

# RESEARCH REPORT

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## THE IMPOVERISHING EFFECT OF TOBACCO USE IN VIETNAM

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The University of Illinois Chicago's (UIC) Institute for Health Research and Policy is funding a group of economists to develop evidence-based policy support for effective tobacco tax policies in low- and middle-income countries with the highest rates of tobacco consumption. The global collaboration on the economics of tobacco is facilitated through Tobacconomics, a web-based platform. UIC is a partner of the Bloomberg Initiative to Reduce Tobacco Use.

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## Executive Summary

Tobacco consumption generates a significant economic burden on households, which is particularly severe in developing countries like Vietnam. The country has witnessed a high level of tobacco consumption in combination with low cigarette prices in recent years. From 2005 to 2016, whereas nominal income per capita increased by 4.7 times, the retail price of the most popular Vietnamese tobacco products increased only by 2.2 times. The obvious consequence is a high smoking prevalence: nearly half of all male adults in the country currently smoke tobacco. According to the 2015 Global Adult Tobacco Survey (WHO), with 15.6 million smokers, Vietnam ranks among the top 15 countries in the world for the highest prevalence of tobacco use.

In the Vietnamese context, where the social insurance system is weak and health care is often expensive, tobacco-consuming households may face a higher risk of living in poverty. Tobacco-related expenditures—including both tobacco consumption and health expenditures on smoking-related diseases—reduce the disposable resources of a household to meet basic needs. Furthermore, because the share of tobacco-related spending in the budget of low- and middle-income households is always larger than that of high-income households, tobacco use may increase inequality by expanding the income gap between different groups in society.

This report aims to measure the impoverishing effect of tobacco use by using data from the 2018 Vietnam Household Living Standards Survey (VHLSS) which provides a nationally representative sample for evaluating the living standards of the country in general and for the assessment of poverty in particular. To this end, the authors distinguish the two concepts of primary poverty and secondary poverty. The former describes the situation where income is insufficient to meet basic needs, whereas the latter one is defined as the situation where people have sufficient resources to live above the national poverty line, however, they suffer similar or worse living conditions in comparison to those living in poverty due to their tobacco-related expenditures.

By deducting tobacco-related expenditure from the total household income, the authors recalculate the household disposable income and examine whether the households suffer from the state of secondary poverty. The disease-specific SAF index of 5.76 percent is calculated in 2016 by Anh, Ross, Anh and Minh (2016). Note that since the method to calculate the disease-specific SAF index considers only a narrow subset of tobacco-related diseases, the estimated health care cost of tobacco use in this study is certainly lower than its real value. As a result, the disease-specific SAF index clearly underestimates the impoverishing effect of tobacco use in Vietnam.

According to VHLSS data, there are significant differences in the consumption rates across population groups. First, the tobacco consumption rate in rural areas is roughly ten percentage points higher than that of urban areas. Second, the prevalence of current tobacco

use among ethnic minorities is 64.57 percent, 9.39 percentage points higher than that of the Kinh and Hoa populations. Third, the gap in the rate of tobacco use between the first and fifth quintiles of consumption is 12.22 percentage points. A lower household total consumption is associated with a higher prevalence of tobacco use. In addition, the data also show that the total expenditure of tobacco-consuming households is significantly lower than that of tobacco non-consuming households, implying the former has a higher probability of experiencing poverty.

The main results of the research are as follows:

- Together, tobacco purchases and tobacco-related medical expenditures increased the number of Vietnamese people living in poverty by 305,090 (0.31 percent of the country's population) in 2018. One third of them are children, who should be considered as unwitting victims of adults' tobacco use.
- The modest estimates calculated by using the disease-specific SAF index in this study should be considered as a conservative lower bound of the impoverishment effect in Vietnam.
- The impoverishment effect of tobacco consumption is different across groups in society. The effect is mostly concentrated among populations in rural areas and ethnic minorities as well as the two lowest quintiles of consumption.

