

# On the taxation of unhealthy products

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A diverse range of products that pose health risks are subjected to a specific excise tax in addition to the value-added tax (VAT). Illustrative instances are sin taxes imposed on alcoholic beverages and tobacco products. In general, the sin tax framework in Germany displays notable inconsistencies. As an illustration, a sin tax is levied on beer, while wine, which carries an equivalent risk, can be consumed without being subject to a specific tax burden. This paper critically examines the absence of consistency in the taxation policies pertaining to commodities deemed detrimental to public health. The subject is gaining growing significance in view of Germany's intended legalisation of cannabis. This paper provides an overview of the current state of sin taxation in Germany. It presents a theoretical framework for a rational approach to sin taxes based on the level of danger posed by the different products to people and public health. The identified model presents two distinct lines of reasoning that contribute to a policy suggestion. These lines of reasoning focus on the levels of harm associated with unhealthy commodities and the elasticities.

## 1 Introduction

A particular feature in the tax systems of many countries is the specific taxation of goods detrimental to health. Tobacco, as well as nicotine, alcohol, sugar, fats, and other products, are examples of such *sin taxes*. In the design of these taxes, German tax law does not adhere to a rational system. For instance, while beer is subject to a specific excise tax, wine can be enjoyed tax-free. In February 2024, the German federal government took a step towards the legalization of cannabis consumption. However, the government refrains from imposing a tax on cannabis products. The decision to forgo

taxation is justified by the aim of combating the black market. However, illegal markets are also prevalent for cigarettes and alcohol, which continue to be increasingly taxed. Additionally, the status of sugar and fats warrants consideration. While little is known about a black market for these substances, they remain untaxed in Germany, unlike in some neighboring countries.

Against this backdrop, the normative question of how to tax health-detrimental products becomes increasingly relevant for practical purposes. Emerging products containing alcohol or nicotine (such as e-cigarettes, heated tobacco, nicotine pouches) pose growing regulatory challenges for policymakers.

## **2 The taxation of health-detrimental activities in a liberal democracy**

In essence, the debate surrounding sin taxes encapsulates fundamental tensions within liberal democratic societies regarding the appropriate role of the state in regulating personal behavior and the protection of individual freedoms. It underscores the need for nuanced discussions about the legitimacy, effectiveness, and ethical implications of taxation policies aimed at shaping societal norms and behaviors.

The fundamental question is: Is it the task of a collective to intervene in the behavior of individuals? The negation of this question is among the foundations of liberal theories in the tradition of John Stuart Mill.

The EU compels producers to place a prompt on their products that may trigger a reconsideration of the decision to smoke. The obligation to display ugly pictures and warning labels on cigarette packs is a form of nudging. This "soft" form of paternalism differs from the "hard" form insofar as the latter would entail a prohibition on cigarette consumption. Taxation is also seen as a soft form of paternalism compatible with liberal principles since it does not prohibit people from consuming cigarettes. However, the question remains whether such taxation can be efficient in terms of utilitarian maximization. This question is also affirmed in the sin tax literature. However, it requires assuming time-inconsistent decisions by consumers. When consuming health-detrimental products, consumers are aware that they will regret their behavior in the future. To the extent that taxation provides an incentive to reduce consumption, not only do non-smokers benefit (in terms of the higher tobacco tax), but smokers themselves also gain higher inter-temporal utility (for related references, see the original article).

## **3 Sin Taxation in Germany**

Most taxes on health-detrimental products were introduced prior to the onset of the First World War. Subsequently, they were largely standardized during the financial distress following the war and underwent few changes. The current design of these taxes is largely attributed to the realization of the European Common Market around 1993. Harmonized minimum rates in EU regulations on alcohol taxation play a role in the

alcohol tax, while tobacco taxation is determined by the Tobacco Products Directive. Sin taxes in Germany are typically paid through quantity-based taxes. However, tobacco is taxed based on either the number of cigarettes or the weight of tobacco.

Beer is taxed according to a law amendment passed most recently in 2009. The law provides for a reduction for small breweries. In 2022, the beer tax revenue amounted to 600 million EUR, whereas in 2010, it stood at 712 million EUR. While beer is subject to taxation, wine has not been subjected to specific excise taxation since the *Bernkasteler Winzeraufstand*. This winemakers' uprising in 1926 materialized in a march of vintners to the tax office in Bernkastel (Prussian 'Rheinprovinz', today in Rhineland-Palatinate). Fearing the potential spread of these protests, the tax was suspended throughout the German Reich and has not been reinstated to this day, almost a hundred years later.

