Economics of Illicit Tobacco Trade

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Overview

- Types of illicit tobacco trade and tax evasion
- Motivation for illicit trade
- Economic consequences of illicit trade
- Estimates of illicit trade volume
- Estimates of revenue loss
Types of Illicit Tobacco Trade and Tax Evasion

- **Large-scale** organized smuggling (largest quantities; no taxes paid; diversion of in-transit goods; capital intensive; closer to producers)
- **Bootlegging** (resale, smaller quantities and distances, some taxes are paid; about 5% of the seized products)
- **Illegal manufacturing** (counterfeiting of products, tax stamps; no tax paid)
- **Corporate tax evasion**
- **Legal tax avoidance** (no resale, e.g. Duty Free)

What Motivates Tobacco Smuggling (1)

- Price differentials (taxes or pricing-to-market)
- The ease of evasion of border controls (corruption, certainty and severity of punishment)
- Distribution infrastructure (e.g. street vendors)
- Trade restriction (smuggled tobacco “opens” markets that would otherwise be closed to foreign imports; impact of globalization)
What Motivates Tobacco Smuggling (2)

- Geographic proximity (transportation costs)
- Overproduction
- Unemployment or low-wage legal employment
- Frequencies of international travel
- Moral suasion (public opinion)
- Demand to finance other illegal activities
- Need for political pressure to lower tobacco taxes

Are Tobacco Taxes Reason for Smuggling?

<table>
<thead>
<tr>
<th>Country</th>
<th>Price per pack in US$ 1995</th>
<th>Estimate of smuggling as a percentage of 1995 domestic sales by expert sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>2.96</td>
<td>15%</td>
</tr>
<tr>
<td>Spain</td>
<td>1.38</td>
<td>15%</td>
</tr>
<tr>
<td>Germany</td>
<td>3.38</td>
<td>10%</td>
</tr>
<tr>
<td>Italy</td>
<td>2.19</td>
<td>12%</td>
</tr>
<tr>
<td>Greece</td>
<td>1.90</td>
<td>8%</td>
</tr>
<tr>
<td>Sweden</td>
<td>4.58</td>
<td>2%</td>
</tr>
<tr>
<td>UK</td>
<td>4.16</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Merriman et al., 2002
ALBANIA

A pack of cigarettes in 2001 cost about USD 0.30, and about 72% of the market was illicit.
Source: Tobacco Reporter, winter 2001

A pack of cigarettes in 2007 cost about USD 1.30, and about 53% of the market is illicit.
Source: 2007 Albania Household Survey

A Country’s Corruption Level is a Better Predictor of Tobacco Smuggling than the Level of Tax (1995)

Distribution Network

Poland 2006 survey:
58% of smuggled cigarettes purchased from street sellers
42% from open market sellers

Source: Ciecierski, 2007

Economic Consequences of Illicit Trade

- Reduces revenue from tobacco taxation (but, a tax increase will lead to revenue increase, even in the presence smuggling)
- Undermines public health objectives (not just because of price)
  - Used as an argument against tax increase
  - Health warnings
  - Sales to minors
- Attracts criminals and helps to fund terrorists
- Causes lost revenue and investment opportunities for legitimate producers
Smuggling does not eliminate the impact of tax increases on smoking behavior - higher taxes will improve public health even in the presence of smuggling

Revenue Increases Despite Illicit Trade

Percent of revenue increases from a 10% tax increase, taking smuggling into account

<table>
<thead>
<tr>
<th>Country</th>
<th>Unilateral</th>
<th>Multilateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>+5.8</td>
<td>+7.0</td>
</tr>
<tr>
<td>Germany</td>
<td>+2.6</td>
<td>+4.7</td>
</tr>
<tr>
<td>Spain</td>
<td>+8.6</td>
<td>+9.1</td>
</tr>
<tr>
<td>17 Countries</td>
<td>+6.9</td>
<td>+8.2</td>
</tr>
</tbody>
</table>

Source: * Econometric estimates from Merriman et al, 2000
Revenue Increases Despite Tax Avoidance
Mean pack sales in Arizona before (20 M) and after (17 M) tax increase effective December 2006.

