

Getting the facts right on

Alcohol Taxation, Pricing and Alcohol-related Harm

Most governments levy taxes and excise duties on alcoholic beverages in order to generate revenues. But taxation and pricing policies have also been used as public health tools to influence alcohol consumption, and reduce alcohol-related harm.

Contrary to the general belief, **raising taxes** on alcoholic beverages **does not automatically increase prices**. There is **no demonstrated link** between **high taxation, high consumer prices** and **overall consumption** or **alcohol-related harm**.

This document provides a series of proof points, facts and data challenging the effectiveness of taxation as a public health tool, and disputing four public policy myths:

K E Y P O I N T S

Do excise duties have an impact on the pricing of alcoholic beverages ?

- Tax increases are not always fully passed on to the consumer
- While the price elasticity for alcohol in general is estimated to be rather low, the cross-price elasticities for different alcoholic beverages are assumed to be rather high

Do price and affordability have an impact on overall alcohol consumption?

- In most EU Member states, overall consumption has declined *despite* increases in affordability
- Extreme price increases will not significantly reduce overall consumption
- Several studies demonstrate that overall consumption is relatively independent of and little affected by prices of alcohol

Is there a link between overall and harmful alcohol consumption as well as alcohol related harm?

- There is no clear, demonstrated link between overall consumption of alcohol and alcohol-related injuries in the EU
- A reduction in per capita consumption does not mean a reduction in harmful consumption
- There is no clear relationship between prices of alcoholic beverages, consumption and any of the indicators for alcohol-related harm (mortality, cirrhosis and suicide rates, drink-driving...)

Do tax/price policies have an impact on alcohol-related harm?

- Problematic drinkers are less responsive to tax increases
- Tax measures and price increases have a greater effect on moderate consumers
- Where tested, tax/price policy measures have not been effective in reducing harmful consumption and alcohol-related harm
- Tax and price increase may lead to negative and dangerous unintended consequences like theft, illegal cross border trade, and consumption of harmful counterfeit products
- Bans on sales promotions and sales below costs have little effect on alcohol consumption and alcohol-related harm

Do excise duties have an impact on the pricing of alcoholic beverages ?

Do price and affordability have an impact on overall alcohol consumption?

Is there a link between overall, harmful alcohol consumption and alcohol related harm?

Do tax/price policies have an impact on alcohol-related harm?

KEY POINTS

- Tax increases are not always fully passed on to the consumer
- The price elasticity for alcohol is estimated to be rather low
- The cross-price elasticities for different alcoholic beverages are assumed to be rather high

The real impact of a tax increase on the final price of an alcoholic beverage

Tax increases are generally never fully passed on to the consumer

Why? Because the demand for alcoholic beverages isn't totally 'inelastic', and changing its price has an impact on its demand: consumers will probably switch to another product that meets part or all of the needs of the original product.

This is the 'substitution effect': if the price of an alcoholic beverage increases (e.g. beer), some consumers are likely to consider other products which meet similar criteria (e.g. wine).

Therefore, producers of an alcoholic beverage will rather take charge of part of a tax increase, in order to remain competitive.

This is why tax increases are generally never fully passed on to the consumer, and it is wrong to think that a tax increase of 15% will necessarily lead to a price increase of 15%.

World Health Organization

In 2004, WHO published a contradictory report where it promoted tax/price policies in order to influence consumption but at the same time admitted that '*high alcohol tax does not necessarily mean a high relative price*' (WHO, 2004).

Price elasticity of demand

Price elasticity of demand is an economic term used to define the relationship between the price of a product and its demand.

Water, for example, is a good that has inelastic characteristics, because people will pay anything for it, and demand will hardly change despite price increases.

On the other hand, demand for sugar may be very price elastic because if prices increase, consumers will substitute with alternatives (or will simply do without).

For alcohol, the short run elasticity is estimated to be 0.22 in EU, while in the long run it is estimated to be 0.32 in Europe.¹ This means that the demand for alcohol is relatively price inelastic: prices need to increase by 900% to reduce per capita consumption by 18.4% in the short run. For the long run, prices need to increase by 233% to reduce consumption by 22.4%.

Cross-price elasticity of demand

The relatively low price elasticity estimate for alcohol is also partly due to its broad definition and as such, lack of substitutes. In reality, however, people do not consume alcohol per se but different alcoholic beverages (whisky, vodka, brandy, wine, beer, etc.). The cross-price elasticity measures the change in the quantity demanded of one product (e.g. whisky) due to a price change of another product (e.g. brandy). Since each alcoholic beverage has many substitutes, cross-price elasticity is likely to be high: a price increase of one product will lead people to switch to a similar lower priced product or to another product category.

