cisdi
Center for Indonesia's Strategic Development Initiatives

Policy Brief

Higher Cigarette Prices: A window for cessation?

Background

Although adult (15 years and older) smoking prevalence in Indonesia dropped slightly from 36.11 percent in 2011 to 34.5 percent in 2021, the number of adult smokers increased from 60.3 million to 69.1 million over the same ten-year period due to population growth (WHO, 2011, 2021a). This shows that Indonesia's efforts in tobacco control are still ineffective.

Many studies have found that higher cigarette prices due to taxes are associated with higher probability of smoking cessation (Franz, 2008; Hanewinkel & Isensee, 2007; Kostova et al., 2014; Tauras & Chaloupka, 1999). In Indonesia, the evidence on how cigarette prices impact individuals' decisions to quit smoking over time remains very limited. However, there is a strong indication that higher cigarette prices would also positively impact smoking cessation. For example, a nationally representative survey conducted in 2018 indicates that 12 percent and 32 percent of surveyed smokers would consider quitting if cigarette prices were increased by 50 percent and 100 percent, respectively (Widya Kartika et al., 2019).

This policy brief is based on CISDI's recent study (2023), which for the first time estimates the impact of cigarette prices on the probability of smoking cessation during the life course of adult smokers in Indonesia.

APPROACH

The impact of cigarette prices on smoking cessation among adults is estimated by incorporating a duration analysis. The analysis is performed by constructing a pseudo-panel data set from Indonesia's Global Adult Tobacco Survey (GATS) 2021, which is integrated with the cigarette price data obtained from the National Consumer Price of Selected Goods and Services released by the Bureau of Statistics *(Badan Pusat Statistik)*. The historical average cigarette price data, which are representative of 28 provinces from 1998–2021, are calculated and used in estimating the average price effect on smoking cessation probability, while also considering some demographic variables such as age, gender, urban or rural residence, education level, wealth index, and smoking duration as well as unobserved region-fixed characteristics.

KEY FINDINGS

Smokers typically smoke for more than 20 years

As of 2021, the average duration of smoking among adult smokers (including those who have quit) is 22 years, with most of them starting smoking at the age of 17. Long-term tobacco use is very dangerous as it increases the risk of catching noncommunicable diseases (NCDs) such as cancers, strokes, and ischemic heart diseases (World Health Organization, 2023). Low-intensity smoking is not an exception in this case, as it still increases the risk of mortality from NCDs (Inoue-Choi et al., 2017).

Male smokers are more persistent

As of 2021, the percentage of ever smokers (current and past smokers) among men is 82.14 percent, which is significantly larger compared to five percent among women. On average, male smokers who quit typically smoke for 17 years, starting at the age of 17 and quitting at the age of 34, while female smokers typically quit smoking after a period of 6 years, starting at the age of 24 and quitting at the age of 30.

As smokers get older, the probability of quitting smoking becomes greater. However, male smokers have significantly lower probabilities of quitting than females cumulatively over time as they get older.

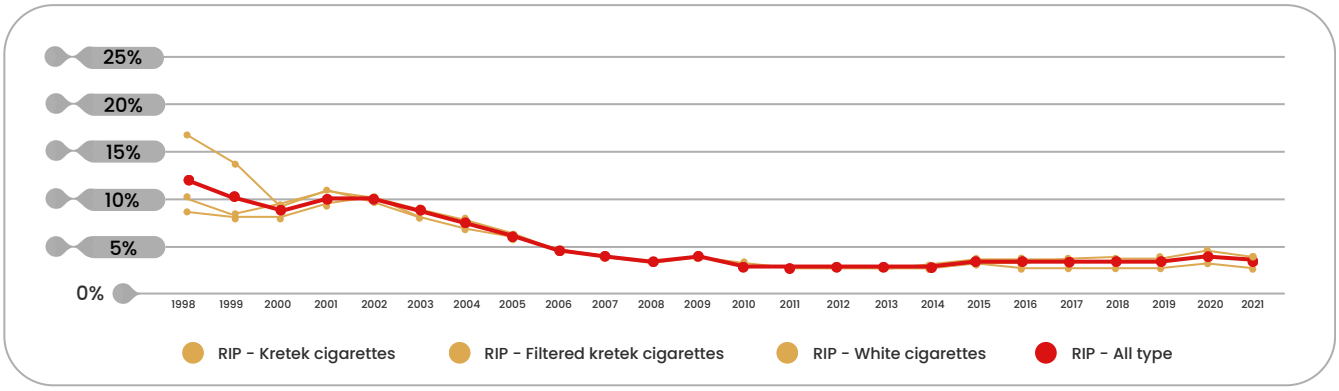
Price and smoking cessation show strong correlation

The study finds that higher cigarette prices are strongly associated with a higher probability of smoking cessation. A cigarette tax leading to a 10-percent increase in price would increase the probability of cessation by 0.11 percent to 0.17 percent. This suggests that large tax increases would contribute to meaningful increases in cessation among smokers.

Cigarettes are still relatively affordable

The weak price effect highlights the fact that cigarettes are still affordable, and this high level of affordability likely contributed to low levels of quitting during the period from 1998 to 2021. The calculated relative income price (RIP) shows that cigarettes in Indonesia had become relatively more affordable by 3.6 times in 2021 compared to 1998 (Figure 2). This affordability also strongly suggests that there is significant room for the government to raise taxes on cigarettes.

