CRE Monograph

An Inquiry into the Nature, Causes and Impacts of Contraband Cigarettes

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Bruce Levinson
Center for Regulatory Effectiveness
1601 Connecticut Avenue, NW
Washington, DC 20009
www.TheCRE.com
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An Inquiry into the Nature, Causes and Impacts of Contraband Cigarettes

ABSTRACT

The US Food and Drug Administration (FDA) is contemplating a ban on menthol-flavored cigarettes. Prior to reaching a preliminary decision, the agency and their independent science advisory panel are required to consider the “countervailing” effects a ban would have on smokers and non-smokers, including the creation of significant demand for contraband cigarettes. This monograph addresses the potential negative effects of a menthol ban by analyzing three facets of the contraband cigarette issue: 1) the nature of contraband cigarettes including consideration of how they may materially differ from legal products, such as by containing higher levels of heavy metals and other contaminants; 2) factors influencing the size of the contraband market and an estimation of how it would respond to a menthol ban; and 3) a discussion of the impacts of contraband cigarettes on society. Academic literature, findings by US government and foreign government agencies, and accounts from major media publications serve as the databases for the analyses. The monograph concludes that a ban on menthol-flavored cigarettes would significantly inflate the market for contraband cigarettes, many of which present even higher health risks than legally-made products. The increased health hazards from illicit cigarettes disproportionately impact underage and African American smokers.

I. Introduction and Plan of Work

The scope of this study was set by the mandate in the Family Smoking Prevention and Tobacco Control Act (Act) which requires the Secretary of the Department of Health and Human Services to consider all other information submitted in connection with a proposed standard, including information concerning the countervailing effects of the tobacco product standard on the health of adolescent tobacco users, adult tobacco users, or nontobacco users, such as the creation of a significant demand for contraband or other tobacco products that do not meet the requirements of this chapter and the significance of such demand. (Public Law 111-31, §907(b)(2))

The Act also states, specific to menthol, that
Immediately upon the establishment of the Tobacco Products Scientific Advisory Committee under section 917(a), the Secretary shall refer to the Committee for report and recommendation, under section 917(c)(4), the issue of the impact of the use of menthol in cigarettes on the public health, including such use among children, African-Americans, Hispanics, and other racial and ethnic minorities. In its review, the Tobacco Products Scientific Advisory Committee shall address the considerations listed in subsections (a)(3)(B)(i) and (b). (Public Law 111-31, §907(e)(1))

It is the last sentence, the directive to the TPSAC to address the considerations in §907(b), that requires the committee to consider the contraband issue with respect to a possible menthol ban.

Based on the statutory text, the Center for Regulatory Effectiveness (CRE) sees three discrete issues that need to analyzed. For the purposes of the report we will integrate the issue of the “creation of a significant demand for contraband” into the other issues cited in the statute rather than viewing the demand for contraband as a stand-alone matter. Therefore, this monograph will analyze whether a ban on menthol-flavored cigarettes would lead to a significant increase in the contraband cigarette market that would adversely effect:

1) The health of adolescent tobacco users;

2) The health of adult tobacco users; and

3) Non-smokers.

The meaning of the term “significant” will be discussed in Section III. We can say at this point, however, that a significant increase in the demand for contraband tobacco should be understood in terms of a significant impact on the lives of smokers and non-smokers rather than as an abstract numerical concept. We should also understand that adverse impacts on the lives of smokers and non-smokers can and should be integrated into a concept of an increased demand for contraband tobacco that harms the communities in which we live.

Understanding the nature of contraband cigarettes is a prerequisite to analyzing the three issues described above. Specifically, the term “contraband cigarette” needs to be defined and it needs to be determined whether at least some contraband cigarettes are materially different than other cigarettes. Once these preliminary issues are addressed, it will be possible to analyze how a possible ban on menthol-flavored cigarettes would affect the contraband market and how any changes in the market would potentially affect smokers and non-smokers. Thus, the Nature section of the monograph focuses on characterizing contraband cigarettes from a legal and substantive perspective.

The Causes section of the monograph analyzes the trade in contraband cigarettes. Based on academic literature concerning contraband cigarette markets in the US and other countries, this paper will
estimate the current size of the domestic contraband market and develop estimates of what impact a menthol flavoring ban would have on the US contraband market.

The final analytic section, Impacts, will consider whether there would be harmful effects from a menthol ban directly relevant to the FDA’s and the TPSAC’s statutory charge. Thus, although contraband-related revenue losses are of keen interest to federal, state and local government fiscal authorities, they are not among the issues specified in statute to be considered by FDA and TPSAC. The Impacts section, therefore, focuses on the issues that the agency and advisory panel are required to consider, a ban’s expected impact on underage smokers, adults smokers and non-smokers.

Each analytic section is followed by *In Review*, a summary of key section conclusions in a bullet-point format.

This paper also includes a Conclusions section that pulls together and distills the analytic determinations developed in the paper. The Recommendations section provides policy guidance to the TPSAC and FDA consistent with the goals of the Act.

II. **The Nature of Contraband Cigarettes**

The term “contraband cigarettes” is defined in statute as meaning “a quantity in excess of 10,000 cigarettes, which bear no evidence of the payment of applicable State or local cigarette taxes in the State or locality where such cigarettes are found....” [18 U.S.C. § 2341(2)] The law creates several exemptions from this definition such as for “a manufacturer of tobacco products or as an export warehouse proprietor” possessing the required permit under the Internal Revenue Code and for “a common or contract carrier transporting the cigarettes involved under a proper bill of lading or freight bill which states the quantity, source, and destination of such cigarettes.”

Since the statutory definition of contraband cigarettes is based on tax evasion, for the purposes of this paper, we can say that contraband cigarettes are cigarettes on which all required taxes have not been paid in the jurisdiction in which they are sold. Because the “street level” tobacco trade often deals in packs or even single cigarettes (“loosies”) rather than in 10,000 stick quantities, for the purposes of this paper, all cigarettes which have not been fully taxed according to the requirements of the jurisdiction in which they are sold are defined as “contraband.”

Potential sources of contraband cigarettes include: 1) cigarettes that have been illegally transported from one state/tribal jurisdiction to another location (usually from a lower or no tax area to a higher tax jurisdiction); 2) cigarettes that have been illegally imported into the United States; 3) cigarettes illegally made from domestic tobacco which has not been taxed in accordance with federal, state and
Although not currently considered a major concern in the United States, illegal importation of hand-rolling tobacco occurs on a large-scale basis in the United Kingdom. See, account of smugglers jailed for illegal imports of “more 15 million counterfeit cigarettes and nearly 2.5 tonnes of hand rolling tobacco from China, in just 14 months,” Emma Stone, “Gang jailed over major cigarette smuggling ring in Coventry,” Coventry Telegraph, July 7, 2009, and smugglers being sentenced for illegal imports including “11 million cigarettes, five tonnes of hand-rolling tobacco” Mike Brooke, “£6m smugglers jailed 20 years after East End warehouse raid” East London Advertiser, 23 February, 2010.

Since a contemplated ban on menthol-flavored cigarettes would be nationwide, the illegal interstate transit of otherwise legal cigarettes would not be an issue for the contraband market. Thus, the contraband market for menthol-flavored cigarettes would consist of name-brand cigarettes illegally brought into the US, unbranded cigarettes either illegally brought into the US or illegally manufactured in the US, and counterfeit cigarettes, i.e., cigarettes which bear the name and markings of a branded product but were not manufactured by the indicated company or their licensee. From a broader perspective, there are two types of contraband cigarettes:

- Legally made cigarettes that have not been taxed in the jurisdiction in which they are sold; and
- Illegally manufactured cigarettes.

The second category, cigarettes which have been made illegally, is of particular importance for understanding the effect of a menthol ban since these cigarettes which have the potential to present greater health hazards to smokers than legally made products.

Counterfeit cigarettes are already an important law enforcement issue. The Justice Department’s Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) states on their Tobacco Diversion Fact Sheet that the “trade of counterfeit tobacco products is also a rapidly growing global problem.” The ATF also indicates that the nature of counterfeit cigarettes are different than legitimate name brand cigarettes and that “consumers do not know what ingredients are used to manufacturer these cigarettes.” It is therefore necessary to understand the nature of counterfeit cigarettes, specifically whether they substantively differ from legitimate products, in order to be able to analyze their impact later in this paper.

The published literature and research findings reported by governments indicates that counterfeit cigarettes are materially different from the branded products they imitate. Counterfeit cigarettes are significantly different than legitimate products in three ways:

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1 Although not currently considered a major concern in the United States, illegal importation of hand-rolling tobacco occurs on a large-scale basis in the United Kingdom. See, account of smugglers jailed for illegal imports of “more 15 million counterfeit cigarettes and nearly 2.5 tonnes of hand rolling tobacco from China, in just 14 months,” Emma Stone, “Gang jailed over major cigarette smuggling ring in Coventry,” Coventry Telegraph, July 7, 2009, and smugglers being sentenced for illegal imports including “11 million cigarettes, five tonnes of hand-rolling tobacco” Mike Brooke, “£6m smugglers jailed 20 years after East End warehouse raid” East London Advertiser, 23 February, 2010.

The Nature of Metals in Counterfeit Cigarettes

Researchers from the Centers for Disease Control and Prevention’s (CDC’s) National Center for Environmental Health found that levels of cadmium, thallium and lead in mainstream smoke “were far greater for counterfeit than the authentic brands, in some cases by an order of magnitude.” The authors also note that “toxic metals and metalloids constitute one of the more understudied major carcinogenic chemical classes in tobacco smoke.”

To measure the levels of metal particulates in mainstream smoke of a particular type of cigarette (genuine Marlboro 100s, counterfeit Newport King, etc.) “[f]ive cigarettes were smoked per QFP [quartz filter pad] under FTC smoking conditions (35-mL puff volume, 2-s puff, and 60-s puff intervals).”

In addition to presenting the data on metal particulate levels in mainstream smoke on a per-cigarette basis, the study also normalized the values for nicotine levels based on the assumption “that individuals smoke a particular brand in such a manner to achieve a target nicotine dose by varying how they smoke, i.e., by changing average puff volume, puff frequency, and/or inhalation depth, smoke residence time, etc.”

Although other metals were of interest, the analysis was limited to lead, cadmium and thallium because the “high metal background in the smoke collection materials” excluded additional analysis. The counterfeit cigarettes used in the study were confiscated by the Department of Homeland Security (DHS), the Federal Bureau of Investigation (FBI), and the Bureau of Immigration and Customs Enforcement (ICE). The authentic branded cigarettes were purchased in the Atlanta metropolitan area.

The following charts, based on Pappas (2007), illustrates the level of cadmium, thallium and lead in nanograms (ng) per milligram of nicotine in mainstream smoke. The values for counterfeit cigarettes are the mean of the counterfeit cigarettes of each cigarettes type.

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4 Ibid., pp. 202-203.
5 Ibid., p. 205.
Figure 1

Cadmium Levels
Authentic and Counterfeit Cigarettes
(ng/mg of nicotine: mainstream smoke)

Source: Pappas (2007), Figure 3

Figure 2

Thallium Levels
Authentic and Counterfeit Cigarettes
(ng/mg of nicotine: mainstream smoke)

Source: Pappas (2007), Table 1
The authors caution that the “study examined a convenience sample of counterfeit cigarettes that were available from ongoing law enforcement activities. This small sample cannot be used to draw general conclusions about counterfeit cigarettes.” Thus, Pappas (2007) cannot be used as the basis for a statistical extrapolation of its results to the universe of counterfeit cigarettes. The authors do note, however, that Stephens (2005) also found that counterfeit cigarettes “had significantly higher heavy metals content in their tobacco compared to their genuine equivalents.”

The Stephens (2005) paper “Source and Health Implications of High Toxic Metal Concentrations in Illicit Tobacco Products” compared the levels of “10 representative ‘heavy metals’” in counterfeit cigarettes with their genuine counterparts. The ten metals analyzed were; cadmium, lead, arsenic, nickel, chromium, tin, zinc, iron, manganese and copper. Instead of measuring the levels of metals found in mainstream smoke, Stephens (2005) measured the concentrations of the metals in the tobacco and reported the results in milligrams per kilogram.

The counterfeit samples were provided “by U.K. HM Customs & Excise in the form of one or two packs of 20 cigarettes for eight purported brands among the best-selling brands currently available in the U.K. Some 47 samples of counterfeits were obtained between September 2002 and January 2004.” The genuine cigarettes were obtained from reliable retailers in the same time frame.
With respect to cadmium, arsenic and lead, the study found “the counterfeits have markedly higher concentrations of these elements. This is particularly significant as all three elements are known to be carried to varying degrees by the smoke phase released on tobacco combustion.”

The mean concentrations for all ten metals were higher in the counterfeit cigarettes than their genuine counterparts. The fertilizers used in growing the tobacco for the counterfeit cigarettes were thought by the authors to be the source of the higher metal concentrations, deliberate contamination was not suspected.

Figure 4 illustrates the ratio of metals in counterfeit cigarettes compared with their genuine counterparts. The data is from the mean values for the concentration of each metal for counterfeit and genuine cigarettes reported by Stephens (2005).

### Figure 4

**Higher Metal Concentrations in Counterfeit Cigarettes (UK)**

*Metal Concentrations in Counterfeit Cigarettes as a Percentage of their Concentration in Authentic Product (mg/kg)*

Source: Stephens, et al (2005), Figure 1

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A 2009 paper by researchers at the New York State Department of Health also found higher levels of metals in counterfeit cigarettes. The paper, “Trace Metals Analysis of Legal and Counterfeit Cigarette Tobacco Samples Using Inductively Coupled Plasma Mass Spectrometry and Cold Vapor Atomic Absorption Spectrometry” analyzed 17 metals in counterfeit cigarettes and their genuine counterparts. The counterfeit and genuine-brand cigarettes were provided by the New York State Department of Taxation and Finance.

The study concluded that nine of the 17 metals analyzed, including mercury, lead, cadmium, arsenic and beryllium, “were significantly higher in counterfeit cigarette samples than in genuine-brand cigarette samples.”

