Fighting smoking with alternative nicotine products

Exemplified by the public health effects of Swedish snus

Author: David Sundén, Ph.D., Managing Director Lakeville

David Sundén holds a PhD in Economics from the Stockholm School of Economics, with a specialization in the economic analysis of markets. His expertise includes evaluating market regulations and analysing the impact of technological transitions on economies and public finance.

Dr. Sundén has served as an advisor to the German and Swedish Ministries of Finance and has conducted economic analyses for organizations such as the Nordic Council of Ministers, the Swedish Competition Authority, and the Expert Group on Public Economics. His publicly available reports cover a wide range of industries, including steel, iron ore, gambling, alcohol, and nicotine.

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Summary

The risks and harms of smoking

Smoking is associated with significant risks, increasing the likelihood of developing and dying of diseases such as lung cancer and COPD. Smokers face twice the risk of dying from such diseases compared to non-smokers. Half of all persistent smokers will eventually die because of smoking.

In the European Union, an estimated 330,000 males aged 35 years or older lost their lives due to smoking in 2023. Countries with high smoking prevalence exhibit the highest male death rates per capita in the EU, notably Bulgaria with 660 deaths per 100,000 and Latvia with 560 deaths. Conversely, Sweden stands out with the lowest death rate per capita at just 90 deaths per 100,000 individuals, which can be explained by low smoking rates.

The positive effects of quitting smoking

The decision to quit smoking, irrespective of age, is always beneficial. However, stopping before the age of 30 can remove up to 97 per cent of the excess mortality risk associated with smoking and extend life expectancy by a decade.

Consequently, effective policies aimed at lowering smoking rates play an important role in improving public health outcomes. Even a marginal decrease in smoking prevalence can have a profound impact. For instance, a mere one percentage point reduction in smoking rates across the European Union could prevent 1.6 million premature deaths and add a cumulative 7.5 million years to the life expectancy of Europeans.

Effective tobacco regulation to combat smoking

Among countries that have raised cigarette taxes, significant declines in smoking rates have been observed. This especially where access to safer nicotine alternatives is widespread. Notable examples include the Scandinavian countries, New Zealand, the United Kingdom, and the United States, where reductions in smoking coincide with an increased adoption of less harmful nicotine products.

The implementation of tobacco control measures in Sweden, such as bans and information campaigns, does not appear to differ significantly from many other EU member states with considerably higher smoking rates. Furthermore, over the past 15 years, Sweden has consistently fallen behind other European countries when ranked by its tobacco control efforts. Therefore, Sweden's success in reducing smoking prevalence is unlikely to be attributable to bans or information campaigns.

The key to Sweden's current lower smoking rates instead lies in its early adoption of higher cigarette taxes and the widespread use of snus and nicotine pouches as substitutes for smoking. Sweden’s effective tobacco policy is thus a combined effect of higher cigarette taxes with a market for less harmful nicotine substitutes. That is, a policy that offers smokers viable choices beyond merely quitting or continuing to smoke.

The potential of smart regulation to improve public health

Calculations in this report show that Swedish tobacco policy has a significant potential to improve public health.

If all European Union member states had historically adopted a similar tobacco policy as Sweden, significant improvements in public health could have been achieved. In total, Swedish policy could have averted approximately 217,000 male premature deaths annually. An early adoption of historic cigarette taxes and cigarette prices at par with Sweden could have prevented 65,000 deaths yearly, while the availability of snus or similar nicotine products could have averted an additional 152,000 deaths.

Applying this same model to The United States and the United Kingdom, the number of annual premature male deaths averted is estimated at 85,000 for the United States and 21,000 for the United Kingdom.

Regarding lung cancer prevention, a Swedish tobacco policy could have prevented around 86,000 male cases annually in the European Union. Cigarette taxes at par with Sweden could have resulted in 21,000 fewer lung cancer cases yearly. And the availability of snus or similar alternatives could potentially have prevented 65,000 cases of lung cancer per year in the EU.

Contents

1 Introduction

Swedish snus is substantially less harmful to health than smoking cigarettes.[1] This because cigarette smoke contains thousands of toxic chemicals and carcinogens that are inhaled into the lungs, leading to diseases such as lung cancer, COPD, and heart disease. In contrast, Swedish snus is smokeless which eliminates the combustion process and substantially reduce the exposure to harmful substances.

As snus contains nicotine, it serves as a substitute for smoking. Smokers often turn to snus as a means to quit, and some opt to use snus instead of starting to smoke. Therefore, snus can be viewed as a consumer product with the potential to mitigate the harm caused by smoking.

Over the last two decades, several new nicotine products have been introduced such as e-cigarettes and nicotine pouches. Many estimated to have health impacts comparable to snus.[2] The long-term public health implications of these new nicotine products cannot be directly assessed due to their relatively short history on the market. In contrast, snus has been available in Sweden for over a hundred years without any documented significant adverse effects on public health.

Given this background, Haypp Group AB has commissioned Lakeville to assess the potential of snus as a tool to reduce the public health harms from smoking. The findings of such an assessment can provide an estimate of the potential long-term health effects of permitting alternative nicotine products as substitutes for cigarettes.

Previous studies

Rodu and Cole (2003) estimate that 200,000 smoking-attributable deaths among men in the European Union could be avoided yearly with Swedish smoking rates. The authors believe that the lower Swedish smoking rate is probably due to the use of snus. Levy et al. (2006) estimate a potential reduction in smoking prevalence in the U.S. by up to 3.1 percentage points if snus or similar nicotine products were introduced.

Gartner et al. (2007) assess the potential public health effects of snus in Australia. They conclude that there is little difference in health-adjusted life expectancy between smokers who quit and smokers who switch to snus, and that a relaxation of the restrictions on the sale of snus in Australia is more likely to produce a net benefit than harm.

The Snus Commission (2017) estimates that the lives of 355,000 men could be saved annually if the smoking-attributable mortality rate in the European Union member states was the same as in Sweden. Djurdjevic et al. (2019) estimate that if snus had not been available in Sweden, the number of smoking-attributable deaths among Swedish men would have been 24,000 higher between 1980-2009, or approximately 800 more deaths per year.

The above-mentioned assessments depend crucially on an assumed causal relationship between increased snus use and decreased smoking prevalence. In some studies, the complete reduction in smoking and smoking-attributable mortality in Sweden is attributed to snus use. Tomar et al. (2003) questions this causal relationship and points out that the lower smoking rate may be explained by Sweden being an early adopter of tobacco control or use tobacco control policies to

[1] Nutt et.al. (2014) or Clarke et.al (2019).

[2] Nutt et.al. (2014) or Clarke et.al (2019).

a greater extent than other countries. One example is the use of taxes to reduce smoking, where historically Sweden has taxed cigarette consumption more heavily than many other European countries. Assessments of the potential of snus to reduce smoking must account for this price effect and the effects of other control instruments on smoking behaviour, or the role of snus risks being overestimated.

The purpose of this report

The aim of this study is to assess the potential of snus as an instrument to reduce the public health impact of smoking. More specifically, the report estimates the potential of snus in reducing the number of smoking-attributable deaths and the incidence of smoking-attributable lung cancer cases.

In a broader context, the results should be viewed as an estimate of the possible long-term public health effects of not banning less harmful nicotine products, such as nicotine pouches and e-cigarettes, as substitutes to smoking.

Methodology

The potential of snus as a harm reduction tool is assessed by estimating the reduction in smoking-attributable deaths and lung cancer cases in EU countries, assuming an EU wide adoption of Swedish tobacco policy. Such a policy encompasses an early adoption of higher taxes on smoking and the option to use snus instead of smoking.

More precisely, the calculation assumes that the share of smoking-attributable deaths per capita in European Union member states converge to Swedish levels. The resulting difference in the number of smoking-attributable deaths is interpreted as a total policy effect. This includes the effect of applying Sweden's historically higher average cigarette prices as well as the effects of all other historical policy differences, including removing the EU ban on the sale of Swedish snus.

The effect of the price difference is estimated and subtracted from the total effect. The resulting difference is interpreted as the harm-reducing effect that would have occurred if snus, or any other similar nicotine product, historically had been available to European Union consumers. The methodology is described in more detail in the Appendix.

Contribution of this report

The contribution of this report is twofold compared to previous studies.

Firstly, most of the previous studies mentioned above have not compensated for price differences. This implies, for instance, that the 355,000 saved men reported by The Snus Commission (2017) is an overestimation. In this study the effect of applying Sweden's historically higher cigarette prices in the rest of the EU is taken into consideration and deducted from the total policy effect in order not to overestimate the effect of other policy instruments.

Secondly, the report takes the critique put forward by Tomar et al. (2003) seriously. Their hypothesis that Sweden's lower smoking shares can be explained by other regulations, than allowing for the sale of snus, is tested. This by summarising the use of different tobacco control measures in the EU countries over time compared to Sweden.

The assessment is only made for European men

Swedish snus users are primarily male and 21.6 per cent of the male Swedish population aged 15 and older use snus daily. The proportion of female snus users

has risen substantially over the past decade and currently 9.6 per cent of women use snus.[3] Because of the long lag period between starting smoking and developing smoking-related diseases the potential harm-reducing effects of snus use among women are likely not yet measurable. Therefore, the harm-reducing potential of snus is only evaluated for male smokers.

Only current daily male smokers are assessed

Data on the number of former smokers is relatively inconsistent, showing significant variations between years and countries, which complicates interpretation and use. Estimating the smoking-attributable harm among former smokers is thus challenging. As a result, the assessment is restricted to how snus may help reduce harm among current male smokers in Europe, excluding the potential effect on former smokers.

Calculations and reporting are based on 2023 data to maintain consistency across the data, given the lack of available figures for 2024 and 2025. More recent data for specific countries is included in the text where relevant. Additionally, the analysis of smoking-attributable lung cancer incidence is limited to European Union member states.

Many other health benefits are not included

The assessed measures of harm reduction reported are limited to the number of deaths and lung cancer cases. Smoking influences various other aspects of an individual's health, public health, and quality of life, and has economic ramifications for individuals, and society. The potential positive effects on these metrics are not assessed due to insufficient data for all European Union member states. Therefore, the overall positive impact for the European Union is much broader than what is reported in this assessment.

[3] Indikatorlabbet (2026).

2 The benefits of quitting smoking

Key points

The risks of smoking

- Smoking is associated with significant increases in the likelihood of developing and dying from diseases such as lung cancer and COPD.
- Continued smoking kills at least half of men and women who smoke.

The harms of smoking

- Approximately 330,000 males aged 35 years or older are estimated to have died prematurely because of smoking during 2023 in the European Union.
- The number of premature male deaths is estimated to 166,000 in the United States and to 38,000 in the United Kingdom.
- The number of premature deaths attributable to smoking in the European Union is estimated to 255 dead males 35+ per 100,000. The figure for the United States is 184 and for the United Kingdom 203 per 100,000.
- The highest male deaths per capita are in countries with historically high smoking prevalence, such as Bulgaria, with 660 deaths per 100,000, and Latvia, with 560 deaths.
- The country with the fewest premature deaths per capita is Sweden, with 90 deaths per 100,000.

The positive effects of quitting smoking

- Quitting smoking is always beneficial for health regardless of the age at which one quits.
- Quitting smoking before the age of 30 may increase life expectancy by up to 10 years.
- A one percentage point reduction in smoking prevalence in the European Union will save 1.6 million Europeans from a premature death due to smoking and add 7.5 million years to life expectancy.

