 2026. While these are large tax increases compared with the status quo, they are smaller than those proposed in the initial version of the bill.²⁵⁰ According to the government's own estimates, the new tax will raise €1.85m in 2022, rising to €4.2m by 2026. Given that the original version of the bill would have brought in an estimated €135m in 2022 alone,²⁵¹ it is clear that the final tax levels are only a fraction of what was originally proposed. Straightforward comparison of the tax rates is complicated by the fact that the original bill taxed the nicotine content of e-liquid rather than the total volume of solution. However, under reasonable assumptions, the originally proposed final tax level for e-cigarettes was equivalent to €0.80/mL of e-liquid in 2026, more than double the finally adopted tax rate.²⁵²

In revising down the proposed tax levels, the Finance Committee of the Bundestag recognized (or at least made a nod toward) risk-proportionate taxation. Reflecting on their decision, the committee stated that the original proposal would have resulted in a multiplying of

the costs to the end user. The Committee concluded that “this would deter many smokers from the health-beneficial switch [from smoking to vaping] and put in question the continued existence of an entire industry. Neither fiscal nor health-policy goals can be served in this way.”²⁵³ The German government’s revised position is therefore an attempt to reconcile concern for the increasing demand for vapor products and the belief that such products cause some harm with the understanding that these products cause less harm than smoking and are an important cessation aid for German smokers thus far unable or unwilling to quit.

Given the possible unintended consequences of e-cigarette taxation, the decision to moderate the proposed vape tax seems prudent. The revision may mitigate some of these unintended consequences compared with the counterfactual. By making vaping more expensive than smoking, the proposed taxes would likely have encouraged some of those who have recently quit smoking via alternative nicotine delivery systems to go back to more harmful cigarettes, reversing the public health gains of the original substitution. However, while the revisions may have mitigated this unintended consequence, it has not been eliminated entirely because any reduction in the relative appeal of e-cigarettes is likely to inform future consumption. E-cigarettes are already the single most popular smoking cessation aid in Germany, and price comparison is a large part of that. At present, NRT use is concentrated among the affluent, although poorer German may switch to ENDS to save money. Reducing the price differential between cigarettes and e-cigarettes, and or increasing the cost of e-cigarettes to the level of current NRT prices (or at least the portion of that price which the consumer pays given that some costs will be borne insurance companies in the future) could therefore not only undermine smoking cessation in the aggregate and disproportionately exacerbate disparities of smoking harms.

Secondly, the original tax law would probably have stimulated the illicit trade in vape supplies. Higher taxes make regulated products more expensive and boost incentive for smugglers and consumers of unregulated products. Of course, law enforcement may be ramped up to detect illicit suppliers, but the cost is high and only a fraction of the illicit market is intercepted and shut down. The revised tax law may mitigate this ITTP response, but it is unlikely to have eliminated it entirely. Illicit trade in response to tax increases is a real-world phenomenon,²⁵⁴ not merely a convenient talking point for the tobacco industry (as is widely charged in the public health community). The literature on illicit trade of tobacco products has traditionally focused on combustible cigarettes, but the combination of rapidly increasing popularity, imperfect regulatory oversight and new taxes make vape products a perfect candidate for illicit traders. Some observers fear that the new tax increases, while lower than originally intended, are still large enough to spur smuggling. The union for police in Germany²⁵⁵ points out that HTPs will be available in neighboring Poland for about one-third the German price, and that given current inattention to customs enforcement, the large potential profits and the low risk of discovery, the new taxes are “welcome startups for smugglers, black marketeers, and counterfeiters” (GdP, 2021).²⁵⁶ Other European countries have already had to grapple with tax-

induced illicit trade in ENDS. Estonia recently suspended its €0.2 (\$0.24) per mL tax on e-liquids that had been in place since 2018 to combat growing illicit trade from Latvia and Russia which, by some estimates, accounted for up to 80% of the Estonian e-liquid market.²⁵⁷

Illicit e-vapor products are not just a problem for regulators looking to secure public revenues, public health officials eager to make vaping less attractive and law enforcement charged with detecting and punishing violations. Illicit products deny the regulator an important opportunity to safeguard product quality. Just as illicit tobacco has been known to have higher levels of harmful chemicals, mold, and adulterants, illicit vape products present the consumer with specific and avoidable harms, as evidenced by cases of so-called E-cigarette Induced Vaping Lung Injury (EVALI) in the U.S. in the summer of 2019. This outbreak, as the name suggests, was initially blamed on vaping. However, the CDC has since acknowledged that cases of EVALI can overwhelmingly be connected with illicit THC vapes containing vitamin E acetate. The outbreak says far more about the rigor of cannabis regulations in the U.S. than it does about vape products in general. However, it is a useful reminder that illicit products carry specific risks that may be avoided with regulatory oversight. The full cadre of e-cigarette regulations should be designed so as to minimize the incentive for consumers to use illicit products.

EU law presents one potential barrier to this goal: Future iterations of the TPD may seek to harmonize taxes on ENDS, increase levies on both combustibles and SNPs, ban flavors and restrict online sales of SNPs. These measures could make SNPs less attractive to current smokers who might otherwise use them to quit combustible tobacco. Diminishing the attractiveness to consumers (e.g., banning flavors)²⁵⁸ may increase the incentive for illicit vape products.

An EC study in February 2020 found that 15 of 24 responsive member states favored designating a special tax category for HTPs and implementing an EU-wide minimum tax level. 19 of 23 responsive states supported harmonizing the taxation of e-cigarettes. The Committee of Permanent Representatives in the European Union has also called for the adoption of a harmonized tax system for tobacco-alternative products. Whether the EU requires member states to tax ENDS on parity with combustible cigarettes remains to be seen. But if future taxes are sufficient to reduce the relative appeal of vaping over smoking, they may inadvertently limit the prospects for successful smoking cessation.

B. Advertising restrictions and vape-free laws

E-cigarettes and HTPs (i.e., ENDS) have, until now, enjoyed less restrictive regulations than combustible cigarettes. However, planned advertising restrictions would reduce that differential. Smoke-free laws may also be expanded to encompass ENDS. Currently, e-cigarettes and heated tobacco are not included in Germany's laws providing rules for smoke-free areas. The state of Hesse recently proposed to add these novel products to the set of tobacco products with location restrictions on use.²⁵⁹ The premise of the bill, per its legislative proponents, is that

these alternative tobacco products, although admittedly less harmful than cigarettes and other combusted tobacco products, nevertheless release some harmful substances into the air.²⁶⁰ Protecting the health of children and youth is a stated goal of the bill.

The data presented in this report do not appear to suggest that Germans have responded to previous restrictions on cigarettes by embracing ENDS in large numbers, with the possible exception of the small but rapidly growing market for HTPs. However, data from the EU and elsewhere suggests that ENDS are indeed substitutes for combustible cigarettes in a licit market attenuates smokers' tendencies to turn to illicit markets for tobacco when taxes rise on combustible cigarettes.²⁶¹ Regulation of e-cigarettes and other alternative products should be central to the design of tobacco control policies. Germans report a desire to quit and reduce tobacco use as among the primary motivations for e-cigarette use. Moreover, a growing number of RTCs confirms that the use of e-cigarettes is among the most effective ways to quit smoking, at least when users are motivated to quit. Emissions tests report that e-cigarette vapor exposes the consumer to a small fraction of the harmful toxins responsible for smoking-related morbidity and mortality. From all of this we conclude that the proposed regulations would reduce the relative appeal of alternative nicotine products and can reasonably be expected to reduce ENDS-led cessation as an unintended consequence.

