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# FINAL REPORT

## Illicit Cigarette Trade Study in Vietnam


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Hanoi, July 2019

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# Illicit Cigarette Trade Study in Vietnam

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**Summary**

Vietnam is ranked among the countries with the highest smoking prevalence worldwide, and the Vietnamese government is planning to raise taxes in an effort to reduce tobacco consumption. One of the most significant arguments put forward by tobacco producers against such tax reform is that a higher tax would lead to a higher rate of cigarette smuggling into the country. This paper presents new evidence addressing this argument from a recent illicit trade survey conducted in late 2017. Our results indicate that raising taxes does not necessarily result in higher illicit consumption in Vietnam. Illicit cigarettes accounted for only about 13.72% of total cigarette consumption in Vietnam in 2017, which is consistently lower than the estimate from a previous study conducted in 2012 using the same methodology which showed a decline in illicit trade despite tobacco tax increases during the five preceding years. The illicit trade in tobacco products (with the two most popular brands Jet and Hero representing over 80%), is heavily concentrated in the southern provinces of Vietnam bordering Cambodia (over 84%) rather than distributed evenly across the country. Thus, to effectively combat illicit trade, more resources should be devoted to tighten border inspection and market surveillance in these provinces.

## I. Introduction

Smoking remains a serious public health problem in Vietnam, with the country ranked among those with the highest smoking prevalence worldwide,[1] despite the fact that Vietnam became a party to the WHO Framework Convention on Tobacco Control (FCTC) as early as March 17, 2005. The government has taken various measures to reduce smoking prevalence, with varying degrees of success, including public education, prohibitions on tobacco advertising, promotion and sponsorship, health warnings, tax and price, and restrictions on public smoking. Although raising taxes on tobacco has proven to be the most effective and cost-effective way of reducing smoking (World Health Organization, 2015), the Government of Vietnam has begun to increase its reliance on this important tool with an ongoing tobacco excise tax policy.[2] In addition to a valued-added tax (VAT) of 10 percent of the retail price, domestically manufactured tobacco is subject to an excise tax amounting to 70 percent of ex-factory prices. It is Vietnam's practice of using ex-factory prices that makes the 70 percent tax rate seem high. According to Tobacconomics (2018), under this scheme, the excise tax can be manipulated by undervaluing the ex-factory prices, which is exactly what is happening in Vietnam.[3] Consequently, while the WHO recommends that the tobacco excise tax should account for at least 70 percent of the retail prices for tobacco products, the total taxes imposed on tobacco products currently account for only 36 percent of the retail price of the most popular cigarette brand in Vietnam. (WHO, 2017)

One of the most significant barriers to tax reforms and tax rate increases is the unfounded threat of illicit trade promulgated by the tobacco industry. Although this prediction runs contrary to the prevailing evidence that shows that increases in tax rates have not undermined the policy objectives in many developed and developing countries (Chaloupka, Yurekli, & Fong, 2012), the Government of Vietnam fears that increases in taxes may result in increases in illicit trade, thereby undermining the tax policy objectives, which could be explained by the lack of updated and independent studies to provide objective and reliable estimates of levels of illicit consumption.[4] Nguyen et al. (2014) and Minh T Nguyen et al. (2019) are the only two studies that have attempted to provide objective estimates of the problem. The former estimated that during 1998-2006 the level of illicit trade ranged between 14.3-20.2%. Such estimates were obtained by (i) comparing consumption estimates from the National Health Survey (assuming 30% underreporting) with cigarette tax data acquired from the government, and (ii) by estimating the difference between Vietnam's officially recorded imports and exports to the country as officially recorded by each of its trading partners. Minh T Nguyen et al. (2019) used a different and preferred approach, relying on primary data from the nationally

[1] Approximately 22.5% of adult population in Vietnam smoke tobacco, and 18.2% smoke cigarettes in particular according to the Global Adult Tobacco Survey conducted in 2015 (GATS 2015). According to the World Health Organization, about 40,000 people are dying in Vietnam each year due to tobacco-related illnesses, and without proper measures, this is estimated to reach 70,000 deaths per year by 2030.

[2] In the Amended Law on Special Consumption Tax No. 70/214/QH13 approved in 2014, ad-valorem excise taxes on tobacco products were increased to 70% starting in January 2016, and will be raised to 75% in January 2019.

[3] Vietnam Country Factsheet: Tobacco Tax Structures. Chicago: Tobacconomics, 2018.

