

FINANCIAL BURDEN OF SMOKING ON HOUSEHOLDS IN VIETNAM

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EXECUTIVE SUMMARY

This study focuses on analyzing the financial burdens of smoking on households in Vietnam. We use mainly two data sources: the first is the Vietnam Living Standard Survey 1998 and the second, the Vietnam National Health Survey 2002. Financial burdens of smoking are presented following four issues: (1) total tobacco consumption; (2) smoking prevalence; (3) comparison of tobacco spending with spending on basic needs; and (4) smoking and poverty and inequality. Our major findings are:

- ❖ Smokers in Vietnam burn the amount of tobacco equivalent to 6,000 billion Vietnamese dong (VND) or (US\$416.7 million) each year. This sum of money could buy 1.6 million tons of rice, which is sufficient to feed 10.6 million people a year.
- ❖ Smoking prevalence is tabulated by geographic region and household characteristics such as education level, occupation, marital status and expenditure quintile. The proportion of households with smokers and the proportion of children who live in smoking households are also tabulated by quintile. The results reveal that smoking prevalence has increased over the last five years with the highest increases seen in the south; a higher smoking prevalence can be seen among those with low education, manual workers, drivers and construction workers. In general, the smoking rate is highest among poor groups, but pipe smoking is more prevalent in poor groups while cigarette smoking is more prevalent among rich groups. The high proportion of households with smokers and the high proportion of children who live in smoking households indicate high risks of second-hand smoking in poor households.
- ❖ The results suggest that most smokers start smoking between 15 and 24 years of age; the average starting age in poor households is lower than that in rich households;
- ❖ The ratios of tobacco spending to health care spending and of tobacco spending to total household expenditure of poor households are also higher than those of rich households. These findings lead us to conclude that the economic burden of tobacco use on poor households is heavier than that on rich ones.
- ❖ If tobacco expenditures were excluded, the poverty rate would increase about 1.5 percentage points, or from 15% to 16.5%. Inequality indices would also increase if tobacco expenditures were excluded.

INTRODUCTION

Smoking is an emerging epidemic in Vietnam. The smoking rate in Vietnam has increased recently. Even though the smoking rate has decreased in many big cities, it has increased in the rural areas and small towns. The overall male smoking rate in 1997-1998 was 50% (VLSS 1997-1998), but it rose to 56% in 2002 (VNHS 2002). Smoking prevalence has shifted towards rural and poor households and towards the south.

The Vietnamese Government is aware of the importance of tobacco control, so the Government Resolution on Tobacco Control in the period 2000-2010 was issued¹. Implementation of parts of the resolution has begun. Nevertheless, many Vietnamese people are still unaware that smoking is a problem, including some health care and education professionals². Most people continue to perceive tobacco as a health issue only, failing to recognize how the purchase of tobacco contributes to poverty. Including tobacco control in the poverty reduction agenda would increase the attention paid to tobacco control and the likelihood of broad-based support for tobacco control.

Also, in the annual meeting of the Vietnam Committee on Smoking & Health (VINACOSH), which was organized in April 2003, many representatives from tobacco control focal agencies said that there is a lack of economic information, evidence, and documents for information, education and communication (IEC) for Vietnam. Thus it is necessary to study the economic burden of smoking in Vietnam.

Our study looks into evidence of the burden of cigarette smoking on households, especially on poor households. The evidence includes level of smoking, share of tobacco spending out of spending for basic needs, proportion of poverty and inequality caused by smoking. Our findings will be used on education and communication for a tobacco free society and will provide more evidence to policy makers to support stronger regulations on both tobacco production and use.

In the second section, we describe data sources used in this study, mainly the Vietnam National Health Survey 2002 and the Vietnam Living Standards Survey 1998. In the third section, we use different approaches to estimate the total cigarette consumption by Vietnamese households. In the following section, we present smoking patterns to show that poor households have a higher burden of smoking in comparison with rich households. The fifth section compares tobacco spending with household spending on basic needs including education, health care and food. In the sixth section, we analyze poverty status and inequality due to smoking; and the final section concludes this paper.

DATA SOURCES AND METHODOLOGY

This study is carried out using data from annual statistical reports of the General Statistic Office (GSO), the Vietnam Living Standard Surveys 1997-1998 and the Vietnam National Health Survey 2002. The Vietnam National Health Survey data is used to analyze smoking prevalence and changes in smoking patterns. The Vietnam Living Standard Survey is used to estimate the effect of smoking on poverty and inequality. The total consumption is estimated based on the two above data sets and statistical data from the General Statistic Office and from the Ministry of Industry.

Vietnam National Health Survey (VNHS)

The Vietnam National Health survey was implemented from November 2001 to November 2002 with a sample size of 36,000 households representing all regions of the country, and both urban and rural areas. The survey contains general questions on geographic residence, household characteristics and community characteristics. There are nine questions related to smoking issues, namely (1) Have you ever smoked more than 100 cigarettes, home-made cigarettes or pipe/chewing tobacco since the first time till now^{*}; (2) How old were you when you started using tobacco; (3) What was the context when you started using tobacco; (4) Do you currently smoke at least 7 cigarettes or home-made cigarettes or 7 hits of pipe tobacco a week; (5) At present, have you quit smoking; (6) How long is it since you quit smoking; (7) Why did you quit smoking; (8) How many cigarettes/other units of tobacco did you smoke per day in the last 7 days; (9) How much have you spent on smoking tobacco in the last 7 days. Questions on tobacco use were asked directly to each member of the household aged 10 and older.

