## Research Paper

# Tobacco Smuggling in Armenia

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# 1.     Foreword .................................................................................

The current research is conducted in the framework of the Continued International Policy Fellowship of the Open Society Institute. The first research was devoted to the tobacco control issues in the context of high poverty level in Armenia.

Amongst the policy recommendations of the first paper the urgency tobacco tax raise was on the top level as the most effective action to fight the negative impact of smoking on the population as a whole and particularly on the poor groups of it. While communicating the results to the target audience the concern of higher smuggling always rose, thus making the issue of smuggling one of the major obstacles for advocating for increase of tobacco taxes.

The first step here will be the assessment of real volumes of smuggling to be able to make further steps, which would be forecasting the change in smuggling volumes after the change in tobacco taxation policy. This sequence of actions would provide a good research basis for opposing the counter arguments to tobacco tax raise.

In the framework of the current research we have tried to start the smuggling volumes assessment from a *tabula rasa*: while there have been several assessments on the shadow economy in Armenia as a whole, no complete and comprehensive evaluation of tobacco products' smuggling had been identified to cover the recent years.

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# 2.    Research Objectives...............................................

A series of research in the field of tobacco control issues in Armenia resulted in a number of conclusions and respective policy recommendations regarding the increase of tobacco taxation and its possible impact on state budget revenues and poverty. From this standpoint, tobacco smuggling becomes one of the most important factors to be addressed, since it reduces this positive impact both from fiscal and public health perspectives. The expectation of possible increase in tobacco smuggling in parallel with tobacco tax increase serves as a serious argument to suppress the stronger taxation policy in the focus field.

Hence the urgency of the problem of smuggling unavoidably rises while advocating for fighting high smoking prevalence in Armenia using fiscal tools such as higher tobacco taxes.

The initial step to address the problem will logically be aimed at assessing the current volumes of smuggling in Armenia. This will allow to have a basis for further estimations of possible tax raise impact on smoking and state budget, adjusted by the possible smuggling estimations.

In the context of the present research we take the first step, trying to assess the current smuggling volumes, describe its types, mechanisms and motivations, and come up with relevant suggestions and policy recommendations.

## 2.1.    Realistic assessment of smuggling types & volumes in Armenia

One of the most important motivations for the tobacco products smuggling is a difference in prices between the domestic and foreign markets. More generally, the reason of that kind of difference in prices is explained with taxation policies within the specific location. In a theoretical model, the raise in tobacco taxes that lead to higher prices results in a decrease of tobacco consumption, and provides additional opportunities for the increase of budget revenues. However, the impact of higher prices can be diminished if consumers can substitute to other products such as smuggled cigarettes.

An increase of tobacco taxes usually leads to higher cigarette prices making smokers to quit and preventing youth from smoking uptake. A prices increase can also provide an incentive to supply the market with smuggled tobacco products. According to the widely recognized definition **"Smuggling is the evasion of excise taxes on goods by circumvention of border controls"**[1]. Taking into account the framework of the present research, the locally manufactured tobacco products which are delivered to internal market evading the local taxation, are also considered as smuggling.

According to WB calculation (*Merriman, Chaloupka, et al*), there is an inverse correlation between the country transparency and the smuggling level. Although this "rule" (or *evidence*) is not being accepted per se as the basis for the current research, it gives a preliminary perception that Armenia, having not high country transparency index[2] could be expected to have rather high volumes of tobacco smuggling.

On the other hand it deserves mentioning that there are various factors to restrain smuggling volumes in Armenia. These are as follows:

- *The geopolitical realms:* two of four neighboring countries (Turkey from West and Azerbaijan from East) keep on with economic blockade of Armenia and any cross-border activities are practically impossible. This restricts the possible smuggling routs (*if considering only the smuggling of imported tobacco products*) to Georgia and Iran.

- The average prices in Georgia (a country neighboring Armenia from North) are higher. The incentives of smuggling are more likely to be in the opposite direction.

- The taxation mechanisms in Armenia, particularly referring to tobacco products (all taxes united in a single *specific* tobacco tax), objectively provide basis for better administration.

At the same time, the simple screening of streets, entertainment places, downtown supermarkets, and simpler trade outlets has not resulted in substantial findings to confirm the existence of significant tobacco smuggling

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[1] *Source: Understand, Measure, and Combat Tobacco Smuggling, WB Economics of Tobacco toolkit, by D. Merriman*

[2] According to the Transparency International's report for 2006 Armenia is on 93rd place in Country Transparency Rank.

neither for locally manufactured relatively cheap brands, nor for imported ones.

The present research aims to resolve the situation via application of the specific scientific methods of reviewing tobacco smuggling volumes in Armenia. Those methods will allow to assess the existence of smuggling and measure volumes of it.

