Reducing the affordability of alcohol
A briefing from the BMA Board of Science
April 2012 (updated September 2014)

Summary

- Comprehensive policy measures are required to tackle the substantial level of alcohol-related harm in the UK, including ways to reduce its accessibility. Price is a key determinant of access to alcohol.
- Over the past 25 years the affordability of alcohol has increased significantly due to the widening gap between household disposable income and alcohol prices, and limited increases in excise duty. This continued increase in affordability has slowed recently; however, alcohol affordability continues to be exceptionally high.
- For excise duty to be an effective alcohol control measure, duty increases need to increase annually in relation to inflation and income.
- The alcohol taxation system in the UK needs to be structured to ensure excise duty reduces the comparative affordability of higher strength products in favour of lower strength products.
- Available research and modelling suggests that a minimum price per unit is the most effective of all available price-related policy options for reducing alcohol-related harm.
- Minimum unit pricing will prevent deep discounting of alcohol and modelling has indicated that it will lead to a steep reduction in alcohol consumption.
- A minimum price for the sale of alcohol should be set at no less than 50p per unit, and this should be kept under review to ensure alcohol does not become more affordable over time.

The BMA, through its Board of Science, has a long history supporting comprehensive measures to reduce alcohol-related harm. This briefing continues the work of the Board on alcohol and public health, which has resulted in a number of publications including Under the influence – the damaging effect of alcohol marketing on young people (2009), Alcohol misuse – tackling the UK epidemic (2008), and Fetal alcohol spectrum disorders – a guide for healthcare professionals (2007).

1. Introduction

Alcohol causes a significant economic, health and social burden to the UK.\textsuperscript{1,2,3,4,5,6,7,8} The total annual costs of alcohol-related harm in the UK is approximately £26 billion.\textsuperscript{1,2,3,4,5} A breakdown of these costs across the devolved nations is provided in Table 1.
Table 1: Cost breakdown of alcohol-related harm across the devolved nations

<table>
<thead>
<tr>
<th>Nation</th>
<th>Cost</th>
<th>Healthcare Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>£21 billion</td>
<td>£3.5 billion</td>
</tr>
<tr>
<td>Scotland</td>
<td>£3.6 billion</td>
<td>£267.8 million</td>
</tr>
<tr>
<td>Wales</td>
<td>£1 billion</td>
<td>£85 million</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>£679.8 million</td>
<td>£122.2 million</td>
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</table>

Alcohol is causally related to over 60 different medical conditions and its excessive consumption is a significant cause of morbidity and premature death in the UK. Its use is also a risk factor for a number of social harms including domestic violence, child abuse, road traffic crashes, and criminal and disorderly behaviour.

Comprehensive policy measures are required to tackle the level of alcohol-related harm in the UK, including ways to reduce its accessibility. Price is a key determinant of access to alcohol. The lower the price of alcohol, the more affordable it is to buy, and cheaper it is to consume at high volume. This is particularly important given there is a dose-response relationship between alcohol and harm in the majority of cases, with increasing alcohol consumption leading to greater alcohol-related harm.

Controlling the price of alcohol is therefore one of the most effective policy options available to limit the level of alcohol-related harm. A range of health organisations see action on alcohol price as a vital policy measure, including the Alcohol Health Alliance, British Liver Trust and Alcohol Concern. At the 2011 BMA Annual Representative Meeting (ARM), our members highlighted the importance of regulating price in reducing alcohol-related harm, and called on the UK Government to introduce a realistic minimum price per unit.

This Board of Science briefing paper examines the key policy measures for regulating the price of alcohol, including what changes need to be made to develop an effective alcohol taxation system, and what constitutes a realistic minimum price per unit.