Based on the above questions, the Ministry of Health calculated smoking rates by different criteria, the quitting rate, the new smoker rate, the number of cigarettes consumed and the sum of money spent on smoking. It should be noted that only people who smoked more than 100 cigarettes and currently smoke at least 7 cigarettes a week are considered smokers, because the questionnaire doesn't provide detailed information about those who smoke less than one cigarette per day on average as suggested by WHO guidelines on smoking prevalence surveys.

^{*} The equivalence in the numbers of hits on a tobacco pipe and cigarettes was based on the fact that in average, pipe smoker smokes 13 hits per day and tobacco smoker smokes 11 cigarettes per day; and the pipe smokers are heavier smokers. This finding was found from "Empirical analysis of tobacco smoking in Vietnam from the Vietnam Living Standard Surveys" (1992-1993 & 1997-1998) by Sarah Bales and Hoang Van Kinh, background document to the World Bank Vietnam Health Sector Review, 2000.

Vietnam Living Standard Survey 1997-1998

The Vietnam Living Standards Survey 1997-1998^{**} was implemented from December 1997 to December 1998 with some changes in questionnaire design and a slightly larger sample size of 6,000 households with 28,518 individuals. The General Statistical Office implemented the survey in 1997-1998. The sample was selected using three staged random stratified cluster sampling. With sampling weights, which are basically the inverse of the probability of a household being sampled, the data yield unbiased population estimates at the national level and disaggregated by urban/rural residence and the seven major regions. Adjustments for clustering and stratification can be taken into account to yield more accurate standard errors for hypothesis testing using svy commands in STATA statistical software. Quality control was implemented in several stages, from questionnaire design, data entry, random unexpected field visits, and consistency checks after the survey was completed and is generally considered a good quality dataset for analysis of socio-economic policy in Vietnam.

We calculated tobacco spending based on the Vietnam Living Standard Survey 1997-1998 data. The reason is that, this dataset has more details about household income and household expenditure than the Vietnam National Health Survey. Eight questions related to smoking in this questionnaire are as follows: (1) Have you ever smoked cigarettes for over 6 months? (2) Do you currently smoke cigarettes? (3) How many cigarettes do you usually smoke per day? (4) In the past 12 months, how much did you spend for cigarettes? (5) Have you ever smoked tobacco with a water pipe, pipe or home-made cigarettes or chewed tobacco for more than 6 months? (6) Do you currently smoke a pipe, homemade cigarettes or chew tobacco? (7) In the past 12 months how much did you spend for pipe, raw or chewing tobacco? (8) What is the value of tobacco products consumed by your household from home production if you had had to purchase them in the market?

The expenditure calculations are based on the household unit because tobacco spending affects not only income or expenditure of the smoker but also of his household. Once a portion of income is spent on tobacco, it can not be used for other needs of the household, and if it is not spent on tobacco, it will be used for the whole household, not for the smoker only³. This approach is different from some other studies, which calculated the above spending rates on the basis of the smoker only.

However, it should be noted that the number of smokers, the number of people attending schools, and the number of old people or ill people vary by household. These factors are not taken into account when comparing tobacco spending with other essential spending or with total household expenditure.

As smoking is prohibited by some parents, and may be considered unladylike for women, it is likely that there is some underreporting of cigarette and tobacco use among youth and women. This should be kept in mind in interpreting the results of the analysis.

Estimation of the number of households who fall below the poverty line is based on the Vietnam Living Standard Surveys 1997-1998 data. The poverty line is based on the poverty line calculated for the year 1998 by the General Statistics Office⁴. We used STATA to calculate tobacco spending of households. Per capita household expenditure is obtained by dividing the total household expenditure by the household size. Basically, the expenditures

^{**} The first VLSS was implemented over the period from October 1992 to October 1993 with a sample size of 4,800 households and 23,839 individuals.

below the poverty line are expenditures for essential welfare-enhancing items such as food, housing, clothing etc. In practice, according to the principles of the GSO, tobacco expenditures are included in household expenditures to assess poverty even though they could be considered welfare reducing, as they don't provide any material benefits to the household, and, in the long run, will tend to yield strong negative effects on health and working time. If tobacco expenditures are excluded, households may drop below the poverty line. Households whose per capita expenditure excluding tobacco is below the poverty line (but above the poverty line if tobacco expenditure is included) are considered to suffer from poverty due to tobacco use.

VIETNAMESE SMOKERS BURN A LARGE AMOUNT OF MONEY EACH YEAR

We estimated cigarette consumption alone (as opposed to other tobacco use) because of three reasons. First, according to VLSS 1998, the pipe-smoking rate is 20% among adults, but the value of average annual consumption of pipe tobacco is only 90,000 VND per smoker (equivalent to US\$6). Out of this amount, about 35% represents home-production. Second, the consumption of pipe tobacco is not accurate comparable to that of cigarette smoking in terms of quantity. Third, data on cigarette production is available because cigarettes are a formal sector. On the other hand, data on pipe tobacco production is harder to obtain because pipe tobacco is produced by the decentralized, informal household sector.