1. *The Affordability of Alcohol*, RAND Europe, 2009.

Do excise duties have an impact on the pricing of alcoholic beverages?

Do price and affordability have an impact on overall alcohol consumption?

Is there a link between overall, harmful alcohol consumption and alcohol related harm?

Do tax/price policies have an impact on alcohol-related harm?

KEY POINTS

- More affordable beverages does not necessarily mean increasing overall consumption
- Increasing prices only has a marginal impact on overall alcohol consumption
- Consumption has declined in most EU Member States despite increases in affordability

The impact of affordability on overall alcohol consumption

Cheaper alcoholic drinks do not necessarily increase overall alcohol consumption

Why? Because there is no automatic link between affordability and demand for alcoholic beverages.

Between 1996 and 2004, alcoholic beverages have become more affordable in most EU Member States. However, during the same period, alcohol consumption has decreased in the EU.¹

Higher prices only have a limited effect on per capita consumption

Why? Because, on the basis of the price-elasticity of alcoholic beverages, prices would need to increase by 900% to reduce consumption by 18.4% in the short run.²

Therefore tax/price measures are ineffective to reduce per capita alcohol consumption.

1. *The Affordability of Alcohol*, RAND Europe, 2009.

2. *The Affordability of Alcohol*, RAND Europe, 2009.

Alcohol affordability

This represents the relationship between disposable income and relative prices for alcoholic beverages. In the EU, alcohol has become more affordable because disposable income has increased.

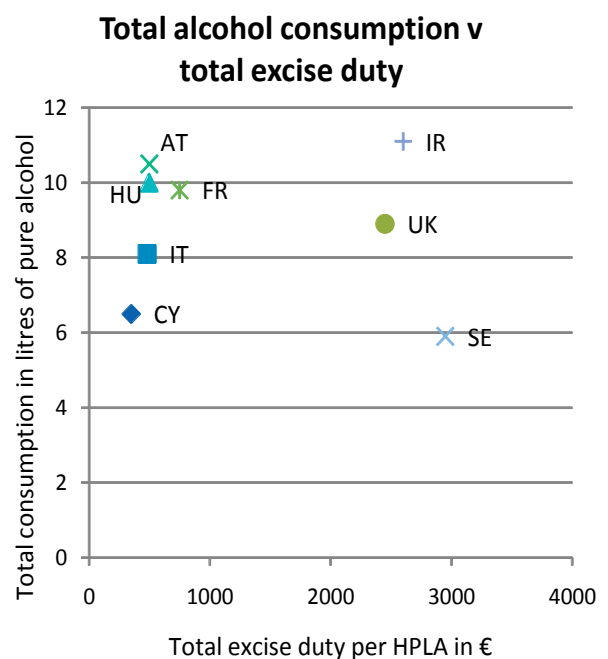
It is more adequate and realistic to relate consumption with affordability rather than absolute price.

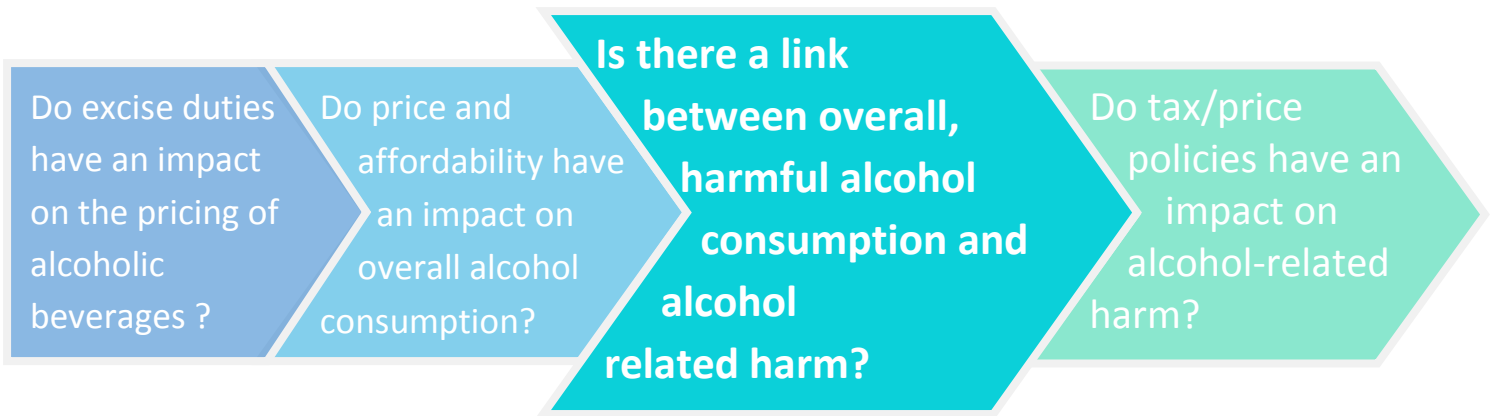
The impact of price on per capita consumption