VIII. Concluding Remarks

Germany's historical resistance to tobacco control is not explained by any single factor but was the result of its complex and idiosyncratic political history and culture. The tradition of industry self-regulation; political contributions by industry and the framing of tobacco as an issue of economics or liberty instead of a public health issue; a lack of German language public health research and teaching in the latter half of the twentieth century; a lack of policy transfer from other nations with more robust opposition to tobacco; and a relative lack of strong well-funded and coordinated public health NGOs all contributed to a system in which industry interests were not effectively counter balanced by public interests, and were thus allowed to dictate national and international policy.

The negative association between tobacco control and cultural memories of fascism has been repeated so often that it is taken as a truism that rejection of the latter led to rejection of the former. However, Nazi commitment to tobacco control was lackluster. The Nazi party provided troops with tobacco rations, and while the NSDAP funded research on tobacco harms, such research in Germany predates 1933. Of course, the historical validity of the association between Nazism and tobacco control is unimportant. Many people believed it, and pro-tobacco forces have used it to further their agenda. What has been referred to as 'epistemic autarkic isolation' is not driven only by geographic isolation or lack of multilingualism, but probably has more to do with Germany's economic self-sufficiency and the country's political and economic influence in Europe and beyond. Given these considerations, successive German governments may have felt little pressure to enact more robust regulation as a prerequisite for international relationships, and indeed felt confident obstructing international attempts to coordinate tobacco control. By contrast, other nations with smaller economies, or that were less secure in their standing on the world stage, may have been more inclined towards cooperation on tobacco control as a prerequisite for membership of international coalitions, despite facing similar linguistic and geographic isolation.

Progress since 2000, however imperfect when considered against the experience of other nations, coincides with the removal of these barriers: The ability of industry to self-regulate and the power of the tobacco lobby was irrecoverably damaged first by the passage of the original TPD and its transposition into German law and later by accession to the FCTC. The re-framing of tobacco as a public health issue took tobacco out of the control of German ministries with ties to the tobacco industry. The TPD raised the profile of national health agencies and created a platform for German NGOs, which raised public awareness of smoking harms. German consumers became more aware of international, national, and regional regulations, which helped inform and foster support for tobacco control interventions. EU efforts forced change at the parliamentary level and seem to have been a major catalyst for the national conversation on tobacco control, with increasing support for tobacco control evident thereafter. Constitutional

and judicial developments in the 2000s gave German states the power to implement smoke-free laws, which they have done, albeit with various levels of stringency.

What does all this mean for the future of German tobacco control and for Germany's role in shaping international tobacco treaties in the future? Germany's past resistance to EU legislation depended on factors that have since been reversed, giving reason to hope that Germany will be more enthusiastic about future iterations of the TPD than it was about the first. Indeed, Germany's participation in the EU's revision of the TPD in 2014 was quite different than its blocking role with the original TPD and the FCTC. Germany's stance on the revised TPD was similar to that of other Western European countries in the EU and there is no evidence that the tobacco industry gained any influence with German members of the European Parliament.²⁶² Moreover, planned national legislation suggests that Germany will take further steps to close the loopholes that have made tobacco control less effective than similar interventions elsewhere. It is particularly encouraging that Germany has taken steps to fund the provision of NRTs via health insurance, which may increase engagement with these cessation aids beyond the currently disappointing levels. If so, additional cessation could be anticipated.

Optimism is also bolstered by decisions to reduce the planned tax increases on SNPs specifically to protect smoking cessation; it is one of the first times a national regulator has designed taxation explicitly to foster harm reduction (or at least to not hinder harm reduction). However, the move still increases the tobacco tax base to e-cigarettes and HTPs, ostensibly to protect the revenues from declining sales of combustible tobacco. Future iterations of the TPD could make such tax increases uniform across the EU and may even implement higher minimum standards than those planned by Germany, which could further threaten SNP-led cessation and nudge some consumers to illicit products. Indeed, as European nations emerge from the COVID-19 pandemic with a need to recover lost tax revenues, the incentive to raise revenues from sources such as e-cigarettes may be especially tempting. However, those controlling state budgets should consider the costs resulting from their decisions as well as the potential tax gains. Any increased taxation of e-vapor products will incentivize illicit markets - which have already claimed significant market share in Estonia, leading the national government there to reverse the tax on e-liquids. Concerns about illicit markets of vapor products are not just a matter of economic theory: Illicit products are not subject to regulatory scrutiny and can contain substances which risk harms for the consumer. To demonstrate the harms posed by illicit products over regulated analogues, look no further than the 2800 or so cases of EVALI-hospitalizations in the U.S. in 2019. Moreover, the vendors of illicit products may deploy unethical marketing practices, targeting youth. In consideration of these arguments regulators concerned for public health should design policy not only to maximize smoking cessation, but also to minimize the illicit markets. Time will tell if the progress made in Germany on tobacco control extends this far.

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Appendix

A. List of tax rates by tobacco product 1997-2027

Cigarettes, cigars, cigarillos, and e-liquids

	Cigarettes			Cigars, Cigarillos			Nicotine-Containing E-Liquids
In effect	<i>Tax per unit in Pfennig</i>	<i>Percentage of the retail price added onto unit tax</i>	<i>Minimum tax per unit in Pfennig</i>	<i>Tax per unit in "Pfennig"</i>	<i>Percentage of the retail price added onto unit tax</i>	<i>Minimum tax per unit in Pfennig</i>	<i>Tax per milligram of nicotine</i>
1997-May 31st 1998	8.3	24.8	11	-	5	3.1	-
Jun 1st 1998-Dec 31st 1999	9.22	21.96	11	2.6	1	-	-
Jan 1st 2000-Nov 30th 2000	9.22	21.96	13.7	2.6	1	-	-
Dec 1st 2000-Dec 31st 2001	9.69	21.6	-	2.6	1	-	-
<i>Implementation of the Euro</i>							
	Cigarettes			Cigars, Cigarillos			Nicotine-Containing E-Liquids
In effect	<i>Tax per unit in cents</i>	<i>Percentage of the retail price added onto unit tax</i>	<i>Minimum tax per unit in cents minus the sales tax of the retail selling price of the taxable cigarette</i>	<i>Tax per unit in cents</i>	<i>Percentage of the retail price added onto unit tax</i>	<i>Minimum tax per unit in cents minus the sales tax of the retail selling price of the taxable cigarillo or cigar</i>	<i>Tax per milligram of nicotine in Euro</i>
Jan 1st 2002-Dec 31st 2002	5.59	23.31	-	-	-	-	-
Jan 1st 2003-Feb 29th 2004	6.17	24.23	-	-	-	-	-
Mar 1st 2004-Nov 30th 2004	6.85	24.27	13.5	1.4	1.3	-	-
Dec 1st 2004-Aug 31st 2005	7.56	24.82	14.87	1.4	1.4	-	-
Sep 1st 2005-Feb 14th 2006	7.56	24.82	16.23	1.4	1.5	—	-
Feb 15th 2006-Feb 14th 2008	8.27	24.66	17.11	1.4	1.47	-	-
Jan 1st 2008-Mar 31st 2010	8.27	24.66	-	1.4	1.47	-	-
Apr 1st 2010 - Apr 30th 2011	8.27	24.66	17.586	1.4	1.47	-	-
May 1st 2011 - Dec 31st 2011	9.08	21.94	18.156	1.4	1.47	4.888	-