The first method to calculate total cigarette spending is based on total cigarettes consumed in Vietnam. Total cigarettes consumed include domestic production and smuggled cigarettes (export of domestic production is very small). In 1988, the output of cigarette domestic production was 2.14 billion packs, smuggled cigarettes represented 0.2 billion packs⁵; the average retail price was 2,493 VND⁶. Total cigarette expenditure in Vietnam can thus be calculated as 5,834 billion VND (1.24 billion packs * 2,483 VND). This amount costs the equivalent of US\$416.7 million.

The second way to calculate total tobacco spending in Vietnam is based on the average tobacco spending of one Vietnamese smoker and the number of Vietnamese smokers. According to the Vietnam Living Standard Survey in 1998, an average Vietnamese smoker spent 616,000 VND on tobacco that year. The adult male smoking prevalence rate was 34.55% in 1998, and the number of adult males in the country was 30.84 million⁷. Multiplying these three numbers results in the total amount of 6,564 billion VND (US\$494 million) that Vietnamese smokers spent on tobacco in 1998.

The total amount of money measured by the latter method is bigger than by the former method, which is based on official data on tobacco output and smuggled tobacco. The main reason for the discrepancy is that the output declared by manufacturers underestimates true output by about 30% to reduce their tax payment⁸. In addition, there may be more smuggling than officially admitted. Thus, the official cigarette production and cigarette expenditures are underestimated. However, the estimate produced by this method still represents a considerable amount, especially when we realize that 15% of Vietnamese households live below the food poverty line.*

Based on the Vietnam National Health Survey 2002 data, the current male cigarette-smoking rate is 38.8%; the number of over-15-year-old men is 31 million⁹, and the average cigarette spending per smoker is 682,800 VND per year. We estimate that all Vietnamese male smokers spend a total of 8,213 billion VND on tobacco in 2002 (US\$537 million).

Based on the first, most conservative method, smokers in Vietnam spent US\$416.7 million (5,834 billion VND) on cigarettes in 1998. This amount could buy about 1.6 million tons of rice, which is sufficient to feed 10.6 million people a year. The price of rice in 1998 was US\$0.25/kg (3,610 VND), which was relatively higher than that of 1996 and 1997. If the

* Food poverty level is the level of household expenditure to ensure that household can buy a basket of food to provide 2100 kcal per person per day. The 1998 food poverty line is 1,287,000 VND.

price of rice had decreased at the usual level, this amount would have been sufficient to buy even more rice. The contribution to the state budget by the tobacco industry accounts for only one-third of the total tobacco spending by Vietnamese smokers. If the estimate based on the second method (VLSS 1998) is used, the amount of foregone food is even higher-1.8 million tons of rice.

SMOKING PATTERNS REFLECT BURDENS IMPOSED ON THE POOR

Information on the current smoking pattern is based on analysis of the Vietnam National Health Survey 2002 data. The smoking rate decreased quite sharply between 1992-1993 and 1997-1998, but increased between 1997-1998 and 2002 (see Figure 1). One of the possible reasons for the increasing smoking rate is the way a smoker is defined. In the National Health Survey, the question to determine a smoker is “Have you ever smoked more than 100 cigarettes, home-made cigarettes or pipe/chewing tobacco since the first time till now”. If the answer is yes, then he or she is a smoker. In the Vietnam Living Standard Survey, the question to determine a smoker is “Have you ever smoked cigarettes or pipe/chewing tobacco for over six months?” Nevertheless, this apparent increase is disappointing to organizations and individuals involved in tobacco control activities, and indicate a need to further strengthen information, education and communication activities to counter the income effects that lead to increases in tobacco use, and the need to further strengthen government policy such as banning smoking in public places and strengthening pack warnings. In this section we present general smoking patterns (both cigarette and pipe smoking) to show smoking prevalence among various population groups.

The 2002 smoking rate of males aged 15 or older is 56.1%, which is nearly 6 percentage points higher than in 1997-1998 (Figure 1). This is a relatively high rate in the region and the world.

In terms of occupations, high smoking rates can be observed in people who are drivers or work in service, trade and construction occupations. (See Figure 2)

It can be seen that smoking rates in both urban and rural areas increase when moving from north to south (See Figure 3). This tendency was found in analysis of the VLSS 1992-1993 and VLSS 1997-1998 data. It shows that social traits of regions have a relatively strong impact on tobacco use, and that tobacco control programs have had relatively smaller impact in the southern regions. Tobacco control activities are more concentrated in the North. VINACOSH is located in Hanoi and it influences mass media much more strongly in the northern part of the country than in the southern provinces.

Smoking rates in low-expenditure quintiles* are much higher than those in high-expenditure quintiles in both rural and urban areas (see Figure 4). This fact shows that the poor will be likely to suffer heavier burdens of disease and premature death from smoking than the rich. However, when considering tobacco types, the cigarette-smoking rate is higher among the rich and the pipe-smoking is higher among the poor (see Figure 5)- which is not surprising, given that pipe smoking is so much less expensive than manufactured cigarettes.

