DKM ECONOMIC CONSULTANTS

Socio-Economic Impacts of Proposed Regulations under the Public Health (Alcohol) Bill

Final Report to the Alcohol Beverage Federation of Ireland

13th February 2017

abfi Alcohol Beverage Federation of Ireland

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TABLE OF CONTENTS

List of Tables

List of Figures

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EXECUTIVE SUMMARY

The draft Public Health (Alcohol) Bill (PHAB), published in December 2015, along with amendments introduced in the Oireachtas in Autumn 2016, contain a number of measures that if enacted would impact on the price, availability, labelling and the marketing of alcohol in Ireland. The stated policy objectives of the Bill are to:

- ensure the supply and price of alcohol is regulated and controlled in order to minimise the possibility and incidence of alcohol-related harm;
- delay the initiation of alcohol consumption by children and young people;
- reduce the harms caused by the misuse of alcohol; and
- reduce alcohol consumption to 9.1 litres of pure alcohol per person per annum (the OECD average in 2012) by 2020.

The Bill proposes to achieve these objectives through the introduction of regulations with regard to:

1. minimum unit pricing (MUP);
2. labelling of alcohol products;
3. advertising and marketing of alcohol, alcohol sponsorship and price promotions; and
4. structural separation of alcohol products in mixed trading outlets.

The proposed measures have raised concerns domestically in the alcohol industry but also at EU level as a number of Member States have submitted comments and detailed opinions with regard to potential impacts on the Single Market.

The Alcohol Beverage Federation of Ireland (ABFI) has commissioned DKM to examine whether or not the proposed legislation and the regulations that would flow from it would have the desired impacts, and to identify the costs, benefits and other consequences associated with the proposals.

Alcohol Consumption in Ireland

Recorded aggregate consumption of alcohol in Ireland peaked in 2007 and has been in decline since. Per capita consumption has been in decline since 2001, from a peak of 14 litres of pure alcohol to just under 11 litres in 2015. A continuation of the trend in place since 2000 would see Irish per capita consumption reach the target figure of 9.1 litres per capita by 2020. This declining consumption trend is common to a number of Western European countries.

The evidence indicates that both total consumption and binge drinking among Irish younger people – a particular focus for the Bill - have likewise been in decline.

Total consumer expenditure on alcohol stood at €6.54 billion in 2015, equivalent to 7.1% of total consumption of personal income. This percentage has also been on a gradual downward path over the last two decades.

In terms of sales channels, the off-trade is estimated to account for approximately 60% of the total sales volumes. Until 2007 the majority of alcohol consumption in Ireland occurred in the on-trade, although the shift towards the off-trade had been apparent since the 1990s. In value terms the gap

is closer as prices are higher in the on-trade. Household expenditure per adult on alcohol also exhibits a strong relationship with household income levels, i.e. better off-households spend more on alcohol than less well-off households.

Econometric analysis was undertaken to analyse the key drivers of demand for alcohol in Ireland. The analysis by and large confirmed what would be expected for a "mature" market consumer product, i.e. demand is negatively impacted by price and positively impacted by income, but on a less than one-for-one basis, i.e. alcohol demand is relatively price and income inelastic. Other findings were:

- The price elasticity for spirits is very high – indicating that a 1% increase in price leads to an almost 2% reduction in demand; the on-trade appears to be the main source of this price sensitivity. This is an unusual result, and could potentially be masking some other factors impacting on spirits demand.
- A negative time trend was found for most alcohol types, indicating a long term downward trend in consumption. The exceptions were wine, which was found to have a positive time trend, and cider, for which no trend was found.
- Perhaps the most interesting finding was a positive UK price impact for spirits in both the on- and off-trade – a 1% increase in the price of alcohol in the UK relative to Ireland led to an increase in demand for spirits of 0.2% in the off-trade and 0.3% in the on-trade. Although a similar finding was not found in overall spirits demand, these results point to a potential vulnerability of spirits sales in Ireland to the price in Northern Ireland, which matches the findings of previous analyses.

Economic Importance of Alcohol Sector

While the majority of alcohol consumed in Ireland is domestically produced, a significant proportion (most obviously wine) is imported. Approximately one-third of beer and over half of spirits sold in Ireland is imported. The vast majority of imports come from other EU Member States (including the UK), with the exception of wine, of which just over 60% comes from non-EU countries.

The alcohol beverage sector is extremely significant for the Irish economy. We estimate that in 2015 the sector through its various impacts –

- generated approximately €3 billion in GDP;
- supported over 90,000 jobs in the economy;
- generated over €1.1 billion in exports;
- generated over €2.4 billion in VAT and Excise Duty, and over €660 million in payroll and profits taxes for the Exchequer. Further revenues are generated via Commercial Rates, Licence Fees and so on.

The sector is also a major source of investment, in the manufacturing, distribution and retailing of alcohol. We estimate that for every €1 million in investment, the sector –

- adds €0.85 million to GDP;
- supports 11 work years of employment;
- generates €200,000 in Exchequer revenues (excluding any savings in social welfare payments).

Impacts of the PHAB Proposals on Alcohol Consumption

This report has analysed the proposed measures in the Bill, in terms of their **evidential basis** and **likely effectiveness** in achieving their objectives, looking at *inter alia* actual experience in other countries.

A key basis for the proposals is that any alcohol consumption is damaging to health, and recent research evidence for this is presented. However, this is by no means the scientific consensus, and there is a large body of evidence that moderate alcohol consumption confers a net health benefit, including the well-known "Nurses' Health Study", administered by Harvard University, in the US.

The evidential base for the proposed measures is mainly presented in the Regulatory Impact Analysis (RIA) for the Bill. Econometric analysis was also commissioned using the University of Sheffield's Sheffield Alcohol Policy Model (SAPM), to estimate the impact of **MUP** on consumption in general as well as specifically on heavy drinkers, and less well-off drinkers.

These have been reviewed in detail in Chapter 4 and Appendix E of this report. The appendix highlights numerous factual and methodological weaknesses in both the findings and conclusions of the RIA and in the application of the SAPM model to the Irish context, that serve to undermine the conclusions drawn.

The other measures being proposed in the PHAB are also reviewed in this report, as follows:

Labelling (Chapter 5)

The proposals in the Bill would see a number of additional elements included on drinks labels, namely warnings on the danger of alcohol consumption and of alcohol consumption when pregnant, grams of alcohol and energy value in both kilojoules and kilocalories, and details of a public health information website operated by the HSE.

While the label contents of many of the main producers are evolving to provide more information, the evidence base with respect to the effectiveness of alcohol labelling and warnings in general is not strong. Research papers (including those cited in the RIA) point to little or no impact on behaviour, with some evidence that alcohol content labelling could be counter-productive, in terms of enabling young people to identify drinks with the highest alcohol content at lowest cost.

Likewise, grams of alcohol is a new method of presenting alcohol content (on top of ABV and number of standard drinks), and would be unfamiliar and potentially confusing to consumers.

Marketing/Advertising (Chapter 6)

The provisions of the Bill with respect to advertising and marketing are comprehensive, including restrictions on:

- Contents of advertising;
- Advertising in public spaces, on public transport, or near schools and playgrounds;
- Advertising and sponsorship at sports events, or events where children are the majority of participants;
- Images, logos, etc. on children's clothing;
- Advertising in the print media and in cinemas; and
- Price-based promotions.

Broadcast watersheds on TV and radio have been added to the Bill in recent amendments.

A central objective of the proposed regulations is to reduce exposure of children and young people to alcohol advertising, and in doing so to reduce youth drinking. Again, the evidence as to the

effectiveness of these measures is weak, with difficulties in establishing causality and in controlling for other factors, while some studies indicate impact on intentions to drink as opposed to actual behaviour.

Evidence from a range of countries which have implemented varying degrees of restrictions on alcohol advertising indicate that they have had little or no impact on the underlying trends of consumption, pointing to long term cultural aspects as being the primary drivers.

Of relevance also is how young people consume advertising, and specifically the degree to which they consume it from traditional media. Evidence from Ireland, the UK and the US indicates that young people, the main targets of the proposed restrictions on broadcast advertising, are the group in society least likely to consume such advertising.

Another stated objective is to reduce alcohol consumption in the aggregate. However, the evidence is that restrictions on promotion and advertising of alcohol have little impact on overall consumption. For mature consumer products such as alcohol, market share rather than aggregate consumption is the main focus of advertising. The long term patterns of alcohol consumption and market shares in western countries including Ireland, despite continued exposure to advertising, underline this.

Structural Separation (Chapter 7)

The structural separation proposals would make it less convenient to buy alcohol products in supermarkets, convenience stores and forecourts, and make them less visible to children and others. However, the RIA provides no evidence that this would contribute to the over-arching objectives of reducing harmful consumption of alcohol. While it is conceivable that consumers in some rural areas would reduce consumption through sheer lack of access to retail outlets selling alcohol, this would not affect the majority of consumers, and on the face of it is unlikely to deter those who currently consume alcohol to excess.

In summary, as with MUP, we find that the evidence base with respect to labelling, advertising/marketing and structural separation is weak and in many cases contradictory that the proposed measures would deliver on their objectives.

Economic Impacts of the PHAB Proposals

While the basis for the PHAB proposals achieving their stated objectives is weak, the potential **market impacts** of the measures are substantial and negative. They would impose additional costs on producers, and these costs would impact more substantially on overseas producers, as well as on small local producers, new market entrants and smaller and rural retailers.

The **wider economy** would also be negatively impacted, notably the advertising and marketing sector, and indigenous broadcasters, by measures such as the advertising restrictions and TV and radio watersheds.

By the same token, the impact on large, well-established producers would likely be relatively limited, except insofar as their propensity to launch new products in or use Ireland as a test market. Innovation in the Irish market would likely be stifled, as new product launches or test launches (such as Heineken Light or Hop House 13) would be impacted.

The impacts of **MUP** warrant specific analysis. MUP would force up prices of alcohol in the off-trade substantially. The increased revenues would be partially captured by the Exchequer in the form of increased VAT receipts, with the balance shared between producers, distributors and retailers, probably according to their relative market power. The on-trade might also capture some benefits if consumers migrate away from the relatively more expensive off-trade.

Large retailers would likely be in a position to gain the largest share, along with large well-established producers (retailers might pass some of the gain back to consumers on other product lines). Small producers and overseas producers would be less likely to benefit.

Consumers, particularly less well-off consumers, would unequivocally lose as MUP and the other measures would drive up prices. MUP and the other measures would also likely lead to reduced choice as overseas producers and new entrants exited or did not enter the Irish market.

As prices would rise the cost of living would also go up, negatively impacting in Ireland's international competitiveness.

Cross-border considerations are also relevant. Implementation of MUP without concomitant implementation in Northern Ireland, would aggravate the negative impacts for the Irish economy, with no benefit in terms of reduced alcohol consumption or harm. It is clear from historic experience and the recent weakening of Sterling that Irish consumers are prepared to cross the border to take advantage of price differentials.

There is also a clear **Single Market** concern around the proposed measures at EU level, as evidenced by the number of comments or detailed opinions made by Member States as part of the recent TRIS process. This raises questions regarding the implementability of the measures as currently formulated in the Bill.

Conclusions

Given these negative impacts, and the lack of evidence of the effectiveness of the proposed measures in terms of their stated objectives, in the context of the long term downward trend in alcohol consumption and youth drinking in Ireland, we conclude that the measures in question are not justified.

1. INTRODUCTION

1.1 THE PUBLIC HEALTH (ALCOHOL) BILL

The Irish Government approved and published the draft Public Health (Alcohol) Bill [1] (PHAB) in December 2015. The Bill contains a number of measures that if enacted would impact on the price, availability, labelling and the marketing of alcohol in Ireland.

A Regulatory Impact Analysis (RIA) of the Bill, as is required for significant regulatory proposals, was published by the Department of Health (DoH) in December 2015[2]. The stated policy objectives of the Bill, as articulated in the RIA, are:

- To ensure the supply and price of alcohol is regulated and controlled in order to minimise the possibility and incidence of alcohol-related harm;
- To delay the initiation of alcohol consumption by children and young people;
- To reduce the harms caused by the misuse of alcohol; and
- To reduce alcohol consumption to 9.1 litres of pure alcohol per person per annum (the OECD average in 2012) by 2020.

Appendix E of the report reviews the RIA produced by the Department of Health, in terms of completeness, analysis, accuracy and how it meets its requirements as set out in the *Guidelines*, as well as the main research sources it relies on.

Under the EU's Technical Regulation Information System (TRIS), Governments are required to inform the EU Commission of any regulatory proposals that may potentially impact on the internal market. A three-month standstill period under the EU's Notification Procedure (Directive 2015/1535)[3] then applies, to allow other Member States and the Commission to examine the proposals, and to issue comments or detailed opinions thereon. Where these are issued, the standstill period may be extended by a further three months. The TRIS system applied in the current case: the standstill period commenced on 27th January 2016, and was due to close on 28th April 2016. Comments and/or detailed opinions were issued by some 14 Member States and the Commission, and thus the standstill period was extended to 28th July 2016[4].

[1] http://health.gov.ie/wp-content/uploads/2015/12/PHAB-2015-as-published.pdf
[2] http://health.gov.ie/wp-content/uploads/2015/12/Appendix-IV-Regulatory-Impact-Analysis-RIA-Alcohol.pdf
[3] http://ec.europa.eu/growth/tools-databases/tris/en/about-the-20151535/the-notification-procedure-in-brief1/
[4] TRIS Notification 2016/42/IRL (Ireland).
http://ec.europa.eu/growth/tools-databases/tris/en/search/?trisaction=search.detail&year=2016&num=42

1.2 PROPOSED MEASURES IN THE BILL

The Bill proposes to achieve its objectives through the introduction of regulations with regard to:

1. minimum unit pricing (MUP);
2. labelling of alcohol products;
3. advertising and marketing of alcohol, alcohol sponsorship and price promotions; and
4. structural separation of alcohol products in mixed trading outlets.

The specific requirements under these headings are summarised below.

1.2.1 Minimum Unit Pricing (MUP)

Section 10 of the Bill provides that the minimum retail price of an alcohol product including all taxes would be €0.10 per gram of alcohol in the product (inclusive of VAT). Grams of alcohol are measured as Volume (ml) x ABV strength x 0.789[5]. Thus:

- a 500ml can of beer at 4.2% ABV would contain 16.57 grams of alcohol and attract an MUP of €1.66;
- a one litre bottle of spirits at 40% ABV would contain 315.6 gram of alcohol and attract an MUP of €31.56;
- a 750ml bottle of wine at 12.5% ABV would contain 73.97 grams of alcohol and attract an MUP of €7.40.

The Minister for Health would have the power to increase the MUP (but not to reduce it), three years after its initial introduction, and every 18 months thereafter.

1.2.2 Labelling of Alcohol Products & Notices in Licensed Premises

Section 11 of PHAB deals with alcohol product consumer labelling. The key provision is that, in the case of non-reusable containers, alcohol must be sold in containers bearing:

"(i) a warning that is intended to inform the public of the danger of alcohol consumption,

(ii) a warning that is intended to inform the public of the danger of alcohol consumption when pregnant,

(iii) the quantity in grams of alcohol contained in the container concerned,

(iv) the energy value expressed in kilojoules and kilocalories contained in the container concerned, and

(v) details of a website, to be established and maintained by the (Health Service) Executive, providing public health information in relation to alcohol consumption."

[5] 0.789 represents the conversion factor from volume in millilitres to weight in grams.

In the case of alcohol sold in reusable containers, it must be *"accompanied by a document in such form as may be prescribed specifying the matters set out in paragraphs (i) to (v)".*

Requirements would be placed on the sellers of alcohol products (including online sellers) to display notices providing similar information.

The Minister would have the power to prescribe the form, size, colour, location, etc. of the various notices and warnings, taking into account expert advice on effectiveness and having regard to the rate and patterns of consumption, health risks and other societal harm from consumption, and other matters considered appropriate.

1.2.3 Advertising, Sponsorship & Promotion of Alcohol

For convenience we treat the provisions regarding adverting, sponsorship and promotion of alcohol under a single heading, as they are closely related. The relevant provisions are contained in Sections 12 to 18 and 21 of the Bill. In summary, they provide for:

Contents of Advertising (Section 12)
Similarly to the requirements regarding labelling, advertising of alcohol products would be required to include a warning on the dangers of consuming alcohol and of consuming alcohol when pregnant, and a weblink to a HSE health information website. The Minister would have powers to prescribe the size, colour, duration, etc. of the warnings, etc., taking into account expert advice on effectiveness and rates and patterns of consumption and related health and other societal harm.

The Bill would preclude alcohol advertisements from including anything (apart from the above warnings and information requirements) other than:
"(a) an image of, or reference to, one or more alcohol products (whether of the same or different kinds) either in a container or containers (which may be opened or unopened) or in a glass or glasses;
(b) details of whether the product concerned is intended to be diluted with a non alcoholic beverage and where it is intended to so be diluted, an image of or reference to the non alcoholic beverage;
(c) an image of, or reference to, the country and region of origin of the product concerned;
(d) an image of, or reference to, the method of production of the product concerned;
(e) an image of, or reference to, the premises where the alcohol product concerned was manufactured;
(f) the price of the product concerned;
(g) a brand name or variant thereof, trade mark and brand emblem of the product concerned;
(h) a corporate name and corporate emblem of the product concerned;

(i) an objective description of the flavour, colour and smell of the product concerned;
(j) the name and address of the manufacturer (or his or her agent) of the product concerned;
(k) the alcoholic strength by volume of the product concerned;
(l) the quantity in grams of alcohol contained in the product concerned;
(m) the energy value expressed in kilojoules and kilocalories of the product concerned." (Section 12(7))

The Bill would also preclude the use of an image of or reference to an alcohol product in advertisements for any other good or service (Section 12(9)).

Advertising in Certain Places (Section 13)
Advertising of alcohol products would be prohibited in parks and public open spaces, on public transport (vehicles and stations), and within 200 metres of the perimeter of a school, playground or a child services location.

Advertising during Events (Section 14)
Advertising of alcohol products would be prohibited "in or on a sports arena" during a sports event, or at events aimed primarily at children (those under the age of 18) or in which they are the majority of participants. This includes horse racing, dog racing and motor racing tracks.

Sponsorship (Section 15)
Sponsorship with the aim of promoting alcohol products would be prohibited at events aimed primarily at children or in which they are the majority of participants, or at motor racing events. There would be no prohibition on sponsorship of horse racing or dog racing, and of events aimed primarily at or involving adults.

Children's Clothing (Section 16)
Children's clothing and footwear could not contain alcohol product names, images, logos, etc.

Advertising in Print Media (Section 17)
With the exception of trade publications, a maximum of 20% of advertising space in a publication could be devoted to alcohol products. Advertising on front or back covers or wrappers, envelopes, etc, would be prohibited.

The requirements regarding warnings and content [Section 12(7)] would apply equally to domestically produced and imported publications. Advertising in publications where 20% of the audience is likely or intended to be children would be prohibited.

Cinema Advertising (Section 18)
Alcohol products could only be advertised at screenings of movies with an over 18 certification.

Sales & Supply of Alcohol Products (i.e. Promotions) (Section 21)
This section would give the Minister the power to prohibit or restrict:

- The supply of alcohol to consumers at a reduced price or free –
  - on purchase of another product (whether alcohol or not),
  - for a limited time period, or
  - to a particular class of persons.
- Other business promotions likely to encourage consumers to consume alcohol in a harmful way.
- Advertising of the above promotions.

The Minister would be required to have regard specifically to "the need to reduce alcohol consumption", and within that the need to reduce health and societal harm from alcohol consumption including in particular the need to reduce "public order offences arising from alcohol consumption". It is noteworthy that this is the only section in the Bill which specifies a need to reduce alcohol consumption *per se*.

Broadcast Watershed
While not included in the 2015 Bill as published, in the course of the Oireachtas debate on the Bill in Autumn 2016, amendments were introduced which include a broadcast watershed for TV and radio. Amendment 36 states that "advertisements for alcohol products cannot be broadcast on television before 9 p.m. and that such advertisements cannot be broadcast on the radio other than between the hours of 10 a.m. and 3 p.m. on weekdays"[6].

1.2.4 Structural Separation of Alcohol Products in Mixed Trading Outlets

The provisions relating to Structural Separation are contained in Article 20 of the Bill. Under this section, mixed retailers would have to confine alcohol sales and advertising to -

(i) a distinct area of their shop separated from the rest of the shop by a physical barrier, outside of which alcohol and alcohol advertisements would not be "readily visible", and which customers would not have to pass through to access other non-alcohol products, or
(ii) a single point of sale containing a storage unit for alcohol, not accessible to the public, through which alcohol products would not be visible when closed, and with no advertising thereon, or
(iii) one or more adjacent storage units for alcohol, through which products or advertising would not be visible when closed.

[6] https://www.kildarestreet.com/sendebates/?id=2016-10-26a.251&s=speaker%3A470

It is noteworthy that Section 20 would not apply to pubs, or to off-licences in which sales "comprise wholly or mainly alcohol products".

1.3 THIS REPORT

The Alcohol Beverage Federation of Ireland (ABFI) has a number of concerns regarding the Bill, and has commissioned DKM to examine whether or not the proposed legislation and the regulations that would flow from it would have the desired impacts, and to identity the costs, benefits and other unintended consequences associated with the proposals.

This document represents DKM's report in response to the above Brief. It is laid out as follows:

- Chapter 2 describes the consumption of alcohol in Ireland, and the trends therein over recent years.
- Chapter 3 assesses the beverages sector in Ireland, and its economic importance, including contribution to GDP, employment, exports and Exchequer revenues.
- The next chapters review the proposed legislation in more detail and how the various elements would impact on the economy in terms of the alcohol market and consumers, as well as delivering on its stated objectives:
  - Chapter 4 assesses the Minimum Unit Pricing (MUP) proposals;
  - Chapter 5 assesses the Product Labelling proposals;
  - Chapter 6 assesses the proposed restrictions on Marketing of alcohol (Advertising, Sponsorship and Promotions);
  - Chapter 7 assesses the Structural Separation proposals.
- Chapter 8 presents our conclusions.
- The report is summarised in an Executive Summary at the beginning of the report.

As indicated above, a review of the Regulatory Impact Analysis for the Bill is given in Appendix E.

Three informational notes are relevant:

1. Alcohol consumption in different countries is generally presented as consumption per capita in litres. This usually refers to consumption of litres of pure alcohol equivalent per capita aged 15 years and over, and should be considered as such in this report unless the context indicates otherwise.
2. Throughout this report, alcohol consumption data relates to releases from bonded warehouses and direct imports that are subject to Excise Duty, as published by the Revenue Commissioners. This is an accurate proxy for retail sales of alcohol in Ireland, albeit with a potential lag between release from bond and eventual sale and consumption. However, it does have a number of limitations, namely that personal imports are excluded, as are "home brew", and smuggled and other illegal product. In addition,

consumption by overseas tourists visiting Ireland is included in the data, while consumption by Irish tourists while overseas is excluded. These limitations apply to all international alcohol consumption data, to varying degrees. Notably, EU rules allow significant imports for personal consumption, and it is well-established that EU consumers take advantage of cross-border price differentials, which are largely driven by tax differences[7].

3. A key issue in this report is with respect to alcohol products imported from other EU Member States, as the marketing and sale of these products in Ireland is subject to the rules of the Single Market. Notwithstanding the recent Brexit vote, for current purposes the UK is taken to be an EU Member State.

[7] See for instance http://www.grantthornton.ie/globalassets/1.-member-firms/ireland/insights/publications/grant-thornton---illicit-trade-2015-2016..pdf , http://ec.europa.eu/health/ph_determinants/life_style/alcohol/documents/alcohol_rand_en.pdf , http://swopec.hhs.se/hastef/papers/hastef0587.pdf and https://www.hri.global/files/2011/07/21/02.3_Nordlund_-_Unrecorded_Alcohol_Consumption_(Nordic_Countries)_.pdf .

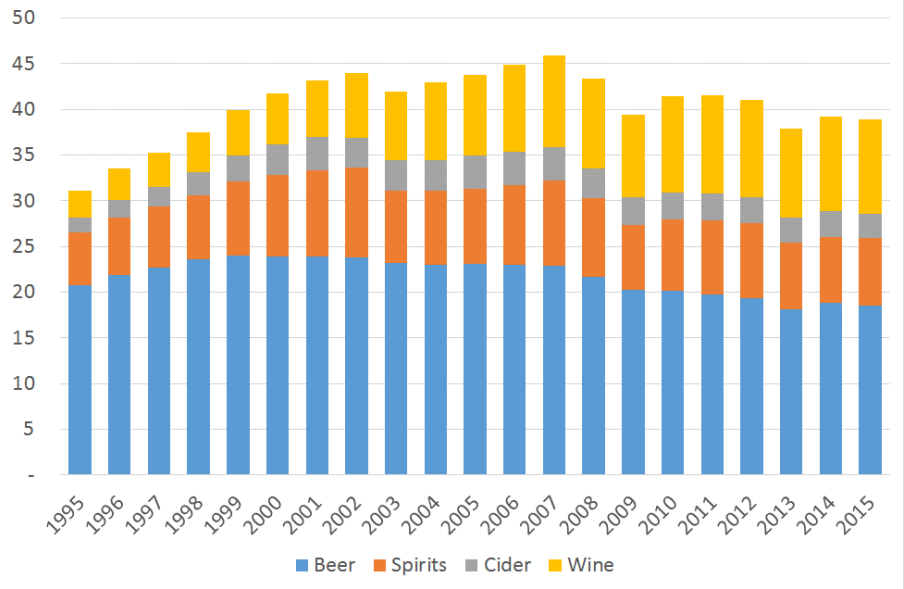
2. ALCOHOL CONSUMPTION IN IRELAND

2.1 VOLUMES

2.1.1 Aggregate Volumes

Recorded consumption of alcohol in Ireland peaked in 2007 and has been in decline since, as can be seen from Figure 2.1. Within overall consumption, a number of trends are apparent: beer has lost market share since the mid-1990s, while cider and especially wine have grown their market shares.

Figure 2.1: AGGREGATE CONSUMPTION OF PURE ALCOHOL (MILLION LITRES) PER ANNUM IN IRELAND, 1995-2015

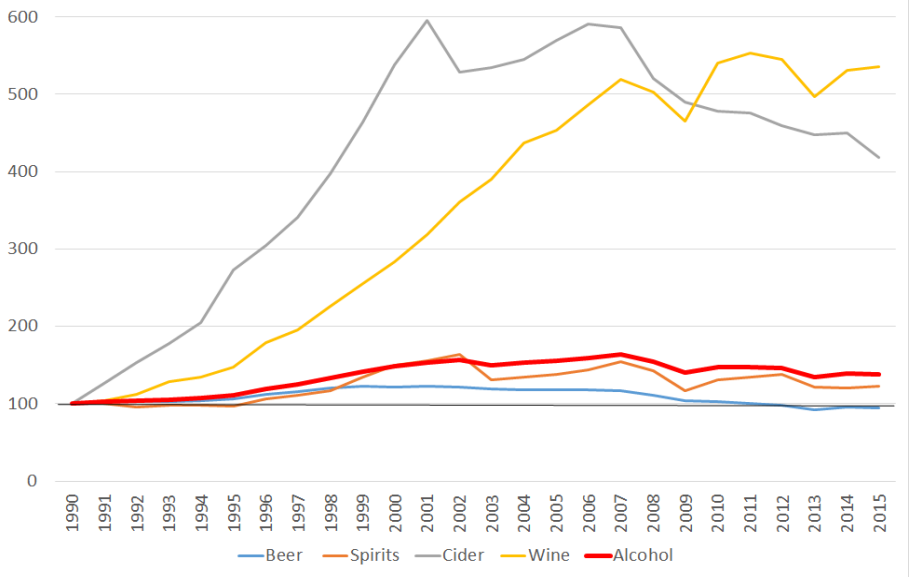


Source: Revenue Commissioners. Wine assumed to average 12.5% ABV.

These trends are more apparent in Figures 2.2 and 2.3, which present historic consumption by alcohol type as an index with 1995 as the base.

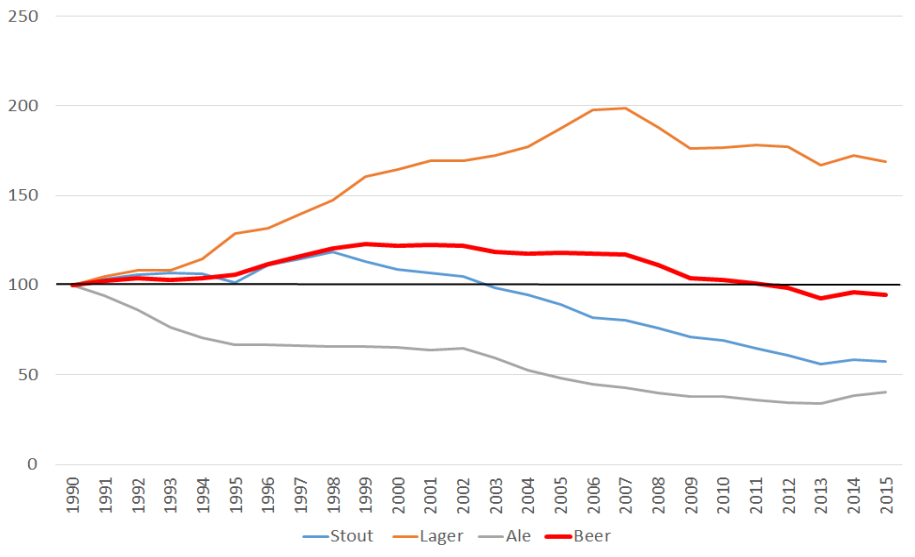
The sharp growth in consumption of cider and wine compared to other alcohol types is apparent, although cider has been on a downward trend since 2007 and wine appears to have plateaued in recent years. The pattern of lager consumption matches that of cider although the growth is much less pronounced. Stout and in particular ale have been on a long term downward trend, although it is noticeable that this appears to have stabilised or even reversed somewhat in recent years. However, volumes are still half or less than they were in the Nineties.

Figure 2.2: ALCOHOL CONSUMPTION INDEX BY TYPE (1995 = 100)



Source: Revenue Commissioners

Figure 2.3: BEER CONSUMPTION INDEX BY TYPE (1995 = 100)



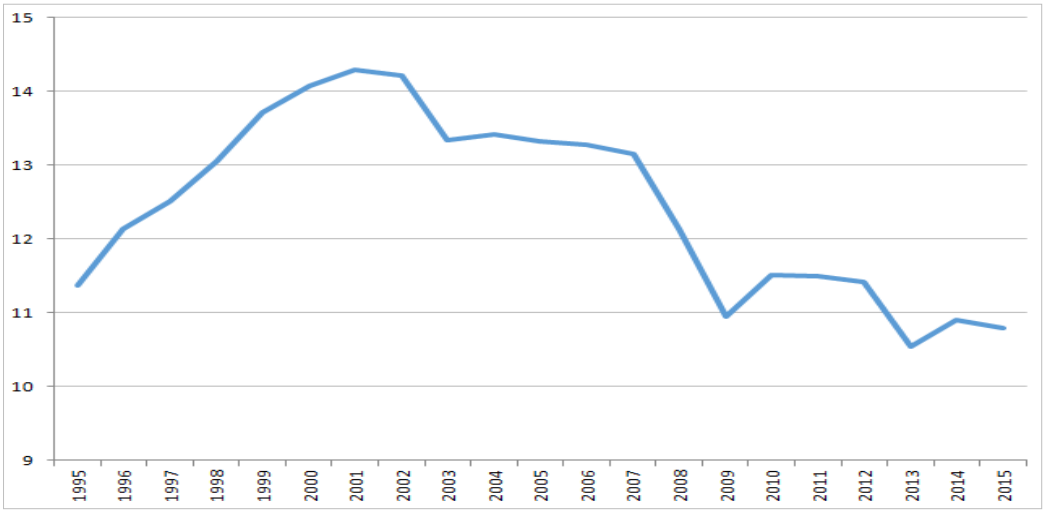
Source: Revenue Commissioners, industry sources.

2.1.2 Consumption per Capita

When considered at a per capita basis, consumption has been in decline for longer. Average consumption per capita was just under 11 litres of pure alcohol in 2015, from a peak of 14 litres in the early 2000s (Figure 2.4). It is noteworthy that per capita consumption started to decline even as the economy continued to grow strongly in the early 2000s. It suffered a sharp drop in the early years of the recession, and appears then to have resumed the more gradual long term downward trend as the economy and general

household consumption recovered more recently. This declining pattern of consumption is common across a number of Western European countries[8].

Figure 2.4: Average Consumption of Pure Alcohol per Capita (Litres) per Annum in Ireland, 1995-2015



Source: Revenue Commissioners, CSO

Evidence indicates that both overall consumption and binge drinking among younger people have likewise been in decline. The regular *European School Survey Project on Alcohol and Other Drugs* (ESPAD) surveys point to consistent reductions over a number of surveys undertaken between 2003 and 2015[9], while a 2016 OECD report indicates that Irish 15-year-olds have experienced fewer episodes of drunkenness than the European average for their peers[10].

This downward trend is of relevance, since one of the stated aims of the PHAB is to reduce alcohol consumption to 9.1 litres of pure alcohol per person per annum (the OECD average in 2012) by 2020. One can calculate how many years into the future this might be achieved, if the trend in place since 2000 were to continue. The chart overleaf presents this: interestingly, it indicates that if the trend in place for the period 2000-2015 continues, average consumption of 9.1 litres will be reached in 2020[11].

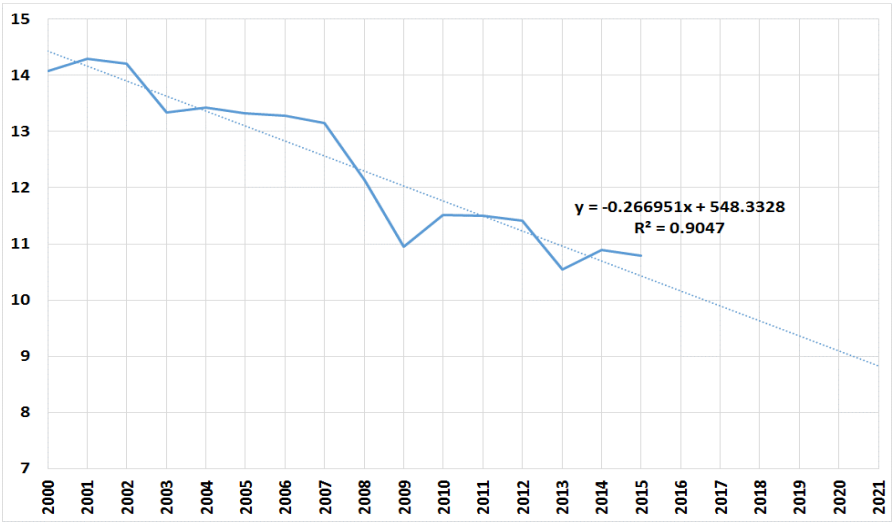
[8] http://www.oecd.org/els/health-systems/oecd-health-statistics-2014-frequently-requested-data.htm

[9] *The 2011 ESPAD Report - Substance Use Among Students in 36 European Countries*, by reference to Use of any alcoholic beverage during the past 12 months, the past 30 days and amount consumed during last drinking day (p.127, 129, 133). The report also finds reductions use of cigarettes and illicit drugs among Irish students. Slightly different questions were reported on in the 2015 ESPAD Report, but they point to continued downward trends in consumption. http://www.espad.org/sites/espad.org/files/ESPAD_report_2015.pdf

[10] OECD, 2016, *Health at a Glance: Europe 2016 State of Health in the EU Cycle*, http://www.keepeek.com/Digital-Asset-Management/oecd/social-issues-migration-health/health-at-a-glance-europe-2016_9789264265592-en#page1

[11] -0.266951(2020) + 548.3328 = 9.092 litres

Figure 2.5: Average Consumption of Pure Alcohol per Capita (Litres) per Annum in Ireland, Linear Extension of 2000-2015 Trend



Source: Revenue Commissioners, CSO, DKM estimates

2.1.3 Volumes By Sales Channel

In volume terms, the off-trade is estimated to have accounted for 60% of alcohol sales in 2014, with the remainder occurring in the on-trade[12]. This represents a reversal of the historic pattern – up to 2007 the majority of alcohol consumption in Ireland occurred in the on-trade, although the shift towards the off-trade had been apparent since the 1990s. That said, the market share of the on-trade in Ireland remains high by international standards, notably for beer[13]. The vast majority of wine, by contrast, is purchased in the off-trade.

2.2 Value

The CSO National Accounts indicate that total expenditure on alcohol stood at €6.542 billion in 2015 (in 2015 market prices), or 7.1% of total consumption of personal income[14]. This percentage has been on a gradual downward path over the last two decades, having been 10.6% in 1995.

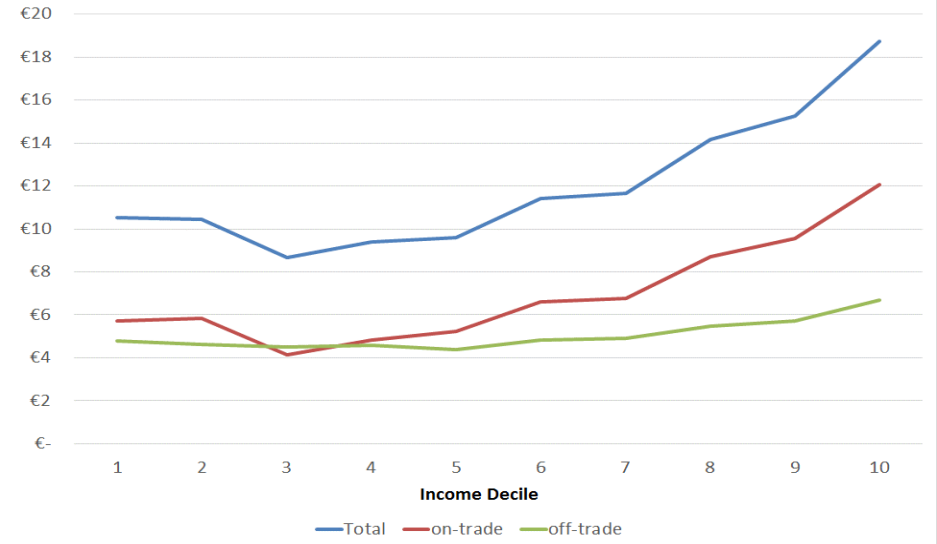
The Household Budget Survey 2009-2010 (HBS) provides a detailed breakdown of expenditure by Irish households on goods and services[15]. While it appears to under-report expenditure on alcohol in an overall sense[16], it indicates that

[12] Foley, A., 2015. *The Drinks Market Performance in 2014, for Drinks Industry Group of Ireland*; personal communication.
[13] http://www.brewersofeurope.org/uploads/mycms-files/documents/publications/2015/statistics_2015_v3.pdf
[14] http://www.cso.ie/px/pxeirestat/Database/eirestat/National%20Income%20and%20Expenditure%20Annual%20Results%202015/National%20Income%20and%20Expenditure%20Annual%20Results%202015_statbank.asp?SP=National%20Income%20and%20Expenditure%20Annual%20Results%202015&Planguage=0
[15] http://www.cso.ie/en/statistics/housingandhouseholds/householdbudgetsurvey2009-2010volume2/
[16] If the average weekly expenditure per household is multiplied up by the number of weeks in the year and the number of households in the State, the resultant value is less than the aggregate expenditure on alcohol estimated by the CSO. This is a common phenomenon internationally, and also applies to tobacco expenditure.

at that time some 59% of household expenditure on alcohol was in the on-trade, with the balance in the off-trade. The difference between the volume split and the value split would reflect the relative difference in prices in the two channels. We would expect that on a value basis there has been some further move to the off-trade since 2009-2010[17].