1.1 Trends in alcohol affordability
Over the past 25 years alcohol has become increasingly affordable in the UK, which has contributed to its wide accessibility. This has resulted from relatively static excise duty rates combined with the level of household disposable income increasing much faster than alcohol

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5 The term ‘unit’ is used to quantify alcohol content. A unit corresponds to approximately eight grams, or 10 millilitres of alcohol (ethanol). A unit is around the amount of alcohol the average adult can process in an hour.

6 Excise duty is the level of taxation applied to alcohol products.
prices. This has been further compounded by heavy discounting in the off-trade. The increasing affordability of alcohol has been mirrored by a rise in consumption, and an upward trend in the prevalence of alcohol-related harm, in particular among younger age groups.\textsuperscript{15,16}

During 2008 and 2009 the affordability of alcohol declined for the first time since 1991 and continued to plateau at this level until 2012.\textsuperscript{17,18} This change in affordability occurred simultaneously with the beginning of economic austerity in the UK from 2008 onwards. Real disposable income per adult in the UK fell for the first time in 2008 since 1982.\textsuperscript{17} This suggests that recent changes in alcohol affordability may be a result of people having less disposable income to spend on alcohol, as opposed to alcohol becoming less affordable per se. As the exact cause of recent changes in affordability remain unknown, it is important that this trend does not distract from evidence indicating that the current affordability of alcohol, even at plateauing levels, is exceptionally high.\textsuperscript{17,18}

2. Policy options for regulating the price of alcohol

An effective pricing strategy should aim to lower the overall level of consumption across a population, and by linking price to alcohol strength, discourage the consumption of higher strength alcoholic products. There are two main policy levers to achieve these aims:

- controlling the level of excise duty paid on alcoholic products
- setting minimum price levels for the sale of alcoholic products.

2.1 Excise duty

It is BMA policy that:

‘The UK Government should increase the level of excise duty paid on alcohol above the rate of inflation and rationalise the current taxation system so that it is accurately linked to alcoholic strength for all products.’

Excise duty on alcohol should be increased above the rate of inflation in order to reduce its affordability, which continues to be extremely high.\textsuperscript{17,18} As discussed in Section 1.1, increased alcohol affordability has developed as a result of greater household disposable income alongside relatively static excise duty. Between 1997 and 2007 duty on beer and wine was only adjusted for inflation and duty on spirits did not increase at all.\textsuperscript{16} From 2007 to 2014, duty on alcohol was raised at two per cent above inflation annually: however, since March 2014, duty on beer has fallen by one penny a pint, and duties on spirits and cider have been frozen.\textsuperscript{19,20} The alcohol duty escalator – that ensured that the tax paid on alcohol rose at two per cent annually above inflation

\textsuperscript{1} The ‘off-trade’ refers to the sale of alcohol from retailers such as supermarkets and off-licences, where the product is purchased but not consumed on-site. The ‘on-trade’ refers to the purchase and consumption of alcohol on-site (eg in bars, restaurants and public houses).
was also scrapped for wine and high strength sparkling cider in 2014.\textsuperscript{19} For excise duty to be an effective alcohol control measure, duty increases will need to increase annually above inflation and in relation to rising income.\textsuperscript{21}

In response to on-going changes in the duty escalator, the Alcohol Health Alliance published a briefing paper in 2013 on the importance of maintaining the duty escalator for alcohol in order to control the level of alcohol harm and cost in England.\textsuperscript{22}

2.1.1 Effect of price on consumption and alcohol-related harm

There is strong and consistent evidence that increases in the price of alcohol are associated with reduced consumption at a population level.\textsuperscript{6,9,23,24,25,26,27,28,29} Access to cheap alcohol has been found to correlate with more regular and increased total alcohol consumption.\textsuperscript{30} There is evidence that young people, binge drinkers and harmful drinkers prefer cheaper drinks,\textsuperscript{21,23} and that heavy drinkers and young drinkers are known to be especially responsive to price.\textsuperscript{6,9,23,24,25,26,27,28,29} In the UK, price elasticity—the level of consumer responsiveness to a change in price\textsuperscript{6}—varies between types of alcohol, with the most responsive being cider and beer sold in the off-trade, followed by spirits in the on- and off-trade settings.\textsuperscript{35}