Figure 5, using the methodology explained by Swami (2009), illustrates the ratio of metals in counterfeit cigarettes compared with their genuine-brand counterparts. The data is from the mean values for the concentration of each metal for counterfeit and genuine cigarettes expressed in μg per cigarette.

**Figure 5**

*Many Toxic Metals Are in Higher Concentrations in Counterfeit Cigarettes (NY)*

Metal Concentrations in Counterfeit Cigarettes as a Percentage of their Concentration in Legal Product (μg per cigarette)

Source: Swami, et al (2009), Table 8B
Although the three studies used different analytic methodologies and different samples of counterfeit cigarettes, seized in different years in two different countries, they produced remarkably consistent results. The two metals which were analyzed in all three studies, cadmium, an IARC Group I carcinogen, and lead, a Group IIA carcinogen, were higher in counterfeit cigarettes compared with legal product in each study. Moreover, with the exception of nickel, all metals which were analyzed in at any two of the studies were consistently higher in counterfeit cigarettes. The conclusion, therefore, is that counterfeit cigarettes contain higher levels of heavy metals, including cadmium and lead, than their legal counterparts.

Although potential health issues will be discussed in a later section, it should be noted here that even though legitimate cigarettes contain lower levels of various substances than counterfeits, they cannot be characterized in any manner as being “safe.” The profound health hazards associated with genuine-brand cigarettes is not in question.

The Nature of Tar/Nicotine/CO Levels in Counterfeit Cigarettes

There have been indications from the federal government that counterfeit cigarettes have higher levels of tar, nicotine and carbon monoxide (CO) than non-counterfeit cigarettes. Specifically, the ATF has stated that “it has been reported that counterfeit cigarettes had 75 percent more tar, 28 percent more nicotine and about 63 percent more carbon monoxide than genuine cigarettes.”

Although the ATF report points to an area that deserves exploration, it is presented in anecdotal form and does not indicate the source of the information.

Pappas (2007) did provide specific nicotine data for counterfeit and non-counterfeit cigarettes. The authors found that some “nicotine delivery levels in the counterfeit cigarettes were not consistent with the authentic labeled brand variety.” It was this discrepancy that resulted in the authors deciding to normalize metal delivery with mainstream smoke nicotine delivery.

Overall, the study found that nicotine “deliveries from 17 out of 21 of the counterfeit cigarettes were higher than those of the comparable authentic brands; four had lower nicotine deliveries. All of the counterfeit Marlboro Light and Marlboro Ultralight cigarettes had higher nicotine deliveries than the authentic brands. In fact, many of the counterfeit nicotine deliveries were out of the range expected from their labeled variety.”

Figure 6 illustrates the differences in nicotine levels found by Pappas for counterfeit and legitimate cigarettes. The data in the chart is aggregated into three categories “full-flavor,” the term used in the study, “light” and “ultralight.”

7 ATF, “Fact Sheet.”
9 Ibid., p. 207.
The British government also reports that counterfeit cigarettes contain higher levels of nicotine, tar and CO. Specifically, in a 2006 report on tobacco smuggling, HM Revenue and Customs states that:

*an independent laboratory has tested a representative seizure sample and its results indicate that counterfeit cigarettes contain up to:*

- 160 per cent more tar;
- 80 per cent more nicotine; and
- 133 per cent more carbon monoxide than their genuine counterparts.\(^\text{10}\)

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Overall, although the data regarding higher levels of tar, nicotine and CO in counterfeit cigarettes relative to the levels in legitimate products is somewhat sparse compared with the data for metals, it is convincing, particularly for nicotine.

**The Nature of Miscellaneous Contaminants in Counterfeit Cigarettes**

There are numerous reports of counterfeit cigarettes containing a variety of contaminants. For example, HM Revenue & Customs has stated that counterfeit cigarettes have “been found to contain rat droppings, camel dung, sawdust and tobacco beetles.” ATF has stated that “many [counterfeit cigarettes] are even contaminated with sand and other packaging materials such as bits of plastic.” The Center for Public Integrity, a non-governmental organization which describes its mission as being “to produce original investigative journalism about significant public issues...” has stated that “[t]ests reveal that counterfeit cigarettes carry a bevy of products that could further shorten even a heavy smoker’s life: metals such as cadmium, pesticides, arsenic, rat poison, and human feces.”

**The Nature of the Sources of Counterfeit and Other Illegally Manufactured Cigarettes**

**China**

Reports indicate that China is the leading source of counterfeit cigarettes. In a study detailing the inner workings of the China’s counterfeit cigarettes industry, Shen (2010) suggests that China may be producing 400 billion counterfeit cigarettes a year – these are distinct from cigarettes legally produced for the Chinese market.

Shen (2010) also provides data on law enforcement actions by the People’s Republic of China based on Chinese government data from the National Tobacco Exclusive Sale Bureau (NTESB). The data, illustrated in summary form in Figure 7 for 2002-2006, provides information on the number of counterfeiting cases detected, number of rolling machines seized, quantity of cigarettes seized and number of arrests.

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12 HM Revenue & Customs, counterfeit cigarette information sheet.
Shen notes that the data only reflects “those cases that the Chinese authorities have come across.” Citing a paper not available in English, Shen (2010) relates that “the seized counterfeit cigarettes, as an official in one particular case is quoted as saying, may constitute ‘only the tip of the iceberg’.”

One conclusion that can be drawn from the study is that there is no meaningful limit on the number of counterfeit cigarettes available for illegal transit to the US.

Shen (2010) provides additional insight into the nature of the counterfeit cigarettes themselves. The paper states that “counterfeit cigarettes can be produced from tobacco of various levels of quality, second-hand tobacco or even waste. Some of the chemicals that are used to process the low-quality tobacco, such as sulphur and carbamide, are poisonous and may cause health problems to cigarette consumers. ... Poor-quality tobacco includes the totally unprocessed raw tobacco and musty/rotten tobacco that has to go through a process with sulphur and carbamide in order to look better.”

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15 Ibid., p. 244 [Note omitted].
16 Ibid., p. 245 [Notes omitted].
It is important to recognize, however, that not all Chinese counterfeit cigarettes are low quality/organoleptically inferior. Shen (2010) states that “[i]t is not unusual, however, for counterfeit cigarettes to be made of good-quality tobacco. Mr Li Yang, from the Central Inspection Team of the Beijing Tobacco Exclusive Sale Bureau, commented that in some cases, ‘the counterfeit cigarettes intercepted are of good quality. Consumers can hardly tell the difference between these counterfeit cigarettes and the genuine ones’. Thus, it cannot be assumed that the US market will reject counterfeit cigarettes based on their quality.

In an examination of the counterfeit cigarette business in Yunxiao (Fujian province), one of the area described by Shen (2010) as being “notorious for the production of counterfeit cigarettes,” Te-Ping Chen found that the manufacturing is an underground industry – literally. “‘Most factories are underground,’ a Yunxiao cigarette broker confided in hushed tones. ‘They’re under buildings, unimaginably well-hidden, with secret doors from the basements.’ Even the village temple—topped with an arched red roof and twisting, frescoed spires—conceals a factory below, she said.”

Chen relates that “[o]ne manufacturer built a factory that masqueraded as a military compound, complete with 20 laborers—dressed in castoff army uniforms—who would conduct faux-military drills and sing the national anthem in the yard every morning. Other cigarette-making machines have been hidden on ships, inside concrete bunkers, and even under a lake.”

The article illustrates how counterfeit cigarette manufacturing has grown in size and sophistication to meet the demand from cigarettes markets in various countries. Specifically, in “2001, Chinese manufacturers were producing eight different varieties of counterfeit Marlboros. As of last year, though, Chinese counterfeiters were manufacturing separate versions of Marlboro tailored for some 60 countries—down to the specific details of tax stamps and regional health warnings.”

Chinese-made counterfeit cigarettes have shown up in large quantity in the US along with Chinese brand cigarettes that, although not counterfeit, are also illegally brought into the US and sold untaxed. The New York Times reported that under “the Manhattan Bridge, a popular shopping place for many immigrants from Fujian Province, there are illegal cigarettes for sale amid the shopping stalls, the private bus operators, the makeshift employment agencies and the booths where international calling cards are sold. Cautious vendors sell cigarettes mostly to customers they already know: people who speak Fujianese, people who work in restaurants, people waiting for buses to take them to jobs in Washington or Richmond, Va.”

17 Ibid. [Note omitted].
19 Ibid.
The 2007 NYT article also reported that in “a raid at a warehouse in Corona, Queens, in August, federal and local authorities found 600,000 cartons of cigarettes, many marked “made in China”; 125,000 counterfeit tax stamps from Kentucky, Virginia and New York; and $350,000 in cash.”

The article also noted that in “April, the police seized 243,000 cartons of counterfeit Marlboros and Newports from China as they were being unloaded from a van into a self-storage facility in College Point, Queens.” The article quotes an ATF official stating that “[e]ight years ago, say, there were only 100 investigations, and now we have several hundred” in New York State.”

**North Korea**

China is not the only source of counterfeit cigarettes. A 2007 Congressional Research Service (CRS) report stated that “[s]trong indications exist that the North Korean (Democratic People’s Republic of Korea or DPRK) regime is involved in illicit drug production and trafficking, as well as production and trafficking in counterfeit currency, cigarettes, and pharmaceuticals, with drug trafficking likely decreasing and counterfeiting of cigarettes expanding. Overall, the reported scale of this activity is significant....”

The CRS report also stated that “it is well documented that the DPRK produces counterfeit cigarettes for export, and production of seemingly genuine Japanese brand cigarettes (Mild Seven) and U.S. brands such as Marlboro appears to be flourishing.”

An official with the State Department’s Bureau for International Narcotics and Law Enforcement Affairs testified before Senate’s Homeland Security Committee that there “are reports of as many as 12 such [counterfeit cigarette] factories, some of which appear to be owned and operated by North Korean military and security organizations, while others appear to pay the DPRK for safe haven and access to transportation infrastructure to conduct their criminal activities. These factories have the capacity to produce billions of packs of counterfeit cigarettes annually. This criminal activity extends to the United States itself. Industry investigators report that from 2002 through September 2005, DPRK source counterfeit Marlboro cigarettes, for example, were identified in 1,300 incidents in the United States.”

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21 Ibid.


In response to Senate questioning, the official expressed concern that the smuggling channels North Korea uses for cigarettes could also be used for other substances. “We have no information of drugs entering the United States through North Korea, although we are very concerned about the possibility of that happening, especially given the apparently well-established cigarette smuggling networks that are in place.”

In response to another question regarding North Korea, the official stated that a “major source of income to the regime and its leadership, we believe is the counterfeiting of cigarettes. This is a potentially enormously lucrative business, again with a U.S. connection and, of course, these cigarettes have shown up in Asian markets, as well.” The State Department official also noted that “it appears from what we understand about the cigarette counterfeiting that it may be the single most lucrative item in their [North Korean] portfolio.”

A report by the Peterson Institute for International Economics noted that the “cigarette counterfeiting appears organized in cooperation with Chinese gangs which relocated to North Korea after their government cracked down on counterfeiting in the context of China’s World Trade Organization accession and pressure from trade partners including the United States.”

An official with the Institute for Defense Analysis testifying at the Senate Homeland Security Committee hearing described the quality of North Korean counterfeit cigarettes as “amazing.”

**United States**

Illicit domestic production of cigarettes needs to be considered as a major potential source of contraband menthol cigarettes in event of a ban – a source that could rival or exceed imports. Illicit cigarette production from domestic tobacco has been identified as a major source of contraband cigarettes in Canada and Australia. The Canadian and Australian experiences with domestic illicit cigarette production from locally-grown tobacco is an indication of the type of unlawful cigarette production that could easily and extensively take place in the US.

A study by the Ontario Tobacco Research Unit (OTRU) of contraband cigarettes in Ontario stated that “tobacco products domestically produced by illicit manufacturers who secure illicit raw leaf tobacco from licensed tobacco growers” were a major source of contraband cigarettes along with Chinese-made cigarettes, and “smuggled cigarettes manufactured on the American side of the
Akwesasne Reserve” and “tax-exempt cigarettes that are designated for sale on reserves to status Natives...”29 The OTRU describes itself as a “research network that is recognized as a Canadian leader in tobacco control research, monitoring and evaluation, teaching and training....” The OTRU is funded by the government of Ontario and its principle sponsor is the University of Toronto’s Dalla Lana School of Public Health.

Health Canada, in their “Report to the Conference of the Parties on the Implementation of the Framework Convention on Tobacco Control” noted that “[r]aw leaf tobacco is regularly diverted from licenced tobacco growers and supplied to the illicit tobacco manufacturers within Canada” and that “[c]igarette manufacturing equipment has recently been acquired by illicit manufacturers in Canada that will allow them to significantly increase cigarette production.”30

In Australia, illicit tobacco, known in local parlance as “chop-chop,” was at one time “sourced primarily by diversion from licenced growers; bales of minimally processed tobacco would be purchased or stolen and distributed by organized crime groups.”31 More significantly, chop-chop also “was and is still sourced from unlicensed domestic growers or suburban homegrown production.” The authors point out that chop-chop “is similar to contraband tobacco in Canada sourced from domestic production by illegal manufacturers.”32 As will be discussed, Australian smokers of illegally made cigarettes report significantly worse health than other smokers.

Based on information from multiple sources, we conclude that American grown tobacco has the potential to be a major source of raw material for contraband cigarettes. One key difference between the Canadian and Australian situations and the United States is that in the US no license is needed to lawfully grow tobacco. The Alcohol, Tobacco Tax and Trade Bureau (TTB), part of the US Department of the Treasury, states that “TTB does not license, or require a permit for, growing tobacco.”33

The United States is a spacious, agriculturally abundant country. The experiences of other countries demonstrate that rolling machines can be easily obtained. As will be discussed, Canada’s experience shows that consumers can become accustomed to purchasing inexpensive, unlabeled cigarettes in plastic baggies. Menthol flavoring agents can be readily purchased in bulk. The conclusion is that, in event of a menthol ban, America’s illicit domestic production potential is virtually unlimited.