## 2.2. *Arguments for tax raise advocacy*

Raise of tobacco taxes is an issue of severe debates between tobacco manufacturers and advocates of tobacco control. On the one hand, tax raise is considered to be one of the most efficient tools of struggling smoking, via decreasing the tobacco consumption volumes. The economic explanation is the following: tax raise shifts tobacco prices up, which inversely affects demand volumes. Defenders of tobacco manufacturers argue that this situation can not last long. High market prices directly increase circumvention opportunities, or more simply – provide a chance for tobacco smuggling. Proponents of tobacco industry insist that smuggled volumes used to fill in the gap of the unsatisfied demand for cheaper tobacco products, thus turning back tobacco consumption volumes to higher level in the long-run perspective.

Although the statement is quite strong and logical, it is not completely true. First of all, though tax increase directly results in price increase, the latter should not necessarily conclude with the occurrence of smuggling. The effective border control and strict regulation in local consumption market may almost completely overcome the problem of illegal tax evasion.

Different sources do provide enough arguments, both theoretical and empirical, to support the statement that even in the case of higher smuggling volumes caused by the tax raise, the fiscal and public health objectives of such raise still are met, meaning that the prevalence is being cut while the budget revenues do rise.

To assess the possible effects of tax increase, it is necessary to address the current situation with tobacco products smuggling in the country, roots of the problem, e.g. *why it takes place, in what volumes, how can it be dealt with, etc.*

*Canadian Cancer Society reported the significant decrease in tobacco products consumption during the period of 1979-1993, although the 1993 is considered as the peak of cigarette smuggling. The explanation appears in the fact of undertaking effective regulatory measures by the Canadian state authorities and other stakeholders. For being more precise, the following figures are suggested: during the abovementioned period of 1979-1993 per capita consumption of cigarettes decreased for 43%, while the smuggling volumes increased more than ten times.*

*Similarly, the cut of Canadian taxes since 1994 obviously resulted in sharp increase of per capita cigarette consumption.*

*Likewise, France almost doubled tobacco retail prices in the period of 1991-1996, via the series of tax increases. This action resulted in a cut of 14% of cigarette consumption and reduced smoking prevalence by 15%.*

## 2.3. Realistic assessment of possible impact

### 2.3.1. Public health effect and improvement of the social status

Another important issue to be addressed within the frame of the present research is the impact the increase of tobacco taxes may have on the public health and social welfare of the Armenian population. Currently the smoking prevalence is an important problem of the nation-wide scale in Armenia. Ac-

cording to the latest national survey conducted by the International Center for Human Development about 60% of men and about 2% of women smoke in Armenia. While the prevalence for man is amongst the highest in the world, the prevalence for women is believed to be underreported. So the real volumes of smoking prevalence are even higher.

Smoking habit has its direct influence on public health in Armenia. About 3,000 deaths of smokers at the age of 35-69 years are estimated to occur in Armenia due to diseases caused by smoking[3]. Tobacco is the origin of the 30% of cancer cases, 25% of heart ischemic diseases, and 75% of chronic respiratory diseases.

### 2.3.2. State budget revenues effect

There are countries, where revenues of state budget from the sale of tobacco products provide some 25-50% of inflows. The relevant figure in Armenia is not so high – less than 15%, which is also quite impressive. Currently, the production of tobacco products is one of priorities of Armenian economy. It provides jobs to thousands of people[4] in wider cluster, pays huge amount of taxes, secures successful exports, etc.

**Table 1 – Taxes paid from the sale of imported and locally produced tobacco products[5]**

|  | Fixed payments from sale of tobacco products (million AMD) | | |
|---|---|---|---|
|  | *Internally* | *On the border* | *Total* |
| *2002* | 9,185 | 10,639 | 21,826 |
| *2003* | 11,107 | 12,516 | 25,626 |
| *2004* | 9,787 | 12,399 | 24,190 |
| *incomplete 2005* | 2,614 | 5,216 | 7,830 |

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[3] Source: Peto R. & Lopez A. Future worldwide health effects of current smoking patterns. In: Koop, C.E. ET AL. ed. Critical issues in global health. San Francisco, Jossey-Bass (2000)

[4] The information is confirmed by the public report on entities with more than 100 employees (August-September 2006), and by the fact that tobacco producing enterprises in Armenia (particularly Grand Tobacco and International Masis Tabak) form the cluster of tobacco industry in the country comprising mentioned enterprises and thousands of agricultural farms

[5] Source: *Tax service of RA, publicized by Mediamax*

Increase of taxes on tobacco products will result in significant increase of budget revenues, given efficient regulatory operations are in place. The latter should be applied in order to face the problem of smuggling.

Understanding the issues surrounding smuggling will be important in developing a strategy for combating it. And the starting point for that strategy should be the effective combat of the existing smuggling practices, which should yet be identified and classified. Having estimated the volumes of tobacco products smuggling in Armenia, it would be possible to calculate the financial losses to the state budget, due to circumvented turnover of the tobacco products.

An estimate of unpaid tax due to smuggling can be calculated in two ways:

1. Estimate the percentage of smuggled goods on the domestic market and derive the volume of smuggled cigarette indirectly from this estimate, or

2. Estimate the volume of smuggled tobacco products on the domestic market directly from macro level indicators on cigarette production, import and export.

In both methods, the current tax rate will be applied to calculate the amount of taxes lost to smuggling.