[4] Most of previous studies were either directly funded or indirectly related to the tobacco industry, which overestimates illicit trade level and government tax revenue loss in order to oppose raising tobacco tax (Smith, Savell, & Gilmore, 2013).

representative Vietnam Illicit Trade Assessment conducted in 2012 (VITA 2012). Although very useful, these two studies focused on the period before the Vietnamese government embarked upon the tobacco tax reform in 2014 and implemented the tax increase in 2016, and therefore may not be relevant for the current debate on a tobacco excise increase.

This study aims to meet the critical demand for reliable data in service to the current policy debate. The increase in the ad valorem excise tax rate in recent years, as mentioned above, provides a unique opportunity to assess the effect of prior tax increases on the illicit trade in Vietnam. The research attempts to generate new estimates of illicit trade in the country and to compare them to prior estimates to ascertain the changes in the levels of illicit trade before, during, and after tobacco excise tax increases. It also measures the geographic variation in illicit trade, particularly in the context of proximity to borders, and associations with socio-economic and other demographic factors, as well as changes in the patterns of illicit trade including the source of product and price points. The findings derived from the study are critical to inform and to support ongoing tax policy discussions in the Ministry of Finance and National Assembly in the country.

The paper is organized as follows: Section II briefly introduces the methodology used for the estimation; Section III identifies and analyzes critical changes and achievements in public policies to better address the problem of cigarette smuggling in Vietnam; Section IV presents our estimated results from 2017 as well as a comparison with previous studies; Section V concludes with a discussion on policy and potential implications.

**II. Methodology**

The study uses primary data from the 2017 Tobacco Consumption Survey (TCS 2017) specifically designed to measure illicit trade in Vietnam in 2017. We designed and conducted a nationally representative survey with a sample size of over 2,700 individual smokers. The target population consists of males and females aged 18 years and above, who were currently smoking manufactured cigarettes at least once a week. Multi-stage stratified cluster random sampling was employed to recruit participants. In the first stage, three provinces in each of three spatial and socio-economic regions (i.e., North, Central, and South) were selected to obtain a total of nine provinces, which include Hanoi, Da Nang and Ho Chi Minh City, the three largest, and most developed cities. The chosen provinces included Hanoi, Phu Tho and Bac Giang in the North, Quang Binh, Da Nang and Lam Dong in the Central, and Binh Phuoc, Ho Chi Minh City and Long An in the South. During the latter stages, a number of areas at district, commune, and village levels in nine selected provinces were randomly selected consecutively, resulting in a total of over 135 villages. Both rural and urban areas were included in our surveys. Due to the lack of data on the number of eligible households in each selected area, the Probability Proportional to Size (PPS) sampling method was unfeasible and simple random sampling was used to select a surveyed location in each stage. Additionally, in each village, we had to perform a screening activity to construct a list of households with at least one smoker before randomly selecting about 20 households from the obtained list in each village. In each selected household, one eligible smoker was randomly selected for the interview.

Apart from measuring the national level of the illicit consumption, we estimate shares accounted for by each of three regions and by various cigarette brands in the illicit market, as well as the extent to which brands are location-specific. The price of illicit cigarettes is also compared with that of licit ones to determine whether smokers' purchase of illicit cigarettes is motivated by cheaper prices as found in other countries worldwide and as argued by the tobacco industry. The effect that the income of smokers and their households might have on illicit consumption is also examined. The sources of illicit cigarettes, i.e., where smokers purchased, are also investigated.

The illicit cigarettes' share in the national market ($MS^I$) is calculated as follows[5]:

$$MS^I = \frac{\sum_j C_j^I \times w_j}{\sum_j (C_j^I + C_j^L) \times w_j}$$

where $C_j^I$ and $C_j^L$ are the numbers of illicit and licit cigarettes per annum consumed by the smoker $j^{th}$, and $w_j$ is the weight of the smoker $j^{th}$ in the national market.[6]

The average price of an illicit (licit) cigarette pack $P^{I(L)}$ is calculated as follows:

$$P^{I(L)} = \frac{\sum_j P_j^{I(L)} \times C_j^{I(L)} \times w_j}{\sum_j C_j^{I(L)} \times w_j}$$

where $P_j^I$ ($P_j^L$) are the price of the illicit (licit) 20-cigarette packs consumed by the smoker $j^{th}$.

The average income of illicit (licit) cigarette smokers $M^{I(L)}$ is calculated as follows:

$$M^{I(L)} = \frac{\sum_j M_j^{I(L)} \times w_j}{\sum_j w_j}$$

where $M_j^I$ ($M_j^L$) are income of the illicit (licit) cigarette smoker $j^{th}$.