	Cigarettes			Cigars, Cigarillos			Nicotine-Containing E-Liquids
Jan 1st 2012 - Dec 31st 2012	9.26	21.87	18.518	1.4	1.47	5.76	-
Jan 1st 2013 - Dec 31st 2013	9.44	21.8	18.881	1.4	1.47	5.76	-
Jan 1st 2014 - Dec 31st 2014	9.63	21.74	19.259	1.4	1.47	5.76	-
Jan 1st 2015- February 14th 2016	-	-	19.636	1.4	1.47	5.76	-
Feb 15th 2016- Dec 31st 2021	9.82	21.69	-	1.4	1.47	5.76	-
Jan 1st 2022- Dec 31st 2022	10.88	19.84	22.276	1.4	1.47	6.632	-
Jul 1st 2022- Dec 30th 2023	-	-	-	-	-	-	0.02
Dec 31st 2023-	-	-	-	-	-	-	0.04
Jan 1st 2023- Dec 31st 2024	11.15	19.84	22.888	-	-	-	-
Jan 1st 2025- Dec 31st 2025	11.71	19.84	24.163	-	-	-	-
Jan 1st 2026- Feb 14th 2027	12.28	19.84	25.106	-	-	-	-
Feb 15th 2027-	12.28	19.84	-	1.4	1.47	7.504	-

Fine-cut and pipe tobacco

	Fine-Cut Tobacco			Pipe Tobacco		
	<i>Tax per kilogram in D-mark</i>	<i>Percentage of the retail price added onto kilogram tax</i>	<i>Minimum tax per kilogram in D-Mark</i>	<i>Tax per kilogram in D-Mark</i>	<i>Percentage of the retail price added onto kilogram tax</i>	<i>Minimum tax per kilogram in Euro minus the sales tax of the retail selling price of taxable pipe tobacco</i>
In effect						
1997-May 31st 1998	30.21	18.12	45	5.5	22	21
Jun 1st 1998- Dec 31st 1999	30.21	18.12	45	21	13.5	-
Jan 1st 2000- Nov 30th 2000	30.21	18.12	45	21	13.5	-
Dec 1st 2000- Dec 31st 2001	30.21	18.12	45	21	13.5	-

<i>Implementation of the Euro</i>						
	Fine-Cut Tobacco			Pipe Tobacco		
In effect	<i>Tax per kilogram in Euro</i>	<i>Percentage of the retail price added onto kilogram tax</i>	<i>Minimum tax per kilogram in Euro minus the sales tax of the retail selling price of the taxable fine-cut tobacco</i>	<i>Tax per kilogram in Euro</i>	<i>Percentage of the retail price added onto kilogram tax</i>	<i>Minimum tax per kilogram in Euro minus the sales tax of the retail selling price of the taxable pipe tobacco</i>
Jan 1st 2002-Dec 31st 2002	19.15	17.02	31	-	-	-
Jan 1st 2003-Feb 29th 2004	21.4	18.32	35	-	-	-
Mar 1st 2004-Nov 30th 2004	27.03	16.67	41.4	13.32	11.98	-
Dec 1st 2004-Aug 31st 2005	30.55	17.94	47.34	14.49	12.76	-
Sep 1st 2005-Feb 14th 2006	34.06	19.04	53.28	15.66	13.46	-
Feb 15th 2006-Feb 14th 2008	34.06	18.57	53.28	15.66	13.13	-
Jan 1st 2008-Mar 31st 2010	34.06	18.57	53.28	15.66	13.13	-
Apr 1st 2010 - Apr 30th 2011	34.06	18.57	53.28	15.66	13.13	-
May 1st 2011 - Dec 31st 2011	41.65	14.3	81.63	15.66	13.13	-
Jan 1st 2012 - Dec 31st 2012	43.31	14.41	84.89	15.66	13.13	-
Jan 1st 2013 - Dec 31st 2013	45	14.51	88.2	15.66	13.13	-
Jan 1st 2014 - Dec 31st 2014	46.75	14.63	91.63	15.66	13.13	-
Jan 1st 2015-February 14th 2016	-	-	95.04	15.66	13.13	-
Feb 15th 2016-Dec 31st 2021	48.49	14.76	-	15.66	13.3	22
Jan 1st 2022-Dec 31st 2022	49.56	16	102.56	15.66	13.3	24
Jul 1st 2022-Dec 30th 2023	-	-	-	-	-	-
Dec 31st 2023-	-	-	-	-	-	-
Jan 1st 2023-Dec 31st 2024	54.39	17	111.78	-	-	-
Jan 1st 2025-Dec 31st 2025	57.85	17.2	21.51	-	-	-
Jan 1st 2026-Feb 14th 2027	61.58	17.4	128.83	-	-	-
Feb 15th 2027-	61.58	17.4	-	15.66	13.3	26

Sources: Values 1997- Dec 2001 are taken from digitalized yearly tax reports of the Federal Statistical Office in German (Destatis): Fachserie. 14, Finanzen und Steuern. Reihe 4, Steuerhaushalt. https://www.statistischebibliothek.de/mir/receive/DESerie_mods_00000010. Values Jan 2002-Feb 2004 are taken from BGBl. I 2001, p. 3436. Values Mar 2004-Dec 2006 taken from <https://www.buzer.de/gesetz/137/al0-9130.htm> BGBl (accessed October 28, 2021). I

2003, p. 2924. Values Jan 2007-Feb 2008 are taken from BGBl. I 2006 p. 2830. Values Mar 2008-Mar 2010 are taken from BGBl. I 2009, p.1871. Values April 2010-Dec 2021 are taken from §2 Tobacco Tax Act (Tabaksteuergesetz), available from https://www.gesetze-im-internet.de/tabstg_2009/BJNR187010009.html (accessed October 28, 2021). Values Jan 2022-Feb 2027 are taken from Tobacco Tax Modernization Act BGBl. I 2021, p.3411.

Note: The German tobacco tax is a combination of a specific tax and an ad valorem tax (percentage of the retail selling price, see § 3 TabakStG). The law provides the specific tax level in cents in single units for cigarettes, cigars, and cigarillos. Fine-cut and Pipe tobacco are given per kilogram and nicotine-free liquids per milligram of nicotine. To determine the ad valorem tax, the retail selling price of every type of tobacco product is required. This information is printed on the tax stamp (Steuerzeichen). The same retail price shall be assigned to tobacco products of the same brand or corresponding packs of the same quantity. The retail price is determined by the manufacturer or importer. It must be expressed in full Euros and cents. The Federal Ministry of Finance then publishes a weighted average of the retail selling price in the Bundesanzeiger to be used in the calculation of future ad valorem tax rates. The “Minimum tax”: is given by 100 percent of the total tax burden imposed by both the tobacco tax and the sales tax on the weighted average retail selling price after subtracting the sales tax on the retail selling price of the taxable tobacco product. For detailed information on the calculations (in German): https://www.zoll.de/DE/Fachthemen/Steuern/Verbrauchssteuern/Alkohol-Tabakwaren-Kaffee/Steuerhoehe/Tabak/tabak_node.html

B. Description of key data sources

This report uses data from a variety of sources. Each mention of an empirical fact in the text is accompanied by the source of the data; more information on those sources may be found here.