## 2.4. Research Methodology

### 2.4.1. Research methods: strengths and weaknesses

The following methods of measuring the tobacco smuggling have been detected in the literature[6]:

1. ***Survey of tobacco (smuggling) sector experts* –** carried out amongst the well informed specialists engaged in various fields related to tobacco business. The role of experts may be performed by the manufacturers of tobacco products, importers, wholesalers, owners and managers of retail outlets, tax collectors and custom officials, law enforcement authorities, tobacco sector researchers, representatives of appropriate NGOs, etc.

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[6] Source: *Understand, Measure, and Combat Tobacco Smuggling, WB Economics of Tobacco toolkit, by D. Merriman*

2. ***Information obtained from smokers*** - This examination is conducted via the survey of sufficient number of smokers. The survey should address a range of issues, like number of cigarettes smoked per day, smoking frequency, amount spent on cigarettes, and, most importantly, the fact of purchasing smuggled tobacco products and volumes of it. Since the number of smokers is usually quite big regardless the place of the survey, appropriate statistical methods of respondents sampling and analysis of the answers should be applied. The most important requirement to meet is the representation; the sample of surveyed respondents should comprehensively represent all categories of smokers in proper quantities. At the same time, the survey outputs can provide clear indication of the smoking prevalence in the certain country or region. This method of examining smuggling (introducing statistical tools and extrapolation of outputs) may result in quite accurate figures, although carrying out the survey of this scale may cost significant money. Besides, this method allows to estimate only the volumes for the specific type of smuggling, when the products do not have excise stamps, consequently becoming easily identifiable as smuggled.

3. ***Monitoring the trade of tobacco products*** - The monitoring of trade outlets is much simpler variant of measuring the smuggling volume. The number of outlets to be visited and salesmen to be interviewed is incomparably less than the number of respondents in the previous case. Meantime, it should be remembered that the trade of smuggled products is considered a criminal activity, and owners and sales personnel of trade outlets engaged in retail trade of smuggled tobacco products will not be too much responsive. Moreover, some experiments show, that retail chain representatives do not tend to discuss even much less sensitive issues regarding to their activity.

4. ***Collation of consumption and supply volumes of tobacco products*** - This method of measuring tobacco smuggling volume is rather of academic nature, although outputs are quite accurate and applicable to further research and activities. In this case, researchers resort to the estimation of smuggling volumes at the macro level through the collation/comparison of estimated consumption with available *resource* volumes. The resource is the volume of *tobacco products available* on the domestic market at the specific point of time. The local consumption volumes are estimated through conducting qualitative expert interviews and small-range blitz survey of smokers. Since this methodology has been adopted to carry out the present research, more specific description of methodology components will be addressed later.

5. *Mathematical modeling of tobacco products sales and consumption* - In fact, this method is the sophisticated variation of the previous one. Again the smuggling volume is calculated via the collation of consumption with the currently available resource, but the consumption volumes are calculated through correlations with series of variables, like average prices of tobacco products, amount spent, prior consumption figures, factors affecting the consumption volumes etc.

6. *Comparison of global imports and exports volumes.* The pioneers of this method noted that "under-recording of imports may be used as a technique to avoid payment of tariffs"[7]; and "under-recording of exports may be used to avoid payment of export taxes"[8]. As imposition of export taxes is not common practice, the export volumes are not supposed to be underreported. This method conducts the following steps: i) assessment of the volumes of tobacco products imports reported by importing Country A official statistics, ii) assessment of the reported volumes of tobacco products' exports from all countries to Country A, and iii) comparison of two figures.

### 2.4.2. *Method adopted in the present research*

Given the limited resources and timeframe for the current research, the tobacco smuggling assessments methods which require much more resources and more thorough studies have not been chosen. The methodology described in the fourth point of the previous section thus was chosen to be the most applicable one, given the limited statistical and empiric data. On the same time we tried to use the actions as described in the other subsections by having (i) interviewed a number of experts (both independent experts and specialists from state institutions supervising the cigarettes' trade and taxation issues), (ii) interviewed a small quantity of smokers from various income groups, (iii) monitored a number of trade points selling tobacco products, and (iv) analyzed the data on tobacco exports and imports. While the first three activities contributed a lot to the research results, particularly for identifying the smuggling types and structure in Armenia, the last one did not gave the expected result, as a comparative analysis of tobacco trade with major exporter countries, particularly the Ukraine, showed the inverse results

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[7] Source: Bhagwati 1974b
[8] Source: Simkin 1974

(reported tobacco exports volumes from Ukraine to Armenia were by 22% than the ones registered by Armenian statistics as exports from Ukraine for the year 2004[9]. The reason for such discrepancy could be conditioned by a number of reasons, namely different classification of various products, inconsistencies in reported time periods, transit exports through a number of countries, etc. Finally, the method does not address local production volumes.

The methodology applied for this research, appears to be based on more reliable and complete data, and addresses not only the foreign trade, but the local production as well.

