How many men drink?
- Proportion of males consuming alcohol increased from 28.3% to 29.2% between 2005-06 and 2015-16.
- Proportion of females consuming alcohol decreased from 1.2% to 1% between 2005-06 and 2015-16.
- The frequency of drinking has increased. In 2005, about 19% of alcohol consumers reported drinking everyday, which increased to 22% in 2015.

Who are they?
Proportion of male consumers is higher in >21 years age group (34%) and among low education groups (38%). No stark differences observed across various income groups.

What do they prefer to drink?
As per National Family Health Survey (NFHS) 2015-16 data, in Karnataka, Beer (27%) and Hard Liquor (25%) are the most commonly used alcohol, followed by Wine.

How much do they drink?
Alcohol consumption data for Karnataka 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 1.29 litres/month/household, with the maximum limit reported to be 15 litres/month.
How much revenue is generated from IMFL?

- Revenue receipt from IMFL went up from Rs 37,618 lakhs in 2000-01 to Rs 15,45,100 lakhs in 2017-18 (current prices). A surge was recorded between 2006-07 and 2007-08, when receipts almost doubled.
- The surge came after the arrack ban in 2006-07. Country liquor’s share was at 65% in 2000-01, but has seen a steady decline since its ban. IMFL’s share has increased from 25% in 2000-01 to 91% in 2008-09.

What do they forgo?

Compared to the non-consuming households, alcohol consuming households are seen to spend less in Food, Medical, and Education, which indicates a public health concern.

How much revenue is generated from alcohol?

Alcohol revenue consists almost entire of state’s excise revenue and 19% of State's Own Tax Revenue in 2017-18.

Tax: What is the structure of alcohol tax rate?

- The tax information for IMFL is obtained from Karnataka Excise State Department.
- Data obtained are Excise Duty (ED), Additional Excise Duty (AED) by Ex Warehouse Price (EWP).
Our Pricing Methodology involves two steps:

1. The first step is calculating the Unweighted Prices of IMFL for each range of EWP by summing the EWP, ED, and AED. This gives us a consumer facing price for the given range of EWP.
2. 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.

Different states have different taxation structure of IMFL. The Ex-warehouse prices, excise, and additional excise duties vary by states. This makes it inherently difficult to come up with a state specific representative price of IMFL.

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.

Comparing our prices and NSSO prices

Using Our Method, the mean representative price of IMFL for Karnataka came out to be Rs 475/litre. This is Rs 426/litre according to the NSSO Unit Price. Our estimated price is not only close but also falls within the NSSO price minimum and maximum price ranges.

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. 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

Using Our Method, the mean representative price of IMFL for Karnataka came out to be Rs 475/litre. This is Rs 426/litre according to the NSSO Unit Price. Our estimated price is not only close but also falls within the NSSO price minimum and maximum price ranges.
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 10% rise in prices, alcohol consumption is seen to be reducing by only 0.57%.
- For Karnataka in specific and using NSSO unit prices, we see that for 10% rise in prices, IMFL consumption will reduce by 8.1%.

Two things to note from the above points: The responsiveness of demand to price is found to be relatively greater compared to what we have seen in the seven state figures above.

- 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 (Karnataka)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFHS</td>
<td>-0.114***</td>
<td>-0.057***</td>
<td>-0.818***</td>
</tr>
<tr>
<td>NSSO</td>
<td>-0.096</td>
<td>-0.002</td>
<td>-0.001</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.

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**Date**: March, 2021

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