Increasing the price of alcohol has also been found to reduce the rates of alcohol-related harms, including violence and crime, deaths from liver cirrhosis, other drug use, sexually transmitted infections and risky sexual behaviour, and drink driving deaths.\textsuperscript{6,9,21,28,36,37,38,39,40,41,42,43} A 2009 review by Wagenaar et al, for example, found that doubling the level of alcohol excise duty would reduce alcohol-related mortality by an average of 35 per cent, traffic crash deaths by 11 per cent, sexually transmitted disease by 6 per cent, violence by 2 per cent, and crime by 1.4 per cent.\textsuperscript{43}

2.1.2 Rationalisation of the alcohol duty structure in the UK

The alcohol duty structure in the UK is based on historical policy, which has resulted in anomalies in the way different products are taxed:

- spirits are taxed proportional to their alcohol content—this means the level of excise duty applied to these products is proportionately less in lower alcohol products, and vice versa.
- excise duty is applied to ciders and wines through duty bands in a system which is not proportional to alcohol content—this means that for each duty band a single rate of excise duty is applied across a range of strengths (eg ciders between 1.2 and 7.5 per cent alcohol by volume (ABV))\textsuperscript{4} are taxed at the same rate.
- beer is taxed through a combination of these two measures—this means that different rates of excise duty are applied to different duty band categories, and that within each

\textsuperscript{4} A price elasticity of -1.0 implies that for every percentage rise in price there will be the same percentage fall in consumption. If the price elasticity is greater than -1.0 then consumption is very responsive to price, and vice versa.

\textsuperscript{4} This is a standard measure of how much alcohol (ethanol) is contained in an alcoholic beverage (expressed as a percentage of total volume).
duty band a product with a lower ABV is taxed proportionately less than one at the upper limit of this band.

These anomalies in the way different alcohol products are taxed provide insufficient incentive for the production or purchase of lower strength alcohol products. This is a particular problem for ciders and wines, where wide duty bands have contributed to the increased availability of a range of low price, high strength products. In the case of spirits, although these are taxed proportional to their alcohol content, the absence of duty bands means that high strength spirits are comparatively affordable. While a system of duty bands has recently been introduced for beer, the banding is too wide (as is the case for ciders and wines). The middle duty band, for example, covers all beers from 2.9 to 7.5 per cent ABV.

There is a clear need for the rationalisation of the taxation system in the UK. This should occur via two stages:

1. The taxation system should be amended so that ciders and wines are taxed proportional to their alcoholic content (as is the case for beers and spirits).
2. A system of meaningful duty bands should be implemented for all types of alcohol, with the level of excise duty for each band set proportional to the alcoholic content. The level of excise duty will therefore be lowest for lower ABV bands, and highest in the strongest ABV bands.

Amending the taxation system in this way will require agreement at a European Union (EU) level, as well as detailed modelling and consultation to develop a robust and effective duty structure.

The use of varied duty levels to discourage consumption of higher strength products has been tried in Sweden and Australia, and there is evidence that this approach is cost-effective in reducing alcohol consumption and related harms. The introduction of cheaper lower strength beer in Norway was found to encourage substitution of lower strength products in place of stronger beer. Analysis of a programme in the Northern Territory in Australia in the 1990s found that the use of a levy on all alcoholic beverages containing 3 per cent ABV or greater had a significant impact on consumption levels and acute alcohol-attributable deaths. While the levy was accompanied by other strategies – including education, increased controls on alcohol availability, and expanded treatment and rehabilitation – the effect was only found when the levy was in force.