2.1 Smoking related health risks and harms

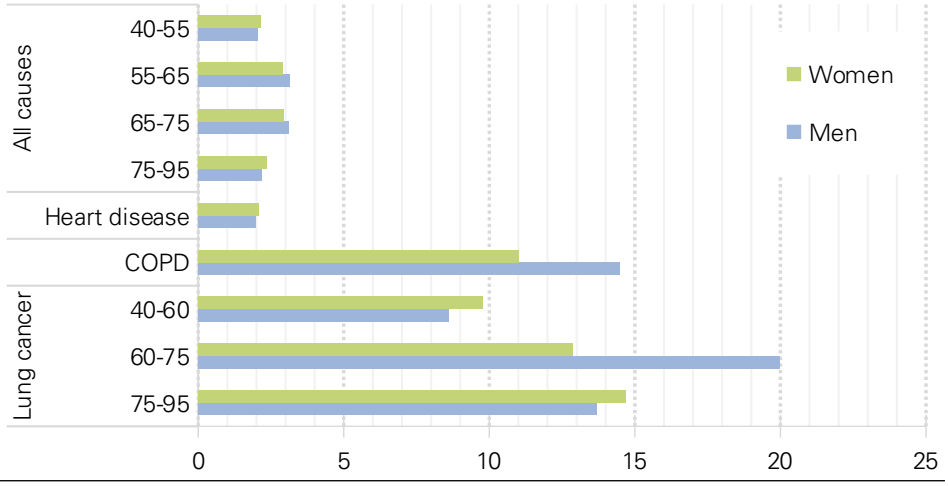
Smoking has severe negative health impacts and is associated with an increased risk of contracting many diseases, see Table 7 in the appendix for a full list. A few examples are tuberculosis, cancer, ischemic heart diseases and pneumonia.

In Figure 1 the additional risks of smoking are reported. Smokers are twice as likely to die from a heart attack compared to non-smokers, over 10 times more likely to die from COPD, and up to 20 times more likely to die from lung cancer. Overall, smokers are twice to three times as likely to die from any smoking-related disease than non-smokers depending on the age of the smoker.

Of all deaths in smoking related-diseases up to two-thirds can be attributed to smoking. For lung diseases, such as lung cancer and COPD, more than 90 per cent of deaths among smokers can be attributed to smoking.[4]

Figure 1: The additional risk of dying among smokers

Number of times a smoker is more likely to die by age and disease



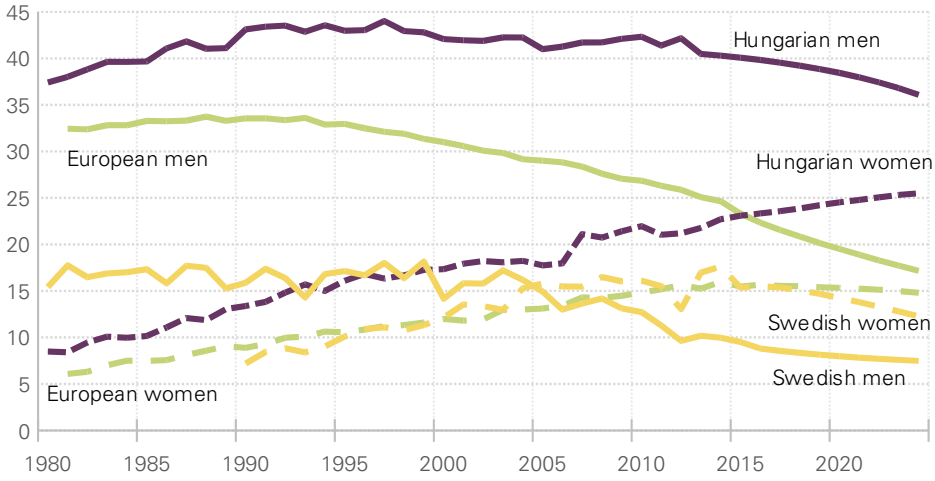
Note: Relative risk of current and former smokers as compared to non-smokers (with relative risk =1).
Source: Woloshin et.al. (2023).

The share of smoking related deaths

The impact of smoking on the number of premature deaths among men and women is shown in Figure 2. Historically, women have smoked less than men, leading to a noticeable difference between the sexes in the proportion of deaths attributed to smoking. Over time, the share of male smokers has decreased in most countries in Europe, while the share of female smokers has increased. As a result, around 17 per cent of European male deaths in 2024 can be linked to smoking, whereas the corresponding figure for women is 15 percent.

Figure 2: Share of all deaths caused by smoking

Percentage share of deaths



Note: Smoking-attributable deaths among men aged 35–84 and women aged 40–84.
Source: Janssen et.al. (2020).

[4] Jha (2020) and Banks et.al. (2015).

The European country with the highest share of smoking-attributable deaths is Hungary, where 36 per cent male deaths and 25 per cent female deaths are caused by smoking. These higher percentages can be attributed to the historically very large number of smokers in the country. In Sweden, the prevalence of smokers has been low compared to other European countries for a long period of time, resulting in smoking-attributable deaths accounting for only 7 per cent among men and 12 per cent among women.

Smoking and cancer deaths

The differences in smoking behaviour among European populations are also reflected in the number of cancer deaths, as shown in Figure 3 and Figure 4. The lower the share of smokers in the population, the fewer the number of cancer deaths. This correlation is particularly evident in the case of lung cancer deaths, as over 90 per cent of lung cancer deaths are caused by smoking.[5] In Sweden the number of lung cancer deaths was 34 per 100,000 males in 2023 compared to the average of 75 across the EU in 2023.

Male cancer deaths vs. male smoking prevalence in EU member states 2023

Figure 3: Total cancer deaths
Dead males 35+ per 100,000, age standardised

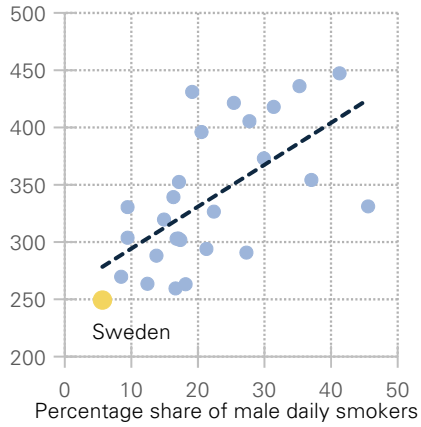
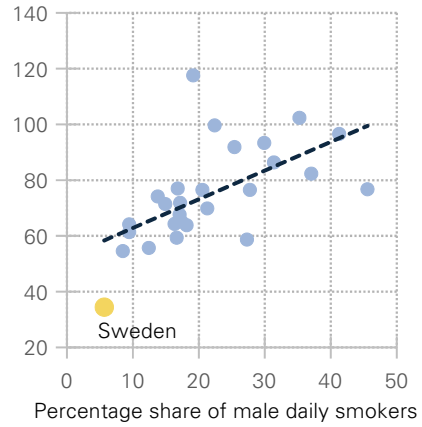


Figure 4: Lung cancer deaths
Dead males 35+ per 100,000, age standardised



Source: European Commission (2024) and Eurostat (2025e).

Deaths attributable to smoking

During 2023, approximately 2.6 million men aged 35 years and older died in the European Union. Of these deaths, 1.3 million were due to diseases linked to smoking, such as lung cancer or coronary heart disease. However, not all these deaths were caused by smoking.

After adjusting for deaths not caused by smoking, the number of smoking-attributable deaths among men aged 35 and over can be estimated at approximately 330,000 in the European Union 2023.[6] See Table 8 in the appendix for a breakdown by country. This estimate only considers current male daily smokers. Smoking-attributable deaths among former smokers and those due to passive smoking are excluded. Therefore, this estimate represents a lower bound of the total smoking-attributable deaths among men.

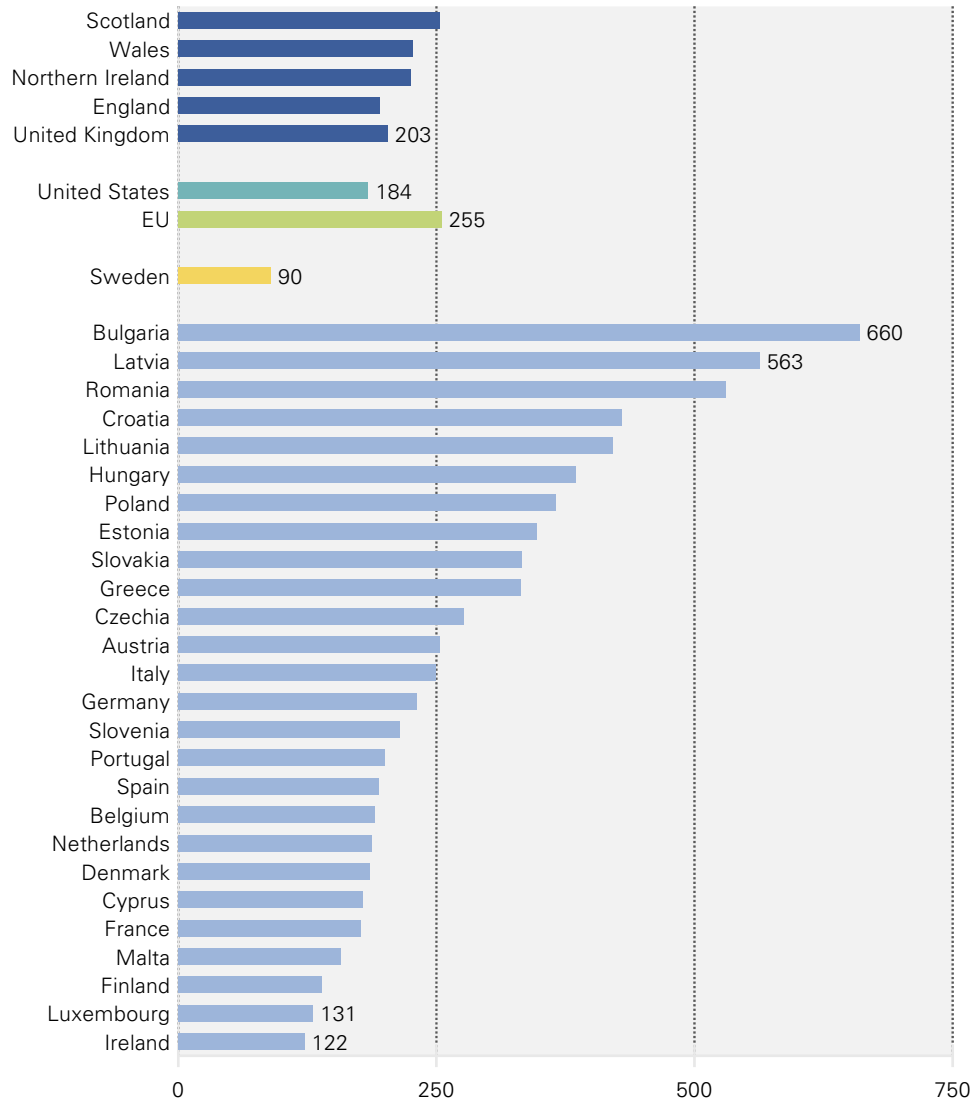
[5] Jha (2020).

[6] See the Appendix for how these figures are calculated.

For the United States the number of smoking attributable deaths is estimated to approximately 166,000 men aged 35 and over. In the United Kingdom the same figure is estimated to 38,000 men.

There are significant differences in the number of deaths per capita from smoking, as shown in Figure 5. About 255 males per 100,000 died from smoking in the European Union in 2023. The figure for the United States is 184 males and for the United Kingdom the figure is 203 males.

Figure 5: Smoking attributable male deaths in the EU, UK and US 2023
Dead males 35+ per 100,000



Note: See appendix for how the smoking attributable deaths are calculated.
Source: Calculations by the author.