32 Ibid., p. 997. [Notes omitted.]
33 TTB, Tobacco FAQs and Answers, found at http://www.ttb.gov/tobacco/faq_answers.shtml
Contraband cigarettes are cigarettes on which all required taxes have not been paid. These cigarettes may be divided into two broad categories, legally-manufactured cigarettes on which all required taxes have not been made, and illegally made cigarettes.

There is substantial data demonstrating that counterfeit cigarettes contain higher levels of lead, cadmium and other heavy metals than non-counterfeit cigarettes.

There is data demonstrating that many counterfeit cigarettes contain higher levels of nicotine than legal products. There is also some data indicating that counterfeit cigarettes contain elevated levels of tar and carbon monoxide.

There are numerous reports from governmental and non-governmental sources that at least some counterfeit cigarettes contain feces and other miscellaneous contaminants.

China is the leading source of counterfeit cigarettes and produces massive quantities of these illegitimate products despite law enforcement actions by the Chinese government. Illegal Chinese manufacturers produce high quality counterfeit packaging tailored to many different markets.

North Korea is also a significant source of counterfeit cigarettes. Cigarettes are believed by US officials to be North Korea’s single most lucrative counterfeit good.

The United States has the capacity to illicitly produce a virtually unlimited supply of inexpensive menthol cigarettes.
III. The Causes of Contraband Cigarette Markets

Why is there a contraband market in tobacco products? “Profit” is the easy but incomplete answer as it does not address the root causes that explain why people buy contraband cigarettes.

The Cause of Demand for Contraband Cigarettes

There are two primary reasons why there is demand for contraband cigarettes. Lower prices on untaxed cigarettes is an important reason but not the only one. An additional issue is access. Cigarette traffickers sell to underage smokers who are an important source of criminal profit.

Youth Access

Since adolescents are unable to lawfully purchase cigarettes irrespective of price, they provide a demand for contraband cigarettes that is independent of tax issues.

Although most underage smokers obtain their cigarettes directly or indirectly from taxed sources, the contraband market is a significant source of cigarettes for adolescent smokers. A Research Letter in the Canadian Medical Association Journal (CMAJ) estimated that “[c]ontraband cigarettes accounted for about 17.5% of all cigarettes smoked by adolescent daily smokers in Canada overall, and for more than 25% in the provinces of Ontario and Quebec.” In a more recent study in Tobacco Control, Callaghan (2010) increased the estimate of the share of the youth market accounted for by contraband cigarettes to 43%.

The Canadian experience is directly relevant for understanding the US market, particularly since Callaghan (2010) wrote that according to the Royal Canadian Mounted Police, the “bulk” of Canadian contraband cigarettes are smuggled from the US side of the border.

Callaghan (2010) details the extent to which underage smokers consume illicit cigarettes. Based on a 2009 Ontario Student Drug Use and Health Survey, the researchers determined that most adolescent daily smokers have consumed at least some contraband tobacco, as shown in Figure 8.

Contrary to any perception that teenage boys might tend to be greater risk takers than their female counterparts when it comes to a willingness to engage in black market transactions, the Callaghan (2010) analysis revealed that most daily smokers in high school who have purchased one or more contraband cigarettes in the last 12 months are female. The data is illustrated in Figure 9.

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35 Ibid.

Figure 8
Share of Daily High School Smokers Who Consume Contraband Cigarettes in Ontario, Canada


Figure 9
Share of Contraband and Non-Contraband Daily High School Smokers Who Are Female in Ontario, Canada

Source: Callaghan, et al (2010), Table 1
It is important to note that the high rates contraband cigarette usage by youth are not limited to Canada. A study of 15 and 16 year old students in the North West of England found that 28% had purchased “fake cigarettes.”

When considering youth smoking rates, it should be noted that the Substance Abuse and Mental Health Services Administration (SAMSHA) produces an annual report, pursuant to the Synar Amendment, estimating tobacco sales to minors. The 2009 SAMSHA Synar Report stated that the national weighted average rate of tobacco sales to minors is 10.9%. The reported rate, however, is the Retailer Violation Rate (RVR). The Synar Reports do not consider internet sales and other sales through illicit channels. Thus, the SAMSHA reports demonstrate the outsize role the contraband market plays in fueling youth access to tobacco.

The issue of illegal cigarettes sales to youth by traffickers is important for two reasons: 1) the access issue drives a portion of the contraband market irrespective of federal, state and local tax policies; and 2) the issue of illegal access to tobacco products is analogous to a possible ban on menthol-flavored cigarettes since the contraband market would become the only way to purchase such cigarettes.

The issue of underage smokers disproportionately smoking contraband tobacco is not limited to Western countries. A study analyzing who smokes contraband cigarettes in Taiwan published in the Asian Economic Journal found that “the inclination to smoke smuggled tobacco is characterized by two endogenous classes based on socio-economic status. ... First, the young are more likely to smoke smuggled cigarettes, in particular the student population.” Chen (2010) also discussed “the fact that low-income smokers are more likely to smoke smuggled cigarettes than high-income smokers” an issue that “has an important distributional policy implication.”

**Price**

The contraband market is, of course, driven by more than underage access to cigarettes. Contraband cigarettes cost less than lawfully sold product, in part because of the price differential between taxed and untaxed cigarettes and, in the case of counterfeit and unbranded cigarettes, the price differential between genuine brand product and illegally-manufactured cigarettes.

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38 Substance Abuse and Mental Health Services Administration, “FFY 2009 Annual Synar Reports: YOUTH TOBACCO SALES.”


40 Ibid.
In a 2008 News Release, ATF stated that if someone avoided the state and federal excise taxes and the Master Settlement Agreement payment “and moved a minivan load of contraband cigarettes into New York City, in theory that individual could earn $115,000 more than a legal vendor on that load.” Thus, the lower price of contraband cigarettes is a key demand factor irrespective of the age of the purchaser.

Tobacco tax evasion is one of at least three sources of profit in contraband cigarette market. As has already been discussed, access to the unlawful youth market is another reason. A third profit source is the lower cost of purchasing for (unlawful) resale illegally made unbranded or counterfeit cigarettes. Yet another profit factor is that cigarette traffickers are unlikely to pay income taxes on their ill-gotten gains.

There are multiple data sources on the price differential for contraband cigarettes in the US as well as Canada and the UK. Although the data is far from comprehensive or definitive, it provides a strong sense of the contraband discount as well as the ready availability of contraband cigarettes.

Writing in the News section of CMAJ, McLaughlin (2007) reports on being able to easily find and purchase contraband cigarettes in Toronto for “a bit more than a third of what a pack of 20 cigarettes would have cost me in a store.” The author notes that the executive director of Physicians for a Smoke-Free Canada obtained a better deal on a visit to the Tyendinaga (First Nations) reserve where “[w]e bought 200 cigarettes [the equivalent of 10 small packages], in a plastic baggie, for $8, as opposed to about $80 in a store.” The article further notes that “[p]lastic baggies of 200 cigarettes, often without health warnings, can be purchased in most major cities for as little as $8-$10.”

Luk (2009) reported an even greater price differential for contraband cigarettes in stating that “[b]y evading all (illegally manufactured or imported cigarettes) or part (tax-exempt cigarettes) of the taxes, cigarettes sold to non-First Nations people on reserves can cost less (as little as $6 for 200 reserve-made generic cigarettes) than lawful cigarettes sold off-reserves ($75–90 for 200 cigarettes).”

Prices for contraband cigarettes in the United Kingdom are also at a sharp discount to the cost of legal products. Action on Smoking and Health (UK, established by the Royal College of Physicians in 1971) estimated that “[s]muggled tobacco may be sold on the black market at up to half the price of legitimate products....”

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A 2007 article in the New York Times article reported that contraband cigarettes in the Chinatown area of New York City sell for $4.00/pack, about $3.50/pack less than legally sold products. The Chinatown cigarettes, according to the article, included a mix of Chinese brand and counterfeit American brands, all of which are illegal.\textsuperscript{45} More recently, a local paper in Brooklyn (NY) reported on a tobacconist being arrested for selling untaxed cigarettes for $7/pack, about $5 a pack less than taxed cigarettes.\textsuperscript{46}

The NBC-affiliated local television station in Seattle, KING 5, reported in October 2010 that contraband cigarettes were selling for $5 a pack.\textsuperscript{47} Legal prices for major brand cigarettes are about $9 per pack. The television report linked the contraband market to a tax increase earlier in the year.

In New York City following a large tax increase, Shelley (2007) found that contraband cigarettes were selling at $5.00/pack compared with legal per pack prices of $7.50-$8.00.\textsuperscript{48} The article, published in the American Journal of Public Health and discussed in greater detail below, linked the contraband trade to the tax increase stating that “immediately after the city and state cigarette tax increased, local newspapers reported a ‘flood’ of cigarette smuggling into NYC and a rise in illegal street sales of untaxed cigarettes, particularly in low-income neighborhoods.”\textsuperscript{49} The study also linked the tax increase to rapid inflation of the contraband market – particularly in poor, African American neighborhoods.

In quantifying the “flood” of contraband cigarettes, the paper explains that data from NYC’s Community Health Survey “showed an 89% increase in cigarettes purchased through alternative sales channels.” The paper concludes that “[a]lthough interest in quitting was high, bootleggers created an environment in which reduced-price cigarettes were easier to access than cessation services. This activity continues to undermine the public health goals of the tax increase.” Thus, increased prices for legal cigarettes are a major force for expansion of the contraband cigarette market which, in turn, undermines smoking cessation goals.

\begin{itemize}
\item[45] Medaglia (2007).
\item[49] Ibid.
\end{itemize}
The *New York Times* reported that a “survey conducted in 2006 by the state’s Department of Health found that nearly half of the smokers interviewed in New York City said that they had bought illegal cigarettes within the year.”

In New York City following the tax increases, obtaining lower cost cigarettes for resale did not need involve a smuggling operation more complicated than bringing cigarettes across the river from New Jersey although, as the NYT indicated, internationally smuggled cigarettes are a substantial portion of the trade. Although smuggling cigarettes in some circumstances may be easy, it would be a mistake to conclude that imposition of even extreme barriers to entry inhibit the contraband market for cigarettes.

In a study published in the Journal of Correctional Health Care, Foley (2010) examined prisons in North Carolina that instituted tobacco bans. In the prison which implemented a complete ban, a contraband market developed. Foley (2010) states that a “respondent indicated that the policy has essentially backfired, leading to comparable (and possibly higher) smoking rates as well as a new black market for tobacco products: ‘They smoke as much, or if not more, and it’s (the policy) created the black market.’ He went on to describe that tobacco use happens ‘all day, all time at night.’”

Prisoners trading in forbidden goods has been going on as long as there have been prisons. Lankenau (2001), however, found that development of a prison black market in cigarettes was particularly pernicious as it resulted in violence and new health threats from homemade cigarettes (using “toilet paper wrappers or...pages from a Bible”) and higher tar cigarettes. The study explains how tobacco “bans can transform largely benign cigarette ‘gray markets,’ where cigarettes are used as a currency, into more problematic black markets....” The relevance of the study is two-fold, one it further demonstrates that even strict access controls does not prevent development of wide-spread cigarette markets, and, two, that contraband cigarette markets can create negative consequences in the environments in which they exist over and above those created by other contraband markets.

The data shows that both youth access and cost savings both fuel the contraband market. The two factors are not, of course, wholly independent of each other. A basic economic principle is that price is inversely correlated with demand (elasticity). Callaghan (2010) noted that “[c]ontraband tobacco may be particularly attractive to adolescent smokers, owing to its lower price and lack of point-of-sale age restrictions.”

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50 Medaglia (2007).

Current Size of the Contraband Cigarette Market

There is only fragmentary data on the size of the contraband market in the US with somewhat greater data available for Canada, Brazil and the United Kingdom. The international data is relevant for two reasons. First, the international data provides some information on growth in the contraband market. Since imports are a major source of contraband cigarettes and the market is international, growth in the contraband markets in other countries can indicate potential and/or actual growth in the US, particularly if the data is consistent with available US data.

Second, the international data is relevant because it provides a benchmark against which available US data can be measured. If the US data is at variance with estimates of the contraband market in other major industrialized countries, it would indicate either that the limited US data is misleading or, in the alternative, that there are US-specific contraband market determinants which need to be analyzed in order to understand the market. On the other hand, if contraband data for the US is in the range of market estimates for other countries, then there can be reasonable confidence that the available data is reasonable representative of the overall US market.

The Royal Canadian Mounted Police provide data on the size on the contraband market as part of reports on their Contraband Tobacco Enforcement Strategy. The data reported by the Canadian law enforcement agency in their initial 2008 report and in a 2009 Progress Report was developed by a third-party research company under contract to Canadian tobacco companies since, at “the present time the federal government does not conduct similar research.” The data on the size and growth of the Canadian contraband market is shown in Figure 10.

Although there could be concern that data from an industry funded source might be biased, the Canadian government considered the data as of sufficient quality to report in their Enforcement Strategy. Moreover, the data on contraband cigarettes is consistent with the Canadian government’s data on cigarette seizures. The RCMP reports that they the number of cigarettes they seized doubled between 2006 and 2008, matching the reported magnitude increase in the contraband market.52

The data reported by the Canadian government shows that the total contraband market is substantially smaller than the 43% Callaghan (2010) estimated for the contraband youth access market. This difference indicates that the RCMP reported data is consistent with evidence of the leading role that contraband cigarettes play in fueling the underage market.

The RCMP’s May 2009 Progress Update also provides information on the changing nature of the contraband market. The Update prominently notes in red-bordered box on the Introduction page that “Historically the contraband tobacco environment was based primarily on the diversion of legally manufactured products; today it is driven largely by illegal manufacturing.”

Canadian law enforcement’s determination that the contraband market is increasingly supplied by illegal production is important since it points toward a mechanism that could potentially satisfy US demand for menthol-flavored cigarettes in event of a ban.

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The Canadian report, citing a report from the Brazilian Ministry of Finance, states that in “2006, Brazil’s illicit cigarette trade represented 35% of the market, 20% smuggling and 15% illicit manufacturing.” This data indicates that Brazil’s contraband was problem was worse than Canada’s in that year, but is comparable to the most recent Canadian estimate – setting aside the possibility that the Brazilian market has also grown. The report also shows the substantial role of domestic illicit manufacturing in supplying the contraband cigarette market.