The survey was designed in such a way as to make its results comparable with a prior study, the VITA 2012 and reported in Minh T Nguyen et al. (2019).[7] The questionnaire employed in the survey was also adapted from the VITA 2012 with some modifications to take into account the number of policy changes that came into force during the last few years, especially the National Law on Tobacco Control in 2012 with the requirement that a pictorial health warning label be printed on all cigarette

[5] Similar formulas are also used to compute market share in other dimensions

[6] The smoker's weight $w_j$ is calculated as his/her inverse of the selection probability. Particularly, we argue that the unique demographic characteristics and level of economic development of Hanoi, Da Nang, and Ho Chi Minh City make other provinces in their regions unable to either represent or be represented by them. Therefore, these three cities were selected for certain while two other provinces were randomly selected from all the remaining provinces in each region.

[7] Our results are comparable to estimates obtained from GATS (2010 and 2015) and are available upon request.

packs. In addition to in-person interviews with smokers, we also collected cigarette packs from the interviewed smokers and performed careful inspections to identify the prevalence of tax avoidance/evasion. In general, two principal features were examined: the presence of a tax stamp, and the use of correct text and pictorial health warning labels as per the Circular No. 05/2013/TTLT-BYT-BCT jointly issued by the Ministry of Health and the Ministry of Finance in 2013. We also acquired the location from which the cigarettes were purchased by the respondents to distinguish between tax avoidance and evasion. In other words, a cigarette pack is classified as illicit if it has neither a tax stamp nor proper health warning labels and it was not bought from duty-free shops or abroad.[8]

### III. Recent Efforts of the Government of Vietnam to Fight against Cigarette Smuggling

The Government of Vietnam has demonstrated a strong commitment to combating illicit cigarette trade through both legal regulations and actions. In 2014, the Prime Ministry issued Decision No. 389/QD-TTg to establish the National and Provincial Steering Committees (called 389 Steering Committees) for combating smuggling, commercial frauds, and counterfeit goods including manufactured cigarettes. Since founded, the 389 Steering Committees have led frequent border investigations and market surveillance nationwide, and successfully uncovered numerous cases of illegal cigarette trading.

The legal frameworks against illicit trade have also been strengthened in the last three years. Prominently, in November 2015, the Government of Vietnam issued the Decree No. 124/ND-CP which substantially increases penalties levied on producing and trading smuggled cigarettes in comparison with its predecessor, the Decree No. 185/2013/ND-CP. Among others related crimes, criminal liability will be incurred against anybody who illegally holds and trades as few as 500 packs of smuggled cigarettes. Two years later, the illicit trade of cigarettes was formally and specifically regulated in Article 190 and Article 191 of the Amendment of the 2015 Penal Code No. 100/2015/QH13, as passed by the National Assembly of Vietnam in June 2017 (Table 1). According to this document, citizens trading, holding and/or transporting 1,500 or more packs of smuggled cigarettes might spend years in prison.

[8] We also provide estimates of illicit trade levels using either tax stamp only or health warning label only in the Appendix. The former is more likely to overestimate the level of illicit trade since tax stamps are much more vulnerable to external conditions (including smokers' behavior) than printed health warning labels. Therefore, there might be cases that original packs have both tax stamps and warning labels, but the stamps have been destroyed by, say, smokers when they open the packs.

**Table 1. Detailed Punishment for Illicit Cigarette Trade Stipulated by the Penal Code Amended in 2017**

| Number of illicit cigarette packs | Trading | | Holding and/or Transporting | |
|---|---|---|---|---|
| | Fine (VND million) | Years in Prison | Fine (VND million) | Years in Prison |
| 1,500 – fewer than 3,000 | 100 – 1000 VND | 1-5 | 50-300 | 0.5 - 3 |
| 3,,000 – fewer than 4,500 | 1000 – 3000 | 5-10 | 300-1000 | 2-5 |
| 4,500 and above | NA | 8-15 | NA | 5-10 |

*Source: Compiled from the Amendment of the 2015 Penal Code No. 100/2015/QH13 by authors*

In the two and a half year period of 2016-2017, a total of roughly 20.8 million packs of illicit cigarettes were confiscated; about 10.3 million packs in 2015, 6.2 million packs in 2016 and 4.3 million packs in the first half of 2017.[9] Most of these cases occurred in the provinces that have border gates with Cambodia in the South, Laos in the Central, and with China in the North, and in the biggest cities (Ho Chi Minh City and Hanoi). Jet, Hero, and SE555 were the three major illicit brands detected. These success stories were considered to have made significant contributions in the national attempt to combat illicit trade in the country.[10]

## IV. Estimation results

Table 2 presents our estimated level of illicit consumption in Vietnam in 2017, together with the results in 2012 from Minh T Nguyen et al. (2019) for comparison. About 13.72% of manufactured cigarettes consumed in Vietnam in 2017 were illicit. Compared to estimates from previous years, the illicit trade of cigarettes has decreased significantly. Also, all of the illicit products detected were manufactured abroad and imported illegally into the country.

