T20 POLICY BRIEF

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Task Force 01

FIGHTING INEQUALITIES, POVERTY, AND HUNGER

Reforming Excise Taxation to Reduce Social Inequalities

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Abstract

Despite governmental efforts, many G20 countries grapple with rising social inequality, particularly in income, wealth, and health. For instance, social inequality in South Africa has increased over the past two decades, posing significant challenges despite being a national priority (South African National Development Plan 2012). However, how countries apply taxes to products that are harmful to health plays an important role in reducing social inequalities.

This policy brief explores the concept of behavioral excise taxation based on risk as a strategic tool to mitigate social inequality, with a focus on the prevalence of non-communicable diseases (NCDs) in G20 countries. NCDs, which account for over 70 percent of global deaths (World Bank 2020), disproportionately affect socio-economically disadvantaged populations with limited access to quality healthcare. By proposing reforms to excise taxes, the brief aims to reduce the prevalence of NCDs and thus narrow social inequality.

The proposal centers on implementing risk-based excise taxation on harmful products to influence consumption behavior. This approach aims to correct market inefficiencies by aligning tax rates with the relative risk or harm of different goods, thereby guiding consumer choices towards healthier choices. Ultimately, adopting risk-based taxation could serve as a transformative tool for public health policy in G20 countries, addressing systemic issues contributing to social inequality.

Keywords: inequality; health; excise taxes; behavioral taxation

Diagnosis of the Issue

Many G20 countries suffer from high levels of economic inequality, which often intersects with race, gender, and ethnicity and leads to divergent social outcomes across different population groups (World Bank 2024; Stiglitz 2017). These outcomes include systemic differences in health access, delivery, and outcomes. For instance, in South Africa, disparities in private health insurance ownership are stark among racial groups, with significant gaps between black and white South Africans (Statistics South Africa 2019). In the United States, low levels of insurance among low-income individuals contribute to healthcare disparities across races and ethnicities (Baciu et al. 2017). Similarly, in China, urban-rural disparities in health services utilization and outcomes persist due to low income (Guo et al. 2020).

These inequalities extend to NCDs, a leading cause of death in G20 countries, disproportionately affecting socially disadvantaged groups. In Brazil, for instance, NCDs are more prevalent among persons who are black or brown, with little or no education, live in the southeast and south, and those without private health insurance (Malta et al. 2021). This effect is due to a lack of access to preventive health services and long-term care, social conditions, and also lifestyle choices, which include the consumption of harmful goods.

Excise taxes can discourage the consumption of harmful goods. Lowering the consumption of tobacco and nicotine, alcoholic beverages, and sugar-sweetened beverages (SSBs) should reduce the prevalence of NCDs and, thereby, favorably impact health inequality. However, the design of an excise regime determines its effectiveness in reducing the prevalence of NCDs.

In most G20 countries, there is substantial scope to reform excise taxes to reduce the prevalence of NCDs. Table 1 highlights prominent issues as they relate to behavioral excise taxation based on risk within these regimes.

TABLE 1.

Country	**SSBs**	**Tobacco and nicotine**	**Alcohol**
Argentina	Untaxed	Misaligned rates*	Risk subsidized
Australia	Untaxed	Misaligned rates*	Risk subsidized
Brazil	Untaxed	Misaligned rates*	Misaligned rates
Canada	Untaxed	Partial risk-based	Risk subsidized
China	Untaxed	Rates do not reflect the risk	Risk subsidized
France	Risk-based	Partial risk-based	Misaligned rates
Germany	Untaxed	Partial risk-based	Risk subsidized
India	Misaligned rates	Misaligned rates*	Misaligned rates
Indonesia	Untaxed	Partial risk-based	Misaligned rates
Italy	Untaxed	Risk-based	Risk subsidized
Japan	Untaxed	Misaligned rates**	Misaligned rates
Mexico	Misaligned rates	Partial risk-based**	Misaligned rates
Russia	Misaligned rates	Partial risk-based	Misaligned rates
Saudi Arabia	Misaligned rates	Misaligned rates	Untaxed
South Africa	Risk-based	Partial risk-based	Misaligned rates
South Korea	Untaxed	Misaligned rates**	Misaligned rates
Turkey	Misaligned rates	Misaligned rates*	Misaligned rates
United Kingdom	Risk-based	Risk-based	Risk-based
United States	Untaxed	Misaligned rates	Misaligned rates

Notes: Risk-based: rates reflect relative harm

Partial risk-based: there is a tax differential between less harmful and more harmful products, but not all products are taxed according to their risk.

