WHO Briefing on the

Health and Economic Impacts of Tobacco Use in Eurasia Working Group Countries

September 2013
1. Smoking prevalence
   - The rate of smoking tends to increase with development reflecting higher prevalence of cigarette use among women as incomes increase.
   - The rate of smoking is relatively high across Eurasia especially among adult males, adult females in Russia and the Ukraine, and young females in Belarus.
   - There are currently 66 million adult smokers and 735,000 youth smokers across Eurasia.
   - More than 8 million of Eurasia’s current youth population could take up smoking by 2020.

2. Tobacco attributable mortality
   - Smoking is currently responsible for 500,000 deaths per year across Eurasia, representing 16% of all adult deaths in the region compared to 12% of all adult deaths globally.
   - Smoking attributable mortality is disproportionately high among Eurasian males at 28% of all male deaths compared to 16% of all male deaths globally.
   - In the absence of further intervention, some 25 million people in the current population of Eurasia will die early from diseases caused by continued smoking.

3. The economic cost of tobacco attributable diseases
   - The proportion of health care costs attributable to smoking ranges between 6-15% in high income countries representing an otherwise preventable drain on public health resources.
   - Eurasian loses 295,000 workers per year due to early mortality from smoking attributable diseases.
   - The output loss for Eurasia due to early mortality from smoking is estimated at 200 billion of GDP in Purchasing Power Parity (PPP) terms, or as much as 6.5% of annual GDP for the region.

4. The impact of tobacco control measures
   - The MPOWER measures for tobacco control are highly effective and such policies implemented by countries since 2007 are expected to prevent 7.4 million early deaths globally by 2050.
   - Turkey is the first country to reach the highest level of achievement in all six MPOWER measures and has recorded a 13% relative decrease in smoking prevalence in five years.
   - Another sixteen countries have fully implemented at least three MPOWER measures and per capita cigarette consumption in these countries has collectively fallen by 20% over 2007-2012.

5. The health impact of tobacco taxation
   - The impact of higher tobacco taxes on public health is assessed in relation to the three Customs Union of Belarus, Kazakhstan and Russia.
   - If the Customs Union countries raise excise to the equivalent of 90 euro per 1000 by 2020, then the price of cigarettes would increase from less than 1.1 euro/pack today to 3.5 euro/pack in 2020.
   - These higher cigarette prices would ultimately reduce the prevalence rate of smoking in these three countries from 37% today to 26% after 2020.
   - Some 19 million smokers would quit smoking in response to higher prices including 3 million young people who would otherwise take up smoking.
   - More than 4 million early deaths due to continued smoking would be averted in the future.
1. Smoking prevalence

- The rate of smoking tends to increase with development reflecting higher prevalence of cigarette use among women as incomes increase.¹
- The rate of smoking is relatively high across Eurasia especially among adult males, adult females in Russia and the Ukraine, and young females in Belarus.
- There are currently 66 million adult smokers and 735,000 youth smokers across Eurasia.
- More than 8 million of Eurasia’s current youth population could take up smoking by 2020.

¹The World Bank categorizes Moldova and the Ukraine as Lower Middle Income Countries, and Belarus, Kazakhstan and Russia as Upper Middle Income Countries.

Rate of smoking in adult males, 2011  Rate of smoking in adult females, 2011

Number of adult smokers, 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (000s)</th>
<th>Prevalence rate (current smoker)</th>
<th>Number of smokers (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belarus</td>
<td>Male 3,776</td>
<td>Female 4,652</td>
<td>Both 8,429</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Male 5,751</td>
<td>Female 6,602</td>
<td>Both 12,353</td>
</tr>
<tr>
<td>Moldova</td>
<td>Male 1,405</td>
<td>Female 1,631</td>
<td>Both 3,036</td>
</tr>
<tr>
<td>Russia</td>
<td>Male 55,882</td>
<td>Female 69,366</td>
<td>Both 125,249</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Male 17,851</td>
<td>Female 22,405</td>
<td>Both 40,256</td>
</tr>
<tr>
<td>Eurasia</td>
<td>Male 84,666</td>
<td>Female 104,657</td>
<td>Both 189,323</td>
</tr>
<tr>
<td>World</td>
<td>Male 2,554,168</td>
<td>Female 2,630,769</td>
<td>Both 5,184,937</td>
</tr>
</tbody>
</table>

Source: TCE calculations using population data from UN (2013) and prevalence data from WHO (2011).
Combined rate of adult smoking, 2011

The rate of smoking tends to increase with development reflecting higher prevalence of cigarette use among women as incomes increase.