**Table 2. Prevalence of Illicit Cigarettes in Vietnam market (%)**

| | TCS 2017 | VITA 2012 |
|---|---|---|
| *Illegal* | **13.72** | **20.68** |
| Domestic | 0.00 | 0.19 |
| Foreign | 13.72 | 20.49 |
| *Legal* | **86.28** | **79.32** |
| Domestic | 86.27 | 79.10 |
| Foreign | 0.02 | 0.22 |

*Source: TCS 2017 and Minh T Nguyen et al. (2019)*

Table 3 compares the market share in three regions of Vietnam's illicit market. It shows that a dominant share (over 84%) of illegal products were consumed in the South in 2017 while smokers in the North and Central accounted for a smaller share of less than 16% of the total illicit consumption. This imbalanced regional distribution remains almost unchanged during the last few years. Compared to 2012, the South's market share in 2017 showed a slight decrease of roughly three

[9] http://bcd389.gov.vn/tin-tuc/chi-tiet/se-co-nhung-giai-phap-can-co-de-ngan-chan-buon-lau-thuoc-la

[10] More information on activities of the 389 Steering Committees can be found in the official website at http://bcd389.gov.vn

percentage points, which was the same decrease as seen in the North, while the Central market share was almost unchanged (over 5.5%).

**Table 3. Regional Distribution of Illicit Cigarettes in Vietnam (%)**

| Region | TCS 2017 | VITA 2012 |
|---|---|---|
| North | 10.02 | 7.10 |
| Central | 5.85 | 5.59 |
| South | 84.13 | 87.31 |
| **Total** | **100.00** | **100.00** |

*Source: TCS 2017 and* Minh T Nguyen et al. (2019)

In terms of illicit brands, Table 4 reports the shares accounted for by the main brands in the illicit market; their graphical distribution is illustrated in Table 5. Generally speaking, Hero and Jet continued to be the most popular brands in the country's illicit market in 2017, followed by 555, Esse and Craven A. The two first together accounted for over 80% of total illicit consumption in the country in both 2012 and 2017. Specifically, Hero and Jet were mostly purchased and consumed in the South (over 92%), with much smaller percentages in the other two regions. In contrast, the SE555 brand appeared to be consumed more in the North, which corresponded to a nearly 70% share of the total illicit SE555 packs used in the country. As noted by Minh T Nguyen et al. (2019) and widely reported in the mass media, Jet and Hero cigarettes are legally imported to Cambodia from Indonesia (where they are originally produced), and then smuggled across the border into Vietnam in the Southern provinces, which possibly accounts for their exclusive geographic concentration.

**Table 4. Brand Distribution in Vietnam's Illicit Market (%)**

| Brand | TCS 2017 | VITA 2012 |
|---|---|---|
| Hero | 47.55 | 32.80 |
| Jet | 34.94 | 52.06 |
| SE555 | 9.13 | 4.53 |
| Esse | 2.47 | 5.10 |
| Craven A | 2.04 | 0.00 |
| Other | 3.87 | 5.51 |
| **Total** | **100.00** | **100.00** |

*Source: TCS 2017 and Minh T Nguyen et al. (2019)*

**Table 5. Regional Distribution of Major Illicit Cigarette Brands in Vietnam (%)**

| Brand | Illicit Market Share | | Regional Share in 2017 | | | |
|---|---|---|---|---|---|---|
| | TCS 2017 | VITA 2012 | North | Central | South | Total |
| Hero | 47.55 | 32.80 | 4.36 | 3.00 | 92.64 | 100.00 |
| Jet | 34.94 | 52.06 | 0.00 | 8.27 | 91.73 | 100.00 |
| SE555 | 9.13 | 4.53 | 67.59 | 14.67 | 17.74 | 100.00 |
| Esse | 2.47 | 5.10 | 40.77 | 6.55 | 52.68 | 100.00 |
| Craven A | 2.04 | 0.00 | 0.00 | 0.00 | 100.00 | 100.00 |

*Source: TCS 2017 and Minh T Nguyen et al. (2019)*

While the relative regional distribution of cigarette brands in the illicit market generally seems not to vary yearly, Table 6 shows that the total share accounted for by Jet and Hero in the entire cigarette

market fell dramatically in 2017. In 2012, these two illicit brands together accounted for a relatively stable market share of over 16%. In 2017, however, their combined share dropped by almost five percentage points, to roughly 11%. As these two are mostly traded and consumed in the Southern provinces where they are smuggled across borders into Vietnam from Cambodia, this decline might be attributed to the particularly intensive border investigation and market surveillance since early 2016 as led by the national and provincial 389 Steering Committees. Numerous cases of illegal trading of these cigarette brands were successfully uncovered and stopped.[11] As with Jet and Hero, the declining market share of Esse, a Korean brand, is most likely attributable to the more effective activities against cigarette smuggling undertaken by the authorities.