The HBS also recorded household expenditure by income decile, which notwithstanding the under-reporting issue gives some sense of how alcohol expenditure varies by income level[18]. The following graph summarises the average reported expenditure on alcohol per week in 2009-2010 in the on- and off-trade, per inhabitant aged 15+ in the household, by income decile. The data is presented in this way as there is a strong correlation between household size and household income.

Figure 2.6: Reported Weekly Expenditure on Alcohol per Inhabitant Aged 15+, by Household Income Decile, 2009-2010



Source: CSO HBS 2009-2010

There is a clear positive relationship – the higher the household income, the more is spent on alcohol per inhabitant aged 15+. The exception is the lowest two deciles, which spend more per inhabitant aged 15+ than the next three deciles, but this may be reflective of the number of children per adult (under 15s per over 15s) in households by income decile, which is at its lowest for the lowest income decile and rises through to the 6th decile. Fewer dependents may leave a higher proportion of disposable income for areas of expenditure such as alcohol.

As one might expect, the income-related pattern is more pronounced in the on-trade, although it is here that the lowest two deciles feature strongly also.

[17] A new HBS for was undertaken from February 2015 to February 2016, but results would not be expected until 2017.
[18] We are effectively assuming that the propensity to under-report is the same across income levels.

Expenditure in the off-trade is much flatter, and the income-related pattern only kicks in – and then weakly - in the upper half of the income distribution.

Because of the nature of the HBS, we are not in a position to report the volumes of alcohol consumed, only the value. One might expect some further flattening of the off-trade line, if people in lower income decile households tend to buy less expensive alcohol.

2.3 DRIVERS OF ALCOHOL CONSUMPTION

The key drivers of demand for consumer products are in general income and price, with other potential drivers featuring, depending on the nature of the product. Demand falls as prices go up, and in general demand increases as incomes go up. Demand can also increase as the price of competing products ("substitutes") increase, and fall as the price of products used with the product in question ("complements") increases. The more tightly a product is defined, the more price sensitive it tends to be, as there are more close substitutes. Thus for instance one would expect alcohol to be less price sensitive than beer, and beer to be less price sensitive than lager.

The market for alcohol in Ireland and the western world in general can be characterised as "mature", i.e. the product is well-established and well-known to consumers, and the scope for overall market growth is limited. In these circumstances products tend to be less price and income sensitive, as consumption levels in one period are significantly affected by previous consumption levels. There can also be long term trends in play. Indeed, as indicated earlier in this chapter, consumption per capita is on a long downward trend in Ireland and many western countries.

We have used econometric analysis to attempt to estimate the key drivers of demand for alcohol per capita in Ireland, as set out in Appendix F. Demand was tested for each type of alcohol as a whole and in the off- and on-trades, where data allowed, although the best results were found for the combined sales channels. Cross-price elasticities (the sensitivity of demand for one type of alcohol to a price change in another type) were also tested for, but an effect was not detected.

Our results are summarised in Table 2.1 overleaf. The values presented in the table are elasticities, i.e. the percentage change in demand as a result of a 1% increase in prices or incomes.

Table 2.1: SUMMARY OF RESULTS OF ECONOMETRIC ANALYSIS OF DEMAND FOR ALCOHOL PER CAPITA

	Elasticities				Time Trend	Comment
	Price Same Channel	Price Other Channel	Income	UK Price		
Channels Combined						
Alcohol	-0.378		0.313		negative if tested Vs off- and on-trade prices	
Beer			0.24		negative	
Lager	-0.0667				negative	price impact appears to be in on-trade
Stout	-0.0422				negative	
Ale	-0.109				negative	
Cider	-0.239					price impact appears to be in off-trade
Spirits	-1.86		0.834		negative	price impact appears to be in on-trade
Wine			0.0698		positive	
Off-Trade						
Alcohol						not tested
Beer						
Lager						
Stout						not tested
Ale						not tested
Cider	-0.74		0.804			
Spirits	-0.564	-1.298	1.354	0.207		
Wine						not tested
On-Trade						
Alcohol						not tested
Beer					negative	
Lager	-0.137				negative	
Stout						not tested
Ale						not tested
Cider			0.211			
Spirits	-1.195	-0.729	0.803	0.289	negative	
Wine						not tested

Notes: blank cells indicate no statistically significant impact was detected. The split between off- and on-trade volumes are industry estimates. Shaded cells indicate sales channels not tested due to lack of data. See Appendix F for further details.

Sources: DKM analysis based on Revenue Commissioners, CSO and industry data.

The key findings, considering each type of alcohol as a whole (i.e. off- and on-trade combined) are:

- With the exception of beer and wine, a negative price elasticity was found, i.e. an increase on price leads to a reduction in demand, as one would expect.
- With the exception of spirits, these price elasticities are low (less than one), indicating that there is less than a one-for-one relationship between price and demand, which again is as one would expect.
- The price elasticity for spirits is very high – indicating that a 1% increase in price leads to an almost 2% reduction in demand. Further analysis points to the on-trade as being the main source of this price sensitivity.
- A positive income impact was found for all alcohol types except cider and individual beer types. Again there is a less than one-for-one effect, although the spirits income elasticity is close to one.
- A negative time trend was found for most alcohol types, indicating a long term downward trend in consumption.
- The exceptions were wine, which was found to have a positive time trend, and cider, for which no trend was found.
- The UK price was not found to have an impact on demand for the various alcohol types.

These results are broadly as one would expect – alcohol is relatively price and income inelastic (less than a one-for-one impact), and for most types there is a long term downward trend, independent of the other factors tested for.

The results when we tested the off- and on-trades were somewhat less satisfactory. Impacts were only detected for cider and spirits, with some impacts for beer and lager in the on-trade, while a number of alcohol types could not be modelled for lack of data. The findings were:

- Negative price elasticities with respect to the same sales channel were found for lager, cider and spirits in the off-trade, and for cider in the on-trade. The impact was more than one-for-one in the case of on-trade spirits.
- Spirits also recorded negative price elasticities for the other sales channel, i.e. a price increase in the off-trade was found to have a negative impact on demand in the on-trade, and vice versa. This is a somewhat counter-intuitive result.
- Positive income effects were found for spirits and cider in both sales channels, and were stronger in the off-trade.
- A negative time trend was found for beer, lager and spirits in the on-trade.
- Perhaps the most interesting finding was a positive UK price impact for spirits in both the on and off-trade – a 1% increase in the price of alcohol in the UK relative to Ireland led to an increase in demand for spirits of 0.2% in the off-trade and 0.3% in the on-trade. Although a similar finding was not found in overall spirits demand, the results point to a potential vulnerability of spirits sales in Ireland to the price in Northern Ireland, which matches the findings of previous analyses.

2.4 MARKET CONCENTRATION

The Irish alcohol beverages sector is highly concentrated, with the five largest suppliers accounted for almost 85% of the total sales value in 2015. In the on-trade the two largest suppliers accounted for 70% of total consumption value in 2015. The off-trade is somewhat less concentrated: suppliers outside of the five largest companies supplied held over 30% by value of the market in 2015.

2.5 ORIGIN

While the majority of alcohol consumed in Ireland is domestically produced, a significant proportion (most obviously wine) is imported, as demonstrated in the table below. Approximately one-third of beer and over half of spirits sold in Ireland is imported (these exclude personal imports).

The data indicates that the vast majority of imports come from other EU Member States (including the UK), with the exception of wine, of which just over 60% comes from non-EU countries. A limitation of this data however is that it is based on the last port of loading before product arrives in Ireland, and this may not reflect the products' true origin. For instance, a significant volume of wine is recorded as being imported from the UK, which is obviously not a true reflection of origin, and market data indicates that non-EU wine holds a higher share of the market than the trade statistics would imply.

Table 2.2: ALCOHOL IMPORTS TO IRELAND 2015

	Total Volumes	%age imported	*Of EU**	*Which: non-EU*
Beer ('000 litres alcohol)	18,539	34.6%	*94.4%*	*5.6%*
Wine ('000 litres product)	87,280	100.0%	*56.0%*	*44.0%*
Cider ('000 litres product)	58,101	14.3%	*87.5%*	*12.5%*
Spirits ('000 litres alcohol)	7,358	52.4%	*90.6%*	*9.4%*

*Port of last loading. EU includes UK.

Sources: CSO Trade statistics, Revenues Commissioners, Irish Wine Association (wine EU/non-EU split relates to 2014).

Appendix A gives a more detailed breakdown of imports by country, per the CSO's trade statistics.

3. ECONOMIC IMPORTANCE OF ALCOHOL SECTOR

The alcohol beverage sector is a significant element of the Irish economy. It generates impacts in terms of incomes, employment, exports and Exchequer revenues. The industry is recovering from the recent economic downturn, and investment is gaining momentum, with growth particularly evident in the whiskey and craft beer sectors. There are a number of aspects to the sector, including:

- alcohol production, which produces beverages for the domestic and export markets, and
- alcohol distribution and retail (on- and off-trade), of both domestically produced and imported beverages.

Economic impacts arise across three dimensions:

- direct – in the firms directly involved in the sector,
- indirect – in the Irish firms supplying goods and services to them, and
- induced – as the wages generated by the direct and indirect impacts are spent in the wider economy.

Finally, economic impacts arise through firms' ongoing operations – the production, distribution and sale of alcohol – and their investment in new facilities.

3.1 CONTRIBUTION TO GDP

3.1.1 Ongoing Operations

The contribution to GDP of a sector comprises the profits and payroll generated directly in the sector, and through the indirect and induced impacts.

Based on CSO data, we estimate that turnover in the **alcohol beverages industry** totalled approximately €2.9 billion in 2015 (excluding Excise Duties and VAT), while direct GDP generated was €1.3 billion [19]. The indirect contribution to GDP, based on purchases of Irish-supplied goods and services, is estimated at just over €300 million. Finally, the induced GDP impact is estimated at €107 million.

As indicated in Section 2.2, total consumer expenditure on alcohol stood at €6.542 billion in 2015 (inclusive of VAT and Excise Duty). This can be taken to be the retail turnover of the on- and off-trade combined[20], and incorporates the GDP contribution of both the **retail and distribution sectors** (as well as of the manufacturing sector to the degree it supplies the domestic market).

[19] Based on the CSO's 2012 Census of Industrial Production, and the 2015 PRODCOM data and Industrial Turnover and Volumes Indices for the Beverages sector (NACE Code 11), separating out alcohol and non-alcohol beverages.
[20] Strictly speaking it includes consumption of alcohol by Irish residents while abroad, and excludes consumption by non-Irish residents while in Ireland, but for current purposes we assume these two cancel out.

Isolating the impact of the retail and distribution sectors only, we estimate that the direct and indirect addition to GDP amounts to €914 million in 2015, while the related induced impact amounts to approximately €340 million.
Therefore, the total estimated contribution of the alcohol sector to Irish GDP in 2015 can be summarised as follows:

Table 3.1: ESTIMATED TOTAL IMPACT ON GDP OF ALCOHOL SECTOR, 2015

	Manufacturing	Distribution & Retail	Total
	€ million	€ million	€ million
Direct	1,320	881	**2,201**
Indirect	309	33	**342**
Induced	107	338	**445**
Total	**1,735**	**1,253**	**2,988**

Note: The manufacturing impacts as they relate to the domestic market have been netted out of the Distribution & Retail impacts, to avoid double-counting.
Source: CSO, DKM estimates.

In all, the alcohol sector makes a major contribution to Irish GDP, which we estimate at €3 billion annually.

3.1.2 Investment

Further economic impacts are generated by investment by the sector in the Irish economy. For instance, Diageo alone has invested €200 million in its St. James' Gate facility in recent years, while the Irish Whiskey Association estimates that €1 billion will be invested in the sector over the coming decade. Significant investment is also undertaken in the distribution and retailing of alcohol.

DKM estimates based on the CSO's Input-Output tables indicate an increase in GDP of €0.85 million for every €1 million of capital expenditure in the Irish economy, taking into account the direct, indirect and induced impacts.

3.2 EMPLOYMENT

3.2.1 Ongoing Operations

A comprehensive analysis of the employment impacts of the alcoholic beverages sector was undertaken in 2014 by Anthony Foley of Dublin City University (DCU) Business School, on behalf of the Drinks Industry Group of Ireland (DIGI)[21]. The table below summarises the report's findings:

[21] *Drinks-Related Employment in Dáil Constituencies 2013*, http://www.drinksindustry.ie/assets/Documents/Drinks%20related%20employment%20in%20Dail%20constituencies%202013.pdf

Table 3.2: ESTIMATED EMPLOYMENT GENERATED BY THE ALCOHOL SECTOR, 2013

	Total
Direct - Manufacturing	3,800
Direct – Distribution & Retail	58,000
Indirect	16,600
Induced	12,500
Total	**90,900**

Source: Foley (2014).

These jobs are spread throughout the economy, from agriculture to the hospitality sector, to the media, including broadcasting and advertising production.

3.2.2 Investment

Further employment is generated by investment by the sector in the Irish economy. DKM estimates based on the CSO's Input-Output tables and payroll data that for every €1 million of capital expenditure in the Irish economy, 11 work years of employment are generated, taking into account the direct, indirect and induced impacts.

3.3 EXPORTS

CSO Data indicate that the value of Irish exports of alcohol totalled €1.1 billion in 2015, up from €932 million in 2014, an increase of 18%. The breakdown by main destination is set out in the following table:

Table 3.3: DESTINATION OF IRISH ALCOHOL EXPORTS BY VALUE, 2015

	Beer € million	Spirits € million	Cider € million	Other € million	Total € million	%age Split
US	79	398	7	1	**485**	44%
Great Britain	58	33	38	3	**131**	12%
Northern Ireland	66	4	0	0	**70**	6%
Canada	14	52	1	0	**66**	6%
Germany	13	39	0	0	**51**	5%
France	11	22	0	1	**34**	3%
South Africa	0	17	0	0	**17**	2%
Australia	0	11	4	0	**15**	1%
Other	44	183	5	0	**233**	21%
Total	**285**	**759**	**55**	**5**	**1,104**	100%
%age Split	26%	69%	5%	0%	100%	

Source: CSO Trade Section

North America is clearly the biggest export market, accounting for 50% of the total, with the UK (incl Northern Ireland) accounting for 18%. In terms of

product, spirits account for approximately 70% of exports, with beer at 25% and cider at 5%.

In addition, the tourism sector is an important source of service exports. A 2013 visitor attitudes survey for Fáilte Ireland reported that 80% of visitors to Ireland were motivated to travel to the country by the desire to experience an Irish pub[22]. This was the most cited reason for visiting, and illustrates the important position of the Irish pub as an attraction for the currently robust Irish tourism sector.

3.4 EXCHEQUER REVENUES

3.4.1 Ongoing Operations

The alcohol beverages sector is an important contributor to Exchequer revenues. Revenue is generated most obviously through the imposition of VAT and Excise Duty on alcohol sales in Ireland, and in addition through the levying of profits and payroll taxes at the various levels of production, distribution and retailing in the sector, as well as through the wider economic impacts of the sector.

Excise & VAT

Taxes on domestic alcohol sales make a very significant contribution to the Exchequer: in 2015 Excise Duty of €1.2 billion and VAT of €1.223 billion were collected, for a total of €2.42 billion. Figure 3.1 overleaf shows the historic pattern of alcohol consumption taxes up to 2015.

Revenues grew strongly to 2007, and fell sharply in the following years. Revenues then started to grow again from 2012 onwards. As sales volumes continued to fall in subsequent years (Figure 2.1), this increase in revenues was solely due to increasing excise rates - Ireland has among the highest excise tax rates in the EU[23], and the highest alcohol retail prices in the EU[24].

Payroll & Profits Taxes

These arise in the production, distribution and retail sectors, via the direct, indirect and induced impacts. Based on above measures of GDP impacts and average tax rates, we estimate the Exchequer revenues in 2015 as per Table 3.4 overleaf[25]. In total, over €660 million in payroll and profits taxes are estimated to be generated per annum.

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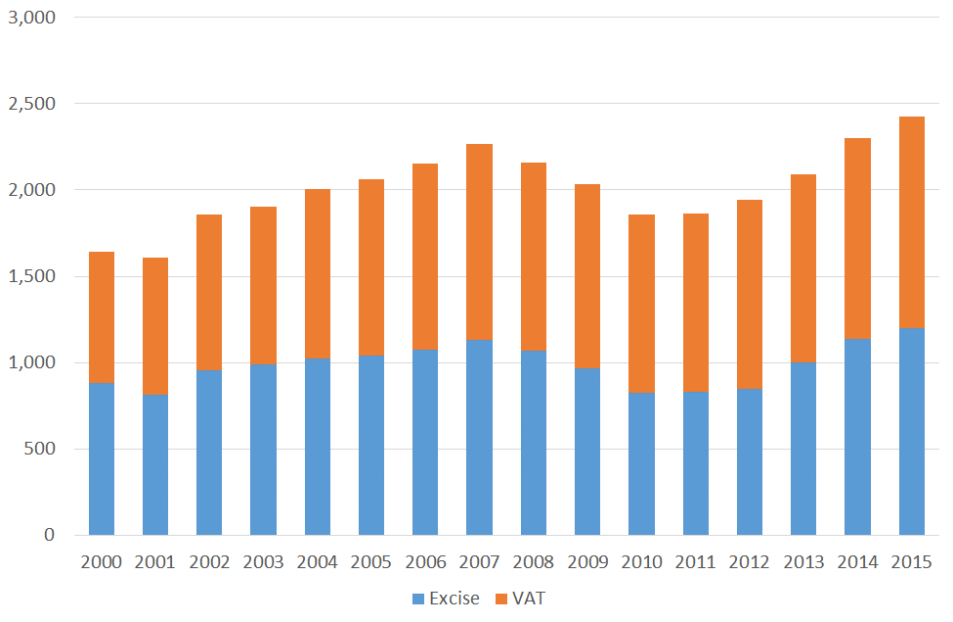
22 http://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/4_Visitor_Insights/The_Visitor_Attitudes_(Port)_Survey_Report_2013.pdf?ext=.pdf

23 http://ec.europa.eu/taxation_customs/resources/documents/taxation/excise_duties/alcoholic_beverages/rates/excise_duties-part_i_alcohol_en.pdf

24 http://www.rte.ie/news/business/2016/0615/795880-eurostat-ireland/

25 Note the basis for calculating these tax revenues differs from the basis for employment impacts per Table 3.2, as the methodology differs somewhat and they relate to a more recent year.

Figure 3.1: Alcohol Excise and VAT Tax Revenues in Ireland, 2004-2015, € million



Source: Revenue Commissioners.

Table 3.4: Estimated Payroll & Profits Tax Revenues Generated via the Alcohol Sector, 2015

	Manufacturing	Distribution & Retail	Total
	€ million	€ million	€ million
Direct	149	287	**437**
Indirect	55	74	**130**
Induced	23	74	**97**
Total	**228**	**435**	**663**

Note: The manufacturing impacts as they relate to the domestic market have been netted out of the Distribution & Retail impacts, to avoid double-counting.

Source: CSO, DKM estimates.

Further tax revenues would also be generated in the form of Commercial Rates, and various other taxes such as licence fees.

3.4.2 Investment

We estimate that for every €1 million of investment by the industry, some €200,000 in Exchequer revenues are generated, taking into account the direct, indirect and induced effects (excluding any savings in social welfare payments).

3.5 SUMMARY OF ECONOMIC IMPACTS

The alcohol beverage sector is extremely significant for the Irish economy. We estimate that in 2015 the sector through its ongoing operations –

- generated approximately €3 billion in GDP;
- supported over 90,000 jobs in the economy;
- generated over €1.1 billion in exports;
- generated over €2.4 billion in VAT and Excise Duty, and over €660 million in payroll and profits taxes for the Exchequer. Other revenues are generated via Commercial Rates, Licence Fees and so on.

The sector is also a major source of investment in the economy, in the manufacturing, distribution and retailing of alcohol. We estimate that for every €1 million in investment, the sector –

- adds €0.85 million to GDP;
- supports 11 work years of employment;
- generates €200,000 in Exchequer revenues (excluding any savings in social welfare payments).

4. MINIMUM UNIT PRICING (MUP)

The previous chapters of this report estimated the size and economic importance of the alcohol sector in Ireland. The purpose of this and subsequent chapters is to assess the economic costs, benefits and other unintended consequences associated with the proposed regulations in the Bill. We present and discuss:

- The provisions of the Bill and their objectives;
- The likely effectiveness of the provisions in terms of achieving these objectives;
- Likely impacts on the market; and
- Likely impacts on consumers.

This chapter deals with Minimum Unit Pricing (MUP).

4.1 PROVISIONS OF THE BILL & OBJECTIVES

4.1.1 Provisions

Section 10 of the Bill provides that the minimum retail price of an alcohol product including all taxes would be €0.10 per gram of alcohol in the product. Grams of alcohol are measured as Volume (ml) x ABV strength x 0.789[26]. Thus:

- a 500ml can of beer at 4.2% ABV would contain 16.57 grams of alcohol and attract an MUP of €1.66;
- a one litre bottle of spirits at 40% ABV would contain 315.6 grams of alcohol and attract an MUP of €31.56;
- a 750ml bottle of wine at 12.5% ABV would contain 73.97 grams of alcohol and attract an MUP of €7.40.

The Bill would give the Minister for Health power to increase the MUP, three years after its initial introduction, and every 18 months thereafter. Notably, it does not provide the power to reduce the MUP.

4.1.2 Objectives

MUP is perhaps the provision of the PHAB that has attracted most attention and controversy. Similar proposals are being/have been considered in neighbouring jurisdictions, and in September 2015 the Advocate General of the European Court of Justice (ECJ) Yves Bot, presented an opinion on similar Scottish proposals[27].

[26] 0.789 represents the conversion factor from volume in ml to weight in grams.
[27] http://curia.europa.eu/juris/document/document.jsf?docid=166846&doclang=EN

The Regulatory Impact Analysis (RIA) on the Bill, which is discussed in detail in Appendix E, indicates that the measure is "designed to prevent the sale of alcohol at very cheap prices", while its objectives can be seen as follows:
"A minimum pricing policy for alcohol would help to reduce consumption of alcohol in Ireland but especially with helping to reduce consumption of alcohol by those who drink in a harmful and hazardous way. It would also have a greater impact on discouraging children and young people to drink, as they are price sensitive."

Thus, the objective of introducing MUP can be seen as threefold:
(i) to reduce alcohol consumption,
(ii) to reduce harmful alcohol consumption, and
(iii) to discourage children and young people from drinking.

4.2 LIKELY EFFECTIVENESS

Alcohol prices in Ireland are already among the highest in Europe, indicating that price is not a major driver of overall consumption in Ireland, although price differences within and between categories, and with neighbouring jurisdictions, can be expected to shift consumption patterns. Expectations of reductions in harmful drinking and in drinking by the young are based on the premise that both young people and the "heaviest drinkers" are price sensitive, and are thus amenable to behavioural change on foot of the MUP measure.

In assessing whether this is actually likely to be the case, we consider:
(i) the Sheffield Alcohol Policy Model (SAPM), developed by the University of Sheffield, and applied to the Irish proposals as part of the RIA in support of the measures, and
(ii) other research and actual experience elsewhere on the issue.

4.2.1 University of Sheffield Model

Research by the University of Sheffield, based on their SAPM[28], is presented in the RIA in support of the premise that MUP will achieve the Bill's objectives as stated above. As well as MUP, the model is used to analyse the effects of –

- a ban on below-cost selling and
- a ban on price-based promotions,

on different drinker groups (low risk, increasing risk and high risk) and income groups (in poverty and not in poverty), in an Irish context.

A more detailed discussion of the Sheffield paper is presented in Appendix E of this report, and finds a number of shortcomings, which undermine the reliability of its findings and thus of the policy implications flowing therefrom.

[28] Angus, C., Meng, Y., Ally, A., Holmes, J. and Brennan, A. (2014). *Model-based appraisal of minimum unit pricing for alcohol in the Republic of Ireland – An adaption of the Sheffield Alcohol Policy Model version3*. University of Sheffield.

In summary, the SAPM requires detailed and comprehensive data, much of which was not available when the authors undertook their Irish analysis. To deal with this the authors made a number of adjustments to the dataset, notably:

- The modelling used data from the 2013 National Alcohol Diary Survey (NADS), which recorded householders' actual alcohol purchases over the previous week, as well as asking questions on the quantity and frequency of their usual consumption patterns. Based on this the authors derived the mean weekly alcohol consumption, which forms the dependent variable in their model. However, the use of a single week's consumption pattern is less than ideal as a basis for estimating actual usual consumption, and is subject to significant error. In particular the proportion of high alcohol consumers and low alcohol consumers can be overestimated and of moderate consumers underestimated, due to the variance that could be expected in a single week's consumption (notwithstanding that respondents were asked about usual consumption patterns). Additionally, the level of intoxication was measured by peak alcohol consumption in the previous week, which for the same reason is not necessarily accurate.
- The NADS data is subject to misclassification, which the authors tried to correct for. However, they did not differentiate between structural zeroes (i.e. abstainers or non-consumers) and stochastic zeroes due to the short reference period, which undermines the correction method[29].
- The NADS did not generate sufficient information to classify respondents as being in "poverty" or "not in poverty", so the authors matched their data with the household composition and income data from the CSO's Survey on Income and Living Conditions (SILC), to derive an equivalised household income. This is a less than satisfactory means of generating poverty data for the model, and undermines their evaluation of pricing policies and effects on consumption by reference to household income levels.
- The price data reported in the NADS diaries was higher than that indicated by overall market data, while consumption volumes were lower. The authors argued that the survey respondents were overestimating price due to issues of memory, or biases introduced by missing price data, and adjusted the survey price data to the market data, which not only shifts the price distribution down but changes the shape of the distribution. However they did not adjust the consumption data. This introduces direct bias into the analysis, and undermines their results.
- Additionally, the price adjustment was only made for off-trade purchases. Therefore the authors changed the distribution for one section of the price data and not the other. By adjusting the price data in this way the results are subject to severe biases, which will overestimate the effect of

[29] Duffy J. (2015). *Model-based appraisal of minimum unit pricing for alcohol in the Republic of Ireland – an adaptation of the Sheffield alcohol policy model version 3*.

an MUP strategy. While acknowledging this methodological flaw, the authors nonetheless relied on the model results for their conclusions.

- As it was not possible to calculate Irish price elasticities of alcohol demand from the NADS data, the authors assumed that price elasticities are the same in Ireland and in England, and applied English elasticities to adjust the Irish data. This is a large assumption to make and is not necessarily valid. Detailed aggregate alcohol market data is available for Ireland, from which it would have been possible to estimate the required elasticities.
- The authors assumed that risk functions developed elsewhere to establish the relationship between alcohol consumption and the risk of health conditions are applicable to the Irish population, which is not necessarily valid.

Because of the above issues, the Sheffield University conclusions regarding the impact of MUP and other pricing policy instruments in Ireland are unreliable.

4.2.2 International Research & Experience on MUP

We are concerned here with two issues – (a) whether the heaviest drinkers and young drinkers are in fact more price sensitive than the generality of the population, and (b) whether MUP and similar policies put in place elsewhere have been effective in terms of their stated aims.

Heavy Drinkers & Young Drinkers

Regarding heavy drinkers, there does not appear to be a consensus in the literature in this regard, with much of the literature indicating that heavy drinkers are less price sensitive than light or moderate drinkers. A 2012 literature review by London Economics for instance finds that:

> *"Overall, a clear majority of the relevant studies show that heavier drinkers are less responsive to price changes than moderate drinkers"*[30].

With regard to drinking by children and young people, there is evidence that this group is price sensitive[31], although some evidence also indicates that over-age males are less so than the underaged and females[32].

International Experience with MUP

International experience with MUP or similar policies is limited, with one of the few examples being Social Reference Pricing (SRP) adopted in many Canadian provinces. The evidence indicates that the introduction of SRP led to reductions in recorded consumption, as one would expect, but studies assessing actual reduction in alcohol-related harm as a result of SRP are limited.

[30] http://londoneconomics.co.uk/wp-content/uploads/2013/02/Differential-price-responsiveness-among-drinker-types-LE-Working-paper-Dec-2012.pdf

[31] For instance http://webarchive.nationalarchives.gov.uk/+/http:/www.homeoffice.gov.uk/publications/alcohol/impacts-alcohol-price-review?view=Binary

[32] For example http://fjc.people.uic.edu/Presentations/Scans/Final%20PDFs/cep1996.pdf

Econometric analysis of the impact of SRP in Canada on alcohol-related harm appears to be limited to three papers by Stockwell *et al*.[33]. These consider impacts on of changes in minimum prices and off-licence densities in British Columbia (BC), during the first decade of this century, respectively on (i) hospital admissions, (ii) mortality and (iii) crime. Since minimum prices had been in place in BC since 1989, the studies analysed the impacts of changes in minimum prices rather than their introduction. The papers respectively found that a 10% increase in the average minimum price of all alcoholic beverages was associated with:

- an 8.95% decrease in acute alcohol-attributable admissions and a 9.22% reduction in chronic alcohol-attributable admissions two years later;
- a 31.72% reduction in wholly alcohol-attributable deaths;
- decreases of 18.8% in alcohol-related traffic offences and of 9.2% in violent crime.

There are, however, a number of limitations in these studies, which must be kept in mind, notably:

- The authors acknowledge that the findings relate to statistical correlations and do not necessarily indicate causality.
- The period under consideration – 2002 to 2009/2010, is short. This is particularly the case with the crime paper, which analyses annual data whereas the hospital admissions and mortality papers analyse quarterly data.
- Minimum prices in BC during the period under consideration were much lower than actual price levels in Ireland, or in other Canadian provinces such as Saskatchewan. Despite this, alcohol consumption in BC was significantly lower than in Ireland during the period under consideration.
- Minimum prices in BC are also unrelated to alcohol content, and thus are quite different from what is being proposed in Ireland. On the face of it, is difficult to see how the effects found in these papers could come from the type of minimum prices in place in BC.
- With respect to the hospitalisation paper, alcohol-related hospitalisations per capita rose each year during the period under consideration in BC, which on the face of it is difficult to reconcile with a positive impact from minimum pricing[34].
- None of the three studies used a control – i.e. a similar area where minimum prices were not in place or did not change during the period under consideration. With respect to the crime paper for instance, it has

[33] Stockwell T, et al., 2013, "Minimum alcohol prices and outlet densities in British Columbia, Canada: Estimated impacts on alcohol attributable hospitalisations". *American Journal of Public Health*. 2013:e1-e7. http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2013.301289
Stockwell T, et al., 2013, "The Relationship between Minimum Alcohol Prices, Outlet Densities and Alcohol Attributable Deaths in British Columbia, 2002 to 2009". *Addiction*. 108(6) February 2013. https://www.researchgate.net/publication/235519955_The_Relationship_between_Minimum_Alcohol_Prices_Outlet_Densities_and_Alcohol_Attributable_Deaths_in_British_Columbia_2002_to_2009
Stockwell T, et al., 2015, "Relationships Between Minimum Alcohol Pricing and Crime During the Partial Privatization of a Canadian Government Alcohol Monopoly" *Journal of Studies on Alcohol and Drugs*, 76(4), 628–634 (2015).
[34] http://www.thejournal.ie/minimum-unit-pricing-alcohol-ireland-facts-2932210-Aug2016/

been noted that crime has been on a long term downward trend in most western countries[35], including Canada[36], independent of alcohol pricing, although the Stockwell paper does also detect a negative time trend which may capture at least some of this effect.

- The mortality paper finds that a 10% increase in minimum prices is associated with a 32% reduction in mortality. This seems implausibly large, given the low level of minimum prices in place in BC.
- Likewise, the reported correlations with the level of alcohol-related traffic offences appear large, given the price levels involved. The same can be said for violent crimes, given the wide range of such crimes and the range of societal causes and influences.

Given these limitations, caution is required in drawing conclusions from the studies. Further details are provided in Appendix D.

It is worth noting also that market structures in Canada are quite different from in Ireland, in that the State has a monopoly on the distribution of alcohol, and a strong role in its off-trade retailing, as well as controls over prices in the on-trade. This makes the implementation of minimum pricing more straightforward than in Ireland; it also means that minimum prices is more akin to a tax increase, as the State retains the increased revenues generated.

4.3 MARKET IMPACTS OF MUP

There are a number of dimensions to the potential market impacts of the MUP proposals, namely:

- product categories – beer, wine, spirits, cider;
- price points – value, mid-range, premium;
- origin – domestic producers, EU producers, non-EU producers.

These are considered below. Another dimension is channel, i.e. off- versus on-trade. However, MUP almost exclusively affects the off-trade since in most cases prices in the on-trade exceed the proposed MUP levels. One might expect some diversion of volumes to the on-trade, however, as prices in this channel become relatively cheaper.

Based on market data from Nielsen, the main retailers and other sources, we have estimated the degree to which MUP would impact on current volumes and market shares in the Irish off-trade, by product, price-point and country to the degree possible. We have used product market data from 2015 and price data as of April 2016, differentiating between branded and unbranded (private label/own brand and discounters) product.

[35] https://www.newscientist.com/article/mg22530073-200-why-violent-crime-is-plummeting-in-the-rich-world/ http://www.economist.com/news/leaders/21582004-crime-plunging-rich-world-keep-it-down-governments-should-focus-prevention-not

[36] http://www.cbc.ca/news/canada/what-s-behind-canada-s-improving-crime-stats-1.1315377

Our findings are summarised below, with detailed back-up in Appendix B.

4.3.1 Beer & Cider

Approximately two-thirds of beer and 85% of cider consumed in Ireland is domestically produced (covering both the on- and off-trade). Almost all of it originates in the EU, with the bulk of the imported product coming from the UK. Trade statistics indicate that less than 2% comes from outside the EU, though this may be somewhat of an under-estimate of the products' actual origins.

Branded Beers & Cider

The majority of the major branded categories sold in the off-trade in Ireland, based on prices observed in April 2016, would be affected by MUP – just under 60% of beers and 75% of ciders. The average price uplift for those products affected would be 23% for beer but 54% for cider.

In terms of origin, almost 60% of Irish categories and over 70% of UK categories would be affected by MUP, while almost all of the most popular brands from other EU countries would be affected. Of the main countries of origin, Irish beer and cider is least affected.

Unbranded Beer & Cider

Here we are concerned with the beer and cider sold in the discounters (Aldi and Lidl). While we do not have aggregated market or market share data, DKM undertook a price survey in April 2016, and assessed the impact of MUP on this basis. We found that approximately 60% of both beers and ciders would be affected, with an average uplift for those categories affected of almost 50% for beer and just over 70% for cider. The impact on non-Irish product categories varies greatly, as they include both premium products and some low-price products. The latter would see very substantial price increases.

4.3.2 Wine

Market data indicates that branded wine holds 78% of the Irish off-trade market, with unbranded wines (sold in the discounters) holding the balance. The split of branded wine between EU and non-EU origins is estimated to be 40:60, although this ratio is reversed for the unbranded product[37].

Branded Wine

We estimate that just under 10% of branded wines would be impacted by MUP. Assuming no changes in volumes, the overall average prices for branded wine would increase by 1.1%, but for the wines affected, the average price increase would be almost 20%.

[37] These splits are somewhat at variance with the official trade statistics, but likely reflect port of last loading issues in the latter.

EU producers hold approximately 40% of the branded wine market, and 15% of these would be affected by MUP. The overall average price of EU wine would rise by 1.8% if MUP as proposed was implemented, while for the wines affected prices would rise by almost 20%.

The impact by country varies greatly. Over 20% of branded wine from Spain and Italy, and over one-third of the wine from Germany would be affected by MUP. For those wines affected, the price of Spanish and German wine would increase by 25-30% on average. While only a small proportion of French wine would be affected, for those wines affected, prices would likewise rise by approximately 25%.

For branded wine from outside the EU, approximately 5% would be affected by MUP, and average price would rise by 0.6%; for the wines affected prices would rise on average by 18%. The proportions of non-EU wines affected by MUP are lower, but the price increases facing them are substantial: for Australian and US wines the increase would be 25-30%.

Unbranded Wine

Unbranded wine (sold in discounters) holds 22% of the Irish off-trade market by volume, with France being the most popular country of origin. While branded wine is roughly-speaking 60:40 of non-EU origin, for unbranded wine the ratio is reversed – EU wine accounts for just under 60% of total volumes.

We do not have a full price point range for unbranded wine, but average retail price by country of origin is available, and this indicates that:

- All except Argentinian and New Zealand wine would be affected by MUP.
- The average overall price increase would be approximately 20%, or €1.30 per bottle.
- The price of German, South African and Chilean wine would be increased by over one-third on average.
- French wine, the most popular category, would go up in price by on average over 20%.

This would add €25 million to national cost of living, under current consumption patterns.

This analysis is however by reference to the price averaged for each country of origin, which could hide significant variation within origins. As a check, DKM undertook a price survey of one of the discounters in April 2016. This found that:

- Some 34 out of 57 product categories in our survey would be affected by MUP (60%), and the overall price uplift would be 16%.
- For the products affected, the average price uplift would be 28%.
- 100% of the US, South African, German and Hungarian, 83% of the Chilean and 75% of Italian wines would be affected by MUP.

- The only countries not affected by MUP would be New Zealand and Argentina.
- Almost half of the French wines would be affected, with average price uplift of over 36%. German and Chilean wine categories would also experience an uplift of over 30%.

Both market sources and the DKM survey confirm that the unbranded wine sector would experience significant price increases if MUP as proposed were implemented.

4.3.3 Spirits

It is estimated that branded spirits hold approximately 76% of the off-trade market in Ireland. However, unbranded spirits retail at a significant price discount to their branded equivalents: while holding 24% market share by volume, we estimate that they hold only 17% by value. This implies that the average price of branded spirits is 70% higher than that of unbranded spirits.

Branded Spirits

Our analysis of the impact of the proposed MUP measure on branded spirits can be summarised as follows:

- Just under 25% of branded spirits in the Irish market would be affected by the proposed MUP measures. This varies by product – Irish whiskey for instance would not be affected at all, while 60% of gin and 80% of Scotch would be affected. Over 40% of the most popular category – vodka – would be affected.
- The overall price impact is modest, at 1.5%; however, for those products that are affected, the aggregate price increase would be 7.4%.
- At the category level, the degree of price impact varies considerably; most products are modestly affected, but the 25% of American whiskey sold in Ireland would see a more than 40% price uplift, while the 12% of cream liqueurs that would be affected would see prices rise by more than 26%. The uplift in the price of affected vodka would be 6.2% on average.

This would add €16.5 million to the national cost of living, under current consumption patterns.

Unbranded Spirits

With regard to the impact of MUP on the unbranded spirits market:

- Practically all of the unbranded spirits sold on the Irish market would be affected by MUP.
- The impact on prices would be very substantial – approximately a 40% uplift overall. However, vodka – which has the largest share of the unbranded market would see an increase in price of 50%. The least affected category – Irish whiskey - would see prices uplifted by approximately 11%.

Overall, we estimate that MUP as it affects unbranded spirits would add €25 million to the national cost of living, under current consumption patterns.

