

TOBACCO CONTROL IS AN EFFECTIVE STUNTING PREVENTION STRATEGY

Reducing cigarette expenditures would improve growth outcomes and reduce the likelihood of stunting among children

This policy brief is based on Pusat KP-MAK's working paper on the effect of cigarette expenditures on child growth outcomes in Indonesia [1].

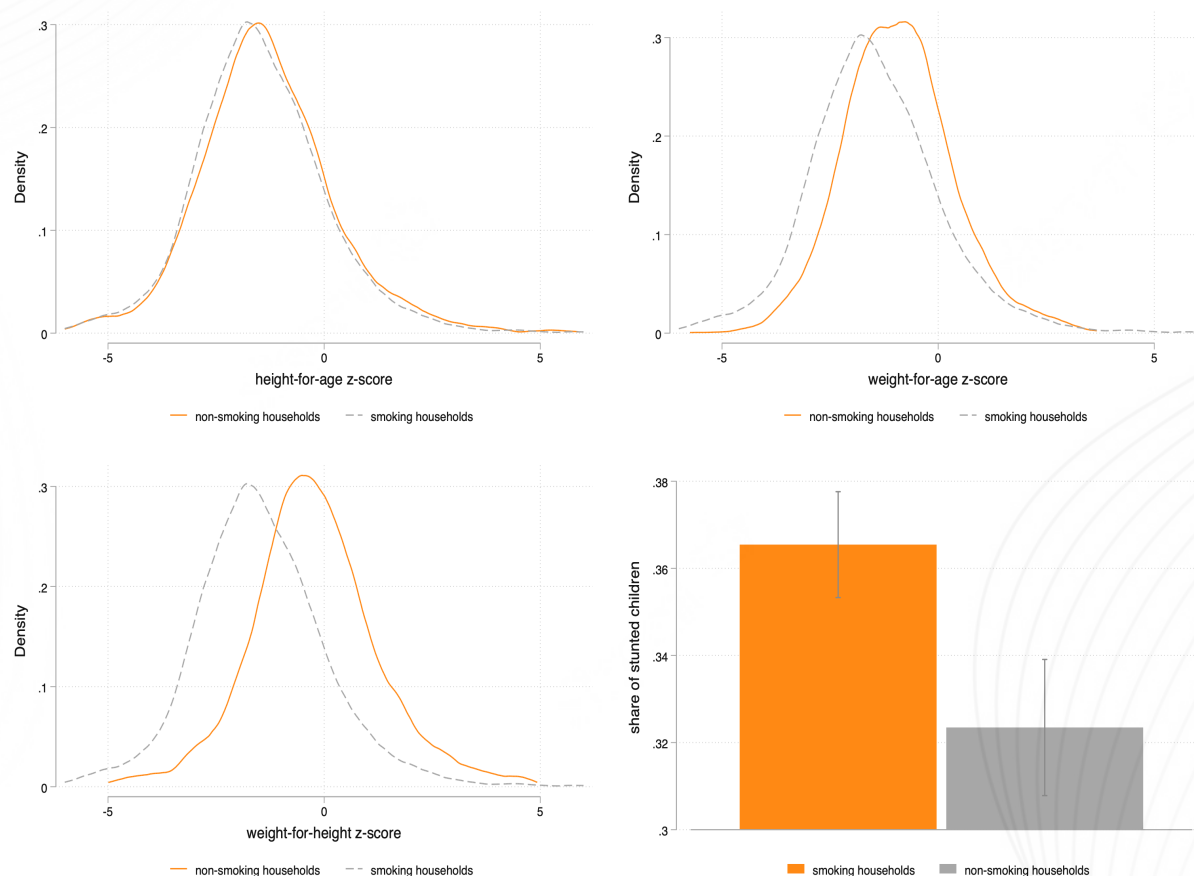
Key Points and Findings

- A 10-percent increase in cigarette expenditures is associated with a lower height-for-age z-score (HAZ) by 13.66 percent and a lower weight-for-age z-score (WAZ) by 19.49 percent.
- In addition, a 10-percent increase in cigarette expenditures is associated with a higher likelihood of stunting by about 12.8 percentage points, or about a 36.5 percent increase from the average stunting rate among smoking households.
- The adverse effects of cigarette expenditures on the likelihood of stunting are significant among poor and non-poor households as well as among rural and urban households.
- The adverse effect of cigarette expenditures on the likelihood of stunting was higher among poor than non-poor households.
- We find a significant cigarette expenditure effect on the likelihood of stunting among boys, but not among girls.
- A higher cigarette expenditure is also associated with a higher likelihood of premature and extremely premature births.