Unlike Jet, Hero, and Esse, which must be imported, there are two varieties of SE555 and Craven A cigarettes in Vietnam, one manufactured locally and the other smuggled into the country. The increasing market share of illicit SE 555, as well as the strengthened presence of illicit Craven A, may be a result of the potential twin-track strategy of British American Tobacco (BAT) (Joossens, 2003).

**Table 6 Shares of Main Illicit Brands in the Entire Cigarette Market (%)**

| Brand | TCS 2017 | VITA 2012 |
|---|---|---|
| Hero | 6.52 | 6.37 |
| Jet | 4.79 | 10.11 |
| 555 | 1.25 | 0.88 |
| Esse | 0.34 | 0.99 |
| Craven A | 0.28 | 0.00 |

*Source: TCS 2017 and Minh T Nguyen et al. (2019)*

The illicit Craven A packs, which originate from Turkey and do not have graphic health warning labels, were found in the Vietnamese market in 2017, but not in 2012. In fact, news[12] of the presence of Craven A packs without pictorial health warning labels started being reported in 2014, approximately one year after the Government implemented the mandatory requirement of pictorial health warning labels on cigarette packs sold in Vietnam in 2013. At that time, those illicit Craven A packs were preferred over their counterparts with warning labels, as smokers found these pictures disgusting and were willing to pay a premium for packs without them. This reaction could raise suspicions about the impact of this regulation on illicit cigarette consumption. However, the data in 2017 shows that the selection of illicit cigarette brands is determined mainly by tastes and nicotine intensity, rather than by the presence of pictorial health warning labels. When asked why they switched to the brands that they currently consumed, illicit cigarette smokers most commonly cited reasons relating to taste preference (about 30%) and the level of intensity (i.e., light and heavy) (over 40%). Fewer than 10%

[11] For more information, visit the official website of 389 Steering Committee at: http://bcd389.gov.vn/
[12] For example: https://news.zing.vn/vi-sao-dan-nghien-thuoc-la-chap-nhan-bi-lam-gia-post412192.html

of participants attributed their decision to switch in part to avoid pictorial health warning labels.[13] As we will show later, the prices of illicit cigarettes were so high that most of the smokers could not afford them, even if they wanted to consume them. In other words, after five years of implementation, the impact of the pictorial health warning regulation on the illicit consumption of cigarettes is rather minimal, given that the price of illicit cigarettes far exceeds that of licit ones.

Table 7 presents the relative average prices between illicit and licit cigarettes. The average price of illicit cigarettes was significantly higher than that of legal ones. This result holds in all three of the regions and is consistent with the results obtained from VITA 2012 in Minh T Nguyen et al. (2019). In particular, the prices of illicit cigarettes were over double the licit ones in 2017. The magnitude of the illicit price premium, however, varied across regions and was highest in the North (nearly 4.00) where illicit 555 and Esse were most popular, and was the lowest in the South (1.7) where mostly Jet and Hero cigarettes were found. Explicitly, Table 8 shows the average price per pack of five of the most popular illicit and licit brands in Vietnam in 2017. It is obvious that none of the licit cigarettes' prices exceeded any of their illicit counterparts.

**Table 7. Comparison between Prices of Illicit and Licit 20-Cigarette Packs**

| | **TCS 2017** | | **VITA 2012** | |
|---|---|---|---|---|
| **Cigarette type by region)** | **Mean (US$)** | **Illicit Price Premium** | **Mean (US$)** | **Illicit Price Premium** |
| *Overall* | | | | |
| Illegal | 0.91 | **2.08** | 0.78 | **1.50** |
| Legal | 0.44 | | 0.52 | |
| *North* | | | | |
| Illegal | 1.69 | **4.00** | 1.18 | **2.27** |
| Legal | 0.42 | | 0.52 | |
| *Central* | | | | |
| Illegal | 1.14 | **2.58** | 0.77 | **1.75** |
| Legal | 0.44 | | 0.44 | |
| *South* | | | | |
| Illegal | 0.80 | **1.73** | 0.77 | **1.28** |
| Legal | 0.46 | | 0.60 | |

*Source: TCS 2017 and Minh T Nguyen et al. (2019)*

[13] While it is possible that their previous cigarette brands are also illicit, the conclusion is not likely to change after controlling for this possibility. In addition, there are many cases where smokers switched from illicit cigarettes to licit brands even when the latter must have warning labels.