Based on the research results, the policy recommendations are as follows:

- Controlling tobacco use is necessary not only for public health improvement but also as part of the broader poverty reduction strategy in Vietnam. Reducing the use of tobacco allows for the reallocation of household disposable resources to prioritize essential goods. As a result, households may escape from primary as well as secondary poverty.
- Increasing taxes on tobacco products is the most effective and cost-effective tobacco control measure. The poor and other marginalized populations are relatively more sensitive to price increases and thus are more likely to be incentivized by tobacco taxes to reduce or quit tobacco consumption compared to higher-income households.

## 1. Introduction

Tobacco consumption is one of the most urgent challenges for sustainable development. The harmful effects of tobacco use are not limited to the public health sector; they also impact the process of poverty alleviation, particularly in low- and middle-income countries like Vietnam. Statistics from the 2015 Global Adult Tobacco Survey (WHO) show that, with 15.6 million people are smoking cigarettes, Vietnam ranks in the top three countries in the Association of Southeast Asian Nations (ASEAN) for the highest number of smokers. On average, nearly one in every two Vietnamese men currently smokes. This is one of the highest smoking prevalences in the world. Exposure to passive smoking is also high, with 5.9 million secondhand smokers in workplaces and 28.5 million secondhand smokers in homes.

In the Vietnamese context, where the social insurance system is weak and health care is often expensive, tobacco-consuming households may face a higher risk of living in poverty for several reasons. First, tobacco consumption directly reduces the disposable resources available for a household to meet its basic needs. Even a small amount of tobacco consumption could create a substantial trade-off with essential goods such as food, education, and housing for the entire household. Nguyen and Nguyen (2020) measured the crowding out effects of tobacco consumption on household expenditures in Vietnam and found that expenditure on tobacco significantly reduces education spending. In the long term, a shortage of investment in education at the household level will hinder both advancement on the household level and the country's overall progress towards poverty alleviation. In addition, a large share of tobacco spending in the budget of low- and middle-income households—in comparison with that of high-income households—applies a more severe burden on the former group, leading to a greater wealth gap in society (Bobak, Jha, Nguyen & Jarvis, 2000; Efroymsen, Pham, Jones, & FitzGerald, 2011; Siahpush, Borland, & Scollo, 2003).

Second, the widespread use of tobacco products causes harmful effects on individual health. Smoking increases the probability of cancers, cardiovascular disease, chronic respiratory diseases, and other tobacco-related illnesses. These diseases, in turn, directly raise health care costs and, once again, reduce the share of income available to meet other needs. Third, illness caused by smoking for a household's main income earner may seriously impact the living standard of the entire household. Each year in Vietnam approximately 40,000 deaths are caused by tobacco-related diseases, and tobacco use is associated with six of the eight leading causes of death (Anh et al., 2016). In the worst case, when tobacco-related disease results in premature death, the entire family is dealt a heavy economic burden, particularly in the case of poor and near-poor households.

The aim of this study is to quantify the number of Vietnamese people who cannot afford the cost of basic needs and are pushed into poverty due to tobacco use in Vietnam. Different from people living in primary poverty whose income is certainly insufficient to meet basic needs, there are some people who have sufficient resources to escape from poverty,

however, they still suffer similar or worse living conditions in comparison to those living in primary poverty due to their tobacco-related expenditures. Their situation is considered as secondary poverty. In addition, we also measure the increase in the poverty gap due to tobacco use, which is the increase in the difference between the average living standard of the poor and the national poverty line (NPL, i.e., the amount of needed resources to achieve a minimum acceptable welfare level).