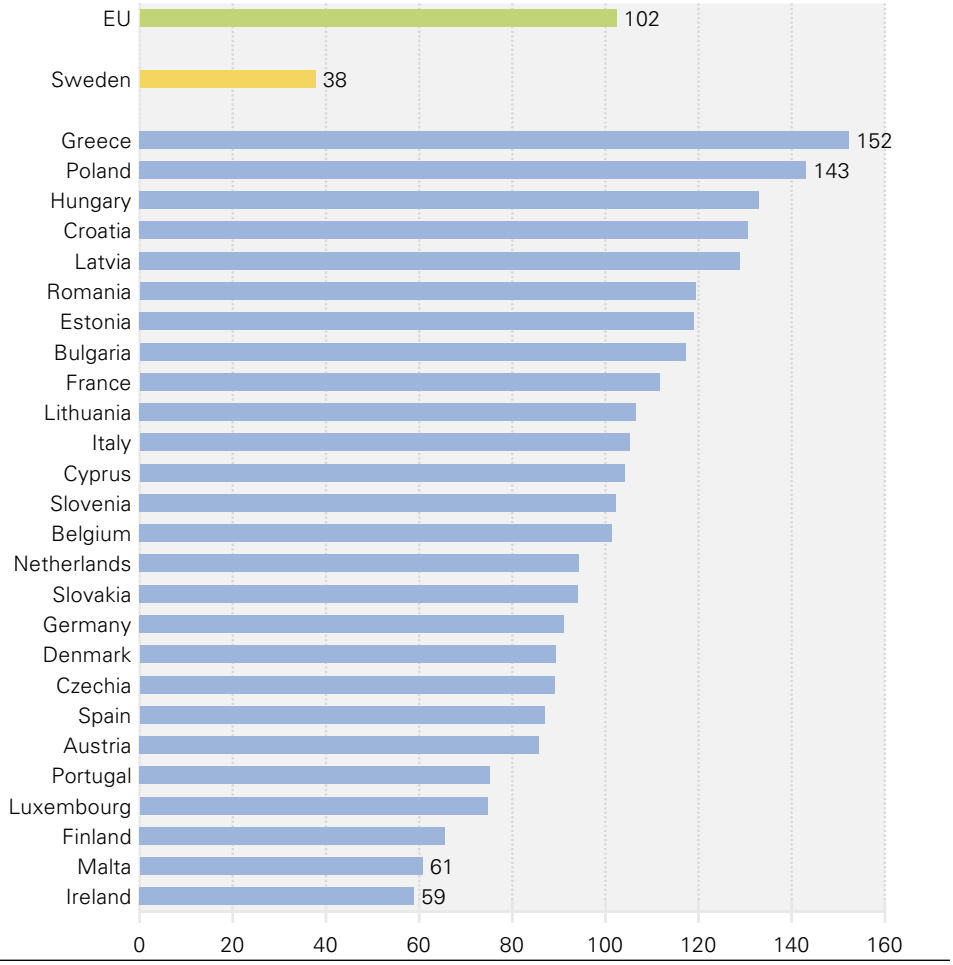
The countries with the highest death rates per capita are also the countries with the highest smoking rates, 30 per cent or more, such as Bulgaria, Latvia, Romania, Croatia, and Lithuania. Conversely, countries with a low share of smokers also have low smoking-attributable death rates per capita. The death rate in Sweden is 90 males per 100,000, which is notably lower than in the other countries with the lowest rates, Ireland (122), Luxembourg (131) and Finland (139).

Lung cancers attributable to smoking

During 2023, approximately 203,000 men aged 35 years and older were diagnosed with lung cancer in the European Union. Of these cancer cases, 132,000 can be estimated to be caused by smoking.[7,8]

Figure 6: Smoking attributable male lung cancers in the EU 2023

New cases among males 35+ per 100,000



Note: See appendix for how the smoking attributable deaths are calculated.
Source: Calculations by the author.

As with the number of smoking-attributable deaths, there are significant differences in the number of cancers per capita, as shown in Figure 6.

On average, 102 out of 100,000 males aged 35 years and older were diagnosed with lung cancer caused by smoking during 2023 in the EU. This can be compared to a lung cancer rate of 38 per 100,000 in Sweden. The Swedish lung cancer rate is 46 per cent lower than in the country with the second lowest rate, Ireland with 59 lung cancer cases per 100,000.

[7] This estimate only considers current male daily smokers. Smoking-attributable deaths among former smokers and those due to passive smoking are excluded. Therefore, this estimate represents a lower bound of the total smoking-attributable lung cancer cases among men in the European Union in 2023.

[8] See the Appendix for methodology and for tables.

2.2 The benefits of smoking cessation

The very large health risks associated with continued smoking means that quitting smoking always has positive health benefits, particularly in avoiding premature death.[9] Individuals who started smoking at a young age may reduce the excess risk of premature death due to smoking by up to 97 per cent if they quit smoking before the age of 30, see Table 1. Therefore, stopping smoking early can help avoid almost all the excess mortality risks associated with smoking. Quitting at older ages will reduce the likelihood to decrease the additional mortality risks. However, a 65-year-old smoker may still avoid approximately 75 per cent of the additional mortality risks by quitting.

Table 1: Reduction in mortality risk by quitting smoking

Percentage reduction in mortality risk

Age of quitting	Men	Women
Before 30	97	97
Before 40	90	90
35-54	79	72
55-64	76	79
65-74	72	72
75+	71	71

Note: The reduction is calculated as the percentage reduction in excess risk among former smokers compared to current smokers.

Source: Jha (2020).

On an individual level, quitting smoking leads to a significant increase in life expectancy. Ceasing smoking at the age of 30 extends life expectancy by an additional decade, as shown in Table 2. The increase in life expectancy diminishes as the age at which the individual quits smoking increases. Quitting smoking at age 60 has the potential to add four years of life.

Table 2: Gain in life expectancy by quitting smoking

Number of extra years of life

Age of quitting	Gain in life expectancy
25-34	10 years
35-44	9 years
45-54	6 years
55-64	4 years

Table 3: Lives saved by quitting smoking

Number of premature deaths avoided per 100 quitters

Age of quitting	Males	Females
Before 30	49	49
Before 40	45	45
35-54	40	36
55-64	38	40
65-74	36	36
75+	36	36

Source: Jha (2020) and calculations by the author.

On an aggregated level, the number of individuals who quit smoking can be translated into a measure of the number of premature deaths avoided or, equivalently, a measure of the number of lives saved. Approximately 50 per cent of people who continue to smoke will eventually die from smoking, while the other

[9] Jha (2020).

half will die from other causes not associated with smoking. This implies that only half of all individuals who quit smoking can be saved from a premature death. In other words, for every 100 individuals who quit, only 50 can potentially be saved from a premature smoking-related death.

Moreover, quitting at, for example, the age of 40 will only reduce the risk by 90 per cent. Therefore, out of the 50 individuals who could potentially be saved from a premature death, only 90 per cent will be saved. Consequently, for every 100 individuals who quit at the age of 40, only 45 individuals can be saved from an premature death. The number of lives that can be saved from quitting smoking decreases with the age at which individuals quit, as depicted in Table 3.

The above way of reasoning can be applied to the smokers in the European Union. If the number of smokers in the European Union decreased by one percentage point, the number of smokers would decrease by approximately 4 million in total. Multiplying these 4 million quitters, by age, with the number of saved lives per 100 quitters in Table 3 results in approximately 1.6 million individuals avoiding premature death because of smoking. If instead the 4 million quitters, by age, are multiplied with the gain in life expectancy in Table 2, this yields approximately 7.5 million extra years of life in total.

In essence, a tobacco policy that successfully reduce the smoking prevalence in the European Union by one percentage point would save 1.6 million EU citizens currently alive from a premature smoking-related death and increase their total life expectancy by 7.5 million years.

3 The effectiveness of tobacco policy to combat smoking

Key points

- Smoking prevalence has decreased in developed countries over the past decade.
- Countries that substantially raised taxes on cigarettes have observed a significant decline in smoking rates.
- The decline has been especially fast in countries where alternative, less harmful nicotine products are accepted and accessible.
- Sweden's low smoking prevalence cannot be explained by the implementation of tobacco control measures such as bans and information campaigns. This because Sweden's use of such policies is not substantially different from that of countries with much higher smoking rates.
- The much lower smoking rates in Sweden can only be explained by Sweden's early adoption of higher cigarette taxes combined with an open market for Swedish snus as a substitute for smoking.

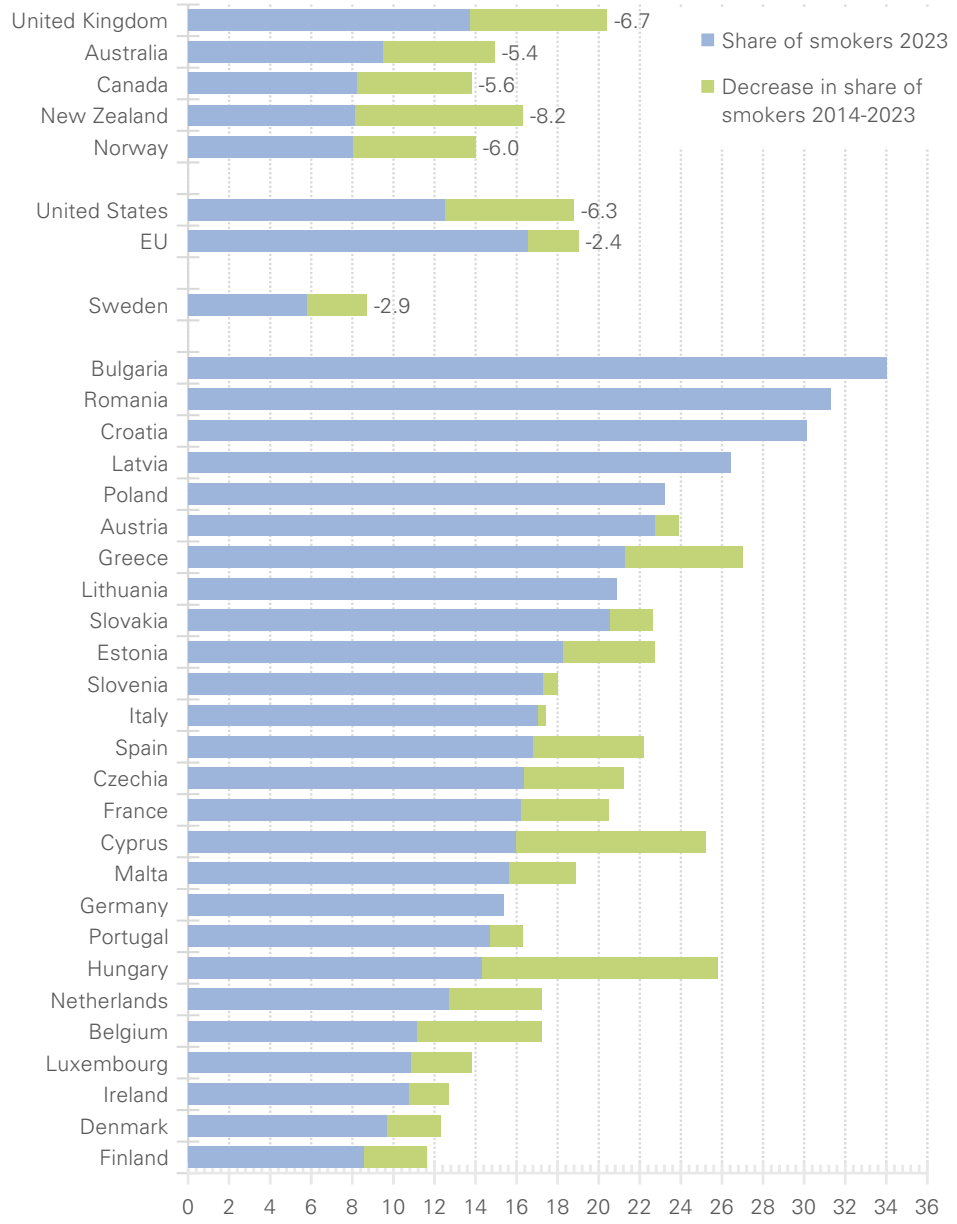
3.1 Nicotine use by country

In the EU and comparable countries, the share of daily smokers has decreased during the last decade (see Figure 7). Outside the European Union, developed countries saw an average drop of more than 6.3 percentage points. Within the EU, the decline in smoking prevalence was less pronounced, at 2.4 percentage points, decreasing from 19.0 per cent to 16.6 per cent.