**Table 8a. Average Prices of Five Most Popular Illicit and Licit Cigarette Brands in 2017 (By market share)**

| Illicit Brands | Average Price (USD) | Licit Brand | Average Price (USD) |
|---|---|---|---|
| Hero | 0.73 | Thang Long | 0.43 |
| Jet | 0.89 | Hong Ha | 0.33 |
| SE555 | 2.10 | Tourism | 0.28 |
| Esse | 0.97 | Seven Diamonds | 0.54 |
| Craven A | 0.82 | War Horse | 0.32 |

*Source: TCS 2017*

**Table 9b. Average Prices of Five Most Popular Illicit and Licit Cigarette Brands in 2017 (Ranked by price)**

| Illicit Brand | Average Price (USD) | Licit Brand | Average Price (USD) |
|---|---|---|---|
| SE555 | 2.10 | Seven Diamonds | 0.54 |
| Esse | 0.97 | Thang Long | 0.43 |
| Jet | 0.89 | Hong Ha | 0.33 |
| Craven A | 0.80 | War Horse | 0.32 |
| Hero | 0.73 | Tourism | 0.28 |

*Source: TCS 2017*

In Table 9, when specifically considering SE555, a twin-track brand, as first identified by Joossens (2003) and then shown in Minh T Nguyen et al. (2019), we found that the price of the smuggled SE555's was over 70% higher than that of the same brand which was manufactured domestically. Interestingly, our estimates suggest that illicit cigarettes tend to become more expensive relative to licit products. The ratio between the average prices of the illicit cigarettes over the legal ones increased from only 1.35 in 2012 (when ad valorem excise tax rate imposed on tobacco were 65%) to reach 1.70 in 2017, almost two years after that rate had been raised to 70%.

**Table 10. Comparison between Smuggled and Domestically Made 555 Cigarettes**

| 555 | TCS 2017 | | | VITA 2012 | | |
|---|---|---|---|---|---|---|
| | Market Share (%) | Price (US$) | Price Ratio | Market Share (%) | Price (US$) | Price Ratio |
| Illicit | 1.25 | 2.10 | 1.70 | 0.88 | 1.59 | 1.35 |
| Licit | 1.37 | 1.24 | | 1.59 | 1.18 | |

*Source: TCS 2017 and Minh T Nguyen et al. (2019)*

The consistent findings confirm the conclusion made in all relevant prior studies (Joossens, 2003; Minh T Nguyen et al., 2019) that smokers in Vietnam are willing to pay an additional expense for illicit

cigarettes rather than buy more cheaply, as many previous studies found in most other countries worldwide. Furthermore, imported illegal products are usually considered to be of premium quality and were preferred to their domestic counterparts by smokers. The increase of price discrepancies between illegal and legal cigarettes might be caused by the higher risks and costs of smuggling as well as a shortage in supply which possibly stems from the tremendous efforts expended by the Government of Vietnam, starting in early 2016, to combat smuggling in the country. Furthermore, higher prices of illicit cigarettes might either cause a number of smokers to reduce their consumption, switch to cheaper, licit cigarettes, or even to quit smoking (in the best case) due to budget constraints. As a result, the share of illicit cigarettes in the national market dropped in 2017 as our research shows.

When disaggregating smokers into different income levels, we found that illicit consumption accounted for increasing shares among the higher income classes (Table 11). The illicit share of cigarette consumption among smokers with a monthly income of VND 20 million and above was estimated at over 30%. This share is 1.5 times higher than the VND 10-less than 20 million group (about 20%), over double the VND 4 - less than 10 mil group (approximately 14%), and triple that found among consumers earning less than VND 4 million per month (less than 10%). Table 10 compares the average individual and household incomes of the smokers consuming illicit cigarettes with those smoking legal ones. It is important to note that the average income earned by illicit cigarette consumers in 2017 was significantly higher (over 40%) than that of licit cigarette ones. This result also applies when considering their household incomes. These findings suggest that smokers with higher incomes were more likely to smoke illicit cigarettes, perhaps due to higher prices.