1. DEBRA

Launched in 2016, The German Study on Tobacco Use [*Deutsche Befragung zum Rauchverhalten*] (“DEBRA”) is a bi-monthly, nationally representative survey to gauge tobacco usage. Using random sampling, roughly 2,000 Germans over the age of 14 are surveyed via computer-assisted face-to-face interviews every two months. Follow-up computer-assisted telephone interviews are conducted with tobacco users six months following the initial interview. The DEBRA study covers the use of conventional tobacco products such as combustible cigarettes, loose tobacco, cigars, and pipe tobacco; oral tobacco such as snus; alternative nicotine delivery systems (ANDS) such as e-cigarettes and heated tobacco products (HTPs). Data are collected on behavioral patterns including prevalence, consumption, products used, the urge to smoke, cessation attempts, use of cessation aids, and attitudes towards tobacco control policies. The study is funded by the German Ministry of Health (2019 to present) and was previously supported by the Ministry for Innovation, Science and Research of the German Federal State of North Rhine-Westphalia (2016–2019). Further detailed information on the DEBRA study, methodology, and results can be found at: <https://www.debra-study.info/forschung>.

2. Destatis Microcensus

The German Microcensus [*Mikrozensus*] is a nationally representative annual survey carried out by the German Statistical Office [*Destatis*] since 1957. The sample is large, equal to

approximately 1% of the German population (370,000 households and 810,000 individuals). Most respondents provide responses via computer-assisted face-to-face interviews (65%); others answer by self-administered paper and pencil questionnaires (31%) and telephone interviews (3%). Response is compulsory by law regarding topics concerning the population structure, economic and social situations, families and households, employment market, occupational outline and training of the workforce, and living conditions. Response to topics concerning health, such as tobacco and nicotine consumption behaviors and habits, are voluntary though routinely provided. The obligatory participation leads to a high participation rate of nearly 95%. Further detailed information on the Microcensus can be found at: <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bevoelkerung/Haushalte-Familien/Methoden/mikrozensus.html>.

3. Epidemiological Survey on Substance Abuse

Since 1980, the Epidemiological Survey on Substance Abuse in Germany (ESA) has been conducted regularly by the Institute for Therapy Research in Munich and funded by the Federal Ministry of Health. The ESA seeks to report the use and abuse of psychoactive substances among the German population 18-64 years old. Until 1995, only 18-59 year olds were surveyed. The sample is drawn through a two-stage probability design. Participants respond via paper-and-pencil questionnaires, telephone interviews, and online questionnaires. The number of respondents varies from 7,833 to 9,267 (1995 and 2018, respectively), with an average participation of 55-60%. Since 1997, the survey has been conducted every three years and covers the prevalence of conventional tobacco products such as combustible cigarettes, loose tobacco, cigars, and pipe tobacco as well as alternative nicotine delivery systems (“ANDS”) such as e-cigarettes and heated tobacco products (HTPs). Alcohol and illicit drugs and pharmaceuticals usage is reported as well. A limitation of the ESA survey is the nature of voluntary self-reporting and the risk of providing socially desirable responses, particularly regarding stigmatized or even illegal substance consumption. Further detailed information on the DEBRA study, methodology, and results can be found at: https://search.gesis.org/research_data/ZA7751.

4. Tabakatlas

The German Tobacco Atlas [Tabakatlas] is an annual publication by the German Cancer Research Center to illustrate tobacco usage patterns and trends across the country. Synthesizing data from sources including the Microcensus and the Epidemiological Survey on Substance Abuse, the Tobacco Atlas presents the authors’ calculations and data visualization on tobacco usage and consumption, nicotine usage and consumption, cessation attempts and methods, regional trends, and demographic breakdowns. Further detailed information on the DEBRA study, methodology, and results can be found at: <https://www.dkfz.de/de/tabakkontrolle/download/Publikationen/sonstVeroeffentlichungen/Tabakatlas-Deutschland-2020.pdf>

5. Euromonitor

Euromonitor's Passport database provides consumer, market, and industry data and analysis for many industries, including tobacco, across over 100 countries. For the purpose of writing this report, BOTEK Analysis was granted access to the Passport database under terms of the subscription license granted to the Foundation for a Smoke-Free World. Euromonitor data on cigarettes covers tax-paid sales revenue and sticks sold in Germany, along with estimated units consumed of illicit cigarettes. For the vapor market (e-cigarettes and heated tobacco), only aggregate sales revenue (not quantity or prices) is available. Revenue and units sold are also available for other tobacco products (smoking tobacco, cigars, etc.). Further information on the Euromonitor Passport series can be found at: <https://www.euromonitor.com/our-expertise/passport>.

6. Eurobarometer

The Eurobarometer Special Report 506 (2020) is the most recent of a series of public opinion polls on tobacco-related issues conducted by the European Commission since 2003. Prior to the 2020 survey, the most recent report was released in 2017. The COVID-19 pandemic led to combination of face-to-face and online interviews to carried out among residents over the age of 15 within the EU-28.²⁶³ The total sample size for 2020 was 28,300, with a typical sample size of roughly 1000 per Member State, with the exception of smaller countries such as Malta and Luxembourg. The survey seeks to gauge motivations and methods of tobacco usage, both conventional and ANDS; prevalence and consumption of tobacco products, both conventional and ANDS; exposure to tobacco smoke in public spaces; motivations and methods for cessation; and efficacy of anti-tobacco initiatives. Further detailed information on the Eurobarometer reports, methodology, and results can be found at: https://ec.europa.eu/health/tobacco/eurobarometers_en.

Notes

¹ See Kotz et al., 2018.

² See Boeckmann et al., 2018.

³ See Boeckmann et al., 2018; Mons et al., 2010; [Recalculation of Tobacco-Attributable Mortality: National and Regional Data for Germany].

⁴ See Kotz et al., 2018.

⁵ See Schaller et al., 2020.

⁶ Prevalence of current tobacco use among persons aged 15 years and older (age-standardized rate). <https://www.who.int/data/gho/data/indicators/indicator-details/GHO/age-standardized-prevalence-of-current-tobacco-smoking-among-persons-aged-15-years-and-older> (accessed October 20, 2021).

⁷ Turnover is the value of production measured by the unit prices of the product, excluding taxes but including any subsidies. The source of statistics in this paragraph is DESTATIS' Monthly Report on Manufacturing. The manufacturing industries covered in these statistics are WZ2008 2-digit industry codes 10 through 32 (Tobacco Manufacturing is WZ08-12).

⁸ Here, the statistics for turnover stand in for revenue.

⁹ The datum is from Eurostat, Annual detailed enterprise statistics for industry (NACE Rev. 2, B-E) (http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs_na_ind_r2&lang=en).

¹⁰ See Cooper & Kurzer, 2003.

¹¹ See <https://lobbyfacts.eu/>.

¹² Graen & Schaller, 2021.

¹³ Kurzer & Cooper, 2016.

¹⁴ See Infurna, 2021.

¹⁵ See Infurna, 2021; Euromonitor, 2021f.

¹⁶ See Infurna, 2021. The statistics are from a survey conducted by ECigIntelligence of 92 traditional retailers (convenience stores, fuel stations, kiosks, and tobacconists) in Germany.

¹⁷ See Euromonitor, 2021c; PMI, 2016; Infurna, 2021.

¹⁸ A representative from the German arm of PMI (Philip Morris GmbH) stated that the plans for the Dresden facility "have been stopped for the moment due to the current demand and capacities" (unsigned email from Kontakt.PMG@pmi.com to the authors dated October 4, 2021).