Current daily smoking rates and their change since 2014 vary substantially among EU member states. To some extent, the share of smokers has converged towards lower numbers, with significant drops in countries like Hungary and Cyprus. However, countries such as Austria and Greece still have high rates of smokers. In some member states, like Germany and Bulgaria, the share of smokers has even increased.

The lowest smoking prevalences, below 10 per cent, are found in Sweden, Norway, New Zealand, Finland, Denmark, and Australia. In Sweden, only 5.8 per cent of the population smoke daily.

Figure 7: Share of daily smokers in 2014 and 2023 in the European Union member states and selected developed countries
Percentage share of daily smokers in population aged 15+



Source: See the nicotine use prevalence references in list of references.

The development of male smoking prevalence

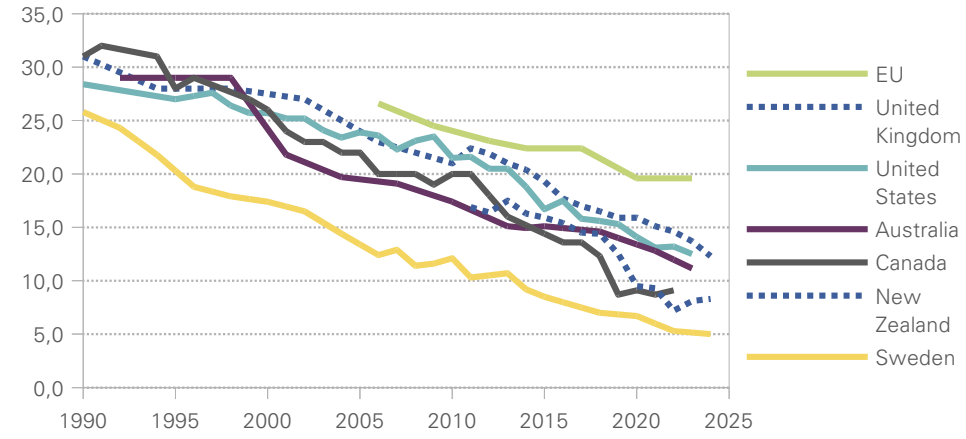
In Sweden, the share has only decreased by 2.9 percentage points over the last decade. This relatively minor decline should be viewed in light of the historically low smoking rates in Sweden. This especially among Swedish men, where the low smoking rates stands out internationally, see Figure 8.

For comparison, the smoking rate among males in the United States was 12.5 per cent in 2023, a figure surpassed by Swedish men already in 2006. This suggests that the United States lags nearly 18 years behind Sweden in combating smoking among men. Similarly, the United Kingdom is 19 years behind, Canada 11 years,

Australia 10 years, and New Zealand 9 years. The EU countries on average lags 30 years behind.

Figure 8: Share of male smokers

Percentage share of male smokers in population aged 15+



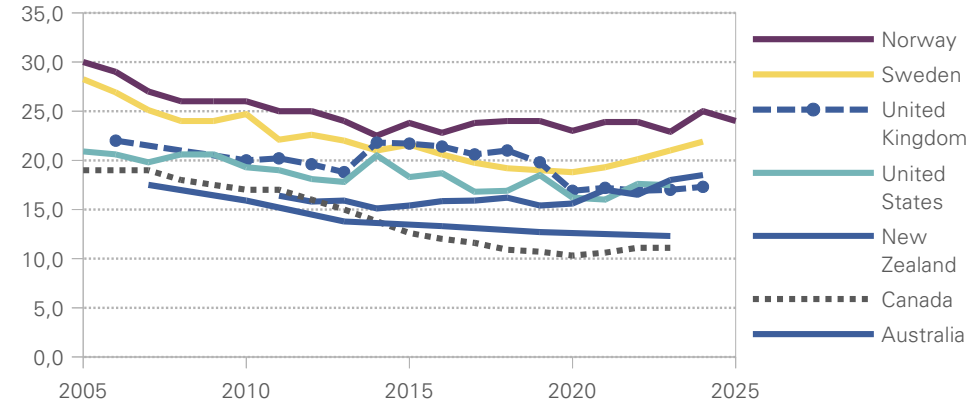
Source: See the nicotine use prevalence references in list of references.

The development of total nicotine use

The overall share of nicotine users—comprising smokers, vapers, snus users, and nicotine pouch users—has decreased over the last 20 years but has stabilized and slightly increased in the past five years, as indicated in see Figure 9. In all countries depicted in Figure 9, at least one less harmful nicotine product has been available on the market as cigarette prices increased. The substantial declines in smoking prevalence over the last decade can thus be attributed to people either quitting nicotine altogether or switching to alternative, safer products when prices increased.

Figure 9: Share of nicotine users

Percentage share of nicotine users in population aged 15+



Source: See the nicotine use prevalence references in list of references.

This effect is most evident in Sweden and Norway, where very low smoking rates are associated with a high proportion of snus and nicotine pouch users as indicated in Figure 10 and Figure 11. The same trend can be observed in New Zealand, and the United Kingdom, where the use of less harmful e-cigarettes has significantly increased alongside higher cigarette prices.

On average, the adoption of alternative nicotine products has been higher in the United States than in the European Union. This difference can partly be explained by the EU-wide ban on snus in all member states except Sweden, and the consistently higher cigarette prices in the United States compared to the European Union.

Figure 10: Share of smokers 2023
Share of daily smokers in population aged 15+

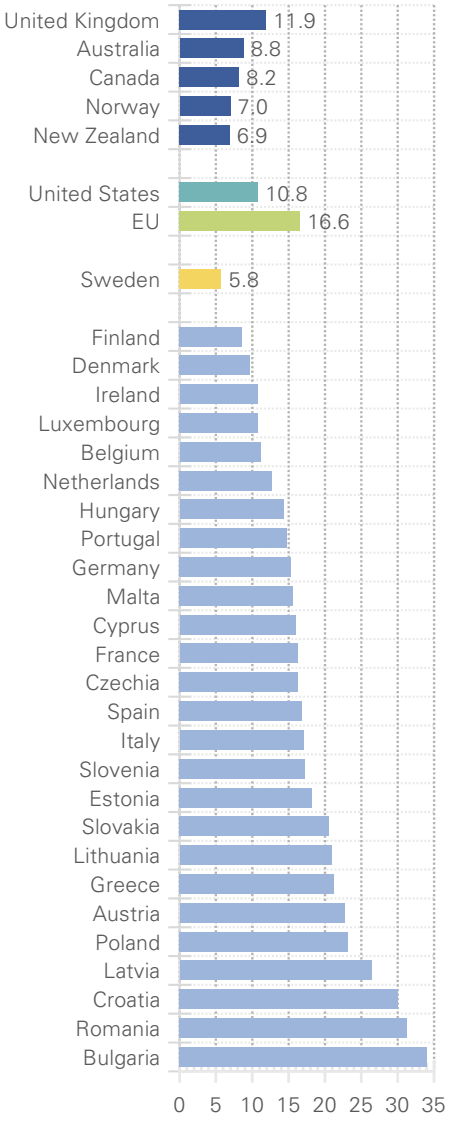
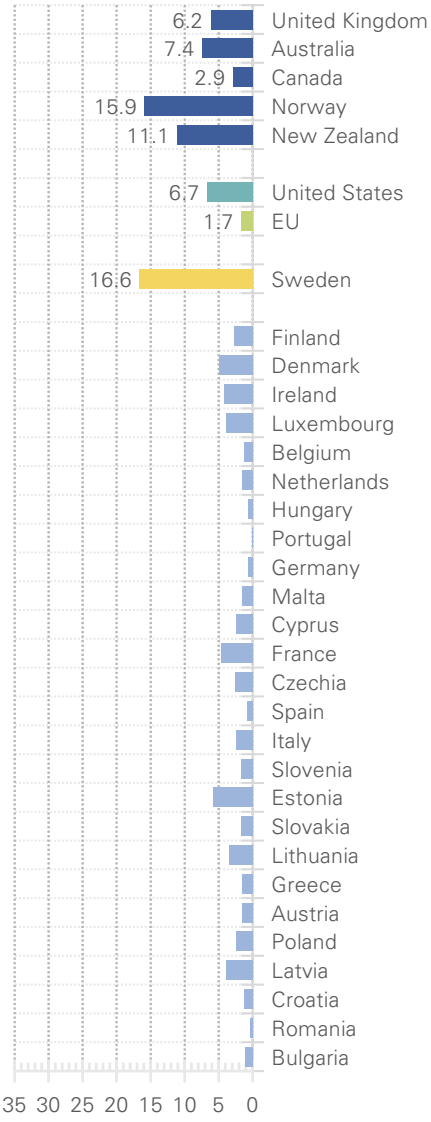


Figure 11: Share of users of vape, snus or nicotine pouches 2023
Share of daily nicotine users in population aged 15+



Source: See the nicotine use prevalence references in list of references.

Smoking prevalence among young people

The impact of substitute availability is more pronounced among young people, who are generally more sensitive to price changes and more willing to try and choose alternatives to smoking.[10]

[10] The young population is defined as the age group 15-24 based on how the EU reports smoking prevalence by age. For some countries the young population is defined outside the EU age interval, such as Norway with the age group 16-24 or Finland with the age group 20-34.

Countries such as Sweden, Norway, New Zealand, Denmark, and the United States have achieved the goal of a smoke-free generation among the youth, with less than 5 per cent of young people smoking, see Figure 12.[11] This achievement has been accompanied by a significant increase in the numbers of vapers, snus users, or nicotine pouch users in all these countries, as indicated in Figure 13.

Figure 12: Share of young smokers 2023

Share of daily smokers in population 15-24

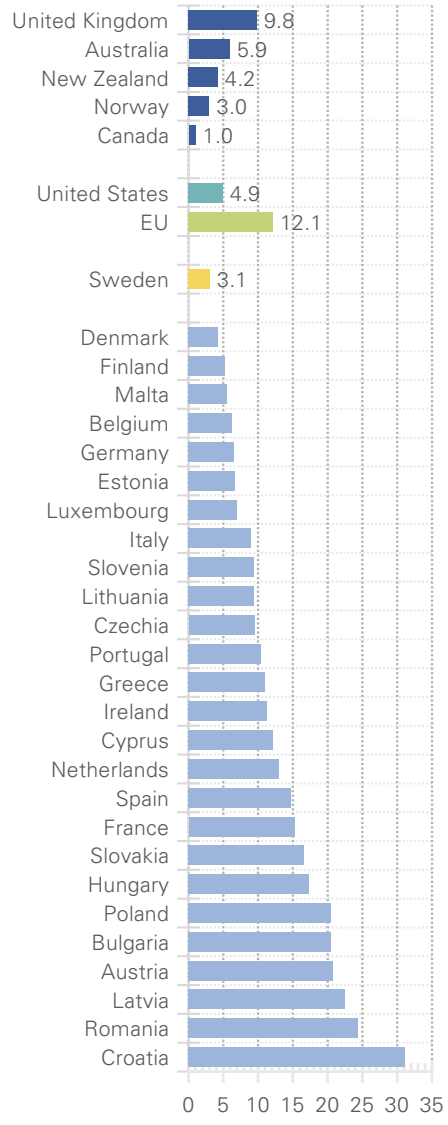
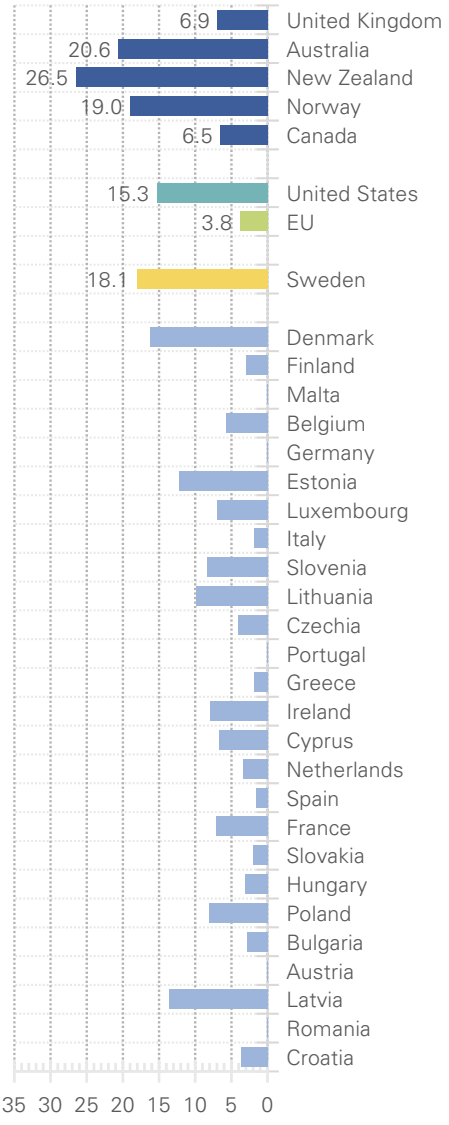


Figure 13: Share of users of vape, snus or nicotine pouches 2023

Share of daily nicotine users in population 15-24



Source: See the nicotine use prevalence references in list of references.