A major public health risk is that more women in low and middle income countries will take up smoking as incomes increase over time.

Cigarette use among adult women is still relatively low in Belarus and Kazakhstan compared to other upper middle income countries.

Number of youth smokers, 2011

<table>
<thead>
<tr>
<th>Country</th>
<th>13-15 population (000s)</th>
<th>Prevalence rate (current smoking)</th>
<th>Number of youth smokers (000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belarus</td>
<td>97</td>
<td>32%</td>
<td>28</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>223</td>
<td>12%</td>
<td>10</td>
</tr>
<tr>
<td>Moldova</td>
<td>41</td>
<td>21%</td>
<td>9</td>
</tr>
<tr>
<td>Russia</td>
<td>1,306</td>
<td>19%</td>
<td>251</td>
</tr>
<tr>
<td>Ukraine</td>
<td>433</td>
<td>31%</td>
<td>133</td>
</tr>
<tr>
<td>Eurasia</td>
<td>2,100</td>
<td>21%</td>
<td>450</td>
</tr>
</tbody>
</table>

Source: TCE calculations using population data from UN (2013) and prevalence data from WHO (2013).

Today's youth as smokers in 2020

A second public health risk is that when today’s youth become adults, they will take up smoking at a similar rate to their parents. Thus, more than 8 million of Eurasia’s youth population could take up smoking by 2020.
2. Tobacco attributable mortality

- Globally, tobacco causes 7% of all deaths from TB, 10% of all deaths from cardiovascular diseases, 22% of all cancer deaths and 36% of all deaths from lower respiratory infections.
- Smoking attributable mortality rates tend to be higher in middle and high income countries due to a range of factors, primarily the relatively high prevalence rates of smoking.
- Smoking is responsible for more than 500,000 deaths per year across Eurasia, representing 16% of all adult deaths in the region compared to 12% of all deaths globally.
- Smoking attributable mortality is disproportionately high among Eurasian males at 28% of all male deaths compared to 16% of all male deaths globally.

Death rate due to tobacco, 2004

- Tobacco is the leading behavioral risk factor causing more than 5 million deaths each year globally.
- Although many people associate smoking with non-communicable diseases such as cancers and heart disease, it is also a major cause of death from communicable diseases such as TB (WHO, 2012).
- Tobacco is responsible for a greater share of deaths in high income countries due to a range of factors such as generally higher rates of cigarette smoking, the older-age profile of high income countries, as well as the high mortality rate from communicable diseases in low income countries.
Adult mortality attributed to tobacco, 2004

<table>
<thead>
<tr>
<th></th>
<th>Male deaths (Number)</th>
<th>Female deaths (Number)</th>
<th>Total deaths (Number)</th>
<th>Tobacco death rate (Rate)</th>
<th>% male deaths (% all)</th>
<th>% female deaths (% all)</th>
<th>% of all deaths (% all)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belarus</td>
<td>20,090</td>
<td>281</td>
<td>20,371</td>
<td>344</td>
<td>28%</td>
<td>0%</td>
<td>15%</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>30,692</td>
<td>9,334</td>
<td>40,026</td>
<td>555</td>
<td>35%</td>
<td>12%</td>
<td>24%</td>
</tr>
<tr>
<td>Moldova</td>
<td>4,520</td>
<td>1,133</td>
<td>5,653</td>
<td>273</td>
<td>19%</td>
<td>5%</td>
<td>12%</td>
</tr>
<tr>
<td>Russia</td>
<td>298,145</td>
<td>47,281</td>
<td>345,427</td>
<td>398</td>
<td>28%</td>
<td>4%</td>
<td>16%</td>
</tr>
<tr>
<td>Ukraine</td>
<td>87,924</td>
<td>8,864</td>
<td>96,788</td>
<td>331</td>
<td>24%</td>
<td>2%</td>
<td>13%</td>
</tr>
<tr>
<td>Eurasia</td>
<td>441,371</td>
<td>66,893</td>
<td>508,264</td>
<td>394</td>
<td>28%</td>
<td>4%</td>
<td>16%</td>
</tr>
<tr>
<td>World</td>
<td>3,573,921</td>
<td>1,529,456</td>
<td>5,103,377</td>
<td>174</td>
<td>16%</td>
<td>7%</td>
<td>12%</td>
</tr>
</tbody>
</table>


Death rate due to tobacco, 2004

Smoking is responsible for over 500,000 deaths per year in Eurasia, representing 16% of all adult deaths in the region. The Eurasia region accounts for 10% of all smoking-attributable deaths worldwide with Russia alone accounting for 7% of all smoking-attributable deaths.