This study can inform the debates on not only poverty alleviation policies and social programs but also tobacco control measures. Although previous studies have put a great deal of effort into analyzing the relationship between tobacco consumption and poverty, the amount of research quantifying the impoverishing effect of tobacco use is meager. Liu, Rao, Hu, Sun, & Mao (2006) measured the impoverishing effect of tobacco use in China and found that 30.5 million urban residents and 23.7 million rural residents fell below the poverty line after accounting for their tobacco consumption and tobacco-related health care expenditures. The two components are responsible for impoverishing approximately 15 million people in India (John, Sung, Max, & Ross, 2011). In the United Kingdom, 500,000 households, comprising nearly 400,000 children and 850,000 adults, are classified as poor after deducting their tobacco expenditure (Reed, 2015). To the authors' knowledge, although Wagstaff and Doorslaer (2001) confirmed the impoverishing effect of hospital and other health costs, there has been no study measuring the impoverishing effect of household tobacco spending in Vietnam. Therefore, this study aims to fill the gap by examining the impact of tobacco spending on poverty in Vietnam in 2018.

The current study finds that, in 2018, tobacco-related expenditures pushed a significant amount of the Vietnamese population into poverty. Total tobacco-related expenditures increased the number of poor people by 0.31 million (corresponding to 3.77 percent of GSO's official estimate). Of these, tobacco purchases exclusively increased the number of poor people by 0.29 million (3.55 percent). Additionally, populations in rural areas and ethnic minorities suffer more severely from the impoverishing impacts of tobacco use than other groups. Due to limitations on the availability of statistics for the inclusive smoking-attributable factor (SAF) (an important input to calculate tobacco-related health care expenses) for Vietnam, the current study's estimation might not capture the total impoverishing impact of tobacco use on poverty. Therefore, researchers and policy makers should consider these calculations as a lower bound of the effects rather than ignoring the modest values of these estimates.

This report is structured as follows. Section 2 introduces the data sources and defines the main indicators: SAF and NPL. Section 3 provides descriptive statistics and a discussion of the potential impoverishing effects of tobacco consumption. Section 4 explains the calculation method used to obtain the number of people experiencing impoverishment due to tobacco use, and the main results of the analysis are presented in section 5. The final two sections

provide conclusions and recommendations for policy makers.

## 2. Data and Definition of Main Variables

This study uses data from the Vietnam Household Living Standards Survey (VHLSS) in 2018 to quantify the impoverishing effect of tobacco use in Vietnam. The VHLSS has been carried out every two years since 2002 by the General Statistics Office of Vietnam with technical support from the World Bank. The VHLSS is a nationally representative and includes all 63 Vietnamese provinces, and each wave sample comprises 9,399 households. The survey's purpose is to collect information on sampling households to evaluate the living standards, particularly in order to assess the poverty situation, of the country as well as within each economic region.

Generally speaking, the national poverty line is a monetary threshold under which a household is considered to be living in poverty. In other words, it is the amount of needed resources to achieve a minimum acceptable welfare level. In Vietnam, there are two national poverty lines (Demombynes & Hoang Vu, 2015). The first poverty measurement, developed by the Ministry of Labor, Invalids and Social Affairs (MOLISA), is mainly used for targeting social programs of the government. The second poverty measurement, which is widely used in academic studies, is calculated by the General Statistical Office and the World Bank (GSO-WB) for the purpose of long-term poverty monitoring. The most important difference between the two measurements is the value adjustment for annual inflation in the GSO-WB estimate. By contrast, the MOLISA estimate remains unchanged during each five-year period corresponding to the Socio-Economic Development Plan of the Vietnamese government. Additionally, while the MOLISA estimate is based on income, the GSO-WB estimate is based on costs of basic needs.

In line with previous studies on poverty in Vietnam, the current study uses the GSO-WB national poverty line to quantify the impoverishing effect of tobacco use for several reasons. First, the GSO-WB poverty line was designed for long-term analysis of poverty and, thus, unlike the MOLISA poverty line, it is independent from political considerations. Second, due to the adjustment for annual inflation, the GSO-WB poverty line avoids the "sawtooth" pattern of the MOLISA poverty line (Demombynes & Hoang Vu, 2015). Last but not least, the consumption-based estimate maintains the real purchasing power over time, making it more reliable than the income-based measurement. Additionally, Nguyen and Tran (2014) argued that the questionnaire and the estimation procedure of MOLISA may not accurately capture households' true income.