The UK has reported notable successes in fighting contraband cigarettes. A November 2008 report prepared jointly by HM Revenue & Customs and the UK Border Agency preliminarily estimated, based on survey data, that the illicit cigarettes share of the total British cigarette market in 2006/07 was 13%, down from 20% in 2001/02. 13% is also the government’s target for 2007/08 and represents the midpoint of their estimated range for the illicit market.\(^{54}\)

The British government’s discussion of how the nature of contraband cigarettes has changed offers insight into why their contraband market is smaller than Canada’s. The report states that prior to the launch of their anti-smuggling initiative in 2000, “the illicit cigarette market was predominantly made up of genuine cigarettes that were manufactured in the UK, exported, then smuggled back to the UK.”

The report goes on to explain that after initiation of the Tackling Tobacco Smuggling strategy, “the brand mix found on the UK illicit cigarette market has been progressively diversifying. Initially, counterfeit cigarettes began to represent a rapidly growing share of the illicit market and, more recently, brands not sold on the legitimate UK market, in particular so called ‘cheap white’ brands made by small independent tobacco companies are representing a growing share of cigarette seizures.”\(^{55}\)

The report makes clear that virtually all contraband cigarettes in the UK are smuggled into the country from overseas. There is no UK equivalent of interstate contraband as in the US, nor are there sovereign tribal territories on Great Britain as there are for Canada and the US. It should also be noted that the UK does have much in the way of domestic tobacco production which could potentially serve for indigenous production of illicit cigarettes.

Another issue that may be limiting the contraband cigarette market in the UK is the relative popularity of hand-rolling tobacco. The report notes that in 2006, the illicit market share for hand-rolling tobacco “stood at 56%.”\(^{56}\) Although the government is trying to substantially decrease the market share of illicit hand-rolling tobacco, the provisional estimate for 2006/07 (the most recent


\(^{55}\) Ibid., p. 7.

\(^{56}\) Ibid., p. 5.
data in the report) was 53%. If the hand-rolling tobacco were converted to a cigarette equivalent, the overall illicit market share for cigarettes/hand-rolled cigarettes in the UK would be higher.

The conclusion is that there are specific attributes of the UK which make a contraband market more difficult to supply there than in Canada or the US. Although interstate tax-dodging contraband would not be an issue in event of a menthol ban, there is the potential for illicit unbranded “cheap white” domestic production as well as licit and illicit production on North American tribal territories on both side of the US-Canada border in addition to illegal imports of counterfeit and other cigarettes.

The report discussed another issue which has bearing on the expansion potential of the contraband market—the government’s target data for seizing contraband cigarettes. Specifically, the agreement between the HM Revenue & Customs and the UK Border Agency (essentially a Memorandum of Understanding) for 2008/09 calls for the “seizing at least 20% of the illicit cigarettes targeted on the UK.” Thus, even the target goal of a successful anti-smuggling strategy expects that as much as 80% of smuggled cigarettes will reach the country.

Data concerning the US contraband cigarette market includes federal reports examining trends in tobacco smuggling and contraband seizures as well as localized estimates and analysis from state revenue agencies and academicians. It is possible, based on review of the available data, to develop a rough working estimate of the domestic contraband market.

1998 GAO testimony before the Senate Democratic Task Force on Tobacco on interstate smuggling and smuggling between Canada and the US stated that, “recent studies suggest that the level of interstate smuggling activity may now be increasing...recent estimates suggest that smuggling is responsible for states collectively losing hundreds of millions of dollars in annual tax revenues” and that “[a]ccording to the Canadian government, sharp increases in Canadian federal and provincial cigarette taxes in the late 1980s and early 1990s led to large-scale smuggling between the United States and Canada conducted almost entirely by organized crime. Violence increased, merchants suffered, and in one year alone, Canada and its provinces lost over $2 billion (in Canadian dollars) in tax revenues.”

A 2004 GAO report discussing increases in cigarette smuggling and associated law enforcement activities, stated that “[b]ecause of its clandestine nature, the extent of cigarette smuggling into the United States is impossible to measure with any certainty. According to ICE and ATF officials, the

57 Ibid., p. 23.
results of investigations and intelligence collected indicate cigarette smuggling, particularly of counterfeits cigarettes, is a significant problem.\(^59\)

The GAO report provided data on seizures of both counterfeit and smuggled genuine cigarettes by ICE and by the U.S. Customs and Border Protection (CBP). The GAO data, illustrated in Figure 11, indicates rapid growth in the contraband cigarette market between 1998 and 2003.

The data shows a rapid growth in the number of genuine brand cigarettes seized from FY 1998-2002 with a sharp decline in 2003. By contrast, the number of counterfeit cigarettes soars in the later years of the study.

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Additional data presented by GAO shows that counterfeit cigarettes seized rapidly increased as a proportion of all counterfeit goods seized, based on value, from 9% in FY 2000 to 44% in FY 2003. Therefore, the rapid increase in counterfeit cigarette seizures cannot be attributed simply to an increase in counterfeit seizure activities by federal law enforcement agencies although the report does state that officials “believe the increase in seizures of counterfeit cigarettes was due to better intelligence and better inspections.”^60

The report notes that an ATF official informed GAO that “generally, cigarette investigations take 12 to 24 months, and the investigations are extensive and complex, particularly the more recent investigations which are still ongoing. The ATF official said that unlike in the past where ATF just seized the cigarettes and vehicles because the smuggling was being performed by ‘mom and pop’ operations, since about 1999 more cigarette smuggling is being carried out by criminal organizations and, therefore, requires much more extensive investigation.”^61

The California contraband market is discussed in a study by the OTRU. Based on published studies, the OTRU paper states that in 2002, cigarette tax evasion was responsible for 26% of the California market. The paper discusses measures taken by the state to improve the situation including “licensing of the entire supply-chain of tobacco products” and an enhanced, machine readable tax-stamp as well as funding for implementation and enforcement of the various measures. According to the study, the California Board of Equalization suggests “that overall cigarette-tax evasion has dropped by $56 million since the 2003 study, bringing the overall cigarette tax-evasion estimate to $182 million per year.”^63 It is not clear how this estimate, which implies that lost revenue was $238 million in the 2003 study, is consistent with the paper’s reported estimate of $292 million of lost revenue in 2002.

Nonetheless, the study indicates that the current contraband cigarette market share is perhaps 21% (estimated using a 19% reduction in contraband sales which was implied by a reduction in tax evasion of $56 million with a base of $292 million).

Of note, the OTRU study indicates that the contraband rate in California will be lower than in other places in the US. Specifically, the study states, “In California, the source of contraband is not as dynamic and adaptable as it is in other jurisdictions.”^64

^60 Ibid., p. 21.
^61 Ibid., p. 20.
^63 Ibid., p. 65.
^64 Ibid., p.66.
One potential shortcoming with the OTRU estimate is that it makes no mention in its discussion of cigarettes sales of street sales of contraband cigarettes, such as the type that was discussed by Shelley (2007) and captured on video in the KING 5 News story, raising the possibility that the state is underestimating lost revenue.

Another potential shortcoming in the ORTU study is that data related to role of online cigarette sales is dated and appears to underestimate the role of the internet in distributing contraband cigarettes in California. Specifically, the study states that “2002 data show that only 6% of smokers in California actively tried to evade cigarette taxes, through either purchasing out of state, on-line, on Indian reservations, or on military bases.” A 2006 letter in the Archives of Pediatric and Adolescent Medicine, however, found that internet vendors are not complying with a California state law intended to prevent sales to underage smokers. The study found that there was “zero compliance” with the law regulating internet cigarette vendors. Although some internet vendors complied with one or two of the law’s six provisions, “[n]o vendors complied with the other 4 provisions” raising the possibility that some internet cigarette vendors serving California may also not be complying with state tax requirements.

The ORTU statement and Williams (2006) raise concerns that internet vendors could be contravening nationwide regulations, such as those by the US Postal Service, to prevent illegal tobacco sales. Internet cigarette sales are a substantial issue when assessing the contraband market. Goolsbee, et al (2009) warns that “the increased sensitivity from cigarette smuggling over the Internet has lessened the revenue generating potential of cigarette tax increases significantly....” From the standpoint of this analysis, the issue is not the lost the lost tax revenue per se, but the magnitude of the contraband sales implied by the lost revenue.

The Washington State Department of Revenue has estimated, according to KING 5 News, that “soon one of every three cigarettes sold in Washington will be untaxed contraband.” This is a substantial increase over the 24% contraband rate that was estimated by the Washington State Department of Revenue for 2006. The 2006 contraband estimate was based on estimating the state’s smoking rate as a share percentage of the national smoking rate as well as the national average cigarette consumption. The estimate of smoking, adjusted for cigarette sales on military bases and tribal

67 Ingalls (2010).
territories was then compared with the tax stamps sold to estimate illegal sales. The new estimate is consistent with other reports of increases in the contraband market.

A paper examining the relation between cigarette prices and purchasing patterns in western New York noted that “a recent survey of...adult smokers in 2002-2003 found that 67% of smokers reported that they usually purchase their cigarettes from an Indian reservation, where the average cigarette price was 40% that of an off reservation convenience story.”\textsuperscript{69} Given the increase in taxes since the study, it would seem plausible that untaxed purchases by non-reservation residents, \textit{i.e.}, contraband, would be even higher today. When considering the overall contraband market, however, it should be remembered that the survey concerned a large but relatively sparsely populated area.

Shelley (2007) provides a detailed examination of the contraband market in Harlem. Although the study does not provide a point estimate of market size, its sociological examination of the market supplies an invaluable insight into the dynamics of the contraband cigarette market in a deeply disadvantaged African American community.

The study, funded by the Centers for Disease Control and Prevention and the American Legacy Foundation, used fourteen focus groups in 2003 to relate the “new underground cigarette economy” to various concepts including “perceptions of tobacco policies, social environment, stress, aspects of addiction, and community norms.”\textsuperscript{70} Six of the focus groups were composed of non-smokers or former smokers while the others were made up of current smokers. The groups were not demographically representative, instead, they “tended to be poorer and less educated than the general Harlem population.”

The Shelley (2007) study examined the ubiquitous nature of the contraband cigarette market in Harlem. Although the analysis is not quantitative, quotes from the tape-recorded focus groups highlight just how widespread the contraband trade is in the community:

- “Everyone is getting them off the street. You can even get them in the hospital.”(Male smoker, aged ≥50 years)

- “Now it’s like 20 guys to a block and each one of them . . . they’ve got cigarettes for sale.” (Male smoker, ≥50 years)\textsuperscript{71}

Shelley, et al. comment that “[r]emarkably, nonsmokers were also familiar with the new underground cigarette market, suggesting the pervasiveness of this illegal activity.”


\textsuperscript{71} Ibid.
“That’s the new push now, the cigarette man.” (Female nonsmoker, ≥50 years)

“They’ll walk by with a bag on their shoulder, anybody walk up, male or female, [yelling] ‘cigarettes $5, Newport $5, Marlboro $5.’” (Male nonsmoker, ≥50 years)

The study also contains information concerning community attitudes toward contraband vendors and toward the cigarette taxes intended to reduce smoking that are relevant for helping to understand how a menthol ban might be perceived by the community. This information will be discussed in the next section.

Based on the data reviewed, this study estimates that contraband cigarettes will account for 25% of the US cigarette market in 2011. The factors that went into deciding to use a 25% contraband market share base case estimate include the Washington State Department of Revenue’s estimate that contraband would soon account for one-third of the cigarettes in their state and the increase in this estimate from 2006, the very high rates of contraband in underprivileged urban areas, the rapidly rising number seized counterfeit cigarettes reported by GAO and the UK’s goal of intercepting only 20% of smuggled cigarettes.

Other factors considered include estimates of the contraband market in Canada, and the rapid expansion of the Canadian contraband market measured in both market share and cigarettes seized. Evidence of lower contraband areas in the US, such as California, were also considered. Lastly, the tremendous illicit cigarette manufacturing capacity in China, as well as other international sources of smuggled cigarettes, informed the conclusion that the 25% contraband market share was an appropriate base number to use for estimating the potential impact of a menthol ban.

It should be noted that Joossens (2010) reported that illicit cigarettes had a 13-25% market share in the US using the “[p]ercentage of consumers that purchased lower-priced cigarettes” as the metric. However, the data cited was for 1992-2002, thus not accounting for the recent growth in the contraband cigarette market reported by multiple sources.

The Cause of Community Acceptance of the Contraband Cigarette Market

How communities perceive measures intended to reduce smoking, such as tax increases, and how they perceive street level contraband vendors can provide insight into how communities would respond to a ban on menthol-flavored cigarettes. Social opprobrium can be a strong factor discouraging certain types of behavior although, of course, it is not determinative. Similarly, social acceptance could indicate that certain types of activities are more likely to increase.

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Shelley (2007) found very strong support for contraband cigarette vendors (referred to as the “$5 man”) in the focus groups. The study states that the illicit tobacco vendors “were uniformly viewed as a justifiable and appreciated response to the high price of cigarettes.”\(^{74}\) As one study participant explained,

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“We’re thankful for the $5 man. Everyone is happy that the fare is gonna go back down. We’re happy that we found the man on 125th Street that says Newport $5. We don’t care that the cops are standing right there and he’s doin’ something illegal. It’s not very important down on 86th Street, Central Park West. That’s because they got a lot of money.” (Female smoker, 18–24 years)\(^{75}\)
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The authors go to explain that the study participants have a “strong belief that the $5 man was a normative response to cigarettes price increases was coupled with respect for street sellers’ resourcefulness in creating a lucrative source of income in a neighborhood plagued by high unemployment and limited economic opportunities. Thus, bootlegging was viewed as mutually beneficial to seller and buyer.”\(^{76}\) Published excerpts from focus group conversations demonstrate the economic perspective of the community toward contraband cigarette sales:

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“The profit is unbearable. You know, I watch guys today in Harlem. Bought cars [with the money they made] selling cigarettes. Buy vans and jeeps [with the money they made] selling cigarettes.” (Male smoker, 25–49 years)\(^{77}\)
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The study explores the community’s perception of the cigarette tax increase aside from what it may mean to them in terms of cost savings or economic opportunity. The paper states that smokers “viewed the cigarette tax increase with cynicism. Explanations for this attitude included suspicion of the government’s motivation, an expectation that the tax would increase illegal sales, and the belief that illegal sales would lead to an increase in the arrest of Black men in the community.”\(^{78}\) One of the study’s quotes from the focus groups voicing the belief that the tax increase would result in more African Americans going to prison was:

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“It creates more of a way for the lot of us in jail too because for them raising the price and forcing us now to go across state line. They know what’s going on and they’ll catch you knowing we have a big demand for this, and they lock you up or they catch guys on the street and they grab them and put them in jail, and the most people they’re grabbing and putting in jail are people of color.” (Male smoker, 25–49 years)
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\(^{75}\) Ibid.