Smoking-attributable mortality is disproportionately high for Eurasian males, while Kazakhstan also exhibits a high rate of smoking-attributable mortality in females.

Share of deaths due to tobacco, 2004

Source: WHO (2012)
Share of all deaths by disease condition attributed to tobacco, 2004

![Graph showing the share of deaths attributed to tobacco by disease condition for different countries.

Source: WHO (2012)]

Mortality rates from second-hand smoke, 2004

![Graph showing the mortality rates from second-hand smoke for different countries.

Source: TCE calculations using WHO (2009) and Oberg et al (2011).]

In addition to deaths from direct tobacco use, it is estimated that second-hand smoke (SHS) causes 600,000 deaths each year globally (Oberg et al, 2011). Death rates from SHS are higher in countries where people are regularly exposed to smoking at home and public places.

Surveys of youth in Moldova and the Ukraine report that 57% of children are exposed to SHS in public places. In 2004, the situation was as even worse in Russia with 89% of children reporting SHS exposure (CDC, 2013).
3. The economic cost of tobacco attributable diseases

- The proportion of health care costs attributable to smoking ranges from 6-15% in high income countries representing an unnecessary and preventable drain on public health resources.
- Smokers exhibit higher rates of absenteeism and can lose several months of work each year due to more chronic conditions.
- Eurasia loses 295,000 workers each year due to early mortality from smoking attributable diseases.
- The output loss for Eurasia due to early mortality from smoking is estimated at 200 billion of GDP in Purchasing Power Parity (PPP) prices, or as much as 6.5% of annual GDP for the region.

The term *direct costs* refer to the use of government and household resources to treat diseases attributable to tobacco. In terms of fiscal impact, the proportion of health care expenditures attributable to smoking in developed countries tends to range from 6-15% (World Bank, 1999).

The evidence suggests that direct costs are lower in low and middle income countries (WHO, 2011b). This may be because the tobacco epidemic is at an earlier stage, or due to limited availability of medical care in low and middle income countries (Ross et al, 2007).

Public health spending due to smoking, 2012

A recent study commissioned by the EC found that public spending on diseases caused by smoking in 27 EU countries accounted for 6% of total public health expenditures. This ranged from 4% in Bulgaria to 12% in Hungary (GHK, 2009).

When the findings were updated by TCE to reflect 2012 prices, public spending on smoking attributable diseases in these 27 countries amounts to 53 billion euro or an average of 110 euro per capita.
The term *indirect cost* refers to the loss in output and overall welfare of society from tobacco attributable diseases. Some indirect costs such as the loss in output due to mortality and morbidity can be quantified in monetary terms, while others such as pain and suffering often remain intangible.

Morbidity has a subtle effect on output with smokers registering excess rates of absenteeism in the order of 2-3 days each year (Berman et al, 2013). However, absenteeism is not evenly distributed. The average EU smoker suffering from cancer, COPD or cardiovascular disease losses 92, 122 and 136 workforce days respectively to ill health (Suhrcke et al, 2008). Such rates of absenteeism surely impact on the earning potential of those suffering from such chronic diseases.

Early mortality is responsible for the largest share of the indirect costs because it includes the permanent reduction in the number of working-age persons (Guindon, 2007). This cost is commonly measured using the Human Capital Approach which quantifies the net present value of all current and future years of output lost for workers who die early from smoking.

TCE has used the Human Capital Approach to calculate the indirect cost of early mortality due to smoking attributable diseases in Eurasia.

**Annual loss in workforce due to early mortality**

TCEs calculations first translate the annual number of deaths from smoking into an equivalent loss in the number of workers using World Bank data on the employment-to-population ratio for each country.