Frederic Malter: Coping with cigarette tax increases – the full picture. U of Arizona, Tucson. Poster at SRNT 14th annual meeting, Portland, OR, February 2008. Funded by Arizona Department of Health Services, Bureau of Tobacco Education and Prevention and by Evaluation, Research and Development Unit (ERDU) at the University of Arizona

Estimates of the World Extent of Illicit Trade

World:
1975-96 WB estimates: 6% (large scale) to 8.5% (including bootlegging) of consumption, about 330 – 466 billion cigarettes a year

UN: the gap between export and import is increasing
2006 FCA estimate: 10.7% of total sales, or 600 billion cigarettes
Country Estimates of the Extent of Illicit Trade

**EU 25:** in 2004 illicit cigarette trade represented 8–9% of the total cigarette market.

**Canada:** about 10% of cigarettes on the market are not taxed in 2005.

**Brazil:** counterfeit, illicit manufacturing and smuggled products represented 30% of the total cigarette market in 2005.

Cigarettes: Illicit Market Shares in the UK


Source: HM Revenue & Customs, Oct 2007
Country Estimates of the Extent of Illicit Trade

**Vietnam:** 9 - 10% of the cigarette market consist of illegal cigarettes (Ministry of Finance and the Vietnam Institute of Economics, 2005)

**Malaysia:** smuggling and counterfeit trade made up 21% of the cigarette market in 2002 (tobacco industry estimates)

**China:** multiple estimates of illicit cigarette trade, they center around 8% of the market

Estimates of revenue loss

The magnitude depends on the tax level, and on the type of illicit trade (large scale vs. bootlegging)

**World revenue loss:**

$US 39 billion per year due to cigarette illicit trade (FCA estimate; assuming the revenue loss of $US 4 and $US 0.75 per pack in the high income and the low and middle income countries)

Total losses of revenue from illicit tobacco trade (including hand rolled and bidis) could reach $US 40 to 50 billion annually.

The industry estimates that the profit loss and government tax revenue loss due to counterfeiting reaches over $US 20 billion per year.
Estimates of Revenue Loss in the UK (£ million)

<table>
<thead>
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</thead>
<tbody>
<tr>
<td><strong>Tax Due:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Total Consumption</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Estimate</td>
<td>13,700</td>
<td>13,300</td>
<td>14,000</td>
<td>13,500</td>
<td>13,000</td>
</tr>
<tr>
<td>Lower Estimate</td>
<td>12,400</td>
<td>12,400</td>
<td>12,900</td>
<td>12,200</td>
<td>11,600</td>
</tr>
<tr>
<td>Mid-Point</td>
<td>13,100</td>
<td>12,800</td>
<td>13,500</td>
<td>12,800</td>
<td>12,300</td>
</tr>
<tr>
<td><strong>UK Tax Paid Consumption</strong></td>
<td>9,500</td>
<td>9,700</td>
<td>9,900</td>
<td>9,900</td>
<td>9,700</td>
</tr>
<tr>
<td><strong>Illicit Market</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Upper Estimate</td>
<td>3,200</td>
<td>2,400</td>
<td>3,000</td>
<td>2,500</td>
<td>2,300</td>
</tr>
<tr>
<td>Lower Estimate</td>
<td>2,000</td>
<td>1,500</td>
<td>1,900</td>
<td>1,200</td>
<td>1,000</td>
</tr>
<tr>
<td>Mid-Point</td>
<td>2,600</td>
<td>1,900</td>
<td>2,400</td>
<td>1,900</td>
<td>1,600</td>
</tr>
<tr>
<td><strong>Cross-Border Shopping</strong></td>
<td>1,000</td>
<td>1,200</td>
<td>1,200</td>
<td>1,000</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Includes VAT; £ 1,600 mil = USD 2,763 mi; about 14% revenue loss

Source: HM Revenue & Customs, Oct 2007

Interpreting the Estimates

- Every quantitative estimate has some implicit or explicit confidence interval.
- Establish reasonable upper and lower bounds rather than precise point estimates is the best approach.
- Cross-validated results are likely to be more persuasive.
- Beware of the motivation of the entity providing the estimates (tobacco industry, consulting firms, etc.)
Thank you!

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