Tobacco taxation in Germany was nationally standardized in 1879. The current Tobacco Tax Law came into effect in 2006. The tobacco tax in Germany comprises two components. The specific tax is based on a fixed tax per thousand cigarettes or per kilogram of other tobacco products such as cigars or pipe tobacco. The amount of the specific tax varies depending on the type of tobacco product. In addition to the specific tax, a value-added tax (ad valorem) is levied on the selling price of tobacco products. The revenue from tobacco tax amounts to approximately 14.7 billion euros per year.

Tobacco taxation serves as an exemplary case of unclear and inconsistent taxation. In its legislative rationale ('Gesetzesbegründung'), the federal government declares the "balancing of the tension between the goal of constant tax revenues and public health objectives" as a pivotal aim. It is well-established in the literature of public economics that reconciling these objectives is challenging. Apparently, smoking is only to be discouraged to the extent that it aligns with short-term fiscal goals. Doubt may be cast on whether this inconsistent policy is compatible with the EU objective (Europe's Beating Cancer Plan) to reduce smoking prevalence to five percent by 2040.

## 4 A tax system based on health objectives

In recent years, the tobacco market has undergone significant changes due to a multitude of novel products. E-cigarettes, heated tobacco, as well as the newly available tobacco-free nicotine pouches and other products, are now displayed on shelves alongside the traditional cigarette, fine-cut, and pipe tobacco.

In Germany, there is no tax differentiation between particularly harmful and risk-reduced (however, not risk-free) products. The federal government justifies this by arguing that cigarettes and e-cigarettes are substitutes. From an economic perspective, this rationale may not be entirely convincing. Firstly, the broad category as a substitute is somewhat unreliable. If a good is taxed because it is a substitute, should complements not be taxed? It would be almost grotesque not to tax e-cigarettes if they were consumed in addition to cigarettes. An increased health risk would then be taxed less on average than a lower one.

Secondly, the characteristic of being a substitute - aiming, of course, at the substitution elasticity - does not provide any information about the health risks associated with the

different products. However, this information, along with cross-price elasticities, would be pivotal for a taxation system oriented towards health risks. The federal government could draw upon a wealth of research literature and scientific policy advice to address this question.

In a study published by the German Cancer Research Center, the authors arrive at the following conclusions: Firstly, e-cigarettes (and heated tobacco) are frequently consumed by current smokers as a means to quit smoking. Secondly, e-cigarettes are "very likely" significantly less harmful than conventional tobacco cigarettes and can therefore represent a less harmful alternative to continued smoking (cf. the original article for the references). Against this backdrop, it would indeed be appropriate, particularly due to the existing positive substitution elasticity, to treat these different products differently rather than, as is the current practice, treating them equally.

In the case of alcohol, the situation is quite the opposite. As mentioned earlier, beer and wine are taxed quite differently, despite there being no evidence to suggest that alcohol in beer alone produces health damage. According to the logic of the federal government, both products would have to be treated equally for tax purposes simply because they are substitutes.

A tax-theoretically informed taxation based on health risks would therefore clearly define both the objective function and the constraint. Since tax revenues are not (should not) be the (foremost) purpose of sin taxes, but rather health policy objectives, a reformulation of classical optimal tax theoretical models in the tradition of Ramsey is warranted. Instead of an exogenously given revenue, an exogenously given public-health level should be used as a constraint, which is based on the sum of consumed health-detrimental products multiplied by their respective measure of health harm. The original paper sketches a related Lagrangian approach and discusses the first-order conditions.

## 5 Conclusion

This contribution outlines a model for a consistent and rational taxation of health-detrimental products. Instead of relying on a multitude of ad-hoc justifications, taxation should be based on two vectors. Firstly, the toxicological values of the respective products, which we refer to as harm levels. Secondly, the own-price and cross-price elasticities of the products. The toxicological values are collected by the government and are generally available. Elasticities can be estimated using econometric methods. Thus, a rational tax policy does not rely on unobservable values but on a few fundamentally available ones. A consistent tax policy is possible—and politically and economically advisable.