\(^{76}\) Ibid.

\(^{77}\) Ibid., p. 1486.

\(^{78}\) Ibid. [Emphasis added]
Community perception of the tax increase is directly relevant to understand how a menthol ban may be viewed. If the ban is seen by economically disadvantaged communities as a government policy that will result in more young men and women of color be placed under the supervision of the judicial system, the menthol ban would inflict social harm on communities that already view themselves, with good cause, as suffering from higher rates of economic dislocation and other harmful stresses than more affluent and white communities.

Moreover, since economic and other stresses contribute to higher smoking rates in African American communities, a menthol ban could exacerbate the very problem it seeks to remedy as the following quotes illustrate:

- “I need this to calm down and that plays a big role in the life of a Black man of course, there’s a lot of things that’s put to us that stresses us out and we run to these packs.” (Male smoker, 25–49 years)

- “It’s stressful living in Harlem especially with the economy now. You can find a pack of cigarettes before you can find a job.” (Female smoker, 18–24 years)

- “Ya know, we’re poor and this [smoking] is the way we get over a lot of things.” (Female smoker, 18–24 years)

- “Generally it’s associated with stress. I just got out of prison.” (Male smoker, 18–24 years)

As the study explains, for “smokers living in Harlem, smoking was an important strategy to cope with individual level stressors such as low incomes and unemployment. ... Within this socioeconomic and cultural milieu, the emergence of the $5 man was both expected and largely applauded by smokers and nonsmokers alike.” Moreover, “pervasive illegal sales facilitated smoking by creating a visible trigger to smoke and ensuring easy access to tobacco products.”

While recognizing that the study has “limited generalizability to other populations and settings” the authors noted that “data from the CHS [NYC Department of Health and Mental Hygiene’s Community Health Survey] suggest that purchases of cigarettes from ‘another person’ were highest in communities with the lowest median income throughout NYC. Thus, the phenomenon may not be isolated to Harlem.” The authors also state that the study provides “insight...into a form of tax evasion and illegal sales that has not been previously reported in the literature.”

One of the study’s conclusions that has direct implications for the effectiveness of a menthol ban in reducing smoking in underprivileged communities is that “our findings support the argument that programs and policies to alter health risk behaviors are limited without addressing the structural

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79 Ibid.
inequalities and pressing social and material contextual factors that help sustain nicotine addiction, shape individual attitudes and behaviors, and inform community norms.  

The study goes on to state that “[w]ithout consideration of these issues, tax policies may negatively affect disadvantaged communities by increasing illegal sales activity and, paradoxically, cigarette availability.” It seems likely that the same phenomena would hold at least as true for a menthol ban, which resembles an exceedingly high tax on the products, as it would for a conventional tax increase. Shelley (2007) notes that were studies performed in the UK which reported similar findings. For example, a qualitative analysis performed in Glasgow also emphasized the strong role of socio-economic factors in influencing smoking decisions.

Stead (2001) explains the “people in disadvantaged communities like those in our study, smoking provides a means of coping with the combined stress of personal circumstances (low incomes, unemployment, caregiving) and the wearing influence of living in an inadequately resourced and unsafe environment.” Moreover, “[l]iving in a community which is disadvantaged not only absolutely but also relative to neighbouring areas and the wider society, may lead to feelings of exclusion and stigmatisation.... Our study suggests that smoking may provide compensation for—while at the same time reinforcing—these feelings.”

A British study which explicitly examined the relation between social deprivation and the contraband cigarette trade also found strong support for vendors of illicit cigarettes. As one study participant explained, “to me, they’re doing you a favour . . . They’re doing people a service.”

The study makes clear that increasing taxes were “perceived as punitive, punishing the smoker and his or her family.” Moreover, “[o]nly a few intimated that higher prices might act as an incentive to reduce smoking....”

Wilshire (2001) concludes that “[c]igarette and tobacco smuggling is therefore viewed positively by low income smokers as a way of dealing with the increasing cost of cigarettes. Smokers in areas of deprivation may thus show little support for tackling smuggling until more action is taken to deal with the material and personal factors that make it difficult for them to quit.”

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80 Ibid., p. 1487. [Notes omitted]
83 Ibid.
84 Ibid., p. 203.
Based on a review of the literature, it can be concluded that: 1) illicit cigarette vendors receive strong social support in disadvantaged communities; and 2) these communities would likely view a menthol ban as a punitive government measure that harms underprivileged people while ignoring the underlying economic and social causes of their elevated rates of smoking.

**The Cause for a “Significant” Increase in the Contraband Market: A Menthol Ban**

Understanding the current state of the contraband market, including the socio-economic dynamics underlying the market, is essential for persons and organizations interested in determining how a ban on menthol-flavored cigarettes would affect the market. Once there is an understanding of the base contraband market, an informed estimation can be made regarding the extent to which a menthol ban would affect the contraband market.

The Act states that the TPSAC and the FDA are to consider whether a menthol ban would create a “significant demand” for contraband cigarettes but does not define the term “significant.” There is already a demand for contraband cigarettes that is significant enough to warrant actions by law enforcement authorities in the US and around the world.

In light of the existing contraband market, the term “significant demand” could be interpreted to mean a significant increase in the demand for contraband cigarettes attributable to a menthol ban. The questions remains, though, what is a significant increase? Would a significant increase be enlarging the contraband market by 10%? 20%? 50%?

Although this paper will develop a quantitative estimate of the increase in size of the market for contraband menthol cigarettes that would result from imposition of a menthol ban, it proposes a qualitative definition of “significant demand.” The TPSAC and FDA should consider an increase in demand for contraband cigarettes to be significant if it has a deleterious impact on identifiable categories or groups of smokers. More specifically, since smoking rates among adolescents and among African Americans is a major concern driving debate over a possible menthol ban, a significant increase in the contraband market should be understood to mean that the increase in the market could be reasonably expected to result in harm to underage and/or African American smokers.

CRE’s model for estimating the impact of a menthol ban that will be constructed in this paper is very conservative, i.e., it will substantially underestimate the increase in the menthol contraband market.

The model’s primary assumption is that only those menthol smokers who already buy some contraband cigarettes would buy black market menthol-flavored cigarettes following a ban. Thus, even though researchers have found that it is quite easy to find and purchase contraband cigarettes, this paper assumes that no one who has not already purchased contraband tobacco would become a purchaser even when the contraband market expands. One result of using this assumption is that it means no increase in the non-menthol contraband market will be estimated, no matter in how many additional neighborhoods the “$5 man” takes up residence.
Demographic Characteristics of Contraband Menthol Cigarette Purchasers

The first step in estimating how the contraband market would change as a result of a menthol ban is to estimate the share of people who currently purchase contraband menthol cigarettes. A study published in the European Journal of Public Health provides data on the shares of people who have purchased contraband tobacco by gender and certain other characteristics. By applying these contraband purchase rates to US demographic data from the Census Bureau and the National Survey on Drug Use & Health (NSDUH), we can develop a picture of who in the US purchases contraband menthol cigarettes.

In developing the demographic estimates of contraband menthol purchasers, we will consider people who have purchased contraband menthol cigarettes at some point in time, rather than people who purchase only contraband menthol tobacco, because this is what we have data for. If it were assumed that contraband smokers smoke only contraband cigarettes and other smokers smoke only legally sold products, then our 25% estimated contraband share of the market would represent the share of smokers who purchase contraband cigarettes. The evidence, however, indicates that smokers who purchase contraband do so for only a portion of their total tobacco consumption. For example, the Callaghan (2010) data shows that over 80% of daily high school smokers report having purchased contraband tobacco at least once in the last year, well over the share of students who smoke contraband cigarettes on a daily basis.

A survey-based study focused on determining the types of people who use contraband tobacco provides data on the share of the total tobacco-using public who purchase at least some contraband. The Taylor (2005) study surveyed over 11,000 people 16 and older (then the legal smoking age in the UK) in the East Riding and Hull area of northeast England.85

The question regarding use of smuggled tobacco was worded so that survey recipients could indicate they purchased smuggled tobacco without explicitly admitting to a committing a crime.86 The survey found that 41% of cigarette smokers had bought smuggled tobacco. The authors explain that “[a]lthough this may seem high, it should be considered that people within this group might have only bought smuggled tobacco on few occasions because the questionnaire asked ‘have you ever bought’.”87 It should also be noted that the survey area was described as “in close proximity to major ports where smuggling and contrabanding from Europe is possible.”

86 Ibid., p. 400.
87 Ibid., p. 401.
The British government states that in 2003/04, the mid-point estimate of contraband’s market share was 18% with a high estimate of 21%, a share below the 25% estimate of contraband’s share of the US market. Based on the share of the US market accounted for by contraband, it would be reasonable to conclude that the share of US smokers who have purchased contraband cigarettes may be higher than 41%. The English data, therefore, will be used as a conservative proxy for the US.

Taylor (2005) survey data on the demographic characteristics of who use contraband tobacco will also be applied to the US even though they will likely underestimate US contraband usage since contraband cigarettes are more difficult to buy in the UK. The Taylor (2005) survey over-sampled residents of “deprived” neighborhoods which was then statistically “dealt with by using logistic regression.” For purposes of the survey, “deprived” is defined as a score of greater than 25 “on the UK Department of Environment Trade and the Region’s index of multiple deprivation in the East Riding and Hull Health Authority area...” We know from Shelley (2007) that social deprivation is strongly associated with the purchase of contraband tobacco in the US.

The UK’s Multiple Deprivation Index is a more sophisticated measure of socio-economic status than is a simple poverty rate. Instead, the index, which is measured is specific areas, includes factors in addition to income such as information related to employment, health, education and geographical access to services – all factors which may relate to use of contraband cigarettes.

Other factors found by Taylor (2005) to be significant predictors of contraband purchasers are included whether or not a person was a heavy smoker (20 or more cigarettes per day) and whether they were employed. The authors hypothesized based on Wilshire (2001) that the social networks created through employment would enhance access to contraband tobacco. Based on Shelley (2005), it appears that this situation may not be relevant to the US since there is ubiquitous contraband access in at least one area with high unemployment. In Harlem and possibly other deprived areas, the social network that supports access to contraband tobacco is based in the community rather than in a place of employment.

Using an “ideal type analysis” Taylor (2005) found that the “predicted probability of having bought smuggled tobacco for a male, employed, heavy smoker living in a deprived area is 0.67.” The probability for an unemployed make heavy smoker living in a deprived area purchasing contraband tobacco is 0.55. Since social networks supporting contraband access appear to function differently in the US, at least in deprived areas, we will take the mid-point of the data for a rate of 0.61 for a heavy male smoker living in a deprived area irrespective of employment status. Another reason for combining employed and unemployed contraband purchase rates is that there is not US data available on menthol smoking rates by employment status.

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89 Taylor (2005), p. 400.
For a female heavy smoker living in a deprived area, the probability of her having purchased smuggled tobacco (mean of employed and unemployed) is 0.43. For a male heavy smoker in a non-deprived area, the probability would be 0.47 and for a female heavy smoker, the probability would of having purchased contraband tobacco based on the Taylor (2005) results would be 0.3. For non-heavy smokers (20 or fewer cigarettes a day) in deprived areas, the probability of a man having purchased contraband cigarettes would be 0.47 and for a woman 0.3. For non-heavy smokers in non-deprived areas, the probability of a man having purchased smuggled cigarettes at some point in time is 0.33 and for women, 0.19.

The next task is to apply these probabilities to US demographic data. There is US Census data that provides estimates of the percentages of the public, by gender and ethnicity, who live in poverty. As has been discussed, poverty is a limited proxy for social deprivation. Although economic hardship is an important component of deprivation, it is only one of multiple stresses that contribute to licit and illicit tobacco consumption. Nonetheless, since poverty rate data is what is available from the Census Bureau, it will be used as a proxy for deprivation.

By applying the Taylor (2005) demographic information to US census data, we obtain a demographic picture of contraband tobacco purchases by adult Americans. Since neither the census data nor the NSDUH provides data on the average daily quantity of cigarettes consumed, to apply the Taylor (2005) contraband purchase rates to the US, we will take the mean point between heavy and non-heavy smokers for each “ideal type,” e.g., men in deprived areas.

From the census data, we know that 11.2% of white women live in poverty. From the Taylor data we estimate that an adult female smoker living in poverty has a 36.5% probability of having purchased contraband while an adult female smoker not in poverty has a 24.5% probability of having purchased contraband cigarettes at some point in time. Thus, we estimate that of 26% of white female menthol smokers have purchased contraband cigarettes for some portion of their total tobacco use. It should be emphasized that this estimate indicates that about a quarter of the white female smokers have purchased contraband cigarettes at some point in time, not that contraband accounts for a quarter of the cigarettes smoked by white women.