4.3.4 Summary of Market Impacts

It is clear that MUP would have significant impacts on the off-trade in Ireland, and particularly with respect to product sold in the discounters. In summary:

- The majority of the major branded beers and ciders would be affected – just under 60% of beers and 75% of ciders. The average price uplift for those products affected would be 23% and 54% respectively.
- Approximately 60% of unbranded beers and ciders would be affected, with an average uplift for those categories affected of almost 50% for beer and just over 70% for cider.
- Just under 10% of branded wines would be impacted by MUP. The overall average prices for branded wine would increase by 1.1%, but for the wines affected, the average price increase would be almost 20%.
- Most unbranded wines would be affected, with price uplifts of between 20% and one-third.
- Just under 25% of branded spirits would be affected. For those products that are affected, the aggregate price increase would be 7.4%.
- Practically all unbranded spirits would be affected by MUP. The impact on prices would be very substantial – approximately a 40% uplift overall.

It is also clear that:

- Irish beer, cider and spirits, both branded and unbranded, would be less affected than product imported from other EU countries and elsewhere.
- Overseas suppliers to the Irish market who currently take advantage of low cost bases to compete on price would lose that advantage, and it is reasonable to assume that a proportion of them would exit the market.

The latter would have implications for the Single Market, as is reflected in the number of Member States which have submitted observations on the Bill as part of the TRIS process, and in the Advocate General's opinion with respect to the proposal to introduce MUP in Scotland.

4.4 Impact of MUP on Consumers

Consumers in general would lose as a result of MUP, as prices would increase. As indicated above, the prices of most categories of product currently sold in the off-trade would be affected. The impact would be felt most significantly by less well-off consumers, who are most likely to consume the products that would be affected by MUP.

Consumers would also likely experience a reduction in choice as a result of a proportion of producers – who currently compete on price - exiting the market.

Increased alcohol prices would increase the Consumer Price Index and the cost of living in Ireland. Ireland is a small open economy highly dependent on international trade, and as such, maintaining cost competitiveness is vital[38]. Given that Ireland is already a high cost economy[39], further increases in the cost of living are unwelcome, as they would increase wage pressures in the wider economy[40]. Our analysis indicates significant increases in the cost of living, with current consumption patterns.

4.5 CROSS-BORDER IMPACTS OF MUP

The above analysis has considered the market and consumer impacts of MUP for Ireland in isolation. A further impact is that, in the absence of equivalent measures being put in place in Northern Ireland, one could expect leakage of alcohol sales from the Republic of Ireland to Northern Ireland.

Historically, Irish (and other EU) consumers have shown themselves to be willing to travel significant distances to avail of price differences in alcohol, notably spirits. ESRI research has indicated for instance that for certain years in the 1980s some 25% of the spirits consumed in the Republic of Ireland had been purchased in Northern Ireland, albeit at the time there was a significant price differential across a range of consumer goods[41].

Higher car ownership and road improvements in the meantime, as well as political and security improvements would on the face of it make the Irish market more vulnerable to cross-border leakage. This would reduce the impact on consumers to some degree, although they would be forced to spend some of the savings on additional travel expenses, as well as lost time. Losses to the Exchequer would be unambiguous.

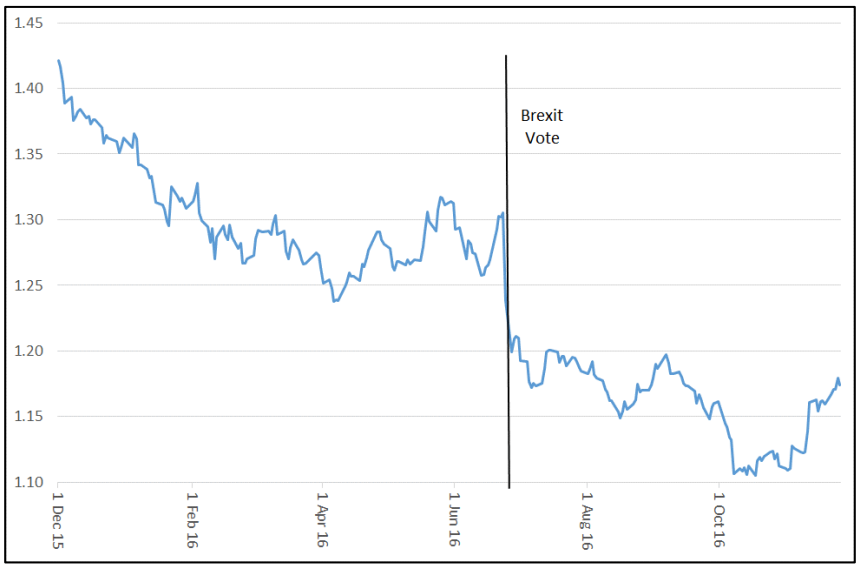
The cross-border dimension has been brought into sharper focus by the recent Brexit vote, and the subsequent sharp fall in the value of Sterling. The last 12 months have seen a depreciation of more than 17% in the value of Sterling[42] (see chart overleaf), which provides the Northern Ireland retail sector with a competitiveness boost across the entire range of consumer goods, up to and including cars[43].

While inflation could be expected to dilute this somewhat in the medium term, at the time of writing, consumer price inflation in the UK remains subdued

[38] http://www.competitiveness.ie/Publications/2015/Ireland%20s%20Competitiveness%20Scorecard%202015.pdf
[39] http://www.competitiveness.ie/Publications/2016/Cost-of-Doing-Business-2016.pdf
[40] http://www.independent.ie/business/irish/wage-growth-is-back-as-private-sector-pay-rises-for-three-quarters-31483801.html
[41] Fitz Gerald, J., 1998, *The Distortionary Effects of Taxes on-trade in Border Areas: The Case of the Republic of Ireland - United Kingdom Border*. ESRI Memorandum Series 183. https://www.esri.ie/pubs/MEMO183.pdf
[42] Central Bank of Ireland, comparing the Euro:Sterling exchange rate on 1st December 2015 with 25th November 2016.
[43] http://www.independent.ie/regionals/argus/news/car-imports-increase-after-brexit-vote-35007435.html

(0.9% in the year to October 2016)[44]. Traditionally, consumer prices in Northern Ireland have been below the UK average (although only marginally so for alcohol)[45], so the North is well-placed to capitalise on the currency advantage.

Figure 4.1: STERLING VS EURO, DECEMBER 2015 - NOVEMBER 2016



Source: Central Bank of Ireland

Indeed, evidence has already emerged of increased traffic volumes crossing the border since Brexit, which appears to coincide with shopping times[46], while other sources confirm both consumers' and retailers' intentions to take advantage of lower prices in Norther Ireland[47]. A recent survey for instance indicated that one-quarter of Irish adults intended to cross the border to shop over the last three months of 2016, with 43% of these intending to buy alcohol (the third most popular category after Christmas presents and clothes)[48].

While the impacts of exchange rates can vary over time, and recent movements may reverse, the above confirms that consumers are willing to react in response to differences in cross-border prices. If MUP is implemented in the Republic but not in the North, then there will be a permanent shift in price levels, which will be to the detriment of the retail trade, consumers and the Exchequer in the Republic.

[44] https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/consumerpriceinflation/latest , 28th November 2016.

[45] http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/regional-consumer-price-levels/2010/index.html

[46] For example http://www.independent.ie/business/brexit/weekend-exodus-to-the-north-is-on-the-rise-since-brexit-vote-35187254.html; http://www.bbc.com/news/uk-northern-ireland-37871271.

[47] For example http://www.independent.ie/irish-news/were-stocking-up-in-massive-quantities-northern-stores-brace-themselves-for-influx-of-republic-shoppers-35205473.html

[48] http://www.thejournal.ie/sterling-euro-christmas-shopping-3077021-Nov2016/?utm_source=twitter_self

A proportion of consumers might also be expected to resort to illicit product, whether smuggled or illegally produced. Indeed surveys quoted in a recent report by the two police forces on the island confirms that purchase and consumption of illicit produce is already significant: Some 16% of ROI survey respondents had knowingly purchased illicit alcohol, while 24% of Northern Irish respondents admitted to purchasing counterfeit alcohol[49]. Apart from funding organised crime, there are serious health dangers in consuming counterfeit product[50].

[49] *A Cross Border Organised Crime Assessment 2014*, http://www.drugsandalcohol.ie/22721/1/cross-border-crime-assessment-final.pdf

[50] http://alcoholireland.ie/home_news/sharp-increase-in-seizures-of-potentially-dangerous-counterfeit-alcohol-in-year-to-date/ ; http://www.thesun.ie/irishsol/homepage/news/7229410/Distill-idents-Crackdown-on-counterfeit-booze-scams-as-bogus-alcohol-is-top-crime-earner.html .

5. LABELLING OF ALCOHOL PRODUCTS & NOTICES IN LICENSED PREMISES

5.1 PROVISIONS OF THE BILL & OBJECTIVES

5.1.1 Provisions

Section 11 of PHAB deals with alcohol product consumer labelling. The key provision is that, in the case of alcohol sold in non-reusable containers, the containers would have to carry:
"(i) a warning that is intended to inform the public of the danger of alcohol consumption,
(ii) a warning that is intended to inform the public of the danger of alcohol consumption when pregnant,
(iii) the quantity in grams of alcohol contained in the container concerned,
(iv) the energy value expressed in kilojoules and kilocalories contained in the container concerned, and
(v) details of a website, to be established and maintained by the Executive, providing public health information in relation to alcohol consumption."

Reference to the Executive refers to the Health Service Executive (HSE), the Irish public health services provider.

Alcohol sold in reusable containers would have to be "accompanied by a document in such form as may be prescribed specifying the matters set out in paragraphs (i) to (v)". Requirements are placed on the sellers of alcohol products (including online sellers) to display notices providing similar information.

The Bill would give the Minister the power to prescribe the form, size, colour, location, etc. of the various notices and warnings required under Section 11, taking into account expert advice on effectiveness and having regard to the rate and patterns of consumption, health risks and other societal harm from consumption, and other matters considered appropriate.

5.1.2 Objectives

The objectives of this Section, as articulated in the Regulatory Impact Analysis (see further discussion in Appendix E), are to increase awareness of the impacts of alcohol consumption, in a context where the current labelling arrangements are argued to provide inadequate or unclear information:
"Research indicates that accurate information on the alcohol content of specific beverages is essential to promote drinker's tracking of alcohol intake. However, 'standard drink' or units are widely misunderstood by the general

public … very few people understand what a standard drink is. However, the majority supported labelling alcohol containers to include calories (82%), alcoholic strength (98%), ingredients (91%) and health warnings (95%). Many studies show a greater awareness among consumers of the risks highlighted in warnings". (RIA, p.15/16)

The RIA further notes that a consultative process conducted by the Department of Health with the industry concluded that a three-year transitional period would be sufficient for the purposes of phasing in new labels to meet the proposed legislation's requirements.

5.2 LIKELY EFFECTIVENESS

Labels on alcohol products sold in Ireland already include details of alcohol content (ABV) and number of standards drinks. Over time, the main producers are tending to voluntarily add more information on labels, such as warnings on the dangers of consuming alcohol while pregnant[51].

The question then is, how effective are the specific additional requirements with respect to labelling in the proposed legislation likely to be?

It is on the face of it not clear how including details of energy content (kilojoules and kilocalories) would impact on harmful consumption of alcohol. Likewise, grams of alcohol is a new method of presenting the amount of alcohol in a product (on top of ABV and number of standard drinks), and would be unfamiliar to consumers. Indeed, the usage of grams - a measure of weight as opposed to volume – applied to a liquid product might confuse consumers.

Turning to the evidence base, a North-American-focussed paper, cited in the RIA in support of labelling[52], notes that while labelling increases awareness of the risks of harmful alcohol consumption and is supported by the general public:
"Reviews and primary studies concerning the impacts of the US alcohol warning label experience, whether written by independent researchers or those employed by the alcohol industry, agree fairly closely that impacts on drinking behaviour are either nonexistent or minimal."

[51] This is a voluntary step and mirrors legislative and voluntary arrangements in a number of EU countries (http://www.eurocare.org/content/download/11057/58942/version/1/file/Factsheet+-+Health+warning+labels+on+alcoholic+beverages.pdf).

[52] Stockwell, T, 2006, *A Review Of Research Into The Impacts Of Alcohol Warning Labels On Attitudes And Behaviour,* Centre for Addictions Research of BC University of Victoria British Columbia, Canada http://www.uvic.ca/research/centres/carbc/assets/docs/report-impacts-alcohol-warning-labels.pdf

Another paper by the same author states: "*grams or other weight-based measures are unlikely to be useful in helping drinkers to understand alcohol content*"[53], while similar conclusions are drawn by other researchers[54].

Indeed, Australian focus-group based research[55] points to potential counter-productive impacts for young drinkers, a particular focus of harm-reduction efforts:
"The majority of the participants reported that they are aware of the existence of standard drink labelling; notice standard drink labels; and take these into account when choosing what to purchase. However, this was predominantly to help them choose the strongest drinks for the lowest cost."

The World Health Organisation's (WHO) 2010 *Global Strategy to Reduce the Harmful Use of Alcohol*[56] - another report quoted in the RIA – meanwhile states:
"Harm reduction approach can be supported by stronger promotion of products with a lower alcohol concentration, together with mandated health warnings on alcohol-product containers. Although such warnings do not lead to changes in drinking behaviour, they do impact on intentions to change drinking patterns and remind consumers about the risks associated with alcohol consumption."(p.32)

The evidence base for the effectiveness of warnings on labels is thus not strong. While some of the publications cited above suggest that labelling and warnings could be effective in conjunction with other measures such as advertising and accessibility (or that labelling and warnings should not be used in isolation), evidence that such combinations of measures are actually effective is likewise scarce.

5.3 Market Impacts of Labelling Proposals

Labelling of products for human consumption is regulated at EU level, by Directive 1169/2011[57], which came into force in December 2014. With respect to alcohol, the Directive requires that labels display the alcohol strength by volume (ABV); it also excludes alcohol products from requirements to present

[53] Kerr, W.C. & Stockwell, T., 2012, "Understanding standard drinks and drinking guidelines", in *Drug Alcohol Review*, 2012 Mar; 31(2): 200–205. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3276704/#R18
[54] For instance Agostinelli, G. & Grube, J.W. (2002). "Alcohol counter-advertising and the media: A review of recent research." *Alcohol Research and Health*, 26, 15-21.
Grube, J.W. & Nygaard, P. (2001). "Adolescent drinking and alcohol policy." In *Contemporary Drug Problems*, 28, 87-132.
[55] Jones SC, & Gregory P, 2009, The impact of more visible standard drink labelling on youth alcohol consumption: helping young people drink (ir)responsibly?" *Drug Alcohol Review*, May; 28(3): 230-4. http://www.ncbi.nlm.nih.gov/pubmed/21462396
[56] file:///S:/CURRENT%20ASSIGNMENTS/2016%2002%20ABFI%20Public%20Health%20Alcohol%20Bill%20(Job)/Literature/WHO%20Global%20strategy.pdf
[57] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R1169&from=EN

nutritional information as well as lists of ingredients on labels. The Bill would thus add a number of additional requirements on labelling.

The market impact would arise as producers wishing to supply the Irish market would have to redesign their product labelling specifically for this market. While some of the additional cost could be absorbed within the increases envisaged via MUP, a high proportion of product lines in the off-trade and effectively all products in the on-trade would not be impacted by MUP (see Chapter 4), so costs would have to be absorbed or passed on, or a combination of both.

The potential impacts of these requirements on the industry can be considered across a number of dimensions:

(i) size of producer,
(ii) whether the producer is Irish or not, and
(iii) volumes of each product sold on Irish market and other markets.

Specific Irish labelling would impose additional costs on producers. Industry sources indicate that the cost of redesigning a single label for largescale manufacturers is approximately €14,000, while the entire suite of labelling (including front and back label, and outer packaging) for a single product line is approximately €50,000. Some additional stock control costs could also arise as producers would have to differentiate between product for the Irish market and for other markets.

At one end of the spectrum, a large producer, well-established in the Irish market, whose product lines each sell in large volumes on the Irish market, would be able to accommodate the proposed requirements with relatively minor additional cost and disruption. It could spread the cost over a large volume of sales, and would likely be able to accommodate the label changes within its normal labelling “refresh” cycle, given the three year transition period envisaged in the Bill. The label contents of many of the main producers are in any event evolving to provide more information.

At the other end of the spectrum a small producer, a producer with modest sales volumes in Ireland, or a producer with Irish volumes spread across a wide range of products (such as a wine importer), would be more significantly impacted.

For a firm such as a start-up producer, one wishing to break into the Irish market, or even an established producer introducing a new product to the market, the additional cost per product line could be burdensome. Furthermore, the smaller a firm’s/product line’s market share, the less scope there is to pass additional costs on.

Discussions with smaller operators in the beer market indicate that their labelling costs would be significantly lower than for the major suppliers as quoted above. However, even at these lower costs levels, the labelling requirement could be significant on very short product runs, and they have quoted instances where it has been unviable to produce a short line for a particular export market where they would have had to create a separate label for it.

Between these two ends of the spectrum are products and producers that would likely be impacted to varying degrees by the proposed measures. Given the modest size of the Irish market (approximately 0.8% of the total EU market [58]), even substantial producers may find the proposed measures burdensome for some of their lines.

These proposals could represent a barrier to entry to the Irish market, for both small local producers and for producers with a modest presence in the Irish market or seeking to enter or introduce a new product to the Irish market. As a result of the additional costs that would be imposed, products might be withdrawn from the Irish market, or new products might not be introduced.

By the same token, large domestic producers would be impacted at a relatively modest level. The global alcohol industry – specifically beer and spirits - is highly concentrated, and the Irish market reflects this (see Chapter 2). So the proposed measures could potentially have the effect of protecting these domestic producers from competition.

There is another specific aspect of the labelling proposals that the industry takes issue with, and that is the requirement to include "a warning that is intended to inform the public of the danger of alcohol consumption". The industry contends strongly that danger only arises in terms of over-consumption of alcohol, or consumption in inappropriate circumstance, such as when pregnant or when intending to drive. While the literature is mixed, there is a significant body of research that points to a mildly beneficial net health impact from moderate alcohol consumption[59].

This reinforces the burden of the specific labelling requirements for Ireland, since producers would be reluctant to include this warning on products destined for other markets. Likewise, a link to a website operated by the Irish

[58] DKM estimate based on Eurostat data for 2013.

[59] For example
Mostofsky E. *et al.*, 2016, "Key Findings on Alcohol Consumption and a Variety of Health Outcomes From the Nurses' Health Study", in *American Journal of Public Health*, Volume 106, Issue 9 (September 2016), http://ajph.aphapublications.org/doi/full/10.2105/AJPH.2016.303336
Di Castelnuovo, A., et al. "Alcohol dosing and total mortality in men and women: an updated meta-analysis of 34 prospective studies." *Archives of Internal Medicine,* 2006; 166:2437–2445. http://archinte.jamanetwork.com/article.aspx?articleid=769554

Health Service Executive would not be relevant for most consumers in an international market.

5.4 IMPACT ON CONSUMERS

5.4.1 Reduced Choice

Certain products could potentially be removed from the Irish market, or not be introduced to the market, including new and short lines by small scale producers. Potential new market entrants would face additional costs, which might discourage them from entering the market.

5.4.2 Increased Prices

Prices could rise for two reasons:

(i) Directly, production costs could rise as a result of the labelling requirements, and at least some of these would be passed onto consumers. As indicated, this would be on top of price increases if MUP were to be introduced.

(ii) Indirectly, reduced competition, if certain products were removed from or not introduced to the market, could lead to higher prices than would otherwise be the case.

6. ADVERTISING, SPONSORSHIP & PROMOTION OF ALCOHOL

For convenience we treat the provisions regarding adverting, sponsorship and promotion of alcohol products collectively, as they are closely related.

6.1 PROVISIONS OF THE BILL & OBJECTIVES

6.1.1 Provisions

The provisions of the Bill with respect to advertising, sponsorship and promotion are comprehensive, and are contained in Sections 12 to 18 and 21. In summary, they provide for:

Contents of Advertising (Section 12)
As with the labelling requirements, advertising of alcohol products would have to include a warning on the dangers of consuming alcohol and of consuming alcohol when pregnant, and a weblink to a HSE health information website. The Minister would have powers to prescribe the size, colour, duration, etc. of the warnings, etc., taking into account expert advice on effectiveness and rates and patterns of consumption and related health and other societal harm.

The Bill is highly prescriptive of what can be included in an advertisement for alcohol, apart from the various warnings. Contents would be restricted to:
"(a) an image of, or reference to, one or more alcohol products (whether of the same or different kinds) either in a container or containers (which may be opened or unopened) or in a glass or glasses;
(b) details of whether the product concerned is intended to be diluted with a non alcoholic beverage and where it is intended to so be diluted, an image of or reference to the non alcoholic beverage;
(c) an image of, or reference to, the country and region of origin of the product concerned;
(d) an image of, or reference to, the method of production of the product concerned;
(e) an image of, or reference to, the premises where the alcohol product concerned was manufactured;
(f) the price of the product concerned;
(g) a brand name or variant thereof, trade mark and brand emblem of the product concerned;
(h) a corporate name and corporate emblem of the product concerned;
(i) an objective description of the flavour, colour and smell of the product concerned;
(j) the name and address of the manufacturer (or his or her agent) of the product concerned;

(k) the alcoholic strength by volume of the product concerned;
(l) the quantity in grams of alcohol contained in the product concerned;
(m) the energy value expressed in kilojoules and kilocalories of the product concerned." [Section 12(7)]

Further, it would be prohibited to include an image of or reference to an alcohol product in an advertisement for any other good or service. A voluntary code already exists in terms of the content of alcohol advertising, but the above proposals represent a step change in the level of restriction, and are reflective of the most restrictive regulations currently in place among EU Member States.

Advertising in Certain Places (Section 13)
Advertising of alcohol products would be prohibited in parks and public open spaces, on public transport (vehicles and stations), or within 200 metres of the perimeter of a school, playground or a child services location.

Advertising during Events (Section 14)
Advertising of alcohol products would be prohibited in a sports arena during a sports event, or at events aimed primarily at children (those under the age of 18) or in which they are the majority of participants. This includes horse racing, dog racing and motor racing tracks.

Sponsorship (Section 15)
Sponsorship with the aim of promoting alcohol products would be prohibited at events aimed primarily at children or in which they are the majority of participants, or at motor racing events. There would be no prohibition on sponsorship of horse racing or dog racing, and of events aimed primarily at or involving adults.

Children's Clothing (Section 16)
Children's clothing and footwear could not contain alcohol product names, images, logos, etc.

Advertising in Print Media (Section 17)
With the exception of trade publications, a maximum of 20% of advertising space in a publication could be devoted to alcohol products. Advertising on front or back covers or wrappers, envelopes, etc, would be prohibited.

The current voluntary code has a similar requirement, but it is set at 25%, so the proposed legislation would represent a significant further restriction. The 20% rule and the requirements regarding warnings and content [Section 12(7)] would apply equally to imported publications.

Advertising in publications where 20% of the audience is likely or intended to be children would be prohibited.

Cinema Advertising (Section 18)
Alcohol products could only be advertised at screenings of movies with an over 18 certification.

Sales & Supply of Alcohol Products (i.e. Promotions) (Section 21)
This section would give the Minister the power to prohibit or restrict:

- The supply of alcohol to consumers at a reduced price or free –
  - on purchase of another product (whether alcohol or not),
  - for a limited time period, or
  - to a particular class of persons.
- Other business promotions likely to encourage consumers to consume alcohol in a harmful way.
- Advertising of the above promotions.

In the case of this Section, the Minister should have regard specifically to "the need to reduce alcohol consumption", and within that the need to reduce health and societal harm from alcohol consumption including in particular the needed to reduce "public order offences arising from alcohol consumption". It is noteworthy that this is the only section in the Bill which specifies a need to reduce alcohol consumption *per se*.

Broadcast Watershed
While not included in the 2015 Bill as published, in the course of the Oireachtas debate on the Bill in Autumn 2016, amendments were introduced which include a broadcast watershed for TV and radio. Amendment 36 states that "advertisements for alcohol products cannot be broadcast on television before 9 p.m. and that such advertisements cannot be broadcast on the radio other than between the hours of 10 a.m. and 3 p.m. on weekdays"[60].

6.1.2 Objectives

Reading the Bill and the related RIA, it is clear that the prime objective of these provisions is to reduce the exposure of children and young people to alcohol advertising: *"There is a compelling body of research evidence which shows that exposure to alcohol marketing, whether it is on TV, in movies, in public places or alcohol branded sponsorship, predicts future youth drinking"*.

The RIA also states that self-regulation, as is in place currently in Ireland, is inadequate for this purpose. It further notes that the Bill "*implements the existing Code of Practice for Sponsorships by Drinks Companies as far as possible and provides for enforcement powers and penalties*." (p.18) with regard to the restriction on promotions (Section 21), the RIA notes that similar powers included under Section 16 of the Intoxicating Liquor Act (2008), but were not commenced.

[60] https://www.kildarestreet.com/sendebates/?id=2016-10-26a.251&s=speaker%3A470

The latter section is worded very similarly to Section 21 of PHAB, but it is noteworthy that it refers to the need to reduce consumption of alcohol where such consumption is "to an excessive extent". This qualification is dropped entirely from Section 21, which uniquely refers to the need to reduce alcohol consumption *per se*.

The broadcast watershed was not in the Bill as published, and was not dealt with specifically in the RIA, although it notes that the 2012 *Steering Group Report on a National Substance Misuse Strategy* (NSMS)[61] did recommend a 9.00pm TV and radio watershed. It also notes that a watershed could potentially divert revenues from indigenous broadcasters, but concludes that given the latters' market share, and the fact that alcohol advertising represents only 5% of total advertising revenues, "*any spending reduction is unlikely to have a significant impact on revenue streams for broadcasters*".

6.2 LIKELY EFFECTIVENESS

A key issue with respect to restricting advertising in an attempt to control alcohol consumption is the question of whether advertising drives consumption levels, or market share.

For mature consumer products such as alcohol, market share is the main focus of advertising. The long term decline in alcohol consumption in Ireland, despite continued exposure to advertising, would appear to confirm this, particularly when one considers the evolution over time in the relative market shares of different types of alcohol, as presented in Chapter 2. Evidence from other countries is similar. In the US for instance, consumption per capita per recent decades has remained static, despite a huge increase in expenditure on drinks advertising over the same period[62], while relative market shares of alcohol types can shift[63].

A central objective of the proposed regulations with respect to advertising, sponsorship and promotion is to reduce exposure of children and young people to alcohol advertising, and in doing so to reduce youth drinking. Some evidence does point to a link between exposure to advertising and youth drinking[64]. However, difficulties in establishing causality and in controlling for other factors are a common issue with these studies[65], while some indicate impact on intentions to drink by young people as opposed to actual drinking behaviour[66].

[61] http://health.gov.ie/blog/publications/steering-group-report-on-a-national-substance-misuse-strategyfebruary-2012/
[62] http://www.adweek.com/news/advertising-branding/alcohol-ads-increased-400-over-40-years-americans-arent-drinking-more-163668
[63] http://fortune.com/2015/02/03/whiskey-tequila-spirits-2014/
[64] For example http://ec.europa.eu/health/ph_determinants/life_style/alcohol/Forum/docs/science_o01_en.pdf
[65] For example http://www.ias.org.uk/uploads/pdf/Marketing/AERC_FinalReport_0051.pdf
[66] For example http://www.ncbi.nlm.nih.gov/pubmed/17568965

Another stated objective, specifically with respect to restrictions on promotions, is to reduce alcohol consumption. However, the evidence is that restrictions on promotion and advertising of alcohol have little impact on overall consumption[67].

Of central relevance to the question of effectiveness, is how young people consume advertising, and specifically the degree to which they consume it from traditional media.

Box 6.1: The Loi Evin

An important case study in the current context is France, which has among the most restrictive regulations on alcohol advertising and sponsorship in the western world, known as the *Loi Evin*, which was enacted in 1991, with some changes since. Many of the elements of the PHAB mirror those in the French legislation.

The pattern of alcohol consumption in France is interesting. On the one hand, consumption has been in long term decline[68]. At the same time, however, the level of youth and underage drinking, and of binge drinking, is growing[69] [70] [71], despite increasing the age at which alcohol can be bought[72].

It is noteworthy that highly restrictive and rigorously enforced[73] legislation, in a country where overall consumption has been falling, has not been effective in curtailing the trends in youth drinking in France. These findings point to long term cultural factors as stronger influencers of behaviour than regulatory measures. A more detailed discussion on alcohol regulation in European countries is presented in Appendix C.

Irish data from late 2015[74] is telling in this regard:

> *"According to TAM's figures, the number of ads ("commercial spots") that Irish people see on TV is plummeting. In the last two years, it has fallen by a whopping 25pc in the key demographics of housekeepers with children and those ages 15 to 34."*
>
> and

[67] For example Nelson, JP. & Young, JP., 2003, *Meta-Analysis Of Alcohol Advertising Bans: Cumulative Econometric Estimates of Regulatory Effects.* https://www.researchgate.net/publication/228649385_Meta-Analysis_of_Alcohol_Advertising_Bans_Cumulative_Econometric_Estimates_of_Regulatory_Effects

[68] http://www.aim-digest.com/digest/members%20over%20yr/french%20consumption.pdf

[69] *The 2011 ESPAD Report - Substance Use Among Students in 36 European Countries*, by reference to Use of any alcoholic beverage during the past 12 months (p.127, 129, 133). The report also finds high levels of use of cannabis and other illicit drugs among French students.
http://www.espad.org/Uploads/ESPAD_reports/2011/The_2011_ESPAD_Report_FULL_2012_10_29.pdf

[70] http://content.time.com/time/world/article/0,8599,1823730,00.html

[71] http://www.theguardian.com/society/2009/jan/29/alcohol-children-binge-drinking-france

[72] http://www.thelocal.fr/20131003/france-drinking-smoking-alcohol-cigarettes-alcoholism

[73] http://www.ias.org.uk/What-we-do/Publication-archive/The-Globe/Issue-2-2004-amp-1-2004/The-Loi-Evin-a-French-exception.aspx

[74] http://www.independent.ie/business/technology/ireland-is-moving-away-from-live-tv-but-no-one-will-admit-it-34274099.html

> "*Does it matter whether TV content is live or not? To many people it doesn't. …….. But for advertisers, which fund RTE, TV3, UTV and a host of other broadcasters, it makes all the difference in the world. And their visibility has plummeted with Irish audiences in the last two years.*" (DKM emphases)

This is matched by international trends. 2016 data from the US indicates that:

> "*Teens (12-17) watched 14 hours and 18 minutes of traditional TV per week in Q2, a rather large 13.5% drop year-over-year and a 36.2% contraction over the past 5 years;*
> *Older Millennials (25-34) watched 20 hours and 56 minutes per week in Q2, a 5.5% decrease year-over-year (up from 3% in Q1) but a more expansive 25.6% drop over 5 years*"[75].

Note this US report includes Pay-Per-View in its definition of traditional TV.

Likewise in the UK:

> "*Young viewers are driving the drop in time spent watching TV. Since 2010, viewing on traditional TV dropped by over a quarter among 16-24 year olds and children, and by 19% for those between 25-34 year olds. Worryingly for traditional broadcasters, viewers between 35 and 44 year olds also reduced their time spent watching traditional TV by a substantial 17% in the last 5 years.*" [76]

In summary, young people, the main targets of the proposed restrictions on broadcast advertising, are the group in society least likely to consume such advertising, which again raises the question of the likely effectiveness of the proposals.

6.3 Impact on the Market

6.3.1 Impact on Producers

The Bill would impose significant restrictions on the capacity of alcohol firms to advertise and promote their products, across a number of dimensions. In particular:

- The contents of alcohol advertisements would be limited to images of and references to the product itself, physical characteristics, how it may be drunk, its origin, strength, method of production, price and brand. This would on the face of it exclude most advertisements currently being used in Ireland – certainly in the broadcast media.
- The requirement to include warnings on the danger of alcohol consumption, similar to the labelling requirements, and the power of the Minister to specify the form, colour and duration of such warnings.

[75] MarketingCharts, 2016, *The State of Traditional TV: Q2 2016 Update*, http://www.marketingcharts.com/television/are-young-people-watching-less-tv-24817/
[76] Business Insider UK, 2016, *More young people are watching less traditional TV*, http://uk.businessinsider.com/more-young-people-are-watching-less-traditional-tv-2016-7?r=US&IR=T

- The ban on alcohol advertising at sports events.
- The 20% restrictions on alcohol advertising in print media, which would also apply to imported publications.
- The power of the Minister to effectively ban price-based alcohol promotions.

In particular, new entrants to the market, whether they be domestic start-ups, overseas firms seeking to enter the market, or more established firms seeking to launch a new product, would be severely restricted:

- They would be unable to undertake promotions, which are a relatively low cost means of marketing or test marketing low volume or novel products.
- The 20% restriction might mean that new entrants are "squeezed out" of print media advertising, particularly in a highly concentrated market such as Ireland.
- Broadcast advertisements would have to be significantly adapted for the Irish market – producers would likely have to develop an entirely different advertisement for Ireland, which might undermine the commerciality of certain products given the modest size of the market.

The cumulative impact would on the face of it be to favour large, established incumbents, at the expense of smaller indigenous firms and overseas firms, as the latter's capacity to promote their products would be severely restricted.

The proposals would impact especially on spirits producers, since they are already banned from advertising on the broadcast media in Ireland, and are therefore particularly dependent on outdoor advertising.

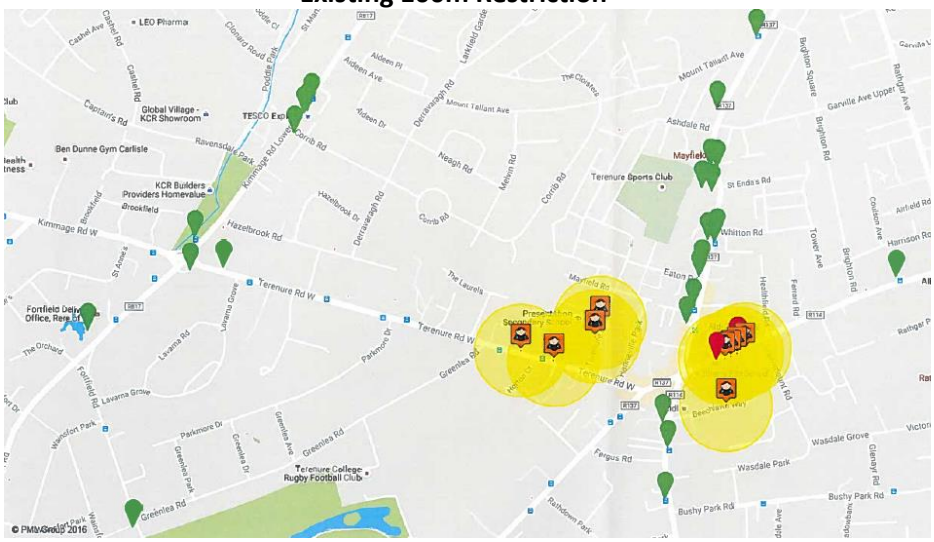
The ban on outdoor advertising within 200 metres of the *perimeter* of a school or childcare facility compares with the current voluntary code of practice, which enforces a ban within 100 metres of the school *entrance*. This change increases the area of the "cordon sanitaire" from just over three hectares to a minimum of over 12.5 hectares, and in reality significantly more depending on the size of the facility in question[77]. In an urbanised environment with a high density of schools, this could put a significant proportion of the urban area effectively off-limits for outdoor alcohol advertising. This is demonstrated by the following graphic, which shows the impact of the proposed 200m restriction compared to the existing 100m restriction, on the number of locations where outdoor alcohol advertising would be allowed in the Terenure district of Dublin. The evidence base for this extension is not presented.

[77] For instance, if the school or childcare facility in question occupies an area 100 metres in diameter, then the cordon sanitaire would enclose almost 20 hectares; if it occupies an area 200m in diameter then it encloses 28 hectares.

Figure 6.1: Comparison of Impact of 200m and 100m Outdoor Advertising Restrictions on Allowed Advertising Locations in Terenure, Dublin

Proposed 200m Restriction

Existing 100m Restriction



Source: Outdoor Advertisers of Ireland

We note that advertising would be allowed on vehicles delivering alcohol products. Since these are mobile, they can in effect circumvent the restrictions on outdoor advertising, for those products that have a sufficiently strong market position to justify advertising on the sides of delivery vehicles. Again, this would favour domestic incumbents vis à vis those with a small market share (notably start-ups and overseas firms).

Combined with the tighter restrictions on print media, the proposals would further reduce the scope for new and innovative spirits producers to promote their products in the Irish market. This is **notably relevant for the Irish whiskey industry**, which having been highly concentrated for many decades is now

seeing a significant number of new producers[78]. By definition, these must produce in Ireland, and they face a challenge to differentiate their product from the dominant incumbents, which would be made significantly more difficult by these proposals.

Ireland is currently **a popular test market for alcohol products**, as a small, English-speaking market with an already highly-developed regulatory structure. Large established firms use the Irish market to test products, before extending their launch to larger markets. Recent high profile examples include:

- Diageo's Hop House 13 craft-style beer, developed and brewed in Dublin, which was successfully launched in Ireland and at the time of writing is being extended to the UK[79].
- Heineken Light, a low alcohol and low calorie beer, available in the US for a number of years, which has been launched in Ireland before a full launch in Europe[80]. The draft beer is brewed in Ireland while the bottled and can versions are imported.
- Jameson Caskmates, an innovative whiskey product aged in craft stout casks, which has been developed and test-marketed in Ireland and since been launched globally[81] (see Box 6.2 overleaf).

There would be a question mark over whether this aspect of the Irish market would survive these proposals, which would have a detrimental impact on more innovative firms in Ireland and internationally seeking to test out their new products here.

6.3.2 Impact on the Media

Audio-visual Media

Another economic sector that would be adversely affected by the proposals is the advertising sector. The alcohol industry is a significant advertiser in Ireland, spending approximately €29 million on buying media space in 2015[82], mostly on TV. A further approximately €5 million per annum is spent on creation/production of advertising. With the proposed restrictions on advertising and marketing of alcohol, the number of ads being produced and broadcast for the Irish market would be reduced.

Significant numbers of people are employed producing advertisements of various sorts for the industry, either directly in the alcohol firms themselves, in the advertising agencies, or in the supporting sectors such as audio-visual production, printers, technical staff, actors, and so on.

[78] http://www.thejournal.ie/craft-whiskey-ireland-2339012-Sep2015/ ; http://www.thespiritsbusiness.com/2016/01/top-10-new-irish-whiskey-distilleries/
[79] http://barmagazine.co.uk/guinness-to-roll-out-new-lager-after-success-in-ireland/
[80] http://www.drinksindustryireland.ie/heineken-lights-exclusive-irish-launch/
[81] http://www.drinksint.com/news/fullstory.php/aid/5612/Beer-finished_Jameson_Caskmates_launches.html
[82] Carat Ireland, quoted in Department of Health Regulatory Impact Analysis.

Box 6.2: Jameson Caskmates*

The Irish whiskey industry is going through major expansion, with projected investment of €1 billion being made in Ireland between 2015 and 2025. Five years ago, Irish Distillers was one of four distilleries operating on the island; it is now one of 12 operational distilleries with another 20 set to open in the next few years. The Irish Whiskey Association projects global sales to grow to 12 million cases by 2020 and double to 24 million cases by 2030. This represents a major opportunity for this indigenous industry to once again take its place among the largest whiskey producers in the world, complete with investment and job creation across Ireland.

The Caskmates innovation arose as a collaboration between Irish Distillers and a local craft brewer of stout in Cork, Franciscan Well Brewery. Normally Irish whiskey is matured in barrels that have been seasoned with other whiskey (e.g. bourbon) or with wine/fortified wine (e.g. sherry, port, etc). The use of beer-seasoned barrels was quite novel.