The proposed methodological model is as follows:

| $V_{Resource} =$ | $LP +$ | $I -$ | $E$ |
|---|---|---|---|

where:

$V_{Resource}$ - *tobacco products available* on the domestic market

$LP$      - *Local production of tobacco products*

$I$          - *Imported tobacco products*

$E$        - *Export (including re-export) of locally produced tobacco products*

All figures are presented for the given period of time. In the present research calculation of tobacco products smuggling volume in Armenia is based on annual figures of 2004.

The supply of tobacco products in a given period equals the tobacco products delivered to the market minus the current stock (in warehouses, retail stores, etc). If reported consumption is higher than the amount supplied, there are two possibilities:

- the current stock  is reduced, or
- illegal tobacco products are available if the current stock remains unchanged (or changes slightly).

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[9] Source: FOREIGN TRADE OF THE REPUBLIC OF ARMENIA, WITH SEPARATE COUNTRIES BY COMMODITY GROUPS for 2004

Thus, the following formula is suggested for the calculation of smuggling volumes:

$$V_{\text{Smuggling}} = V_{\text{Consumption}} - V_{\text{Resource}}$$

where:

$V_{\text{Consumption}}$     - *Consumption volumes of tobacco products in the given period of time based on self-report*

Theoretically, ongoing stock should be represented in the formula. In fact, it should be added to the volume of resource and then deducted from it, since we assume it does not change significantly over the year and stay at almost same level at the end of year. Stock figures have been simply taken out from the formula, although some slight variation in the volume of stock at the beginning and at the end of the research period is unavoidable.

The estimation of tobacco products smuggling volume can be made either by physical or financial units of measure. The latter is more sophisticated; the methodology assumes some harmonization of financial figures. Financial estimations of local production, export and import volumes comprise various types of taxes and payments, as well as profit margins and retail mark-ups. In order to figure out the precise picture those factors should be subtracted from the calculations.

In order to avoid this problem, we suggest to rely on physical outputs. Tobacco products are usually calculated in millions of items. Data on local production, imports, and exports is available in the format of physical outputs from the official statistical sources. Data on tobacco products consumption is available from the national survey conducted by the International Center for Human Development[10]. This survey, unique for Armenia, had been conducted among about 3,900 consumers representing various households. From the statistical point of view, the survey outputs are quite reliable – the confidence level comprises 99%, confidence interval comprises +/-2%. In

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[10] Report on the Results of the Survey on Drug, Alcohol and Smoking Prevalence among the General Population of Armenia, International Center for Human Development, National Statistical Service of the RA, National Institute for Health, 2005

other words it can be stated with 99% confidence level that the selected sample size will reflect the total population with the confidence interval of about +/-2%.

The survey had been carried out at all age groups above 16; the youth smoking prevalence has been addressed by the present research separately. Volumes of consumption of tobacco products by the youth under 16 were calculated based on the outputs of the separate survey[11], which has been carried out in Armenian schools among more than 1,400 pupils. The sample of 1,400 children is also quite reliable and comprehensively reflects the situation for the total population of children at the age of 5-15 years old.

Since the consumer survey has been carried out for different purposes, it did not directly study the quantity of consumed tobacco products. Surveyors asked about the financial means spent on the smoking on a monthly basis. Nevertheless, the further analysis of this data is not very difficult. The methodology applied suggests the following steps of the information harmonization:

1. the annual expenses on tobacco products are calculated;
2. the average price for consumed cigarette pack is estimated;
3. the annual quantity of cigarette packs consumed is calculated;
4. number of consumed items is calculated using the ratio of 20 cigarettes per pack.

Once these steps are passed, the data on local consumption amount will be possible to collate with tobacco products resource figures; besides that amount will be used for calculation of smuggling volume.

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[11] Standard Survey GYTSEURO 2004

# 3.   Situational Analysis.............................................

## 3.1.   *Local Production*

The production of cigarettes in Armenia has first started in 1938 when the fermentation plant and unfiltered cigarettes production workshop (named Armtabak at the mid of 1960s) was established, although the cultivation of tobacco has been one of the priority spheres of Armenian agriculture practiced since the 17th century. In the soviet times the factory supplied Armenian market, also delivering its product to other Soviet states.

In 1980 the production of raw tobacco in Soviet Armenia started declining notably, due to the planned policy of authorities. The change of political situation also contributed to that decline, since some areas of tobacco cultivation appeared in a territory (or next to) of armed conflict between Armenia and Azerbaijan. The collapse of the Former Soviet Union in early 1990's led to almost complete fall of tobacco industry in Armenia freeing the whole market for the imported brands.

Situation has changed in the second half 1990s, when the first tobacco processing facility has been established in Armenia after the independence. "Grand Tobacco" was the first company which (in fact) set up fermentation plant, equipped a special laboratory, conducted extensive and successful marketing campaign under the "Our is different." slogan, developed unique input supply scheme[12] and attracted farmers in to cooperation. Very legitimately, all these wide scale operations resulted in a factual re-creation of the tobacco cluster in Armenia and "GT" captured three fourth of the local market of cigarettes introducing tens of local brands. Later "Grand Holding" established another local cigarette company – "International Masis Tabak". "IMT" inherited some strategies from and continued the way of "GT", though de jure they operate separately.

