

Increasing Tobacco Taxation Reduces Inequality with Insignificant Impact on Poverty

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This policy brief is based on a research study entitled *Impacts of Tobacco Taxation on Poverty and Inequality in Serbia* conducted by the Institute of Economic Sciences, Belgrade, Serbia

Key Findings

- Poorer smoking households **bear a relatively higher proportion** of the tobacco tax burden.
- **Tobacco taxation increases are progressive**, since an increase in excises results in a decline in the tax burden borne by low-income households.
- Using **revenue neutral tax reform** that allocates new tax revenues to lift lower-income households will help to mitigate or reverse any negative impacts on poverty

Background and Methodology

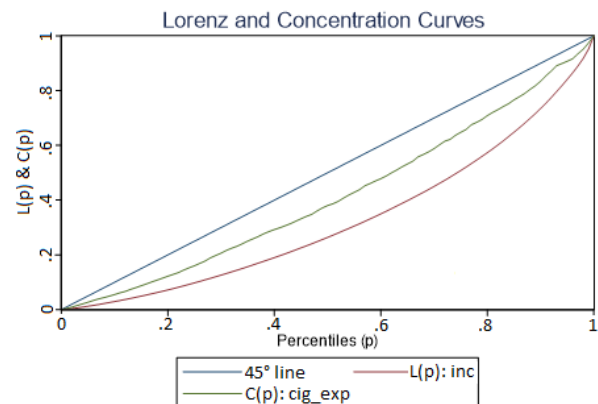
Despite enormous global health and other related harms caused by tobacco use, governments in many emerging economies still hesitate to substantially increase excise taxes on tobacco products. This hesitation comes partly from the belief that increasing prices of tobacco products may worsen the financial well-being of smoking households and exacerbate inequality since as much as 23.3% of the population in Serbia earns income below the national poverty line.

Typical measures of inequality are the Lorenz curve and the concentration curve; the former shows income distribution over the population, while the latter shows the distribution of cigarette expenditures within the analysis. Based on Serbian Household Budget Survey (HBS) data for 2021, the Lorenz curve $L(p)$ and the concentration curve $C(p)$ for smoking households are presented in Figure 1.

The relation depicted between the Lorenz curve and the concentration curve indicates that tobacco expenditures in Serbia are regressive: the concentration curve (green line) is closer to the 45% equality line than the Lorenz curve (red line). In other words, expenditures on cigarettes are more equally distributed than income, which means that

poorer smoking households **bear a relatively higher proportion** of the tobacco tax burden.

Figure 1. Lorenz curve $L(p)$ and concentration curve $C(p)$ for cigarette expenditures of smoking households in Serbia, 2021



Source: Authors' calculations using HBS (2021) data

Typical measures of poverty include the headcount ratio (proportion of the population that is counted as poor) and the poverty gap (average transfer to poor households needed to eliminate poverty). The poverty indicators are computed with respect to the poverty line, which is the minimum income deemed necessary to cover the basic cost of living of an average adult.

The equalized poverty line (minimum income



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per capita adjusted for the size of the household and the age of its members) in Serbia in 2021 is estimated at 24,064 RSD (Serbia Statistical Office). Table 1 shows the indicators of poverty of Serbian households in 2021.

Table 1. Indicators of poverty of Serbian households, 2021

Poverty measure	Equivalent household income per capita
Headcount ratio	23.36%
Poverty gap	6.65%

Source: Authors' calculations using HBS (2021) data

The value of the headcount ratio indicates that in 2021, **23.36 percent of the Serbian population** had income below the poverty line. The poverty gap finds that the average monthly transfer to each member of poor households needed to eliminate poverty is 6.65 percent of the income at the national poverty line (1,600 RSD).

This brief presents the estimated net impacts of a tobacco tax increase on poverty for the total population and inequality for smoking households in Serbia, based on two scenarios of increases in specific excise taxes on cigarettes with respect to the average price per pack in 2021 (a 25-percent increase in Scenario 1 and a 50-percent increase in Scenario 2).

The impact is estimated in two steps:

- i) Changes in real income and expenditure on cigarettes across the population, caused by an increase in tobacco taxes, are simulated;
- ii) Changes in poverty and inequality indicators are estimated.

Results: Scenario 2 (50-percent increase in specific excise)

Inequality

After an increase in taxation, the concentration curve moves closer to the Lorenz curve, which means that a **tobacco excise tax increase is progressive**, since the tobacco tax burden born by low-income households will decline. The concentration index—that is, the measure of the average concentration (size of the gap between 45° equality line and concentration curve from Figure 1, where value of 0 means no concentration)—**increases by 2.15 percentage points** (pp) (Table 2).

Poverty

Increasing tobacco taxes results in a one-percentage point increase in the headcount ratio (Table 2). However, this is only the **gross effect**. The government can use additional public revenues collected from increased tobacco taxes to reduce taxation of socially beneficial goods (such as food, education, or health), also known as **revenue-neutral tax reform**. Consequently, the **net change in poverty** following revenue-neutral tobacco taxation reform **can become insignificant or even reverse**.

Table 2. Estimated changes in leading inequality and poverty measures

Increase in specific excise	Headcount ratio change	Concentration index change
50%	1.03 pp	2.15 pp

Source: Authors' calculations



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As indicated by the simulation results, tobacco taxation is progressive, meaning that any increase in taxes will reduce inequality. Hence, a key aspect of a well-designed tobacco taxation policy in Serbia should be the redistribution of additional tax revenues to avoid or minimize any negative impact that an increase in excise taxes may have on poorer smokers who struggle to reduce their consumption.

The choice of goods to be subsidized is a

challenging task, since the final effect of the subsidies on poverty will largely depend on consumption patterns of the subsidized goods, including own- and cross-price elasticities of demand and the share in total consumption of poor households. Therefore, designing such a reform requires a strict evidence-based approach, with careful examination of the consumption patterns of goods and services whose higher consumption would improve the well-being of society overall (such as food, education, or health care).

References

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Policy Recommendation

Design revenue-neutral tobacco excise taxation policies, whereby additional revenues from higher tobacco excises are allocated towards subsidies of goods and services that benefit lower-income groups most.