¹⁹ Per OECD indicators, the German economy was in a recession from March 2008 to June 2009.

²⁰ Per OECD statistics, Germany was in a recession from November 2017 to May 1, 2020.

²¹ The statistics are from WITS/World Bank, with the underlying data from UN COMTRADE.

²² Germany has roughly 15 million smokers out of 0.9 billion in the world (data from Euromonitor Passport; figures are for smokers of legal age).

²³ The statistics is from WITS/World Bank data for the product "Tobacco, smoking" (HS-240310).

²⁴ Statistics are from WHO.

²⁵ Federal Center for Health Education (BZgA)

²⁶ See Heilert & Kaul, 2017.

²⁷ Uni Abschluss and Fachhochschulabschluss.

²⁸ Hauptschulabschluss.

²⁹ See von Lampe, 2002.

³⁰ See Euromonitor, 2021e. Shisha tobacco for use in waterpipes is included in Euromonitor's product category *pipe tobacco*, a subset of major category *smoking tobacco*.

³¹ See Euromonitor, 2021d.

³² See Euromonitor, 2021c.

³³ See Euromonitor, 2021a.

³⁴ See Hampsher, 2021.

³⁵ See Malta et al., 2021.

³⁶ See Chen, 2020.

³⁷ See Vanderbruggen, 2020.

³⁸ See Euromonitor, Tobacco Quarterly Statement Q4: 2020.

³⁹ See Sun, 2020.

⁴⁰ See Klosterhalfen et al., 2020.

⁴¹ See Al Oweini et al., 2020.

⁴² See National Library of Medicine, 2017.

⁴³ The Federal Agency for Civic Education, 'Gewaltenteilung', available from <https://www.bpb.de/nachschlagen/lexika/lexikon-in-einfacher-sprache/249931/gewaltenteilung> (accessed October 27, 2021).

⁴⁴ The first reading focuses on setting up a committee instructed to investigate the bill's details and prepare for the second reading. Amendments can still be handed in at this stage with the final vote being held after the third reading.

⁴⁵ The last steps include the President – Bundespräsident – checking the legislative process and bill for any formal errors or unconstitutional contents.

⁴⁶ Federal Ministry of the Interior, Building and Community, ‘Legislation’, available from <https://www.bmi.bund.de/EN/topics/constitution/legislation/legislation-node.html> (accessed October 27, 2021); German Bundestag, ‘Passage of legislation’ available from <https://www.bundestag.de/en/parliament/function/legislation/passage-245704> (accessed October 27, 2021).

⁴⁷ Federal Agency for Civic Education, ‘Wer regelt was bei Bund und Land?’, available from <https://www.bpb.de/lernen/projekte/wahl-o-mat-im-unterricht/188466/wer-regelt-was> (accessed October 27, 2021).

⁴⁸ Art. 74 para. 1 numbers 19,20,24 taken in English from https://www.gesetze-im-internet.de/englisch_gg/englisch_gg.html#p0363 (accessed October 27, 2021).

⁴⁹ Section 5 (2) Workplace Ordinance - ArbStättV.

⁵⁰ Deutsches Krebsforschungszentrum, 2011, ‘Bundesweiter Nichtrauchererschutz - Juristisch machbar’, available from https://www.dkfz.de/de/tabakkontrolle/download/Deutsche_Konferenzen_fuer_Tabakkontrolle/9_Deutsche_Konferenz_fuer_Tabakkontrolle/Christina_Bethke_2011.pdf (accessed October 27, 2021).

⁵¹ Federal Agency for Civic Education, Sep 24 2009, ‘Zuständigkeitsbereiche in der Europäischen Union’, available from <https://www.bpb.de/internationales/europa/europaeische-union/42984/grafik-zustaendigkeitsbereiche> (accessed October 27, 2021).

⁵² List of competent authorities according to (Article 26 of Directive 2014/40/EU of the European Parliament and of the Council), OJ C 136, 12.4.2019, p. 13–25, available in English from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52019XC0412%2801%29> (accessed October 27, 2021).

⁵³ The German Federal Institute for Risk Assessment, ‘Tasks’, available from https://www.bfr.bund.de/en/the_german_federal_institute_for_risk_assessment_bfr_-572.html (accessed October 27, 2021).

⁵⁴ The Federal Office of Consumer Protection and Food Safety, ‘Tasks in the area of consumer products’, available from https://www.bvl.bund.de/EN/Tasks/03_Consumer_products/consumer_products_node.html (accessed October 27, 2021).

⁵⁵ Federal Office of Consumer Protection and Food Safety, August 26, 2020, ‘List of Competent

Authorities Responsible for Market Surveillance of Tobacco and Related Products in Germany According to Article 26 of Directive 2014/40/EU’, available from https://www.bvl.bund.de/SharedDocs/Downloads/03_Verbraucherprodukte/Tabak/tabak_ueberwachungsbehoerden.html (accessed October 27, 2021).

⁵⁶ See Poetschke-Langer and Schunk, 2001.

⁵⁷ European Currency Unit, the precursor to the Euro.

⁵⁸ See European Commission, 1990.

⁵⁹ See WHO, 2021.

⁶⁰ See Cooper & Kurzer, 2003.

⁶¹ See Blecher et al., 2013.

⁶² WHO, 2021.

⁶³ See Nguyen et al. (2012, Figure 5). The inflation-adjusted price of cigarettes in Germany was nearly the same in 1963, 1982, and 2002.

⁶⁴ See DeCicca et al., 2018.

⁶⁵ See Joossens et al., 2009.

⁶⁶ See Prieger & Kulick, 2018. See also the voluminous econometric literature cited therein.

⁶⁷ Politics.co.uk, ‘Tobacco advertising’, available from <https://www.politics.co.uk/reference/tobacco-advertising/> (accessed October 27, 2021). Tax, V. (2002, April 29), ‘Lower house passes bill banning tobacco advertising’, Radio Prague International. <https://english.radio.cz/lower-house-passes-bill-banning-tobacco-advertising-8061222>.

⁶⁸ Deutsches Krebsforschungszentrum, ‘Tabakwerbung und Sponsoring’, available from https://www.dkfz.de/de/tabakkontrolle/Tabakwerbung_und_Sponsoring.html (accessed October 27, 2021); Federal Ministry of Food and Agriculture, ‘Neue Werbeverbote für Tabakerzeugnisse und E-Zigaretten und Nachfüllbehälter’, available from <https://www.bmel.de/DE/themen/verbraucherschutz/produktsicherheit/tabak/tabakwerbeverbot.html> (accessed October 27, 2021).

⁶⁹ Article 3 of the Non-Smokers Protection Act of July 20, 2007 (Federal Law Gazette I p. 1595) amended §10 (1) and §28 (1) No. 12 JuSchG (Youth Protection Act).

⁷⁰ See Nuyts et al., 2020.

⁷¹ Article 1 of the “Law on the protection of children and adolescents from the dangers of the use of electronic cigarettes and electronic shishas” of March 3, 2016 (Federal Law Gazette I p. 369) amended § 10 (1) and added (3) and (4).

⁷² Bußgeldkatalog, ‘Das Jugendschutzgesetz: Wer darf was und wann?’, available from

<https://www.bussgeldkatalog.net/jugendschutzgesetz/> (accessed October 27, 2021).

