

Effect of the proposed nicotine limit on nicotine pouches on public revenue in Denmark¹

Introduction

The Danish government, together with several other Danish parties has agreed on a comprehensive prevention plan aimed at reducing the consumption of tobacco, nicotine products, and alcohol among children and young people. As part of this plan, the third and final legislative proposal targeting these issues has now been submitted for public consultation. One of the central initiatives is a ban on the import, purchase, and possession of nicotine pouches containing more than 9 mg of nicotine² — a limit that impacts about 90 percent of the current market.³ However, the proposed nicotine limit includes an exception for travel goods and allows individuals to carry and possess up to 10 units for personal use.

To shed light on the economic effects of the proposed nicotine limit for nicotine pouches, this paper presents an analysis on the effects on public revenue in Denmark. It includes an assessment of the immediate revenue effects of the limit and an estimate of the expected behavioral effects based on different behavioral assumptions, both taking the so-called feedback effects into account.

The proposed ban on the import, purchase, and possession of nicotine pouches containing more than 9 mg of nicotine will lead to an immediate static revenue loss, primarily resulting from the elimination of excise duties and VAT associated with nicotine pouches with more than 9 mg. This static effect reflects the direct financial impact without accounting for any subsequent adjustments or behavioral responses, that could partially mitigate the immediate revenue loss. In addition, the static effects include an immediate feedback effect reflecting that the proposed nicotine limit on nicotine pouches immediately increases all consumers purchasing power and thereby their general consumption.

The behavioral responses that must be accounted for to evaluate the long-term effects include a substitution effect, reflecting that some consumers are likely to switch to nicotine pouches with up to 9 mg nicotine or cigarettes, which might directly increase the tax revenue from these products. Behavioral responses also include the potential impact on cross-border and illegal market sales. If consumers substitute nicotine pouches to other nicotine products, turn to illegal markets or purchase nicotine products from neighboring countries, this could affect the impact from the feedback effects and may therefore also affect tax revenue.

The behavioral responses may in addition also free up income, increasing households' purchasing power if the money saved is not redirected completely to other expenses. Thereby, changing the economic incentives to work and consequently the labor supply.

¹ This paper is commissioned by the Tholos Foundation.

² <https://www.ism.dk/nyheder/2024/juni/stop-for-nikotinposer-med-soede-smage-og-hoejt-nikotinindhold>

³ <https://dagligvarehandlen.dk/forbrugere/nye-regler-nikotinposer-kan-oegge-graensehandel>

It is estimated with some uncertainty that the proposed nicotine limit on nicotine pouches in Denmark will lead to a lasting loss of tax revenue by around DKK 296 million in 2025, increasing to almost DKK 435 million annually by 2030 due to the expected growth in nicotine pouch consumption.

Excise taxes, VAT and feedback effects

The proposed ban on the import, purchase, and possession of nicotine pouches with more than 9 mg of nicotine in Denmark will impact public tax revenue. The immediate effect will be a revenue loss, as excise duties and VAT from these products will no longer contribute to state finances.

Additionally, indirect revenue changes may arise from shifts in consumer behavior. This for instance includes that some nicotine pouches with more than 9mg of nicotine will be substituted with nicotine pouches with up to 9 mg of nicotine or with cigarettes. This also includes that some consumers may choose to purchase nicotine pouches with more than 9 mg of nicotine across the border or resort to illegal markets, as for instance Sweden allows the sale of nicotine pouches containing up to 20 mg of nicotine.⁴ These changes in consumption patterns may consequently reduce the immediate revenue loss.

To comprehensively assess both the direct and indirect effects on revenue, it is essential to understand the tax rates and structure of the Danish tax system, which includes both direct and indirect taxes.⁵ Indirect taxes are taxes paid when purchasing or selling goods or services and play a key role in determining the public revenue impact. Examples include value-added tax (VAT), which is applied to almost all goods and services in Denmark, and excise duties, which are imposed on the import, production, and sale of specific goods.

VAT is a percentage-based tax, that is a common way for governments to generate revenue. Denmark has a single standard VAT rate of 25 percent on the price charged (excluding VAT) or 20 percent on the price charged (including VAT). Excise duties, on the other hand, are typically quantity-based rather than value-based, meaning they are applied per unit of the item rather than as a percentage of the sale price. Excise rates vary depending on the type of product and are intended both to generate revenue and to discourage consumption of products associated with health or environmental risks. The standard VAT rate and the size of the excise duties on nicotine products and cigarettes in Denmark are shown in the table below.