In order to calculate the number of people living below the NPL after deducting tobacco-related expenditures, it is necessary to use the SAF index, which is defined as the share of an individual's health care expenditure that is attributable to tobacco use. There have been only two studies that calculated the SAF index for Vietnam using disease-specific methods. Ross, Trung and Phu (2007) showed that the SAF index in 2005 was 4.3 percent. Later, Anh et al. (2016) found the SAF index in 2011 to be 5.3 percent. The difference between the two studies

can be explained mainly by the number of diseases they include. Ross et al. (2007) considers the costs of only three diseases: lung cancer, chronic obstructive pulmonary disease, and ischemic heart disease, while Anh et al. (2016) adds two more diseases: upper aerodigestive tract cancer and stroke.

Since the current study's data is from 2018, using the SAF index for 2011, which is 5.76 percent, is more appropriate with the assumption that the SAF index is stable over the period from 2011–2020. Hence, any change in tobacco-related health care expenditure presented in this study is followed closely by the changes in total health care expenditures. Also, because the disease-specific method usually covers a narrow subset of tobacco-related diseases, the SAF index should be considered a conservative lower-bound estimate of the share of households' health care expenditure due to tobacco consumption, which in actuality based on the evidence of other tobacco-attributable diseases is likely to be more severe.

### 3. Descriptive Statistics

**Table 1. Prevalence of tobacco-consuming households<sup>(\*)</sup> (%)**

	<i>All Population</i>
<b>(1) Total</b>	56.46
<b>(2) Regions</b>	
Urban	50.06
Rural	59.75
Difference	9.70***
<b>(3) Ethnic groups</b>	
Kinh & Hoa	55.18
Ethnic Minorities	64.57
Difference	-9.39***
<b>(4) Consumption quantiles</b>	
1st quantile (0-20%)	59.44
2nd quantile (20-40%)	59.52
3rd quantile (40-60%)	58.10
4th quantile (60-80%)	60.16
5th quantile (80-100%)	47.22
Difference between the 1 <sup>st</sup> and 5 <sup>th</sup> quantiles	12.22***

Source: Authors' calculation using VHLSS 2018; GSO-WB; and Anh et al. (2016)

(\*) There is at least one smoker in household.

#### 4. Methodology: Quantify the Impoverishing Effect of Tobacco Use

In order to estimate the impoverishing impacts of tobacco, this study calculates the differences in the head count ratio (HCR) and the poverty gap between the official estimates and the estimates after subtracting income forgone from tobacco-related expenditures. Let  $NPL$  represent the national poverty line, which is a scalar value provided by statistical agencies or other government sources. Then, the official estimate of poverty using the HCR measurement is derived with the following equation:

$$HCR_0 = \frac{1}{N} \sum_{i=1}^N I(e_i \leq NPL) \quad (1)$$

where  $N$  is the total population,  $e_i$  is the per capita consumption expenditure of individual  $i$ ,  $I$  is an indicator function that takes the value of one if the argument is true and zero otherwise.  $(HCR_0 \times N)$  provides the number of poor people in the country.