Studies show a significant association between parental smoking and stunting in Indonesia

The prevalence of stunting among children aged five and younger in Indonesia is quite high at 24.4 percent [4]. The high prevalence is alarming as stunting adversely affects children's cognitive growth and future labor market outcomes. Studies have shown that parental smoking behavior is associated with a higher likelihood of under-5 child mortality and child malnutrition [5,6,7,8,9] and stunting [10,11]. As shown in Figure 1, children's growth outcomes among smoking households are on average lower than those among non-smoking households. The share of stunted children is also higher among smoking households. Children are vulnerable owing to exposure to secondhand smoke and reduced share of household expenditures on food and human capital spending [12]. The association between parental smoking and stunting is concerning because Indonesia has one of the highest cigarette consumption rates in the world [3].

Figure 1: comparisons of children’s growth outcomes between non-smoking and smoking households.



Cigarette consumption imposes a significant burden on household finance

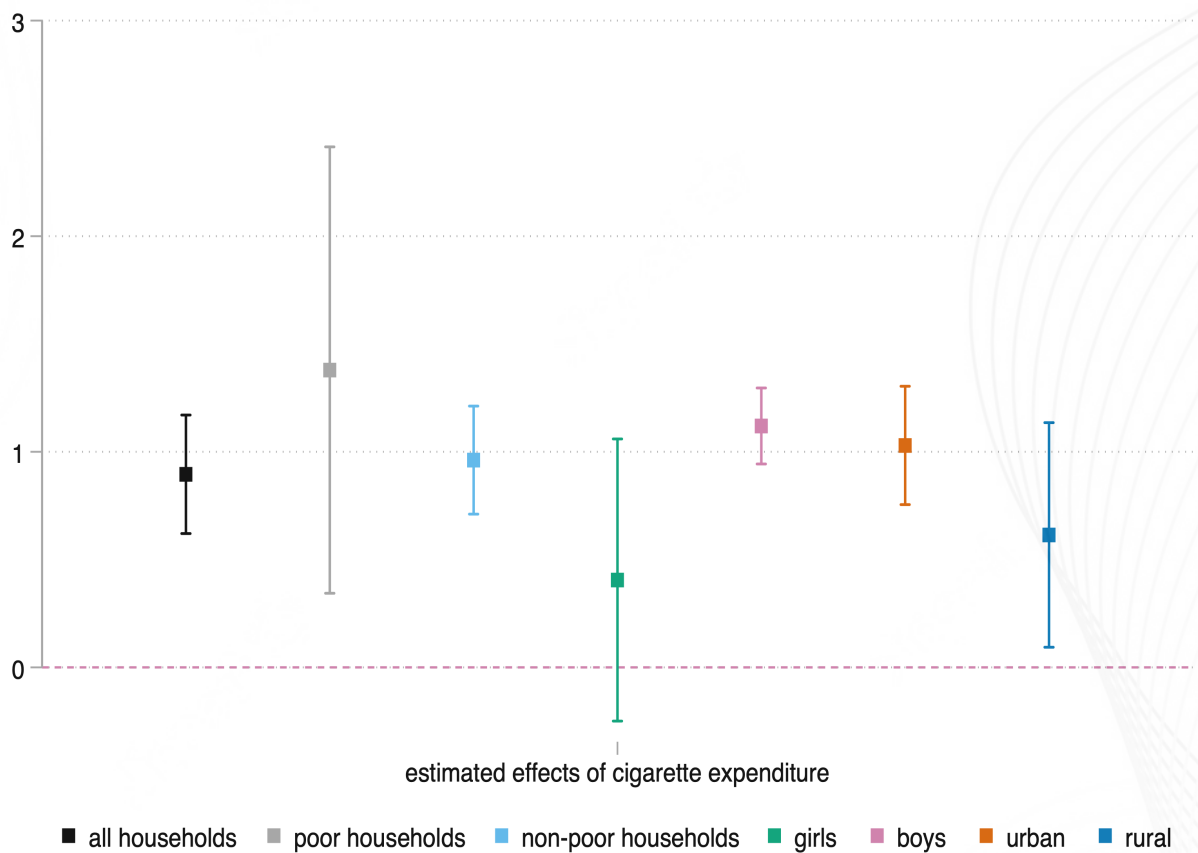
Indonesia has one of the highest smoking rates in the world, and spending on cigarettes is very high among smoking households. A typical household with a smoker spent about Rp240,292 per month or US\$59.68 in PPP in 2014, which is about 10 percent of total monthly household expenditures. The share of cigarette expenditure is about a fifth of the share of household food expenditure, and twice the share of education expenditure and almost three times the share of health expenditure. This share is high and a recent study that finds tobacco expenditure crowds out households resources on essential commodities [13].