Indirect taxes in Denmark, 2025

| | 2025 |
|-------------------------------|------------------------|
| VAT | |
| Standard rate, <i>percent</i> | 25 |
| Excise duties | |
| Nicotine products | DKK per mg of nicotine |
| - Nicotine products | 0,10 |
| Cigarettes | DKK per unit |
| - Cigarettes | 1,97 |

Source: <https://skm.dk/tal-og-metode/satser/satser-og-beloebsgraenser-i-lovgivningen/forbrugsafgiftsloven>, <https://info.skat.dk/data.aspx?oid=2084870>, <https://skat.dk/erhverv/moms/i-gang-med-moms>

Note: The tax on cigarettes is composed of a unit tax based on the number of cigarettes sold and a value tax applied as a percentage of the retail price.

⁴ <https://dagligvarehandlen.dk/forbrugere/nye-regler-nikotinposer-kan-oegge-graensehandel>

⁵ <https://skat.dk/en-us/individuals/taxation-in-denmark/types-of-tax>

In addition to the direct and indirect effects, the proposed nicotine limit on nicotine pouches can potentially also trigger a feedback effect on public revenue. This feedback effect reflects that policy changes, that have a direct impact on disposable incomes or purchasing power, will also influence public revenue from VAT and excise duties (consumption taxes) through increased or decreased consumption, assuming consumption behavior remains unchanged. Therefore, the feedback effect is a common part of the calculation of fiscal consequences of policy changes in Denmark.⁶

Excise duties do not change the disposable income but change the purchasing power of the disposable income if the excise duties change the real value of the disposable income. Therefore, the proposed nicotine limit for nicotine pouches might immediately and directly increase the real value of the disposable income. Likewise, if people as a response to the proposed nicotine limit, substitute towards other alternative nicotine products are taxed at different rates or have varying price structures, this could potentially trigger a feedback effect on public revenue by impacting consumers' real income. Similarly, if people engage in cross-border or illegal shopping, it may also lead to feedback effects for the same reason.

The size of the feedback factor in Denmark, determining the feedback effect, is calculated as a 10-year average, reflecting the Danish tax system and accounting for historical economic cycles. In Denmark, the feedback factor for excise duties is determined to be 21 percent.⁷

Immediate revenue loss and feedback effect

To determine the immediate reduction in revenue for the Danish government in 2025 from the proposed nicotine limit on nicotine pouches, an expected domestic sale of nicotine pouches with more than 9 mg of nicotine in 2025 is calculated. In general, the calculation is based on the Danish Ministry of Taxation's estimation of domestic sales of all nicotine pouches for 2023, the assumed proportion of pouches containing more than 9 mg of nicotine, the expected growth in nicotine pouch consumption, and the projected behavioral effects of the now recently adopted excise tax change on nicotine products in 2024. These projected behavioral effects involve cross-border trade and substitution of nicotine pouches with cigarettes from changes in tax rates.⁸

Specifically, the Danish Ministry of Taxations estimation of the domestic sales of nicotine pouches for 2023 is based on revenue data from the Tax Agency's excise duty system and current tax rates for nicotine products. The Danish Ministry of Taxation estimated that domestic sales of nicotine pouches in 2023 reached 490 million units, with total consumption in Denmark amounting to 560 million units.

In our calculations we then account for the recently adopted excise tax change by using the Danish Ministry of Taxation projected change in the reduction of consumption, cross-border trade and the effect of substitution towards cigarettes from this tax change. We assume that the domestic sales of nicotine pouches will grow by 8 percent annually from 2023 to 2030. This growth rate is based on the Danish Ministry of Taxation's expected increase in the number of daily users from 2022 to 2023, which was based on data from the tobacco industry on the rise in the sales of smokeless tobacco products (including nicotine products) from 2021 to 2022.⁹

⁶ https://fm.dk/media/laqnazt5/dokumentationsnotat_om_opgoerelse_af_nettoafigtsfaktoren_a.pdf

⁷ https://fm.dk/media/laqnazt5/dokumentationsnotat_om_opgoerelse_af_nettoafigtsfaktoren_a.pdf

⁸ <https://skm.dk/media/iwljgdev/forhoejelse-af-afgiften-paa-nikotinprodukter.pdf>