Academic literature is inconclusive on the effect of price on per capita consumption of alcohol

While academics disagree, many studies do find that price increases have a very limited effect on per capita alcohol consumption, mostly because consumers switch to cheaper alcoholic beverages or purchase their drinks in cheaper venues (Gruenewald & Treno, 2000).

The table below shows the absence of a link between levels of consumption and levels of excise duties:





KEY POINTS

- Per capita consumption is an inaccurate and uninformative data to assess alcohol-related harm
- A reduction in per capita consumption does not mean a reduction in harmful consumption
- There is no significant relationship between prices of alcoholic beverages, alcohol consumption and at least one indicator for alcohol-related harm (mortality, cirrhosis and suicide rates, ...)

The link between per capita consumption and harmful consumption

The link between per capita alcohol consumption and harmful consumption is very weak (at best)

Why? Because statistically, there is no significant relationship between per capita alcohol consumption and alcohol-related harm indicators (e.g. hospital data on alcohol injuries, poisoning...).

There is no statistically significant association between alcohol consumption and homicide and intentional injury in EU Member States.¹

1. *The Affordability of Alcohol*, RAND Europe, 2009.

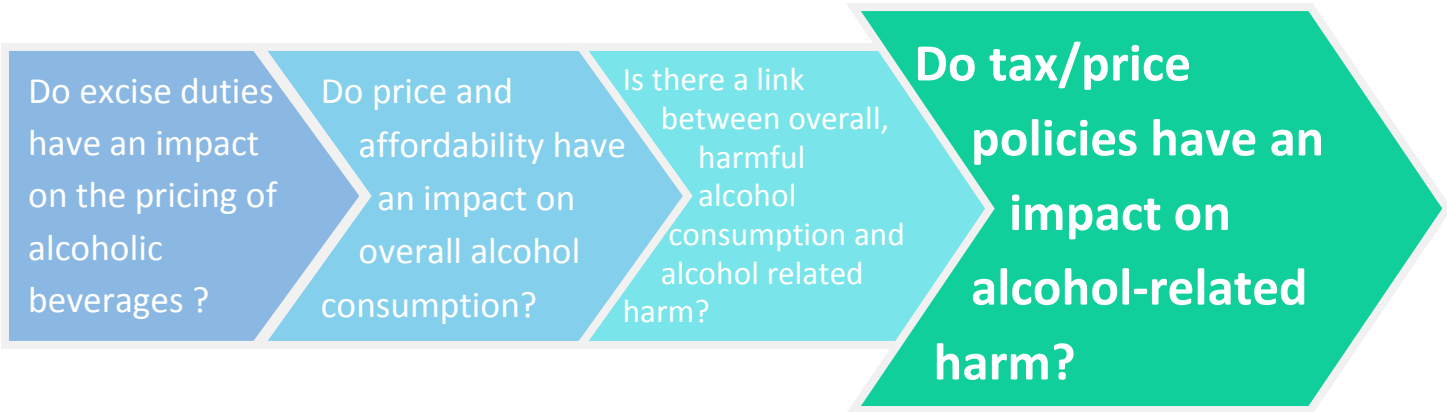
The link between the evolution of per capita consumption and alcohol-related harm

The decrease in per capita consumption does not clearly lead to reductions in alcohol-related harm – academics disagree

Studies find that moderate drinkers are more responsive to price changes than heavy drinkers (Gallet, 2007; Meier et al, 2008; Wagenaar et al, 2008; Manning et al, 1995). Decreases in overall consumption (after price increases) will most likely have more influence on moderate consumers than heavy drinkers (binge drinkers, young people).

A study in Finland, where prices have been falling and consumption increasing, found that '*violence rates did not increase and domestic violence rates even decreased*' (Herttua et al, 2008).