Initially Irish Distillers pilot-tested 3,500 bottles in Ireland in key on- and off-trade accounts – to gauge customer reaction and refine the product. The results exceeded expectations – quickly selling out with requests for more. Taking on board the insights and feedback from this first test, the innovation team made some minor refinements before scaling up for a global launch.

In the first year, Jameson Caskmates reached the 100,000 case milestone (9-litre case equivalent, or 12 x 700ml bottles). Some 25 export markets were selected with a global roll-out in July 2016.

Jameson Caskmates is ranked as a Top 4 Innovation (Nielsen, Value May 2016) in the US – a market where thousands of new spirits are launched every year. Jameson Caskmates won Gold in the World Whiskey Awards (February 2016, Stage 1) for the best Irish blended, non-aged whiskey.

Being able to use Ireland as a test market meant investment into the local economy, from collaborating with a local craft brewery and giving it access to a global platform, to purchasing goods and services including advertising spend in the local economy.

Pilot tests on a small scale facilitate learning opportunities to gain feedback and refine products, as well as minimising risk and providing statistical evidence to support scaling up.

*Data provided by Jameson

The scope for Irish agencies to bid for work with multinational alcohol producers operating in Ireland would likely be severely reduced, as such ads would not be run in Ireland and marketing decisions would be made outside of Ireland. A case in point is Heineken, which is a major procurer of audio-visual advertising content aimed at an international market, commissioned from the Irish sector. Recent examples include campaigns centred around the Rugby World Cup[83], and the European launch of Heineken Light[84], as well as the advertising campaign for Orchard Thieves cider.

Going forward, the restrictions on the alcohol market could have a negative impact on the capacity of the Irish advertising sector to grow, and for new firms to emerge.

[83] http://www.adworld.ie/2015/07/17/rothco-delivers-global-rugby-world-cup-ad-heineken/
[84] http://www.adworld.ie/2016/04/29/rothco-creates-global-campaign-heineken-light/

Domestic Broadcasting

In addition, the broadcast media content paid for by alcohol advertising revenues would also be under threat, as the overall Irish broadcast advertising market would shrink. Sector sources indicate that, because of the way the Irish broadcast advertising market works (length of advertising slots are limited by regulation) and the balance of supply and demand in the market, loss of a large source of demand would depress prices across all ads. As a result, the loss of revenue for broadcasters would be more than the value currently directly attributable to alcohol advertising.

Thus Irish-based TV and radio stations would earn less advertising revenues, and would have fewer resources to produce or buy programming content. As a result, their competitive position vis à vis overseas broadcasters would be weakened and over time their market share would be under threat. Sector sources indicate that alcohol advertising revenues for RTÉ as they stand currently would translate into 120 hours of domestically-produced TV content. More content would also be dependent on alcohol advertising revenues on other domestic channels.

Overseas Broadcasters & the Internet

Some broadcast advertising activity aimed at the Irish market could potentially migrate to overseas channels, to circumvent the Irish regulations[85]. Overseas channels already have a significant market share in Ireland - non-terrestrial Irish channels currently hold approximately 52% of the Irish TV market[86].

The main commercial channels – including Sky, UTV and Channel 4 - have Irish "opt outs"[87], and the alcohol ads run on these opt outs have tended to comply with Irish regulations. However, future compliance would be uncertain if regulations became significantly more restrictive.

Some advertising might also migrate to the internet and social media. Although such advertising is increasingly becoming personalised, and there is a significant degree of regulation in place for established media channels (such as Facebook and YouTube), the nature and rapid evolution of the digital media sector make it difficult to regulate unilaterally.

Print Media

One can also foresee detrimental impacts on the print media market, as imported publications would be required to abide by the 20% rule and other restrictions, which are not imposed in their domestic markets. Retail sources indicate that approximately 75% of the volume of magazines sold in Ireland

[85] Similar has been reported as happening in the past in other EU countries (http://alcoholireland.ie/home_news/sweden-calls-for-an-end-to-alcohol-advertising-on-national-television/).
[86] TAM Ireland February 2016 data. (http://www.tamireland.ie/box-clever/tv-basics/share-and-reach).
[87] http://www.irishtimes.com/business/media-and-marketing/long-tail-of-multichannel-tv-hurts-irish-broadcasters-1.1980796

are imported, and that for these publications their Irish sales would represent less than 10% of total sales.

The proposed regulations would force separate print runs for the Irish market, which is burdensome and might render publications with a small Irish circulation unviable in the Irish market, forcing them to exit the market. Again, well-established domestic publications would have their competitive position reinforced.

Employment Implications

In all, we estimate that approximately 275 jobs are dependent on alcohol broadcast advertising in Ireland, throughout the economy (including the broadcast content supported by alcohol advertising). With the level of restriction being proposed on advertising and promotions, the future of this level of employment would be in question.

6.3.3 Impact on Sports & Cultural Events

Professional/commercialised sport is a major international industry, including professional team sports, horse racing, dog racing, etc. In an Irish context elite Gaelic Games can also be included.

Irish audiences consume these sports directly by attending events or indirectly via television/radio (and increasingly social media). These events are supported by and dependent on sponsorship and advertising by a wide range of sectors, including alcohol.

Irish-based events compete for audience with events in other countries (in particular the UK), and already suffer a significant disadvantage in terms of the small domestic market and limited international reach. In this context, proposals to restrict alcohol advertising at such events, or on the domestic media broadcasting them, place them at a further competitive disadvantage vis à vis events based in other countries, which are not subject to such restrictions. With the aid of advertising revenues the latter are in a position to further press home their relative advantage by making their events more attractive to the best competitors and thus to spectators and viewers.

Sponsorship is important for most largescale festivals, events, concerts, etc. in Ireland. These events, many of which are supported by drinks companies in one way or another, have been shown to generate significant economic benefits, in terms of income, employment, local and international tourism, and Exchequer revenues[88].

[88] See for example http://www.dubchamber.ie/news/press-releases/news/display-news/2015/07/02/new-report-shows-value-of-big-events-to-irish-economy ; http://www.businesstoarts.ie/images/uploads/News_Release_Shining_the_light_on_successful_sponsorships.pdf ; http://www.goracing.ie/pics/2012/NUIMREPORT.PDF .

While sponsorship *per se* of events aimed primarily at adults would not be affected by the proposals in the Bill, sponsorship is generally combined with other forms of market activation that could fall foul of the proposed measures.

Sponsorship of events generally involves more than simply "writing a cheque", as companies wish to ensure that their products are associated with professionally run and successful events. Companies can often provide organisational expertise to the events, and can help to maintain standards vis à vis comparable events overseas. They can also for instance provide input into inviting and supporting performers. Event tickets are often used for promotional purposes by the sponsor companies.

"Pouring rights", while beneficial for the drinks companies, are also a means by which event organisers can access temporary facilities (equipment, marquees, etc.) which would only have a short term usage and would not be economical to provide internally, or at least to the same standard.

Discussions with the organisers of a number of events indicate that, given the level of support provided by drinks companies, it would not be straightforward to find alternative sponsors of a comparable scale who would have an interest in reaching the same "audience", or have the same event expertise to bring to the event. The gap would have to be filled by increasing ticket prices and/or reducing the quality of the event or facilities.

They also indicate that involvement by drinks companies can actually be beneficial in terms of controlling excessive and/or underage drinking, as the companies are mindful of the reputational aspects of their involvement, and would not want to be associated with such drinking.

6.4 IMPACT ON CONSUMERS

The impact on Irish consumers once again would be negative. Consumer choice would be reduced as the scope for new and innovative products to access the market would be restricted.

While sponsorship *per se* of events aimed primarily at adults would not be affected by the proposals in the Bill, sponsorship is generally combined with other forms of market activation that could fall foul of the proposed measures. Many events are also attractive to teenagers and young adults, so these could potentially be impacted. Marketing industry sources indicate that without alcohol sponsorship of events, ticket prices could increase by 1/3.

Reductions in alcohol broadcasting revenues would adversely impact domestic broadcasters' ability to produce programming, so there would be a reduction of such programming available to consume.

7. STRUCTURAL SEPARATION OF ALCOHOL PRODUCTS IN MIXED TRADING OUTLETS

7.1 PROVISIONS OF THE BILL & OBJECTIVES

The provisions relating to Structural Separation are contained in Article 20 of the Bill. Under this section, mixed retailers would have to confine alcohol sales and advertising to -

(i) a distinct area, separated from the rest of the shop by a physical barrier, outside of which alcohol and alcohol advertisements would be "not readily visible", and through which customers would not have to pass to access other non-alcohol products, or

(ii) a single point of sale containing a storage unit for alcohol, not accessible to the public, through which alcohol products would not be visible when closed, and with no advertising thereon, or

(iii) one or more adjacent storage units for alcohol, through which products or advertising would not be visible when closed.

For convenience in what follows we refer to these three options as "separate area", "point of sale" and "storage unit" options respectively.

It is noteworthy that the provisions of Section 20 would not apply to pubs, or to off-licences in which sales "comprise wholly or mainly alcohol products".

Objectives

The RIA sets out the objectives of Section 20 as follows:

"Alcohol is not an ordinary consumer product and this is recognised by the State through a licensing system and a specific excise tax. However, when it comes to mixed retail outlets, e.g. supermarkets and convenience stores, it is frequently displayed like a regular grocery item. The regulation of the way it is displayed for sale it (sic.) *is an important mechanism to highlight the harm it can cause and protect children from overexposure."*

The RIA further notes that the section mirrors similar provisions in Section 9 of the 2008 Intoxicating Liquor Act, which was not commenced. The current proposals differ from Section 9 of the 2008 Act in that:

(i) under the separate area option, alcohol was also to have been paid for in the area;

(ii) under the point of sale and storage unit options, wine was excluded from the provisions.

The objectives of the latter are listed in the RIA as follows:

- *"access to alcohol products would be controlled in premises to which it applies;*
- *alcohol products could not be displayed near grocery products, thereby discouraging the purchase of alcohol products as part of everyday household grocery shopping;*
- *separate display of alcohol products would make them less visible to children."*

Further: "From a policy perspective the key is that alcohol products will no longer be displayed like 'every day', 'ordinary' products." It is an objective of the section, therefore, to "denormalise" the purchase of alcohol.

7.2 LIKELY EFFECTIVENESS

The proposals in Section 20 would make it less convenient to buy alcohol products in supermarkets, convenience stores and forecourts, and make them less visible to children and others. However, the important question is how they would contribute to the over-arching objectives of reducing harmful consumption of alcohol.

No evidence is provided that this would be the case, in the RIA. While it is conceivable that consumers in some rural areas would reduce consumption through sheer lack of access to retail outlets selling alcohol, this would not affect the majority of consumers, and on the face of it is unlikely to deter those who currently consume alcohol to excess.

7.3 IMPACT ON THE MARKET

7.3.1 Impact on Producers

The Structural Separation provisions in the Bill, in common with many of the other proposals can be seen as having an impact on new products seeking to build a market share in Ireland, vis à vis more established brands. They would not be as readily visible to consumers, and indeed may be "squeezed out" by more established products, if the proposals lead to a reduction in the total amount of retail space available to alcohol, which on the face of it is likely.

This is likely to have more of an impact on wine than on other categories, as consumers generally spend more time "browsing" for wine, than is the case for instance with beer[89]. The inconvenience imposed by the structural separation proposals, particularly on smaller convenience stores, may cause consumers to stick with well-known brands, to the detriment of newer or less well-known brands.

[89] Solomon MR, et al., 2013, *Consumer Behaviour: Buying, Having, Being*, Australia: Pearson, indicates that supermarket consumers spend more time browsing for wine and spirits than for Beer and RTDs. https://books.google.ie/books?id=ajDiBAAAQBAJ&pg=PA254&lpg=PA254&dq=consumers+spend+more+time+browsing+for+wine&source=bl&ots=ewWOJz2kMN&sig=nN29bLMtQ4NJ8COa5MeEs1eAyaY&hl=en&sa=X&ved=0ahUKEwiezNOQ3MPOAhVKI8AKHX-2AogQ6AEIIDAA#v=onepage&q=consumers%20spend%20more%20time%20browsing%20for%20wine&f=false

7.3.2 Impact on Retailers

Section 20 of the PHAB would have obvious implications for mixed off-licence retailers. The Responsible Retailers of Ireland 2015 *Seventh Compliance Report*[90] indicates that its membership accounts for 2,616 stores with off-licences, of which 1,554 are full licences and 1,062 are wine only licences. Membership ranges from the "symbol" convenience stores to the large multiples, and would include the large majority of off-licences in the country. Some 1,600 of them are also members of the Convenience Stores & Newsagents Association (CSNA), and could be considered to be the smaller retailers of alcohol.

Large mixed retailers (i.e. supermarkets), generally already have a separate alcohol section, but would have to invest in physical barriers and other arrangements to ensure that alcohol products are not visible from the rest of the shop, and that customers can avoid passing through the alcohol section to access other parts of the store.

The implications for smaller mixed retailers (convenience stores), which do not have a physically separate alcohol sales section, are potentially greater: they would either have to invest in separate closable storage units, or find room for a storage unit behind the counter. In the latter case, a staff member would be required to physically hand alcohol products out to customers, which would have implications for staffing and payroll costs, given the long opening hours for such shops.

The range of alcohol products might have to be reduced as the shelf space available would fall. The impact would be particularly marked in smaller retail outlets, which are likely to opt for the point of sale or storage unit options. In these cases, products would be even less visible and accessible to the consumer, and the scope for introducing new products would be further reduced, as retailers would be likely to concentrate on "tried and trusted" brands. The inability to browse without assistance would likely make such retailers less attractive for customers.

At the margin some small shops might find that it was not commercially worthwhile to continue selling alcohol, which in turn would negatively undermine their overall business. A recent quote from the then Minister for Health in a trade magazine is informative in this regard:
"Minister Varadkar also suggested that should structural separation be introduced, 'it might be the case that some retailers decide that they do not make all that much money out of the alcohol anyway and it is not worthwhile continuing to stock it. If that is the case, that is not necessarily a bad thing.'"[91]

[90] http://www.rrai.ie/_fileupload/7813%20RRAI%207th%20Compliance%20Report_03.pdf
[91] Checkout Magazine April 2015, Varadkar: Government 'Will Engage With Retailers To Discuss Structural Separation'. http://www.checkout.ie/varadkar-government-will-engage-with-retailers-to-discuss-structural-separation/15404

Many retailers in small villages in Ireland struggle to maintain commercial viability and are vulnerable to ongoing leakage of business to larger towns and cities. If loss of revenue as a result of lost alcohol sales undermines these businesses, then there would be a more significant loss of consumer choice and amenity for rural dwellers.
The fact that these provisions only apply to mixed retailers and not to pubs or standalone off-licences can be seen as being in line with the objective of denormalising purchasing of alcohol. In doing so however, the Bill would give a competitive advantage to pubs and stand-alone off-licenses vis à vis mixed retailers. The latter have obtained licenses under the current regulatory regime, and have invested in their alcohol sales business in good faith. This investment is now being undermined, and could be seen as an unwarranted interference in the marketplace.

By the same token, the on-trade and stand-alone off-licences would on the face of it be net beneficiaries of the structural separation proposals. It is noteworthy also that pubs and stand-alone off-licenses are free to sell a range of other goods, so long as the majority of sales are of alcohol. This further advantages them vis à vis mixed retailers.

7.4 IMPACT ON CONSUMERS

Consumers would likely be negatively impacted in a number of ways:

a) In the first instance it is likely that at least some of the costs imposed on retailers would be passed on.
b) There would likely be a reduction in choice of product, as physical shelf space may be reduced.
c) There would be the inconvenience of entering physically separate sections of shops or having to have their purchases handed to them over a counter.

Another important consumer impact relates to people living in **rural areas, who depend on local convenience stores for at least part of their retail requirements**. Ireland, as well as having a low population density by European standards, has a relatively dispersed one: The EU Commission indicates that in 2014 some 43.5% of Ireland's population lived in thinly populated areas; this is the 7th highest among the EU28, and compares to an EU28 average of 27.8%[92] [93].

In these circumstances, the **loss of consumer choice at a local level can have a significant negative impact**. Firstly, while car-owning rural residents can by-pass their nearest retailer to access larger urban areas and other retail options,

[92] http://ec.europa.eu/eurostat/documents/2995521/7020151/3-05102015-BP-EN.pdf/bf18a8b3-998c-476d-b3af-58292b89939b

[93] Using a slightly different definition (areas having less than 1,500 inhabitants), the CSO Census 2011 indicates that some 38% of the population of Ireland lives in rural areas.
http://www.cso.ie/en/media/csoie/census/documents/census2011vol1andprofile1/Census,2011,-,Population,Classified,by,Area.pdf

a proportion would not have this option, and thus would suffer a permanent loss of choice. As stated already, many small village retailers struggle to achieve commercial viability and are vulnerable to ongoing leakage to larger towns and cities. If loss of revenue as a result of lost alcohol sales undermines these businesses, then there would be a more significant loss of consumer choice and amenity for rural dwellers.

8. CONCLUSIONS

This report has described and assessed each of the main regulatory proposals of the Public Health (Alcohol) Bill (PHAB), namely:

1. minimum unit pricing (MUP).
2. health labelling of alcohol products;
3. restrictions on advertising, sponsorship and promotion of alcohol; and
4. structural separation of alcohol products in mixed trading outlets.

Assessment has been by reference to:

- what the objectives of the proposals are, and their likely effectiveness,
- what the impacts on the market would likely be, and
- what the impacts on consumers would likely be.

The **objectives** of the Bill, informed by the Regulatory Impact Analysis (RIA) and other documents can be summarised as:

- reducing alcohol consumption in general (the 2012 *Steering Group Report on a National Substance Misuse Strategy* indicates a target of reducing per capita consumption to the OECD average of 9.1 litres of pure alcohol per capita by 2020);
- reducing alcohol-related harm;
- specifically discouraging the "heaviest" and at risk drinkers from drinking; and
- specifically discouraging children and young people from drinking, or at least delaying the onset of their drinking.

This report has analysed the proposed measures, in terms of **likely effectiveness** to achieve their objectives, looking at actual experience in other countries. We find that the evidence base is weak and in many cases contradictory that the measures being proposed in the PHAB – MUP, labelling, marketing/advertising and structural separation - would deliver on their objectives.

The potential **market impacts** of the measures are substantial and negative. They would impose additional costs on producers, and these costs would impact more substantially on overseas producers, as well as on small local producers, new market entrants and smaller and rural retailers.

The **wider economy** would also be negatively impacted, notably the advertising and marketing sector, and indigenous broadcasters, by measures such as the advertising restrictions and TV and radio watersheds.

By the same token, the impact on large, well-established producers would likely be relatively limited, except insofar as their propensity to launch new

products in or use Ireland as a test market. Innovation in the Irish market would likely be stifled, as new product launches or test launches (such as Heineken Light or Hop House 13) would be impacted.

The impacts of **MUP** warrant specific analysis. MUP would force up prices of alcohol in the off-trade substantially. The increased revenues would be partially captured by the Exchequer in the form of increased VAT receipts, with the balance shared between producers, distributors and retailers, probably according to their relative market power. The on-trade might also capture some benefits if consumers migrate away from the relatively more expensive off-trade.

Large retailers would likely be in a position to gain the largest share, along with large well-established producers (retailers might pass some of the gain back to consumers on other product lines). Small producers and overseas producers would be less likely to benefit.

Consumers, particularly less well-off consumers, would unequivocally lose as MUP and the other measures would drive up prices. MUP and the other measures would also likely lead to reduced choice as overseas producers and new entrants exited or did not enter the Irish market.

As prices would rise the cost of living would also go up, negatively impacting in Ireland's international competitiveness.

Cross-border considerations are also relevant. Implementation of MUP without concomitant implementation in Northern Ireland, would aggravate the negative impacts for the Irish economy, with no benefit in terms of reduced alcohol consumption or harm. It is clear from historic experience and the recent weakening of Sterling that Irish consumers are prepared to cross the border to take advantage of price differentials.

There is also a clear **Single Market** concern around the proposed measures at EU level, as evidenced by the number of comments or detailed opinions made by Member States as part of the recent TRIS process. This raises questions regarding the implementability of the measures as currently formulated in the Bill.

Given these negative impacts, and the lack of evidence of the effectiveness of the proposed measures in terms of their stated objectives, in the context of the long term downward trend in alcohol consumption and youth drinking in Ireland, we conclude that the measures in question are not justified.

APPENDIX A: IMPORTS OF ALCOHOL INTO IRELAND

Based on CSO trade data, this Appendix examines the monetary value, volume level and origin of alcoholic goods imported into Ireland in 2015, considering EU and non-EU imports separately (UK included in EU).

We would draw the readers' attention to the following with respect to this data:

- These trade data differ somewhat from the volumes of imported alcohol per the Revenue Commissioners' excise duty data, presented in Chapter 2 of this report, reflecting the fact that the latter records releases from bond (as well as some direct imports).
- Data on the origins of product also differs from some industry-sourced data, notably for wine, because the CSO data records where the produce was invoiced from rather than its geographic origin and a proportion of product is invoiced from intermediate countries (notably the UK).
- Litres represents litres of product, not litres of pure alcohol.
- Value is price invoiced to the importer excluding Irish taxes, and may include transport costs.

A1. EU Imports

The CSO trade statistics indicate that in 2015 Ireland imported a total of €308.2 million worth of alcohol products from the EU-28. In terms of volumes, this equates to 176.6 million litres of product. The UK is the largest source of imports, followed by France.

Table A1: Ireland's top ten EU Import Sources for Alcoholic by € and litres, 2015

Ranking	Origin	€ (millions)	% Split of €	Litres (millions)
1	Great Britain	€85.6	27.8%	58.8
2	France	€73.8	23.9%	29.0
3	Italy	€35.4	11.5%	11.7
4	Germany	€28.0	9.1%	15.0
5	Northern Ireland	€24.6	8.0%	2.0
6	Netherlands	€24.1	7.8%	37.6
7	Spain	€22.8	7.4%	9.3
8	Portugal	€3.9	1.3%	1.2
9	Poland	€3.1	1.0%	5.4
10	Belgium	€2.4	0.8%	3.6
	Others	€4.6	1.5%	2.9
	Total	**€308.2**	**100%**	**176.6**

Source: CSO

Table A2, presents the data broken down into different product categories. Beer was by far the largest category by volume, while wine is the largest by value.

Table A2: Alcohol Imports from EU by Category, 2015

Category	€ millions	Litres millions
Wine	€133.6	43.3
Spirits	€86.0	8.8
Beer	€79.6	118.9
Cider	€9.0	5.7
Total	**€308.2**	**176.6**

Source: CSO

As seen in Table A3, Ireland imported €33.5 million worth of beer from Great Britain, which accounted for 42% of all EU beer imports. With imports of €22.3 million, the Netherlands is also an important Import source for beer. Ireland's total EU Beer imports were valued at €79.6 million, with Great Britain and the Netherlands alone accounting for 70% of this.

Table A3: Ireland's top ten EU Import sources for beer by € and litres, 2015

Ranking	Origin	€ (millions)	% Split	Litres (millions)
1	Great Britain	€33.5	42.1%	43.3
2	Netherlands	€22.3	28.1%	37.1
3	France	€8.9	11.2%	16.0
4	Germany	€6.0	7.5%	7.5
5	Poland	€2.7	3.4%	5.3
6	Belgium	€2.2	2.7%	3.5
7	Spain	€1.1	1.4%	1.8
8	Czech Rep	€1.0	1.2%	1.1
9	Italy	€0.8	1.0%	1.5
10	Portugal	€0.5	0.6%	0.6
	Others	€0.7	0.8%	1.0
	Total	**€79.6**	**100.0%**	**118.9**

Source: CSO

As seen in Table A4 overleaf, Ireland imported €48.0 million worth of Wine from France, while also importing sizable volumes of Wine from Italy, Spain, and to a lesser extent Great Britain and Germany.

Table A4: Irelands top ten EU Import sources for Wine by € and litres, 2015

Ranking	Origin	€ (millions)	% Split of €	Litres (millions)	Import Price/Litre €
1	France	€48.0	36.0%	11.6	€4.20
2	Italy	€29.7	22.2%	10.0	€3.00
3	Spain	€21.3	15.9%	7.4	€2.90
4	Great Britain	€15.6	11.7%	6.5	€2.40
5	Germany	€14.8	11.1%	6.5	€2.30
6	Portugal	€2.6	2.0%	0.6	€4.60
7	Bulgaria	€0.4	0.3%	0.2	€2.10
8	Netherlands	€0.3	0.3%	0.2	€2.20
9	Romania	€0.2	0.2%	0.1	€2.20
10	Poland	€0.1	0.1%	0.0	€3.10
	Others	€0.3	0.2%	0.1	€2.50
	Total	**€133.6**	**100.0%**	**43.3**	**€2.80**

Source: CSO

Table A5 outlines Ireland top ten EU Import sources for Spirits. Ireland's imports of Spirits from Great Britain amounted to €28.2 million, which was followed closely by Northern Ireland who registered a value of €24.5 million. These two countries alone, account for 61% of all EU Spirits imports. France also registered a reasonably large value, as for the year 2015; Ireland imported €16.8 million worth of goods.

Table A5: Irelands top ten EU Imports partners for Spirits by € and litres, 2015

Ranking	Import source	€ (millions)	% Split of €	Litres (millions)
1	Great Britain	€28.2	32.8%	3.8
2	Northern Ireland	€24.5	28.5%	2.0
3	France	€16.8	19.5%	1.4
4	Germany	€7.1	8.2%	0.9
5	Italy	€4.8	5.6%	0.2
6	Netherlands	€1.3	0.0%	0.2
7	Sweden	€1.3	1.5%	0.3
8	Portugal	€0.8	1.5%	0.0
9	Latvia	€0.4	0.9%	0.0
10	Spain	€0.4	0.5%	0.0
	Other	€0.8	0.9%	0.1
	Total	€86.0	100.0%	8.8

Source: CSO

Finally, Over 90% of cider imports into Ireland are from Britain.

A2. Non EU Imports

Ireland imported €135.7 million worth of alcohol products from non-EU countries in 2015. As seen in Table A6, the leading non-EU source is Chile, followed by Australia and New Zealand. These three accounted for 72% of the total Non EU imports.

Table A6: Ireland's Imports of Alcohol by € and litres, 2015 (Non EU)

Ranking	Import source	€ (millions)	% Split by Value	Litres (millions)
1	Chile	48.4	35.7%	16.0
2	Australia	28.8	21.2%	8.6
3	New Zealand	20.8	15.3%	3.9
4	United States	14.6	10.8%	3.9
5	Mexico	7.4	5.5%	5.9
6	South Africa	6.2	4.6%	2.2
7	Argentina	5.6	4.1%	1.8
8	Ukraine	4.0	2.9%	0.3
	Total	**€135.7**	**100.0%**	**42.8**

Source: CSO

Table A7 breaks the data down into different product categories. Wine is by far the most important category in value and volume, accounting for 79% of all litres imported. Note that, as already indicated, the litres data refer to litres of product rather than litres of pure alcohol.

Table A7: Ireland's Alcohol Imports by Category, 2015 (Non EU)

Product category	€ (millions)	Litres (millions)
Wine	€115.2	34.0
Spirits	€10.5	0.9
Beer	€9.4	7.1
Cider	€0.6	0.8
Total	**€135.7**	**42.8**

Source: CSO

Table A8 outlines the origins of non-EU beer imports. Mexico is by far the largest source, followed by the US.

Table A8: Ireland's Imports partners for beer by € and litres, 2015 (Non EU)

Ranking	Origin	€ (millions)	% Split of €	Litres (millions)
1	Mexico	7.1	75.8%	5.9
2	United States	1.9	19.8%	0.8
3	Australia	0.3	3.7%	0.3
4	Others	0.1	0.8%	0.0
	Total	**€9.4**	**100%**	**7.1**

Source: CSO

As Table A9 indicates, Ireland's non-EU imports of wine are predominantly sourced from Chile. Chile, Australia and New Zealand between them account for 85% of the total.

Table A9: Ireland's Import sources for Wine by € and litres, 2015 (Non EU)

Ranking	Origin	€ (millions)	% Split of €	Litres (millions)	Import Price/litre €
1	Chile	€48.4	42.0%	16.0	€3.00
2	Australia	€28.4	24.6%	8.3	€3.40
3	New Zealand	€20.7	18.0%	3.9	€5.40
4	South Africa	€6.2	5.4%	2.2	€2.80
5	USA	€5.9	5.2%	1.8	€3.30
6	Argentina	€5.6	4.9%	1.8	€3.10
	Others	€0.0	0.0%	0.0	€6.80
	Total	**€115.2**	**100.0%**	**34.0**	**€3.40**

Source: CSO

Ireland's imports of Spirits from outside the EU are almost entirely from the US and Ukraine.

Table A10: Ireland's Import sources for Spirits by € and litres, 2015 (Non EU)

Ranking	Import source	€ (millions)	% Split	Litres (millions)
1	United States	€6.26	59.8%	0.55
2	Ukraine	€3.95	37.7%	0.34
3	Mexico	€0.26	2.4%	0.02
	Others	€0.01	0.08%	0.006
	Total	**€10.48**	**100.0%**	**0.91**

Source: CSO

Finally, over 90% of Ireland's cider imports from outside the EU are from the US.

APPENDIX B: IMPACT OF MUP ON ALCOHOL PRICES

Based on market data from Nielsen, industry sources, the CSO and price surveys, DKM has estimated how MUP would impact on current volumes and market shares of alcohol products, by category and country to the degree possible (based on 2015 data). The findings are summarised in this appendix. Only the off-trade is considered as there would be little if any impact on the on-trade from MUP at the level proposed in the PHAB. As in Appendix A, litres refers to litres of product as opposed to litres of pure alcohol.

B1 WINE

Market data from Nielsen on the wine off-trade in Ireland is available for the general market and for the discounters (Aldi and Lidl). For convenience in what follows we refer to the former as "branded" (although it includes for instance Tesco own-brand wines), and the latter as "unbranded". The market share breakdown of the two is as follows for 2015:

Table B1: Total Off-licence wine Market, 2015

	9 Litre Cases '000s	Litres '000s	Market Share by Volume	Retail Sales Value €'000	Market Share Value
Branded	5,618	50,561	78%	592,898	83%
Unbranded	1,630	14,673	22%	124,967	17%
Total	**7,248**	**65,234**	**100%**	**717,865**	**100%**

Source: Nielsen.

As can be seen, the discounters are estimated to hold a 22% share of the market by volume and 17% by value, and this has been growing rapidly in recent years[94].

Nielsen data gives a detailed breakdown of wine sold in the off-trade in Ireland in 2015, by volume, price and origin. Volumes by origin are given in the table overleaf. While Chile has the largest overall market share, followed by Australia, it is noteworthy that France has the largest market share among the discounters.

[94] http://www.euromonitor.com/wine-in-ireland/report

Table B2: Total Off-licence Wine Market, Origin & Market Share, 2015

	Volumes 9 Litre Cases '000s			Market Share		
	Branded	Unbranded	Total	Branded	Unbranded	Total
Chile	1,380.5	204.2	1,584.6	24.6%	12.5%	21.9%
Australia	1,049.6	188.4	1,238.0	18.7%	11.6%	17.1%
France	812.9	398.9	1,211.8	14.5%	24.5%	16.7%
Spain	679.4	171.7	851.1	12.1%	10.5%	11.7%
Italy	521.5	273.8	795.4	9.3%	16.8%	11.0%
Us	380.5	48.4	428.8	6.8%	3.0%	5.9%
South Africa	244.9	182.2	427.1	4.4%	11.2%	5.9%
New Zealand	297.7	18.0	315.7	5.3%	1.1%	4.4%
Argentina	125.2	30.8	156.1	2.2%	1.9%	2.2%
Germany	49.0	40.0	88.9	0.9%	2.5%	1.2%
Portugal	24.0	2.0	25.9	0.4%	0.1%	0.4%
Rest Of World	52.8	72.0	124.9	0.9%	4.4%	1.7%
Total	**5,617.9**	**1,630.4**	**7,248.2**	**100.0%**	**100.0%**	**100.0%**

Source: Nielsen

B1.1 Branded Wine

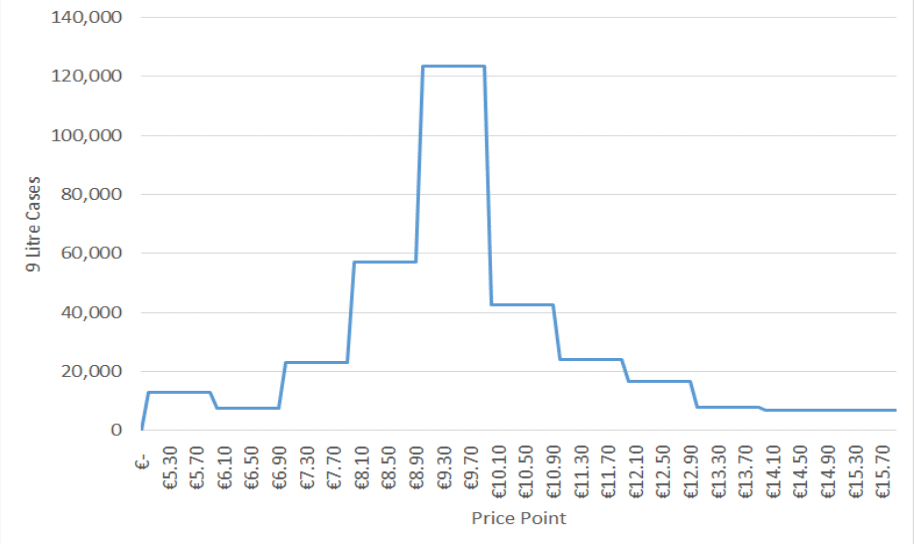
For a sub-set of branded wine (including most but not all retailers), Nielsen also provides a range of price points by country of origin. Price point data on an overall basis is summarised in the following table and the chart overleaf.

Table B3: Wine Off-Licence Trade, Volumes at Retail Price Points (2015)

Price Point (75cl bottle)	9 Litre Cases '000s	Market Share %
€14 plus	133	4.1%
€13-13.99	79	2.4%
€12-12.99	167	5.1%
€11-11.99	241	7.3%
€10-10.99	426	13.0%
€9 - 9.99	1,235	37.6%
€8 - 8.99	571	17.4%
€7 - 7.99	231	7.0%
€6 - 6.99	73	2.2%
€0 - 5.99	127	3.9%
Total	**3,283**	**100.0%**

Source: Nielsen

Figure B1: Wine Off-Licence Trade, Volumes at Retail Price Point (2015)



Source: Nielsen

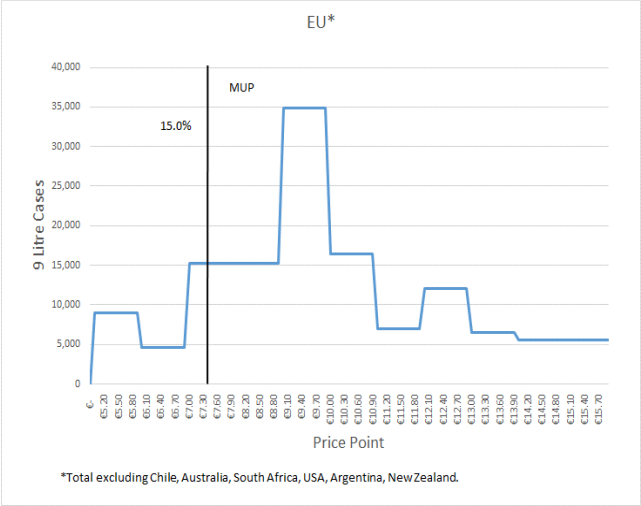
The peak retail price point for wine sold in the off-trade in Ireland is between €9 and €10 per bottle. For comparison, assuming the average wine strength is 12.5% ABV, the MUP would be €7.40 per bottle.

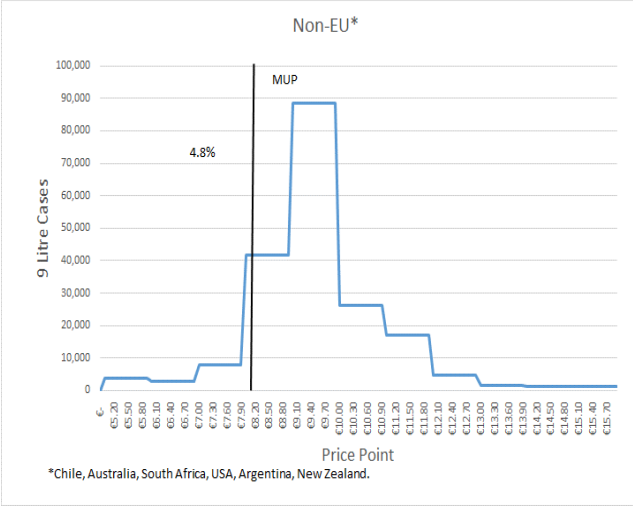
As indicated, Nielsen also provides the above data for each country of origin. Based on this we have estimated the relative impacts on each major producer country, as well as on the EU and non-EU countries as a whole. In summary, for branded wines sold in the off-trade in Ireland:

- Just under 10% would be impacted by MUP as proposed in the PHAB. Assuming no changes in volumes, overall average prices would increase by 1.1%, but for the wines affected, the average price increase would be almost 20%.
- Some 15% of EU wine would be affected by MUP, and the overall average price would rise by 1.8%; for the wines affected prices would rise on average by almost 20%.
- Approximately 5% of non-EU wine would be affected by MUP, and the overall average price would rise by 0.6%; for the wines affected prices would rise on average by 18%.

The proportions of the wine market impacted can be demonstrated graphically in the charts overleaf, for EU wine and non-EU wine. We also summarise the impact at each individual country level, in the table and charts overleaf. The charts also show the MUP price point (vertical line) and the percentage of the total volumes that would be affected by MUP.