Age at the taking up of smoking has an influential effect on smoking rates and on tobacco dependence. Figure 6 indicates that the majority of smokers start smoking between 15 and 25

* The General Statistics Office uses per capita total expenditure to rank the population and divide the whole sample into five living standard quintiles. The number of people in each quintile is 20% of the sample. Quintile one is poor, quintile two is near poor, quintile three is average, quintile four is better off and quintile five is rich. The mean of per capita expenditures for each quintile from 1 to 5 are 1099, 1632, 2125, 2929 and 6032 thousand VND respectively¹⁰.

years of age, and poor smokers start smoking earlier than rich smokers. It appears that poor youth are more dependent on tobacco than rich youth, since the duration of their smoking tends to be longer. Therefore, tobacco control activities should focus on young people from poor families.

Recent changes in tobacco use were revealed by the quitting rate and by the initiation rate in the last five years. In the VNHS data, quitting rate and taking-up rate of smokers can be identified. As income rises, the initiation rate decreases in urban areas with the first three quintiles and then slightly increases with the last two quintiles (see Figure 7). In rural areas, the initiation rate is lower compared to urban areas, and it increases with income starting with the second quintile. We expected that rich households would have higher education level, and thus would be more aware of the harm of tobacco. However, data show a positive correlation between income and smoking initiation in rural areas, thus reflecting that smoking is still considered a sign of status in rural areas.

The quitting rate has risen clearly with each expenditure quintile (except for quintiles four to five in rural areas), over the last 5 years (Figure 8). This trend is particularly noticeable in urban areas and suggests that richer households may have more information on the detrimental effects of tobacco and possibly greater access to tobacco control programs than poorer households. The education and information campaigns of the tobacco control program have appeared on National Television and in newspapers, and more affluent households have better access to these sources compared to households with lower income.

TOBACCO SPENDING IN RELATION TO BASIC NEEDS AND TOTAL HOUSEHOLD EXPENDITURE

In this section, we present the pattern of tobacco spending among five quintiles in comparison to basic needs (spending on education, health care and food) and total spending of households.

Tobacco spending imposes a relatively heavy burden on poor households. On average, a tobacco-consuming household spends around US\$51 on tobacco a year. In absolute value, the average household expenditure on cigarettes among the rich quintiles (US\$90) is much larger than that of the poor quintiles (US\$31) (see Table 1). But as a percentage of total expenditures (see Table 2), tobacco spending is higher among poor households (5.29%) than among rich ones (3.6%). The difference of tobacco spending as a percentage of total expenditures in the lowest quintile is 1.7 percentage points higher than in the highest quintile.

Table 1: Household Spending on Tobacco, Education, Health, Food and Total Expenditure by Quintile (Unit: USD)

Quintile	Tobacco (1)	Education (2)	Health care (3)	Food (4)	Total Expenditure (5)	(6)= (1)*100/ (5)
Poor	31.26	20.75	32.19	399.22	591.27	5.29
Rather Poor	36.47	33.72	41.93	499.25	796.90	4.58
Middle	40.88	43.40	61.02	552.36	951.61	4.3
Rather rich	51.07	74.99	70.26	662.04	1258.02	4.06
Rich	89.79	193.73	130.28	1017.16	2494.40	3.6

Note: Exchange rate in 1998 was \$1=13,300 VND.

Source: Vietnam Living Standard Survey 1998.

We can see more details of the comparison of tobacco spending to education, health care, food and total expenditures in Table 2. The ratio of tobacco spending to education spending is significantly higher in the rural South Central coast (0.8065), Central Highlands (0.8117) and Mekong Delta (0.8962) regions. The ratio of tobacco to food expenditures overall is 0.0802 while in the big cities, it reaches 0.1111; although it is not very different between quintiles.

Table 2: Ratio of spending on tobacco to education, health care, food and total expenditure by region and quintile

	Tob/Edu	Tob/Heal	Tob/Food	Tob/Total Exp
<i>Overall</i>	65.32	73.42	8.02	4.04
Rural	71.34	61.35	7.05	3.92
Urban	59.22	96.60	9.64	4.20
Big city	63.46	99.51	11.11	4.52
Medium city	49.36	89.64	7.56	3.42
Small city	59.30	96.05	8.95	4.25
Rural Northern	65.03	65.25	4.46	2.73
Rural Red River Delta	54.86	61.93	5.26	2.93
Rural North Central Coast	59.28	61.03	6.36	3.63
Rural South Central Coast	80.65	70.64	7.28	4.14
Central Highlands	81.17	84.02	6.83	3.99
Rural Southeast	56.55	55.52	7.95	3.99
Rural Mekong Delta	89.62	58.47	8.18	4.53
<i>Quintile</i>				
Poor	150.69	97.11	7.83	5.29
Near Poor	108.17	86.99	7.31	4.58
Average	94.21	67.00	7.40	4.30
Better-off	68.10	72.69	7.71	4.06
Rich	46.35	68.92	8.83	3.60

Source: Vietnam Living Standard Survey 1998.

Figure 9 also shows that there is a higher ratio of spending on tobacco to education and tobacco to health for poor households compared to rich ones. The ratio of tobacco/education expenditure is 1.506 for poor households, while this ratio is only 0.464 for rich ones. Because rich households spend more on health care, their average ratio of tobacco/health care spending is 0.689 while this ratio is 0.971 for poor households.

TOBACCO SMOKING, POVERTY AND INEQUALITY

This section analyzes poverty status resulting from smoking. We estimate the number of households falling into poverty and the rate of poverty when taking cigarette spending out of their expenditures. After that, we estimate the Gini coefficient to show that inequality increases because of smoking.