Thus, the Eurasian region is estimated to lose 295,000 workers each year due to early mortality from smoking attributable diseases.

WHO Life Tables show that adults who die early from smoking in Eurasia lose on average 17 years of life. This translates into a total of 4.8 million workforce years lost due to smoking attributable deaths each year.

Source: TCE calculations.
### Output loss due to early mortality, 2011

<table>
<thead>
<tr>
<th></th>
<th>Tobacco deaths (Adults)</th>
<th>Employment ratio (% 15+)</th>
<th>Workforce loss (Workers)</th>
<th>Average years lost</th>
<th>Total years lost</th>
<th>GDP per worker (GDP)</th>
<th>NPV of output loss (Million GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belarus</td>
<td>20,371</td>
<td>50.6%</td>
<td>10,308</td>
<td>15</td>
<td>156,124</td>
<td>34,008</td>
<td>8,441</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>40,026</td>
<td>67.7%</td>
<td>27,097</td>
<td>15</td>
<td>401,767</td>
<td>28,176</td>
<td>16,823</td>
</tr>
<tr>
<td>Moldova</td>
<td>5,653</td>
<td>38.7%</td>
<td>2,188</td>
<td>16</td>
<td>34,915</td>
<td>10,008</td>
<td>482</td>
</tr>
<tr>
<td>Russia</td>
<td>345,427</td>
<td>58.8%</td>
<td>203,111</td>
<td>17</td>
<td>3,480,839</td>
<td>33,220</td>
<td>160,183</td>
</tr>
<tr>
<td>Ukraine</td>
<td>96,788</td>
<td>54.5%</td>
<td>52,749</td>
<td>15</td>
<td>804,826</td>
<td>15,034</td>
<td>14,086</td>
</tr>
<tr>
<td>Eurasia</td>
<td>508,264</td>
<td>58.1%</td>
<td>295,493</td>
<td>17</td>
<td>4,878,472</td>
<td>29,233</td>
<td>200,015</td>
</tr>
</tbody>
</table>


TCEs calculations divide IMF data on country GDP in Purchasing Power Parity (PPP) terms for 2011 by adult employment to arrive at the value of GDP/worker. Note the value of GDP/worker in future years is calculated using IMF growth forecasts of GDP/capita in PPP terms.

The value of future workforce years lost is adjusted by a discount rate of 3% to arrive at the Net Present Value (NPV) of all current and future output losses due to early mortality from smoking.

### Output loss due to early mortality, % GDP

The loss in output due to smoking attributable mortality in the Eurasian region per year is estimated by TCE at 200 billion of GDP in Purchasing Power Parity (PPP) terms for 2011. The loss in output for Russia alone is estimated at more than 160 billion GDP in PPP prices.

The loss in output for the Eurasia is equivalent to as much as 6.5% of annual GDP for the Eurasia region compared to 2% globally. Kazakhstan shows the greatest relative loss at 7.8% of GDP followed by Russia at 6.7%.

Source: TCE calculations.
4. The impact of tobacco control measures

- The WHO Framework Convention on Tobacco Control (FCTC) has been widely adopted with 177 Parties to the treaty including Belarus, Kazakhstan, Moldova, Russia and the Ukraine.
- The MPOWER measures for tobacco control are highly effective and such policies implemented by countries since 2007 are expected to prevent 7.4 million early deaths globally by 2050.
- Turkey is the first country to reach the highest level of achievement in all six MPOWER measures and has recorded a 13% relative decrease in smoking prevalence in five years.
- Another sixteen countries have fully implemented at least three MPOWER measures and per capita cigarette consumption in these countries has collectively fallen by 20% over 2007-2012.

The WHO Framework Convention on Tobacco Control (FCTC) is the first international treaty negotiated under the auspices of WHO. Parties to the FCTC commit to protecting their population by implementing demand reduction measures.

To help countries implement the treaty, WHO has introduced MPOWER - a package of six technical measures. Each measure relates to at least one demand-side provision of the FCTC.

- Monitor tobacco use and prevention policies.
- Protect people from tobacco smoke.
- Offer help to quit tobacco use.
- Warn about the dangers of tobacco.
- Enforce bans on tobacco advertising, promotion and sponsorship.
- Raise taxes on tobacco.

