

Review of: "Tobacco Taxes as the Unsung Hero: Impact of a Tax Increase on Advancing Sustainable Development in Colombia"

Marko Vladislavljević¹

¹ University of Belgrade

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While the topic of the research is very relevant and there is a novelty in analysing SD goals in this context the methods applied to estimate the effects are quite questionable.

Mainly two things are not clear (1) why authors use syntetic dataset when they have real survey data; and more importnatnly (2) how can we rely in the price elasticities that are being used. The latter, determines the responce to the price change and is the basis for all other calculations, is simply taken from another survey, which again relies on "previous relialbe surveys from both high income countries and low and middle income countries". In other words, a very unlikely assumption - that the elasticity is the same as in other low and middle income countries (or high income countires?, without stating which countries - see bellow - reference 34) is the basis for all the results in this research. In more details.

- Page 2: I do not understand the need to use a "syntetic dataset", when the real data from 2019 Quality of Life Survey (Encuesta de Calidad de Vida–ECV), are available and thus enable a direct calculation of the price elasticities of tobacco consumption and effects on all other outcomes.
- Page 3: In supplementary files SC the authors state "We use the same values of price elasticities by income quintile presented in [34] for Colombia, that is, a price elasticity of -0.635 for the lowest income quintiles, -0.122 for the highest income quintile, and a linear interpolation of those values for each of the remaining three quintiles (!!!). Also, following [34], the model assumes that half of the impact of elasticity goes to reduction at the extensive margin, that is, to smokers quitting, and half goes to a reduction at the intensive margin, that is, reduction in the number of cigarettes smoked in the non-quitting smokers." All of this is also highly questionable
 - In [34] the price elasticities are determined based on the previous estimates from high and low and middle income countries. This is highly questionable approach
 - quote from [34] "Price elasticity estimates vary widely across countries, time periods, and study design, but reviews of all reliable evidence from both high income countries and low and middle income countries found that elasticity estimates fall within the range of -0.2 to -0.6, or an average of -0.4. The small number of studies in low and middle income countries found smokers to be at least as sensitive (and often more sensitive) to price than smokers in high income countries. A price elasticity of -0.4 implies about a 20% decrease in smoking with a 50% price increase. Of the reduction, roughly half (10%) is attributable to quitting by current smokers and half to fewer cigarettes smoked.

Economic theory predicts that those on a low income and young people should be more sensitive to price than others, and this has been well documented in high income countries and in the more limited literature from low and middle income countries. Price responsiveness in young people and among smokers on a low income is about twice as great as it is in older people and smokers on a high income. The International Agency for Research on Cancer found all 18 price elasticity studies in low and middle income countries reviewed to show a gradient by income or education.”

- Since elasticities are the basis for the overall analysis they should be estimated from the data. This approach relies on questionable assumption that the elasticities in Colombia can be determined by elasticities in other countries.
- Page 3: “It uses the aggregate behavioral and epidemiological parameters to randomly allocate, at the individual level, smoking decisions in response to tax increases and the subsequent health outcomes and use of healthcare.” I don't understand this? On which information the general direction of smoking decision is based?

Minor comments:

- Page 1 and 2: it would be useful to present the prices and excises in relation to prices and taxes in other countries. There is no benchmark for comparison
- Page 2: Why is gender relevant (or not relevant)? This has not been discussed in more detail. Is the prevalence of smoking in Columbia different for men and women? Within the same paragraph authors state “... where smoking differences by gender are not as profound as they are in other regions (e.g., Asia), obscuring the role of gender in the tobacco epidemic.”
- Page 3: The procedure for adjustment of the ratios by using information from another data is interesting, although it is not clear why the researchers have not used SCPS data if they are more reliable.