Tobacco spending causes many households to fall below the poverty line (See Figure 10). According to the World Bank and the GSO definition, the food poverty line* in Vietnam is 1.287 million VND person/year.¹⁰ Tobacco spending does not contribute to improving household living standards, but reduces household disposable income. Therefore, tobacco spending should be excluded from total household expenditure when assessing living standards of households. After separating tobacco spending from total household expenditures, 1.5% of the population whose living standards used to be above the food poverty line fall into the category of food poor households, i.e. whose income is insufficient to meet minimum caloric requirements..

It can be concluded that tobacco spending is one of the reasons for being poor. According to our calculation, if the amount spent on tobacco was instead used to purchase other food commodities, then 11.2%** of food poor people would be able to emerge from poverty.

Tobacco spending does not only contribute to poverty (if tobacco expenditures is viewed as welfare-reducing and at the same time reducing welfare-enhancing expenditures for education, health or nutrition), but also contributes to widening the gap between the rich and the poor. The gap is illustrated by the Lorenz curve. We estimate and compare the Lorenz curves in two cases: in the first one, the Lorenz curve is drawn on the basis of total household expenditure; and in the second one, it is based on the remaining household expenditure after separating tobacco spending from total household expenditure. The greater outwardly bowed second curve reflects the increase in inequality due to tobacco use (see Figure 11).

* The food poverty line measures the expenditure that would be required to ensure that a family can buy enough food to provide each member with 2,100 kcal per day.

** This number is calculated by dividing the number of people who dropped below the poverty line because of tobacco use and the total number of people below the poverty line if tobacco is excluded from the poverty calculation..

Table 3: Gini coefficients in the nation and in regions

Region	All households	Smoking households	All households after separating tobacco spending from total household expenditure
Overall	0.35	0.34	0.39
Urban areas	0.35	0.34	0.43
Rural areas	0.27	0.27	0.32
Red River Delta	0.27	0.26	0.27
Northern mountains	0.32	0.31	0.33
North Central Coast	0.29	0.28	0.32
South Central Coast	0.33	0.33	0.44
Central Highlands	0.31	0.30	0.38
Southeast	0.34	0.33	0.44
Mekong Delta	0.30	0.28	0.38

Note: There is little difference between the calculation for all households and for smoking households only, because over 70% of households have smokers.

Source: Author calculations from VLSS 1998.

The Gini coefficients before and after separating tobacco spending from total household expenditure are shown in Table 3. It should be noted that the higher the Gini coefficient, the worse the inequality.* There are three columns of Gini coefficients: the general coefficients, the coefficients for smoking households, and the coefficients after separating tobacco spending from total household expenditure. These coefficients are calculated for each national region. The data in the table demonstrates that the Gini coefficients of all regions increase after separating tobacco spending from total household expenditure. Again, this suggests that tobacco use contribute to increased social inequality.

Inclusion of cigarette expenditures leads to slightly lower estimates of inequality measures. But the inequality could be reduced if households switch from tobacco to other welfare-enhancing expenditures such as food, education, and housing.

* The Gini Coefficient ranges from 0 to 1, 0 representing perfect equality and 1 total inequality.

CONCLUSION

This research shows the financial burden of tobacco use assumed by Vietnamese households. Although other expenditures (cost of medical treatment such as health care cost to treat diseases caused by smoking, cost paid due to fire caused by smoking, time losses from smoking, productivity loss from smoking and other opportunity costs) are not taken into account, tobacco spending represents a considerable amount of household's expenditures. This again highlights the need to strengthen the tobacco control strategy including government measures and public education.

Poor people and poor households suffer more from tobacco use than wealthier ones. The smoking rate among the poor is higher; the share of tobacco spending in total household spending, the ratio of tobacco spending to education, health care, and expenditure on food of poor households are higher than those of rich households. Therefore, poor households should be a primary target of tobacco control education programs.

Tobacco use has made a considerable contribution to poverty. If tobacco does not cause leakages from household disposable income, more than two million people would be able to escape from poverty. This means that tobacco control activities can help to eliminate hunger and to reduce poverty.

Tobacco control programs should be expanded to cover more extensively the southern regions of Vietnam, rural areas and isolated areas, so that people with the highest smoking prevalence could benefit from the programs, while continuing to address the other regions of the country with relatively lower (but still higher than the overall world's) smoking rates.