Misaligned rates: less harmful products are taxed in the same way as harmful products.

Risk subsidized: harmful products are subsidized when a harmful product category is not taxed.

* heat-not-burn products and e-cigarettes are banned

** e-cigarettes banned

Recommendations

In terms of economic theory, the role of excise taxes is to improve the allocation of resources as a result of improved information, as provided by market prices. For certain goods, the private costs do not equal the (net) social costs, which represent the total net costs of use or consumption to society. It is also possible that private costs are not valued correctly by consumers due to biases, a lack of information, or deviations from rationality, which may, for instance, be brought about by addiction.

Where social costs exceed private costs or private costs are undervalued, the role of excise taxes is to raise prices, so the market price reflects the total net costs of use or consumption of the good rather than potentially undervalued private costs. This prevents consumers from making misinformed decisions, which reduces the risk of harmful behaviors, such as excessive consumption of tobacco and nicotine, alcohol, or sugary beverages, which can contribute to non-communicable diseases (NCDs).

However, within categories of excisable goods, such as alcohol, tobacco, and sugar, the discrepancy between social and private costs of goods (e.g. beer, wine, spirits) varies. This difference closely corresponds to the relative risk or harm of individual goods within each category (Chaloupka, Powell, and Warner 2019). Therefore, for consumers to assess the true costs of consumption accurately, excise tax rates must reflect the specific risks associated with each product.

Such risk-based excise rates are recommended to G20 countries, which requires the following three-step process:

1. Identify the element of risk of excisable goods

The initial step is to determine the risk or harm associated with each category of excisable goods. For alcoholic beverages and sugar-sweetened beverages (SSBs), this is straightforward: ethanol in alcohol and sugar in SSBs. Although alternative sugars are also added to certain SSBs, these sugars are associated with health risks and benefits in the literature (Rother et al. 2018; Benahmed et al. 2020), resulting in uncertainty about their long-term health consequences.

Identifying the risk element for tobacco and nicotine products is more complex. Cigarettes, for instance, contain numerous chemicals, many of which are toxic and carcinogenic. Nicotine, although addictive, is not carcinogenic and thus cannot be solely responsible for the risks associated with these products (Stephens 2018) Hence, evaluating the relative toxicity of different tobacco and nicotine products and their impact on clinically relevant biomarkers is relevant.[1]

Studies like Glasser et al. (2017), McNeill et al. (2018), and Simonavicius et al. (2019) highlight a risk continuum for tobacco and nicotine products, as recognized by the International Agency for Research on Cancer (2019). Evidence suggests that combusted tobacco poses greater harm than heated tobacco, which is, in turn, more harmful than liquid nicotine-based e-cigarettes. Nicotine products for smoking cessation are deemed the least harmful.

2. Identify whether the element of risk is substitutional or complementary

[1] Ideally, evidence on medium to long term consequences would also be considered. However, there is limited evidence of this nature for newer tobacco and nicotine products.

Before implementing risk-based excise rates, it is essential to understand whether the harm element within a category of excisable goods is substitutional or complementary. For example, do consumers substitute alcohol in beer with that in spirits, or do they increase consumption of spirits alongside beer (i.e., complementary consumption)?

This distinction is crucial because a low-harm product that complements a high-harm one may warrant a higher rate, as it indirectly increases the net social costs by promoting consumption of the high-harm product; the effective harm of the product is raised. For instance, if the consumption of spirits increases alongside beer, the effective harm of beer increases. Conversely, if the low-harm product reduces consumption of a high-harm alternative, its effective harm decreases.

While consumption patterns are influenced by various factors unique to each country, existing evidence may suggest probable consumption patterns. For alcohol and sugar, products within each category are generally substitutes, as observed in cross-country studies such as Fogarty (2010) for alcohol and the Committee of Experts on International Cooperation in Tax Matters (2023) for SSBs.

Many studies find tobacco and nicotine products act as substitutes. For instance, Pesko and Warman (2022) show e-cigarettes and cigarettes are substitutes in the USA, while Public Health England (2018) and Stoklosa et al. (2016) report similar findings for the UK and the European Union, respectively. In Japan, Stoklosa et al. (2019) find cigarettes and heat-not-burn products are substitutes.[2] However, Adermark et al. (2020) in a cross-country study find that use of e-cigarettes may predict the initiation or recurrence of

[2] Long-term data is lacking due to the recent introduction of these products.

cigarette smoking, suggesting that these products may be complementary over the long term.