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1 Excise duty is not applied to beer lower than 2.8 per cent ABV in Sweden, and in Australia, the first 1.15 per cent of alcohol in beer is not taxed.
2.2 Minimum pricing

While the BMA has called for the introduction of minimum unit price levels for the sale of alcoholic products, it has not considered the level at which a minimum price should be set. At the 2011 ARM, BMA members called for the introduction of a realistic minimum price per unit, which will have a significant impact on reducing consumption and alcohol-related harm.

2.2.1 Regulating the discounted sale of alcohol through pricing

In the UK, alcohol is frequently used as a loss leader in the off-trade, in particular by supermarkets. This discounting encourages consumption and undermines the effectiveness of tax-based approaches, as the major off-trade retailers are able to absorb excise duty rate increases rather than passing them on to the consumer.

A minimum price is a legally imposed price floor, below which the normal market price cannot fall. Minimum pricing is not a tax but a way of selectively raising the price of the cheapest alcohol. Evidence suggests that measures targeted at the cheapest alcohol products can deliver significant health and social benefits. Changes in the price of the cheapest alcohol products have also been shown to have the most impact on consumption, which suggests that minimum pricing would be an effective method for reducing alcohol-related harm. Minimum pricing will prevent the deep discounting of alcohol in the off-trade.

A minimum price will also encourage alcohol to be consumed in the on-trade (where there are stronger controls on its use) rather than the off-trade, by reducing the price differentials for the sale of alcohol between these two settings. This reflects the fact that the price of many products sold in the off-trade would increase following the introduction of a minimum price threshold, while products sold in the on-trade are generally priced at a high enough level that they would not be affected.

2.2.2 Options for introducing minimum pricing

- Strategy 1 – Banning the sale of alcohol below duty plus value added tax (VAT)

A ban on selling alcohol below duty plus VAT would mean that any drink would be prevented from being sold below the combined total of these two components.

This system is not expected to significantly affect consumption. It has been estimated that it would equate to a minimum price floor of £0.21 per unit for beer, and £0.28 for spirits. Modelling commissioned by the Department of Health (DH) in England has demonstrated that this level would have minimal impact on consumption. As excise duty levels in the UK are so low, these proposals are also unlikely to affect the vast majority of alcohol products, as many

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9 A ‘loss leader’ refers to a product that is sold at below cost price. It is used as a promotional tool to attract customers into a retail store, thereby increasing the likelihood that the customers will purchase full priced items as well.
products are already sold above the expected price floor level. A 2010 snapshot analysis of the alcohol products sold at Asda, for example, found that out of 25 products surveyed, none would be affected by a ban on sales below tax and VAT. A study published in 2012 also found that, from a survey conducted across off-trade stores in Newcastle, only 2 per cent of drinks in price promotions were sold for less than the tax paid on them.

For a ban on below cost selling to be effective, it would need to incorporate an additional cost (ie the cost of duty and VAT plus an additional cost) to ensure the minimum price is set at a level that will prevent the cheap sale of alcohol. Even this system would not be effective without a rationalisation of the alcohol duty structure, as consumers would switch to lower priced products.

- **Strategy 2 – A minimum price per unit**

A minimum price per unit strategy determines the price at which an alcoholic product can be sold, proportionate to the amount of alcohol it contains. The introduction of this type of a minimum pricing strategy would apply a consistent price floor for the sale of all types of alcohol.

In practical terms, a minimum price per unit would set a price floor below which one unit of alcohol cannot be sold. The more units a drink contains, the stronger it is and therefore the more expensive it will be. A minimum price per unit strategy is preferable to other pricing policies because it targets cheap drinks, and has a disproportionate effect on heavier drinkers because heavier drinkers tend to drink cheaper alcohol compared to moderate drinkers. Those who drink within recommended guidelines^b are likely to be only marginally affected by the introduction of minimum pricing. A 2012 study by Ludbrook et al concluded that heavier household purchasers of alcohol are most likely to be affected by the introduction of a minimum pricing in the UK, and that this policy is unlikely to be significantly regressive when the effects are considered for the whole population.