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[12] The Company credited farmers in rural regions of Armenia for growing tobacco, and concluded contracts with them on purchasing all the tobacco they would grow

The next big step in tobacco products manufacturing in Armenia was the establishment of the ultramodern factory of "SPS Cigaron". Initially this brand targeted export markets and succeeded to export to many countries of the former Soviet Union as well as to USA, Europe and even Japan. Meantime, "Cigaron" is well presented in Armenian market too, although it does not have big shares, mainly due to comparatively high prices.

Table 2 presents figures of local cigarette production from 2000 to 2005. Through those years the physical output of the tobacco products local production increased by 44%. Some decreases registered in 2001 and 2004 can be explained by changing market conjuncture and insufficient methodology of information collection.

**Table 2 – Volumes and trends of local production of tobacco products in Armenia, 2000-2005**

| Years | Local production | |
|-------|-------------------------|------------------------------------|
| | Volumes in ,000 items | % of the previous year's production |
| 2000 | 2,096,000 | |
| 2001 | 1,623,000 | 77% |
| 2002 | 2,815,100 | 173% |
| 2003 | 3,221,900 | 114% |
| 2004 | 2,720,200 | 84% |
| 2005 | 3,019,500 | 111% |

## 3.2. Imports

Unlike the local production of tobacco products, which is concentrated in 2-3 monopole organizations, import of cigarettes to Armenia is practiced by several companies. Some brands like "Phillip Morris", "JTI", "British American Tobacco" are presented in the market via their representative organizations, next to local business entities of oligarchic nature – *Pares Armenia Company* (almost 50% of cigarette imports to Armenia), *Arsoil* Company (imports of "Magna", "Winston", "Camel", "More", and "Salem" brands), *Hard Light*s Company (imports of "KT & G", "Pine Super Slims" brands), *SIL Concern*, etc.

As it can be concluded from the data presented in Table 3, the imports of to-
bacco products increased steadily since 2000. Given the general trends of in-
crease in local production and import volumes, it can be concluded that the
local consumption of tobacco products (cigarettes) steadily increases.

**Table 3 - Volumes and trends of imports of tobacco products to Armenia[13],**

| Years | Imports | |
|---|---|---|
| | Volumes in ,000 items | % of the previous year's import |
| 2000 | 1,135,093 | |
| 2001 | 1,135,080 | 100,0% |
| 2002 | 1,689,651 | 148,9% |
| 2003 | 1,972,861 | 116,8% |
| 2004 | 2,118,666 | 107,4% |
| 1st 6 months of 2005 | 2,367,445 | 111,7% |

### 3.3. Exports

Table 4 shows that export of tobacco products from Armenia stay far behind
of import volumes. Imports exceed exports for almost 8-10 times (except of
2001).

**Table 4 - Volumes and trends of exports of tobacco products from Armenia[13]**

| Years | Exports | | Share of local production |
|---|---|---|---|
| | Volumes in ,000 items | % of the previous year's export | |
| 2000 | 97,971 | | 5% |
| 2001 | 578,694 | 591% | 36% |
| 2002 | 210,255 | 36% | 7% |
| 2003 | 165,903 | 79% | 5% |
| 2004 | 260,064 | 157% | 10% |
| 1st 6 months of 2005 | 255,771 | 98% | 8% |

The portion of export volumes in local production is noted to be quite small.
This is an evidence of Armenian cigarettes being not too much competitive in

[13] Source: FOREIGN TRADE OF THE REPUBLIC OF ARMENIA, STATE CUSTOM SERVICE,
2000-2006

external markets. Some Armenian brands like "Cigaron" have succeeded in exporting of experimental consignments of luxurious cigarettes (longer than usual with special filter), but in general they normally target markets where Armenian Diaspora is settled, e.g. USA, Russia, and other CIS countries.

## 3.4. Consumption

### 3.4.1. General information

A variety of estimates of the smoking prevalence in Armenia are available from different sources.

In the context of the present research, it is more important to estimate the number of daily smokers and quantify their purchases for themselves and others (including family members, friends, and relatives) without double counting. The National Survey Data (see comment 10) is considered to be the most reliable one, given its coverage and methodology.

This survey asks respondents to estimate the amount they spent monthly on purchasing cigarettes. The answers varied from 200 to 80,000 AMD per month or 2,400 AMD to 960,000 AMD per annum. These purchases are made in retail outlets thus collecting an excise tax and VAT in almost all cases. The calculation of the weighted average[14] of the cigarettes' consumption per respondent per month should be conducted separately for men and women due to the following specific reasons.

It is widely accepted that women respondents in Armenia underreport their smoking prevalence. The National Survey estimated that only 3% of women smoke. However, the *Standing Committee on Science, Education, Culture and Youth of the Armenian Parliament* proposes that about 10% of adult female population smoke. Therefore, we adjusted our estimates of total consumption of tobacco products to reflect this smoking prevalence among women.

As to the men, they usually respond actual amount of tobacco products' consumed and their answers, we believe, do not require further adjustments.