Figure B2: Branded Wine Off-Licence Trade Volumes (in 9-litre Cases), at Retail Price Points for 75cl Bottle, & MUP Impact, EU & Non-EU (2015)





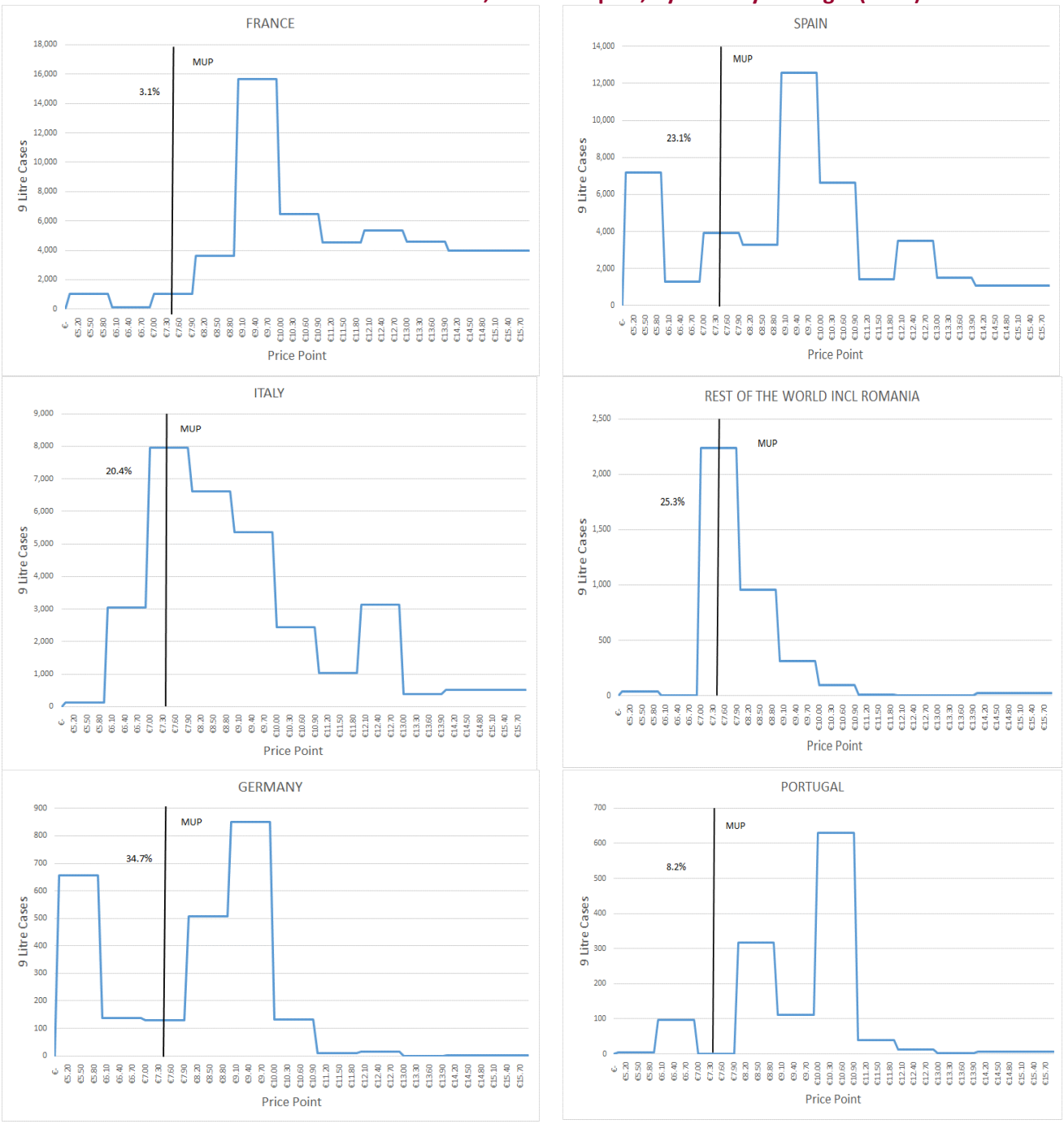
Source: Nielsen, DKM Estimates.

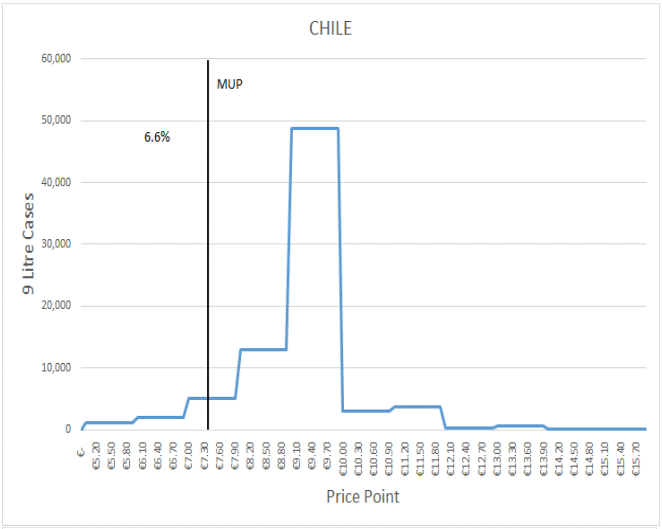
Table B4: Impact of MUP on Irish Branded Wine Market by Country

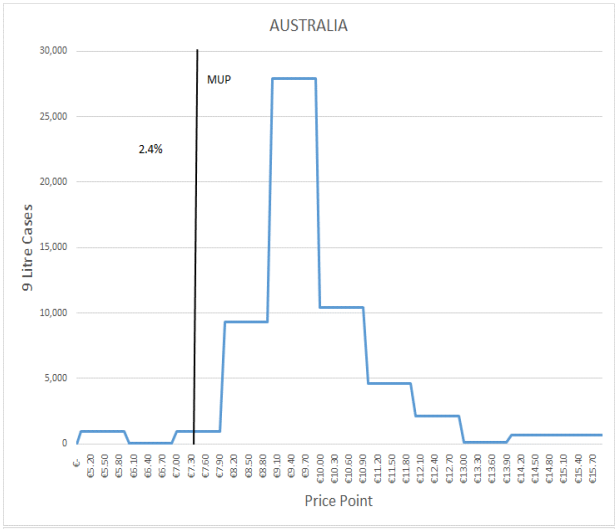
Country of Origin	2015 Volumes 9-Litre Cases	Share of Market %	Impact of MUP			
			Volumes Affected 9-Litre Cases	%age affected by country	Price Increase Overall	Price Increase on affected Product
EU						
France	502,204	15.3%	15,343	3.1%	0.4%	23.8%
Spain	434,221	13.2%	100,339	23.1%	3.9%	26.6%
Italy	311,028	9.5%	63,411	20.4%	1.4%	9.1%
ROW incl Romania*	36,848	1.1%	9,311	25.3%	1.0%	4.4%
Germany	24,370	0.7%	8,445	34.7%	7.3%	29.4%
Portugal	12,257	0.4%	1,003	8.2%	0.8%	15.3%
Sub-Total	**1,320,927**	**40.2%**	**197,852**	**15.0%**	**1.8%**	**19.1%**
Non-EU						
Chile	776,286	23.6%	51,394	6.6%	0.6%	13.7%
Australia	579,105	17.6%	14,048	2.4%	0.4%	24.0%
USA	247,078	7.5%	18,488	7.5%	1.5%	30.6%
New Zealand	200,815	6.1%	276	0.1%	0.0%	35.7%
South Africa	94,216	2.9%	6,012	6.4%	0.4%	7.8%
Argentina	64,907	2.0%	4,657	7.2%	0.5%	10.4%
Sub-Total	**1,962,408**	**59.8%**	**94,875**	**4.8%**	**0.6%**	**17.6%**
Total Market	**3,283,335**	**100.0%**	**292,727**	**8.9%**	**1.1%**	**18.6%**

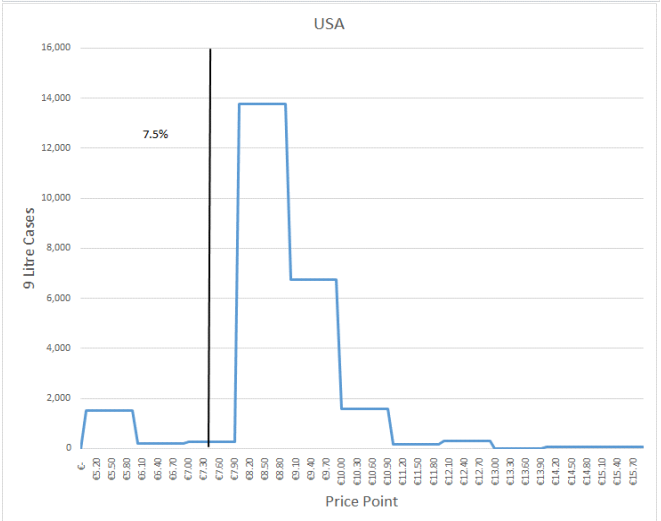
*"Rest of World including Romania". This category is mostly of EU origin, and for convenience is included in the EU category. Source: Nielsen, DKM Estimates.

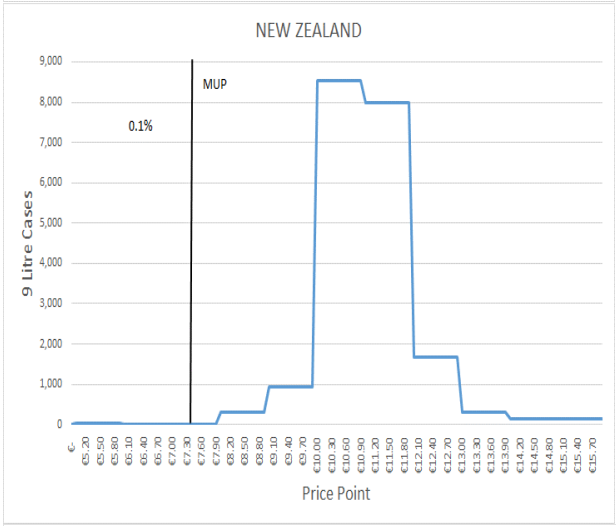
Figure B3: Branded Wine Sold in Off-Licence, Volumes (in 9-litre Cases) at Retail Price Points for 75cl Bottle, & MUP Impact, By Country of Origin (2015)

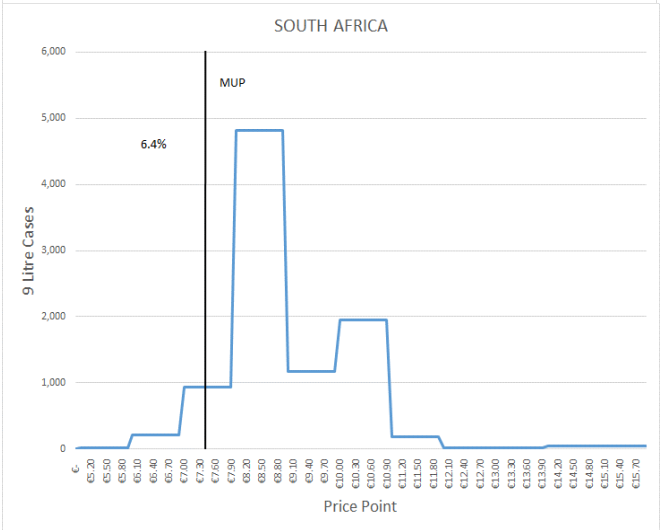


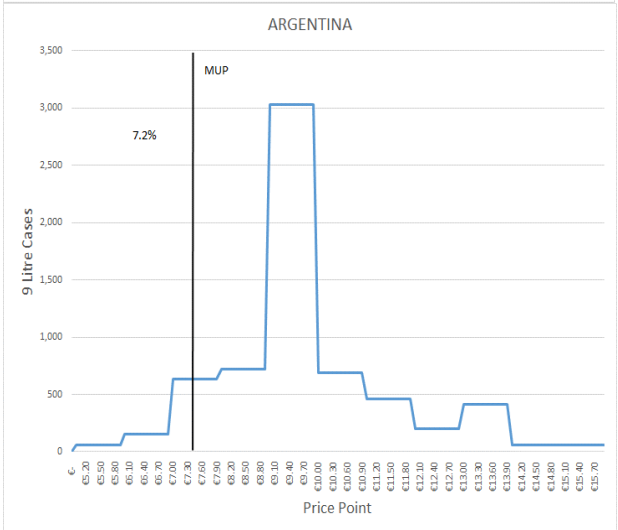












Source: Nielsen, DKM Estimates.

It is clear that the impact per country varies greatly. We estimate that over 20% of wine from Spain and Italy, and over one-third of the wine from Germany would be affected by MUP. Other EU countries such as Romania would also be significantly affected. For the wine that is affected by MUP, the price of Spanish and German wine would increase by 25-30% on average. While only a small proportion of French wine would be affected, for the wine that is affected, prices would likewise rise by approximately 25%.

The proportions of non-EU branded wine that would be affected by MUP are lower, but the price increases facing the wine that is affected are substantial: for Australian and US wine the increase is 25-30% on average.

B1.2 Unbranded Wine

Unbranded wine (i.e. sold by discounters) holds 22% of the Irish off-trade market by volume, and as Table B2 indicates France is the most popular country of origin. EU wine accounts for just under 60% of total volumes of unbranded wine sold in the off-trade in Ireland. This is a reversal of the proportions for branded wine, where roughly-speaking 60% is of non-EU origin.

We do not have a full price point range for unbranded wine as is the case with branded wine, but Nielsen does provide average retail price by country of origin, and we can use this to estimate the average impact of MUP by country of origin and in aggregate, as per the table overleaf. This indicates that:

- Based on average price per country, all except Argentinian and New Zealand wine would be affected by MUP.
- The average overall price increase would be approximately 20%, or €1.30 per bottle.
- German, South African and Chilean wine would be increased by over one-third on average, while US wine would almost double in price.
- French wine, the most popular category, would go up in price by on average over 20%.
- This would add €25 million to the cost of living, before changes in consumer behaviour are taken into account.

Table B5: Impact of MUP on Unbranded Wine Off-Trade, 2015

Origin	9 Litre Cases '000s	Avg Retail Price	MUP	avg price uplift	avg price uplift %	Aggregate Current sales value €'000	Increase in Aggregate Sales Value €'000
Chile	204.2	€5.50	€7.40	€1.90	34.5%	€14,437	€4,979
Australia	188.4	€6.40	€7.40	€1.00	15.6%	€15,501	€2,414
France	398.9	€6.10	€7.40	€1.30	21.3%	€31,286	€6,651
Spain	171.7	€7.10	€7.40	€0.30	4.2%	€15,676	€655
Italy	273.8	€6.70	€7.40	€0.70	10.4%	€23,588	€2,453
US	48.4	€3.80	€7.40	€3.60	94.7%	€2,362	€2,236
South Africa	182.2	€5.50	€7.40	€1.90	34.5%	€12,885	€4,444
New Zealand	18.0	€9.10	€7.40	€0	0.0%	€2,106	€-
Argentina	30.8	€9.00	€7.40	€0	0.0%	€3,567	€-
Germany	40.0	€5.20	€7.40	€2.20	42.2%	€2,673	€1,129
Portugal	2.0	n/a					
Rest Of World	72.0	€6.90	€7.40	€0.50	7.2%	€6,390	€460
Total/Average	**1,630.4**	**€6.10**	**€7.40**	**€1.30**	**19.5%**	**€130,471**	**€25,423**

Source: Nielsen, DKM analysis

This analysis is however by reference to the price averaged for each country of origin, which could hide significant variation within origins. As a check, DKM undertook a price survey of one of the discounters in April 2016, the results of which are presented in the following table:

Table B6: Impact of MUP on Irish Unbranded Off-Trade Wine Market by Country

				Average %age Price uplift	
Origin	**Number of price points**	**Impacted by MUP**	**%age Impacted by MUP**	**Overall**	**For Categories Impacted by MUP**
Chile	6	5	83.3%	26.0%	31.2%
Australia	6	2	33.3%	8.8%	26.4%
France	19	9	47.4%	17.3%	36.6%
Spain	5	2	40.0%	7.2%	18.1%
Italy	12	9	75.0%	15.4%	20.6%
US	2	2	100.0%	26.5%	26.5%
South Africa	2	2	100.0%	21.5%	21.5%
New Zealand	1	0	0.0%	0.0%	0.0%
Argentina	1	0	0.0%	0.0%	0.0%
Germany	1	1	100.0%	37.9%	37.9%
Hungary	2	2	100.0%	21.0%	21.0%
Total	**57**	**34**	**59.6%**	**16.4%**	**27.5%**

Source: DKM product survey.

While not directly comparable, because sales volumes could not be taken into account, the findings of the DKM survey were somewhat different to the Nielsen data, and suggest significant variation in price within country of origin, for unbranded wine:

- Some 34 out of 57 product categories in our survey would be affected by MUP (60%). The overall price uplift would be 16%.
- For the products affected, the average price uplift would be 28%.
- 100% of the US, South African, German and Hungarian, 83% of the Chilean and 75% of Italian wine categories would be affected by MUP.
- As with Nielsen, the only countries not affected by MUP would be New Zealand and Argentina.
- Almost half of the French wines would be affected, and the average price uplift for these would be over 36%. Affected German and Chilean wines would also experience price uplifts of over 30%.
- The results for US wine do not match well with the Nielsen data.

B2 Spirits

Based on market data for the top-selling branded spirits Stock-Keeping Units (SKUs) volumes, and prices in the leading retail chains in Ireland, we have estimated the impact of the proposed MUP measure on the current market for spirits in Ireland. For convenience we categorise sales into branded and unbranded (private label/own brand, and the discounters – Lidl and Aldi)[95]. Unbranded spirits by this definition are estimated to hold 24% of the spirits market in Ireland by volume. Our data is for the 12 months to February 2016, but for convenience we refer to this as 2015.

B2.1 Branded Spirits

Table B7 overleaf presents our analysis of the impact of the proposed MUP measure on the branded spirits market. In summary:

- Just under 25% of branded spirits in the Irish market would be affected by the proposed MUP measures. This varies by product – Irish whiskey for instance would not be affected at all, while 60% of gin and 80% of Scotch would be affected. Over 40% of the most popular category – vodka – would be affected.
- The overall price impact is modest, at 1.5%; however, for those products that are affected, the aggregate price increase is 7.4%.
- At the category level, the degree of price impact varies considerably; most products are modestly affected, but the 25% of American whiskey impacted by MUP would see a more than 40% price uplift, while the 12% of cream liqueurs affected would see prices rise by more than 26%. The uplift in the price of affected vodka would be 6.2%.
- We estimate that this would add approximately €16.5 million to the cost of living (assuming no change in consumer behaviour).

B2.1 Unbranded Spirits

We have likewise analysed the impact of MUP on the unbranded spirits market, in Table B8 overleaf. In summary:

- Unbranded spirits retail at a significant discount to their branded equivalents; while holding 24% market share by volume, we estimate that they hold 17% market share by value.
- Practically all of the unbranded spirits sold on the Irish market would be affected by MUP.

[95] There is some imprecision in this categorisation. For instance, some of Tesco's own brand is included in the branded data, while some of branded products are sold by the discounters.

Table B7: Impact of MUP on Irish Branded Spirits Market by Category, 2015*

Category	2015 Volumes 9-Litre Cases '000s	Share of Market by Volume %	Total Market Value €'000	Impact of MUP				
				Volumes Affected 9-Litre Cases '000	%age affected	%age Price Increase Overall	%age Price Increase on affected Product	Aggregate Increase in Prices €'000
Vodka	427.1	40.4%	€116,820	183.6	43.0%	2.5%	6.2%	€7,242
Irish Whiskey	276.8	26.2%	€93,629	0.0	0.0%			
Gin	58.4	5.6%	€16,498	35.6	60.9%	2.1%	3.8%	€624
Brandy	56.6	5.4%	€25,151	0.0	0.0%			
Cream Liqueur	56.4	5.4%	€9,914	7.0	12.4%	1.8%	26.5%	€2,622
Red Rum	51.8	5.0%	€14,977	0.0	0.0%			
American Whisky	41.3	4.0%	€12,666	10.5	25.4%	7.1%	43.1%	€5,453
White Rum	35.8	3.4%	€9,873	0.0	0.0%			
Scotch Whisky	27.0	2.6%	€7,320	22.4	82.8%	6.0%	7.4%	€540
Other**	24.7	2.4%	€7,292	0.0	0%			
Total Market	**1,056.0**	**100.0%**	**€314,139**	**259.1**	**24.5%**	**1.5%**	**7.4%**	**€16,482**

*Data are for the year to February 2016. **Liqueurs, schnapps, etc.

Sources: various industry sources, DKM analysis.

Table B8: Impact of MUP on Irish Unbranded Spirits Market by Category, 2015*

Category	2015 Volumes 9-Litre Cases '000	Share of Market by Volume %	Total Market Value €'000	Impact of MUP				
				Volumes Affected 9-Litre Cases '000	%age affected	%age Price Increase Overall	%age Price Increase on affected Product	Aggregate Increase in Prices €'000
Vodka	128.0	37.6%	€22,889	128.0	100%	49.6%	49.6%	€11,351
Irish Whiskey	40.3	11.8%	€10,229	40.1	100%	11.2%	11.3%	€1,148
Gin	22.9	6.7%	€4,234	22.9	100%	52.6%	52.6%	€2,227
Brandy	33.6	9.9%	€6,858	33.6	100%	39.1%	39.1%	€2,685
Cream Liqueur	22.1	6.5%	€2,537	20.6	93%	12.4%	14.1%	€315
Red Rum	10.3	3.0%	€2,146	7.9	77%	30.3%	42.3%	€650
American Whisky	13.7	4.0%	€2,699	13.7	100%	44.3%	44.3%	€1,196
White Rum	22.8	6.7%	€3,551	22.8	100%	78.1%	78.1%	€2,774
Scotch Whisky	42.2	12.4%	€8,570	41.5	99%	40.8%	42.1%	€3,496
Other**	4.5	1.3%	€673	3.2	72%	36.8%	66.7%	€248
Total Market	**340.5**	**100.0%**	**€64,386**	**334.5**	**98%**	**40.5%**	**41.5%**	**€26,089**

*Data are for the year to February 2016. **Liqueurs, schnapps, etc.

Sources: various industry sources, DKM analysis.

- The impact on prices would be very substantial – approximately a 40% uplift overall. However, vodka – which has the largest share of the unbranded market would see an increase in price of 50% while white rum would see a price increase of almost 80%. The least affected category – Irish whiskey - would see prices uplifted by approximately 11%.
- Overall, we estimate that MUP as it affects unbranded spirits would add €26 million to the cost of living (assuming no change in consumer behaviour).

Overall, the impact of MUP as proposed on the spirits off-trade would be to add €43 million to the cost of living (before taking into account changes in consumer behaviour). It is clear also that the impact would be greater on imported spirits than on Irish-produced spirits – Irish whiskey is the least affected category of spirits.

B3 Beer & Cider

B3.1 Branded Beer & Cider

We have obtained a list of the top 60 branded beer and cider categories (product and packaging configurations) in the Irish market in 2015, so, for example, Budweiser is listed under the following configurations:

BUDWEISER BOT,300ML 20PK
BUDWEISER CAN,500ML
BUDWEISER CAN,500ML 12PK
BUDWEISER CAN,500ML 8PK

This list was then matched with prices in the leading supermarkets, as of April 2016. The prices were then checked versus the proposed MUP for the product, to determine the impact if MUP were introduced.

Unfortunately we do not have access to the relative market shares of those product categories, and so cannot estimate weighted averages or impact on the cost of living of MUP. We can only estimate simple averages of the impacts.

Overall, we found that 37 of the 60 top beer and cider product categories would experience a price increase under MUP, ranging from a few percent or less, to over 60% in some instances. The simple average price uplift across the total range would be just under 20%, while the simple average price uplift for those products affected by MUP would be 30%. Differentiating between beer and cider, our findings can be summarised in the following table. It is clear that cider would be more impacted than beer by MUP.

Table B9: Branded Beers & Cider Impact of MUP

	Product Categories			Simple Average %age Price Uplift	
	Total	Impacted by MUP	%age Impacted by MUP	Overall	Categories Impacted by MUP
Beer	48	28	58.3%	13.4%	22.9%
Cider	12	9	75.0%	40.4%	53.9%
Total	**60**	**37**	**61.7%**	**18.8%**	**30.4%**

Source: Nielsen, various retailer websites, DKM analysis.

In terms of origin, all of the top 60 branded beer/cider categories originate in the EU. As indicated in Chapter 2, approximately one-third of the beer consumed in Ireland is imported. The following table summarises the impact of MUP by country:

Table B10: Branded Beers & Cider Impact of MUP by Country

	Product Categories			Simple Average %age Price Uplift	
	Total	Impacted by MUP	%age Impacted by MUP	Overall	Categories Impacted by MUP
Ireland	26	15	57.7%	15.2%	26.4%
UK	14	10	71.4%	26.0%	36.4%
Poland	8	7	87.5%	25.1%	28.6%
Netherlands	3	2	66.7%	22.2%	33.3%
Belgium	2	2	100.0%	44.1%	44.1%
France	2	0	0.0%	0.0%	0.0%
Germany	2	1	50.0%	5.2%	10.5%
Spain	2	0	0.0%	0.0%	0.0%
Italy	1	0	0.0%	0.0%	0.0%
Total	**60**	**37**	**61.7%**	**18.8%**	**30.4%**

Source: Nielsen, various retailer websites, DKM analysis.

Ireland and the UK account for most of the branded categories consumed in Ireland; almost 60% of Irish categories and over 70% of UK categories would be affected by MUP. Poland also features strongly, and 7 out of 8 Polish categories would be affected by MUP, as would most Dutch and all Belgian categories. It is noteworthy that of the main countries of origin, Irish beer and cider is least affected, according to our analysis.

B3.2 Unbranded Beer & Cider

Here we are concerned with the beer and cider sold in the discounters. While we do not have aggregated market data, DKM undertook a price survey in April 2016, and assessed the impact of MUP on this basis. Our results are presented in the following tables:

Table B11: Unbranded Beers & Cider Impact of MUP

	Product Categories			Simple Average %age Price Uplift	
	Total	Impacted by MUP	%age Impacted by MUP	Overall	Categories Impacted by MUP
Beer	18	11	61.1%	29.4%	48.1%
Cider	5	3	60.0%	42.9%	71.4%
Total	**23**	**14**	**60.9%**	**32.3%**	**53.1%**

Source: Retailer websites, DKM analysis.

Table B12: Unbranded Beers & Cider Impact of MUP by Country

	Product Categories			Simple Average %age Price Uplift	
	Total	Impacted by MUP	%age Impacted by MUP	Overall	Categories Impacted by MUP
Ireland	12	7	58.3%	25.6%	43.8%
France	4	3	75.0%	79.6%	106.1%
Germany	3	3	100.0%	28.1%	28.1%
UK	2	0	0.0%	0.0%	0.0%
Poland	1	1	100.0%	33.9%	33.9%
Sweden	1	0	0.0%	0.0%	0.0%
Total	**23**	**14**	**60.9%**	**32.3%**	**53.1%**

Source: Retailer websites, DKM analysis.

In summary:

- We identified 23 categories, 18 beers and 5 ciders; approximately 60% of these would be impacted by MUP, and the uplift in prices would be greater for cider than for beer.
- More than half of the categories (12) are from Ireland, with 7 of these affected by MUP, and the average price increase for those affected over 40%.
- France and Germany also feature. Three out of four French categories would be affected, while all three German categories are impacted by MUP.
- The French categories are particularly strongly affected: for those impacted by MUP, on average prices would more than double. German categories affected would see an approximately 30% price uplift.

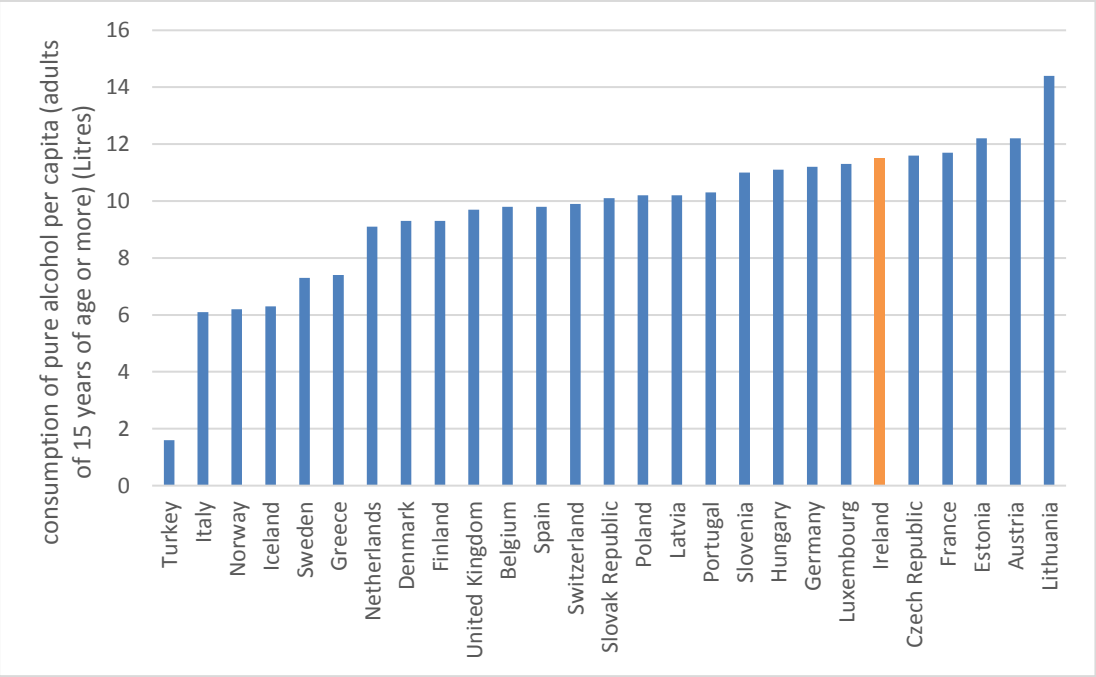
APPENDIX C: REGULATION OF ALCOHOL IN EUROPEAN COUNTRIES

C1: Consumption of Alcohol in Europe

European countries exhibit diverse levels of alcohol consumption, from Lithuania with 14.1 litres of pure alcohol per capita[96], to Turkey with only 1.6 litres per capita (Figure C1). Ireland had the 6th highest consumption level per capita in 2012.

Relevant in the current context is the relationship between regulation (ease of availability, advertising) and price on the one hand, and consumption levels on the other.

Figure C1: Alcohol Consumption per Capita (15+) in European Countries, 2012*



*Austria, Greece and Portugal 2011; Iceland, Italy and Spain 2010.

Source: OECD Health statistics 2015.

There is no consistent pattern –

- The Scandinavian countries have among the most restrictive policies when it comes to availability, advertising and price of alcohol, and their consumption is towards the lower end of the range, albeit there is some variability between them.
- Italy on the other hand has both low regulation and price, and low consumption.

[96] As is the international norm in reporting alcohol consumption rates, the data quoted relates to consumption of pure litres of alcohol per person aged 15 years or more.

- France has notably strict advertising and accessibility laws, but still has the fourth highest consumption level.
- Ireland, which has among the highest prices for alcohol in Europe, likewise has high recorded consumption.

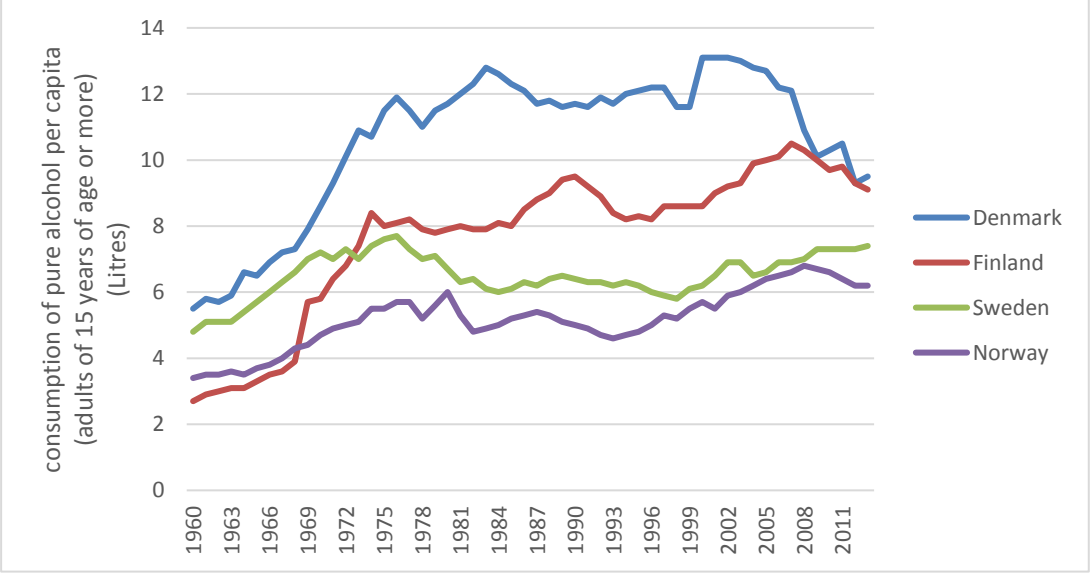
It is thus important to look at the different European countries more closely in terms of the relationship between regulation and consumption. In this appendix we consider the Scandinavian countries and France in more detail.

C2: Scandinavia

A complication in assessing consumption patterns in Scandinavia is that recorded consumption is subject to significant distortion as a result of patterns of cross-border purchasing and home brew/distilling[97]. WHO for instance indicates that unrecorded consumption in Sweden in 2005 was 3.6 litres per capita[98], roughly half the level of recorded consumption. This must be borne in mind in the following discussion.

Among the Scandinavian countries, Denmark has historically had the highest recorded consumption per capita (Figure C2). In 1983 consumption in Denmark was recorded at 12.8 litres of alcohol per capita, at which point the equivalent in Finland was 7.9 litres, in Sweden 6.1 litres and in Norway 4.9 litres.

Figure C2: Scandinavian alcohol consumption per capita aged 15+ of litres of pure alcohol



Source: OECD Health statistics 2015

Danish consumption levels have since stabilised, and started to fall in the 2000s. Consumption in Finland had been on an upward trend for longer, only

[97] https://www.hri.global/files/2011/07/21/02.3_Nordlund_-_Unrecorded_Alcohol_Consumption_(Nordic_Countries)_.pdf
[98] http://www.who.int/substance_abuse/publications/global_alcohol_report/en/

starting to fall from around 2008, and by 2012 was comparable with Danish levels of 9.3 litres of alcohol. Consumption in Sweden and Norway has similarly been on upward trend in recent decades, though not as strongly. All but Sweden have started to record reductions in consumption in recent years.

In what follows the specifics of regulation in each country are discussed.

C2a: Denmark

Denmark is the least restrictive Nordic country when it comes to alcohol price, availability and advertising, and as indicated above has also been the highest consumer of alcohol among the Nordic countries since the 1950s. Consumption peaked in 2000 at over 13 litres of pure alcohol per capita, but has fallen steadily since, and by 2013 had reached 9.4 litres.

Surveys indicate that the Danish public view alcohol consumption as a private issue which requires self-control and discipline rather than political interference [99]. Therefore the Danish government has since the 1930s focused on educating individuals about the harms of alcohol in schools and through national information campaigns. This has included low-risk drinking guidelines, public health programmes and education about unhealthy lifestyles including diet, smoking and alcohol-related harm.

Recent regulatory developments include:

- In 1998, new regulations were introduced prohibiting driving with a blood alcohol concentration above 0.05 percent, and prohibiting the sale of alcohol (defined as beverages of at least 2.8% ABV) to individuals below 15 years of age.
- The ban on alcohol advertisements on TV was lifted in 2002.
- The spirits tax was lowered by 45% in 2003.
- In 2004, the age limit was raised to 16 years, and to 18 years for products with an alcohol volume of 16.5% or more.
- The ban on selling alcohol in retail outlets after 8.00pm was repealed in 2005.

Regulations on the advertising of alcohol, which primarily restricts the advertising content, remain in place. Specifically, advertising cannot:

- Solicit excessive consumption of alcohol,
- Portray abstinence or responsible drinking in a negative way,
- Be provocative, intrusive or in any way persuasive,
- Indicate that a certain level of alcohol consumption is healthy or can improve the consumer's mental or physical capabilities,

[99] Elmeland, K. and Villumsen, S. (2013). "Changes in Danish public attitudes and norms regarding alcohol consumption and alcohol policy, 1985-2011" *Nordic Studies on Alcohol and Drugs*. Vol. 30 Issue 6 p. 525-538.

- Use individuals whose social status or position in society is more prominent and gives their opinion more weight (politicians, athletes, musicians, actors or similar),
- Connect the consumption of alcohol to sports activities and exercise,
- Show consumption of alcohol in the work place or at educational institutions,
- Target youth or children,
- Use individuals who due to their young appearance imply that young people are drinking alcoholic beverages,
- Use models, actors or similar who appear to be below the age of 25,
- Portray or encourage high risk behaviour (driving cars, handling potentially high risk machinery or other high risk behaviour), or
- Use individuals, role models, cartoons or icons which target children and youth.

These rules apply to all media, and include prizes or scholarships, and naming and labelling of products. Additionally, advertising cannot be shown at workplaces, educational institutions or in dormitories. Furthermore advertising for alcohol cannot be present at events where more than 30% of the audience is children or youth. The rules apply to all advertising which target or affect the Danish market.

C2b: Sweden

Recorded alcohol consumption in Sweden has traditionally been low compared other European countries, peaking in 1976 at 7.7 litres of alcohol per capita, after which consumption declined over a number of years. that said, per capita consumption has however been on an upward trend since 2000, reaching 7.4 litres of alcohol in 2013, and as indicated above unrecorded alcohol consumption in Sweden is substantial.

Swedish regulation is slightly more strict that that in Denmark in terms of advertising alcoholic beverages. The definition of an alcoholic drink is a beverage with more than 2.25 percent ABV, while an alcoholic light drink is a drink whose alcohol content is below 2.25 percent ABV. The advertisement has to clearly say that it is class I, low-alcohol cider or light drink.

Advertising and other marketing activities cannot:

- Use commercial advertisements on radio or TV programmes, including TV broadcasts via satellite,
- Be insistent, intrusive or encourage the use of alcohol,
- Be directed towards or show children or young people who are below 25 years of age,
- Be associated with situations where alcohol consumption should not occur according to generally accepted views,

- Show anything but the product or raw materials included in the product, individual packaging or trademarks or other comparable distinctive marks,
- Include text unless it is factual, balanced and reliably portrays the marketed alcoholic drink (origins, raw materials, characteristics and use),
- Use value statements, assessments and testimonials unless they are in accordance with the Swedish Marketing Act and the information is meaningful, balanced and up-to-date,
- Have text which describes situations where it is dangerous or inappropriate to use alcohol,
- Advertise in public transport facilities or where public transport picks passengers up, at hospitals or other care institutions, at public sports grounds and other public arenas or in or around premises primarily intended for or frequented by young people under the age of 25,
- Involve competitions where there is an obligation to purchase or where winnings are in the form of alcohol, or
- Advertise alcohol of 15% ABV or higher in newspapers or periodicals.

Advertisement in the print media may not be larger than tabloid format, and must be accompanied by text, covering at least 20% of the total space of the advertisement, which can be one of the following:

- Alcohol can damage your health
- Alcohol is addictive
- Alcohol can cause nerve and brain damage
- Alcohol can cause liver and pancreas damage,
- Alcohol can cause vertebral haemorrhaging and cancer,
- Every second driver who dies in single car accidents is intoxicated,
- Half of all victims of drowning have alcohol in their blood,
- Drinking alcohol and working at the same time increases the risk of accidents,
- Alcohol consumption during pregnancy can damage your unborn child,
- Children who are given alcohol at home get drunk more often than other children, or
- Starting to drink at an early age increases the risk of alcohol problems.

When advertising low alcohol beer the advertisements or other marketing material cannot:

- Advertise alcoholic light drinks in such a way that it could be confused for a stronger alcoholic drink.
- Be directed towards or show children or young people who are below 25 years of age,
- Create an association between the light drink and higher alcohol content or their intoxicating effect,
- Include jokes, words or images that associate the viewer with higher alcohol products,

- Include a disparaging assessment of alcohol-free drinks,
- Imply that sexual prowess is stipulated by the consumption of alcohol.

The Swedish rules apply to all advertising unless it is aimed directly at consumers outside of Sweden or falls outside of Swedish jurisdiction.

Marketing of alcoholic beverages in newspapers, magazines, on the internet (including social media) and in other digital media as well as radio and TV may only occur if at least 70% of the recipients of the marketing are 25 years of age or above. The alcoholic strength must always be visible.

With regard to alcohol companies' websites:

- They must clearly state that the website includes marketing for alcoholic beverages, and on all marketing links that the link leads to marketing for alcoholic drinks.
- The age limit for purchasing alcoholic beverages must be clearly visible.
- Prior to entering the website, active age verification is required.
- Products and trademarks should be kept separate from images that contain more than the product.

Alcohol companies may distribute free gifts at trade fairs, visits to production sites or similar, but the gift must be low value and cannot be an alcoholic drink.