In Norway, despite significant increases in total consumption from 1993 to 2004, similar trends were not found for cause specific mortality rates (Rossow, 2007).



KEY POINTS

- Increase in prices (through tax and excise duties) has more impact on moderate drinkers and less on problem drinkers (binge drinkers, young people, drivers...)
- Comparisons between countries confirms the absence of a correlation between tax/price policy measures and consumption

The real effect of tax measures/price increases on consumers of alcoholic beverages

Tax measures and price increases have a larger effect on moderate consumers and only little effect on harmful drinkers

Why? Because moderate consumers are more responsive to tax/price changes than harmful consumers. Such measures therefore have a perverse effect: they reduce overall consumption of moderate consumers (85%) but have no significant influence on problem drinkers (15%) and are an ineffective response to public health challenges.

Several studies find that heavy drinkers are hardly responsive to price variations (Gallet, 2007; Wagenaar et al, 2008; Meier et al, 2008;). In 2009, Ayyagari found that more heavy drinkers were unresponsive to price differences, 'suggesting that a higher price could fail to curb drinking by those most likely to cause negative externalities'.

68% of Europeans do not believe that increasing prices would have an impact on reducing consumption by heavy drinkers or young people.⁵

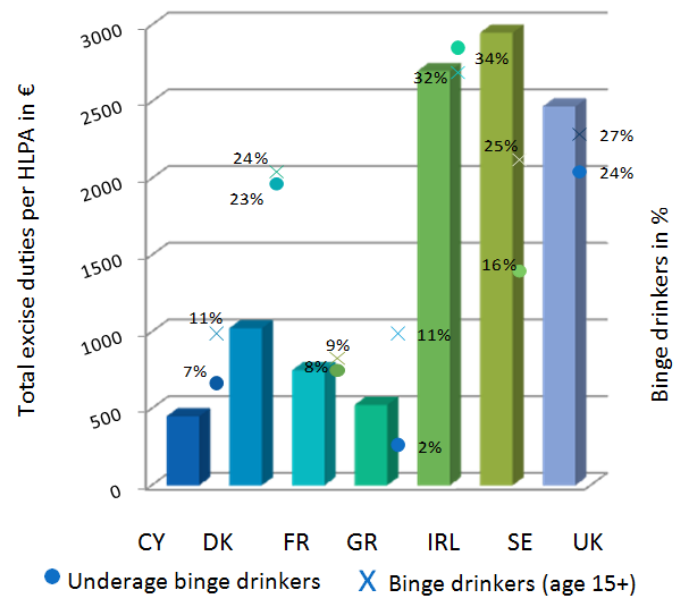
⁵ Eurobarometer, 2007.

The impact of higher taxes/price increases on binge drinking

Tax measures and price increases have virtually no impact on binge drinkers

Why? Because binge drinkers' propensity to consume alcohol is not substantially affected by price increases. Fiscal measures are ineffective to counter binge drinking.

Excise duties vs Binge drinking levels



The above chart compares binge drinking levels with excise duties for alcohol in 7 selected EU countries with varying tax levels (high/low).

This chart demonstrates the lack of a correlation between excise duties and binge drinking levels: in France, binge drinking levels (young people and adults) are fairly low while excise duties are not very high. On the contrary, binge drinking levels are very high in Ireland, despite having some of the EU's highest excise duty rates. There is no automatic link between levels of excise duties and levels of harmful consumption.

Source: CEPS 2008, ESPAD 2003, Eurobarometer 2007

KEY POINTS

- Taxation has only a limited impact on young drinkers and drink driving
- Tax and price increase may lead to negative (dangerous) unintended consequences like pre-drinking, theft, illegal cross border trade, and consumption of harmful counterfeit products

The impact of price increases on young drinkers

While prices increase may affect low-income consumers, they do not necessarily influence young people

When measuring the price sensitivity of a group, this group's income must be taken into consideration. Young people are generally included in low income groups, although this assumption is imperfect. At any rate, there is no evidence that low income groups (more easily affected by price increases) generate more alcohol-related harm than higher income populations. Besides, several studies find that tax/price increases have only very small effects on youth drinking (e.g. Dee, 1999)

In a very recent study, Gallet (2007) concludes that *'if we are particularly concerned with teenage drinking, since we find that teens are least responsive to prices, then perhaps the best approach to reducing alcohol consumption should involve alternatives to taxations, such as education campaigns'*. Indeed, many other studies stress the importance and the effectiveness of education campaigns and programmes (Koutakis et al, 2008; Bewick et al, 2008, Lau Barraco et al, 2008; Mayhew et al, 2008...).

