

Impact of an E-Cigarette Tax on Cigarette Use in Indonesia

Fact Sheet

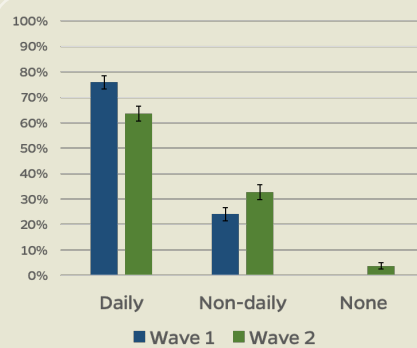
Background

On October 1, 2018, Indonesia implemented its first regulation on e-cigarettes, written as a 57% tax on the retail price of e-cigarette liquid.¹ This would exceed the 40% average tax on conventional cigarettes.² Economics suggest that if cigarettes and e-cigarettes are substitute products, raising the price of e-cigarettes could drive some people to use cigarettes instead.^{3,4} This would be detrimental to public health.

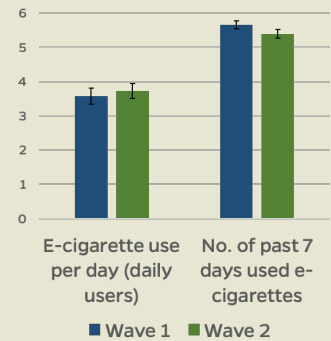
This project used online surveys in a pre-post study design to examine how the 2018 Indonesian tax on e-cigarette liquid affected use of cigarettes and e-cigarettes. Participants were e-cigarette users who either currently smoke cigarettes or recently quit.

Key Findings

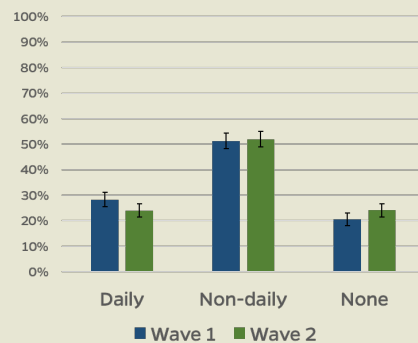
- As implemented, the tax was closer to 42% of the retail price of e-cigarette liquid rather than the 57% specified in the regulation
- Total prices paid changed only slightly after the tax change. On average, a typical 60 mL bottle of e-cigarette liquid sold for 125,200 rupiah (\$8.56) before October 1 and 136,400 rupiah (\$9.33) after the tax, a 9% increase. Manufacturers, distributors, and retailers absorbed most of the tax
- The tax was based not on the retail price but on the size of the bottle and the quality of the e-cigarette liquid. It was unclear how quality was defined
- E-cigarette use frequency significantly declined ($p < .001$) after the tax. The average number of cigarettes smoked per day did not change significantly for daily smokers ($p = 0.63$), but number of cigarettes used per week significantly declined for nondaily smokers ($p < .001$)
- As use of one tobacco product increased, use of the other product decreased, suggesting that cigarettes and e-cigarettes may be substitute products (correlation = $-.13$, $p < .01$)
- When we presented hypothetical scenarios, participants suggested that significantly increased e-cigarette liquid prices, especially those of 75% or more, would lead them to reduce their e-cigarette use and may lead some to increase their cigarette use



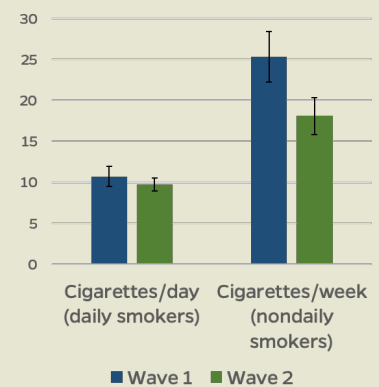
E-cigarette Use, Waves 1 and 2



Frequency of E-cigarette Use, Waves 1 and 2



Cigarette Use, Waves 1 and 2



Frequency of Cigarette Use, Waves 1 and 2

E-cigarette and cigarette use changes after implementation of the e-cigarette liquid tax, among 1,039 Indonesian adults who used e-cigarettes and smoked cigarettes in the past year at baseline.

E-cigarette liquid tax levels (in rupiah) based on bottle size and quality per government's implementation plan (from tax office).

Tier	15 ml	30 ml	60 ml	100 ml
I	10,000	20,000	40,000	70,000
II	18,000	35,000	60,000	100,000
III	23,000	46,000	92,000	184,000
IV	42,000	81,000	161,000	276,000

Conclusions

- The study suggests that a modest (<10%) increase in e-cigarette liquid price may have limited effect on cigarette smoking in the short term among users of cigarettes and e-cigarettes
- While more research is needed, the prudent approach to e-cigarette taxation is to raise e-cigarette taxes in concert with equivalent or larger cigarette tax increases to avoid inadvertently increasing cigarette use
- Facebook can be an effective and inexpensive survey recruitment method

Study Methods

Participants were Indonesian adults ages 18 or older who currently used e-cigarettes and either currently smoked cigarettes or quit smoking within the past year. Facebook and Instagram ads were used to recruit participants, directing them to an online survey. The first survey was conducted in September 2018 and had 1,322 participants. It cost an average of \$2.02 in advertising per completed survey. Participants were re-contacted in November and December, and 1,039 participants completed the second survey (79% follow-up rate). The study team talked with government tax officials and vape shop managers to understand the tax structure and how the tax affected wholesale and retail pricing.



Recruitment ads on Facebook. Translation: Do you vape? Take our short survey to get 50,000 rupiah phone credit (if you meet the survey qualifications).

References

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