It is prohibited to sell alcohol in discount bundles e.g. "buy one get one free" or "buy one get the second for a lower price". Alcoholic drinks can however be sold as part of a bundled meal provided an alcohol-free alternative is available.

It is the responsibility of the advertiser that these rules are followed. However, many of these rules lack legal precedence so there is some disagreement between the regulatory body and the industry recommendations regarding the specifics of rules and to what degree they apply.

Availability is also strictly regulated in Sweden: the State has operated an off-trade monopoly since 1955 (*Systembolaget*). The stated goal of the State monopoly is to minimise alcohol-related harm by selling alcohol in a responsible way without the driver of profit maximisation. Individuals can only purchase alcohol of more than 3.5% alcohol volume at the State stores if they are at least 20 years of age. Individuals can purchase alcohol in restaurants and pubs if they are at least 18 years of age.

C2c: Norway

Norway has historically had the lowest recorded consumption of alcohol in Scandinavia. Consumption steadily increased from the 1960s to the 2000s,

however, from 3.4 litres per capita to a peak of 6.8 litres in 2008. Consumption has since been falling, and was 6.2 litres in 2013.

Norway has also had the strictest alcohol regulation of the Nordic countries. A total ban on alcohol advertising remains in place, and it was only in November 2015 that alcohol producer's websites were allowed to include basic product information.

Other regulations include:

- The age limit to purchase alcohol is 18 years for wine and beer and 20 years for spirits.
- In the off-trade, consumers can buy alcohol of up to 4.7% ABV in licenced grocery stores, but stronger alcohol can only be bought in the Norwegian Wine and Spirits Monopoly, *Vinmonopolet*.
- The blood alcohol limit for drivers is 0.02%.

Since the 1990s there has been substantial liberalisation in the market. Availability of alcohol has increased as the number of *Vinmonopolet* outlets has more than doubled and the opening hours have been extended, partly in response to pressures to allow grocery stores to sell wine and spirits. In addition, the individual import quota of wine into Norway was increased in 2006.

Notwithstanding the State monopoly, it has been noted that alcohol has become relatively more affordable as the real price indices on various types of alcohol have been fairly stable since 1990 while real incomes have increased[100].

C2d: Finland

The consumption of alcohol in Finland was on a steady upward trajectory since 1960, from 2.7 litres per capita to a peak of 10.5 litres in 2007. Consumption has gradually declined since to 9.1 litres in 2013.

Prior to EU membership in 1995, the State held a monopoly on production, import, export, distribution and off-trade retailing of alcohol. The off-trade monopoly (now called *Alko*) controlled the prices of alcohol and used it actively to influence consumer behaviour. For example it could increase the price of products which had become too popular among heavy drinkers or those with a high alcohol content. This practice was abolished in 1994 and replaced by a taxation system based on alcohol content.

EU membership led to significant policy changes regarding the distribution, sale and advertising of alcohol in Finland, notably:

[100] Storvoll, E. E., and Halkjelsvik, T. (2013). "Changes in Norwegian public opinion on alcohol policy, 2005-2012" *Nordic Studies on Alcohol and Drugs.* Vol. 30 Issue 6 p. 491-506.

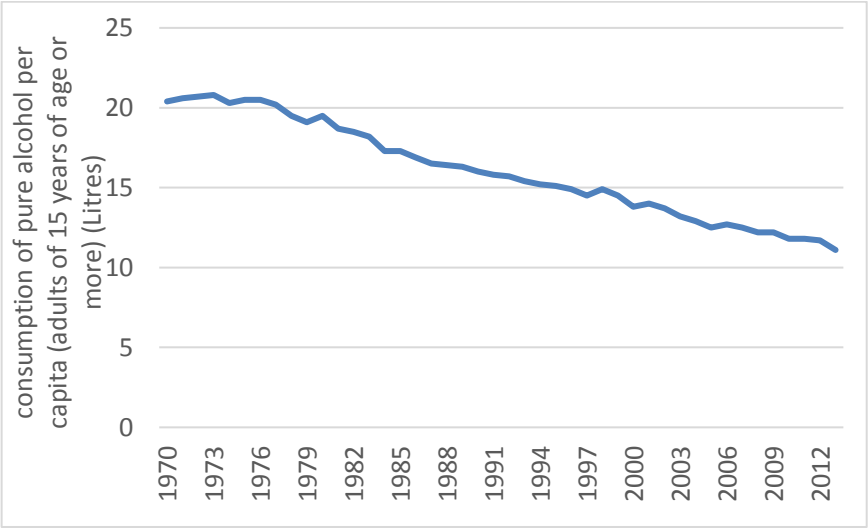
- The State monopoly on production, imports, exports, distribution and off-trade retail of alcohol was abolished.
- Grocery stores, kiosks, cafés and petrol stations were allowed to sell beer, cider and long drinks of less than 4.7% ABV.
- The off-trade monopoly remained for beverages with an alcohol volume above 4.7%, with the exception of the output of local and micro-producers with an alcohol volume less than 13%.
- It became legal to advertise beverages containing 1.2 to 22% ABV[101].

Cross-border purchases of alcohol into Finland increased significantly when the Soviet Union collapsed, facilitating travel to Russia and Estonia, where alcohol was significantly cheaper. When Finland joined the EU it negotiated a temporary limit to personal imports, which expired in 2003. Excise rates were significantly reduced in 2004 when Estonia became a member of the EU - excise on beer fell by 32%, on wine by 10%, and on spirits by 44%. Notwithstanding this, by 2005 it was estimated that a sixth of all alcohol consumption was imported from abroad by travellers returning to Finland[102].

C3: France

Unlike the Scandinavian countries, France has traditionally had high alcohol consumption - as can be seen in Figure C3, consumption in 1970 was 20.4 litres per capita. It has however been on a consistent decline since, reaching 11.1 litres in 2013.

Figure C3: French Alcohol Consumption per Capita, 1970 - 2013



Source: OECD Health statistics 2015

Since 1991, France has imposed among the most restrictive regulations on alcohol advertising and sponsorship in the western world. The 1991 *Loi Evin*

[101] It also became legal to drink in public (subsequently made illegal again in 2003).
[102] Lindeman, M., *et al.,* (2013). "Public opinions, alcohol consumption and policy changes in Finland, 1993-2013". *Nordic Studies on Alcohol and Drugs*. Vol. 30 Issue 6 p. 5.7-524.

restricted alcohol advertising in terms of warnings, outlets and content, and was further tightened in 2015, so that:

- All advertising on TV and public radio stations is prohibited.
- Private radio stations can broadcast alcohol advertisement but only between midnight and 17:00.
- Advertising in cinemas is prohibited although product placement is allowed.
- Advertisements online is prohibited on sites targeted at young people.
- Festival sponsorships is forbidden.

Additionally the advertisement must:

- Display an official warning about the dangers of alcohol abuse,
- Display a warning for pregnant women,
- Not display or imply any benefits from alcohol consumption (attractiveness, confidence etc.)

Furthermore the Government produces advertisements aimed at preventing alcohol misuse and helping young people with alcohol difficulties. In 2009 also, the minimum age at which both alcohol and cigarettes can be bought was raised from 16 to 18.

The pattern of alcohol consumption in France is interesting. Overall consumption has been in long term decline, as seen in the chart above[103]; however there is no indication that the Loi Evin and subsequent regulations have had any impact one way or the other.

At the same time, the level of youth and underage drinking, and of binge drinking, is growing[104] [105] [106], despite increasing the age at which alcohol can be bought[107].

It is noteworthy that highly restrictive and rigorously enforced legislation[108], in a country where overall consumption has been falling, has not been effective in curtailing the opposite trend in youth drinking. This points to long term cultural factors as stronger influencers of behaviour than regulatory measures.

[103] http://www.aim-digest.com/digest/members%20over%20yr/french%20consumption.pdf
[104] *The 2011 ESPAD Report - Substance Use Among Students in 36 European Countries*, by reference to Use of any alcoholic beverage during the past 12 months (p.127, 129, 133). The report also finds high levels of use of cannabis and other illicit drugs among French students.
http://www.espad.org/Uploads/ESPAD_reports/2011/The_2011_ESPAD_Report_FULL_2012_10_29.pdf
[105] http://content.time.com/time/world/article/0,8599,1823730,00.html
[106] http://www.theguardian.com/society/2009/jan/29/alcohol-children-binge-drinking-france
[107] http://www.thelocal.fr/20131003/france-drinking-smoking-alcohol-cigarettes-alcoholism
[108] http://www.ias.org.uk/What-we-do/Publication-archive/The-Globe/Issue-2-2004-amp-1-2004/The-Loi-Evin-a-French-exception.aspx

C4: Conclusions

Europe has some interesting case studies of alcohol regulation and its effect on consumption.

Over time, regulatory restrictions in the Scandinavian countries have been eased, and in many cases taxes have fallen, driven in large part by the opening of borders and lower restrictions on cross-border purchases. While consumption has risen significantly over time, it is not always clear that regulatory or tax changes have had the impact on consumption that one would expect. Cross-border purchases and illegal consumption confuse the situation, and apparent increases in consumption may in fact represent "redomiciling" of this consumption. It is noteworthy also that consumption has peaked and been on a downward trend for the last number of years, in all but Sweden.

France is a very different market from the Scandinavian countries as it has had significantly higher consumption levels historically, which have been on a steady decline since 1970. Significantly stricter alcohol regulation was introduced in 1991 and has been tightened since, but overall consumption levels have been seemingly unresponsive to these changes. Indeed youth drinking – the main target of the *Loi Evin* – has been increasing in France despite these restrictions.

APPENDIX D: REGULATION OF ALCOHOL PRICES IN CANADA

D1: Social Reference Pricing in Canada

A number of Canadian provinces and territories have set Social Reference Prices (SRPs) for alcoholic beverages, otherwise known as "floor" or "minimum" prices. This has been facilitated by the fact that alcohol distribution in Canada is controlled by the State, as is off-trade retail to varying degrees, although SRPs equally apply to the on-trade[109].

Essentially, SRP indexes minimum retail prices of alcohol products according to factors such as product category, alcohol content, the intended consumer and purchase price for a single unit (or most commonly purchased package size), ease of consumption and the history of types of products in the marketplace[110]. The way SRP is applied differs across Canadian provinces and territories, and some provinces do not apply SRP[111]. Below we describe the system in place in Saskatchewan, a province with a population of 1.15 million[112].

Figure D1: Provinces of Canada

Source: Wikipedia

[109] This translates into significant control over pricing in the distribution chain, apart from SRF. For instance, in British Columbia, bar and restaurants must pay the same for alcohol as the retail prices facing consumers in State liquor stores, while private liquor stores are supplied at a 16% price discount.
http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2013.301289

[110] http://www.parliament.scot/S4_Bills/Alcohol%20(Minimum%20Pricing)%20(Scotland)%20Bill/BBV-173Final.pdf

[111] http://calj.org/Articles/Publications/tabid/106/ArticleId/42/Minimum-Pricing-in-Canadian-Alcohol-Jurisdictions.aspx ; http://www.ccsa.ca/Resource%20Library/CCSA-Social-Reference-Prices-for-Alcohol-Canada-Report-2015-en.pdf

[112] http://www.stats.gov.sk.ca/

Minimum alcohol prices in **Saskatchewan** were first introduced for spirits other than brandy and cognac in 2003, for beer in 2005, for wine in 2008, and for higher strength coolers, brandy, and cocktails in 2010. Alcohol SRPs in Saskatchewan are set out in the Saskatchewan Liquor & Gaming Authority's regular *SLGA Pricing Structure and Policy* document[113]. The table below sets out a sample of the prices, for selected container sizes and by alcohol strength.

The SRPs relate to alcohol content bands as opposed to direct alcohol content. This means that beyond the maximum band the SRP is effectively a flat minimum price unrelated to alcohol content. Concerns regarding the development of a 'loophole' around high alcohol beer led to the introduction of a High Alcohol Surcharge which is directly based on alcohol content of beer above 6.5% ABV. This issue also arose in other provinces such as Ontario.

Table D1: Sample Alcohol SRPs Saskatchewan by Container Size and Alcohol Strength, April 2016

	Can $	€
Beer Products (550ml):		
< 6.5%	2.70	1.86
6.5% - 7.5%*	3.45	2.38
7.5% - 8.5%*	3.90	2.69
> 8.5%*	4.20	2.90
Spirits, Liqueur, Brandy and Cognac Products (700ml):		
< 22.9%	12.95	8.93
23% - 34.9%	17.00	11.73
35% - 44.9%	22.65	15.62
45% - 54.9%	28.35	19.56
> 55%	33.95	23.42
Wine Products (750ml):		
< 15.9%	7.95	5.48
> 15.9%	10.70	7.38
Cider (473ml):		
< 5.99%	2.30	1.59
> 5.99%	2.70	1.86

*In addition to the SRP, high strength beer (>6.5% ABV) is subject to a High Alcohol Surcharge equal to Can$40 (€27.59) per litre of pure alcohol, on the excess over 6.5%.

Sources: SLGA, Central Bank of Ireland.

We cannot directly compare these SRPs with the proposed MUPs in Ireland, as they apply to alcohol content bands rather than direct alcohol content. However, for standard strength beer (4.2% ABV) and cider (4.5% ABV) the

[113] https://www.slga.gov.sk.ca/Prebuilt/Public/Pricing%20Structure%20and%20Policy%20Manual.pdf

prices are very similar, while for standard strength wine (12.5% ABV) and in particular spirits the SRPs are significantly lower than the proposed Irish MUPs.

D2: Research on Impacts of SRP

Research on SRP in Canada has centred around two issues – (i) impacts on consumption, and (ii) impacts on alcohol-related harm.

Impacts on Consumption

Stockwell *et al.* (2012)[114] examines how the introduction of and subsequent increases in SRP affected alcohol consumption in **Saskatchewan**. They concluded that:

- A 10% increase in minimum prices was associated with decreased consumption of beer by 10.1%, spirits by 5.9%, wine by 4.6%, and all beverages combined by 8.4%.
- A 10% increase in minimum price was associated with a 22% decrease in consumption of higher strength beer (> 6.5% ABV), compared to an 8.2% reduction for lower strength beers.
- Implementation of SRP was associated with greater effects on the off-trade than on the on-trade, as one would expect.

Assuming changes in minimum prices equate to changes in actual prices, these elasticities indicate that there is a one-for-one price elasticity for beer. Spirits and wine on the other hand are relatively price insensitive, with only an approximate 50% relationship between a change in price and a change in consumption. The overall alcohol price sensitivity is relatively high, though still lower than one; one would expect the price sensitivity for alcohol as a whole to be lower than for the individual alcohol types, as the former cancels out substitution from one alcohol type to another.

The authors concluded that SRP as implemented in Saskatchewan significantly lowered alcohol consumption and shifted consumption away from stronger products, while also increasing government revenue.

However, they also acknowledge that there are limitations to the study, which include the lack of a control jurisdiction, a relatively short time series, and only a crude measure of mean price. For example, with respect to the control jurisdiction, the authors were unable to access detailed data from the neighbouring province of Alberta (population 4.25 million[115]) which has not implemented SRP.

[114] http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2012.301094. The authors note that "Minimum prices were first introduced for spirits other than brandy and cognac in 2003, beer in 2005, wine in 2008, and higher strength coolers, brandy, and cocktails on April 1, 2010."

[115] http://economicdashboard.alberta.ca/Population

Although Alberta reported no change in its annual per capita alcohol consumption from before to after the introduction of SRP in Saskatchewan, the authors indicate that "no estimate could be made for the influence of cross-border sales." However, they conclude that it is unlikely to be large as *"the majority of Saskatchewans live in urban areas at least 100 kilometers from the US or provincial borders."*

It must be noted in this regard, however, that Scandinavian research has found that consumers were willing to travel several hundred kilometres to take advantage of alcohol price differentials[116]. Closer to home, cross-border leakage of alcohol purchases has been found to be very significant when price differentials become large[117] - the distance from Dublin to Newry is just over 100km.

Stockwell *et al.* (2012a)[118] undertook a separate study on the impact of changes in minimum alcohol prices on consumption in the off-trade in **British Columbia** (BC, population 4.68 million[119]), considering the period 1989-2010.

Minimum pricing was introduced in BC in 1989, well before its introduction in Saskatchewan. However, the minimum prices that applied in BC at the time the paper was written were significantly lower than the prices in Saskatchewan for most alcohol types, being some 50%, 58% and 72% lower for beer, cider and wine respectively. Minimum prices for spirits were approximately equal.

In addition, the BC prices were not related to alcohol content. During the period under consideration, the minimum prices of beer and spirits in BC were increased twice and three times respectively, while those of wine and other alcohol types remained unchanged. After adjusting for inflation, this meant that "real" minimum prices for the latter fell.

Time series analysis indicated that a 10% increase in mean minimum price in BC was associated with reduced total consumption of packaged beverages in the off-trade of 3.4%. For individual products, a 10% increase was associated with the following reductions in consumption:

- Spirits by 6.8 %
- Wine by 8.9%
- Beer by 1.5%
- Alcoholic sodas and packaged cider by 13.9%.

[116] Asplund M et al (2005): *Demand and Distance: Evidence on Cross-Border Shopping*, Centre for Economic Policy Research. http://swopec.hhs.se/hastef/papers/hastef0587.pdf

[117] Fitz Gerald, J., 1998, *The Distortionary Effects of Taxes on-trade in Border Areas: The Case of the Republic of Ireland - United Kingdom Border*. ESRI Memorandum Series 183. https://www.esri.ie/pubs/MEMO183.pdf

[118] http://alcoholireland.ie/download/reports/minimum_pricing/Does-Minimum-Pricing-Reduce-Alcohol-Consumption.pdf

[119] http://www.bcstats.gov.bc.ca/StatisticsBySubject/Demography/PopulationEstimates.aspx

These results are somewhat at variance with those found in the 2012 Saskatchewan study described above, in that:

(i) overall alcohol price sensitivity is lower (as one would expect), and
(ii) the price sensitivity of beer is very low, whereas in Saskatchewan it was notably high.

A limitation of the analysis is that the data relate only to the off-trade, so to the degree that consumers substitute on-trade consumption, the above values over-estimate price sensitivity (the authors note that the off-trade dominates consumption in the province, and conclude that substitution effects are unlikely to be large). There also does not appear to have been any analysis of cross-border effects, which again could result in over-estimated elasticities.

Impacts on Alcohol-Related Harm

Econometric analysis of the impact of SRP on alcohol-related harm appears to be limited to three papers by Stockwell *et al*., which consider impacts on of changes in minimum prices and off-licence densities in BC, during the first decade of this century, on

(i) hospital admissions,
(ii) deaths, and
(iii) crime.

Since minimum prices had been in place in BC since 1989, the studies analysed the impacts of changes in minimum prices rather than their introduction.

Stockwell *et al*. (2013)[120] assessed the impact of changes in the average minimum price of alcohol on hospital admissions for alcohol-related health issues in BC, over the period 2002-2009. They found that a 10% increase in the average minimum price of all alcoholic beverages was associated with an 8.95% decrease in acute alcohol-attributable admissions and a 9.22% reduction in chronic alcohol-attributable admissions two years later.

Stockwell *et al*. (2013a)[121] assessed the impact of changes in the average minimum price of alcohol on alcohol-attributable deaths in BC, over the period 2002-2009. They found that a 10% increase in average minimum prices for all alcohol types was associated with a 31.72% reduction in wholly alcohol-attributable deaths.

[120] Stockwell T, et al., 2013, "Minimum alcohol prices and outlet densities in British Columbia, Canada: Estimated impacts on alcohol attributable hospitalisations". *American Journal of Public Health*. 2013:e1-e7. http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2013.301289

[121] Stockwell T, et al., 2013, "The Relationship between Minimum Alcohol Prices, Outlet Densities and Alcohol Attributable Deaths in British Columbia, 2002 to 2009". *Addiction.* 108(6) February 2013. https://www.researchgate.net/publication/235519955_The_Relationship_between_Minimum_Alcohol_Prices_Outlet_Densities_and_Alcohol_Attributable_Deaths_in_British_Columbia_2002_to_2009

Stockwell *et al*. (2015)[122] assessed the impact of changes in the average minimum price of alcohol on crime in BC, over the period 2002-2010. They found that a 10% increase in the average minimum price of alcohol was associated with decreases of 18.8% in alcohol-related traffic offences and of 9.2% in violent crime.

There are, however, a number of limitations in these studies, which must be kept in mind, notably:

- The authors acknowledge that the findings relate to statistical correlations and do not necessarily indicate causality.
- The period under consideration – 2002 to 2009/2010, is short. This is particularly the case with the crime paper, which analyses annual data while the hospital admissions and mortality papers analyse quarterly data.
- Minimum prices in BC during the period under consideration were much lower than actual price levels in Ireland, or in other Canadian provinces such as Saskatchewan. Despite this, alcohol consumption in BC was significantly lower than in Ireland during the period under consideration.
- Minimum prices in BC are also unrelated to alcohol content, and thus are quite different from what is being proposed in Ireland. As indicated above, the province of Saskatchewan (and Ottawa) found that SRPs unrelated to alcohol content led to a drift towards consumption of higher alcohol beer, which subsequently led to the introduction of a high alcohol beer surcharge. On the face of it, it is difficult to see how the effects found in these papers could come from the type of minimum prices in place in BC.
- With respect to the hospitalisation paper, it has been noted that alcohol-related hospitalisations per capita rose each year during the period under consideration in BC, which on the face of it is difficult to reconcile with a positive impact from minimum pricing[123].
- None of the three studies used a control – i.e. a similar area where minimum prices were not in place or did not change during the period under consideration. With respect to the crime paper for instance, it has been noted that crime has been on a long term downward trend in most western countries[124], including Canada[125], independent of alcohol pricing, although the Stockwell paper does also detect a negative time trend which may capture at least some of this effect.

[122] Stockwell T, et al., 2015, "Relationships Between Minimum Alcohol Pricing and Crime During the Partial Privatization of a Canadian Government Alcohol Monopoly" *Journal of Studies on Alcohol and Drugs*, 76(4), 628–634 (2015).
[123] http://www.thejournal.ie/minimum-unit-pricing-alcohol-ireland-facts-2932210-Aug2016/
[124] https://www.newscientist.com/article/mg22530073-200-why-violent-crime-is-plummeting-in-the-rich-world/ http://www.economist.com/news/leaders/21582004-crime-plunging-rich-world-keep-it-down-governments-should-focus-prevention-not
[125] http://www.cbc.ca/news/canada/what-s-behind-canada-s-improving-crime-stats-1.1315377

- The mortality paper finds that a 10% increase in minimum prices is associated with a 32% reduction in mortality. This seems implausibly large, given the low level of minimum prices in place in BC.
- Likewise, the reported correlations with the level of alcohol-related traffic offences appear large, given the price levels involved. The same can be said for violent crimes, given the wide range of such crimes and the range of societal causes and influences.

Given these limitations, caution is required in drawing conclusions from the studies.

APPENDIX E: REGULATORY IMPACT ANALYSIS & UNIVERSITY OF SHEFFIELD ALCOHOL POLICY MODEL

E1: RIA Guidelines

A Regulatory Impact Analysis (RIA), in accordance with the RIA 2009 Guidelines[126], is required for all proposed primary legislation to change the regulatory framework. As such it is appropriate that an RIA was undertaken with regard to the proposed legislation, and published along with the Bill[127] by the Department of Health (DoH).

The first three chapters of the RIA Guidelines can be seen as setting out the general principles for undertaking an RIA, while the subsequent chapters deal with the specifics of producing the various elements of the RIA.

With respect to the general principles, while the Guidelines indicate that there is no generic form of RIA for all circumstances, they give detailed guidance as to the contents of and methodologies for producing an RIA. They further indicates that:

> *"It involves a detailed analysis to ascertain whether or not different options, including regulatory ones, would have the desired impact. It helps to identify any possible side effects or hidden costs associated with regulation and to quantify the likely costs of compliance on the individual citizen or business."* (p.3)

Further, *"the level of analysis involved should be proportionate to the significance of the proposal in question"*.

There is no doubt that the proposals in PHAB are highly significant for the industry and market in question, including as they do measures to control price, advertising and access to the product by consumers. These are unusually intrusive measures for any sector of the economy. It is therefore incumbent on the promoters of the Bill and the authors of the RIA to undertake a comprehensive RIA. In expanding on the question of significance, the Guidelines state:

"In this context, it will be useful for officials to examine whether significant impacts exist under any of the following headings:

- *National competitiveness;*
- *The socially excluded and vulnerable groups;*

[126] Department of the Taoiseach (2009), *Revised RIA Guidelines – How to Conduct a Regulatory Impact Analysis*, http://www.taoiseach.gov.ie/eng/Publications/Publications_Archive/Publications_2011/Revised_RIA_Guidelines_June_2009.pdf

[127] http://health.gov.ie/wp-content/uploads/2015/12/Appendix-IV-Regulatory-Impact-Analysis-RIA-Alcohol.pdf

• *The environment;*
• *Whether there is a significant policy change in an economic market, including consumer and competition impacts;*
• *The rights of citizens;*
• *Compliance Burdens, including Administrative Burdens;*
• *North-South and East-West Relations."* (p.12)

We note that in the RIA, all of the above potential impacts are addressed in the section starting on page 24, **with the sole exception of Compliance Burdens**, which is simply ignored. This is a gaping omission for a set of regulatory proposals which would explicitly generate significant compliance burdens at a range of levels for the sector.

The Guidelines further state: "A formal Cost Benefit Analysis is required in the case of the most significant proposals." We would strongly argue that the significance of the proposals **warrant a CBA. Not only is one not produced, there is no explanation given as to the rationale for not doing so**.

Also relevant is the timing of publication of the RIA. The RIA was published at the same time as the Bill, which is the **minimum** requirement according to the Guidelines (p.35). However, the Guidelines in several places highlight the need for early circulation and consultation on the proposals:
"One of the fundamental goals of the RIA process is to reduce the unnecessary use of regulation through an examination of the possible use of alternatives. ***This means that RIA should be conducted at an early stage and before a decision to regulate has been taken. Ideally, RIA should be used as the basis for consultation****."* (p.5, original emphasis)
Clearly the RIA in this case has fallen short of the ideal.

The Guidelines continue:
"Where primary legislation (a Bill) is proposed, a Memorandum is brought to Government seeking approval for the General Scheme of the Bill (also known as the Heads of a Bill). As described in para. 1.5, a RIA should be commenced at the earliest possible stage (even if it is initially in a very rough format) and must be conducted before this Memorandum goes to Government seeking permission to regulate." (p.5, original emphasis)

The RIA indicates that the general Heads of the Bill were published in February 2015, following which the Joint Committee on Health and Children undertook pre-legislative scrutiny on the proposals. Given that the RIA was not published until December 2015, again, **it appears that the timing of publication did not meet the requirements set out in the Guidelines**.

Likewise, stakeholder consultation is required by the Guidelines:
"RIA can contribute to economic efficiency highlighting aspects of regulation which limit consumer choice and the level of competition in an economy. It

helps to identify potential burdens on business and ensure that they are kept to a minimum. RIA can also identify potentially anti-competitive or protectionist regulations before these are enacted. Because it includes consultation with a wide range of stakeholders, it also provides an opportunity for those potentially affected by regulations to highlight any unforeseen consequences that may not previously have been considered." (p.3)

The alcohol industry strongly argues that the level of consultation undertaken by the Bill promoters was inadequate, given the scope of the impacts on the sector.

E2: Contents of RIA

Turning to the detailed contents of the RIA (covered by Chapter 4 onwards in the Guidelines), the following steps or contents are set out:

1. Summary of RIA
2. Statement of policy problem and objective
3. Identification and description of options
4. Analysis of costs, benefits and other impacts for each option
5. Consultation
6. Enforcement and Compliance
7. Review
8. Publication.

These are reflected in the layout of the current RIA, and for convenience we will follow that layout in our observations below.

1. Summary of RIA

The summary sheet is included as Appendix A at the end of the RIA.

2. Statement of Policy Problem and Objective

This section of the RIA (Policy Context/Objectives) lists a range of negative impacts of alcohol abuse in Irish society, and highlights both the overall volume and the pattern of consumption in Ireland, compared to other countries. A set of economic costs is presented, which sum to €2.358 billion [128]. This is based on analysis by Dr Ann Hope on behalf of the Department [129]. We would raise a number of issues with respect to this estimate:

[128] There is a small summing error in the text.

[129] Hope, A., 2014, *Alcohol Literature Review*, http://health.gov.ie/blog/publications/alcohol-literature-review/

- Many of the values are based on percentages of the total health budget which have been estimated to relate to alcohol abuse, drawn in large measure from an earlier report, Byrne (2010)[130].
- This in turn depended in many instances on earlier estimates from the UK, and applied to Ireland[131].

Hope herself admits that the application of fixed percentages to healthcare budgets is not an accurate means of measuring actual costs in Ireland:
"While this represents a decrease from Byrne's figure ……. this does not indicate a reduction in alcohol related demands on the health service but is mainly due to significant reductions in government spending on health since 2007."
Yet these estimates are relied upon in the RIA.

By the same token, the percentages chosen are often from studies dating back to the early 2000s[132]. The volume of alcohol consumed per capita in Ireland has fallen significantly since 2002. It is a central premise of the case made in the RIA that alcohol-related harm can be reduced by reducing overall consumption:
"*It is expected that the effective implementation of the measures contained in the (National Substance Misuse Strategy) along with the measures provided for in the proposed Public Health (Alcohol) Bill will significantly reduce consumption and related harm."*

It follows therefore that the estimates derived by Dr. Hope and relied upon in the RIA should have taken account of falling overall consumption over the last decade. This has not been done.

Further, there are a number of cases where round percentages of total budgets are applied to the cost of alcohol abuse, on the basis of very weak evidence. For example:
"As Hope's study of alcohol related harm to other's (Hope, 2014) one in ten adults reported that children for whom they have parental responsibility experienced at least one or more alcohol related (h)arms as a result of someone else's drinking. Children who experience such harms are very likely to require the services funded under the allocation for children and families in the HSE's budget. Ten per cent of the total allocated by the HSE for spending on children and families for 2013 is €54 million. It is likely that 10%

[130] Byrne S (2010). *Costs to society of problem alcohol use in Ireland*. Dublin: Health Service Executive. http://www.hse.ie/eng/services/Publications/topics/alcohol/Costs%20to%20Society%20of%20Problem%20Alcohol%20Use%20in%20Ireland.pdf
[131] For example Scottish Executive (2001) *Alcohol Misuse in Scotland: Trends and Costs,* Edinburgh: Scottish Executive. Byrne indicates: "The estimates in this report are based on the methods used in similar reports from other developed countries, particularly the reports for England and Wales and for Scotland and Northern Ireland".
[132] Byrne (2010) indicates: "The studies for England and Wales and for Scotland estimate the social costs of alcohol misuse figures as 1.7% of GDP for England and Wales in 2001 and 1.5% for Scotland in 2003. The Northern Ireland study estimates the social cost of alcohol misuse in Northern Ireland in 2008 to be 1.8% of GDP."

of spending by the Department of Children and Youth Affairs also relate to alcohol related interventions. This figure is €41 million for 2013."

Later in the RIA, the total estimate of alcohol costs is compared with the total tax revenue from alcohol, to demonstrate that the tax revenue is not sufficient to cover the costs imposed on society. While there is no gainsaying that alcohol abuse imposes significant costs on society, it is important to have robust and accurate research on the actual up-to-date position in Ireland, not only for the current purposes but as a basis for general health and social policy.

Section 2 of the RIA then quotes text from an academic paper as follows:
"There is no sensible limit of alcohol consumption below which the risk of cancer is decreased. Even though light to moderate alcohol consumption might decrease the risk for cardiovascular disease - the net effect of alcohol is harmful. Alcohol consumption should not be recommended to prevent cardiovascular disease or all - cause mortality".

The assertion that the net effect of light to moderate alcohol consumption is harmful is by no means established in the literature. Lifting this text (without quotation marks) into the RIA and presenting it as established fact is somewhat disingenuous. While a number of academic studies have come to similar conclusions, there is also large body of literature indicating that light to moderate alcohol consumption does confer a net health benefit[133].

One recent US study is Mostofsky *et al.* (2016)[134], based on the well-known longitudinal "Nurses' Health Study", administered by Harvard University[135]. This has been collecting lifestyle data from US female nurses, using questionnaires and diet records, every four years since 1980. The Mostofsky paper tested the effects of alcohol consumption on different diseases from hypertension to diabetes, cancer and heart disease. It found that a moderate intake of alcohol (up to one drink a day) caused a lower risks of hypertension, myocardial infection, stroke, sudden cardiac death, gallstones, cognitive decline and all-cause mortality compared to abstainers. Moderate consumption did however increase the risk of breast cancer and bone fractures, while higher intake increased the risk for colon polyps and colon cancer. Overall the researchers concluded that:

> *"Regular alcohol intake has both risks and benefits. In analyses using repeated assessments of alcohol over time and deaths from all causes, women with low to moderate intake and regular frequency (> 3 days/week) had the lowest risk*

[133] See for example http://www.bu.edu/alcohol-forum/critique-183-an-unusual-analysis-of-the-association-of-alcohol-consumption-with-mortality-24-march-2016/
[134] Mostofsky E. *et al.*, 2016, "Key Findings on Alcohol Consumption and a Variety of Health Outcomes From the Nurses' Health Study", in *American Journal of Public Health*, Volume 106, Issue 9 (September 2016), http://ajph.aphapublications.org/doi/full/10.2105/AJPH.2016.303336
[135] http://ajph.aphapublications.org/doi/full/10.2105/AJPH.2016.303345

of mortality compared with abstainers and women who consumed substantially more than 1 drink per day."

We would make the following further observations on Section 2 of the RIA:

- The Guidelines state that this section "should include a brief (1-2 pages at most) summary of the existing regulatory framework and its drawbacks and may necessitate reference to relevant EU or international obligations" (p.16). **This is not included in the RIA**, and is a significant omission as alcohol is already one of the most highly regulated and highly taxed sectors of the Irish economy.
- Furthermore, there is no discussion of the economic role and importance of the sector, which is also part of the policy context, in this section of the RIA. Brief reference is made to the economic benefits of the industry in Section 4.

Having set out the origin and evolution of the measures contained in the PHAB, the RIA states:

"The aim is to reduce alcohol consumption in Ireland to 9.1 litres per person per annum (the OECD average when the Strategy was published) by 2020, and to reduce the harms associated with alcohol. It is expected that the effective implementation of the measures contained in the (National Substance Misuse Strategy) along with the measures provided for in the proposed Public Health (Alcohol) Bill will significantly reduce consumption and related harm.

The measures contained in the proposed Public Health (Alcohol) Bill relate to the recommendations outlined in the Supply (availability) and Prevention pillars of the Steering Group Report on a National Substance Misuse Strategy, 2012. The strategic objectives (of the Bill) are:

- *to ensure that the supply and price of alcohol is regulated and controlled in order to minimise the possibility and incidence of alcohol related harm; and*
- *to delay the initiation use of alcohol by children and young people."*

(p.3, our emphasis)

Thus the overarching aim of wider Government policy is to reduce alcohol consumption and reduce the related harm, with the PHAB specifically seeking to regulate price and supply in order to reduce harm, and to delay alcohol use by children and young people.

3. Identification and Description of Options

The options considered in the RIA are:

(a) No Policy Change (the counterfactual against which other options can be tested);
(b) An Awareness/Information Campaign;
(c) Self-Regulation/Co-Regulation;
(d) Increase Taxes on all alcohol products;
(e) Legislate as per the PHAB.

We would argue that this **list is incomplete**, **as it does not include the option of a ban on below cost selling of alcohol** (a form of below cost selling is considered briefly and dismissed on page 11 of the RIA).

We would make a number of observations on how these options are dealt with in the RIA. Firstly, as a general point, we note that the RIA comes to a conclusion on each option, before presenting the detailed analysis in Section 4 of the RIA. More specifically:

(b) An **Awareness/Information Campaign** in isolation is dismissed as ineffective and expensive. However, the RIA does state that "*evidence indicates that when these campaigns are accompanied by the imposition of higher prices/taxes or disincentives they have a direct effect in changing behaviour"* (p.5), albeit the source of this evidence is not given.

(c) **Voluntary/self-regulation** is dismissed as ineffective: "*Overall there is no evidence to support the effectiveness of industry self-regulatory codes, either as a means of limiting advertisements deemed unacceptable or as a way of limiting alcohol consumption."* (p.6/7).

(d) **Increasing taxes** is given a significant amount of space in the RIA. We would note however that many of the statements made are contradictory and not backed up by evidence. For instance (p.7/8 of the RIA):

- *"The introduction of a 10% increase on the price of alcohol across all types of alcohol (cheap and expensive) would affect consumption by low-risk, increasing-risk and high-risk drinkers more or less equally."* but

  "F*urther increases in excise rates would affect moderate drinkers disproportionately and would equally affect the operating costs of the on-trade (pubs, restaurants, etc.) when the problem lies mainly with the off-trade."*

  It is difficult to see how these two statements are reconcilable with respect to the impact on moderate (presumably low risk?) consumers.

  The meaning of 'operating costs' in this quote is not clear: excise increases impact on operating costs in that they increase the cost price of stock for resale and thus of stock-holding costs – it is not clear whether these costs are higher or lower in the on- or off-trade. Increased excise rates clearly affect selling prices in the off-trade more than for the on-trade, however, since taxes represent a higher proportion of the off-trade price of alcohol than of the on-trade price.

- *"Excise rates are currently regulated by European Directives. These do not currently take into account the strength of the drink and excise*

is therefore less effective in targeting products that are cheap relative to their strength."

This is **factually incorrect**. Both beer and spirits – which account for approximately 2/3s of total alcohol consumption in Ireland[136] - are subject to excise directly by reference to their alcohol content, while wine and cider are subject to tax bands reflecting step changes in alcohol content. Furthermore spirits, whose pre-tax price is low relative to its strength, is significantly more heavily taxed under the excise duty regime.

- *"Mixed trade outlets in particular continue to sell alcohol products at below cost prices (at an estimated cost to the Exchequer of €21m in reclaimed VAT) and it is likely that this practice would continue if excise rates were increased – exacerbating the differential between on-trade and off-trade prices."*

  While below-cost selling would likely continue as the RIA indicates, the only way this would exacerbate the price differential between the on- and off-trade is **if the degree of below-cost selling increased very substantially** on foot of the Excise increase. No evidence is presented that this would happen, and on the face of it, it is unlikely. Given the degree of price competition already in place in the off-trade compared to the on-trade, there is less scope for the producer and/or the retailer to absorb the tax increase in the former than in the latter.

  As an illustration, according to the CSO's national average price statistics for December 2015[137], a litre of vodka in off-licences retails at €25.91 on average, while a litre of vodka in the on-trade retails at €116.56 on average. A 10% increase in excise on spirits would – all else equal – lift the price of a litre of vodka by €1.96 (VAT inclusive) in both streams. This represents an increase of 7.6% in the off-trade price and 1.7% in the on-trade price. It is clear that **the impact is greater in the off-trade than in the on-trade**. The same applies across the range of alcohol products in the off- versus the on-trade. It also applies for more expensive brands compared to cheaper brands.

- *"The "Higher Taxes" option on its own was discounted on the basis that increases in excise rates would render premium and higher-priced alcohol more expensive, which would not achieve the objective of targeting hazardous and harmful drinkers"*

  This is poorly stated: it is a tautology to state that increased excise would make high-priced alcohol more expensive, since it would make all alcohol more expensive. If what is meant is that increased excise will make high-priced alcohol more expensive relative to low-

[136] Based on Revenue Commissioners' data for the 12 months to September 2015.