In countries lacking evidence, studying domestic consumption patterns is necessary for effective policy formulation.

3. Price the element of risk or harm

Setting excise rates involves pricing the element of risk or harm, which varies by country due to differing net social costs. For alcohol, a specific rate per liter of pure ethanol would apply universally to all alcoholic beverages, considering they are substitutes.[3] Similarly, for sugar-sweetened beverages (SSBs), a rate per gram of added sugar would apply uniformly to all beverages, conveying to consumers that harm decreases with lower sugar consumption, encouraging NCD risk reduction.

Regarding tobacco and nicotine products, it is proposed to set a rate (in domestic currency) per cigarette, used to calculate the rate of other products, based on their effective harm relative to cigarettes. This would provide a risk-based rate for loose tobacco (per kg), heat-not-burn (per kg), and e-cigarettes (per milliliter of nicotine liquid), offering consumers improved information for decision-making and promoting substitution to lower-harm alternatives.

[3] For instance, a rate of 100 currency per litre of pure alcohol would equate to a rate of 2.50 currency for 500 ml beer with an alcoholic content of 5% (i.e. 100 x 0.5 x 0.05).

Scenario of Outcomes

The outcomes of applying behavioral excise taxes are multifaceted, contingent upon existing market conditions, whether such taxes increase or decrease total tax revenues, and how governments allocate these revenues. We focus solely on consumer incentives, considering three types: existing and continuing consumers of harmful goods, future consumers regardless of cost of entry to consumption, and future consumers dependent on cost of entry to consumption.[4]

Regarding existing and continuing consumers, the expected outcomes of applying risk-based taxes are overwhelmingly positive. Such taxes result in price differentials based on risk and harm, which gives rise to a substitution effect from high harm to reduced harm alternatives. We would expect these consumers' preferences to change towards alcoholic beverages with lower alcohol content (e.g., beer rather than spirits), SSBs with lower amounts of sugar (e.g., sugar-free SSBs rather than high sugar SSBs), and tobacco and nicotine products with fewer toxicants (e.g., e-cigarettes rather than cigarettes). This change in preferences would reduce the prevalence of NCDs among this group of consumers and, thereby, improve health inequality.

For future consumers, regardless of the cost of entry, the outcomes of applying risk-based taxes will be the same as those of existing consumers. Since these consumers would have initiated consumption of harmful goods regardless of cost, this kind of behavioral excise taxes would motivate this group of consumers to prefer low harm goods to high

[4] The excise regime is irrelevant to consumers who do not and will not consume harmful goods.

harm goods, which would reduce the prevalence of NCDs among this group of consumers and, thereby, improve health inequality.

For future consumers dependent on the cost of entry, outcomes depend largely on the extent to which low-harm goods are complementary to high-harm goods. When applying risk-based excise rates, this group of consumers' preferences would shift to reduced harm goods since reduced harm goods have a lower market price post-tax. These consumers should, therefore, disproportionately prefer lower alcohol beverages to higher alcohol beverages, lower sugar beverages to higher sugar beverages, and reduced harm tobacco and nicotine products to high harm tobacco and nicotine products. If all these products were taxed at high excise rates, these consumers would prefer not to enter consumption. Therefore, the availability of low-cost, low-harm goods may increase consumption and, thereby, the prevalence of NCDs among this group of consumers. However, this is less of a concern where low-harm goods are not complemented by high-harm consumption.

If low-harm goods are complementary to high-harm alternatives, there is a risk that the lower-priced, low-harm goods act as an entry point to higher-harm consumption in the future. If all harmful goods were taxed at high rates, this harmful consumption would not have been realized within this group of consumers. Therefore, risk-based taxes that do not take into consideration this substitution effect can increase the prevalence of NCDs within this group of consumers, worsening health inequality. However, this risk does not exist if goods are substitutes, underlying the importance of studying domestic consumption patterns.

Overall, risk-based taxes typically yield positive outcomes for most consumer groups, particularly existing and future consumers regardless of cost of entry. However, careful

consideration is needed for future consumers dependent on cost of entry, especially where goods are complements.

In most G20 countries, we expect that harmful products are generally substitutes and that there are a greater amount of existing consumers and future consumers regardless of cost of entry than future consumers dependent on cost of entry. Where this is the case, the outcome of behavioral excise taxation based on risk would be a net decrease in the prevalence of NCDs and a reduction in health and social inequality.

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