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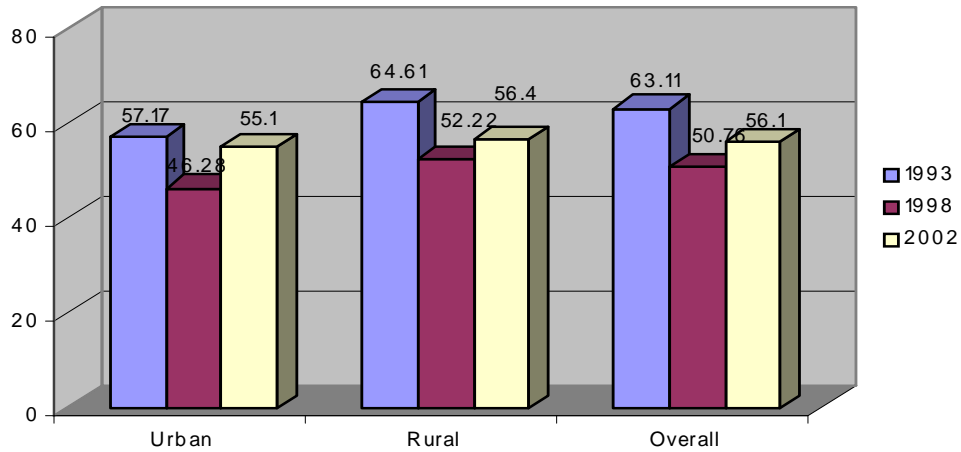
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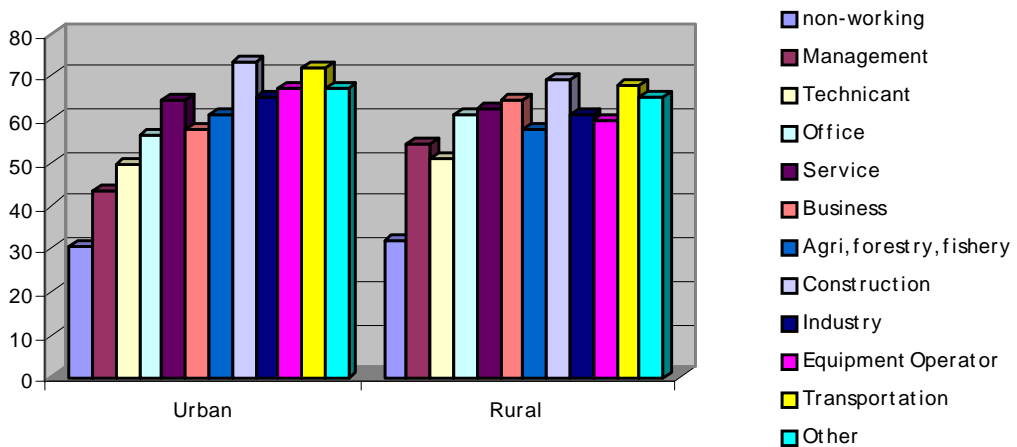
Appendix

Figure 1: Smoking Rate Change Overtime



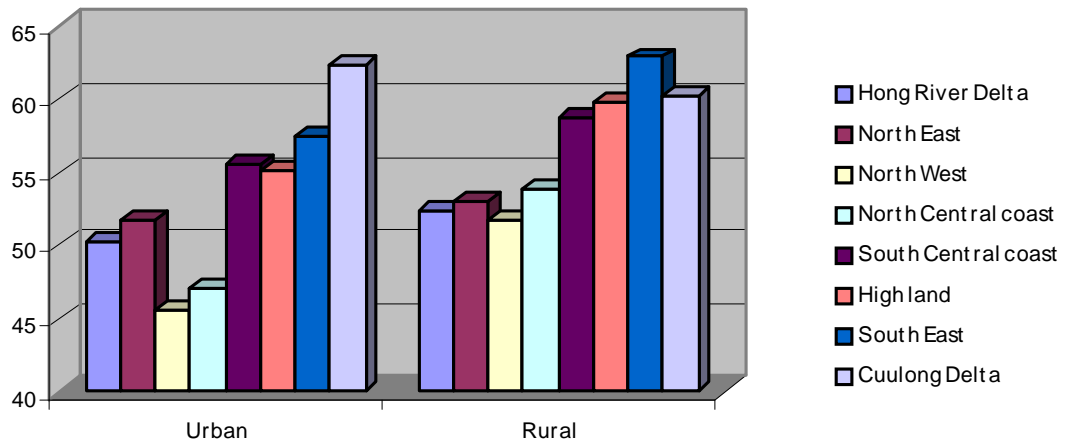
Source: Vietnam Living Standard Surveys 1993, 1998, and Vietnam National Health Survey 2002

Figure 2: Smoking Rate by Occupation



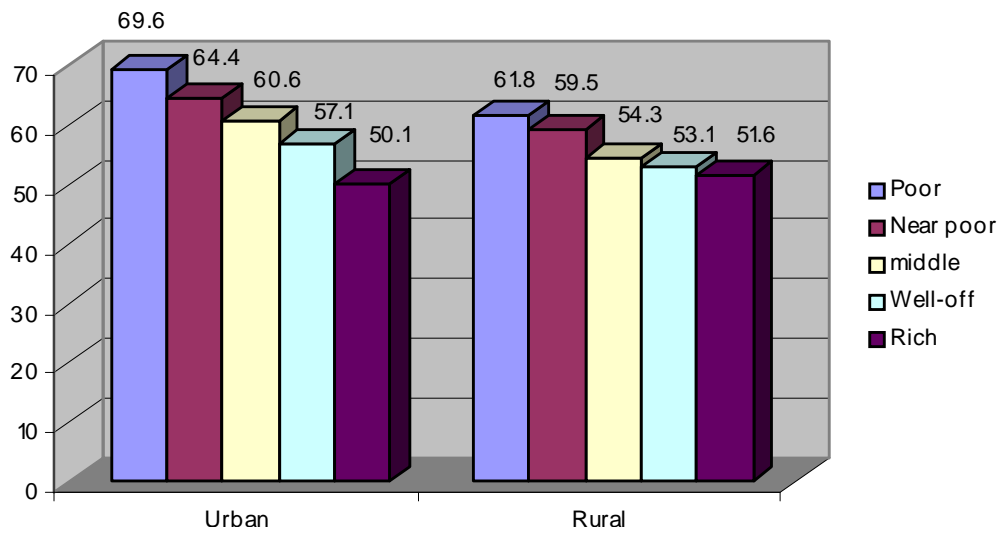
Source: Vietnam National Health Survey 2002