[137] http://www.cso.ie/px/pxeirestat/statire/SelectVarVal/Define.asp?Maintable=CPM12&PLanguage=0

priced alcohol, then - as has been demonstrated above - **this is clearly not true. Increased excise has a bigger relative impact on the price of cheap alcohol and through the cheaper retail channel (off-licences) than on more expensive alcohol and through the more expensive channel (on-licences)**. By the same token, this means that the **assertion that increased excise does not target hazardous and harmful drinkers – as characterised in the RIA - is incorrect**.

- As a final point with regard to taxes, we note that earlier in the RIA the author states:
  "Evidence indicates that when these (Awareness/Information/Social Marketing) campaigns are accompanied by the imposition of higher prices/taxes or disincentives they have a direct effect in changing behaviour." (p.5).
  This begs the question as to **why the option of higher taxes combined with awareness campaigns was not considered in the RIA**.

4. Analysis of Costs, Benefits and Other Impacts for Each Option

Each of the five options (a) to (e) is considered, though it must be stated that for a number of them the analysis of costs, benefits and other impacts is somewhat perfunctory. In most cases **costs, benefits and other impacts** are not specifically considered, though they are summarised under these headings in Appendix A of the RIA. Only Option (e), implement the PHAB, is given detailed consideration.

We would make the following specific points with respect to the analysis of options (d) and (e), in Section 4:

(d) **Increasing Taxes**:

- Under *Exchequer Costs*, it is stated:
  "Mixed trade outlets could continue to sell alcohol at below cost prices as a 'loss leader'. Retailer could continue to claim VAT refunds from the Exchequer, as a result of this practice."
  This ignores the fact that the Exchequer would gain from the increased Excise duty rates, regardless of the price at which the product is sold.
- Under *Industry/Retail/Consumer Costs*, the RIA states:
  "Previous experience suggests that higher taxes do not prevent below cost selling of alcohol particularly in mixed trade outlets. This in turn would exacerbate the differential between the on and off-trade margins. Further, the University of Sheffield study noted that a ban on below cost selling (i.e. below the cost of duty and Value Added Tax) would have a negligible impact on alcohol consumption or related harms. It is likely that any increase in

excise duty would, in most cases, be passed on to the consumer, at least in part."

This set of statements is **contradictory and misleading**:

- It is true that higher taxes would not prevent below cost selling, but unless one can argue that the level of below cost selling would *increase*, prices would go up. As indicated above, an increase in the level of below cost selling is unlikely. Indeed, as the last sentence in the above quote acknowledges, the excise duty increase would be at least partly passed on, and this is confirmed by experience in recent years.
- The statement "this in turn would exacerbate the differential between the on and off-trade margins" is **factually incorrect**, as demonstrated above.
- The statement dismissing below cost selling is disingenuous: it defines cost as the excise duty plus the VAT thereon, which is the definition used in the UK when so-called "below cost" selling ban was introduced there in 2014[138]. However, **it grossly understates the actual prices that would pertain if a true below cost selling ban were to be introduced in Ireland**.
  For instance, the excise on a 500ml can of beer @ 4.2% ABV is currently 47c; adding VAT @ 23% brings this up to 58c, far below the price of even the cheapest beers on the market. The equivalent figure for a 750ml bottle of wine is €3.92. Therefore the experiment undertaken by Sheffield University has no meaning, and the same is true of the conclusion drawn in the RIA[139].

(e) Implementing the Measures in the PHAB:

➢ **MUP**

The analysis of the impact of MUP on consumption and alcohol-related harm in Ireland relies heavily on the University of Sheffield's "Sheffield Alcohol Policy Model" (SAPM) as applied to Ireland. The main conclusion, based on econometric analysis, is that introduction of MUP as envisaged by the PHAB would lead to reduced alcohol consumption, but in particular reduced alcohol consumption by heavy drinkers and young drinkers, as well by those in poverty, while having relatively little impact on low risk drinkers. University of Sheffield estimate a net saving to the Exchequer of €1.7 billion cumulatively over 20 years.

[138] www.parliament.uk/briefing-papers/sn05021.pdf

[139] It is worth noting that defining "cost" as Excise plus VAT in this way makes a below cost ban very similar to MUP, albeit at a very low rate.

However, we would have a number of reservations regarding the **methodology used and conclusions arrived at** by University of Sheffield, which can be summarised as follows (see Appendix E for a more detailed discussion):

- The analysis is based on a diary survey covering a single week in the lives of respondents; although respondents are also asked about their usual consumption patterns, this methodology is subject to serious error and bias.
- This is confirmed by the fact that the price levels of alcohol purchases reported by respondents is significantly higher than the market price levels per Nielsen market data, while at the same time the consumption volumes are significantly lower than what one would expect by reference to overall annual duty payment data per the Revenue Commissioners.
- The Sheffield report authors adjust the survey price data to match the Nielsen data, but crucially **change not only the level but also the distribution of the data**. This is perhaps the largest flaw in their methodology.
- They do not however adjust the survey volume data, which is valid in itself, but in combination with adjusted price data undermines the statistical basis of their analysis.
- Rather than attempt to estimate price elasticities of alcohol demand for the Irish market, the Sheffield report authors use adjusted elasticities for England, which is another weakness with their analysis.
- In general, the Sheffield report authors are forced to make a very large number of assumptions and adjustments to the available data to fit it to the SAPM model, and this undermines the validity of their results and conclusions.

With regard to the **impact on consumers**, the SAPM report generates estimates of the impacts on consumption and expenditure for "high risk", "increasing risk" and "low risk" drinkers, as well as with respect to drinkers who are "in poverty". Because of the increased prices, all consumers are found to consume less alcohol, with at risk drinkers reducing by the most.

Because of increased prices, low risk and increasing risk drinkers are found to spend slightly more, while high risk drinkers are found to spend less. This implies that low risk and increasing risk drinkers' demand is not price elastic, while high risk drinkers' demand is price elastic. Two points can be made about this:

- The SAPM as applied to Ireland relies on UK-derived price elasticity data. Given the centrality of this result to the conclusions drawn from the model, it is a significant weakness that Irish elasticities were not generated.

- As pointed out earlier, the literature is mixed with regard to whether heavy drinkers are more price sensitive than light drinkers.

N**o attempt is made to estimate the loss of utility** on the part of consumers. Given the level of expenditure on alcohol annually and the price changes that are being proposed, the loss of utility would be significant. Notably, the SAPM results indicate that those "in poverty" would be significantly impacted by MUP, and this implies that there is an **income distribution effect**, which has not been estimated.

Likewise, **no attempt is made to estimate the impact on producers** (as opposed to retailers), in particular small producers, new market entrants and overseas producers. As indicated in Chapter 3 of this report, these would be significantly negatively impacted compared to more established producers.

The impact on overseas producers is particularly relevant in terms of the **functioning of the Single Market**, an issue that is not considered at all in the RIA, except insofar as it references the September 2015 opinion of the Advocate General of the ECJ on Scottish proposals to introduce MUP. Significant volumes of alcohol consumed in Ireland are produced outside of Ireland, notably wine, which to all intents and purposes is 100% imported.

An important issue that arises with proposals to increase consumer prices or taxes is the impact on **cross-border trading**. Historically, Irish consumers have shown themselves to be willing to cross the border with Northern Ireland to avail of lower prices, as discussed in Chapter 3 of this report.

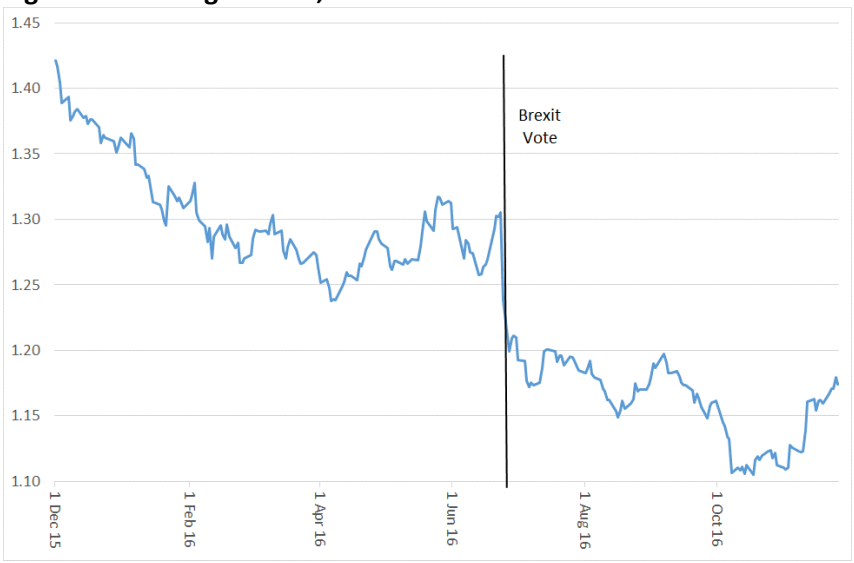
This issue is addressed in both the RIA and the University of Sheffield paper; the latter states:
"However; the fact that alcohol represents a relatively small percentage (12%) of the total spend on cross-border shopping trips suggests that it may not be the principal motivation for most of these trips. Whilst it is therefore likely that MUP policies or promotions bans which increase the price of some alcohol may lead to some increase in cross-border purchasing in Northern Ireland, reducing the estimated impact of the policies, it is probable that such changes in purchasing habits will be small, especially for the large majority of the population (90%) who live outside the Border region."

This is a very off-hand dismissal of the issue, based on an analysis of the status quo at a particular point in time. **No attempt is made to**

model the drivers of cross-border shopping for alcohol, to analyse the impact of the proposed change, or even to review the extensive historic literature on this matter, which as pointed out earlier indicates that in certain years in the 1980s, 25% of the spirits market in the Republic was leaking across the border. Adoption of MUP would be a major change to the status quo and to relative prices north and south, and warrants proper analysis.

In a similar manner, the RIA notes that (at the time of its writing), with the strengthening of Sterling, the flow of cross-border trade is moving in the opposite direction. The weakness of this argument is highlighted by the subsequent depreciation of Sterling, which has accelerated since the Brexit vote:

Figure E1:Sterling Vs Euro, December 2015 - November 2016



Source: Central Bank of Ireland

MUP is a long term policy prescription, that in the absence of similar measures in Northern Ireland would cause a **permanent relative increase in prices in the Republic, and would leave the market more vulnerable to cross-border market leakage**. The economic reality of this is acknowledged in the RIA when it notes:
"*The Government decision from October 2013 indicted* (sic.) *the need to 'act simultaneously' with Northern Ireland 'to allay concerns about negative impacts of cross-border trading'*".
Brexit will undoubtedly become a complicating factor in achieving this policy coordination with Northern Ireland[140].

[140] The prospect of duty-free shopping returning between the UK and Ireland post-Brexit – while perhaps unlikely - cannot be dismissed, and would effectively eliminate the capacity to coordinate MUP policy.

➢ **Health Labelling**

With respect to the costs to industry of health labelling, **no attempt is made to measure the monetary impact, or to assess the impact on small producers** or those with a small presence in the Irish market, or new market entrants. As indicated in Chapter 3 of this report, these could be significantly negatively impacted compared to more established producers.

The RIA states:

"There is also increasing pressure at EU level to include alcohol products in existing labelling provisions. Therefore, these measures may eventually put manufacturers/producers that operate in the Irish market at a competitive advantage."

This is an off-hand remark that has no validity. Firstly, if EU-wide labelling is to be introduced, the Irish measures should be postponed until that time, and made compatible therewith. Secondly, there is no circumstance under which the Irish proposals would confer a competitive advantage on operators in the Irish market. The best they can do is confer no disadvantage, and that would only be the case if the Irish measures are synchronised and compatible with EU-wide measures.

➢ **Restrictions on Marketing, Sponsorship & Promotion**

The RIA assesses the impacts on industry – i.e. the media - of the various advertising restrictions, and concludes in general that the impacts would not be significant, as alcohol is not a major share of advertising on any of the media, and that alternative sources of revenue would be found over time. **No attempt is made to assess the impact of**:

- **The proposed restrictions on the content of advertising** (PHAB Section 12(7)), in terms of potential migration of advertising to overseas broadcasters and the loss of business for Irish advertising agencies, creators of content and related activities.
- **Advertising restrictions on imported publications**, and the possibility that these would exit the Irish market if forced to produce a special edition for Ireland, carrying less alcohol advertising, to meet the restrictions.
- **The overall restrictions on the advertising sector:**
  "Recent data show that the total advertising spend for the past year is in the order of €854m with alcohol products accounting for 3.4% of that figure, well behind financial products, entertainment and automotive category products".
  This is rather dismissive of a sector of the market that is worth €29 million (€854 million x 3.4%).
- **The overall restrictions on producers**, in terms of making it more difficult and expensive to access the Irish market

(particularly for new market entrants), and indeed the possibility that it may benefit existing well-established producers at the expense of other producers.

- **Reduced market choice** (for publications as well as for alcohol) on consumers.

➢ **Structural Separation in Mixed Retail Outlets**

While acknowledging that there is a significant one-off cost for mixed retailers, and there may be a loss of revenue from the removal of point of sale advertising, the RIA counters that:
"however, these costs may be off-set with the introduction of minimum pricing or indeed with the abolition, voluntary or otherwise, of below cost selling of alcohol products in these outlets."

This assumes that the retailer would absorb the some or all of the price increase as a result of MUP. While probably valid for the larger retailers, it might not be the case for smaller retailers who have limited market power.

Also, there are likely to be a proportion of smaller (rural) retailers for whom – as Minister Varadkar has alluded to – the extra cost may make it not worth their while to continue selling alcohol. This would result in a loss of revenue which at the extreme could undermine their overall business, as well as reducing product availability and choice for their customers.

Again, the impact on small producers, overseas producers and market entrants is ignored.

➢ **Restrictions on Promotions**

The RIA states: "*There is no cost to industry in restricting promotions even though their intake is likely to decrease.*" This is clearly a contradictory statement. Further, the impact of the restrictions on the ability of new market entrants and smaller producers to market their products is ignored. The impact on consumers in terms of reduced choice is likewise ignored.

Other Impacts – National Competitiveness

The RIA states:
"Most of the measures proposed in the legislation will have no significant negative impact on national competitiveness. All alcohol products (domestic and imported) will be subject to the conditions set out in the legislation. It is likely that production/consumption levels for the domestic market will fall but will be offset by the higher income for the alcohol industry from sales arising from the MUP proposal."

This statement betrays **a misunderstanding of the concept of national competitiveness**. National competitiveness relates to the capacity of Irish economic agents to compete with their equivalents in other countries. A key issue is the cost of living, which feeds through to wage pressure and directly affects the attractiveness of Ireland for internationally mobile labour, as well as for the tourism sector. MUP would specifically lead to an increase in price levels in Ireland and thus would have a negative impact on Ireland's competiveness.

Socially Excluded and Vulnerable Groups

The RIA notes that alcohol-related harm is higher among the poor, socially excluded and vulnerable groups. It further notes that the in poverty would be more impacted by MUP than those not in poverty. While noting that the former would gain more in terms of improved health and would spend slightly less, according to the Sheffield University analysis, there is no acknowledgement of the loss of utility by lower income groups.

Economic Market/Impact on Consumers and Competition

Under this heading the RIA considers the impact on competition as arising between the on-trade and the off-trade. This is an incomplete analysis. There is also a clear issue of competition between established domestic producers on the one hand, and small and overseas producers and new market entrants on the other. Almost all the proposed measures in the PHAB would advantage established domestic producers vis à vis other market participants, and would therefore stifle competition, to the detriment of consumers and the Single Market.

North-South and East-West Relations

The potential for cross-border leakage is an obvious concern with regulations that can impact on consumer prices, as is the case with MUP. The RIA repeats is dismissal of the scope for this, citing University of Sheffield research and the fact that (at the time of writing) Sterling had strengthened. As discussed earlier in this Chapter, this is a very incomplete and inadequate analysis of the issue.

The **scope for cross-border leakage in an East-West direction is entirely ignored**, despite the proximity, frequency of connections, and the fact that the UK Government has favoured a ban on "below-cost selling" (in fact a ban on selling alcohol below the level of excise plus the VAT thereon) over MUP for England and Wales, which would

still enable alcohol to be sold in England and Wales very much more cheaply than in Ireland under MUP[141].

5. Consultation

Consultation is a vital element of the RIA process, particularly for a proposal such as the PHAB which would have such far-reaching impacts if implemented. It is noteworthy then that this section of the RIA starts with:
"While no formal specific consultation process has been entered into for the introduction of these measures, engagement with the various stakeholders took place during the process for drafting the Steering Group Report on a National Substance Misuse Strategy, 2012." (our emphasis)

The only consultation that appears to have occurred is in relation to the transition times for the introduction of the health labelling provisions. The RIA notes that most industry and media stakeholders do not support the measures in the Bill. It is clearly inadequate in these circumstances that the only consultation that was undertaken occurred over three years before the publication of the Bill. Furthermore, the only industry consultation the Department proposes to undertaken with the industry post publication of the Bill will be with regard to the transitional period for the marketing and advertising provisions.

6. Enforcement and Compliance

The RIA states:
"It will not be difficult for all sectors of the alcohol trade and other stakeholders to comply with the introduction of these measures over a period of time."
This is a rather glib statement, given that the Department has not consulted with the industry. At a minimum, significant impositions would be placed on mixed retail outlets with regard to structural separation. The Minister himself highlights the possibly that some traders may withdraw from selling alcohol altogether. Significant financial burdens would also be placed on small producers, those with a small share of the Irish market, and new market entrants, and costs and/or revenue losses would also be imposed on various elements of the media.

7. Review

With regard to regular review, the RIA Guidelines indicate:
"The final step in the RIA is to identify mechanisms for periodically reviewing the regulations to evaluate the extent to which they are achieving the objectives/intended benefits. …… Provision for review is particularly important given that the analysis within the RIA will be based on certain assumptions which may not hold in reality."
and

[141] Woodhouse & Ward, 2015, *Alcohol: minimum pricing*, House of Commons Library, Briefing Paper Number 5021, 25 September 2015. www.parliament.uk/briefing-papers/sn05021.pdf

"Performance indicators should be identified to indicate the extent to which the regulations are meeting their objectives." (p.34)

The RIA fails to set out an ongoing review process for this major legislative proposal. Reference is made only to the first annual review of the *National Substance Misuse Strategy*, due at the end of December 2015, around the same time as the PHAB was published.

E3: Conclusions on the RIA

An RIA has been undertaken with respect to the measures proposed in the PHAB, as is appropriate given the scope of these measures and their potential impacts. However, the RIA is deficient in a number of important respects, by reference to the Department of the Taoiseach's 2009 RIA Guidelines.

Notably:

- A key rationale for the Bill is to reduce the level of alcohol-related harm in Irish society. It is therefore incumbent on the promoters of the Bill to produce an economic estimate of that harm. While an estimate is produced, it is inadequate in many respects, including:
  - Many of the values are based on percentages of the health, justice and other national budgets for a recent year; these percentages are drawn from an earlier report, which itself drew them from earlier UK studies. Falling public expenditure in the meantime has meant that the money value of the estimate harm has fallen, but the estimate is really without solid basis, as is acknowledged by its author.
  - By the same token, no cognisance has been taken of the fact that alcohol consumption has fallen significantly since the early 2000s. Since it is a central premise of the RIA that reducing aggregate consumption will reduce harm, this should have been reflected in the estimate of harm.
  - A number of estimates are rounded percentages which are then applied to aggregate expenditure figures based on very weak evidence.

  Taking all this into account, the estimate of harm is seriously deficient and cannot be depended upon. However, it is compared with the total Exchequer revenues from alcohol to conclude that the harm done exceeds the revenues generated. There is no gainsaying that alcohol abuse inflicts significant harm on Irish society, but all the more reason why a robust calculation of this harm should be undertaken, not just for the current context but to inform wider health and social policy.

- Proper consultation with the industry was not undertaken. This is a far-reaching piece of proposed legislation and would affect many aspects of the alcohol industry, the wider economy and consumers, significantly restricting market activities and imposing costs on businesses and

consumers. Proper consultation is absolutely essential in these circumstances.

- A list of regulatory options for achieving the stated objectives is presented at the start of the RIA, but this excludes the option of a ban on below-cost selling. Below cost selling is briefly considered but dismissed later in the RIA, as having a negligible impact on prices and thus on behaviour. However the form of below cost ban considered is that introduced in England and Wales in 2014, i.e. a ban on selling below the level of excise plus related VAT. This is clearly not the same as a true below cost selling ban, and greatly underestimates the potential impact of such a policy.

- The assessment of the option to increase alcohol taxes contains a number of important errors. For instance, it is asserted that:
  - Increasing taxes would affect operating costs in the on- and off-trade equally. This is not correct – increasing taxes clearly impacts the off-trade more as they represent a higher proportion of the total price.
  - Excise rates, as regulated by EU Directives, do not take into account alcohol content. This is not correct – excise on beer and spirits are directly related to alcohol content, while those on wine and cider are levied in stepped bands related to alcohol content. Spirits carry a significant excise burden relative to their alcohol content.
  - Increasing taxes in the presence of below cost selling would exacerbate the price differential between the off- and on-trade. This would only be the case if the degree of below-cost selling increased *very substantially* as taxes increased. No evidence is presented for this, and on the face of it, it is unlikely, as recent experience indicates that excise increases are passed on to consumers. Indeed, the RIA itself recognises this - "it is likely that any increase in excise would, in most case, be passed onto the consumer, at least in part" – thus contradicting itself. Under most conceivable outcomes, increased excise would reduce the differential between the off- and on-trade.
  - It would render higher-priced alcohol more expensive, which would not achieve the objective of targeting harmful drinkers. However, increasing excise has a greater relative impact on the price of cheap alcohol than of more expensive alcohol.

- MUP is subjected to assessment by University of Sheffield, who conclude that it would be highly effective is reducing harm from alcohol, and in general achieving the objectives of the Bill. However, there are serious flaws in the University of Sheffield analysis, including that:
  - it is based on a one-week diary survey, and extrapolated to a year's consumption.
  - the authors significantly adjust both the level and distribution of reported prices downwards to match Nielsen market date, while

they do not adjust reported volume data upwards to match Revenue Commissioners' aggregate volume data; neither should be adjusted, but there is inconsistency in adjusting one but not the other.
- the authors apply UK price elasticity of demand data to the Irish model.

These are serious flaws that introduce significant bias into their analysis, and undermines their results. Furthermore:
- no attempt is made to estimate the loss of consumer utility or the cost to producers; and
- the scope for increased cross-border leakage if similar measures are not introduced in neighbouring jurisdictions is dismissed without any analysis, and despite established evidence that Irish consumers have historically diverted significant portions of their alcohol expenditure across the border when price differentials are substantial.

- The impact on national competiveness is dismissed, but the text betrays a fundamental misunderstanding of the concept.

- Difficulties for the sector in implementing the regulations are dismissed, but this it to ignore for instance the impacts on retailers of implementing structural separation, and the financial burden on smaller producers and new entrants, as well as on sections of the media.

Other deficiencies in the RIA include:
- The current regulatory framework is not described.
- The economic importance of the alcohol sector is not adequately presented.
- The RIA contains no assessment of the compliance burden.
- A Cost Benefit Analysis is not undertaken, and no reason for this given.
- The RIA is required to be produced early in the process, to act as a basis for consultation, and must be produced before the Heads of Bill goes to Government; this has not been done.
- A review process is required to be established, but this is not done.

E4: University of Sheffield Alcohol Policy Model (SAPM)

The university of Sheffield alcohol paper[142] is an ambitious attempt to analyse the effects of:
- Minimum Unit Pricing (MUP),
- a ban on below-cost selling and
- a ban on price-based promotions on different drinker groups (low risk, increasing risk and high risk) as well as income groups (in poverty and not in poverty),

in an Irish context, using their Sheffield Alcohol Policy Model (SAPM).

[142] Angus, C., Meng, Y., Ally, A., Holmes, J. and Brennan, A. (2014). *Model-based appraisal of minimum unit pricing for alcohol in the Republic of Ireland – An adaption of the Sheffield Alcohol Policy Model version3*. University of Sheffield.

Accomplishing such a task requires detailed and comprehensive data. This is however the central flaw in the analysis, as the necessary data needed to arrive at the conclusions in the paper is not available. Therefore the paper adjusts and corrects the dataset, which is not generally acceptable in this field of research.

The paper uses data from the National Alcohol Diary Survey (NADS) from 2013 with a sample size of approximately 6,000 individuals. The survey records a range of characteristics including age, sex, workplace abstinence and mean consumption of alcohol. The diary is used by the respondents to record the previous week's alcohol purchases, including the channel of purchase (on- or off-licence), the price they paid and the type and quantity. Additionally the survey has questions on the quantity and frequency of usual consumption. Based on this data the authors derive the mean weekly consumption, which is the dependent variable in their model. However, as indicated, the authors then make adjustments to the data.

Reported Prices and Consumption Levels

A general issue for alcohol research is the data quality gathered in surveys. Non-response bias, response biases and failure to recall often result in misreporting. Additionally, as many diary surveys only cover short periods of time the average weekly consumption in the survey period is unlikely to reflect the average weekly consumption throughout the year. In particular the proportion of high alcohol consumers and low alcohol consumers can be overestimated and the moderate consumers underestimated, due to the variance that could be expected in a single week's consumption (notwithstanding that respondents are asked about usual consumption patterns)[143]. Therefore diary surveys will often misclassify respondents in consumption categories.

The NADS data is subject to misclassification, which the authors acknowledge and try to correct for. However, as pointed out in Duffy (2015)[144], they do not differentiate between structural zeroes (i.e. abstainers or non-consumers) and stochastic zeroes which occur due to the short reference period. Therefore the method used to correct for misclassification is undermined and according to Duffy "…accuracy of the classification of drinkers by usual consumption is questionable."

Duffy (2015) additionally points out that The NADS data did not have sufficient information about the respondents to classify them in "poverty" or "not in poverty" categories based on the income data. The authors therefore match the household composition and income data from NADS with income

[143] Duffy, J. C. and Alanko, T. (1992). "Self-reported consumption measures in sample surveys – a simulation study of alcohol consumption" *Journal of Official Statistics*. Vol 8, p. 327-350.

[144] Duffy J. (2015). "Model-based appraisal of minimum unit pricing for alcohol in the Republic of Ireland – an adaptation of the Sheffield alcohol policy model version 3".

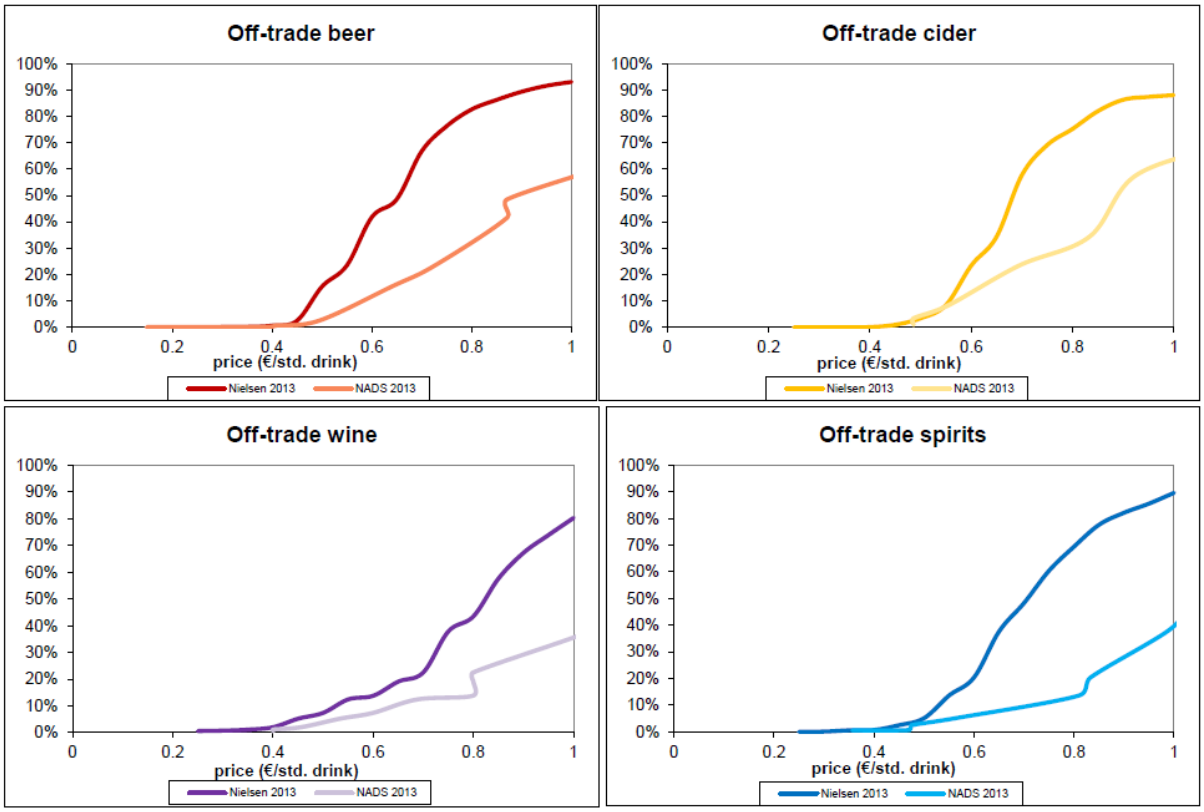
data from the Survey on Income and Living Conditions (SILC) from the CSO. Thereby the authors derive an equivalised household income. However this exercise is very tenuous and conclusions based on this data should not be relied upon when evaluating pricing policies and their effect on consumption.

In the diary data the respondents report the quantity bought and price paid for alcoholic beverages, and the channel in which they purchased them. The data was then converted into price per standard drink based on estimated alcohol content of different alcohol types. However, the price distribution reported in the diaries was higher than that generated by Nielsen for the DoH for the purpose of the study. Nielsen reported the off-trade price distribution for Ireland based on aggregated sales data with 17 price bands and 24 beverage categories.

The authors argue that the survey respondents are overestimating the price of the alcoholic beverages they have purchased the week before due to issues of memory, or biases introduced by missing price data. This may very well be the case but the authors decide to adjust the survey price data to the Nielsen sales data, which not only shifts the distribution down but changes the shape of the distribution, as can be seen in Figure C1 overleaf, taken from the Sheffield paper. Therefore the authors are subjecting themselves to direct bias, and this undermines all of their results which use price data.

Additionally, this adjustment is only made for off-trade purchases as Nielsen does not supply on-trade sales data. Therefore they change the distribution for one part of the price data and not the other, but still expect to get reliable overall price elasticities. Generally one should always use the survey responses in these analyses. Overall, by adjusting the price data the results are subject to severe biases and are underestimated, which will overestimate the effect of a MUP strategy. Although the authors admit this flaw with their methodology, they nonetheless rely on the model results for their conclusions.

Figure E1: NADS Raw & Nielsen Adjusted Price Distributions for Off-Licence Beverages



Source: Angus *et al.* (2014)

The authors argue in an earlier section of their paper that under-reporting of alcohol consumption can be caused deliberately or due to recall issues, and that methods to adjust for this under-reporting can be applied. However, the authors correctly state that these methods assume that under-reporting only varies by drinking level (i.e. heavy drinkers may under-report to a greater degree than light drinkers), whereas in reality gender and age are also important determinants of consumption.

Additionally, as alcohol-related health conditions are also self-reported, adjusting for this under-reporting will introduce a bias and impact the results. Therefore the authors argue against adjusting the consumption data. However, how can it be acceptable to adjust self-reported price data and link it to self-reported consumption data without being subject to the same unknown bias? The same arguments can be used to argue that adjusting the self-reported price data will undermine the results.

Price Elasticity Estimates

The above adjustment issue is at the core of the problem with the University of Sheffield report. However there are additional issues with the price elasticity of alcohol demand estimation. The 'pseudo-panel' methodology used by the authors requires data on the alcohol volume purchased, price, and demographic variables (age and gender). For this they consider using the

CSO's Household Budget Survey (HBS) from 1987, 1994, 1999, 2004 and 2009; however they are unable to as the HBS does not record volumes of alcohol purchased (only expenditure levels). Therefore they cannot calculate the price per standard drink, and are forced to attempt a Tobit estimation using the NADS data.

The Tobit model can however produce elasticity estimates which are larger than estimates from large scale international meta-analysis, as the authors admit. In order to adjust for this overestimation they assume that the price elasticity of alcohol demand is the same in Ireland and in England. Essentially they fit the same model on the NADS data (Ireland) and LCF/EFS data (England), then compare the English results to the 'pseudo-panel' elasticities estimated for England, and use that ratio to adjust the Irish data.

This approach assumes that the alcohol demand and demographic factors in Ireland are identical to those of England, which is quite an assumption and not adequately defended in the paper. Using these elasticities to analyse the effect of alcohol price increases on alcohol demand in Ireland is unwise. Detailed aggregate alcohol market data is available for Ireland, from which it would have been possible to estimate the required elasticities.

Because of these issues, the conclusions regarding the effects of a general 10% price increase on all alcohol products, the implementation of the MUP policies (40c, 50c, 60c, 70c, 80c, 90c, 100c, 110c, and 120c), the ban on below cost selling, the ban on all price based off-trade promotions and a ban on promotions in tandem with each of the modelled MUP policies are undermined and biased.

Alcohol related harm and risk functions

Duffy (2015) further points out that, as noted in INSERM (2002)[145] and Benichou (2007)[146] there are a number of issues when applying average risk functions to different populations. The authors assume that the risk functions used to establish the relationship between alcohol consumption and the risk of health conditions are applicable to the Irish population, which is not necessarily true. Drinking patterns, genetics, choice of beverage and the fluctuating exposure to other risk factors are among the reasons why risk functions for various populations can differ significantly from each other.

Additionally, the level of intoxication is measured by peak alcohol consumption in the previous week as a proxy. However, similarly to the other measures of consumption discussed above, it is not legitimate to assume that this peak consumption level is representative of the year.

[145] INSERM (2002). "Meta-analysis of observational studies" Ateliers de Formation 137:INSERM: Paris.
[146] Benichou, J. (2007) "Biostatistics and epidemiology: measuring the risk attributable to an environmental or genetic factor" *C. R. Biologies*. Vol 330, p. 281-298.

APPENDIX F: ECONOMETRIC ANALYSIS

F1: Data Sources and Methodology

Our econometric modelling attempts to explore the relationship between consumption of various types of alcohol, and price, income and other factors.

A Priori, one would expect a negative relationship between price and consumption of alcohol – consumption could be expected to decrease if the price increases. Income on the other hand would be expected to have a positive coefficient as consumption of alcohol per adult should (as with most products) increase as income increases.

However, experience indicates that consumption of alcohol is relatively insensitive or inelastic to changes in both income and price (the impact is less than one-for-one)[147]. So the results of the analysis may reflect this characteristic of alcohol demand.

The data has been collected from Q4 1996 to Q4 2015 inclusive, yielding 77 quarterly observations, as follows:

- Consumption of total alcohol, spirits, cider, beer and wine is proxied by Revenue Commissioners monthly excise duty data. In other words the data relates to Irish duty-paid volumes released from bond or imported directly for distribution.
- Consumption data is expressed as consumption per capita aged 15 years and older, which is the internationally established norm for alcohol consumption analysis.
- The CSO's Retail Sales Index (RSI) excluding motor sales is used as a proxy for income.
- Annual population data is derived from the CSO Census of Population and inter-censal estimates, with interpolations for quarterly data[148].
- Price data is expressed in relative terms, i.e. the price of a particular type of alcohol relative to the overall consumer price level. The relative price is derived as the CSO's Consumer Price Index (CPI) for each alcohol type divided by the overall CPI excluding housing.
- We also tested the relative price of alcohol in the UK compared to in Ireland, as historically a relationship has been found between duty-paid spirits sales in Ireland and the relative price of alcohol in the UK. We only present the results for spirits here, as we were unable to detect such a relationship for alcohol as a whole, beer, wine or cider.
- A time trend is also included, to test whether there are long term trends in consumption on top of the other factors tested here. These could be related to wider cultural, lifestyle or fashion changes.

[147] Alcohol is seen as one of the "old reliables" in the annual Budget – an increase in Excise Duty can be expected to generate an increase in Exchequer revenue, because the reduction in consumption will be less than the increase in price.

[148] The data is interpolated using the equation $y = \frac{y_1 - y_0}{x_1 - x_0}(x - x_0) + y_0$ with y representing the missing quarter of population estimate, y_0 and y_1 are population estimates before and after the missing population estimate, x is the quarter of the missing population estimate and x_0 and x_1 are the quarters immediately before and after. Thereby the interpolation generates population estimates based on the observed population estimates before and after in time.

- Consumption and RSI data were seasonally adjusted to account for seasonal variability, and data were converted to natural logarithms to minimize the standard deviation and generate direct constant elasticities in estimation.

For convenience, in the following discussion, we use the terms consumption, price and income to refer respectively to –

- duty paid volumes per population aged 15 and over, seasonally adjusted;
- the alcohol CPI relative to the overall CPI (excluding housing); and
- the RSI (excluding motor sales), seasonally adjusted.

Tables F1 and F2 overleaf summarise the key statistics of the dependent and independent variables respectively.

Specification tests revealed autocorrelation of varying degree which can be modelled using the AutoRegressive Moving Average (ARMA) methodology. No unit roots were observed. The models will thereby follow the specification shown in the equation below, which models the relationship between alcohol consumption per adult, price and income, accounting for an AR(1) process.

$$ln(Consumption)_t = \beta_0 + \beta_1 ln(Price)_t + \beta_2 ln(Income)_t + \mu_t$$

where

$$\mu_t = \rho\mu_{t-1} + \epsilon_t \qquad \text{and} \qquad \epsilon_t \sim i.i.d.N(0, \sigma^2)$$

The econometric analysis employs different versions of this model, depending on the alcohol category and the order of autocorrelation. The order of autocorrelation will be indicated by the significance of the L.ar variable (signifying an AR (1) process) and the L2.ar variable (signifying an AR (2) process). All coefficients are accompanied by the standard errors below in brackets and the asterisks indicating the significance of the coefficient based on a standard t-test.

Note: In the following analysis, cross-price elasticities (the sensitivity of demand for one type of alcohol to a price change in another type) are not presented, except to the degree that demand for an alcohol type in the on- or off-trade is affected by price changes in the other sales channel. Cross-price elasticities were tested for, but were not detected in the model.