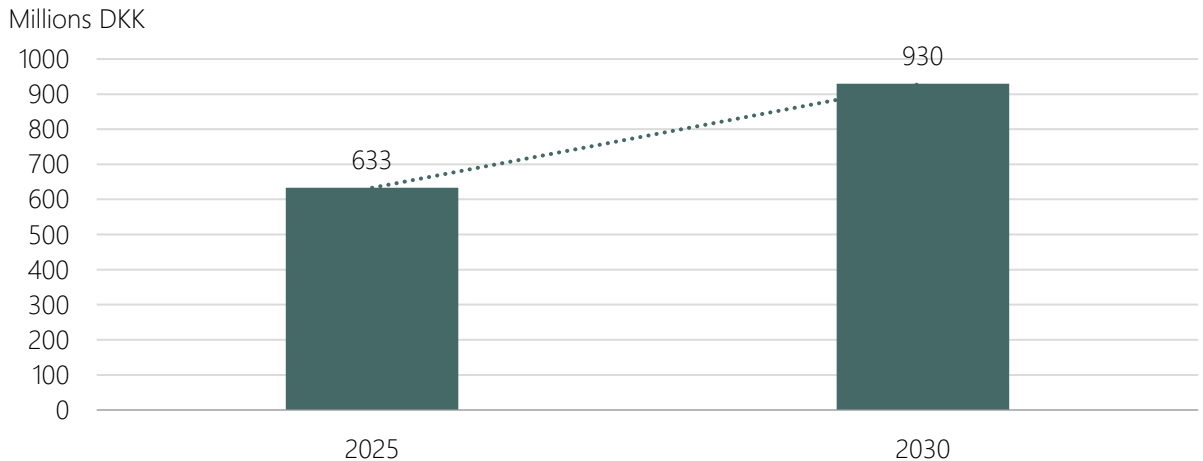
⁹ <https://skm.dk/media/iwljgdev/forhoejelse-af-afgiften-paa-nikotinprodukter.pdf>

The expected domestic sales of nicotine pouches in 2025 are calculated to be 391 million pouches. It is assumed that 90 percent of the nicotine pouches contain more than 9 mg of nicotine, whereby the domestic sales of nicotine pouches with more than 9 mg of nicotine in 2025 are calculated to be 352 million pouches. It is assumed that these nicotine pouches on average contain 12 mg of nicotine each.

This implies that the expected immediate revenue loss (inclusive VAT) from the nicotine limit on nicotine pouches can be estimated at around DKK 633 million, as shown in the figure below. If only domestic sales are expected to grow annually towards 2030, i.e. keeping the price, excise duties etc. constant, the immediate revenue loss in 2030 is expected to amount to DKK 930 million.

The proposed nicotine limit on nicotine pouches will lead to an immediate increase in the purchasing power for all consumers of nicotine pouches with more than 9 mg of nicotine. Assuming consumption behavior will remain unchanged, the immediate feedback effect from the nicotine limit will significantly mitigate a large portion of the immediate revenue. The feedback effect is estimated to be DKK 222 million in 2025 and DKK 326 million in 2030.

Immediate revenue loss from the proposed nicotine limit on nicotine pouches in Denmark



Source: Own calculations based on the Danish Ministry of Taxation (<https://skm.dk/media/iwljgdev/forhoejelse-af-afgiften-paa-nikotinprodukter.pdf>).

Substitution effect

The Danish Ministry of Taxation assumes that, in response to the recent increase in excise taxes on nicotine pouches, a portion of users will shift to using cigarettes. Similarly, in the event of the proposed nicotine limit on nicotine pouches, we also anticipate that some users in Denmark will switch to cigarettes.¹⁰ Additionally, we assume that other users may turn to substitutes as nicotine pouches with up to 9 mg of nicotine when nicotine pouches with more than 9 mg of nicotine are no longer legally available for purchase etc. in Denmark.

According to a survey among around 500 users of nicotine pouches in Denmark, which was collected in October 2024 by IPSOS on behalf of the Tholos Foundation, 24 percent of the users of nicotine pouches today report that they will stop using nicotine products completely if “such a ban came to be”. This implies that 76 percent of the users would either

¹⁰ <https://skm.dk/media/iwljgdev/forhoejelse-af-afgiften-paa-nikotinprodukter.pdf>

substitute with other products (cigarettes or nicotine pouches with up to 9 mg of nicotine) or buy their products online or at the border. Based on the results from the survey, we estimate that about 13 percent substitute to cigarettes, about 28 percent substitute to nicotine pouches with up to 9 mg of nicotine, while the last about 35 percent buy their products at the border or illegally.

We calculate the increase in revenue from the excise duties and VAT associated with the substitutes. These calculations are based on the level of the indirect taxes in the table above and the expected substitution from the nicotine pouches.