The Sheffield Alcohol Research Group has conducted detailed modelling into the effects of minimum unit pricing on alcohol consumption and related health harms within different population sub-groups in England. The group found that minimum pricing would primarily reduce alcohol consumption and related health harms in harmful drinkers that are in low income and socioeconomic sub-groups. This study concluded that the implementation of minimum unit pricing could therefore substantially reduce health inequalities in England. Savings in healthcare costs as a result of improved health equalities was estimated at £2.6 billion.

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^b Recommended drinking guidelines are set by the UK Government to provide advice on daily and weekly maximum alcohol consumption levels. The guidelines recommend that men should not regularly drink more than three to four units of alcohol per day, women should not regularly drink more than two to three units of alcohol per day, and men and women should not drink on every day of the week. In terms of weekly limits, men are advised to drink no more than 21 units per week and women no more than 14 units per week. In March 2012, the Department of Health announced that it would be reviewing these guidelines following the 2011 Science and Technology Committee Inquiry into alcohol guidelines.
In 2014 researchers from the University of Southampton published a study assessing the amount, type and price spent on alcohol amongst a large cohort of liver patients. The study found that out of 404 liver patients recruited, those patients with alcohol related cirrhosis reported drinking, on average, an equivalent of four bottles of vodka each week, and paid around 33p per unit of alcohol.\textsuperscript{60} Low risk moderate drinkers reported that they paid approximately £1.10 per unit of alcohol.\textsuperscript{60} This study concluded that harmful drinkers would be affected 200 times more than low risk drinkers if a minimum unit price of 50p was introduced.\textsuperscript{60}

Canada is one of a small number of countries that has implemented minimum unit pricing for alcohol. Longitudinal analysis of population data taken from British Columbia – a Canadian province that has implemented minimum unit pricing – has found that a 10 per cent increase in the minimum price of an alcoholic drink is associated with a 16 per cent reduction in its consumption.\textsuperscript{61} The greatest reduction in consumption was reported for alcoholic sodas and cider (13.9 per cent).\textsuperscript{61} In 2013 Zhao et al published a study investigating the relationship between minimum alcohol prices and alcohol-attributable deaths in British Columbia. This study found that a 10 per cent increase in the minimum price of an alcoholic drink was associated with a 32 per cent reduction in the number of alcohol-attributable deaths in British Columbia.\textsuperscript{62}

Other research and modelling also supports a minimum price per unit as the most effective of all available price-related policy options for reducing alcohol-related harm.\textsuperscript{24,63,64} This approach is supported by the National Institute for Health and Clinical Excellence (NICE).\textsuperscript{65}

2.2.3 What is a realistic minimum price per unit?

Modelling conducted by the Sheffield Alcohol Research Group has found that increasing the level of a minimum price per unit leads to steep reductions in alcohol consumption in England (see Table 2).\textsuperscript{24,66} Similar findings have been repeated by this group when applying their model to population data from Scotland.\textsuperscript{57,68,69} In 2012, the Home Office published its own modelling of minimum unit pricing on alcohol consumption. They reported that a minimum price per unit of 45p for alcohol would cause a 3.3 per cent decrease in alcohol consumption.\textsuperscript{70} This figure is slightly lower than that estimated by the Sheffield Alcohol Research Group group in Table 2 (-4.3 per cent). This reflects the fact that the Home Office used estimates of alcohol price in 2014 based on data available in 2011, where as the data in Table 2 used estimates of alcohol price available in 2008.\textsuperscript{71,72,73}
Table 2: Increases in minimum price per unit and percentage change in consumption