Figure 3: Smoking Rate by Region



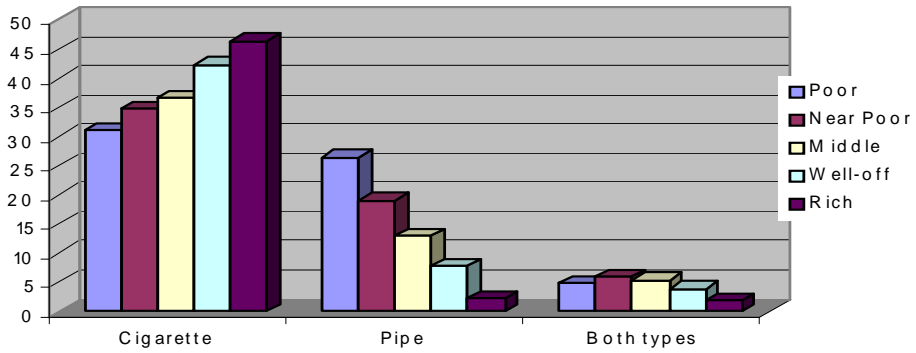
Source: Vietnam National Health Survey 2002

Figure 4: Smoking Rate by Quintile



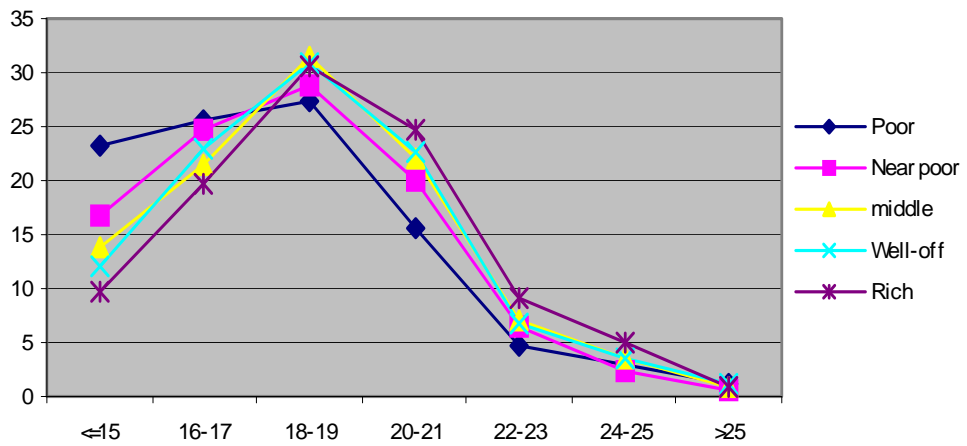
Source: Vietnam National Health Survey 2002

Figure 5: Smoking Rate by Quintile & Type of Tobacco Use



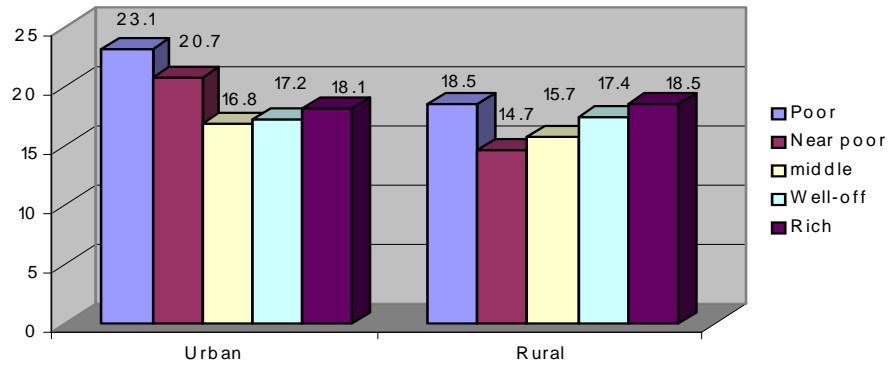
Source: Vietnam National Health Survey 2002

Figure 6: Age Starts to Smoke by Quintile



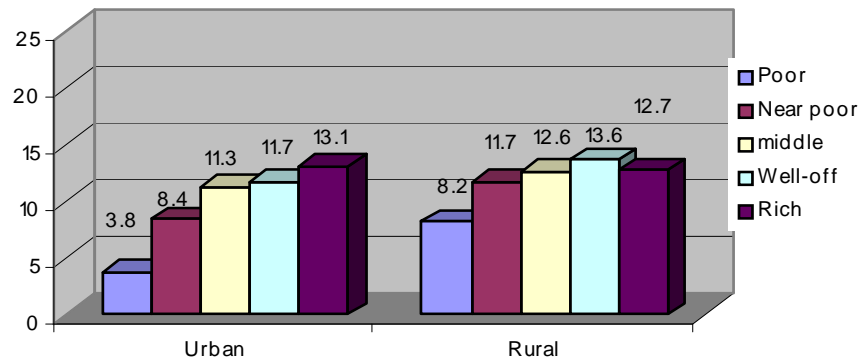
Source: Vietnam National Health Survey 2002