3.2 Fighting smoking through taxation

The predominant economic measure used within tobacco policy is the excise tax on tobacco products. This due to its documented effect on reducing smoking.[12] The

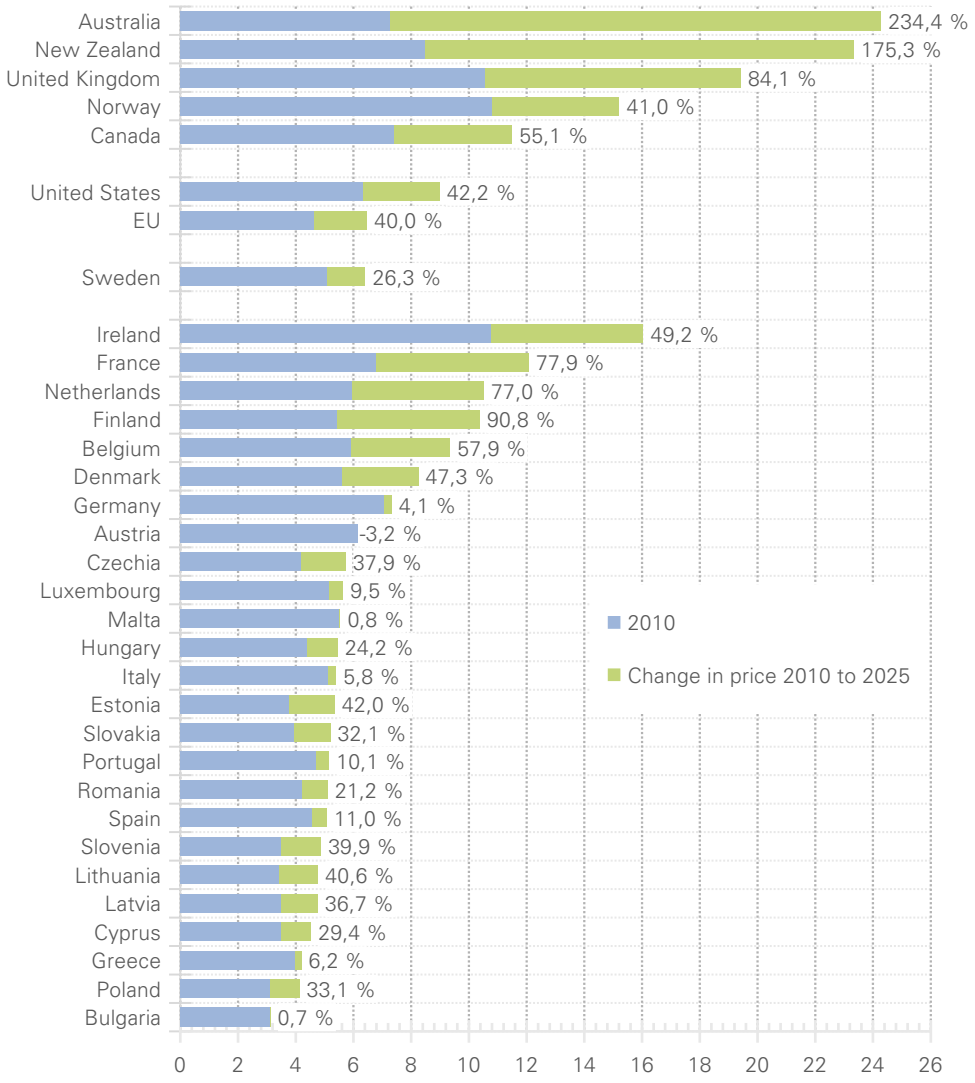
[11] European Commission (2022).

[12] Other economic instruments include low or no excise tax on less harmful alternative nicotine products or subsidising on the purchase of stop smoking products.

capacity of cigarette excise taxation to generate substantial public sector revenue adds to its political acceptability and use.

Figure 14: Real price of cigarettes 2010 and 2025 in European Union member states and selected developed countries

Price of pack of 20 cigarettes in euros at the 2025 price level and percentage change



Source: Calculations by the author based on European Commission (2026), market research for current cigarette prices in non-EU countries and consumer price development figures for respective country.

Generally accepted estimates show that a 10 per cent increase in cigarette prices reduces cigarette consumption by between 2-6 per cent.[13] Half of the reduction in consumption is estimated to be due to fewer people smoking, either because they quit or fewer people start smoking, while the other half is due to smokers smoking fewer cigarettes.[14]

[13] International Agency for Research on Cancer (2011), Levy et.al. (2004) and Nguyen et.al. (2012).

[14] Levy et.al. (2004).

Cigarette price development since 2010

In the European Union, cigarette taxation has been more harmonised since 2014. But there are still large possibilities for the individual member states to draft their own country specific legislations. Consequently, there are significant differences in excise taxes and cigarette prices. In 2025 the cigarette price varies from as low as €3.10 per 20 cigarettes in Bulgaria to €16.00 in Ireland, as compared to €6.50 on average in the European Union, see Figure 14.

In other developed countries outside the European Union, the highest cigarette prices in 2025 can be found in Australia and New Zealand, with a price of €24.30 and €23.30 per pack of 20 cigarettes. The 2025 average price per pack in the United States is €9.00, €11.50 in Canada, and €19.40 in the United Kingdom.

Prices in the United States vary significantly between states, just as in the European Union. In 2024, New York had the highest average price for a pack of cigarettes of €12.95, which is almost double that in North Carolina at €7.10.[15]

To combat smoking, the real prices in most countries have increased substantially since 2010. The price development in Sweden is noteworthy. Up until 2010, Sweden was one of the few forerunners in combating smoking through taxation, along with countries such as Norway, the United Kingdom, and Finland. Around 2010, several European Union member states caught up with and even surpassed Sweden, including Ireland, France, the Netherlands, and Germany. Since 2010, most of these countries, as well as other developed countries outside the European Union, have seen dramatic increases in taxation on cigarettes leading to real price increases in many cases surpassing 30 per cent or more. In comparison, Sweden's 26 per cent real price increase between 2010 and 2025 is modest, and significantly lower than the European Union average of 40 per cent. Sweden is nowadays an average European Union country when it comes to economic tobacco policy and has lost its status as a forerunner.

Cigarette prices and smoking prevalence

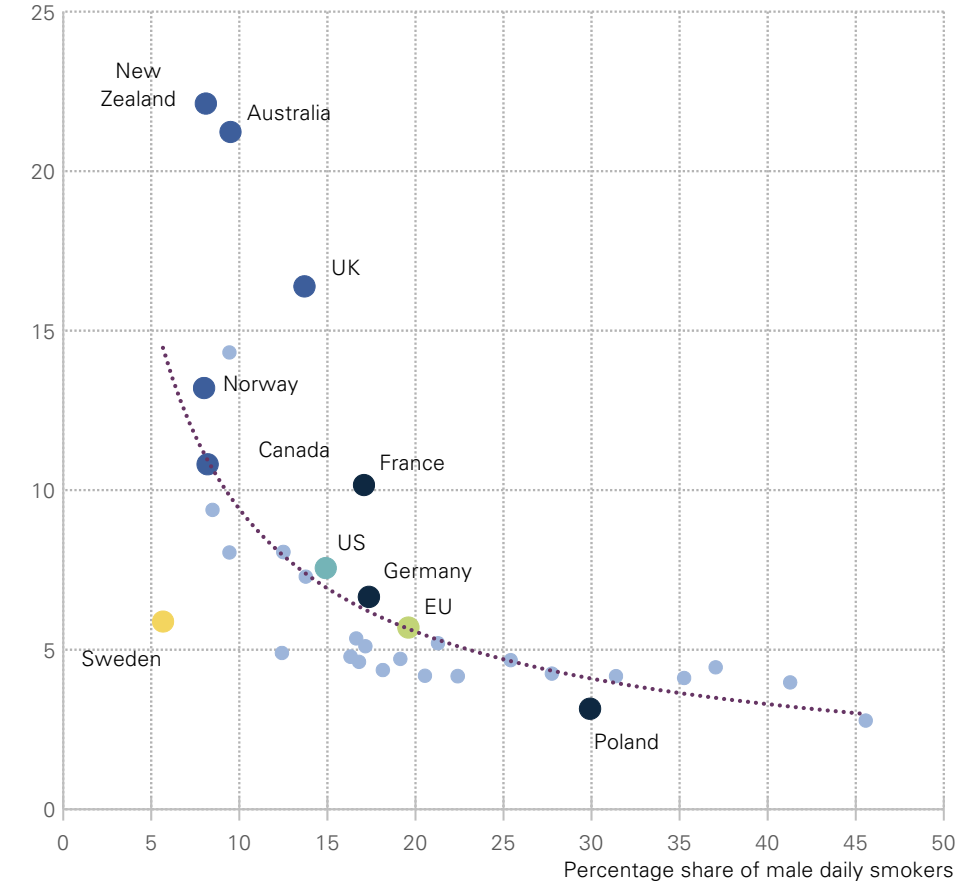
Despite both currently lower prices and relatively modest price increases, the smoking prevalence among Swedish men is still the lowest in the European Union and compared to other developed countries. In 2023 the price of cigarettes was €5.90 euros per pack and the share of male smokers was 5.7 per cent, a combination unmatched by any other country.

Even in countries where cigarette prices are twice as high or more, such as New Zealand, Australia, the United Kingdom, Ireland, and Norway, the share of male smokers is significantly higher. On average, the cigarette price in the European Union is about the same as in Sweden, but the number of smokers is 3.5 times higher than in Sweden. Although there is a strong correlation between price and the share of smokers, as seen in Figure 15, Sweden is an outlier where the cigarette price cannot fully explain the low level of male smokers.

[15] World Population Review (2025).

Figure 15: Price of cigarettes and smoking prevalence in EU member states and selected developed countries 2023

Price of pack of 20 cigarettes in euros at the 2023 price level



Source: Calculations by the author based on European Commission (2025) and market research for current cigarette prices and European Commission (2024) and reported smoking prevalence in respective country for non-EU countries.

3.3 Fighting smoking with bans and information

The European Commission has implemented several tobacco control measures, regulating products, marketing, and trade. Over time, EU tobacco control policies have become increasingly harmonised, with the 2014 Tobacco Products Directive introducing significant new measures.

Since 2007, the development of these policies across European countries have been tracked, scored and ranked by the Tobacco Control Scale.[16] For the period between 1970 and 2010, score data is available for only 11 European countries, compiled by Nguyen et al. (2013).[17] These scores are further broken down to assess the extent to which countries have implemented policies controlling areas such as smoke-free air, health warnings, and advertising bans.

This section summarises the implementation of these policies in the 11 countries where data is available since 1970, focusing on how implementation and its timing differs from that in Sweden by comparing the countries' tobacco control scores.

[16] Tobacco control scale (2025).

