How many men drink?
- Proportion of males consuming alcohol in the state increased from 29.5% to 41.2% between 2005-06 and 2015-16.
- Proportion of females consuming alcohol in the state is miniscule, 0.1% in 2005-06 and 0.3% in 2015-16.
- Frequency of drinking also increased. In 2005, about 4.5% of alcohol consumers reported drinking everyday which increased to 9% in 2015.

Who are they?
Proportion of male consumers is higher in >21 years age group (50.8%). Across income categories, 36% among the poorest males consume alcohol. 50% of the males in the education category below secondary schools consume alcohol.

What do they prefer to drink?
As per National Family Health Survey (NFHS) 2015-16 data, Hard Liquor (25.7%) and Wine (14.9%) are the two most commonly used alcohol.

How much do they drink?
Alcohol consumption data is obtained at the household level from NSSO 2011-12. On an average, the self-reported mean consumption level of Indian Made Foreign Liquor (IMFL) is 1.66 litres/month/household in the state with the maximum limit reported to be 22.5 litres/month.
How much do they spend?
- Poorest households spend Rs 138 per month on alcohol. This accounts for about 3% of their total monthly expenditure.
- Households of the richest income quintiles spend Rs 600 which is 4.36 times more than what is spent by the poorer households.

What do they forgo?
Compared to the non-consuming households, alcohol consuming households spend less on Food, Education and Medical services which indicates a public health concern.

TAX AND REVENUES

How much revenue is generated from IMFL?
Revenue receipt from IMFL went up from Rs 8404 lakhs in 2000-01 to Rs 80243 lakhs in 2018-19 (current prices). Steady increase throughout.

How much revenue is generated from alcohol?
Alcohol revenue consists almost entire of state’s excise revenue and 18% of State’s Own Tax Revenue in 2017-18.

Chart 5: Revenue Receipt from IMFL and Revenue Growth

Chart 6: Share of IMFL and Beer in overall state Excise

Tax: What is the structure of alcohol tax rate?
- In 2019, ED/Proof litre ranged from Rs 350 to Rs 630 and EWP ranges from Rs 800/case to Rs 7601/case and above.
- All these different units of taxation are converted in per litre terms before using them for price calculation.

Different states have different taxation structure of IMFL. The Ex-warehouse prices, excise, and additional excise duties varies by states. This makes it inherently difficult
How did we calculate Price of IMFL?

Our Pricing Methodology involves two steps:

- The first step is calculating the Unweighted Prices of IMFL for each range of EWP by summing the EWP, ED, and AED. Since, we obtained data only for the year 2019, we have deflated the unweighted price using CPI IMFL to represent them in 2011 figures. This gives us a consumer facing price for the given range of EWP.

- In the second step, we find the proportion of households consuming alcohol in that interval of unweighted price from NSSO 2011-12. The weighted average of prices from step 1 is our effective price. Weights are the proportion of people consuming alcohol in that interval of prices.

What prices we obtained from NSSO?

In order to complement and check the validity of Our Method, we also calculate the NSSO Unit prices of IMFL. NSSO prices are calculated for the year 2011 by dividing the total monthly Household expenditure incurred on IMFL with the quantity of IMFL consumed by the households during the last 30 days.

Comparing our prices and NSSO prices for 2011

We find the mean representative price of IMFL (Rs 256/litre) close to the NSSO Unit Price (Rs 319/litre).

Chart 9: Price of IMFL (per litre): Distribution of NSSO prices compared to NCAER estimate

Unavailability of any such national data on IMFL prices motivated us to derive our own pricing methodology. We exploit the tax structure data obtained from excise departments to arrive at a representative state-specific price of IMFL for the year 2011.