<table>
<thead>
<tr>
<th>Minimum price per unit</th>
<th>Percentage change in consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>20p</td>
<td>0.0</td>
</tr>
<tr>
<td>25p</td>
<td>-0.1</td>
</tr>
<tr>
<td>30p</td>
<td>-0.4</td>
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<tr>
<td>35p</td>
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<td>45p</td>
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<td>50p</td>
<td>-6.7</td>
</tr>
<tr>
<td>60p</td>
<td>-11.9</td>
</tr>
<tr>
<td>70p</td>
<td>-17.5</td>
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</table>

Modelling conducted by the Sheffield Alcohol Research Group also found the following beneficial effects of minimum unit pricing after 10 years:

- low minimum price thresholds (eg 25p per unit) have little impact at reducing harmful outcomes
- as the minimum price threshold increases, alcohol-related hospital admissions and deaths are estimated to reduce (eg 39,400 less admissions per annum for a 40p threshold and 97,700 less per annum for a 50p threshold)
- as the minimum price threshold increases, alcohol-related crimes are estimated to reduce (eg 10,100 less offences per annum for a 40p threshold compared to 42,500 less offences per annum for a 50p threshold)
- as the minimum price threshold increases, absenteeism from work is estimated to reduce (eg a minimum price of 40p is estimated to reduce days absent from work by approximately 133,600 per annum, whereas for 50p the reduction is estimated at almost 442,300)
- as the minimum price threshold increases, unemployment due to alcohol problems is estimated to reduce (eg at the 40p threshold, 11,500 avoided cases of unemployment are estimated per annum compared to 25,900 at 50p)
- as the minimum price threshold increases, healthcare costs are reduced (eg total health and social care costs avoided due to reduced illness and admissions are estimated to be approximately £626m for the 40p threshold and £1,591m for the 50p)
- those who buy the most alcohol would be the most affected in absolute and relative terms: changes in spending affect mostly harmful drinkers, with hazardous drinkers somewhat affected and spending for moderate drinkers affected very little.
- As the minimum price threshold increases, consumption by young people (11 to 17 year olds) is estimated to decrease (eg at the 40p threshold consumption by young people decreases by 1.8%, and by 3.5% at 50p).\textsuperscript{56}

This modelling suggests that a minimum price per unit of 50p would provide substantial benefits in terms of reductions in alcohol-related harm. The introduction of a 50p minimum price per unit was supported by the immediate past Chief Medical Officer for England, Sir Liam Donaldson.\textsuperscript{74}

Further detailed modelling is required but the significant savings from reductions in alcohol-related hospital admissions, crime, absenteeism and unemployment will more than offset any potential reduction in excise-duty revenue related to lower alcohol consumption.

**Conclusion**

Reducing alcohol consumption and its associated harms requires strong action to reduce its affordability. The Board of Science believes that action is required to:

(i) rationalise the structure of the UK alcohol taxation system to:
   a) ensure that the excise duty for all alcoholic beverages is proportional to alcoholic content
   b) establish meaningful duty bands for all types of alcohol, where the level of duty is significantly higher in the higher bands

(ii) ensure that excise duty is increased significantly above the rate of inflation and that a minimum price for the sale of alcohol is set at no less than 50p per unit.

Pricing policy in relation to taxation and a minimum price per unit should be kept under review to ensure it reflects best available evidence, and ensure alcohol does not become more affordable over time.

These measures to reduce the affordability of alcohol should be complemented by strong action to restrict its availability and the way it is marketed and promoted, as well as strict enforcement of licensing legislation.

\textsuperscript{1} The definitions for these types of drinkers are: moderate drinkers: drinkers with an intake of alcohol less likely to damage health and/or associated with negative consequences (up to 21 units per week for men and 14 units for women); hazardous drinkers: drinkers with an increased risk of psychological and physical consequences due to alcohol intake (more than 21 to 50 units per week for men and more than 14 to 35 units for women); and harmful drinkers: drinkers with an intake that is likely to adversely affect health and/or other negative consequences (more than 50 units per week for men and more than 35 units per week for women).
References

11. Alcohol Concern consultation response to the governments alcohol strategy (23.7.13).