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90 US Census Department, Current Population Survey, Table POV01: Age and Sex of All People, Family Members and Unrelated Individuals Iterated by Income-to-Poverty Ratio and Race: 2007, Below 100% of Poverty -- White Alone. Note, poverty rate is for calculated all white females aged over 5 years.
91 The mean between the purchase rate for female heavy smokers in deprived areas (43%) and for female light smokers in deprived areas (30%) is 36.5%
92 Share of white women in poverty (0.112) multiplied by anytime contraband purchase rate for women in poverty (0.365) added to the product of the share of white women not in poverty (0.888) times the anytime contraband purchase rate for women not in poverty (0.245) equals 0.258, rounded to 26%.
For white men, the census data states that 8.7% of them live in poverty. From the Taylor data we estimate that an adult male smoker living in poverty has a 54% probability of having purchased contraband while an adult male smoker not in poverty has a 40% probability of having purchased contraband cigarettes at some point in time. Thus, we estimate that of white male menthol smokers, 41% have purchased contraband cigarettes at some time for some portion of their total tobacco use.

Applying the same technique to the Hispanic population indicates that 42% of Hispanic men and 27% are estimated to have purchased contraband cigarettes. For African American men and women the contraband purchase rates would be 43% and 27%. The contraband purchase rates by adult Asian men and women would be 41% and 26%.

Two interesting conclusions are apparent from the estimates. The first is that men purchase contraband at higher rates than women. The Taylor (2005) data shows that a man is about 50% more likely to purchase contraband cigarettes than a woman in a similar economic situation. This is at odds with the Callaghan (2010) data although that was for high school students for whom all tobacco purchases were illegal. It would be plausible to assume that, in the event of a menthol ban when all menthol purchases were illegal, that male and female menthol smokers would purchase contraband cigarettes at similar rates. Since, based on the Taylor (2005) data, we are estimating much lower contraband purchase rates for women, our estimate for the total increase in the contraband market from a ban will be quite conservative. The other notable point that emerges from our estimates is that Americans currently have similar contraband purchase rates irrespective of ethnicity.

Although ethnicity is not estimated to be much of a factor in determining the share of Americans who purchase contraband cigarettes, the purchase rates of contraband menthol cigarettes differ quite sharply by ethnicity. An official with the Centers for Disease Control and Prevention presented the TPSAC with data concerning the demographics of menthol smokers based on the NSDUH data.

Figure 12 illustrates contraband menthol cigarette ever-purchased rates by gender and ethnicity. The purchase rates were estimated by multiplying the contraband purchase rate for a person of each gender and ethnicity by the menthol smoking rate for the same category. For example, we have already estimated that 26% of white women who smoke have purchased at least one pack of

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93 Ibid.
94 US Census Bureau, Current Population Survey, Table POV01: Below 100% of Poverty -- Below 100% of Poverty -- Hispanic Origin.
95 US Census Bureau, Current Population Survey, Table POV01: Below 100% of Poverty -- Below 100% of Poverty -- Black Alone.
96 US Census Bureau, Current Population Survey, Table POV01: Below 100% of Poverty -- Below 100% of Poverty -- Asian Alone.
97 Ralph S. Caraballo, “Menthol and Demographics,” CDC, Office on Smoking and Health, March 30, 2010.
contraband cigarettes. According to the NSDUH data, 28.4% of white female past-month smokers over 12 have smoked menthol in the past month (we will use the past month data as a proxy for menthol smoking preference). Therefore, we estimate that 7.4% of white female smokers have purchased contraband menthol cigarettes (0.26*0.284=0.074).

The data shows that even though adult purchase rates of contraband are about the same irrespective of ethnicity and even though, as CDC explained to the TPSAC, whites are a majority of menthol smokers, African Americans are disproportionately at risk in contraband transactions. Hispanic and Asian smokers also have higher menthol contraband purchase rates than whites. The disparity among racial/ethnic groups becomes even more clear when the adult contraband cigarette purchase rates of each group are displayed along with the menthol contraband purchase rates as shown in Figure 13.
One conclusion that can be drawn from the chart is that, in event of a menthol ban, street level law enforcement activities would disproportionately affect African Americans even though whites constitute a majority of menthol smokers.

The contraband purchase rates we have discussed so far are for legal age smokers since the survey conducted by Taylor, et al. did not cover underage smokers. There is data however, on contraband purchases by underage smokers in Canada. Callaghan (2010) estimated that contraband cigarettes accounted for about 43% “of all cigarettes smoked among Ontario high school daily smokers.” The RCMP Progress report includes an estimate of contraband accounting for 32.7% of the Canadian market. Therefore, in Canada, share of contraband cigarettes consumed by underage smokers is 31.5% greater than for the population as a whole.
Given the 25% contraband share in the US and using the Canadian youth-adult contraband purchase ratio as a proxy for the US, we can estimate that about 33% of all cigarettes smoked by underage youth are contraband. Callaghan (2010) also stated that 84% of high school daily smokers reported having purchased contraband tobacco in the past year. Applying the ratio of high school past year purchases rate to contraband’s share of Canadian underage smokers to the lower estimate of contraband’s market share in the US results in an estimate that about 64% of underage smokers have purchased at least one contraband cigarette during the past year irrespective of ethnicity.

It is not clear whether the gender data in Callaghan (2010) which shows a higher rate of contraband use among women would apply to the US so we will assume that US underage smoker contraband purchase rates are the same for men and women. Another reason for using this gender-neutral assumption is that Caraballo (2010) does not provide menthol preference data for underage smokers by ethnicity and gender. Since there are relatively few underage contraband purchasers compared with adult contraband purchasers, this assumption will not materially skew the statistics.

By applying the NSDUH data reported by Caraballo (2010) to the estimate of the underage US contraband market, we can develop a demographic profile of underage smokers who have purchased contraband menthol cigarettes. Thus, the estimated share of underage Asian smokers who have purchased contraband menthol cigarettes in the last year is 33% (64% underage contraband purchase rate multiplied by 51.5%, the share of underage Asian smokers who smoke menthol reported by Caraballo (2010).

Figure 14 depicts underage purchasers of contraband menthol flavored cigarettes by ethnicity. As is the case with adult smokers, white underage smokers would be least impacted by a menthol ban while underage African American smokers would be the most affected ethnic group.
Figure 14

**Share of Underage Smokers Who Have Purchased Contraband Menthol Cigarettes by Ethnicity**

Estimated Effect of a Menthol Ban on the Contraband Cigarette Market

Estimating the increase in the contraband market that would result from a menthol ban requires making some assumptions regarding how menthol smokers would react to a ban. We have already stipulated the assumption that non-menthol contraband consumption would remain unchanged even though expansion of the contraband market would make relatively inexpensive illicit cigarettes more widely available.

From a practical perspective, there is no reason to assume that a menthol ban would have much long term impact on US consumption of menthol-flavored cigarettes. The evidence clearly demonstrates that there is essentially limitless illicit cigarette manufacturing capacity overseas and domestically. With respect to the likelihood of shipments of foreign-made illicit cigarettes reaching the US, we found that the UK has set a target rate of capturing only 20% of smuggled cigarettes. As was noted, a 2007 *New York Times* article stated that two raids in Queens resulted in the seizure of almost...
850,000 cartons (170,000,000 sticks) of smuggled cigarettes. Moreover, illicit menthol cigarettes could be manufactured domestically in warehouses, basements, sheds and most anywhere else.

It is also possible to reasonably conclude that a menthol ban could lead to an increase in consumption of menthol flavored cigarettes for three reasons. One, contraband cigarettes sell at a steep discount to legal retail transactions. The $5/pack contraband prices recently reported in Seattle represents a discount of more than 40% off of legal prices. Lower prices mean higher consumption.

Contraband cigarette trafficking has reached the point where it is changing the elasticity of demand for cigarettes. For example, Goolsebee (2010) in an analysis of the impact of internet contraband sales, concludes that “[o]ur estimates imply the growth in Internet penetration in the U.S. has led to an increase in the taxable sales elasticity of over 60 percent. The evidence suggests this increased sensitivity is due to smuggling and not due to any greater sensitivity of cigarette consumption.”

A second reason why an increase in the contraband market would increase consumption of menthol (and other) cigarettes is that street level contraband vendors act as advertising. As one of the non-smoking participants in the Shelley (2007) study explained,

> “How could we all forget the biggest advertisement going now when you pass the corner on the street (mimics people selling cigarettes). That’s the new advertisement, the people who sell them.”(Female nonsmoker, ≥50 years)

The third reason to expect that an increase in the contraband market would increase cigarette consumption is that the contraband market increases youth access to tobacco.

There are also reasons to project that a menthol ban would reduce cigarette consumption. One, at least some illicit cigarettes are perceived by consumers as being of inferior quality. Two, some cigarette consumers will refuse to engage in illegal transactions. It could be reasonably expected that if more consumers learned about the criminal organizations that are involved in cigarette smuggling, refusal to engage in illicit transactions would increase.

As we stated earlier, our primary assumption is that only smokers who have already made at least one purchase of contraband menthol cigarettes are part of the pool of potential contraband purchasers. Our estimate does not include any increase in demand from lower contraband prices nor any impact of an expanded contraband market on non-menthol contraband sales. Thus, our model assumes:

1. No change in contraband market for non-menthol cigarettes;
2. No increase in the number of menthol contraband purchasers; and

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3. No increase in the average number of menthol cigarettes smoked by contraband purchasers.

Therefore, the only effect of a menthol ban that we are estimating is from menthol contraband purchasers buying all of their menthol cigarettes on the contraband market instead of only a portion of them. The CRE model should be understood in terms of producing a minimal estimate of the impact on the contraband market of a menthol ban, it is not a prediction or expectation that most menthol smokers would give up menthol cigarettes.

The NSDUH data reported in Caraballo (2010) states that 18.1 million menthol smokers are adults (over 94% of all menthol smokers). Of all adult menthol smokers, the survey data indicates that 53.2% are white or 9.6 million. The NSDUH survey also shows that 21% of white men and 28.9% white women smoke menthol which means that menthol is about 38% more popular among white women than white men. Applying this same preference ratio to the number of adult white menthol smokers means that there are about 4.1 million adult white male and about 5.5 million adult white female menthol smokers.

We have previously estimated that about 41% of adult white male smokers and 26% of adult white female smokers have made at least one contraband cigarette purchase. This would indicate that there are currently about 1.4 million adult white female menthol smokers and 1.6 million adult white male menthol smokers have made at least one contraband purchase.

The Caraballo (2010) data shows that 30.3% of adult menthol smokers are African American, or about 5.5 million people, 11.6% of are adult menthol smokers are Hispanic (2.1 million smokers) and 2.2% are Asian (400,000 smokers). An additional 2.8% of menthol smokers (500,000 adults) are part of another category, including multi-ethnic, Native American, and Native Hawaiian/Other Pacific Islander.

Applying the gender-related ethnographic data in Caraballo (2010) indicates that there are about 2.6 million male and 2.9 million female adult African American menthol smokers and 900,000 adult Hispanic male and 1.2 million adult Hispanic female menthol smokers. Since Caraballo (2010) does not include equally detailed gender data for Asian and other ethnicities, we will use the gender data for all ages of smokers, adult and underage, for these two groups. The resulting estimate is 170,000 adult male and 230,000 adult female Asian menthol smokers and about 200,000 mixed ethnicity and other adult male and about 300,000 adult female menthol smokers.

Using the contraband purchase rates already discussed, with the Hispanic rates as a proxy for mixed ethnicity and other menthol smokers, we estimate that for adult menthol smokers, there are currently about 1.1 million African American male and 800,000 African American female contraband purchasers along with 370,000 male and 333,000 female Hispanic, 68,000 male and 60,000 female Asian, and 90,000 male and 80,000 female mixed ethnicity and other contraband purchasers.
With respect to people under 18 years old, Caraballo (2010) states that 1.1 million are menthol smokers. Caraballo (2010) also provides an ethnographic picture of underage menthol smokers (66.7% white, 14.2% African American, 13.8% Hispanic, 1.8% Asian and 3.3% mixed ethnicity/other). Applying the contraband purchase rates illustrated in Figure 15 results in an estimated 190,000 underage white, 72,000 underage African American, 36,000 underage Hispanic, 7,000 underage Asian and 11,000 underage mixed heritage/other smokers buy contraband menthol cigarettes. Thus, we are conservatively estimating that a little over 300,000 underage smokers currently buy menthol cigarettes on the contraband market.

The next step in determining the impact of a possible menthol ban is to estimate how many menthol cigarettes are currently purchased on the contraband market.

A 2009 report by the Federal Trade Commission (FTC) provides estimates of US cigarette consumption, menthol and non-menthol, based on U.S. Department of Agriculture (USDA) estimates. The FTC report states that the USDA data is “based on an estimate of the number of cigarettes actually consumed.” The report also states that USDA includes “sales by smaller manufacturers and importers.”\(^99\) There is no indication, however, whether the USDA data reflects the number of cigarettes smuggled into the United States. The report’s most recent data is for 2006 so that is what will be used in our analysis.

There is limited data available on how smokers’ per-capita cigarette consumption varies by gender and ethnicity. There is data from the California Tobacco Survey (CTS), 1990–2002 indicating that average number of cigarettes smoked per day by the “high” socio-economic status (SES) group in 2002 was 9.5, moderately less than the 12 cigarettes per day the middle SES group and the 11.7 cigarettes per day smoked by the low SES group.\(^100\) Given the limited data, our analysis will make the simplifying assumption that per-capita menthol cigarette consumption is the same irrespective of gender, ethnicity and legal smoking age status. To the extent that persons in lower levels of socio-economic status have higher cigarette consumption, this report will underestimate cigarette consumption in Hispanic and African American communities.

The FTC/USDA data states that US cigarette consumption is 371.0 billion sticks for 2006\(^101\) of which 74.2 billion (20%) were menthol.\(^102\) This estimate will be used as a proxy for current consumption since it is the best data available. It should be noted that, although Caraballo (2010) provides a much higher estimate of menthol use than the FTC (31.6% of adults), this is an estimation of past month use of menthol rather than menthol consumption as a share of a cigarettes smoked.


\(^100\) California Department of Health Services (2005) “Cigarette Consumption”.

\(^101\) FTC (2009), Table 1A.

\(^102\) Ibid., Table 7.
Using the estimate that 25% of cigarettes are contraband, meaning that some or all taxes due on them in the jurisdiction in which they were sold were not paid, we estimate that current contraband sales of cigarettes are 92.75 billion. Although this may seem high, it is well within the range estimated by Joossens (2010) who reported that contraband a 13-25% market share in the for 1992-2002 time period. Based on the annual mean of the FTC/USDA estimates for cigarettes sold during that period, Joosens (2010) works out to between 60 - 115 billion contraband cigarettes.