PRICING METHODOLOGY

Chart 7: Structure of alcohol tax rate

<table>
<thead>
<tr>
<th>State</th>
<th>Ex-Warehouse Price (Rs)</th>
<th>Additional Excise Duty (Rs)</th>
<th>Excise Duty (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karnataka</td>
<td>/Case/ /Case</td>
<td>✓/Bulk /Litre</td>
<td></td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>✓/Case/ /Case</td>
<td>✓/ Proof /Litre</td>
<td></td>
</tr>
<tr>
<td>Sikkim</td>
<td>✓/Case/ /Case</td>
<td>✓/ Percentage of EWP</td>
<td></td>
</tr>
<tr>
<td>Maharashtra</td>
<td>x/Case/ /Case</td>
<td>✓/Percentage of EWP</td>
<td></td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>✓/ 2 quart bottles or equivalent/ /Case</td>
<td>✓/ Proof /Litre</td>
<td></td>
</tr>
<tr>
<td>Bihar</td>
<td>✓/Case/ /Bulk /Litre</td>
<td>✓/Bulk /Litre</td>
<td></td>
</tr>
<tr>
<td>Delhi</td>
<td>Brand Wise Information/ WSP, VAT, Sales Price, Retail Margin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chart 8: Prices, Ex-Warehouse Prices, and Taxes of IMFL

<table>
<thead>
<tr>
<th>Year</th>
<th>Ex-Warehouse Price (Rs/litre)</th>
<th>Effective Price (Rs/litre)</th>
<th>Taxes (Rs/litre)</th>
<th>Ex-Warehouse price (Rs/litre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>256</td>
<td>215</td>
<td>98</td>
<td>167</td>
</tr>
<tr>
<td>2015</td>
<td>313</td>
<td></td>
<td></td>
<td>89</td>
</tr>
</tbody>
</table>
What happens when price or tax on IMFL increase?

- People will not start drinking
- People will drink less IMFL
- Increase in government’s revenue
- People can switch to other alcohol products

What did we find?

- For all seven states, we found that a 10% increase in price prevents 11 men out of 1000 from initiating alcohol consumption.
- For all seven states, we found that household demand is less responsive to price. For a 1% rise in prices, alcohol consumption is seen to be reducing by only 0.057%.
- For Himachal Pradesh in specific, the NSSO data reveals highly inelastic demand of IMFL. We find that for 10% rise in prices, IMFL consumption will reduce by 6.2%.

- For all seven states, we found a 10% increase in TAX prevents nearly 14 men out of 1000 from consuming alcohol. For women, this value is only 5 out of 1000.
- Computation of tax as effective price minus EWP
- We also see that a 10% increase in tax reduce alcohol consumption by 1.4%.
- In understanding the relationship between tax rate and tax revenue, we see that an increase in tax rate of 10% will increase tax revenue by 8.4%.

Chart 10: Elasticity estimates

<table>
<thead>
<tr>
<th></th>
<th>Elasticity of participation (All 7 states)</th>
<th>Elasticity of consumption (All 7 states)</th>
<th>Elasticity of consumption (Himachal Pradesh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFHS</td>
<td>-0.114***</td>
<td>-0.057***</td>
<td>-0.621***</td>
</tr>
<tr>
<td>NSSO</td>
<td>-0.006</td>
<td>-0.002</td>
<td>-0.004</td>
</tr>
<tr>
<td>NSSO</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** Denotes significance at 1% level.

Source: Authors’ estimate.

RECOMMENDATIONS FROM THE STUDY

1. Progressive increase in tax is required to decrease prevalence and amount of alcohol consumption over the years.
2. There should be more investment in data reporting structure so that comparable alcohol pricing, consumption and sales data across States is available.
3. State-level interventions need to be contextualized considering the patterns and types of alcohol consumed in the state.
4. Uniform and strict enforcement of minimum legal age of drinking across states is recommended.
5. The strategies indicated in the WHO-SAFER framework should be implemented for added effects.
6. It is recommended to assess the relative merits of different taxation regimes so that optimal mode of taxation and distribution for alcohol is understood.

The findings, interpretations, and conclusions expressed are those of the authors and do not necessarily reflect the views of NCAER or WHO.