Estimated Impacts on Public Health of Privatizing the Swedish Monopoly

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What are the public health and safety benefits of the Swedish government alcohol monopoly?

April 2017
• Systembolaget paid research expenses plus travel expenses and honoraria for investigators
• Systembolaget is part of Swedish Ministry of Health and Social Affairs
• Arms length relationship with project team, no vetting of report
• Independent publication and journal articles
• No other conflicts to report
The Current Report

• 3rd in series of reports estimating the impacts on alcohol consumption and related harms of privatising Systembolaget
• Builds on systematic reviews of alcohol policies and their impacts
• Estimates burden of alcohol attributable deaths and hospitalizations for Sweden
• Informed by opinions of Swedish experts
The Scenarios

- **Baseline:** Systembolaget
  - 436 Stores

- **Scenario 1:** Specialty liquor stores
  - 1,200 Stores
  - Harms:
    - Deaths
    - Hospital stays
    - Drunk Driving
    - Assaults

- **Scenario 2:** Other stores
  - 6,900 Stores
Summary of Analytic Steps

**Step 1:** Impact on alcohol accessibility “policy levers”
- a. Systematic Reviews
- b. Expert opinions

**Step 2:** Impact on alcohol consumption
- a. Systematic Reviews
- b. New Analyses

**Step 3:** Impact on harms
- a. WHO GBD Modelling
- b. Swedish Time Series Analysis

**Scenario 1:** Specialty liquor stores

**Scenario 2:** Alcohol in grocery stores

- Alcohol accessibility
- Alcohol consumption
- Harms
The Systembolaget System

- Retail monopoly for alcohol >3.5%/volume
- 436 retail liquor stores, ~500 agency stores
- Stores open ~50 hours Monday to Saturday
- A fixed inventory of products with prices defined by mark-ups and other taxes
- Restrictions on marketing and promotions
- Efficient checks on age of customers
The Policy Context

- Unlike in N. America, Systembolaget reports to a health and social affairs government ministry.
- Legal purchase age of 20 yrs, high taxes.
- Strong popular support for all the above.
- Gradual loosening of the monopoly: internet sales and a trial of home delivery.
- Privatization of pharmacies, railways and vehicle inspections – gaming next?
Step 1:
Impact of privatization on alcohol accessibility “policy levers”
Step 1: Impact of privatization on alcohol accessibility “policy levers”
Comprehensive literature reviews on alcohol policy and public health

“Alcohol: No Ordinary Commodity” (WHO, 2010)

“Resources on Community Strategies to Reduce Excessive Alcohol Use” (US CDC, 2015)

Step 1: Impact on alcohol accessibility “policy levers”
What are the most powerful policy levers relevant to Systembolaget?

- Alcohol outlet density
- Liquor store opening hours
- Mean and minimum alcohol prices
- Advertising, marketing and promotion
- Age ID checking
Table A1: The estimated changes in key policy levers in two privatisation scenarios

<table>
<thead>
<tr>
<th>Lever</th>
<th>Scenario 1 – Alcohol sold in Private Liquor Stores</th>
<th>Scenario 2 – Alcohol sold in Grocery Stores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density of stores</td>
<td>200% increase</td>
<td>1500% increase</td>
</tr>
<tr>
<td>Sunday trading</td>
<td>An extra day added</td>
<td>An extra 14 hour day added</td>
</tr>
<tr>
<td>Extended hours</td>
<td>44% increase</td>
<td>68% increase</td>
</tr>
<tr>
<td>Mean prices</td>
<td>Beer +4.9%</td>
<td>Beer +2.4%</td>
</tr>
<tr>
<td></td>
<td>Wine +6.0%</td>
<td>Wine +3.0%</td>
</tr>
<tr>
<td></td>
<td>Spirits +1.4%</td>
<td>Spirits +0.7%</td>
</tr>
<tr>
<td>Minimum prices</td>
<td>Beer -19.9%</td>
<td>Beer -24.9%</td>
</tr>
<tr>
<td></td>
<td>Wine -12.5%</td>
<td>Wine -15.6%</td>
</tr>
<tr>
<td></td>
<td>Spirits -20.6%</td>
<td>Spirits -25.7%</td>
</tr>
<tr>
<td>Advertising</td>
<td>Half the inverse of full ban effect</td>
<td>Inverse of the effect of a ban</td>
</tr>
</tbody>
</table>
Step 2:
Impact of privatization on alcohol consumption
Step 2: Impact of privatization on alcohol consumption

Scenario 1: Specialty liquor stores

Scenario 2: Alcohol in grocery stores

Alcohol accessibility

Alcohol consumption
Illustration of Step 2 process

• Estimating impact of adding Sunday trading
• We conducted a new systematic review of all published studies linking adding a day of trading to levels of alcohol consumption
• Six studies met our quality criteria, five from US and one from Sweden
• Mean effect is a 3.4% increase in per capita alcohol consumption from adding a Sunday
Table A2: The estimated independent effect of changes in policy levers on recorded per capita consumption in Sweden (95% Confidence Intervals in brackets)