**Table 11. Comparison between Incomes of Smokers Consuming Licit and Illicit Cigarettes**

| Type of Consumers | Mean | 95% CI | | Ratio |
|---|---|---|---|---|
| | | Lower bound | Upper bound | |
| *Individual Income* | | | | |
| Illicit Consumers | 7.03 | 5.45 | 8.61 | 1.43 |
| Licit Consumer | 4.92 | 4.59 | 5.26 | |
| *Household Income* | | | | |
| Illicit Consumers | 14.01 | 9.67 | 20.40 | 1.33 |
| Licit Consumer | 10.50 | 9.97 | 11.02 | |

*Source: TCS 2017*

**Table 12. Income Variation of Illicit Consumers (%)**

| Income Classes (VND mil) | Licit Consumption | Illicit Consumption | Total |
|---|---|---|---|
| Less than 4 | 90.15 | 9.85 | 100.00 |
| 4 - less than 10 | 86.04 | 13.96 | 100.00 |
| 10 - less than 20 | 79.60 | 20.40 | 100.00 |
| 20 and above | 67.93 | 32.07 | 100.00 |

*Source: TCS 2017*

Table 12 shows where smokers last purchased illicit cigarettes. Overall, illegal cigarettes are mainly distributed through informal channels such as household businesses, rather than through formally established enterprises. Specifically, grocery stores remained the major channel through which illicit cigarettes are distributed with over 75% of consumed illicit cigarettes bought in such stores in 2017; slightly higher than in 2012. Tea/coffee shops are the second primary source of illicit cigarettes (nearly 12.5%), followed by tobacco shops and tobacco street vendors. A minimal share of illegal cigarettes was purchased in restaurants, while none were sourced from supermarkets or chains of convenient stores. On the one hand, the popular nature of grocery stores across the country might suggest that illicit cigarettes are widely accessible to smokers. On the other hand, in addition to border guarding, the authorities could effectively deal with illicit trade by devising proper measures to closely monitor the domestic retail market.

**Table 13. Sources of Illegal Cigarettes in the Last Purchase (%)**

| Sources | TCS 2017 | VITA 2012 |
|---|---|---|
| Grocery stores | 76.96 | 72.23 |
| Tobacco shops | 6.41 | 3.62 |
| Duty free shop | - | 0.00 |
| Tea shop/ Coffee shops | 12.49 | 22.66 |
| Tobacco street vendors | 3.06 | |
| Restaurants | 0.10 | 0.10 |
| Other places | 0.98 | 1.39 |
| **Total** | **100.00** | **100.00** |

*Source: TCS 2017, and Minh T Nguyen et al. (2019)*

**V. Discussion and policy implications**

Providing an objective measure of the level of illicit trade plays a critical role in developing appropriate and comprehensive tobacco control policies, particularly in Vietnam where smuggling has been identified as an alarming national issue. Despite extensive evidence that suggests raising the taxes levied on tobacco has had a significant impact on reducing smoking prevalence and improving government revenue, the tobacco industry continues to overestimate the level of illicit trade (Smith, Savell, & Gilmore, 2013; Stoklosa & Ross, 2014; Chen, McGhee, Townsend, Lam, & Hedley, 2015; van Walbeek, 2014), as well as the impact of a higher tobacco tax on illicit consumption as a strategy to discourage the government from raising taxes (Chaloupka, Yurekli, & Fong, 2012). In Vietnam, unfortunately, most of the currently available estimates are either directly funded by, or related to, the tobacco industry. This research, by designing and implementing a nationally representative household survey of cigarette consumption in 2017 and comparing our new estimates with previous scientifically rigorous ones to identify how illicit consumption has evolved before, during and after the tax change of 2016, aims to provide local, objective evidence on the likely impact of raising tobacco taxes on the level of illicit trade in Vietnam.

Generally, our estimates show that raising the taxes levied on tobacco in Vietnam does not necessarily result in higher illicit consumption as widely predicted by the tobacco industry. Illicit cigarettes accounted for only about 13.72% of total cigarette consumption in Vietnam in 2017, which

is lower than in 2012, the year when the increase of tobacco tax had not been implemented. Illicit trade is heavily concentrated in the South (over 84%) and concentrated in the two most popular brands (Jet and Hero; over 80%), rather than distributed evenly across the country, which implies that geography plays an important role in determining illicit trade. In fact, Tay Ninh, Long An, Dong Thap, and An Giang, four Southern provinces that border Cambodia are among the major locations of smuggling in Vietnam.[14] Thus, to effectively combat illicit trade, more resources should be devoted to tightening border inspection and conducting market surveillance in these provinces. A number of particularly intensive activities and campaigns in these provinces in recent years, led by the national and provincial 389 Steering Committees, might have contributed to lowering the level of illicit trade in the North and to reducing illicit consumption in the country as a whole, and thus these activities should be promoted and further strengthened.

Even more importantly, our study shows that the grocery stores are the primary selling points of illicit cigarettes, followed by tea/coffee houses, tobacco shops, and street vendors, while almost no respondent in our survey reported legally purchasing foreign cigarettes either in duty-free shops or abroad. As all the former outlets are legally operated, widely available in the country, and easy to access, it is likely that buying smuggled products locally has been so easy and safe that individual smokers do not need to rely on sophisticated tax avoidance and evasion methods as do smokers in other countries worldwide. To effectively fight against illicit trade in Vietnam, the Government should, therefore, strengthen the monitoring and investigation of these retailing agents in addition to closely monitoring the borders.