A study analyzing the impact of the Austrian tax on Ready To Drinks (RTDs) concluded that: *'Consumption of spirit-based RTDs dropped and consumption of other alcoholic beverages increased following the introduction of the tax'*. (Doran, 2011).

Where tested, tax/price policy measures have not been effective in reducing harmful consumption and alcohol-related harm

Countries which have applied tax/price policy measures with public health objectives (Scandinavian countries) still have the highest levels of binge drinking in the EU.

Case study : Scandinavia

Indeed, several studies in Scandinavian countries have been studying the impact of price policies on alcohol consumption. According to Gustafsson and Ramstedt (2011), despite tax decreases on spirits by 45% in Denmark in 2003 and increased travelers allowances in Sweden in 2004, alcohol-related harm in Sweden and especially southern Sweden did not increase. In an article analyzing *"The sale of alcohol in Denmark from 1980 to 2004"*, the authors find that *'contrary to what was expected by most people [sales have remained constant], while wealth has increased and prices of alcohol have in fact lowered due to large reductions in the taxes on alcohol during these 25 years'* (La Cour, 2009).

The negative consequences of price increases

Tax and price increases may increase theft, illegal cross border trade and harmful counterfeit products

Unrecorded alcohol consumption and smuggling appear to be higher in countries where taxes for alcohol are higher (WHO Global Studies report, 2004). Such illegal trade, along with increasing cross-border shopping, leads to great revenue losses for government. In the UK, in 1998, *'cross border shopping involved a revenue loss of 5% (...), smuggling (...) deprived the Treasury of some 4% of total alcohol excise duties collections in 2001'* (Cossen, 2007).

Several studies show that uneducated/low income consumers (particularly in Central and Eastern Europe), tend to switch to lower quality alcoholic beverages produced illegally, (ICAP Review 3, 2008; Stickley et al, 2009). Such (cheaper) substitutes, as ethanol-based surrogates (e.g. aftershave or lighter fluids) are highly dangerous.

The effectiveness of taxation and minimum pricing policies

There is no data assessing the relationship between taxation/minimum prices and harmful consumption

A 2004 WHO report did not provide adequate data to assess the relationship between tax/price policies and alcohol-related harm. A recent study outlined the WHO report's many shortcomings, methodological difficulties, uncertainties and the lack of adequate data (Gulbinat 2008). *'A policy of imposing a minimum price per unit is not justified as a way of reducing harms to drinkers themselves nor as a way of reducing harms to others'* (Walker, 2010).

The impact of sales promotions and sales below cost on consumption/harmful consumption

There is no demonstrated effect of sales promotions and sales below cost on alcohol consumption and alcohol-related injury

There is little scientific evidence suggesting that sales promotions, such as happy hours or two-for-one specials, affect per capita consumption or alcohol-related injury.

Countries which have experienced and measured the effectiveness of bans on 'happy hour promotions' have found '*no significant pre ban/post ban difference in alcohol consumption among all individuals*' (Smart and Adalt, 1986).

Wells et al (2009) suggest that on premise measures (banning happy hour, imposing minimum prices, ...) may have the unintended consequence of encouraging young people to drink cheaper alcohol in a private setting before going out (pre-drinking). This may result in greater injury.

There is no scientific evidence supporting the claim that sales below cost affect alcohol consumption and alcohol-related injury. Additionally, sales below cost apply only to the off premise sector.

The impact of high taxes/high prices on drink-driving

Price policy measures are ineffective means to reduce alcohol-related motor vehicle traffic accidents

Although some studies from the US suggest that higher taxes on beer reduced driving fatalities, they produced no empirical evidence and the models' predictions were eventually proven wrong when this federal beer duty was raised.

Other studies conclude that no meaningful impact from beer price increases on reducing alcohol-impaired driving in adults or teens could be recognized (Dee, 1999; Benson et al, 1999).

Several studies concur that alcohol prices do not affect the mortality statistics of motor vehicle traffic accidents, homicides and suicides (Babor et al, 2003; Sloan et al, 1994).

For more information on alcoholic beverages and policy-making, visit the website of the International Centre for Alcohol Policies (ICAP)

<http://www.icap.org/>

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Getting the facts right

prepared by CEPS – the European Spirits Organisation, and the European Forum for Responsible Drinking (EFRD)



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