To calculate the number of individuals who are experiencing poverty due to tobacco-related expenditures, it is necessary to measure individual tobacco-related expenditures, which consist of two components: (i) the expenditure on tobacco products and (ii) the health care expenditure due to tobacco consumption. The first component is directly extracted from the survey data. The second component is calculated by multiplying the SAF by the total health care expenditure of the individual. Let  $H_i$  be the per capita health care expenditure and  $h_i$  be the per capita health care expenditure due to tobacco consumption of individual  $i$ . Then:

$$h_i = SAF \times H_i \quad (2)$$

Let  $t_i$  be the per capita expenditure on tobacco products and  $h_i$  be the per capita health care expenditure due to tobacco consumption of individual  $i$ . Then:

$$HCR_1 = \frac{1}{N} \sum_{i=1}^N I(e_i - t_i \leq NPL) \quad (3)$$

$$HCR_2 = \frac{1}{N} \sum_{i=1}^N I(e_i - t_i - h_i \leq NPL) \quad (4)$$

In equation 3,  $(e_i - t_i)$  is the per capita disposable income after deducting the expenditure on tobacco products.  $(HCR_1 - HCR_0) \times N$  is the number of people who are impoverished due to tobacco spending. Similarly, in equation 4,  $(e_i - t_i - h_i)$  is the per capita disposable income after deducting the expenditure on tobacco products and the attributable health care expenditure due to tobacco consumption.  $(HCR_2 - HCR_0) \times N$  is the number of people who are impoverished due to tobacco-related expenditures.

Note that—although the tobacco-purchasing decision is made by certain adult members in a

household—it affects the disposable income of the entire household, including the share for children and women. Therefore, the impoverishing effect should be equally endured by all household members regardless of the uniform distribution assumption being invalid in the case of tobacco consumption.

A limitation of the HCR is that it does not take into account the degree of poverty. In other words, the HCR counts the number of people who have insufficient resources to afford basic needs, but it cannot measure the level of insufficiency. If the poor become poorer due to tobacco-related expenditures, the value of the HCR does not change. To capture this effect, the poverty gap, which is defined as the relative difference between the average living standard of the poor and the NPL, is calculated. Deaton (1997) provides the formula of the poverty gap as follows:

$$PG = \frac{1}{N} \sum_{i=1}^N \left(1 - \frac{e_i}{NPL}\right) I(e_i \leq NPL) \quad (5)$$

in which  $PG$  is considered as a per capita measure of the total resource shortage below the NPL.  $(PG \times N \times NPL)$  gives the total amount by which the poor are below the NPL. The difference between the poverty gap before and after deducting tobacco-related expenditures should be considered as the depth of the impoverishing effect of tobacco.

## 5. Results

### 5.1. Impact of tobacco use on poverty

Table 2 shows the estimated impoverishing effects of tobacco purchases, tobacco-related health care spending, and the total effect of the two expenditures. It is clear from the results that tobacco use pushes more people into poverty and deepens the level of poverty they experience. Together, the expenditure on tobacco products and the tobacco-related health care expenditure in 2018 pushed 305,090 people into poverty, even though their total resources were higher than the NPL. In other words, the impoverishing effect of tobacco use increased the poverty rate by 0.31 percentage points. Considering the changes in the poverty gap, these findings demonstrate that tobacco use increased the poverty gap from 2.20 percent to 2.28 percent in 2018. Another noteworthy point is the high proportion of children (38.60%) in the impoverished population— approximately one in three impoverished people are children. The finding confirms the tremendous effects of smoking on the younger generations and also raises a big concern on the long-term impact of smoking on the social economic development of Vietnam.

**Table 2. Changes in HCR and number of poor after deducting tobacco-related expenditures in Vietnam**

	<i>All Population</i>
<b>(1) Official estimates</b>	
Total Population	96,895,332
HCR - Population BPL (%)	8.35
Population BPL	8,091,801
<i>Of which: Children</i>	3,457,064
<i>Proportion of Children in Population BPL (%)</i>	42.72
Poverty Gap (%)	2.20
<b>(2) Accounting for tobacco purchases</b>	
HCR - Population BPL (%)	8.65
Population BPL	8,378,896
<i>Of which: Children</i>	3,567,651
<i>Proportion of Children in Population BPL (%)</i>	42.58
Poverty Gap (%)	2.27
Impoverishing effect (%)	0.30
Impoverishing effect (No. of people)	287,095
<i>Of which: Children</i>	110,587
<i>Proportion of Children in impoverished population (%)</i>	38.52
Changes in Poverty Gap (%)	0.07
<b>(3) Accounting for tobacco-related medical expense</b>	
HCR - Population BPL (%)	8.41
Population BPL	8,146,499
<i>Of which: Children</i>	3,470,082
<i>Proportion of Children in Population BPL (%)</i>	42.60
Poverty Gap (%)	2.21

