The estimation of the level of illicit trade is based on an empirical relationship that links the level of illicit trade to the variables that capture tobacco’s price difference between countries, rule of law, price, gross domestic product and region/year fixed effects. Simulations of the effects of eliminating the illicit trade have been made. The simulation model assumes that the eradication of illicit trade will result in an increase in the average price of cigarettes (illicit and illegal), a reduction in the amount consumed and an increase in tax revenues. Estimations were made on a sample of 68 countries including 13 from ECOWAS. The data come from several Internet sources: Euro monitor, Global Health Observatory data of the World Health Organization, World Bank and Worldwide Governance Indicators.

The results in Figure 1 show that the illicit trade as % of total market in tobacco products is significant in ECOWAS countries. On average, 18% of total market in these fifteen (15) countries are illicit. Liberia and Guinea are at the highest level, with 25% of total market being traded illegally. Cabo Verde has the lowest level of illicit trade with only 11%.
Figure 1: Share of illicit trade in tobacco products in each ECOWAS country in 2007

![Figure 1](image)

Figure 2 shows the percentages change in consumption, average level of sales prices, and tax revenues on tobacco products if illicit trade is eliminated in each of the ECOWAS countries. Liberia and the Republic of Guinea show the largest percentages increase in their tax revenues. Tax revenues from tobacco can be increased by 30% and 20% respectively for Liberia and Guinea-Bissau. On average, ECOWAS countries would increase their tax revenues from tobacco products by 19%. Consumption would be reduced by an average of 3% in all of these countries. As for the average price of products, it will increase by around 5%.

Figure 2: Simulated effects of eradicating illicit trade on tax revenues, consumption and average price of tobacco products

![Figure 2](image)
What factors affect the tobacco illicit trade in ECOWAS countries? Econometric estimations have shown that the non-price factors, such as the presence of corruption, organized crime network and widespread street-selling are powerful drivers of the development of the illicit trade of tobacco products. A one point increase in the rule of law, a proxy of these non-price factors, results in 3.57% decrease in the illicit trade. Retail price differentials between neighboring countries (captured by aggregate incentive for bootlegged imports) also contributes to the expansion of illicit trade. A one point decrease in retail price differentials between neighboring countries result in more than 8% decrease in the illicit trade.

Table 1: Determinants of illicit trade level on tobacco products

<table>
<thead>
<tr>
<th>Variables</th>
<th>coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate incentive for bootlegged imports (Price difference between countries)</td>
<td>8.713**</td>
</tr>
<tr>
<td>Rule of law (proxy of corruption, organized crime network and widespread street-selling)</td>
<td>-0.357**</td>
</tr>
<tr>
<td>GDP per capita (in US $)</td>
<td>-0.0004.62***</td>
</tr>
</tbody>
</table>

**Statistical Significance: *p<0.10, **p<0.05, ***p<0.01**

**MAIN LESSONS LEARNT AND RECOMMENDATIONS**

**Main lessons**

Three main lessons can be drawn from these results.

1) On average, 18% of tobacco products are sold illegally in ECOWAS countries.

2) ECOWAS countries lose, on average, 19% of tax revenue on tobacco products and a 3% increase in consumption due to illicit trade.

3) It is the price difference between countries that influences the illicit trade and not the price level in a country.
**Recommendations**

The results of this research and the lessons learned from it lead to the following recommendations:

- Establish specific programs to fight illicit trade through the implementation of the measures of World Health Organization (WHO) Protocol to eliminate illicit trade in tobacco products.

- Significantly increase taxes on tobacco products in all fifteen (15) ECOWAS countries.

- Harmonize the price increases of tobacco products in ECOWAS countries by applying the mechanism provided for this latter in the new Directive of the ECOWAS concerning the convergence of taxes in the consumer price towards the objective of 75% set by the WHO.

The International Development Research Center (IDRC) has funded the Consortium for Economic and Social Research (CRES) for the second phase of its research project on the taxation of tobacco products. This phase is entitled «Tax Solutions for Maximum Tobacco Reduction in West Africa». One of the objectives of this phase was to make the diagnosis of the tax system that the ECOWAS countries apply to tobacco products.