One of the most popular arguments made by the tobacco industry to oppose the policy of raising tobacco taxes is that higher tax rates will create financial incentives for cigarette smokers to purchase cigarettes at lower prices to save expenses, thus increasing tax avoidance and evasion. Consequently, they argue, illicit trade might be encouraged rendering the tax policy ineffective in both reducing smoking and generating government revenue. However, our results show that this is unlikely to occur in Vietnam. Firstly, the average price of illegal cigarettes in 2017 was significantly higher than the price of legal ones. This finding was true for both throughout the country, in each of three different socio-economic regions, and within the particular twin-track SE555 brand. Strikingly, after the tobacco tax was increased from 65% to 70% in 2016, this discrepancy seemed to expand rather than diminish, as the ratio between mean prices of illicit and cigarette cigarettes rose by approximately 40%, from 1.50 in 2012 to 2.08 in 2017. Secondly, illicit smokers seem to have an average monthly income significantly higher than that of the licit ones, and thus the higher the income of the smoker, the more likely he/she is to consume illegal cigarettes.

Therefore, one possible, important motivation for smoking illicit cigarettes in Vietnam must be the unique taste preferences of Vietnamese smokers, rather than the cost-saving incentive as found in many other countries worldwide. In fact, Vietnamese consumers usually perceive imported products to be more luxurious, to have superior quality, and to be associated with a higher social status than

[14] https://mic.gov.vn/pcthtl/Pages/TinTuc/115718/Nhung-dia-phuong--nong--vi-thuoc-la-lau.html

their domestically produced counterparts. The same perception could be applied to buying illicit cigarettes, as all the illicit cigarettes recorded in our survey were foreign brands.

The supply deficit and high smuggling risk, due to the strict and intensive border monitoring and market inspection conducted by the Government, might inflate the price of illicit cigarettes in comparison with legal ones, contributing to reducing illicit consumption in the country as suggested by the standard economic theory.

In conclusion, we do not find any evidence suggesting that higher tobacco taxes would necessarily result in higher levels of illicit trade in Vietnam. Instead, with the strong commitment and proper measures to combat smuggling implemented by the Government in the past few years, the illicit consumption in the country has been reduced considerably, even in the face of rising tobacco taxes. The policy implications of these results are therefore twofold: First, the Government of Vietnam should recognize tax policy as the most effective and cost-effective tobacco control measure and should establish a clear roadmap to progressively increasing the tobacco excise tax to reach the 70% of retail price level, as suggested by the WHO. Second, in order to effectively tackle cigarette smuggling, market surveillance, at retail points (e.g., grocery stores, tea/coffee shops, and tobacco shops) in provinces close to borders and economic centers, especially Hanoi and Ho Chi Minh City, should be employed more intensively in coordination with border monitoring and transportation tracing.

## APPENDIX

### Appendix 1. Prevalence of Illicit Cigarettes in Surveyed Provinces (%)

| Province | Weighted |
|---|---|
| Hanoi | 5.35 |
| Bac Giang | 0.72 |
| Phu Tho | 6.38 |
| Quang Binh | 4.25 |
| Da Nang | 3.34 |
| Lam Dong | 1.25 |
| Binh Phuoc | 26.17 |
| Ho Chi Minh City | 34.74 |
| Long An | 54.13 |

### Appendix 2. Additional Estimates of Illicit Cigarette Consumptions (%)

| Pack | Weighted |
|---|---|
| Do not have either excise or import tax stamp | 14.25 |
| Do not have proper text health warning labels | 13.72 |
| Do not have proper pictorial health warning labels | 13.72 |
| Neither tax stamp nor health warning labels | 13.72 |

*Note: All packs bought from duty-free shops are excluded.*

### Appendix 3. Brand Names of Illicit Cigarettes Found in TCS 2017

| # | Brand Name | # | Brand Name | # | Brand Name |
|---|---|---|---|---|---|
| 1 | Hero | 8 | Scott | 15 | Benson & Hedges |
| 2 | Jet | 9 | Golden Deer | 16 | George Karelias and Sons |
| 3 | 555 | 10 | Raison Blue Cat | 17 | Marlboro |
| 4 | Esse | 11 | Captain Black | 18 | Winston |
| 5 | Craven A | 12 | RAM | 19 | Caster |
| 6 | Canyon | 13 | Oris | 20 | Zouk |
| 7 | Cowboy | 14 | Richmond | 21 | Capri Menthol |

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