Impoverishing effect (%)	0.06
Impoverishing effect (No. of people)	54,698
<i>Of which: Children</i>	13,018
<i>Proportion of Children in impoverished population (%)</i>	23.80
Changes in Poverty Gap (%)	0.01
<b>(4) Combined effect of (2) and (3)</b>	
HCR - Population BPL (%)	8.67
Population BPL	8,396,891
<i>Of which: Children</i>	3,574,849
<i>Proportion of Children in Population BPL (%)</i>	42.57
Poverty Gap (%)	2.28
Impoverishing effect (%)	0.31
Impoverishing effect (No. of people)	305,090
<i>Of which: Children</i>	117,785
<i>Proportion of Children in impoverished population (%)</i>	38.60
Changes in Poverty Gap (%)	0.08

Source: Authors' calculations using VHLSS 2018; GSO-WB; and Anh et al. (2016)

## 5.2. Heterogeneity in the impact of tobacco use across regions, ethnicity groups, and consumption quintiles

Table 3 presents the impoverishing effects of tobacco use according to three classifications: (i) rural versus urban areas, (ii) Kinh and Hoa versus ethnic minorities, and (iii) consumption quintiles. Tobacco use exacts a greater impact on poverty in rural areas, where both the rate of smoking and the low-income ratio are significantly higher. Whereas the impoverishing effect in urban areas is modest, that number in rural areas is considerably higher (corresponding to 0.06% and 0.44%, respectively). The differences in the poverty gap caused by the use of tobacco also reflect the more severe impacts of tobacco use in rural areas.

Similarly, the impact on ethnic minorities is more substantial in comparison to the Kinh and Hoa groups. In 2018, tobacco use had an impoverishing effect for 0.76 percent of the ethnic minority population and deepened the poverty gap to 0.30 percent, while the numbers for the Kinh and Hoa groups are 0.23 percent and 0.04 percent, respectively. The calculations also show that tobacco use only has impoverishing effects on populations from the two lowest consumption quintiles. Of these, the population in the first consumption quintile suffers the most severe effect.

**Table 3. Impoverishing effect of tobacco-related expenditures by population groups in**

Vietnam	
	<i>All population</i>
<b>Panel A: Region</b>	
<b>(1) Urban areas</b>	
Population	32,356,428
Impoverishing effect (%)	0.06

Impoverishing effect (no. of people)	17,995
Changes in poverty gap (%)	0.02
<b>(2) Rural areas</b>	
Population	64,538,904
Impoverishing effect (%)	0.44
Impoverishing effect (no. of people)	287,095
Changes in poverty gap (%)	0.11
<b>Panel B: Ethnic groups</b>	
<b>(1) Kinh &amp; Hoa</b>	
Population	81,782,268
Impoverishing effect (%)	0.23
Impoverishing effect (no. of people)	189,948
Changes in poverty gap (%)	0.04
<b>(2) Ethnic minorities</b>	
Population	15,113,064
Impoverishing effect (%)	0.76
Impoverishing effect (no. of people)	115,142
Changes in poverty gap (%)	0.30
<b>Panel C: Consumption quintiles</b>	
<b>(1) 1<sup>st</sup> consumption quintile</b>	
Population	19,385,316
Impoverishing effect (%)	1.57
Impoverishing effect (no. of people)	305,090
Changes in poverty gap (%)	0.40
<b>(2) Other consumption quintile</b>	
Population	77,510,016
Impoverishing effect (%)	0.00
Impoverishing effect (no. of people)	0
Changes in poverty gap (%)	0.00