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[14] The weight of smoking women in total is about 5-6 times less than the weight of men

### 3.4.2. Consumption volume

Table 5 describes the steps in calculating of the overall consumption of the tobacco products in Armenia.

**Table 5 - Calculation of tobacco products' consumption in Armenia, (annual 2004)**

| 1. | Number of people surveyed | 3,892 |
|---|---|---|
| 2. | Amount spent on cigarettes per month by women, AMD | 1,017,100[15] |
| 3. | Amount spent on cigarettes per month by men, AMD | 7,149,975 |
| 4. | Amount spent on cigarettes per annum, AMD | 98,004,900 |
| 5. | Amount spent on cigarettes per respondent, per annum, AMD | 25,181 |
| 6. | Average price of cigarette pack, AMD | 231 |
| 7. | Number of packs consumed per respondent, pack per annum | 109 |
| 8. | Number of cigarettes consumed per respondent, items per annum | 2,180 |
| 9. | Armenian population above 16, people | 2,489,100 |
| 10. | Total number of cigarettes consumed, items | 5,426,693,819 |
| 11. | Cigarettes consumed by children at the age of 5-15, items per annum | 987,402 |
| 12. | TOTAL consumption volumes, items, 2004 | 5,427,681,221 |

It has already been mentioned, that the sample surveyed is representative of Armenia and reflects smoking behavior of the whole population very comprehensively. The weakness of this survey is that it underestimates women consumption of tobacco products. In the survey, 2116 women reported the amount spent monthly by each individual respondent on tobacco products to be as high as 290,600 AMD. Meantime, less than 50 women out of 2,116 accepted the fact of smoking. That is why; the number of smoking women has been adjusted to be 3.5 times more, which will cause the raise in amount monthly spent on tobacco products for the same 3.5 times higher (see the figure in Table 5).

Given the adjusted figure of amount spent on tobacco products by women and reported figures for men, the average annual consumption of one survey respondent has been calculated for the further extrapolation to the total Armenian population above 16. As it is suggested in the table, an average Ar-

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[15] Initial figures have been justified or calculated via application of additional sources of information, adjusted as described in the text.

menian spends about 25,000 drams (rough estimate) for purchasing tobacco products per year. In order to calculate tobacco products consumption volumes this amount should be divided by the average price of cigarettes consumed in the country.

The Armenian National Statistical Service[16] suggests the price of a pack of cigarettes to vary around the 180 AMD for the years of 2003 through 2005. However, this estimate is questionable: only few brands were included in the estimates, and these brands do not represent well the market in Armenia, because their market share is relatively small.

Another estimate of an average price of tobacco products in Armenia has been calculated in 2001[17]. This estimate suggests the average price of a cigarette pack to be 281 AMD. This estimate is based on standard sampling method, but we also question the suitability of this estimate for the purpose of our study, as it applies to only capital Yerevan and besides, during the period of 2001-2004 the Armenian tobacco market was in turmoil: new imported brands penetrated the market, local producers increased their volumes and assortment, some changes in taxation practices took place, local currency appreciated notably. All this factors has an impact on the average cigarette price.

For these reasons we use the average figure of official data and fairly outdated survey results, which is 231 AMD per pack.

### 3.4.3. Estimation of the amount of cigarettes consumed by children

The official statistics and results of the survey allow to estimate the consumption of tobacco products in Armenia for the population above 16. Meantime, it is widely known, that children at the age of 5-15, also consume tobacco products. In order to calculate the amount of this consumption, we used the results of the Global Youth Tobacco Survey conducted in Armenia in 2004 (GYTSEURO 2004). Two questions from this survey are particularly relevant for the purpose of our estimates (see tables below).

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[16] Source: The socio-economic situation in Armenia, annual yearbook, 2003, 2004, 2005

[17] Cigarettes' market research. International Center for Human Development databank.. [include year and the name of the publication]

**Table 6 – Calculation of the average number of smoking days per annum, 2004**

| *Days* | *Average* | *Number of re-spondents* | *Number of days smoked, monthly* | *Average number of days smoked, monthly* | *Average number of days smoked, annually* |
|---|---|---|---|---|---|
| 0 days | 0 | 1,325 | 0 | | |
| 1-2 days | 1.5 | 26 | 39 | | |
| 3-5 days | 4 | 18 | 72 | | |
| 6-9 days | 7 | 5 | 35 | 0.6 | 7.4498 |
| 10-19 days | 15 | 9 | 135 | | |
| 20-29 days | 25 | 2 | 50 | | |
| 30 days | 30 | 18 | 540 | | |
| Total | | 1,403 | 871 | | |

*Question from the survey questionnaire, "During the past 30 days (one month), on how many days did you smoke cigarettes?"*