Dividing the Caraballo (2010) estimate of 19.2 million menthol smokers into FTC/USDA’s estimate of menthol consumption yields an average estimated daily consumption of 11 cigarettes per smoker, just over a half-pack.

Based on the average daily cigarette consumption (11/day), the number of menthol smokers by gender and ethnicity, and the estimated share of menthol smokers who would purchase contraband menthol cigarettes in event of a ban, we can estimate the impact a ban would have on the contraband market.

Using white menthol smokers as an example, we saw that there would be just over three million white adults (over 1.6 million men and 1.4 million women) who would buy contraband menthol cigarettes in event of a ban as well as almost another half-million underage white smokers. Using our average of 11 menthol cigarettes/day, we estimate that white smokers would purchase just under 14.3 billion contraband menthol cigarettes/year. Applying this methodology to all demographic groups yields an estimate of 26.9 billion contraband menthol cigarettes/year compared with current menthol contraband sales of 18.6 billion, an increase of 45%.
It is important recognize that the calculations used certain unrealistically conservative estimates, most prominent among these not including the effect of the elasticity of demand for cigarettes. Thus, any implied estimation that overall cigarette consumption would decline in event of a menthol ban is mistaken. To the contrary, applying an elasticity of demand to lower price for contraband cigarettes would make clear that one of a menthol ban’s impacts would be to increase the number of cigarettes smoked.

Aside from increasing the size of the contraband market, a menthol ban would change the demographics of the contraband market. As was previously explained, current contraband purchase rates are virtually the same for all ethnic groups. This situation would change after a menthol ban. We estimate that, if there were a menthol ban, even though whites would purchase over 70% of all contraband cigarettes, a majority of African American smokers would purchase contraband cigarettes.

The effect that criminalizing a smoking preference strongly associated with African Americans would have on the demographics of the contraband market is illustrated in Figure 16.
In some regards, the distributional impact of a menthol ban is more relevant than the specific estimate of the increase in the contraband market since it is a robust result. Changing the data sets, model and assumptions used would change the point estimate for a ban-induced increase in the contraband market. For example, applying the realistic assumption that at least some current menthol smokers who have not already made purchases on the contraband market would do so if that became the only way to purchase menthol cigarettes would increase the estimated effect of the ban on the contraband market as would assuming that female menthol smokers purchased contraband cigarettes at about the same rate as male menthol smokers. There are also model changes that could lower the estimated impact.

What does not change under any plausible scenario is: 1) a menthol ban would increase the size of the contraband cigarette market; and 2) the impact of the ban would disproportionately impact minority communities, particularly those with a strong African American component. Put simply, under any plausible scenario, a menthol ban would disproportionately increase the number of African American smokers who engage in illegal transactions.
Figure 17

A Menthol Ban Would Disproportionately Impact African American Smokers

The Act states that the TPSAC and the FDA have to consider whether a menthol ban would create “a significant demand for contraband” cigarettes. The next section of this paper will discuss the significance of the increase in demand for contraband cigarettes within the context of the health of underage smokers, adult smokers and non-smokers. Increased demand for contraband cigarettes resulting from a menthol ban also needs to be understood in terms of its significance to the social fabric of African American communities. A regulation with an ethnically-disparate punitive impact is not a substitute for redressing the socio-economic inequities that lead to elevated smoking rates among minorities. Moreover, it would be counterproductive, increasing the stresses and inequalities which contribute to elevated smoking rates.
The primary causes of demand for contraband cigarettes are: 1) underage smokers cannot buy tobacco legally; and 2) contraband cigarettes cost less than legally sold products. The causes of the lower prices includes tax evasion and counterfeit and unbranded cigarettes which cost less than name brand products.

The price discount for contraband cigarettes is reported as being between 35-45% of legal prices.

Street level contraband cigarette vendors are welcomed and appreciated in underprivileged communities. Members of one inner city community opined that tax increases would lead to increased illegal sales and increased imprisonment of Black men.

Street level contraband vendors act as advertising mechanism which promotes increased smoking.

Tax increases are viewed in disadvantaged communities as a punitive measure that hurts smokers and their families.

CRE estimates that contraband cigarettes will account for 25% of the US market in 2011.

The share of Americans who purchase contraband cigarettes does not vary much by ethnicity.

CRE conservatively estimates that if a menthol ban were imposed, the contraband market for menthol cigarettes would increase by about 45%.

One sociological impact of a menthol ban would be to change the demographics of the contraband market. CRE estimates that, in event of a menthol ban, a majority of the cigarettes purchased by African American smokers would be contraband although whites would purchase over 70% of all contraband cigarettes.
IV. The Impact of Growth in the Contraband Cigarette Market

The Act requires that the TPSAC and FDA consider the effects that growth in the contraband cigarette market caused by a menthol ban would have on underage smokers, adult smokers and non-smokers. Some of the research findings, such as the higher levels of metals in counterfeit cigarettes, would affect the health of both adolescent and adult smokers. For the purposes of this study, issues that would affect the health of smokers irrespective of age will be considered in the adult health smoking section while the underage contraband impact analysis will concern only those issues that would affect youth experimentation with tobacco, initiation of smoking and/or otherwise particularly impact the health of underage smokers.

The possibility that a menthol ban could affect the health of non-smokers seems counterintuitive. The press reports, however, that the murder of two British soldiers, Sappers Patrick Azimkar and Mark Quinsey, was financed by Florida-based cigarette smuggling. ATF has repeatedly warned that the terrorist organizations and other violent criminal gangs trade in contraband cigarettes to finance their activities. Accordingly, the section of this paper evaluating the impact of a menthol ban on non-smokers will focus on the organizations involved in the contraband cigarette trade. As is the case with the other analyses of the expected impact of a menthol ban, it will further demonstrate that buying and selling contraband cigarettes is not a victimless crime.

The Impact A Menthol Ban Would Have On Underage Smokers

The TPSAC has developed a draft model for use in evaluating menthol cigarettes. The model includes a box labeled “Youth Adolescents” with an arrow leading to a box labeled “Experiment” which has an arrow to a box labeled “Initiate.” Access to tobacco is a prerequisite before an adolescent can experiment with cigarettes. In other words, you can’t smoke ‘em if you don’t have ‘em. Preventing underage purchase of tobacco is the goal of Break the Chain, the “FDA’s new campaign to educate retailers and raise awareness about tobacco product regulations designed to protect kids from the dangers of tobacco use and its negative health impacts.”

The FDA recognizes that impeding youth access to tobacco is an important step in helping prevent underage smoking. Unfortunately, the contraband market undermines efforts focused on preventing unlawful tobacco sales to minors.


Hughes (2010) analyzed “the risk factors for smoking both legally supplied and fake, foreign and single cigarettes” by schoolchildren in North West England.\textsuperscript{105} As was already noted, more than a quarter of the students surveyed in the study who smoke had purchased “fake” cigarettes. The study also found that the counterfeit and illegally imported cigarettes were more commonly purchased by students who were heavier smokers, explaining that “a much higher percentage of the heaviest smokers reported buying foreign (80%), fake (49%) or single (69%) cigarettes compared with other smokers....”\textsuperscript{106} Furthermore, students who began “smoking before the age of 13” had increased “odds of being a heavier regular smoker and of accessing fake/foreign or single cigarettes.” Thus, the contraband market is a primary tobacco source for the youngest smokers and for the heaviest underage smokers.

The study also expresses concern regarding the increased health concerns associated with counterfeit cigarettes for underage smokers. Hughes (2010) states, “a high percentage of smokers had bought fake, foreign or single cigarettes, with heavier smokers most at risk of use. This gives cause for concern; such products are more affordable than commercial cigarettes for young people on restricted incomes, and fake cigarettes are known to contain higher levels of tar, nicotine and carbon monoxide, as well as high toxic metal concentrations that could be damaging to health.”\textsuperscript{107} Put simply, the contraband market creates a double whammy for underage smokers, serving as a major tobacco source, particularly for the youngest and the heaviest smokers, while at the same time providing them cigarettes that are even more dangerous than licit product.

Hughes et al, repeat their warning that, in addition to other illicit tobacco control measures, “schools and parental interventions should educate about the illegal nature and health hazards of fake and foreign cigarettes obtained through social sources.”

The study concludes that “[s]trategies that restrict commercial access to cigarettes among adolescents may increase their reliance on social methods of access, and use of fake, foreign and single cigarettes.” Another way of looking at the same phenomena would be to say that social access to cigarettes, \textit{i.e.} cigarettes not purchased though legal retail channels, reduces the effectiveness of measures to prevent youth access to cigarettes. This interpretation regarding the role non-retail access to tobacco by minors is consistent with the finding of researchers at the Roswell Park Cancer Institute who concluded that “[a]chieving a high rate of retailer compliance with a minors’ access law appears to have caused youths to rely more on noncommercial sources of cigarettes....”\textsuperscript{108}

\textsuperscript{105} Hughes (2010).
\textsuperscript{106} Ibid.
\textsuperscript{107} Ibid. [Notes omitted.]
The conclusion we can draw from these studies, and the other data on youth access to contraband cigarettes previously discussed, is that the contraband market frustrates efforts to reduce youth smoking. Thus, the current contraband market contributes to more adolescents smoking more cigarettes than they would in absence of the market. The question then, is whether the expanded contraband resulting from a menthol ban would lead to a “significant” increase in youth smoking.

There is insufficient data to develop a quantitative estimate of the extent to which increased youth smoking (or decreased reduction in youth smoking) would result from expansion of the illicit tobacco market. Moreover, CRE’s minimalist estimate of the increase in the contraband trade assumes that there would be no new contraband purchasers. One of the impacts of a larger contraband market however, would be not only to expand youth access to tobacco but also to increase adolescents’ perception of the availability of tobacco.

A study of students in “two relatively deprived Scottish schools with different smoking rates” found that “pupils in the ‘high’ smoking school perceived greater access to both commercial and social sources, and had access to an active ‘peer market.’”

In Turner (2004), the students at the high smoking rate school, “perceived buying single cigarettes or packets from a shop/van as easier than” students at the low smoking rate school. Smokers and non-smoking students at the high smoking rate school “made reference to a local ice-cream van that readily sold pupils both packets of cigarettes and singles. ... The fact that both smokers and non-smokers talked about the van suggested it was a well-established source. As it was described as being around everyday and working near to the school, it also seemed very accessible to pupils.”

By contrast, students at the relatively low smoking rate school mentioned that “vans had been shut down for selling ‘foreign’ cigarettes.” These students “talked more generally of ‘vans in the area’ and gave no suggestion that these were regular providers.” Thus, the study indicates that an expansion of the contraband market which results in adolescents’ perceiving there to be greater illicit access to cigarettes could well lead to increased adolescent smoking.

The study also discussed student-to-student sales and found that in the higher smoking rate school “it was evident that selling and buying occurred not only between friends but also strangers.... it was clear that some pupils sold cigarettes to enhance their financial position....” Thus, the external contraband market outside the school supported an additional contraband market within the school. As the authors explain, “it seems that the relationship between cigarette access and adolescent

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110 Ibid., p. 430.

111 Ibid., p. 432.
smoking is circular, with access affecting smoking rates and levels of smoking influencing access.\textsuperscript{112}

The hypothesized circular relation between youth access and adolescent smoking should also be viewed in light of the findings of Shelley (2007) regarding the advertising effect from contraband vendors openly selling their products. Moreover, the issue of the financial enhancement of underage cigarette vendors raised in Turner (2004) is particularly relevant given the Shelley, et al discussion of the visible financial rewards (“cars...vans and jeeps”) from selling contraband cigarettes. Thus, we can posit an additional possible circular relation, with illicit cigarette sales affecting participation in the vending side of the contraband market and an increased number of vendors affecting cigarette sales.

Based on the information we have reviewed, an increase in the contraband market resulting from a menthol ban would likely lead to expansion of contraband sub-markets within schools as well as general perception that there is increased availability of cigarettes to adolescents. We therefore conclude that the expansion of the contraband market from a menthol ban would significantly harm the health of underage smokers by increasing their supply of cigarettes.

So far, we have primarily considered the Experimentation box in the TPSAC model although the increased youth access would also, of course, have an impact on Initiation. Another issue that needs to be considered is one specific to Initiation. Multiple sources, including the US and UK governments, have reported that counterfeit cigarettes tend to be higher in nicotine on average than legitimate products. The British government, citing data from the US Agency for Toxic Substances and Disease Registry, estimated that counterfeit cigarettes on average have 80% more nicotine than legitimate products. Other sources provide less dramatically elevated estimates of nicotine levels in counterfeit cigarettes.

Since nicotine is addictive and as Hughes (2010) discussed, a correlation exists between underage smoking and smoking of counterfeit cigarettes, the contraband market has the potential to increase the number of underage smokers who experiment with tobacco, become addicted and move from Experimentation to Initiation as regular smokers.

The indication from the literature is that the contraband market is not only supplying underage smokers with cigarettes but also supplying them, at least some portion of the time, with more addictive cigarettes. An expansion of the contraband market would, therefore, likely result in more adolescents experimenting with cigarettes and more of the underage smokers getting hooked – the most harmful effect on the health of underage smokers resulting from a menthol ban.

In addition to nicotine, lead deserves particular attention as a smoke constituent of particular concern to the health of underage smokers. Since underage smokers disproportionately smoke illicitly-made

\textsuperscript{112} Ibid., p. 435.
cigarettes and counterfeit cigarettes contain higher levels of lead than legally-made products, a menthol ban would increase the lead exposure of underage smokers. CDC has explained that “[l]ead poisoning can affect nearly every system in the body. Because lead poisoning often occurs with no obvious symptoms, it frequently goes unrecognized.” FDA recognizes the particular dangers of lead to children and provides a non-voting federal representative to the CDC’s Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP).\footnote{CDC, ACCLPP Charter, see \url{http://www.cdc.gov/nceh/lead/ACCLPP/charter.htm}.}

Since a menthol ban would inadvertently increase the children’s exposure to lead, it would undermine efforts by FDA and other agencies to reduce children’s exposure to lead.