⁷³ Federal Office of Consumer Protection and Food Safety, 'Rechtliche Rahmenbedingungen für Tabakerzeugnisse und verwandte Erzeugnisse', available from https://www.bvl.bund.de/DE/Arbeitsbereiche/03_Verbraucherprodukte/03_AntragstellerUnternehmen/08_Rechtsvorschriften/04_Tabakerzeugnisse/bgs_tabakerzeugnisse_rechtliche_grundlagen_node.html (accessed October 27, 2021).

⁷⁴ See Foltea, 2020. For discussion of the strengths and potential weaknesses of track and trace systems to combat illicit trade, see DeFeo et al., 2018.

⁷⁵ Bundesdruckerei is a publicly owned company specializing in the printing of government issued documents and data protection.

⁷⁶ Bundesdruckerei, 'Track-and-Trace-System für Tabakwaren: positive Bilanz nach einem Jahr', available from <https://www.bundesdruckerei.de/de/Newsroom/Pressemitteilungen/Track-and-Trace-System-fuer-Tabakwaren-positive-Bilanz-nach-einem-Jahr> (accessed October 27, 2021).

⁷⁷ See Schaller et al., 2020.

⁷⁸ See Levy et al., 2013.

⁷⁹ <https://www.tobaccocontrol.org/legislation/country/germany/summary> (accessed October 27, 2021).

⁸⁰ Gesetz zur Einführung eines Rauchverbotes in Einrichtungen des Bundes und öffentlichen Verkehrsmitteln (Bundesnichtraucherschutzgesetz) (Law for the introduction of a smoking ban in federal facilities and public transport (Federal non-smokers protection act)) Bundesgesetzblatt. 2007;I:1595–1597.

⁸¹ Statement of the Federal Government can be found under Drucksache, 17/8772. February 29, 2012, available from <https://dserver.bundestag.de/btd/17/087/1708772.pdf> (accessed October 27, 2021).

⁸² I.e., Nichtraucherschutzgesetz.

⁸³ Franfurter Allgemeine Zeitung, January 2, 2017, "Ein Großteil der Raucher hält das Verbot für gut." available from <https://www.faz.net/aktuell/gesellschaft/gesundheit/rauchverbot-in-deutschen-gaststaetten-was-hat-es-gebracht-14601236.html> (accessed October 27, 2021).

⁸⁴ Article 4 § 2, Non-Smoker Protection Act Rhineland-Palatinate.

⁸⁵ Article 2 §§1-2, Non-Smoker Protection Act Baden-Wuerttemberg.

⁸⁶ See Hanewinkel & Isensee, 2006.

⁸⁷ Jugendschutz-aktiv, 'Tabakwaren', available from <https://www.jugendschutz-aktiv.de/informationen-fuer-gewerbetreibende-und-veranstalterinnen/die-vorschriften-im-einzelnentabakwaren.html> (accessed October 27, 2021).

⁸⁸ Westfälische Nachrichten, January 14, 2018, 'Zigarettenautomaten sind ein Auslaufmodell', available from <https://www.wn.de/muenster/zigarettenautomaten-sind-ein-auslaufmodell-1360412> (accessed October 27, 2021).

⁸⁹ See Kotz et al., 2018, 2020.

⁹⁰ I Gesundheitsversorgungsweiterentwicklungsgesetz.

⁹¹ Article 1§ 10a of Bgbl. I Nr. 44 2021 p. 2755.

⁹² Bündnis für Tabakfreien Genuss e.V.

⁹³ See <https://www.aerzteblatt.de/nachrichten/124557/E-Zigarettenbranche-zieht-wegen-Tabaksteuer-vor-Gericht>

⁹⁴ Philip Morris GmbH v. Land of Bavaria, M 18 S 13.4834, 2013.

⁹⁵ File number 5 A 206/11.

⁹⁶ Three Private Individuals v. Baden-Württemberg & Berlin, 1 BvR 3262/07, 1 BvR 402/08; 1 BvR 906/08, Bundesverfassungsgericht [Federal Constitutional Court] (2008)

⁹⁷ N., et al. v. Bavaria, 1BvR 3198/07, BVerfG, Bundesverfassungsgericht,

⁹⁸ See Gilmore and McKee, 2004; Neuman et al., 2002.

⁹⁹ The latest year for which data was provided in the source is 2018.

¹⁰⁰ See Grüning et al., 2008.

¹⁰¹ See Steinhoff, 2000.

¹⁰² See Grüning et al., 2008.

¹⁰³ Ibid.

¹⁰⁴ See Grüning et al., 2008.

¹⁰⁵ See Grüning et al., 2012; Mamudu & Studlar, 2009.

¹⁰⁶ Smoking rates in the U.S. are both lower than those in Germany and have, since 2000, declined faster too. According to WHO data, the U.S. adult smoking prevalence declined from 32.3% in 2000 to 25.1% in 2018 vs. German adult smoking prevalence declined from 33.6% in 2000 to 28% in 2018.

¹⁰⁷ See Bachinger et al., 2008.

¹⁰⁸ See Grüning et al., 2008.

¹⁰⁹ See Marmor and Lieberman, 2004.

¹¹⁰ See Studlar, 2007.

¹¹¹ See Grüning et al., 2008.