[17] The countries are Austria, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

Smoke-free air policies

In the 11 countries smoking bans is widespread, and Finland has had workplace smoking restrictions since 1977 (see Table 4 and Figure 16). Sweden introduced more extensive smoking bans, such as in restaurants, around the same time as many other member states, about 2005. Consequently, Sweden cannot be singled out as an early adopter of smoke-free air policies or as a country with more extensive smoke-free policies compared to other member states.

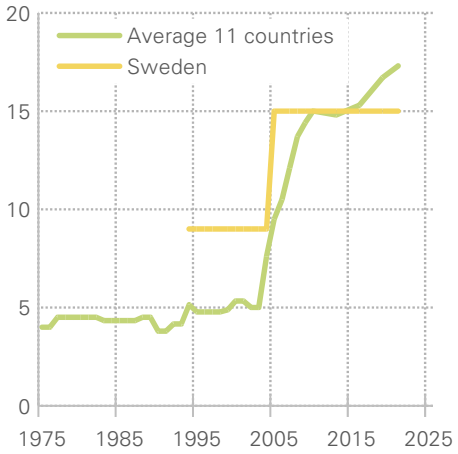
Table 4: First year of any smoke-free air policy

Year of introduction of first smoke-free air policy

Member state	Year
Italy	1975
Finland	1977
Portugal	1983
Spain	1988
Netherlands	1990
France	1992
Sweden	1994
Austria	1995
Ireland	1995
Germany	2002
United Kingdom	2005

Figure 16: Smoke-free air tobacco control scale

Tobacco control scale score, maximum = 22



Note: The smoke-free tobacco control policy scale measures the extent a country has introduced tobacco control policies to promote smoke-free public areas. The average is over the countries listed in the table.

Source: Nguyen et.al. (2012) and Tobacco Control Scale (2025).

Health warnings on packages

Since 2014, large graphic health warnings have been mandatory on all cigarette packaging across the European Union. While some member states implemented their own labelling regulations before 2014, these were primarily text-based warnings with limited impact.[18] Sweden introduced health warnings on packaging as early as 1974 (see Table 5), but these were text-only. Swedish tobacco policy regarding health warnings on packaging have not significantly differed from that of other countries, and the minor policy variations observed are unlikely to explain differences in smoking prevalence.

[18] Fong et.al (2009).

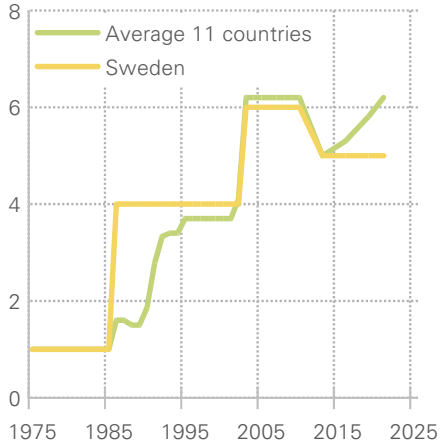
Table 5: First year of health warnings policy

Year of introduction of first health warning policy

Member state	Year
Sweden	1974
Austria	1975
France	1976
Finland	1977
Germany	1982
Spain	1988
Netherlands	1990
Ireland	1991
Portugal	1991
United Kingdom	1991
Italy	1993

Figure 17: Health warnings tobacco control scale

Tobacco control scale score, maximum = 10



Note: The health warnings tobacco control policy scale measures the extent a country has introduced tobacco control policies to warn users of the health consequences of tobacco use. The average is over the countries listed in the table.
Source: Nguyen et.al. (2012) and Tobacco Control Scale (2025).

Advertising ban policies

While the EU introduced a harmonised tobacco advertising ban in 2003, many member states had already implemented their own bans. Ireland, for example, introduced its first ban in 1971, while Sweden only followed over two decades later in 1993 with its first ban (see Table 6). In the 10-year period between 1993 and 2003, Sweden only had a limited more elaborate advertising ban in place compared to other countries, a gap which was mostly closed in 2003. Sweden cannot be considered a leader in implementing advertising bans, nor can it be said to have utilised them more extensively than other countries.

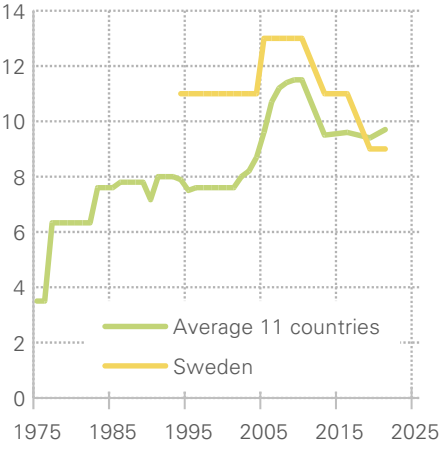
Table 6: First year of any advertising ban

Year of introduction of first advertising ban

Member state	Year
Ireland	1971
Germany	1974
Finland	1977
Italy	1983
Portugal	1983
Netherlands	1990
United Kingdom	1990
France	1991
Sweden	1993
Spain	1994
Austria	1995

Figure 18: Advertising tobacco control scale

Tobacco control scale score, maximum = 13



Note: The advertising tobacco control policy scale measures the extent a country has introduced tobacco control policies to ban tobacco advertising. The average is over the countries listed in the table.
Source: Nguyen et.al. (2012) and Tobacco Control Scale (2025).

The total implementation of bans and information measures

Figure 21 illustrates the combined scores for smoke-free air, health warnings, and advertising bans from the Tobacco Control Scale between 1995 and 2005, with a maximum score of 100.

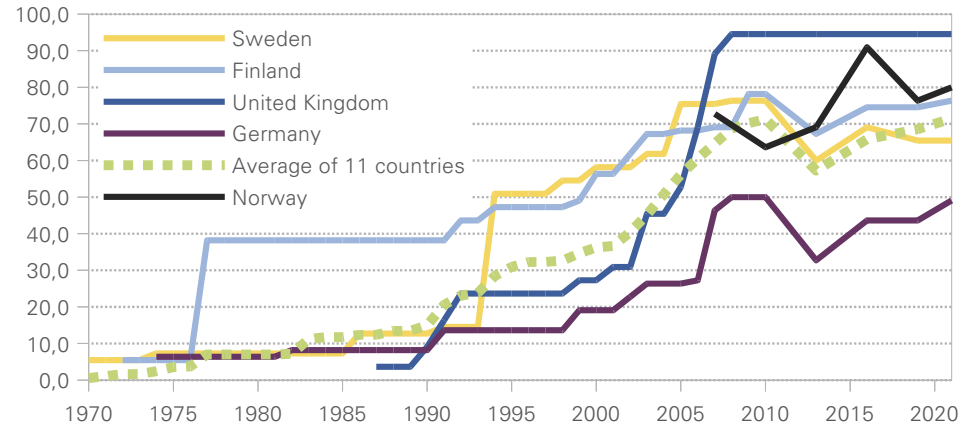
The figure clearly shows that Sweden was not a substantial forerunner in implementing these tobacco control policies compared to the other 11 countries. Until 1995, Sweden's implementation was average, and significantly behind Finland's. Despite this, smoking prevalence in Sweden has consistently been substantially lower than in the 11 countries, especially among men.

Between 1995 and 2005, Sweden, along with Finland, scored higher in tobacco control implementation than the average of the 11 European countries included. This gap was closed after 2005, especially by the United Kingdom. However, this convergence in policy implementation did not translate to a similar convergence in smoking prevalence. In fact, between 1994 and 2006, smoking prevalence only decreased by 5 percentage points in the United Kingdom, compared to 8 percentage points in Sweden. It's also important to note that cigarette prices in the United Kingdom were higher than in Sweden in 1994, and that real cigarette prices increased by 65% in the United Kingdom during this period, compared to just 16% in Sweden. This discrepancy in policy effectiveness can likely be attributed to the lack of suitable alternative nicotine products in the UK at that time.

It is also worth noting that since 2007, according to the Tobacco Control Scale, Sweden's ranking has steadily declined from 6th place in 2007 to 21st place in 2021. This reflects the fact that the rest of the EU has now adopted similar, and in many cases more extensive, tobacco control measures.

Figure 19: Tobacco Control Scale

Tobacco control scale score, maximum = 100



Note: The tobacco control scale measures the extent a country has introduced tobacco control policies in total. The average for the European Union is based on the countries: Austria, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain and Sweden.
Source: Calculations by the author based on Nguyen et.al. (2012) and Tobacco Control Scale (2025).

Swedish snus as a tobacco control policy instrument

The Tobacco Control Score does not include the availability of less harmful nicotine alternatives as a tobacco control measure. Consequently, countries are not scored by how many products that allow users to avoid smoking while still consuming nicotine. In this regard, Sweden would likely score highly, as Swedish snus, nicotine pouches, e-cigarettes, and other similar products are readily available.

The use of snus among Swedish men dates back long before World War II and the widespread introduction of cigarettes in Europe after the war. Swedish

consumption of snus and cigarettes shows a strong negative correlation over time. The increase in cigarette consumption in Sweden up to the mid-1970s corresponds to a significant decrease in snus consumption.[19] The opposite trend is observed after 1975.

The use and acceptance of snus in Sweden, and the ban on snus sales in the EU, represent a significant difference between Sweden and the rest of the European Union. This must be considered as one of the main factors to explain variations in smoking behaviour and smoking-related diseases between Sweden and the other EU member states.

[19] Nguyen et.al. (2012) and Rutqvist et.al. (2011).

4 The potential of Swedish tobacco control policy to save lives

Key points

Number of saved lives

- Approximately 217,000 males per year would not have died prematurely if Swedish tobacco policy had been in implemented in the European Union.
- If the member states early on had adopted the same historically higher cigarette prices as Sweden this would have led to 65,000 fewer deaths annually.
- The availability of snus, or any equivalent nicotine products, could have prevented 152,000 fewer deaths.
- With Swedish tobacco policy, approximately 85,000 males could have been saved annually from a premature death.
- The same figure for the United Kingdom is 21,000 males per year.

Reduced number of lung cancer cases

- Around 86,000 males per year would not contract lung cancer if the Swedish tobacco policy had been implemented in the European Union.
- If member states had adopted Swedish cigarette prices early on, this would have resulted in 21,000 fewer lung cancer cases annually.
- If snus, or similar nicotine products, had been available, this could have prevented 65,000 lung cancers per year.

4.1 Background

This section presents calculations of the potential public health impact under the assumption that Swedish tobacco policy had historically been implemented across all European Union member states the United States, and United Kingdom and its constituent countries. It is assumed that adopting Swedish tobacco policy would have resulted in a comparable smoking prevalence and mortality risks among men as those currently observed in Sweden.

Two measures are reported: firstly, the number of lives saved, which represents the number of premature deaths that could have been avoided under Swedish tobacco policy; and secondly, the reduction in lung cancer cases per year /this only for the EU member states). A detailed description of the methodology used is provided in the Appendix.

The potential impact of Swedish policy can be divided into two components: the effects of higher cigarette prices, and residual effects arising from differences in the implementation of other policies. The impact of higher cigarette prices, driven by increased taxation, is estimated using standard economics modelling. The effects of differences in the use of other measures are more challenging to isolate, but the primary historical difference—apart from pricing—is the availability of snus in Sweden.

The differences in the use of other measures, aside from taxation and snus, between Sweden and other member states are unlikely to be of such magnitude that they can significantly explain the differences in smoking prevalence. Furthermore, the effectiveness of bans and information campaigns is relatively low compared to price increases. For such measures to be able to account for the observed differences in smoking prevalence very large differences in their application would be required. As such, the impact of differences in the use of other policies—apart from price and snus—on smoking prevalence is most likely limited.

4.2 The potential to save lives

Had Swedish tobacco control policy been implemented in all European Union member states, it is estimated that approximately 217,000 fewer males would have died prematurely per year across the EU. Of this, aligning cigarette prices with those in Sweden would account for around 65,000 fewer deaths. The remaining 152,000 fewer deaths would be attributable to the impact of other Swedish policies, with the availability of snus serving as the primary contributing factor.

In countries like Germany and Italy, where cigarette prices have historically been relatively high and similar to Swedish prices, implementing Swedish price levels consequently would not reduce smoking prevalence (see Figure 20).