**Table 7 - Calculation of the average number of cigarettes smoked per day, 2004**

*During the past 30 days (one month), on the days you smoked, how many cigarettes did you usually smoke?*

| | *Average* | *Number of respondents* | *Number of cigarettes smoked, daily* | *Average number of cigarettes smoked, daily* |
|---|---|---|---|---|
| 0 cigarettes | 0 | 1,322 | 0 | |
| less than 1 cigarette per day | 0.5 | 21 | 21 | |
| 1 cigarettes per day | 1 | 26 | 26 | |
| 2-5 cigarettes per day | 3.5 | 17 | 68 | 0.25 |
| 6-10 cigarettes per day | 8 | 5 | 40 | |
| 11-20 cigarettes per day | 15 | 4 | 60 | |
| more than 20 cigarettes per day | 25 | 7 | 140 | |
| Total | | 1,402 | 345 | |

The amount of cigarettes consumed by children at the age of 5-15 years old is estimated by the simple multiplication of *average number of days of smoking during the year, average number of smoked cigarettes* during those days, and number of children at the age of 5-15 years old (539,400[18]). The result comprises slightly less than 1 million cigarettes per year. This volume is not sig-

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[18] Source: National Statistical Survey of Armenia for the number of children in the mentioned age.

nificant in total consumption, but the calculation of this figure and its inclusion to total estimate provide additional accuracy to the result of this study.

## 3.5. *Estimation of the Tobacco Smuggling Volumes*

As it was presented in the *methodology chapter* of the research, the smuggling volumes of tobacco products is suggested to estimate via simple deduction of resource volumes from the volumes of consumption. Resource volumes, in turn, are calculated as a sum of local production and imports minus exports. The calculation of resource volumes according to described methodology is presented in Table 8.

**Table 8 - Volumes of resource available in the market of tobacco products**

| Years | Resource | |
|---|---|---|
| | *Volumes in ,000 items* | *% of the previous year's market volume* |
| 2000 | 3,133,123 | |
| 2001 | 2,179,385 | 69,6% |
| 2002 | 4,294,496 | 197,1% |
| 2003 | 5,028,858 | 117,1% |
| 2004 | 4,578,802 | 91,1% |
| 1st 6 months of 2005 | 5,131,174 | 112,1% |

It can be seen from the table, that in the long-run, the volume of available resources increases, although in 2004 some notable turn down was registered.

The volume of tobacco products smuggling in Armenia for the year of 2004 is:

| V Smuggling (,000 items) = | 5,427,681 - | 4,578,802 = | 848,879 |
|---|---|---|---|

Our estimate shows that the number of cigarette smuggled to Armenian market reached almost 850 million cigarettes in 2004, or about 15.6% of total consumption in the country. In financial terms it amounted to about 10 billion AMD (more than $21 million).

Our estimates indicate that there is cigarette smuggling in Armenia exists and that the amount is not trivial. The negative aspects of tobacco smuggling

have already been uncovered – increased consumption, lost revenues for the state budget, etc. The only conclusion which could be made is the necessity of addressing the problem more properly, and carrying out relevant activities for accurate measurement and overcoming this problem in Armenia.

## 3.6. *Expert Review of Tobacco Smuggling Types in Armenia*

According to interviews with the experts from various state agencies, types of tobacco smuggling can be classified into two main groups: simple sale of tobacco products without excise and more sophisticated application of false or outdated excise marks.

The simplest way of tax avoidance is the sale of tobacco products in the internal market without purchasing excise marks. For the purposes of the present research a number of supermarkets, shops and small trade outlets (kiosks and stores) have been checked to identify tobacco products without excise marks in sale. The smuggled tobacco products do not appear in supermarkets and large downtown shops, but can be traced in small outlets somewhere in suburbs of big cities (especially in capital Yerevan). Those outlets operate not permanently, semi legally, using some personal connections in local tax authorities and other regulatory entities (police, local state authority, etc).

The overwhelming majority of smuggled tobacco products are imported brands of low-to-middle price niche. Smuggled tobacco products of the local production were identified in much less quantities. Meantime, experts from regional custom clearance points mentioned about the smuggling volume of higher price tobacco products. Expensive cigars and cigarillos, as well as other tobacco of higher value can be purchased in special shops and entertainment places, mainly in capital Yerevan. In many cases, those smuggled products are initially ordered by special customers (from business elite). Although a deeper assessment is needed to make accurate conclusions, some attribution of smuggling tobacco products to the existence of corruption in customs service can be made without difficulty.

The sophisticated method of tobacco products smuggling is carried out via the application of false or invalid excise marks. Again referring to informative unofficial sources, it can be stated that some suppliers of tobacco products use false excises. Those false marks are usually being printed and illegally imported from other countries (Turkey being mentioned the most times). Suppliers purchase those false excises at a much lower price, thus saving substantial amounts.

The next scenario, also taken from unofficial sources, is more complicated and requires more players and paper work. Tobacco products' supplier/smuggler initially makes a purchase of certain number of excises paying the relevant amount. In case of using those excise marks only partially, the surplus should be eliminated by the special Committee comprised a number of representatives from various regulatory agencies, e.g. various divisions of Tax Service, the Ministry of Finance, etc. The supplier is compensated for the volume of eliminated excise marks. In reality the corruption again takes place: the Committee eliminates only part of marks, although the compensation is repaid for the whole volume. The volume left, de *jure* does not exist, and can be used for supplying the next consignment of smuggling.