A typical household with at least a smoker spends about 10 percent of total monthly household expenditures on cigarette, exceeding the share of expenditure for health and education.

Our estimates show that cigarette expenditures have negative effects on children's growth outcomes including the likelihood of stunting

Our estimates show that a 10-percent increase in cigarette expenditures from the mean is associated with a lower height-for-age z-score (HAZ) by 13.66 percent and a lower weight-for-age z-score (WAZ) by 19.49 percent. In addition, a 10-percent increase in cigarette expenditures is associated with a higher likelihood of stunting by about 12.8 percentage points or about 36.5 percent increase from the average stunting rate among smoking households.

Figure 2: the estimated effects of cigarette expenditures on the likelihood of stunting by households subgroups (a higher estimated coefficient suggests larger adverse effect)



The adverse effects of cigarette expenditures are evident across different household subgroups, but are higher among specific household subgroups.

Research suggests that the burden of smoking is different across households, particularly among poor households [14]. Figure 2 depicts the estimated effects of cigarette expenditures on stunting among different subgroups. The results show that the effect of cigarette expenditure on the likelihood of stunting is somewhat higher among poor households than non-poor households. The results also show that cigarette expenditure adversely affect the likelihood of stunting among boys. The estimated effect among girls is not significant, partly due to lower precision. Lastly, we find that the effect of cigarette expenditure is higher among urban households. Despite different estimates, these findings show consistent adverse effects of cigarette expenditure across different households.

Policy Recommendations

The Government of Indonesia is committed to lowering the prevalence of stunting by listing it as one of the national priorities in the 2020-2024 National Medium-Term Development Goals. The findings in this study provide evidence that tobacco control policies should be among the key strategies to reduce the prevalence of stunting.

1. **The Government of Indonesia should implement more aggressive and comprehensive tobacco control policies—with cigarette excise tax policy at the heart—to significantly reduce cigarette consumption and expenditures.** Lower cigarette consumption and expenditures would allow households to reallocate their resources to food expenditures and human capital improving expenditures.
2. **Cigarette excise tax revenues can be partly earmarked to fund programs aimed at lowering the prevalence of stunting.** Such programs are particularly important for lower-income households. The eligibility of the programs can be tied to smoking cessation.
3. **Tobacco control policies should include strategies to reduce secondhand smoking among children and pregnant women.** These policies can include mass media public education campaigns, which are effective in promoting messages to reduce secondhand smoking among other pro-health and anti-tobacco behaviors [15].

Suggested Citation

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About Pusat KP-MAK FK-KMK UGM

The Centre for Health Financing Policy and Health Insurance Management (KPKMAK Centre) was established and designated by the Faculty of Medicine of Universitas Gadjah Mada in 2007 to contribute to provide evidence for health financing reforms at the local and national level. The Centre has specifically been established to foster closer and innovative relationships between the government and the academicians and to contribute in research, policy options, education, consultancy, training, and technical assistance in Indonesia.

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