These measures are supported by substantial evidence of their impact on smoking behavior including experiences in low and middle income countries (refer to WHO, 2008).

Research in the WHO Bulletin has assessed the global impact of tobacco control in countries that have fully implemented at least one MPOWER measure over 2007-2010 (Levy et al, 2013). They find these policies will result in 14.8 million fewer smokers and avert 7.4 million deaths by 2050.

This research demonstrates the measureable impact of actions already undertaken by many countries and underscores the potential for millions of additional lives to be saved with continued adoption of MPOWER polices.

### Impact of MPOWER, 2007-2010

<table>
<thead>
<tr>
<th>Measures</th>
<th>Smokers covered</th>
<th>Fewer smokers</th>
<th>Fewer deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect air</td>
<td>85,445</td>
<td>5,033</td>
<td>2,516</td>
</tr>
<tr>
<td>Offer cessation</td>
<td>29,847</td>
<td>759</td>
<td>380</td>
</tr>
<tr>
<td>Warnings</td>
<td>100,633</td>
<td>1,340</td>
<td>681</td>
</tr>
<tr>
<td>Enforce bans</td>
<td>9,334</td>
<td>613</td>
<td>306</td>
</tr>
<tr>
<td>Raise taxes</td>
<td>62,416</td>
<td>7,056</td>
<td>3,528</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>287,675</strong></td>
<td><strong>14,840</strong></td>
<td><strong>7,420</strong></td>
</tr>
</tbody>
</table>

Turkey is the first country to fully implement all six MPOWER measures and has recorded a 13% relative decline in smoking prevalence in five years over 2008-2012 (WHO, 2013).

Another sixteen countries have fully implemented at least three MPOWER measures.² Per capita cigarette consumption in these countries has collectively fallen by 20% over 2007-2012 compared to a decline of less than 1% in countries with lower levels of implementation (Source: TCE).

²Australia, Brazil, Brunei, Canada, El Salvador, Iran, Kuwait, Madagascar, Mauritius, NZ, Panama, Seychelles, Spain, Thailand, the UK and Uruguay.

Newly published research has assessed the potential long-term effects of implementing MPOWER policies in Russia (Maslennikova et al, 2013). This research used the SimSmoke model to assess the impact of implementing seven tobacco control policies consistent with the WHO FCTC.

The SimSmoke model forecasts the impact of these seven policies on smoking prevalence and smoking attributable deaths for Russia. These seven policies combined would decrease smoking prevalence by 37% in 2025 and by 49% in 2055. The impact of raising tobacco taxes alone is assessed by the SimSmoke model to decrease prevalence by 13% in 2025 and by 23% in 2055.

The authors note that Russia has already begun to implement some policies (such as higher taxes, media campaigns and health warnings). They estimate that these policies will have already reduced smoking rates and will lead to the prevention of some 1.5 million smoking attributable deaths in the future.
5. The health impact of tobacco taxation

- Raising tobacco taxes has proven to be one of the most effective interventions for reducing tobacco consumption, particularly among the young and the poor (WHO, 2011c).
- In the absence of further interventions, some 25 million people in the current population of Eurasia will die early from diseases caused by continued smoking.
- The impact of higher tobacco taxes on public health is assessed in relation to the three Customs Union of Belarus, Kazakhstan and Russia.
- If the Customs Union countries raise excise to the equivalent of 90 euro per 1000 by 2020, then the price of cigarettes would increase from less than 1.1 euro/pack today to 3.5 euro/pack in 2020.
- These higher cigarette prices would ultimately reduce the prevalence rate of smoking in these three countries from 37% today to 26% after 2020.
- Some 19 million smokers would quit smoking in response to these higher prices including 3 million young people who would otherwise take up smoking.
- More than 4 million early deaths due to continued smoking would be averted in the future.

### Number of early deaths in the future due to smoking

<table>
<thead>
<tr>
<th>Population at risk</th>
<th>Number of early deaths(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(000s)</td>
<td>(000s)</td>
</tr>
<tr>
<td>Current smokers</td>
<td>Future smokers(1)</td>
</tr>
<tr>
<td>Belarus</td>
<td>2,386</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>2,881</td>
</tr>
<tr>
<td>Moldova</td>
<td>690</td>
</tr>
<tr>
<td>Russia</td>
<td>48,694</td>
</tr>
<tr>
<td>Ukraine</td>
<td>11,457</td>
</tr>
<tr>
<td>Eurasia</td>
<td>66,107</td>
</tr>
</tbody>
</table>

(1) Calculated on the basis that today’s youth population will take-up smoking at the same rate as adults.
(2) Conservatively assumes that 33% of cigarette smokers are risk of early death in the future from continued smoking.
Source: TCE calculations.