Figure 7: % of Current Smokers Who Started to Smoke 5 Years ago



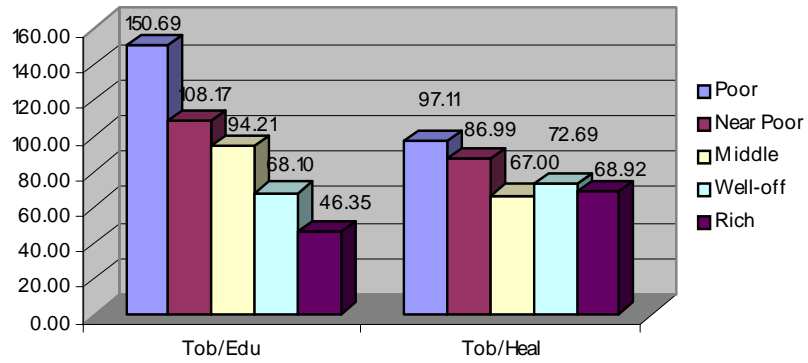
Source: Vietnam National Health Survey 2002

Figure 8: % of Former Smokers Who Quit Smoking the Last 5 Years



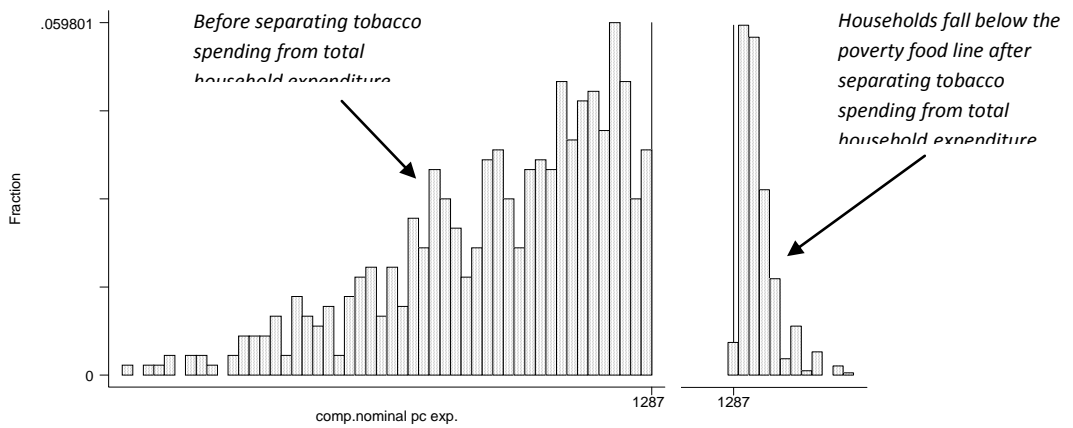
Source: Vietnam National Health Survey 2002

Figure 9: Tobacco Spending/ Education & Health Spendings



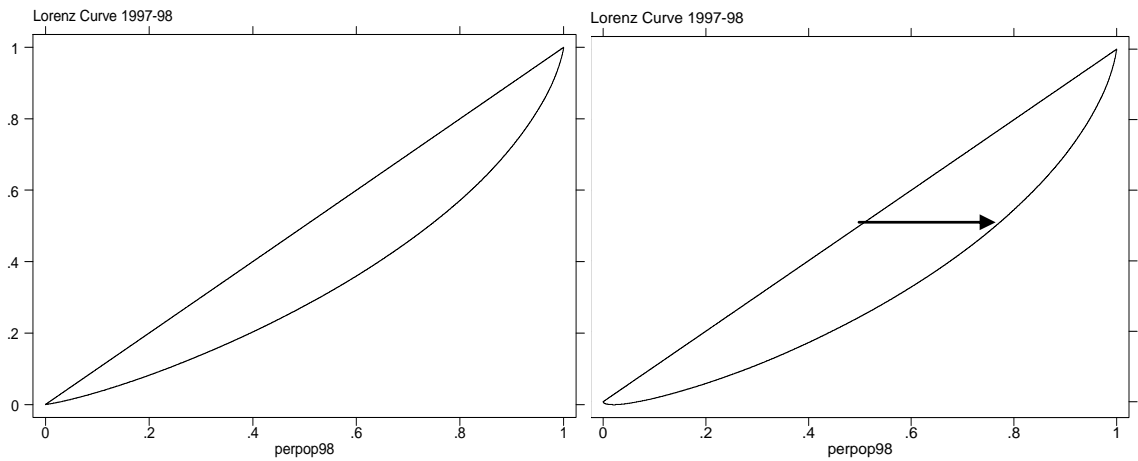
Source: Vietnam National Health Survey 2002

Figure 10: Food, poor households



Source: Vietnam Living Standard Survey 1998

Figure 11: The Lorenz curves before and after separating tobacco spending from total household expenditure



Source: Author calculation from VLSS 1998.



About SEATCA

The Southeast Asia Tobacco Control Alliance (SEATCA) works closely with key partners in ASEAN member countries to generate local evidence through research programs, to enhance local capacity through advocacy fellowship program, and to be catalyst in policy development through regional forums and in-country networking. By adopting a regional policy advocacy mission, it has supported member countries to ratify and implement the WHO Framework Convention on Tobacco Control (FCTC)

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