<table>
<thead>
<tr>
<th>Lever</th>
<th>Scenario 1 – Private Liquor Stores</th>
<th>Scenario 2 – Grocery Stores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density of stores</td>
<td>9.5% (7.0% to 12.0%)</td>
<td>16.4% (14.3% to 18.5%)</td>
</tr>
<tr>
<td>Sunday trading</td>
<td>1.0% (-5.1% to 7.1%)</td>
<td>1.2% (-5.9% to 8.3%)</td>
</tr>
<tr>
<td>Extended hours</td>
<td>3.8% (2.9% to 4.8%)</td>
<td>4.8% (3.6% to 6.0%)</td>
</tr>
<tr>
<td>Mean prices</td>
<td>-2.8% (-4.4% to -1.2%)</td>
<td>-1.4% (-2.2% to -0.6%)</td>
</tr>
<tr>
<td>Minimum prices</td>
<td>13.3% (7.3% to 19.4%)</td>
<td>16.7% (9.1% to 24.3%)</td>
</tr>
<tr>
<td>Promotions</td>
<td>2.5% (-0.2% to 5.2%)</td>
<td>5.0% (-0.4% to 10.4%)</td>
</tr>
<tr>
<td>All policies</td>
<td>20.0% (15.3% to 24.7%)</td>
<td>31.2% (25.1% to 37.3%)</td>
</tr>
</tbody>
</table>
Figure 4: Per capita recorded alcohol consumption in 23 European countries (litres per year)

Scenario 1: 9.17L
Scenario 2: 10.27L
Step 3:
Impact of privatization on harms
Step 3: Impact of privatization on harms

Scenario 1: Specialty liquor stores

Scenario 2: Alcohol in grocery stores

Alcohol accessibility

Alcohol consumption

Harms
InterMAHP Estimates

• Adaptation and update of WHO Global Burden of Disease methods to create InterMAHP:
  • Estimated the ‘base case’ for extent of alcohol attributable deaths and hospital stays for Sweden in 2014
  • Estimated how this would change with increases in per capita alcohol consumption
  • NB Fundamental new knowledge used to estimate the distribution of alcohol’s consumption in a population
InterMAHP estimates

Scenario 1: Specialty liquor stores

Scenario 2: Alcohol in grocery stores

Total alcohol consumption

Deaths: +41%

Hospital stays: +66%

Hospital stays: +22%

Hospital stays: +33%

549 million Kronor

852 million Kronor
Table A4: The estimated impacts of each privatisation scenario on alcohol-related harm based on an adaptation of the WHO Global Burden of Disease methods

<table>
<thead>
<tr>
<th>Harm measure</th>
<th>Total Sweden 2014</th>
<th>Scenario 1 extra</th>
<th>Scenario 2 extra</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alcohol attributable deaths</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancers</td>
<td>678</td>
<td>123 (+18.1%)</td>
<td>194 (+28.6%)</td>
</tr>
<tr>
<td>Mental health</td>
<td>247</td>
<td>50 (+20.2%)</td>
<td>70 (+28.3%)</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>-277</td>
<td>269 (n/a)</td>
<td>436 (n/a)</td>
</tr>
<tr>
<td>Digestive</td>
<td>412</td>
<td>168 (+40.8%)</td>
<td>285 (+69.2%)</td>
</tr>
<tr>
<td>Injuries</td>
<td>1 022</td>
<td>170 (+16.6%)</td>
<td>259 (+25.3%)</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>117</td>
<td>18 (+15.4%)</td>
<td>28 (+23.9%)</td>
</tr>
<tr>
<td>Type 2 diabetes</td>
<td>-279</td>
<td>-2 (n/a)</td>
<td>-1 (n/a)</td>
</tr>
<tr>
<td>Total deaths</td>
<td>1 919</td>
<td>795 (+41.4%)</td>
<td>1 271 (+66.2%)</td>
</tr>
<tr>
<td><strong>Alcohol attributable hospital stays</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancers</td>
<td>3 074</td>
<td>588 (+19.1%)</td>
<td>928 (+30.2%)</td>
</tr>
<tr>
<td>Mental health</td>
<td>28 407</td>
<td>5 657 (+19.9%)</td>
<td>7 913 (+27.9%)</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>5 423</td>
<td>2 321 (+42.8%)</td>
<td>3 729 (+68.8%)</td>
</tr>
<tr>
<td>Digestive</td>
<td>2 560</td>
<td>1 200 (+46.9%)</td>
<td>2 017 (+78.8%)</td>
</tr>
<tr>
<td>Injuries</td>
<td>17 835</td>
<td>2 942 (+16.5%)</td>
<td>4 487 (+25.2%)</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>3 021</td>
<td>488 (+16.2%)</td>
<td>765 (+25.3%)</td>
</tr>
<tr>
<td>Type 2 diabetes</td>
<td>-853</td>
<td>10 (n/a)</td>
<td>21 (n/a)</td>
</tr>
<tr>
<td>Total hospital stays</td>
<td>59 469</td>
<td>13 206 (+22.2%)</td>
<td>19 860 (+33.4%)</td>
</tr>
</tbody>
</table>
Sources of Underestimation

• We assumed alcohol in moderation has health benefits despite growing scientific contention
• We did not estimate the benefit of stricter controls on youth access
• We did not factor in a ‘convenience’ effect for alcohol being sold in grocery stores
• No estimate of greater marketing/promotion
• We could not extract data for some specific types of alcohol caused deaths and hospital stays
Conclusions

• Abolishing Systembolaget would lead to increases in alcohol consumption plus related health and social problems
• Close agreement in estimates from two different analytic methods (ARIMA vs InterMAHP)
• Alternative regulatory approaches to minimising alcohol-related harms in a private system are likely to be undermined e.g. difficulty for Scotland introducing a new pricing policy despite passing legislation
• Increased competition in alcohol markets is bad for public health
Recommendations

• The Swedish government alcohol monopoly is maintained in order to more readily influence policies around alcohol that reduce associated health and social harms

• Alternative sources of supply (e.g. internet sales, farmers’ markets) should be avoided as they put upward pressure on consumption and harm

• A minimum price per Swedish standard drink (=12g ethanol) should be introduced and indexed to the cost of living
Thank You
Tack