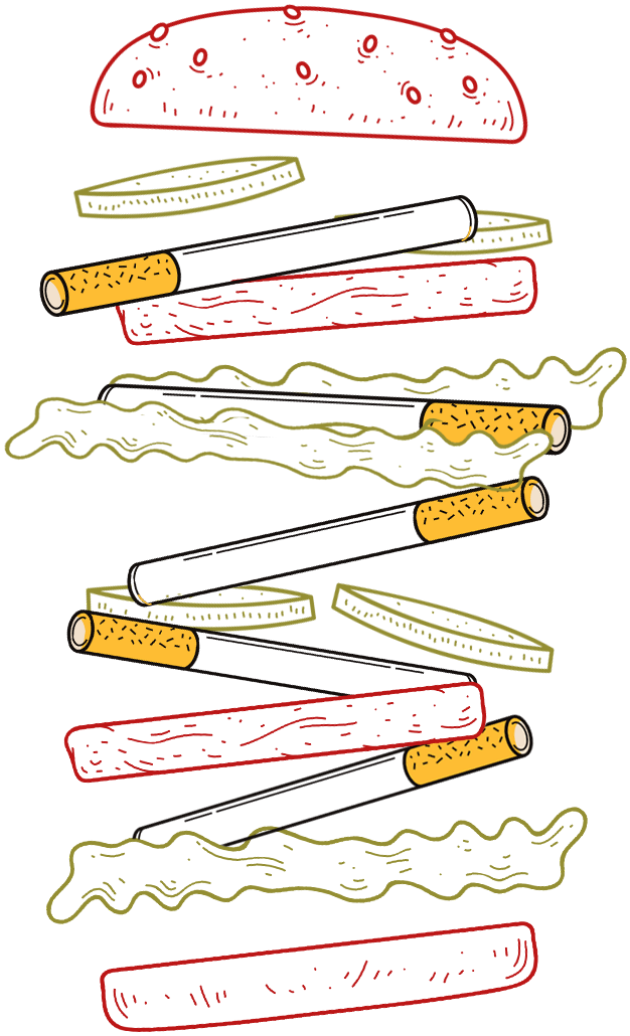
Figure 2. Cigarette affordability in Indonesia, measured by RIP (1998–2021)



RIP measures the percentage of GDP per capita to purchase 100 packs of cigarettes. This graph shows that Indonesia experienced three different stages of cigarette affordability: 1) a fluctuating affordability trend from 1998 to 2001; 2) an increasing affordability trend (decrease in RIP) from 2002 to 2010; and 3) a relatively constant affordability trend (RIP fluctuating between 2.5 percent and 3.3 percent) from 2011 to 2021.

The availability of cheap substitutes explains the low cessation response

Smokers are well positioned to switch to cheaper cigarettes in response to a price increase due to a tax increase of a particular brand or type of cigarette. Among other factors, the complex multi-tiered cigarette excise tax structure in Indonesia ensures the availability of cheaper cigarettes (Prasetyo & Adrison, 2019) and facilitates smokers' switching to cheaper cigarette brands (Sahadewo, 2017). Furthermore, consumers are also able to easily purchase loose cigarettes (Hartono et al., 2023) and, to a lesser extent, illicit cigarettes (Widya Kartika et al., 2019) when the price of cigarettes they usually smoke becomes more expensive. These factors potentially hinder the price effect on cessation behavior (K M Cummings et al., 1997; WHO, 2020).



POLICY RECOMMENDATIONS

1 Significantly increase the excise tax on cigarettes to help raise their prices

Higher cigarette prices are strongly associated with a higher probability of cessation. However, considering the weak price effect found here in a context of very low prices with easy substitution to cheaper brands and very high affordability of cigarettes, a significant tax increase is needed to induce cessation among smokers to a greater extent. For example, the World Health Organization recommends a 25-percent annual increase in tobacco taxes in Indonesia to make tobacco products less affordable (WHO, 2020).

2 Promote cessation programs

Accessible smoking cessation programs to support smokers in quitting smoking are critical. To increase the exposure of cessation programs, the programs can be expanded through primary health care. Furthermore, considering the persistence of male smokers compared to female smokers, cessation programs tailored specifically for male smokers can be promoted (for example, providing more educational resources to counter the notion that smoking is "cool" as well as counseling, social support, nicotine replacement therapy, and other strategies). Tobacco tax revenues can also be allocated to provide free cessation services for the poorest smokers.

3 Simplify the complex multi-tiered cigarette tax structure

A complex multi-tiered cigarette tax structure ensures the availability of cheap cigarettes as substitutes, which hinders the effects of tax and price policies on cessation. Therefore, the structure must be simplified to create a uniform tax across brands, making it more difficult for smokers to switch to cheaper cigarettes (WHO, 2020) as well as inducing more cessation.

4 Ban the sale of loose cigarettes

Loose cigarettes can also be an alternative for smokers to smoke cheaply (as substitutes), which hinders the effects of tax and price on cessation. Banning the sale of loose cigarettes would restrict smokers from switching to them when the cigarettes they usually buy become more expensive because of tax increases.

5 Combat the illicit cigarette trade

Illicit cigarettes are not only harmful to the economy (depriving the government of revenue), but also facilitate smokers' switching, since they are typically sold at a much cheaper price than branded cigarettes, when the price of branded cigarettes becomes more expensive. Securing the supply chain through a tracking and tracing system is a strong first step to help the government identify illicit goods and keep them off the market and to make sure legal firms are paying all the taxes they owe on the cigarettes they manufacture (WHO, 2021b).

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