- ¹¹² Ibid.
- ¹¹³ See Grüning, 2007.
- ¹¹⁴ See Gilmore and McKee, 2004.
- ¹¹⁵ See Mons & Pötschke-Langer, 2010.
- ¹¹⁶ See Kyriss et al., 2008.
- ¹¹⁷ See Grüning and Schönfeld, 2007.
- ¹¹⁸ See Philip Morris, 1989.
- ¹¹⁹ See Mons and Pötschke-Langer, 2010.
- ¹²⁰ Verband der Cigarettenindustrie (2000) Niederschrift über die Sitzung des Vorstandes am 24. Mai 2000 im VdC. Bates-Nr. 325130167. <http://legacy.library.ucsf.edu/tid/svi61a99/pdf>; Reuters Health (2002) Teen Smoking (Interview mit Ernst Brückner, dem damaligen Geschäftsführer des VdC, 21.3.2002)
- ¹²¹ Bundesministerium für Gesundheit (2002) Vereinbarung zwischen der Bundesrepublik Deutschland – vertreten durch die Bundesministerin für Gesundheit – und dem Verband der Cigarettenindustrie. Bundesministerium für Gesundheit, Berlin.
- ¹²² See Tye et al., 1987.
- ¹²³ See Grüning et al., 2008.
- ¹²⁴ See Baumeister, 2017, who points out that difficulty in quitting a habit, even when physical and psychological addiction are involved, does not imply loss of agency or free will, stating that “the evidence reviewed here seems most consistent with the view that smokers retain control over their actions but cannot easily stop having frequent desires to smoke.”
- ¹²⁵ See RJ Reynolds, ‘First Report by the Working Party on Social Acceptability of Smoking to International Committee on Smoking Issues’, report, 1977, Bates No: 502090999/1037, <http://legacy.library.ucsf.edu/tid/yge29d00>.
- ¹²⁶ See Diethelm and McKee, 2009.
- ¹²⁷ See Paul, 2009.
- ¹²⁸ It is true that some of the older studies lacked statistical rigor – so much so that a court in the United States ruled against their use to determine public policy – but the evidence for SHS harms is now improved. See Prieger, 2021.
- ¹²⁹ Verband der Cigarettenindustrie (2000) Niederschrift über die Sitzung des Vorstandes am 24. Mai 2000 im VdC. Bates-Nr. 325130167. <http://legacy.library.ucsf.edu/tid/svi61a99/pdf>.
- ¹³⁰ See Ropohl, 2008.
- ¹³¹ See Grüning et al., 2008.
- ¹³² See Boeckmann et al., 2018.
- ¹³³ See Kotz et al., 2018.
- ¹³⁴ See Feliuet al., 2020.
- ¹³⁵ Note that other countries to implement the higher age limit for tobacco purchased in the late 2000s include the UK (2007–2008), Denmark (2008), Portugal (2008), and France (2009).
- ¹³⁶ European Commission, *Excise Duty Tables: Part III – Manufactured Tobacco*,” https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/excise_duties/tobacco_products/rates/excise_duties-part_iii_tobacco_en.pdf.
- ¹³⁷ See von Lampe, 2002.
- ¹³⁸ The information in this paragraph is drawn from Engelhart (2021).
- ¹³⁹ See von Lampe, 2002.
- ¹⁴⁰ See Engelhart, 2021.
- ¹⁴¹ Euromonitor produces estimates of illicit cigarette consumption based on a variety of sources. Their definition of illicit includes all cigarettes for which duty has not been paid, and thus includes smuggled, gray market (legitimate products redirected from the intended export destination to avoid taxes), and counterfeit cigarettes, along with cigarettes produced domestically for black-market sales within the country. KPMG has produced reports on counterfeit and contraband cigarettes for European countries under a variety of names (Project Star, Project Sun, and Project Stella) and for a variety of clients (the European Commission, various large tobacco manufacturers) since the 2000s. For discussion of the strengths and weaknesses of these data, see Prieger & Kulick (2018) and the studies cited therein.
- ¹⁴² See Euromonitor, 2021a.
- ¹⁴³ See von Lampe, 2002.
- ¹⁴⁴ See Kurzer & Cooper, 2016.
- ¹⁴⁵ Ibid.
- ¹⁴⁶ The Tobacco Control Scale measures tobacco control activity at country level in Europe including quantifying utility of the policies, in order to be able to compare countries systematically. New editions of the scale have been published in 2007, 2010, 2013 and 2016 under the auspices of the Association of European Cancer leagues.
- ¹⁴⁷ See Joosens and Raw, 2014.
- ¹⁴⁸ World Health Organization, Report on the Global Tobacco Epidemic Geneva: WHO, (2015) <https://apps.who.int/iris/handle/10665/178574> Accessed October 25, 2021.
- ¹⁴⁹ See Proctor, 2008; Frankenberg, 2007.

- ¹⁵⁰ See Castles and Obinger, 2008.
- ¹⁵¹ See Grüning and Strünck, 2008.
- ¹⁵² See Matzke, 2012.
- ¹⁵³ See Studlar, 2011.
- ¹⁵⁴ See Kurzer and Cooper, 2016.
- ¹⁵⁵ Ibid.
- ¹⁵⁶ Deutsches Krebsforschungszentrum.
- ¹⁵⁷ Stabstelle Krebsprävention.
- ¹⁵⁸ See Kurzer and Cooper, 2016.
- ¹⁵⁹ Deutsche Herzstiftung.
- ¹⁶⁰ See Kurzer and Cooper, 2016.
- ¹⁶¹ Ibid.
- ¹⁶² See Kurzer and Cooper, 2016.
- ¹⁶³ See Chaloupka et al., 2012.
- ¹⁶⁴ See Jha et al., 2015; Yeh et al., 2017.
- ¹⁶⁵ See Nguyen et al., 2012; Rigas et al., 2018.
- ¹⁶⁶ See Levy et al., 2013.
- ¹⁶⁷ See Hanewinkel and Isensee, 2007.
- ¹⁶⁸ See Mons and Pötschke-Langer, 2010.
- ¹⁶⁹ See Hanewinkel and Isensee, 2008.
- ¹⁷⁰ See Kvasnicka et al., 2018.
- ¹⁷¹ See Kuehnle and Wunder, 2017.
- ¹⁷² See Brüderl and Ludwig, 2011.
- ¹⁷³ See Anger et al., 2011.
- ¹⁷⁴ See Anger et al., 2011.
- ¹⁷⁵ Levy et al., 2013.
- ¹⁷⁶ See Hitchman et al., 2012.
- ¹⁷⁷ Levy et al., 2013.
- ¹⁷⁸ Their hypothetical tobacco control campaign involved: expenditures of at least \$0.50 per capita and assumes that there are synergies from publicity surrounding other tobacco control policies (Levy et al., 2013).
- ¹⁷⁹ <https://www.nutzedeinechance.de/>
- ¹⁸⁰ See Tye et al., 1987.
- ¹⁸¹ <https://www.dw.com/en/german-drug-czar-slams-tobacco-advertising-demands-billboard-ban/a-45941798>.
- ¹⁸² See Levy et al., 2013.
- ¹⁸³ See Levy et al., 2013.
- ¹⁸⁴ The data are from the DEBRA study, beginning June 2016, which collects data on key indicators including the frequency and use of methods to support smoking cessation. See Kastaun et al., 2017.
- ¹⁸⁵ See Kotz et al., 2018. Note that although the authors contrast using ENDS for cessation with “evidence-based methods,” a Cochrane Review of scientific studies has found that e-cigarettes containing nicotine are more effective for cessation from smoking than NRT, behavioral counseling, and no-treatment attempts. See Hartmann-Boyce et al., 2021.
- ¹⁸⁶ See Kotz et al., 2009.
- ¹⁸⁷ See Stead et al., 2013.
- ¹⁸⁸ See West et al., 2015.
- ¹⁸⁹ See van Rossem et al., 2015.
- ¹⁹⁰ See Kastaun, Leve et al., 2019.
- ¹⁹¹ See Kastaun & Kotz, 2019.
- ¹⁹² See Kotz et al., 2013.
- ¹⁹³ See Kastaun, Leve et al., 2019.
- ¹⁹⁴ See Hughes et al., 2004.
- ¹⁹⁵ See Dickreuter et al., 2019.
- ¹⁹⁶ Personal advice or behavioral counseling, such as brief advice from physicians, telephone counseling, or intensive behavioral individual or group therapy.
- ¹⁹⁷ Nicotine replacement therapies and medications.
- ¹⁹⁸ See Batra and Mann, 2015.
- ¹⁹⁹ Pharmacotherapy is also used much more commonly in aiding tobacco cessation in England: in 48% of attempts, compared with 8% in Germany. In the Netherlands, 24% of primary care physicians prescribe pharmacotherapy in the context of smoking cessation counseling. In Germany, only 2% of smokers report having been given such a recommendation by their primary care physician.
- ²⁰⁰ See Kotz et al., 2013.
- ²⁰¹ See Kastaun and Kotz, 2019.
- ²⁰² Ibid.
- ²⁰³ See Kastaun, Kotz et al., 2019.
- ²⁰⁴ See Kuntz et al., 2016.
- ²⁰⁵ See Kotz et al., 2020. The odds ratio of using pharmacotherapy during a quit attempt from their study is 1.44 per €1000/month, with a 95% confidence interval of [1.28, 1.62].
- ²⁰⁶ See Plurphanswat et al., 2020.
- ²⁰⁷ The survey questions in the early years of the data source (DEBRA) “deal with electronic cigarettes (e-cigarettes) or similar products such as e-shisha, e-cigar or e-pipe. These are products that mimic smoking by technological means without burning tobacco. During use, a flavored liquid is vaporized and inhaled.” In later years, it was further clarified that “this does not include heated tobacco.” See

<https://www.aerzteblatt.de/pdf.asp?id=197190> and <https://docplayer.org/122698235-Konsum-von-tabakerhitzern-und-e-zigaretten-in-deutschland-aktuelle-daten-der-debra-studie.html>.

