Understanding the links between alcohol affordability, consumption and harms in the EU

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Scope of the study

- **Study commissioned by European Commission DG SANCO**

- **Scope**
  - **Review of previous research in the field**
  - **Econometric analysis:**
    - **link between alcohol affordability and consumption**
    - **link between alcohol consumption and harms**
  - **Three country case studies on cross-country alcohol consumption**
  - **Discussion: affordability as a policy lever to reduce alcohol consumption and harms**

RAND Europe…

- Not-for-profit, independent public policy think tank

- Mission: to improve policy-making through research and analysis

- European unit of the RAND Corporation

- Carry out research in diverse public policy areas: Public health crime, arts and culture, transport, science and technology

Alcohol taxation

- Great variability in the excise duty rates on alcoholic beverages across the EU

- But some decrease in the *real value* of excise duty in most MS

- Minimum excise duty rates not changed since 1992, a 25% reduction in their real value

- 'Over-shifting' in how tax changes passed on to consumers in the EU

Alcohol retail

- Evidence of growing off-trade alcohol sales

- Off-trade alcohol tends to be cheaper

- Concerns that cheaper off-trade alcohol are linked with higher and more harmful consumption

Alcohol affordability has gone up in most EU countries

- **Affordability is a function of relative price and disposable income**

- **Affordability of alcohol has increased in all countries since 1996, apart from Italy – although to different extents**

- **Across the EU 84% in the change in affordability can be attributed to changes in disposable income; 16% to changes in prices.**

Positive relationship between alcohol affordability and consumption

- We find a a positive, statistically significant, association between affordability and consumption
    - 1% increase in affordability is associated with a 0.22% increase in consumption in the short term
- The long run elasticity is even higher: 0.32%
- This is consistent with existing research

Positive relationship between alcohol consumption and three measures of harm

- We find a statistically significant, positive relationship between consumption and fatal traffic accidents, traffic injuries and liver cirrhosis
- A 1% increase in consumption is associated with:
    - 0.86% increase in fatal traffic accidents
    - 0.61% increase in traffic injuries
    - 0.37% increase in chronic liver cirrhosis

- This is consistent with existing research

- We do not find a statistically significant association between alcohol consumption and homicide at the aggregate level

Cross border alcohol consumption

- Looked at selected borders with significant tax differentials
- Alcohol purchased abroad can be a significant proportion of all alcohol consumed
- Current regulation on cross-border alcohol purchases infringe on fiscal basis and autonomy of *importing* country
  - Tax decreases
  - Revenue loss
- Evidence of link between cross-border alcohol consumption and harms most robust for Finland; less so for Sweden and very limited for the UK
- Only three case studies but nearly 30 land borders across the EU!

Policy implications

- Pricing policy can be effective in reducing alcohol harms

- But not widely used to reduce harm in the EU

- Still much scope for making pricing policy that contributes to alcohol-harm reduction

- But alcohol consumption is multi-factorial issue
    - So what is the optimal policy mix to reduce alcohol-related harms?

Data

- Price index, disposable income (Eurostat)

- Alcohol consumption (WHO Global Information System on Alcohol and Health):

  – Total recorded adult (15+) alcohol consumption in litres

- Harms (WHO European Mortality Database):

  – Fatal traffic accidents

  – Non-fatal traffic incidents

  – Liver cirrhosis incidence

  – Homicide

- 20 EU member states, 8 years (1996-2003)

Method

- Basic form of the models: First-differences

$$\Delta\log(\text{Consumption}_{it}) = \text{year}_t + \beta_1\Delta\log(\text{Affordability}_{it}) + \Delta\varepsilon_{it}$$

$$\Delta\log(\text{Traffic accidents}_{it}) = \text{year}_t + \beta_2\Delta\log(\text{Consumption}_{it}) +$$
$$\beta_3\Delta\log(\text{Traffic density}_{it}) + \Delta\varepsilon_{it}$$

- Main advantage compared to ordinary least squares (OLS): eliminates any bias from unobserved time-invariant characteristics at the country level

- Parameters of interest (β_1, β_2) can be interpreted as elasticity

- We report heteroskedasticity and autocorrelation consistent (HAC) standard errors

- Model extensions: dynamic effects (one year lagged consumption added as independent variable)