Studies have found that tobacco kills a third to a half of all people who use it (Peto, 1996) and that half of all regular cigarette smokers will die early from tobacco attributable diseases (Doll, 2004, and DHHS, 2004). In the absence of further interventions to reduce the demand for cigarettes in Eurasia, TCEs calculations conservatively show that 25 million people in the current population will die early from diseases caused by smoking. This includes 3 million deaths from among the current youth population who can be expected to take up smoking in the future.
Cigarette tax simulations for the Customs Union

<table>
<thead>
<tr>
<th>National currency terms</th>
<th>Euro currency terms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Excise per pack</td>
</tr>
<tr>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>Belarus</td>
<td>2,196</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>31</td>
</tr>
<tr>
<td>Russia</td>
<td>15</td>
</tr>
<tr>
<td>EU average</td>
<td>2.88</td>
</tr>
</tbody>
</table>

Source: TCE Tobacco Tax Simulations of excise rates that approximate 90 euro per 1000 sticks by 2020.

(1) Percentage increase in cigarette prices after adjusting for inflation.

TCE worked with Ministry of Finance officials from the three Customs Union countries to develop Tobacco Tax Simulation (TaXSiM) models that quantify the impact of tobacco tax policies on excise revenue and public health outcomes in their countries.

If the Customs Union countries raise excise to the equivalent of 90 euro per 1000 by 2020, then the price of cigarettes in these three countries would increase by around 200% in inflation-adjusted terms thus creating a sustained incentive for people to reduce cigarette consumption and quit smoking.

Cigarette prices in the Customs Union would increase from less than 1.1 euro/pack today to around 3.5 euro/pack by 2020. However, note these prices would still be lower than the current EU average of 4.76 euro/pack in 2012 (WHO,2013).

Average excise per cigarette pack

Average price per cigarette pack
Health impact of reaching 90 euro/1000 by 2020

<table>
<thead>
<tr>
<th>Country</th>
<th>Adult prevalence rate of smoking (%) (^{(1)})</th>
<th>Reduction in number of smokers (000s)</th>
<th>Reduction in number of early deaths (000s) (^{(2)})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Current 2011</td>
<td>After 2020</td>
<td>% change</td>
</tr>
<tr>
<td>Belarus</td>
<td>28%</td>
<td>19%</td>
<td>-33%</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>23%</td>
<td>16%</td>
<td>-33%</td>
</tr>
<tr>
<td>Russia</td>
<td>39%</td>
<td>27%</td>
<td>-30%</td>
</tr>
<tr>
<td>Union</td>
<td>37%</td>
<td>26%</td>
<td>-31%</td>
</tr>
</tbody>
</table>

\(^{(1)}\) The rate after 2020 is calculated using a prevalence elasticity of -0.15 on the real or inflation-adjusted price.

\(^{(2)}\) Calculated assuming a survival rate of 67% on average for regular adult smokers who quit smoking.

Source: TCE WHO Tobacco Tax Simulations.

Predicted decrease in smoking rates

Global evidence suggests that half of the impact of price on smoking comes from a reduction in prevalence (IARC, 2011).

Consistent with this evidence and other estimations, TCE calculations conservatively assume a prevalence elasticity of -0.15 on the inflation-adjusted change in cigarette prices.

Higher cigarette prices from raising excise in the Customs Union as proposed above would ultimately lead the prevalence rate of adult smoking in these three countries to decline from 37% today to 26% after 2020.

In absolute terms, some 19 million smokers would quit smoking in response to higher cigarette prices including 3 million young people who would otherwise take up smoking.

The impact in terms of deaths avoided depends on the survival rate of adults who quit smoking. Health studies show that at least 67% of those who would have otherwise died early from diseases caused by smoking can avoid early death by quitting (IARC, 2011).

Overall, more than 4 million early deaths due to smoking would be averted in the future through higher cigarette taxes and prices in the Customs Union countries.
6. References