**The Impact A Menthol Ban Would Have On Adult Smokers**

This paper has reviewed literature documenting higher levels of toxic metals, including cadmium, lead and arsenic, in counterfeit cigarettes compared with legitimate products. We have also seen multiple authorities state that counterfeit cigarettes may contain higher levels of nicotine, “tar” and carbon monoxide and also are often contaminated with a wide range of chemical and biological substances. Moreover, illicit cigarettes produced with tobacco grown in a developed country (Australia) resulted in health consequences beyond those of legal tobacco. Thus, there is a strong indication that contraband tobacco products have health consequences greater than those from legally purchased cigarettes.

Stephens (2005) voiced concerns that counterfeit cigarettes were even more hazardous than the authentic products they imitate. The article stated that a “review of the health effects of heavy metal transfer from tobacco via smoke to the lungs indicates that habitual smokers of counterfeits may be risking additional harm from high levels of cadmium and possibly other metals.”\footnote{Stephens (2005), Abstract.}

The study also discussed the sociological implications of the high metals content of counterfeit cigarettes stating that the “main purchasers of counterfeit cigarettes are dominantly those on low incomes, either young people who then become addicted to smoking or the socially disadvantaged for whom so many other factors impact negatively on their state of health that the addition of another factor is potentially very serious. The extent of the U.K. market share now claimed by counterfeits means that an issue once considered marginal is rapidly becoming a major problem. The health risks described above as well as social implications means that early awareness of these issues is important if remedial action is to have significant impact.”\footnote{Ibid., p. 486. [Emphasis added]}

The social implications of counterfeit cigarettes highlighted by Stephens (2005) are directly relevant for understanding the health impact of a menthol ban. Since African Americans are more likely than
other ethnic groups to smoke menthol cigarettes, they would bear the brunt of the additional adverse health impacts from smoking more counterfeit cigarettes.

Since all menthol cigarettes would be illegal in event of a ban and since counterfeit cigarettes cost less to source than legitimate products, it is probable that a substantial portion of menthol cigarettes available would be counterfeit. In the alternative, available post-ban menthol cigarettes could include unbranded/unmarked cigarettes from illicit domestic production comparable to Australian chop-chop. The result from smoking either counterfeit or otherwise illicit menthol cigarettes would be similar, additional health hazards that would disproportionately impact African American and lower income smokers.

The additional harm to human health from contraband tobacco is not merely speculative. An article in Nicotine & Tobacco Research found that smokers of illicit tobacco in Australia “report significantly worse health than smokers of licit tobacco.”

Aitken (2009) found that “relative to smokers of licit tobacco, current users of illicit tobacco had significantly greater odds of beginning smoking at younger than legal age, 60% greater odds of reporting below-average social functioning on the SF-8 [a standardized health survey], and nearly twice the odds of reporting a measurable disability.” Aitken (2009) concludes that smokers of “illicit tobacco report significantly worse mental and physical health than smokers of licit tobacco.”

The authors state that although they could not attribute causality between the variables due to the design of they survey, “the lack of influence of socioeconomic variables such as income, education level, and employment status suggests that illicit tobacco use is not simply a marker for lower socioeconomic status and its well-established association with relatively poor health.”

The study explains that the “public health message that emerges from our data is that people who smoke or have smoked illicit tobacco report significantly worse health than smokers of licit tobacco (who, of course, already have worse health than nonsmokers).”

The study contradicted the views of some smokers who “consider illicit tobacco to be relatively unadulterated, more ‘natural’ and therefore less damaging to health than licit tobacco.” Thus,

118 Ibid., p. 1000.
119 Ibid., pp. 998-999.
120 Ibid., p. 999. [Note omitted]
121 Ibid. 998.
there is evidence that illicitly manufactured cigarettes are more hazardous than legal products irrespective of whether they were smuggled from China or made with Australian grown tobacco.

In that illicit cigarettes are even more harmful to smokers’ health than legally manufactured products, CRE concludes that an expansion of the contraband market would significantly harm the health of adult smokers. Since lower income smokers are the primary purchasers of contraband, we conclude that expanding the supply of contraband cigarettes would have a disproportionately severe health impact on already disadvantaged communities.

**The Impact A Menthol Ban Would Have On Non-Smokers**

A newspaper article detailed how cigarettes smuggled through Florida financed the murder of two British soldiers by an IRA splinter group called the Real IRA.\(^{122}\) Cigarette smuggling is a major revenue source for numerous violent criminal organizations in the US and many other countries.

The relation between cigarette traffickers and ideologically motivated violent organizations can be understood in terms of the intersection of their operating methods. Shelley and Picarelli (2002) explain that “transnational criminal organizations and terrorist groups often adopt similar methods...”\(^{123}\) The authors further explain that “[a]s terrorists develop a more diffuse, insulated network structure, the more that individual cells are left to their own devices to raise funds for their activities. As such, there is an increasing turn to organized crime activities to provide for these cells. More importantly, however, is a continuing trend in which both organizations cooperate in order to earn ill-gotten gains from two of the larger scale activities – drugs and trafficking in persons.”

Shelley and Picarelli (2002) note that both terrorists and non-ideological criminal organizations traffic in cigarettes as part of their money making activities. For example, they cite “the curious case of Middle East terrorists operating in North Carolina to foment a cigarette smuggling operation that support their global activities.”\(^{124}\) In a subsequent paper, Shelley and Picarelli warn that “resources diverted from the fight against transnational organized crime in the post September 11th era are giving criminals a greater chance to operate and even provide services to terrorists.”\(^{125}\)

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124 Ibid.

The commonality between organizations which engage in both cigarette trafficking and human trafficking was also noted in a thesis at the Naval Postgraduate School written by an official with U.S. Customs and Border Protection. The author explained that the terrorist group involved in the cigarette smuggling operation cited by Shelley and Picarelli (2002) “helped secure three fraudulent visas and foster three sham marriages.”

Lanzante (2009) cites other instances of overseas terrorist groups being involved in US based contraband cigarette trafficking including one case in which two persons “were involved in cigarette smuggling that avoided over $20 million dollars in taxes of which part was sent to Hezbollah. It is alleged that these two had ties with the higher level Hezbollah officials and charged a resistance tax in addition to the black market price.”

The link between the cigarette smuggling and drug smuggling and human trafficking was also discussed by the FBI in testimony before the Senate Homeland Security Committee. The Bureau testified that in “July 2008, for example, the FBI and DEA supported Canadian law enforcement in the arrest of eight people, including a customs agent, suspected of smuggling cocaine and marijuana, contraband cigarettes, and illegal immigrants over the Quebec-New York border. This underground network reportedly ferried hundreds of kilograms of cocaine from Colombia into Canada via the Saint-Bernard-de-Lacolle border crossing. This is one of many investigations along our northern border.”

Multiple government agencies have discussed the nexus between cigarette smuggling and terrorist fund raising.

A 2003 GAO report explained that “[t]errorists have earned assets through the highly profitable illicit trade in cigarettes. According to officials from the ATF, Hizballah, HAMAS, and al Qaeda have earned assets through trafficking in contraband cigarettes or counterfeit cigarette tax stamps. ATF officials told us that as of August 20, 2003, they were investigating at least six such cases with ties to terrorist groups. ATF officials also believe that there are several other investigations under way that may produce evidence linking them to terrorist groups.”

In a 2004 statement by US Immigration and Customs Enforcement (ICE) before the House Ways and Means Committee, the agency testified that “[t]obacco smuggling also provides a lucrative source

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127 Ibid., p. 63.
of funding for terrorists and other criminal organizations. In January of this year, ICE dismantled the largest nationwide tobacco smuggling organization to date and arrested 15 defendants. The 92-count indictment charged the defendants with tobacco smuggling and money laundering, among other offenses. The organization was responsible for the movement of more than 10,000 cases of counterfeit and contraband cigarettes....”

ATF’s Congressional Budget Submission for FY 2010 stated that “[o]rganized crime groups and individuals with ties to terrorist organizations increasingly engage in illegal trafficking of tobacco products. The proliferation of large-volume trafficking across international borders and interstate commerce to avoid taxes provides increased funding to terrorist organizations and traditional criminal enterprises.”

The Justice Department document further explained that “[c]urrent investigations have identified instances of terrorist groups forming alliances with tobacco traffickers to generate monies used to support their organizations and activities. Diversion activities often generate tremendous cash profits that are laundered and used to further other unlawful schemes, such as narcotics and firearms trafficking. As an example, ATF conducted two contraband cigarette trafficking cases in which individuals were convicted of Material Support to a Terrorist Organization. The individuals in the two cases that were convicted of the “Material Support” charge were members of Hezbollah.”

It is important to recognize that not all the violence associated with profits from cigarette trafficking would be confined to overseas or would affect only the targets selected by ideological groups. Competition over lucrative street sales could be expected to bring a new source of violence to the communities where contraband cigarettes are sold.

In that: 1) profits from cigarette trafficking provide financial resources to groups designated by the US government as terrorist organizations; 2) profits from cigarette smuggling have been used to fund narcotics and arms trafficking and other criminal activities; and 3) irrespective of whether or not a contraband trafficking organization has ideological objectives, competition in illicit cigarette distribution and sales will likely lead to violence in the neighborhoods where the cigarettes are sold, we conclude than the expanded cigarette trafficking opportunities resulting from a menthol ban would endanger the health of people in the United States irrespective of whether or not they smoke.

130 Michael J. Garcia, Assistant Secretary, Immigration and Customs Enforcement, Department of Homeland Security Before House Ways and Means Committee, Subcommittee on Trade, “ICE Authorization for Fiscal Year 2005 and 2006” June 17, 2004
132 Ibid. [Emphasis added]
In Review

- Illegally manufactured cigarettes are a greater health hazard than legal products. Thus, an increase in the size of the contraband market would harm public health.

Underage Smokers

- The contraband market is a key tobacco supply source for underage smokers, increasing the contraband market would increase youth smoking.
- An expansion of the contraband market would increase adolescent participation in the buying and selling of cigarettes.
- Counterfeit cigarettes often contain higher levels of nicotine than legal products. Since underage smokers disproportionately purchase more addictive counterfeit cigarettes, an increase in their supply would result in more adolescents who experiment with tobacco becoming regular smokers.
- Counterfeit cigarettes contain higher levels of lead than legally-made products. An increase in illicit cigarettes production from a menthol ban would increase the lead exposure of underage smokers.

Adult Smokers

- Counterfeit cigarettes contain higher levels of toxic substances, such as cadmium, than legal products.
- Smokers of illicit unbranded cigarettes in Australia that were made with domestically grown tobacco report more physical and mental health problems than smokers of legal products.
- In event of a menthol ban, African American smokers would disproportionately purchase contraband cigarettes that have significantly worse health impacts than licit products.

Non-Smokers

- Federal agencies including the FBI, ATF, ICE, GAO, and the State Department have reported on the cigarette smuggling by terrorist groups.
- Cigarette smuggling trafficking profits fund drug trafficking, arms running and other criminal activity.
- Competition in the distribution and sale of contraband cigarettes would lead to violence in the neighborhoods which the illicit menthol cigarettes are sold.
V. Conclusions

- A menthol ban would harm public health. Menthol smokers would consume an increased quantity of illicitly-manufactured cigarettes, many of which contain much higher levels of heavy metals and other contaminants than legally made products.

- There is abundant production capacity, overseas and domestically, to meet the demand for illicit menthol cigarettes in event of a ban.

- If a ban on menthol-flavored cigarettes were enacted, a minimalist projection is that the menthol contraband market would increase by about 45%.

- If a menthol ban were enacted, the increased number of illicitly manufactured cigarettes sold would result in:
  - **Underage Smokers.** Increased tobacco consumption by adolescents, undermining youth tobacco control programs.
  - **Adult Smokers.** Adult menthol smokers consuming more illicitly-made cigarettes which would cause additional health harm to the populations that smoke menthol cigarettes.
  - **Non-Smokers.** Violent international organizations gaining additional financial resources, some of the increased violence would occur in the communities where illicit menthol cigarettes would be sold.

VI. Recommendation

- Neither the TPSAC nor the FDA should support a ban on menthol-flavored cigarettes as doing so would disproportionately harm the very communities they would be trying to help, particularly underage and African American smokers.
Bibliography


California Department of Health Services (2005) “Cigarette Consumption”.

Caraballo, RS; “Menthol and Demographics,” Centers for Disease Control and Prevention, Office on Smoking and Health, Presentation to FDA Tobacco Products Scientific Advisory Committee, March 30, 2010.


CDC, Advisory Committee On Childhood Lead Poisoning Prevention (ACCLPP) website, see http://www.cdc.gov/nceh/lead/ACCLPP/acclpp_main.htm.

CDC, CDC’s Childhood Lead Poisoning Prevention Program, see http://www.cdc.gov/nceh/lead/about/program.htm.


Food and Drug Administration/Tobacco Products Science Advisory Committee, “Menthol: From Experimentation to Disease Risk,” presented at the November 18, 2010 TPSAC Meeting


HM Customs and Exercise, “Counterfeit Cigarettes: 2004.”


HM Revenue & Customs, counterfeit cigarette information sheet found at nds.coi.gov.uk/imagelibrary/DownloadMedia.ashx?MediaDetailsID=1695


Joossens, L; Merriman, D; et al. (2010), “The impact of eliminating the global illicit cigarette trade on health and revenue,” Addiction, 105, 1640–1649


Stone, Emma, “Gang jailed over major cigarette smuggling ring in Coventry,” Coventry Telegraph, July 7, 2009,

Substance Abuse and Mental Health Services Administration, “FFY 2009 Annual Synar Reports: YOUTH TOBACCO SALES.”


US Census Bureau, Current Population Survey, Table POV01: Below 100% of Poverty


United States General Accounting Office, Report to the Chairman and Ranking Minority Member, Committee on Government Reform, House of Representatives, “CIGARETTE SMUGGLING Federal Law Enforcement Efforts and Seizures Increasing,” GAO-04-641, May 2004