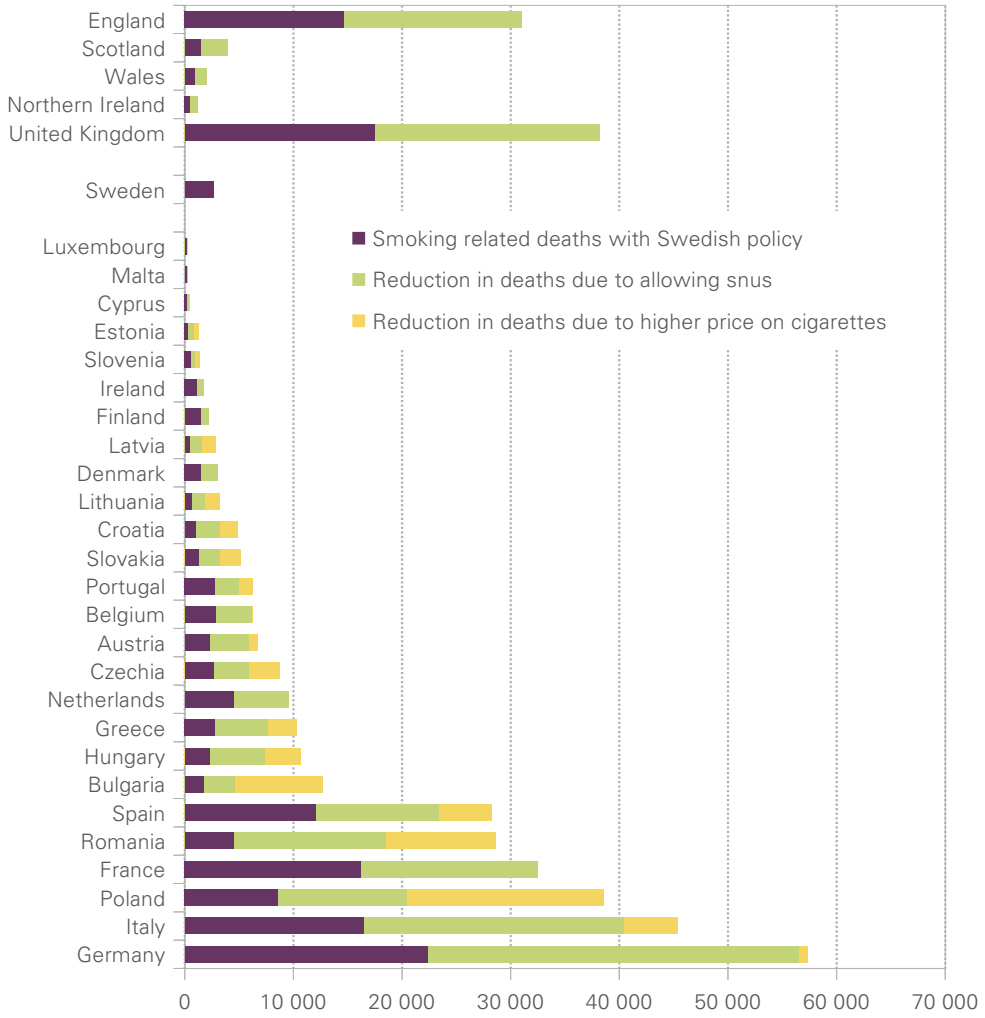
In contrast, Poland has comparatively low cigarette prices and a correspondingly high smoking prevalence. Substantially increasing cigarette prices in Poland would likely have a significant impact on reducing the number of smokers and, consequently, on lowering the number of smoking-related deaths. Other countries where higher cigarette prices could have a substantial effect on public health include Romania and Bulgaria.

Had Swedish tobacco control policy been implemented in the United States or United Kingdom, it is estimated that approximately 86,000 and 21,000 fewer males would have died prematurely respectively.

Given that cigarette prices in the United Kingdom and United States already exceed those in Sweden, price alignment would not reduce smoking prevalence. Consequently, the projected reduction in mortality is derived exclusively from the assumption of a historical adoption of snus.

Figure 20: Protective effect of Swedish tobacco policy on number of deaths in the European Union member states and United Kingdom

Number of deaths among males 35 years or older



Source: Calculations by the author.

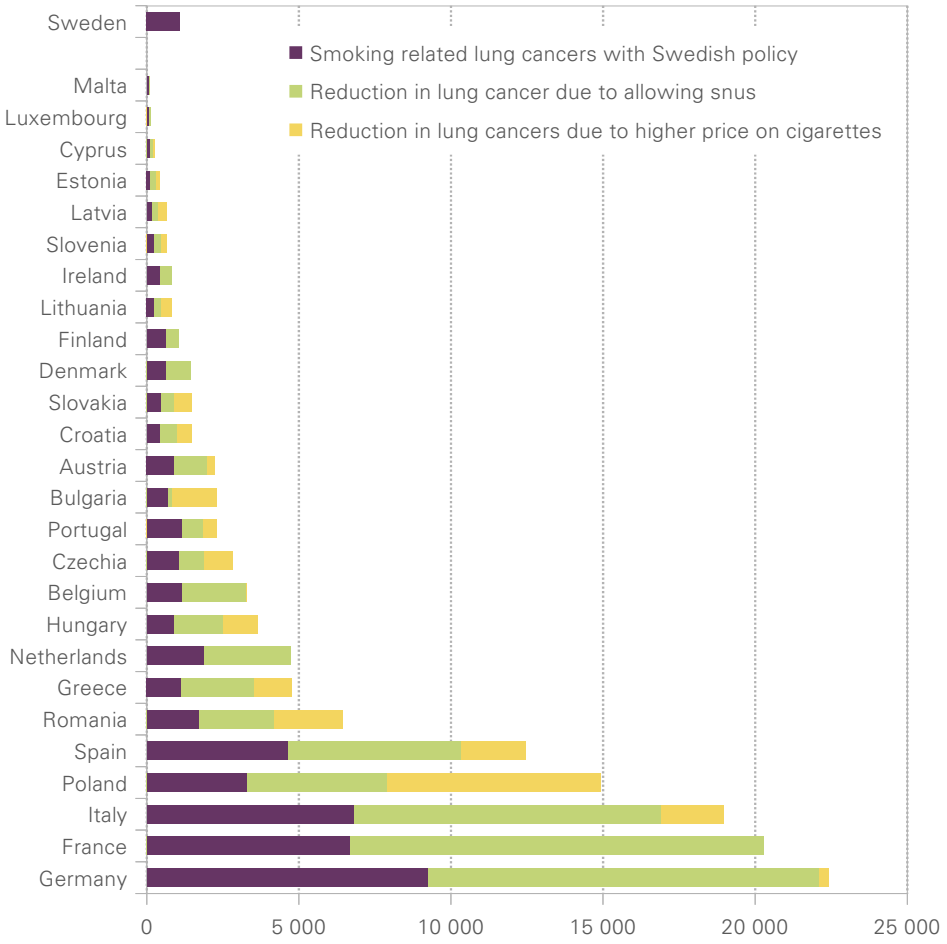
4.3 The potential to mitigate lung cancer

Implementing Swedish tobacco policy across the European Union could have resulted in approximately 86,000 fewer lung cancer cases in men each year. Specifically, aligning cigarette prices with those in Sweden would have reduced male lung cancer cases by about 21,000. The remaining 65,000 fewer cases are attributable to other Swedish policies, with snus likely being the main driver.

Overall, lung cancer cases could potentially decrease by nearly 66%. In percentage terms, Poland (78% decrease in number of cases), Greece (76%), and Hungary (76)% stand to benefit most from adopting the Swedish approach (see Figure 21). These countries have historically had very low cigarette prices, resulting in high smoking rates and the highest smoking-related lung cancer rates in the EU.

Figure 21: Protective effect of Swedish tobacco policy on lung cancer in the European Union member states

Number of lung cancer cases among males 35 years or older



Source: Calculations by the author.

5 Conclusion

Countries that have successfully reduced smoking rates have primarily relied on cigarette excise taxes to combat smoking. However, the countries with the lowest smoking rates are those that have combined price increases through taxation with an open market for alternative nicotine products.

In Sweden, nicotine consumers have always had access to Swedish snus as an alternative to smoking. When Sweden early on introduced higher taxes to discourage smoking, consumers had a viable nicotine substitute. Swedish snus has historically been more popular among men than women. As a result, when cigarette prices increased, more men than women switched to snus.

Due to the availability of Swedish snus, Sweden has historically had the lowest proportion of daily smokers among men and young people across the European Union member states and other developed countries.[20] It was not until 2010 that Sweden was surpassed by Norway, which achieved a lower proportion of smokers among young people. This is unsurprising, given that Norway was one of the early adopters of higher cigarette taxation to fight smoking. Unlike Sweden, however, the use of Swedish snus in Norway was initially less accepted and widespread. With rising cigarette prices, more Norwegians, particularly men, began trying snus and gradually adopted it as an alternative to smoking.

The introduction of nicotine pouches provided an appealing alternative to smoking also for Swedish and Norwegian women. This resulted in significant reductions in smoking prevalence also among women in both countries over the past decade. Sweden and Norway are, therefore, the two most prominent examples of successfully reducing smoking rates by ensuring the availability of viable, appealing, and less harmful nicotine substitutes.

A key difference between Sweden and Norway is that Sweden has adopted a less aggressive approach to increasing cigarette taxes, resulting in cigarette prices in Norway being almost 2.5 times higher. Despite this, smoking prevalence continues to fall in Sweden, reaching 5.8% in 2023 compared to 7.0% in Norway.

Other examples include New Zealand and Denmark, where substantial increases in cigarette taxes over the past ten years have been accompanied by the growing uptake of vaping in New Zealand and nicotine pouches in Denmark. In combination, this has led to significant declines in smoking rates, particularly among young people.

In contrast, some countries that have implemented higher cigarette prices and more extensive tobacco control measures than Sweden—such as Ireland, the United Kingdom, France, or the Netherlands—still have higher smoking prevalence. On average, Sweden has 6.0 percentage points fewer daily smokers than these countries. This indicates that smoking prevalence cannot be explained solely by pricing and the implementation of tobacco control measures. The availability and acceptance of products that act as substitutes must also be considered.

An effective and successful tobacco control policy combines increased excise taxes on cigarettes with the provision of alternative options for smokers to transition away from smoking. When cigarette prices rise, a range of alternative nicotine products offers smokers options beyond simply quitting or continuing to smoke.

[20] There is a lack of surveys of the smoking prevalence in many countries before 2000, and before1980 there is only a few surveys in a few countries.

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Appendix

Methods

Calculation of smoking-attributable deaths (SAD) and lung cancer cases (SALC)

The smoking-related diseases included in the assessment are listed in Table 7 with the respective relative risk for current smoking males by age. The number of deaths by disease or new cases of lung cancers are from Eurostat and European Cancer Information System respectively. Information on smoking prevalence is from Eurostat.

The smoking attributable fraction (SAF) of deaths and new lung cancer cases is calculated by the standard method, for each disease (d) and age group (h), as:

$SAF_{d,h} = \alpha_h * (RR_{d,h}-1) / (\alpha_h * (RR_{d,h}-1) + 1)$,

where α is the share of current smokers and RR is the relative risk.

The smoking-attributable fraction is multiplied with the number of deaths and new cancer cases to calculate the number of smoking-attributable deaths (denominated SAD_{CTP}) and new lung cancer cases (denominated $SALC_{CTP}$) under the *Current Tobacco Policy* (denominated CTP). This is done for all countries, diseases and age groups.

Calculation of the total potential protective effect of Swedish tobacco policy

The assessment assumes a thought experiment where Swedish tobacco policy is imposed on other European Union member states. Over time this is presumed to result in smoking prevalence rates and smoking-attributable mortality rates converging to Swedish levels. That is, $SAF_{d,h}$ is the same, and equal to the Swedish SAF, in all countries. The number of smoking attributable deaths with *Swedish Tobacco Policy* (denominated SETP) is then calculated (SAD_{SETP} and $SALC_{SETP}$) for every member state.