We also calculate the feedback effects related to substitution. In these calculations we first account for the fact that this group does not experience the same change in purchasing power as those who quit nicotine pouches, as assumed in the calculation of the immediate feedback effect. Then we consider that this group may instead experience a shift in purchasing power due to different price and tax structures associated with their new consumption bundle, which can lead to feedback effects.

The tax effects from the substitution together with the net feedback effects from real change in purchasing power partially mitigates the revenue loss. Public revenue is expected to increase by about DKK 174 million in 2025 and DKK 256 million in 2030, see table below.

Effect on cross-border, online and illegal shopping

As stated, about 35 percent of the users are assumed to purchase nicotine products from neighboring countries or illegal markets as a response to the proposed nicotine limit.

The cross-border and illegal online shopping does not directly result in a revenue gain for the Danish state but may result in an indirect feedback effect.

When calculating this feedback effect related to cross-border shopping, online shopping, and illegal trade we take into account that this group does not experience the same change in purchasing power as those who quit nicotine pouches, as assumed in the calculation of the immediate feedback effect, since they shop at the border or online. Then we consider that this group may instead experience a shift in purchasing power due to price disparities between Denmark and the neighboring countries or illegal markets, which can lead to a feedback effect. The price disparity is mainly due to the lack of or reduced excise duty.

The net feedback effect from increased cross-border shopping, online shopping and illegal trade is expected to increase the immediate revenue loss by roughly DKK 42 million in 2025 and DKK 62 million in 2030, see table below.

Labor supply effects

The proposed nicotine limit frees up income for consumers who choose to quit their use completely after the nicotine limit, increasing households' purchasing power if the money saved is not redirected to other expenses, and thus changes the economic incentives to work.¹¹

¹¹ We assume that the proposed nicotine limit will only affect the labor supply of those who cease their consumption. This is because there is no immediate effect on disposable income for individuals who substitute their consumption, and the costs associated with cross-border trade are assumed to offset any savings from cheaper alternatives.

The Danish ministries assume that the impact on the labor supply from a change in for instance excise duties correspond to the impact from a revenue-equivalent change in income taxes with same incidence.¹² A similar incidence refers to, that the impact on households' purchasing power (measured as a percentage of disposable income) follows the same distributional profile as the change in the income tax. We use the same principle and assume that the impact on the labor supply from the proposed nicotine limit on nicotine pouches corresponds to the impact from a revenue-equivalent change in income taxes with same incidence.

Since there is no basis for assessing the incidence of the proposed nicotine limit and thereby the impact on the labor supply, we rely on the Danish Ministry of Taxations estimates for labor supply effects for taxes on cigarettes and tobacco.¹³ Thus, the estimates should be interpreted with caution.

The self-financing rate of labor supply from a change in taxes on cigarettes and tobacco amounts to -7 percent of the burden (after feedback effects). We thereby estimate the labor supply effect to be about DKK 17 million in 2025 and DKK 25 million in 2030, see table below.

Revenue after feedback and behavioral effects

The projected immediate impact of the proposed nicotine limit for nicotine pouches is a public revenue loss estimated at around DKK 633 million in 2025, increasing to DKK 930 million by 2030 due to expected growth in nicotine pouch consumption. However, when accounting for feedback effects and behavioral adjustments, the net revenue loss is expected to be DKK 296 million in 2025 and DKK 435 million by 2030.

Effect on total public revenue from the proposed nicotine limit on nicotine pouches in Denmark

| Million DKK | 2025 | 2030 |
|---|-------------|-------------|
| Immediate revenue (excl. VAT) | -422 | -620 |
| Immediate revenue (incl. VAT) | -633 | -930 |
| Immediate feedback effect | 222 | 326 |
| Immediate revenue (after feedback) | -411 | -605 |
| Behavioral effects (incl. feedback effects and VAT) | | |
| - Substitution to cigarettes and other nicotine pouches | 174 | 256 |
| - Cross-border trade and illegal online shopping | -42 | -62 |
| - Labor supply | -17 | -25 |
| Revenue after feedback and behavioral effects | -296 | -435 |

Source: Own calculations based on the Danish Ministry of Taxation (<https://skm.dk/media/iwljgdev/forhoejelse-af-afgiften-paa-nikotinprodukter.pdf>).

¹² https://skm.dk/media/Skatteministeriet/Dokumenter/PDF'er/Regnemetoder_-_kapitler_af_Skatte%C3%B8konomisk_Redeg%C3%B8relse/sr21-kap-4.pdf

¹³ <https://skm.dk/media/iwljgdev/forhoejelse-af-afgiften-paa-nikotinprodukter.pdf>