Effective Tobacco Tax Reform: Evidence from China

Rose Zheng

Director, WHO Collaborating Center for Tobacco and Economics
Professor, University of International Business and Economics (UIBE), Beijing, China

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1. Tobacco industry and cigarette market in China

China is the largest producer and consumer of tobacco products in the world, where thirty percent of the world’s cigarettes are consumed.

Figure 1: Cigarette consumption in China
Cigarette production and consumption (2000-2016)

Figure 2 Cigarette production volume (2000-2016)

Figure 3 Cigarette sales volume (2000-2016)
In 2016, CNTC produces **89 cigarette family brands** which provide **870 different domestic produced cigarettes** with the price varying between 2.5RMB (0.4 USD)/ Pack to 100RMB (15.4USD)/Pack.

Class I: Baisha (Hetianxia)  
160RMB/pack

Class II: Baisha (Tezhijingping)  
(9RMB/pack)

Class III: Baisha (Yingchunxiang)  
(7RMB/pack)

Class IV: Baisha (Ruan)  
(5RMB/pack)
China tobacco industry is controlled by a government run monopoly STMA. STMA also functions as the state owned company CNTC, which operates almost entirely in China with little competition from other companies.
## 2. China Tobacco Tax Structure

<table>
<thead>
<tr>
<th>Type of Tax</th>
<th>Tax level</th>
<th>Tax base</th>
<th>Tax Rate</th>
<th>Revenue Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco leaf tax</td>
<td>agriculture</td>
<td>value of tobacco leaf</td>
<td>20%</td>
<td>100% local government</td>
</tr>
<tr>
<td>Value-added tax at cigarette manufacture (VAT)</td>
<td>Produce, wholesale and retail</td>
<td>added value at each level</td>
<td>17%</td>
<td>75% central government, 25% local government (50%-50% since 2016)</td>
</tr>
<tr>
<td>Specific excise tax</td>
<td>produce</td>
<td></td>
<td>0.06 RMB/pack</td>
<td>100% central government</td>
</tr>
<tr>
<td>(* Tax increase in 2015)</td>
<td>wholesale</td>
<td></td>
<td>0.10RMB/pack</td>
<td></td>
</tr>
<tr>
<td>Ad valorem excise tax</td>
<td>produce, wholesale</td>
<td>allocation price(without VAT)</td>
<td>56%</td>
<td>100% central government</td>
</tr>
<tr>
<td>(* Tax increase in 2015)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban maintenance and construction tax and extra charges of educational fee (C&amp;E Tax)</td>
<td>produce, wholesale, retail</td>
<td>tax amount of VAT and excise tax</td>
<td>12% in average</td>
<td>100% local government</td>
</tr>
</tbody>
</table>
3. Cigarette Price (weighted average price), 2001-2016

Figure 4 Cigarette nominal weighted average retail price (2001-2016)

Figure 5 Cigarette real weighted average retail price (2001-2016)
4. Cigarette affordability

Figure 6 Cigarette consumption, prices, GDP and per capita income growths
Cigarette affordability trends presented by RIP method

Figure 7  RIP average and RIP cheap brands
5. Tax as % of retail price (Tax incidence)

Figure 8 Tax as % of retail price (2001-2016)

Figure 9 Excise as % of retail price (2001-2016)
Figure 10 Tax as % of retail price—Compared with Asian countries

Data source: WHO Tobacco control country profiles
http://www.who.int/tobacco/surveillance/policy/country_profile/en/
6. Cigarette consumption

Figure 11 Cigarette sales volume (2000-2016)
Cigarette consumption keeps decreasing over time

<table>
<thead>
<tr>
<th>Table 2 Impact on consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>price elasticity</strong></td>
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<tr>
<td>price elasticity</td>
</tr>
<tr>
<td>Retail price 2014</td>
</tr>
<tr>
<td>Retail price 2015</td>
</tr>
<tr>
<td>△ ( price )</td>
</tr>
<tr>
<td>%△ ( price )</td>
</tr>
<tr>
<td>%△ ( sales volume )</td>
</tr>
</tbody>
</table>

2017/9/20
Government’s revenue---Revenue generated from tobacco industry as % of government’s total fiscal revenue (2000-2016)

Figure 12  Tobacco tax and tobacco profit contribution as % of fiscal revenue (2000-2016)
7. Impact of 2015 tax adjustment on public health
Within 12 months followed by the 2015 tax increase, the total number of smokers would decrease by about 5 million, the expected smoking attributable deaths would decrease by about 1 million.

<table>
<thead>
<tr>
<th>Table 4 Impact on public health</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>Real retail price adapted by inflation</td>
</tr>
<tr>
<td>Adult smokers</td>
</tr>
<tr>
<td>Smoking rate (all)</td>
</tr>
<tr>
<td>Smoking rate (age 15-19)</td>
</tr>
<tr>
<td>Future smokers</td>
</tr>
<tr>
<td>Total smokers</td>
</tr>
<tr>
<td>Expected SADs</td>
</tr>
</tbody>
</table>
8. Does the tobacco industry interfere tax increase by pricing strategy? –YES!

Wholesale level: There was absorption for each category

**Figure 14 Net effect at wholesale level**
Consumer level: Over shifting for most price categories, absorption for middle price category

Figure 15 Net price effect for consumers
9. Conclusions

(1) Raising tobacco tax and price proves to be a win-win strategy

(2) The effectiveness of tobacco tax increase is enhanced when implemented as part of a comprehensive tobacco control strategy. - Beijing

(3) Tax increases should reduce the affordability of tobacco products. - Shenzhen

Figure 16 Cigarette sales volume before and after smoking free legislation in 4 cities
10. Challenges

(1) Cigarette price is still very cheap and becomes more affordable over years, the tax as % of retail price still very low compared to WHO recommended standard

(2) The state monopoly STMA and company CNTC have super pricing power and profitability to interfere with tobacco tax policy

(3) The complicated tobacco excise structure provides the industry incentives and possibilities for price manipulation.
11. Next steps

(1) Sustained tax and price increase, particularly to optimize excise structure by:

- Lean more on specific tax
- Unify two tiered ad valorem tax rates into an unified rate for all price categories

(2) To introduce automatic adjustments mechanism to address inflation and affordability

(3) Earmark tobacco tax to support public health and SDGs

(4) Fundamental research such as employment/the low income/smoking burden… help to provide supportive evidence for policy makers.
THANK YOU!

Contacts: rosezheng@uibe.edu.cn  zr3377@gamil.com