Source: Authors' calculations using 2018; GSO-WB; and Anh et al. (2016)

## 6. Discussion and Conclusions

This study quantifies the direct impact of tobacco use on poverty, measured by poverty head count and the total size of the poverty gap in Vietnam. Generally, the tobacco-related expenditures of households include two components: spending on tobacco products and tobacco-related health care spending. This study's findings confirm the impoverishing effect of tobacco use in Vietnam. Together, tobacco spending pushed 305,090 people into poverty in 2018—approximately 0.31 percent of the country's population. Smoking also exerts powerful effects on children when a third of impoverished population are children. Additionally, the impoverishing effects are heterogeneous, vulnerable groups including ethnic minorities, rural areas and low-income population suffer most leading to a greater inequality gap in Viet Nam.

Readers should not be optimistic about the modest estimates of the impoverishing effects in this study since the impoverishing effects are estimated by using the disease-specific SAF index instead of an inclusive SAF. The SAF index uses a disease-specific method covering only a narrow subset of tobacco-related diseases, while the consequences of tobacco use for individual health are extremely complex. As a result, the estimated health care cost of tobacco use is certainly lower than its real value. John et al. (2011) estimated the SAF index using the inclusive method and showed that the inclusive SAF in India is 18 percent in the case of rural households and 17 percent in the case of urban households. However, using the disease-specific method to cover the costs of lung cancer, chronic obstructive pulmonary disease, ischemic heart disease, and tuberculosis, the SAF index in India is only 3.3 percent (John et al., 2015).

Briefly, it could be said that the modest value of the disease-specific SAF index clearly underestimates the impoverishing effect of tobacco use in Vietnam. Additionally, the accuracy of estimations may improve if the assumption of the index's stability over the period is relaxed. Nevertheless, this study's findings confirm the significant negative impact of tobacco use on poverty, and these estimates should be considered as a lower bound for policy makers to design poverty alleviation and tobacco control programs. A higher impact of tobacco use on poverty is very likely to be found by using a more inclusive SAF in future research.

In addition, this study's findings show that the impoverishing effects of tobacco consumption are different across groups in society. First, among quintiles of consumption, the impoverishing effect mostly concentrates in the two lowest ones. Second, the populations in rural areas and ethnic minorities face far more severe effects of tobacco use. Third, the lower average age of tobacco-consuming household heads implies a greater effect on younger people.

As smoking rates tend to be highest among the poorest and most marginalized populations,

they will be the ones who bear the highest burdens of tobacco use. Tobacco users and their families in these groups are not only at a higher risk of facing short-term poverty but are also at a higher risk of suffering from prolonged poverty. Their limited budget for daily food and basic needs might be traded off for tobacco purchases. In addition, all family members of a tobacco-consuming household are at a higher risk of suffering from tobacco-related illnesses, which impose additional health care costs. If a household's primary income earner dies prematurely, their family might suffer from a heavy economic burden. People in the most marginalized groups usually have the lowest tobacco quitting rate (Van Kinh, 1994) and face the most difficulties to escape from poverty (Pimhidzai, 2018). Smoking then serves to perpetuate and exacerbate cycles of poverty, especially in the most marginalized groups.

## 7. Policy Recommendations

- Controlling tobacco use is necessary not only for public health improvement but also as part of the broader poverty reduction strategy in Vietnam. Reducing the use of tobacco allows for the reallocation of household disposable resources to prioritize essential goods. As a result, households may escape from primary as well as secondary poverty.
- Increasing taxes on tobacco products is the most effective and cost-effective tobacco control measure. The poor and other marginalized populations are relatively more sensitive to price increases and thus are more likely to be incentivized by tobacco taxes to reduce or quit tobacco consumption compared to higher-income households.

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