The total effect on smoking attributable-deaths and lung cancer cases of implementing Swedish tobacco policy is calculated as: $SAD_{TE} = SAD_{CTP} - SAD_{SETP}$ and $SALC_{TE} = SALC_{CTP} - SALC_{SETP}$. That is the total effect is calculated as the smoking attributable deaths with the current tobacco policy minus the smoking attributable deaths with the Swedish tobacco policy for every county, disease, and age.

Calculation of the price effect

The elasticity between price and SAD and SALC is assumed to be 0.5.[21] The price differences between Sweden and the individual member states are estimated as differences in average price over the last decade (2010-2024). The price differences are then multiplied by the price elasticity 0.5 to get the price effect on quantity (dSAD%, dSALC%).

Calculation of the snus effect

The difference between the Total effect and the Price effect can be interpreted as the effect of all other differences in policy measures between the individual member state and Sweden. Historically policy measures have differed between member states. It is hard, almost impossible, to evaluate how such policy differences may have affected smoking behaviour over time.

[21] The price elasticity is set to 0.5 and is in the upper part of the general accepted interval for cigarette consumption see for instance Nguyen et.al. (2012).

Beside price, the use of snus is the most prominent difference in use of policy measures in European Union tobacco policy. It is thus not unreasonable to interpret the difference between the Total effect and the Price effect as a consequence of the use snus in Sweden and name it as the Snus effect.

Tables and figures

Table 7: Smoking-related diseases and their relative mortality risks compared to non-smokers

Relative risk

Code	Disease	Age group	Relative risk
A15-A19_B90	Tuberculosis	All ages	2.3
C00-C14	Malignant neoplasms of lip, oral cavity and pharynx	All ages	10.9
C15	Malignant neoplasm of esophagus	All ages	6.8
C16	Malignant neoplasm of stomach	All ages	2.0
C18-C21	Malignant neoplasm of colorectum	All ages	2.1
C22	Malignant neoplasm of liver and intrahepatic bile ducts	All ages	1.7
C25	Malignant neoplasm of pancreas	All ages	2.3
C32	Malignant neoplasm of larynx	All ages	14.6
C33_C34	Malignant neoplasm of trachea, bronchus and lung	35-44	8.0
		45-54	14.0
		55-64	19.0
		65-74	20.5
		75+	18.5
C64	Malignant neoplasm of kidney, except renal pelvis	All ages	2.5
C67	Malignant neoplasm of bladder	All ages	3.3
I_OTH	Other and unspecified disorders of the circulatory system	All ages	1.8
I20-I25	Ischemic heart diseases	35-44	4.2
		45-54	4.2
		55-64	2.5
		65-74	1.8
		75+	1.4
I30-I51	Other forms of heart disease	All ages	1.8
I60-I69	Cerebrovascular diseases	35-44	4.4
		45-54	4.4
		55-64	3.1
		65-74	2.2
		75+	1.6
J09-J11	Influenza	35-44	2.5
		45-54	2.5
		55-64	2.5
		65-74	2.0
		75+	2.0
J12-J18	Pneumonia	35-44	2.5
		45-54	2.5
		55-64	2.5
		65-74	2.0
		75+	2.0
J40-J44_J47	Bronchitis, emphysema and COPD	All ages	17.1

Source: Calculations by the author based on Andersson et.al. (2017), Jha (2020), U.S. Department of Health and Human Services (2020) and Woloshin et.al. (2023).

Table 8: Smoking attributable deaths among male daily smokers 35+ in the EU, UK and US 2023

Number of males 35+

Country	Population	Deaths	Smoking attributable deaths	
			Number of men	Number of men per 100 000
Austria	2,611,240	23,569	6,626	254
Belgium	3,225,518	25,514	6,151	191
Bulgaria	1,950,979	45,844	12,870	660
Croatia	1,121,489	16,474	4,813	429
Cyprus	238,317	1,614	427	179
Czechia	3,157,694	36,992	8,722	276
Denmark	1,634,344	13,434	3,031	185
Estonia	365,349	4,761	1,268	347
Finland	1,586,121	14,423	2,210	139
France	18,176,076	132,202	32,097	177
Germany	24,592,483	258,439	56,835	231
Greece	3,118,950	35,858	10,346	332
Hungary	2,731,739	44,968	10,529	385
Ireland	1,394,404	9,011	1,703	122
Italy	18,029,820	173,479	44,978	249
Latvia	498,823	9,074	2,809	563
Lithuania	773,919	12,940	3,259	421
Luxembourg	183,317	1,038	239	131
Malta	160,399	1,139	252	157
Netherlands	5,008,520	36,907	9,375	187
Poland	10,430,305	129,830	38,170	366
Portugal	3,066,622	29,001	6,145	200
Romania	5,412,448	106,412	28,689	530
Slovakia	1,554,118	19,104	5,178	333
Slovenia	649,599	5,767	1,396	215
Spain	14,330,140	112,839	27,880	195
Sweden	2,891,062	21,893	2,588	90
EU	**128,893,795**	**1,322,526**	**328,585**	**255**
United States	**90,150,742**	**727,322**	**165,679**	**184**
England	15,857,497	131,752	31,011	196
Northern Ireland	524,765	3,941	1,180	225
Scotland	1,570,387	14,532	3,972	253
Wales	902,046	8,731	2,049	227
United Kingdom	**18,854,695**	**158,956**	**38,232**	**203**

Source: Calculations by the author.

Table 9: Smoking attributable lung cancers among male daily smokers 35+ in the European Union 2022

Number of cases

			Smoking attributable lung cancers	
Country	Population	Lung cancers	Number of cases	Number of cases per 100 000
Austria	2,611,240	2,991	2,241	86
Belgium	3,225,518	5,459	3,273	101
Bulgaria	1,950,979	2,909	2,286	117
Croatia	1,121,489	2,490	1,465	131
Cyprus	238,317	367	248	104
Czechia	3,157,694	3,706	2,813	89
Denmark	1,634,344	2,400	1,459	89
Estonia	365,349	563	435	119
Finland	1,586,121	1,822	1,039	66
France	18,176,076	32,777	20,290	112
Germany	24,592,483	36,862	22,410	91
Greece	3,118,950	6,357	4,750	152
Hungary	2,731,739	5,706	3,631	133
Ireland	1,394,404	1,553	821	59
Italy	18,029,820	28,420	18,965	105
Latvia	498,823	774	643	129
Lithuania	773,919	1,103	825	107
Luxembourg	183,317	210	137	75
Malta	160,399	164	97	61
Netherlands	5,008,520	7,776	4,726	94
Poland	10,430,305	19,206	14,925	143
Portugal	3,066,622	4,249	2,309	75
Romania	5,412,448	8,489	6,457	119
Slovakia	1,554,118	1,840	1,463	94
Slovenia	649,599	1,041	665	102
Spain	14,330,140	21,649	12,453	87
Sweden	2,891,062	1,973	1,092	38
EU	**128,893,795**	**202,856**	**131,917**	**102**

Source: Calculations by the author.

Table 10: Protective effect of Swedish tobacco policy on male 35+ deaths in the European Union 2023

Number of dead males 35+

	Smoking attributable deaths			Reduction in smoking attributable deaths		
Country	With current national policy	With Swedish prices	With Swedish policy	Total effect	Price effect	Snus effect
Austria	6,626	5,837	2,224	-4,402	-789	-3,613
Belgium	6,151	6,100	2,765	-3,386	-50	-3,335
Bulgaria	12,870	4,662	1,677	-11,193	-8,207	-2,985
Croatia	4,813	3,207	982	-3,831	-1,606	-2,224
Cyprus	427	338	199	-229	-90	-139
Czechia	8,722	5,816	2,623	-6,099	-2,906	-3,193
Denmark	3,031	3,031	1,471	-1,559	0	-1,559
Estonia	1,268	832	291	-977	-436	-541
Finland	2,210	2,210	1,433	-777	0	-777
France	32,097	32,097	15,927	-16,171	0	-16,171
Germany	56,835	56,013	21,971	-34,864	-822	-34,042
Greece	10,346	7,631	2,741	-7,604	-2,715	-4,890
Hungary	10,529	7,221	2,236	-8,292	-3,308	-4,984
Ireland	1,703	1,703	1,111	-592	0	-592
Italy	44,978	40,057	16,162	-28,816	-4,921	-23,895
Latvia	2,809	1,582	407	-2,402	-1,227	-1,175
Lithuania	3,259	1,827	621	-2,639	-1,432	-1,206
Luxembourg	239	202	142	-97	-37	-60
Malta	252	226	129	-122	-25	-97
Netherlands	9,375	9,375	4,426	-4,949	0	-4,949
Poland	38,170	20,204	8,423	-29,748	-17,966	-11,782
Portugal	6,145	4,879	2,725	-3,420	-1,265	-2,154
Romania	28,689	18,574	4,400	-24,289	-10,115	-14,174
Slovakia	5,178	3,196	1,218	-3,959	-1,981	-1,978
Slovenia	1,396	937	548	-848	-459	-389
Spain	27,880	23,069	11,863	-16,017	-4,811	-11,206
Sweden	2,588	2,588	2,588	0	0	0
EU	**328,585**	**263,417**	**111,305**	**-217,280**	**-65,169**	**-152,111**
United States	**165,679**	**165,679**	**80,004**	**-85,675**	**0**	**-85,675**
England	31,011	31,011	14,659	-16,352	0	-16,352
Scotland	3,972	3,972	1,464	-2,508	0	-2,508
Wales	2,049	2,049	876	-1,173	0	-1,173
Northern Ireland	1,180	1,180	475	-705	0	-705
United Kingdom	**38,232**	**38,232**	**17,444**	**-20,788**	**0**	**-20,788**

Source: Calculations by the author.

Table 11: Protective effect of Swedish tobacco policy on male 35+ lung cancer cases in the European Union 2022

Number of cases

	Smoking attributable lung cancers			Reduction in smoking attributable lung cancers		
Country	With current national policy	With Swedish prices	With Swedish policy	Total effect	Price effect	Snus effect
Austria	2,241	1,974	897	-1,344	-267	-1,077
Belgium	3,273	3,246	1,132	-2,141	-27	-2,114
Bulgaria	2,286	828	685	-1,600	-1,458	-143
Croatia	1,465	976	412	-1,053	-489	-564
Cyprus	248	196	80	-168	-52	-116
Czechia	2,813	1,876	1,049	-1,764	-937	-827
Denmark	1,459	1,459	625	-834	0	-834
Estonia	435	286	112	-323	-150	-174
Finland	1,039	1,039	619	-420	0	-420
France	20,290	20,290	6,672	-13,618	0	-13,618
Germany	22,410	22,086	9,236	-13,175	-324	-12,850
Greece	4,750	3,503	1,129	-3,621	-1,246	-2,375
Hungary	3,631	2,490	870	-2,761	-1,141	-1,620
Ireland	821	821	424	-397	0	-397
Italy	18,965	16,890	6,789	-12,176	-2,075	-10,101
Latvia	643	362	158	-485	-281	-204
Lithuania	825	462	240	-585	-362	-222
Luxembourg	137	116	52	-85	-21	-63
Malta	97	88	51	-46	-10	-36
Netherlands	4,726	4,726	1,872	-2,854	0	-2,854
Poland	14,925	7,900	3,284	-11,641	-7,025	-4,616
Portugal	2,309	1,834	1,149	-1,160	-476	-684
Romania	6,457	4,181	1,697	-4,760	-2,277	-2,484
Slovakia	1,463	903	458	-1,005	-560	-445
Slovenia	665	446	221	-443	-219	-225
Spain	12,453	10,305	4,631	-7,822	-2,149	-5,673
Sweden	1,092	1,092	1,092	0	0	0
EU	**131,917**	**110,374**	**45,636**	**-86,281**	**-21,544**	**-64,738**

Source: Calculations by the author.