The fact of the tobacco products smuggling is accepted by state authorities, too. Moreover, the Tax Service of Armenia from time to time organizes elimination committees which investigate trade outlets for the purpose of identifying smuggled products. According to accepted practice these products (imported or locally produced) are being demolished by the State Elimination Committee. For example, this Committee demolished 20,421 cigarette packs in 2003, 3,900 packs in 2004, and some 300 packs during the first quarter of 2005. During the year of 2003 25 cases of the non-declared imports of tobacco products have been registered at the Custom Service.

However, the presented figures do not reflect the real volumes of tobacco products volumes in Armenia. The thorough research of the peculiarities and volumes of each type of smuggling is a challenge yet to be met. Anyhow, that is a problem which is more than worthy to study, because only the proper understanding of actual tools and methods of the smuggling will allow combating this negative practice.

# 4.     Conclusions and Recommendations ...............................

The current estimation of the total consumption of tobacco products can not be considered to be very comprehensive. Some items, which were taken as granted from various sources, can be argued. Nevertheless, the present research provides ground for further research and come up with certain recommendations.

The research of tobacco products smuggling volumes in Armenia resulted in the following three sets of conclusions and related recommendations.

- Volume of smuggled tobacco products;
- Volume of taxes unpaid for the circumvented tobacco products;
- Activities to be conducted.

## 4.1.   Conclusions

Volume of smuggled tobacco products in Armenia in the year of 2004 is quite high - almost 850 million items. This volume amounts to the 15.6% of the total consumption and 18.5% of the official supply on the market.

Another important fact should be necessarily addressed. The number of cigarettes officially supply to the market in 2004 decreased for almost 9% percent compared to the previous year even though there is not evidence of a change in smoking rate in Armenia. A small part of this discrepancy can be due an error in the official statistical estimates, some part of it can be due to changes in stock. However, these would not likely account for 9% of the market. Therefore, the only other explanation is an increase in number of cigarettes that avoided paying taxes.

In order to calculate the amount of unpaid taxes three pieces of information are needed: total amount of tobacco products that avoided tax, proportion of local production and imported products in total resource available, tax rates for the local and imported brands.

**Table 9 – The calculation of unpaid taxes for the smuggled volume of tobacco products**

| Year of 2004 | Volumes | Share in available resource | Smuggling volumes[19] | Fixed tax for ,000 items | Unpaid taxes |
|---|---|---|---|---|---|
| Imported tobacco products | 2,118,666 | 46.3% | 392,800 | AMD 5,500 | AMD 2,160,402,209 |
| Local production (export deducted) | 2,460,136 | 53.7% | 456,109 | AMD 4,000 | AMD 1,824,435,377 |
| Total | 4,578,802 | 100.00% | 848,909 | | AMD 3,984,837,586 |

In this calculation we assumed that tobacco products that avoided taxes are divided proportionally between the local production and imports according to the market share of those two types of products.

## 4.2. Recommendations

Two general/strategic recommendations which source a number of activities are to be made in the light of the conducted research:

1. It is necessary to continue the research and improve the quality of informational back-up;
2. Specific activities are to be undertaken for improving the regulatory framework.

The continuation of the research and assessments are aimed to supply interested stakeholders with relevant information on the problem. More particularly the following research activities are recommended to implement:

- Continuous monitoring of the tobacco products market conjuncture and volumes: imported vs. locally produced brands;

- Survey and realistic assessment of the tobacco products consumption volumes in Armenia by the population groups for the recent period of 2005-2006; special emphasis should be made on the accurate estimation of the women smoking prevalence and volumes;

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[19] Including legal tax evasion

- Scientific estimation of the *weighted average* price for the tobacco products consumed in the country;
- Continuous monitoring of the trend of tobacco products smuggling volumes for the recent period of 2005-2006. Estimation of smuggling volumes by their types.

Following activities are suggested to improve the regulatory framework of the tobacco products market:

- Intensification of the interested non-governmental organizations in the field of identification and elimination of the smuggled tobacco products in the retail market;
- Revision of the custom clearance procedures and introduction of more efficient measures for identifying the circumvention cases of tobacco products;
- Improvement of the excise stamps distribution, control and elimination mechanisms, which can be made through creating a centralized database of excise stamps with unique ids, which would reflect all activities related to these stamps (purchase, usage, elimination in the case of stamp return).
- Further advocacy of increase of the tobacco taxes in Armenia.

Another important recommendation is related to the types of tobacco taxation. As set by the Poverty Reduction Strategic Plan (PRSP) for Armenia, the tobacco taxation mechanisms are subject to revision in near future. In particular there is a clause in PRSP recommending to implement *ad valorem* taxes instead of current *specific* ones, aiming to make taxes dependant from the product price, thus making these taxes fluctuate with the prices. We suggest to keep the taxes *specific* to keep the advantages of better tax administration, with a condition (fixed in the Low on Tobacco Taxation) to frequently revise the taxes to adjust with the inflation level.

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Yerevan 2006