²⁰⁸ See Kotz et al., 2018. Note that although the authors appear to contrast using ENDS for cessation with “evidence-based methods,” a Cochrane Review of scientific studies has found that e-cigarettes containing nicotine are more effective for cessation from smoking than NRT, behavioral counseling, and no-treatment attempts. See Hartmann-Boyce, et al., 2021.

²⁰⁹ See Hajek P. et al., 2019.

²¹⁰ See Kotz et al., 2018.

²¹¹ The content of this section derives from the TPD and data collection relying primarily on the overview of countries’ legislation on e-cigarettes at globaltobaccocontrol.org and on the English translation of country-specific laws on tobacco and related products at tobaccocontrolaws.org. When specific information was not available through these sources, newspaper articles and blogs were consulted.

²¹² For example, sponsoring a sporting event so that the product name is in evidence at the event.

²¹³ The TPD specifically prohibits “commercial communications in Information Society services... with the aim or direct or indirect effect of promoting electronic cigarettes and refill containers....” (European Parliament, 2014). Elsewhere in EU law, Information Society services are defined as covering any service “normally provided for remuneration, at a distance, by means of electronic equipment for the processing (including digital compression) and storage of data, and at the individual request of a recipient of a service...” (Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market (‘Directive on electronic commerce’)) which specifically includes selling goods online.

²¹⁴ https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&start=//%5b@attr_id=%27bgbl120s2229.pdf%27%5d#_bgbl_%2F%2F*%5B%40attr_id%3D%27bgbl120s2229.pdf%27%5D__1634146618984

²¹⁵ <https://www.gesetze-im-internet.de/juschg/>

²¹⁶ https://www.gesetze-im-internet.de/tabakerzg/_22.html

²¹⁷ <https://www.gesetze-im-internet.de/tabakerzv/BJNR098010016.html>

²¹⁸ https://www.gesetze-im-internet.de/tabakerzv/_27.html

²¹⁹ See E-Cigarette Intelligence, 2021.

²²⁰ <https://www.gesetze-im-internet.de/juschg/>

²²¹ <https://www.gesetze-im-internet.de/tabakerzv/BJNR098010016.html>

²²² https://service.bmel.de/tabakerzeugnisse/index2.php?site_key=153

²²³ <https://www.gesetze-im-internet.de/tabakerzg/BJNR056910016.html#BJNR056910016BJNG000100000>

²²⁴ <https://www.gesetze-im-internet.de/tabakerzv/BJNR098010016.html>

²²⁵ https://www.gesetze-im-internet.de/tabakerzg/_18.html

²²⁶ https://www.gesetze-im-internet.de/tabakerzv/_11.html

²²⁷ <https://www.gesetze-im-internet.de/juschg/>

²²⁸ https://www.gesetze-im-internet.de/tabstg_2009/BJNR187010009.html

²²⁹ See https://www.zoll.de/DE/Fachthemen/Steuern/Verbrauchssteuern/Alkohol-Tabakwaren-Kaffee/Steuerhoehe/Tabak/tabak_node.html.

²³⁰ <https://ecigintelligence.com/member-states-to-urge-eu-commission-for-new-e-cig-tax-scheme>

²³¹ See Bundeskartellamt, 2021.

²³² See Rossel, 2021.

²³³ Ibid.

²³⁴ See Euromonitor, 2020.

²³⁵ See Kotz et al., 2018.

²³⁶ Ibid.

²³⁷ Ibid.

²³⁸ See Eurobarometer, 2020.

²³⁹ See Kotz et al., 2018.

²⁴⁰ See Pasquereau et al., 2017.

²⁴¹ See Zhu et al., 2017.

²⁴² See Pasquereau et al., 2017.

²⁴³ See Hajek et al., 2019; Hartmann-Boyce et al., 2021.

²⁴⁴ See Eisenberg et al., 2020.

²⁴⁵ See Kotz et al., 2009.

²⁴⁶ From a survey of 300 physicians by VdeH (the e-cigarette trade association in Germany), cited in Infurna (2021).

²⁴⁷ See Klosterhalfen et al., 2020.

²⁴⁸ See Eissenberg & Shihadeh, 2009.

²⁴⁹ See McDonald, 2021.

²⁵⁰ See Rubio, 2021.

²⁵¹ See Welscher (17 Feb. 2021).

²⁵² The original proposal was to tax nicotine in e-liquids at a rate of €0.04/mg. The TPD limits the concentration of nicotine in e-liquids to 20 mg/mL. Assuming most products are at that limit, the tax would be €0.04/mg × 20 mg/mL = €0.80/mL.

²⁵³ “Im Verhältnis zum üblichen Marktpreis würden sich die Preise für den Endverbraucher unter Umständen vervielfachen. Damit würden etliche Raucher vom gesundheitlich vorteilhaften Umstieg abgeschreckt und das Fortbestehen einer ganzen Branche in Frage gestellt. Weder fiskal- noch gesundheitspolitischen Zielen könne so gedient werden.” Deutscher Bundestag, *Beschlussempfehlung und Bericht des Finanzausschusses (7. Ausschuss)* [Decision, recommendation, and report of the Finance Committee (7th committee)], Drucksache 19/30490.

²⁵⁴ See Calderoni et al., 2017; Prieger & Kulick, 2018.

²⁵⁵ *Gewerkschaft der Polizei*, GdP.

²⁵⁶ The complete quotation is: “Und solange es im Zoll am nötigen Selbstverständnis fehlt, ernsthaft auch Polizei sein zu wollen, um der mittleren, schweren und auch Organisierten Kriminalität das Handwerk zu legen, sind solche Steuererhöhungen willkommene „Startups“ für die Schmuggler, Schieber und Fälscher. [And as long as Customs lack the necessary self-image/self-perception to seriously want to be the police to put an end to medium-sized, serious and even organized crime, such tax increases are welcome

‘startups’ for smugglers, black marketeers and counterfeiters].”

²⁵⁷ <https://tobaccoreporter.com/2021/04/16/estonia-suspends-e-liquid-taxation/>

²⁵⁸ A survey by an industry association found that a majority of retailers thought that banning flavours in ENDS would have the largest negative impact on their market of various discussed regulations and taxes. See Infurna, 2021.

²⁵⁹ The official document discussing the need for the revision to the smoke-free law in Hesse, *Zweites Gesetz zur Änderung des Hessischen Nichtraucher-schutzgesetzes* [Second law amending the Hessian law on the protection of non-smokers], is available at <http://starweb.hessen.de/cache/DRS/20/6/05996.pdf>.

²⁶⁰ See, for example, the statement of Max Schad, a representative with the Christian Democratic Union party: “We know that these products are less harmful to health than the classic cigarette, but the bottom line is that they are also harmful” (Welscher, 2021).

²⁶¹ See Prieger et al., 2019.

²⁶² See “EU Tobacco Products Directive Revision” at <https://tobaccotactics.org/wiki/eu-tobacco-products-directive-revision/> (visited November 11, 2021).

²⁶³ While the United Kingdom formally left the European Union on January 31, 2021, the Commission included the former member state so as to maintain continuity and provide more comparable results to the 2017 wave.