Table F1: Dependent Variables Summary Statistics Q4 1996-Q4 2015

Variables	Observations	Mean	Std. Div.	Min	Max
Alcohol Consumption SA	77	1.025e+07	689,462	8.388e+06	1.129e+07
Alcohol Consumption Per Adult SA	77	3.139	0.301	2.661	3.545
Ln(Alcohol Consumption Per Adult SA)	77	1.139	0.0970	0.979	1.266
Beer Consumption SA	77	5.443e+06	550,355	4.353e+06	6.013e+06
Beer Consumption Per Adult SA	77	1.682	0.304	1.207	2.073
Ln(Beer Consumption Per Adult SA)	77	0.503	0.187	0.188	0.729
Beer Consumption Off-trade SA	77	1.305e+06	519,116	488,857	1.895e+06
Beer Consumption On-trade SA	77	4.143e+06	1.010e+06	2.736e+06	5.465e+06
Beer Consumption Off-trade Per Adult SA	77	0.386	0.130	0.177	0.537
Beer Consumption On-trade Per Adult SA	77	1.298	0.430	0.759	1.897
Ln(Beer Consumption Off-trade Per Adult SA)	77	-1.020	0.391	-1.734	-0.621
Ln(Beer Consumption On-trade Per Adult SA)	77	0.205	0.341	-0.276	0.640
Spirits Consumption SA	77	1.996e+06	221,370	1.583e+06	2.462e+06
Spirits Consumption Per Adult SA	77	0.612	0.0912	0.481	0.797
Ln(Spirits Consumption Per Adult SA)	77	-0.501	0.147	-0.732	-0.227
Spirits Consumption Off-trade SA	77	1.133e+06	202,714	652,296	1.483e+06
Spirits Consumption On-trade SA	77	880,787	237,223	539,957	1.356e+06
Spirits Consumption Off-trade Per Adult SA	77	0.343	0.0423	0.235	0.413
Spirits Consumption On-trade Per Adult SA	77	0.276	0.0947	0.150	0.439
Ln(Spirits Consumption Off-trade Per Adult SA)	77	-1.079	0.133	-1.447	-0.884
Ln(Spirits Consumption On-trade Per Adult SA)	77	-1.349	0.354	-1.894	-0.822
Cider Consumption SA	77	766,805	114,350	489,458	934,942
Cider Consumption Per Adult SA	77	0.235	0.0388	0.177	0.303
Ln(Cider Consumption Per Adult SA)	77	-1.463	0.166	-1.732	-1.193
Cider Consumption Off-trade SA	77	286,244	73,237	169,524	388,830
Cider Consumption On-trade SA	77	482,948	139,630	279,447	757,984
Cider Consumption Off-trade Per Adult SA	77	0.0859	0.0157	0.0562	0.108
Cider Consumption On-trade Per Adult SA	77	0.150	0.0509	0.0775	0.255
Ln(Cider Consumption Off-trade Per Adult SA)	77	-2.473	0.195	-2.878	-2.223
Ln(Cider Consumption On-trade Per Adult SA)	77	-1.956	0.347	-2.558	-1.368
Wine Consumption SA	77	2.068e+06	596,121	880,781	2.693e+06
Wine Consumption Per Adult SA	77	0.618	0.136	0.318	0.750
Ln(Wine Consumption Per Adult SA)	77	-0.511	0.254	-1.145	-0.287

Table F2: Independent Variables Summary Statistics Q4 1996-Q4 2015

Variables	Observations	Mean	Std. Div.	Min	Max
Relative Consumer Price Index Alcohol	77	1.000	0.0301	0.944	1.053
Ln(Relative Consumer Price Index Alcohol)	77	-0.000578	0.0302	-0.0576	0.0520
Relative CPI Alcohol Off-trade	77	1.037	0.0785	0.870	1.141
Relative CPI Alcohol On-trade	77	0.992	0.0534	0.896	1.082
Ln(Relative CPI Alcohol Off-trade)	77	0.0330	0.0771	-0.139	0.132
Ln(Relative CPI Alcohol On-trade)	77	-0.00958	0.0543	-0.110	0.0787
Relative Consumer Price Index Beer	77	0.999	0.0347	0.934	1.064
Ln(Relative Consumer Price Index Beer)	77	-0.00171	0.0348	-0.0684	0.0622
Relative CPI Beer On-trade	77	0.997	0.0494	0.912	1.087
Relative CPI Beer Off-trade	77	1.037	0.0977	0.860	1.181
Ln(Relative CPI Beer Off-trade)	77	0.0321	0.0954	-0.151	0.166
Ln(Relative CPI Beer On-trade)	77	-0.00431	0.0497	-0.0919	0.0831
Relative Consumer Price Index Spirits	77	0.991	0.0526	0.906	1.059
Ln(Relative Consumer Price Index Spirits)	77	-0.0104	0.0537	-0.0990	0.0570
Relative CPI Spirits On-trade	77	0.976	0.0795	0.831	1.089
Relative CPI Spirits Off-trade	77	1.022	0.0716	0.859	1.152
Ln(Relative CPI Spirits Off-trade)	77	0.0195	0.0711	-0.152	0.141
Ln(Relative CPI Spirits On-trade)	77	-0.0275	0.0838	-0.186	0.0848
Relative Consumer Price Index Cider	77	0.989	0.0372	0.911	1.035
Ln(Relative Consumer Price Index Cider)	77	-0.0115	0.0381	-0.0929	0.0344
Relative CPI Cider On-trade	77	0.986	0.0424	0.893	1.045
Relative CPI Cider Off-trade	77	0.994	0.0418	0.927	1.091
Ln(Relative CPI Cider Off-trade)	77	-0.00673	0.0417	-0.0754	0.0874
Ln(Relative CPI Cider On-trade)	77	-0.0147	0.0437	-0.113	0.0444
Relative Consumer Price Index Wine	77	1.040	0.0812	0.877	1.157
Ln(Relative Consumer Price Index Wine)	77	0.0364	0.0788	-0.131	0.146
Relative CPI Wine Off-trade	77	1.061	0.120	0.850	1.244
Relative CPI Wine On-trade	77	1.003	0.0525	0.896	1.112
Ln(Relative CPI Wine Off-trade)	77	0.0524	0.113	-0.163	0.219
Ln(Relative CPI Wine On-trade)	77	0.00168	0.0525	-0.110	0.106
Relative UK RPI Alcohol in Euro	77	100.7	12.13	74.08	123.5
Ln(Relative UK RPI Alcohol in Euro)	77	4.605	0.122	4.305	4.816
Retail Sales Index All Businesses SA	77	103.3	12.90	70.84	124.6
Retail Sales Index Excl. Motor Sales SA	77	109.9	14.12	75.36	132.0
Ln(Retail Sales Index All Businesses SA)	77	4.629	0.134	4.260	4.825
Ln(Retail Sales Index Excl. Motor Sales SA)	77	4.690	0.138	4.322	4.883

F2: Overall Alcohol Consumption

Two models for overall alcohol consumption are presented in Table F3 overleaf. These respectively explore the relationship between alcohol consumption per capita and

(1) income and the overall price of alcohol,

(2) income and the price of alcohol in the on- and off-trade.

Table F3: Total Alcohol Models Q4 1996-Q4 2015

Variables	(1) Ln(Alcohol Consumption Per Adult SA)	ARMA	sigma	(2) Ln(Alcohol Consumption Per Adult SA)	ARMA	sigma
Ln(Relative CPI Alcohol)	-0.378***					
	(0.144)					
Ln(RSI Excl. Motor Sales SA)	0.313**			0.509***		
	(0.156)			(0.187)		
L.ar		1.198***			0.958***	
		(0.0743)			(0.0502)	
L2.ar		-0.204***				
		(0.0684)				
Ln(Relative CPI Alcohol Off-trade)				-0.00950		
				(0.0994)		
Ln(Relative CPI Alcohol On-trade)				-0.390		
				(0.259)		
Quarter				-0.00450**		
				(0.00186)		
Constant	-0.385		0.0117***	-0.437		0.0111***
	(0.707)		(0.000763)	(0.625)		(0.000770)
Observations	77	77	77	77	77	77

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note: Separate on- and off-trade alcohol consumption was not tested because of a lack of reliable on- and-off-trade wine data. Time trend (Quarter) was not significant in Model (1).

The first model indicates that a 1% increase in the price of alcohol generates a 0.38% decrease in consumption, while a 1% increase in incomes generates a 0.31% increase in consumption. This implies that consumption of alcohol is relatively insensitive or inelastic to changes in both income and price (the impact is less than one-for-one), which is indicated above is not unexpected for alcohol demand.

The second model, which incorporates alcohol prices in the on- and off-trades, indicates that a 1% increase in income results in a 0.51% increase in the consumption. The price variables in the on- and off-trades are not statistically significant, which implies that the overall consumption of alcohol is only sensitive to the joint price in the on- and off-trade alcohol, not the individual sales channel price levels. That is, the model implies that if the price level changes in the on-trade only or the off-trade only, there would not be a change in overall consumption.

In model two there is also a significant negative time trend present. That is as time goes by, alcohol consumption gradually falls, holding everything else steady. This matches the fact that consumption of alcohol per capita is falling over time.

F3: Beer Consumption

A number of models for beer consumption are estimated, respectively testing:

- beer consumption in total,
- beer consumption in the off-trade and in the on-trade, and
- consumption of lager, stout and ale.

Total Beer

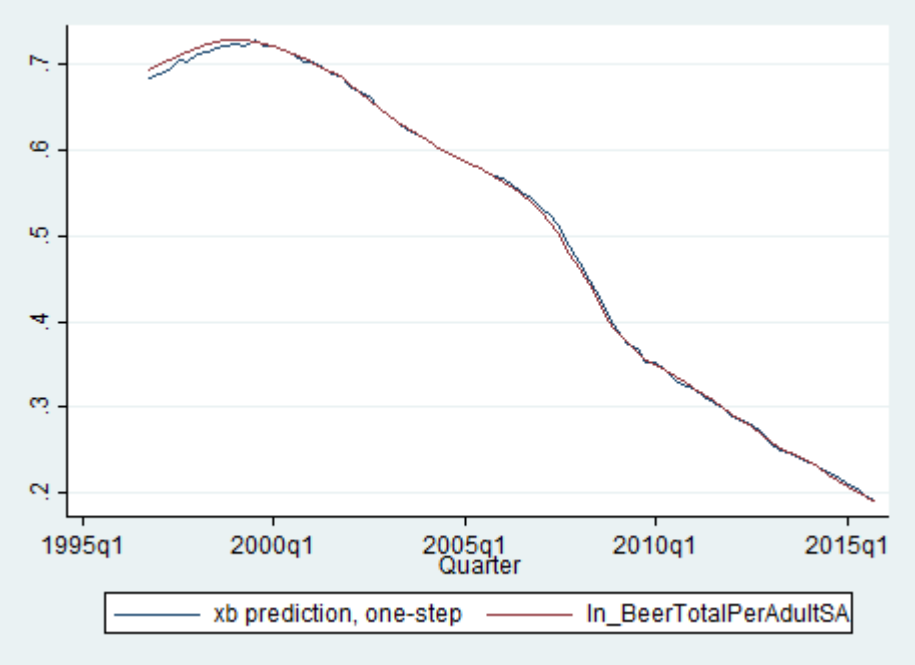
Two versions of the total beer model were run: (1) where the overall price of beer was used and (2) where prices in the on- and off-trade were used (Table F4 and Figure F1 overleaf). Results were as follows:

- Income was found to have a significant effect on consumption: a 1% increase in incomes yields a modest 0.24% increase in total beer consumption.
- We could not detect a price impact, whether in terms of overall price or prices in the on- and off-trades.
- The time trend is small and negative, reflecting the downward trend in actual beer consumption over time.

Models (3) and (4) in Table F4 attempt to measure demand for beer in the off-trade and on-trade respectively. They find that:

- Neither a price nor an income effect were found for consumption of beer in either channel.
- There is a very small negative time trend in the on-trade, again matching the fact that beer consumption per capita is falling over time.

Figure F1: Estimated Vs Actual Beer Consumption [Logged, Model (1), Table F4]



Lager

We likewise ran models testing demand for lager, as presented in Table F5, testing respectively the sensitivity of total lager consumption (1) to overall lager prices, and (2) to prices in the off- and on-trades. The results were as follows:

- Demand for lager was found to be slightly sensitive to the overall price of lager, but when considering separately prices on the off- and on-trade, only an effect for the latter was found, and this was marginal.
- No impact from income was detected.
- There was a gradual downward time trend in lager consumption, independent of either income or price.

Models (3) and (4) in Table F5 tested demand for on-trade lager and off-trade lager. The results were as follows:

- No impact from income was detected.
- Lager in the on-trade was weakly sensitive to price in the on-trade, but no other price relationship was detected.
- There was a gradual downward time trend in on-trade lager consumption, independent of either income or price.

Table F4: Overall Beer Models Q4 1996-Q4 2015

Variables	(1) Ln(Beer Consumption Per Adult SA)	ARMA	sigma	(2) Ln(Beer Consumption Per Adult SA)	ARMA	sigma	(3) Ln(Beer Consumption Off-trade Per Adult SA)	ARMA	sigma	(4) Ln(Beer Consumption On-trade Per Adult SA)	ARMA	sigma
Ln(Relative CPI Beer)	-0.0109											
	(0.0640)											
Ln(Relative CPI Beer Off-trade)				0.0245			-0.0303			-0.00632		
				(0.0600)			(0.509)			(0.0119)		
Ln(Relative CPI Beer On-trade)				-0.0502			-0.0442			-0.0216		
				(0.0824)			(0.846)			(0.0225)		
Ln(RSI Excl. Motor Sales SA)	0.241***			0.240***			0.142			0.0106		
	(0.0454)			(0.0453)			(0.673)			(0.0165)		
Quarter	-0.00837***			-0.00819***			0.0122			-0.0122***		
	(0.000833)			(0.000875)			(0.00970)			(0.00163)		
L.ar		0.989***			0.988***			1.423***			1.976***	
		(0.0252)			(0.0253)			(0.0704)			(0.0107)	
L2.ar								-0.44***			-0.98***	
								(0.0603)			(0.0105)	
Constant	0.894***		0.00441***	0.864***		0.00440***	-4.025*		0.0273***	2.394***		0.00159***
	(0.208)		(0.000356)	(0.218)		(0.000356)	(2.405)		(0.00124)	(0.316)		(0.000139)
Observations	77	77	77	77	77	77	77	77	77	77	77	77

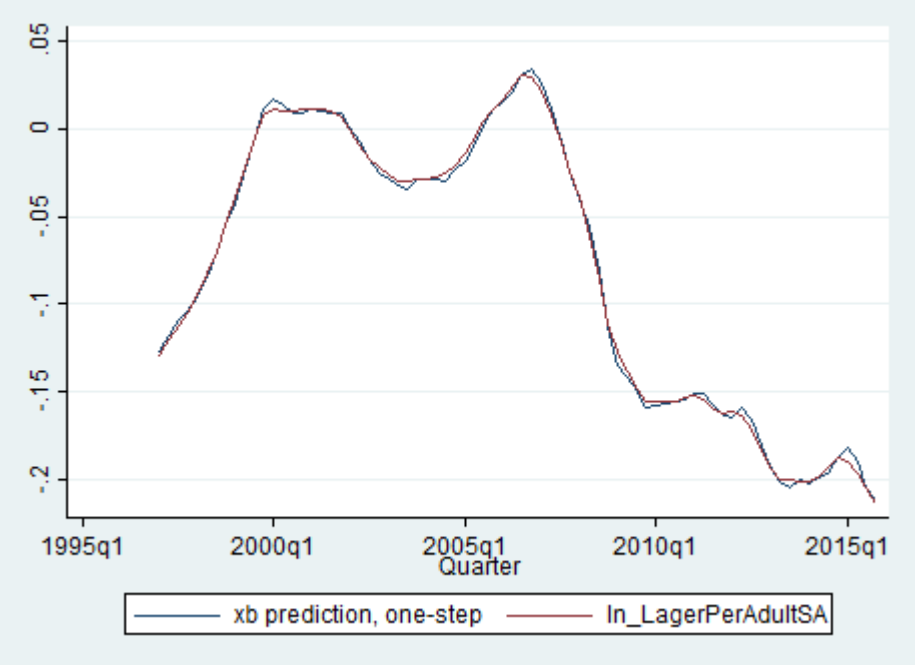
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table F5: Lager Models Q4 1996-Q4 2015

VARIABLES	(1) Ln(Lager Consumption Per Adult SA)	ARMA	sigma	(2) Ln(Lager Consumption Per Adult SA)	ARMA	sigma	(3) Ln(Lager Consumption Off Trade Per Adult SA)	ARMA	sigma	(4) Ln(Lager On Trade Per Adult SA)	ARMA	sigma
Ln(Relative CPI Lager)	-0.0667**											
	(0.0325)											
Ln(RSI Excl Motor Sales SA)	0.0204			0.0191			0.0762			0.0109		
	(0.0351)			(0.0354)			(0.646)			(0.0468)		
Quarter	-0.0023***			-0.00220***			0.0136			-0.009***		
	(0.000780)			(0.000804)			(0.0108)			(0.00244)		
L.ar		1.929***			1.929***			1.465***			1.939***	
		(0.0343)			(0.0344)			(0.102)			(0.0331)	
L2.ar		-0.947***			-0.946***			-0.478***			-0.953***	
		(0.0353)			(0.0356)			(0.101)			(0.0322)	
Ln(Relative CPI Lager Off-trade)				0.00570			-0.0810			0.0286		
				(0.0294)			(0.567)			(0.0404)		
Ln(Relative CPI Lager On-trade)				-0.0808*			0.0381			-0.137***		
				(0.0450)			(0.774)			(0.0511)		
Constant	0.240		0.00302***	0.221		0.003***	-4.189*		0.025***	1.040**		0.004***
	(0.167)		(0.000291)	(0.171)		(0.00029)	(2.501)		(0.0001)	(0.468)		(0.00043)
Observations	76	76	76	76	76	76	76	76	76	76	76	76

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure F2: Estimated Vs Actual Lager Consumption [Logged, Model (1), Table F5]



Stout

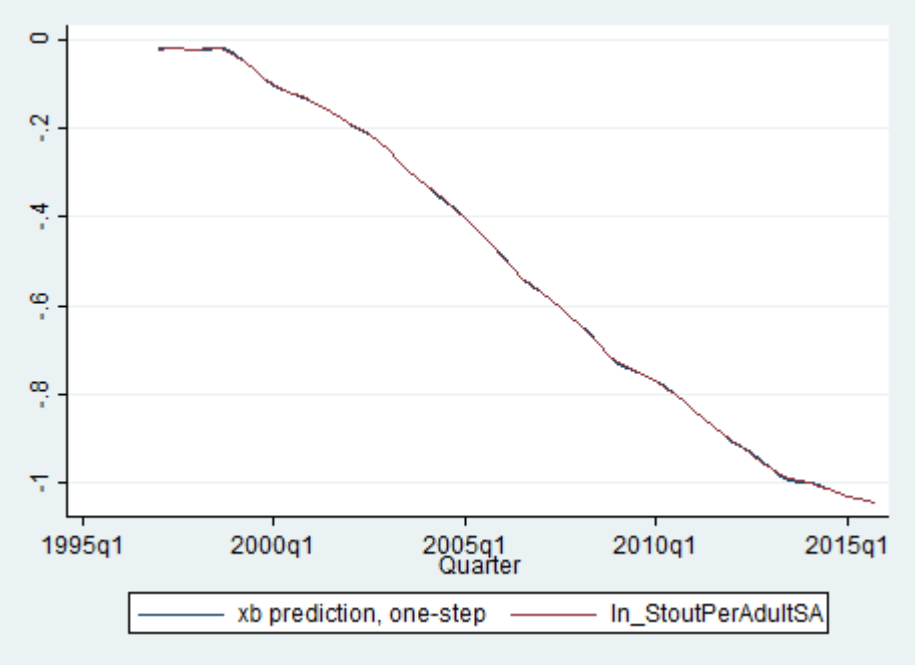
We ran a model, as presented in Table F6 and Figure F3, testing the sensitivity of total stout consumption to overall stout prices, and income. The results were as follows:

- Demand for stout was found to be slightly sensitive to the overall price of stout.
- No impact from income was detected.
- There was a gradual downward time trend in stout consumption, independent of either income or price.

Table F6: Stout Model Q4 1996-Q4 2015

VARIABLES	Ln(Stout Consumption Per Adult SA)	ARMA	sigma
Ln(Relative CPI Stout)	-0.0422*		
	(0.0241)		
Ln(RSI Excl. Motor Sales SA)	0.0119		
	(0.0249)		
Quarter	-0.0138***		
	(0.00206)		
L.ar		1.944***	
		(0.0216)	
L2.ar		-0.955***	
		(0.0226)	
Constant	1.981***		0.00213***
	(0.414)		(0.000208)
Observations	76	76	76

Figure F3: Estimated Vs Actual Stout Consumption (Logged, Table F6)



Ale

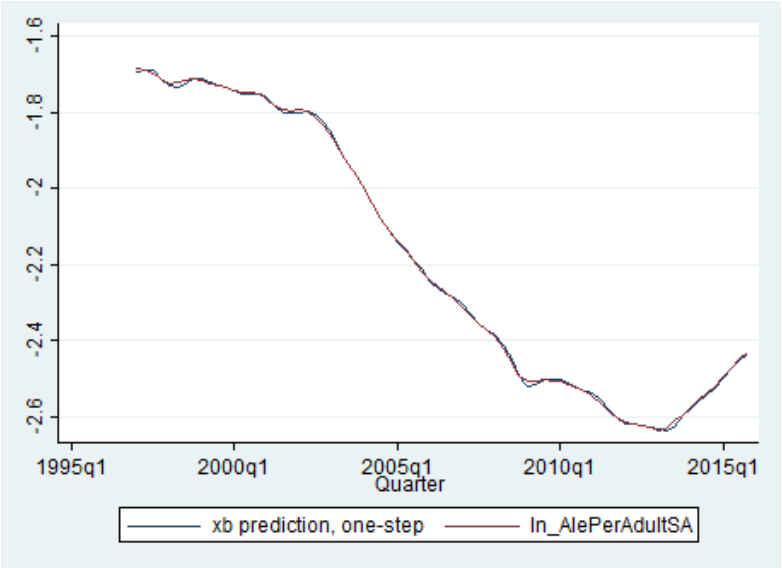
Finally, we ran a model, as presented in Table F7 and Figure F4, testing the sensitivity of total ale consumption to overall ale prices, and income. The results were as follows:

- Demand for ale was found to be slightly sensitive to the overall price of ale.
- No impact from income was detected.
- There was a gradual downward time trend in ale consumption, independent of either income or price. This is despite the fact that consumption of ale has started to recover in recent years (see chart).

Table F7: Ale Model Q4 1996-Q4 2015

VARIABLES	Ln(Ale Consumption Per Adult SA)	ARMA	sigma
Ln(Relative CPI Ale)	-0.109**		
	(0.0534)		
Ln(RSI Excl. Motor Sales SA)	0.0245		
	(0.0456)		
Quarter	-0.0105**		
	(0.00496)		
L.ar		1.935***	
		(0.0553)	
L2.ar		-0.945***	
		(0.0591)	
Constant	-0.309		0.00539***
	(0.918)		(0.000451)
Observations	76	76	76

Figure F4: Estimated Vs Actual Ale Consumption (Logged, Table F7)



F4: Cider Consumption

A similar set of models is estimated for cider (Table F8 and Figure F5 overleaf):

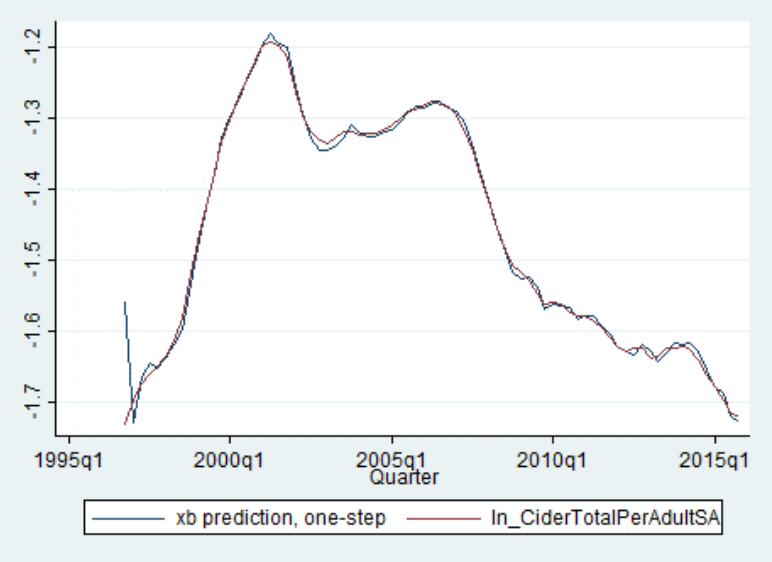
- The first model tests overall demand for cider against the overall price of cider. It finds a modest impact from price - a 1% increase in the overall price results in a 0.24% decrease in overall cider consumption. No impact from income was found.
- The second model tests overall demand against price in both the on-and off-trades, but could only find an impact from the off-trade price. A 1% increase in the off-trade price results in a modest 0.14% decrease in overall cider consumption. Again, this model did not find an impact from income levels.
- The 3rd model indicates that cider consumption in the off-trade is sensitive to both the off-trade price and income levels. A 1% increase in the off-trade price leads to a 0.74% decrease in consumption in the off-trade, while a 1% increase in incomes results in a 0.8% increase in off-trade consumption.
- The results of the 4th model indicate that a 1% increase in income leads to a modest 0.21% increase in the consumption in the on-trade (albeit the coefficient is only significant at the 10% confidence level). Unlike the other models, no price effect was found.

Table F8: Cider Models Q4 1996-Q4 2015

Variables	(1) Ln(Cider Consumption Per Adult SA)	ARMA	sigma	(2) Ln(Cider Consumption Per Adult SA)	ARMA	sigma	(3) Ln(Cider Consumption Off-trade Per Adult SA)	ARMA	sigma	(4) Ln(Cider Consumption On-trade Per Adult SA)	ARMA	sigma
Ln(Relative CPI Cider)	-0.239***											
	(0.0652)											
Ln(Relative CPI Cider Off-trade)				-0.139**			-0.740**			-0.0698		
				(0.0703)			(0.358)			(0.137)		
Ln(Relative CPI Cider On-trade)				-0.0648			0.300			-0.327		
				(0.0978)			(0.580)			(0.224)		
Ln(RSI Excl. Motor Sales SA)	0.109			0.108			0.804***			0.211*		
	(0.0712)			(0.0741)			(0.226)			(0.114)		
L.ar		1.926***			1.927***			1.543***			1.912***	
		(0.0406)			(0.0408)			(0.0781)			(0.0401)	
L2.ar		-0.936***			-			-			-	
		(0.0394)			0.937***			0.669***			0.919***	
					(0.0395)			(0.0719)			(0.0411)	
Constant	-2.052***		0.00725***	-2.048***		0.00719***	-6.246***		0.0340***	-3.135***		0.0132***
	(0.362)		(0.000751)	(0.371)		(0.000730)	(1.053)		(0.00262)	(0.663)		(0.00125)
Observations	77	77	77	77	77	77	77	77	77	77	77	77

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: Time trend was not significant.

Figure F5: Estimated Vs Actual Cider Consumption [Logged, Model (1), Table F8]



F5: Spirits Consumption

Two model structures are tested for spirits. The first ("basic") models are the same structure as is used for beer and cider. The second ("UK") models include the price of alcohol in the UK, to test the scope for cross-border leakage of consumption.

Spirits "Basic" Models

The basic models for spirits follow the same structure as the ones for beer and cider (Table F9 overleaf):

- The first model measures the impact of the overall price of spirits on overall demand for spirits, and indicates that both price and income are significant in explaining demand –
  - A 1% increase in the overall price of spirits was found to lead to a 2.1% decrease in the overall consumption of spirits, indicating that spirits consumption is highly sensitive to changes in the price of spirits.
  - A 1% increase in income results in a 0.53% increase in consumption (albeit at a 10% significance level).
- The 2nd model, which tests demand against price in the on- and off-trades, again indicates that both price and income are significant –
  - A 1% increase in the on-trade price of spirits was found to lead to a 2.1% decrease in the overall consumption of spirits, indicating that spirits consumption is highly sensitive to changes in the on-trade price of spirits.
  - A 1% increase in the price of spirits in the off-trade was found to yield a modest 0.24% decrease in consumption of spirits (albeit at a 10% significance level).
  - A 1% increase in income was found to result in a 0.73% increase in consumption.
- The 3rd model considered consumption of spirits in the off-trade, and found that it is sensitive to both price and income –
  - A 1% increase in the off-trade price generates a 0.57% decrease in the consumption of spirits in the off-trade.

- Off-trade consumption was also found to be sensitive to price in the on-trade. A 1% increase in the on-trade price generates a 1.59% decrease in off-trade consumption. This result is somewhat counter-intuitive, as one might expect price increases in the off-trade to have more of an impact on demand in the off-trade, and indeed that on-trade price increase might drive consumption *increases* in the off-trade (in other words, that they are substitutes for one another).
- A 1% increase in income was found to increase the consumption of spirits in the off-trade by 1.47%. Again, this might be seen as somewhat surprising, as this is the strongest income effect among the types of alcohol tested, and significantly stronger than the income effect for overall spirits consumption, or for on-trade spirits consumption, as the 4th model indicates.

- The 4th model examines demand in the on-trade, and indicates that on-trade consumption of spirits is highly sensitive to prices, but *not* to income –
  - A 1% increase in the price of on-trade spirits leads to a 2.2% decrease in the consumption of on-trade spirits.
  - A 1% increase in the price of spirits in the off-trade yields a 0.6% decrease in the consumption of spirits in the on-trade. Once again, the results indicate that on- and off-trade spirits are not substitutes for each other.

Overall, the basic models indicate that total spirits consumption is highly sensitive to the on-trade price, and relatively insensitive to off-trade prices and to income. This indicates that consumers are more price sensitive in the on-trade than in the off-trade. However, consumption in the off-trade is highly positively sensitive to income levels, signifying that individuals consume significantly more off-trade spirits as their income increases.

Figure F6: Estimated Vs Actual Spirits Consumption [Logged, Model (1), Table F9]

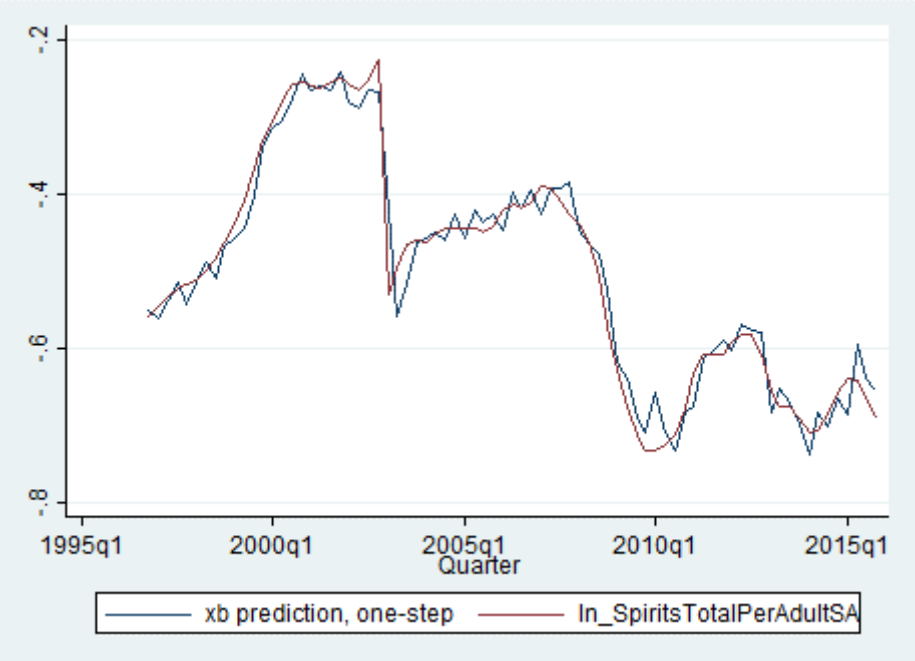


Table F9: Spirits "Basic" Models Q4 1996-Q4 2015

Variables	(1) Ln(Spirits Consumption Per Adult SA)	ARMA	sigma	(2) Ln(Spirits Consumption Per Adult SA)	ARMA	sigma	(3) Ln(Spirits Consumption Off-trade Per Adult SA)	ARMA	sigma	(4) Ln(Spirits Consumption On-trade Per Adult SA)	ARMA	sigma
Ln(Relative CPI Spirits)	-2.06***											
	(0.131)											
Ln(Relative CPI Spirits Off-trade)				-0.238*			-0.574***			-0.604***		
				(0.139)			(0.138)			(0.177)		
Ln(Relative CPI Spirits On-trade)				-2.078***			-1.586***			-2.225***		
				(0.299)			(0.307)			(0.456)		
Ln(RSI Ex. Motor Sales SA)	0.526*			0.726***			1.472***			0.449		
	(0.283)			(0.212)			(0.190)			(0.307)		
L.ar		0.973***			0.951***			0.818***			0.990***	
		(0.0274)			(0.0467)			(0.0775)			(0.0194)	
Constant	-3.042**		0.0274***	-3.994***		0.0277***	-8.025***		0.0294***	-3.583**		0.0350***
	(1.408)		(0.00205)	(0.992)		(0.00203)	(0.896)		(0.00261)	(1.458)		(0.00227)
Observations	77	77	77	77	77	77	77	77	77	77	77	77

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: Time trend was not significant.

Spirits "UK" Models

Historically, a number of econometric analyses have found that consumption of Irish tax-paid spirits is sensitive to the price of spirits in Ireland compared to the UK[149]. In other words, there appears to be scope for cross-border leakage of consumption, where there is a price differential between the two jurisdictions. The high price sensitivity of spirits consumption per the "basic" model might also be capturing some of this effect.

The "UK" models (Table F10 overleaf) explore this relationship, using the same independent and dependent variables as the "basic" spirits models but adding a new variable, i.e. the UK alcohol Retail Price Index (RPI)[150] relative to the Irish alcohol CPI, adjusted for the exchange rate. The same models are tested as before, with the following results:

- In the first model –
  - No relationship between the relative UK price of alcohol and total consumption of duty-paid spirits in Ireland was found.
  - Increases in income is found to have a positive impact on consumption – a 1% increase in income drives a 0.8% increase in total spirits consumption.
  - An increase in the overall price of spirits in Ireland is found to have a strongly negative impact.
  - There is a weak negative time trend, although it is only significant at the 10% confidence interval. This does not feature in the "basic" model, but matches the reality that spirits consumption per capita is falling over time.
- The 2nd model tests for the price of spirits in the off- and on-trade in Ireland, as opposed to the overall price of spirits. It finds essentially the same results as the first model, but it is price in the on-trade that appears to have the impact on demand – off-trade prices were not found to be significant. Also, no time trend was detected.
- Model 3 tests demand in the off-trade as opposed to overall demand. In contrast to the overall demand models, it finds an impact from the relative UK price:
  - A 1% increase in the relative UK price of alcohol leads to a 0.21% increase in off-trade consumption, albeit this is only significant at the 10% confidence interval.
  - A 1% increase in incomes results in a 1.35% increase in off-trade consumption.
  - A 1% increase in off- and on-trade prices of spirits lead to 0.56% and 1.3% decreases in off-trade consumption respectively.

[149] For example Fitz Gerald, J., 1998, *The Distortionary Effects of Taxes on-trade in Border Areas: The Case of the Republic of Ireland - United Kingdom Border*. ESRI Memorandum Series 183. https://www.esri.ie/pubs/MEMO183.pdf

[150] The UK alcohol RPI was used as the UK Office for National Statistics (ONS) does not produce a separate RPI for spirits in the UK (there is a combined spirits and wine RPI). Neither is there a regional Alcohol RPI for Northern Ireland. ONS Research from 2010 indicates that while Northern Ireland has lower prices overall than the UK average, there is very little regional variation with respect to off-trade alcohol, as "a high proportion of items within this division were affected by the dominance of large retailers who displayed consistency in their pricing across regions." http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/regional-consumer-price-levels/2010/index.html

Table F10: Spirits "UK" Models Q4 1996-Q4 2015

Variables	(1) Ln(Spirits Consumption Per Adult SA)	ARMA	sigma	(2) Ln(Spirits Consumption Per Adult SA)	ARMA	sigma	(3) Ln(Spirits Consumption Off-trade Per Adult SA)	ARMA	sigma	(4) Ln(Spirits Consumption On-trade Per Adult SA)	ARMA	sigma
Ln(Relative CPI Index Spirits)	-1.86***											
	(0.187)											
Ln(Relative UK RPI Alcohol)	0.0672			0.0345			0.207*			0.289**		
	(0.120)			(0.150)			(0.124)			(0.128)		
Ln(RSI Excl. Motor Sales SA)	0.834***			0.789**			1.354***			0.803**		
	(0.314)			(0.336)			(0.249)			(0.410)		
Ln(Relative CPI Spirits Off-trade)				-0.254			-0.564***			-0.729***		
				(0.156)			(0.163)			(0.175)		
Ln(Relative CPI Spirits On-trade)				-1.94***			-1.298***			-1.195**		
				(0.456)			(0.420)			(0.501)		
Quarter	-0.0047*			-0.00127			0.00007			-0.0136***		
	(0.00262)			(0.00337)			(0.00179)			(0.00345)		
L.ar		0.921***			0.939***			0.834***			0.941***	
		(0.0654)			(0.0569)			(0.0817)			(0.0531)	
Constant	-3.88***		0.027***	-4.2***		0.028***	-8.431***		0.029***	-3.979***		0.033***
	(1.030)		(0.00191)	(1.107)		(0.00209)	(1.008)		(0.00225)	(1.277)		(0.00231)
Observations	77	77	77	77	77	77	77	77	77	77	77	77

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

- Model 4, which tests demand in the on-trade as opposed to overall demand, also finds an impact from the relative UK price:
  - A 1% increase in the relative UK price of alcohol to a 0.29% increase in the on-trade consumption.
  - The coefficient on the income variable is positive and the on two price variables, on- and off-trade, are negative.
  - On-trade spirits consumption is subject to a negative time trend.

Somewhat counterintuitively, our results find a stronger relationship between the relative UK/Ireland price of alcohol, and consumption in the on-trade, than in the off-trade. Our overall spirits consumption model did not find a relationship with the relative UK/Ireland price of alcohol, however.

F6: Wine Consumption

The wine model (Table F11 overleaf) uses the same structure as for the other alcohol categories, but only for wine in total, due to data limitations (a large majority of recorded wine sales are in the off-trade).

The first model tests demand versus the overall price of wine, whereas the second tests demand versus prices in the on- and off-trades. However, both models return almost identical results:

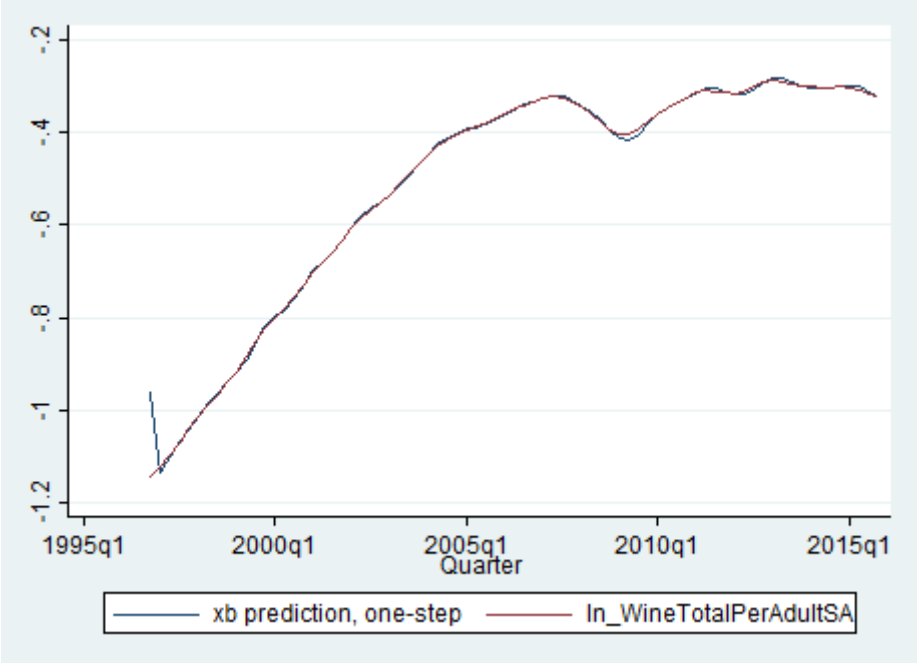
- Wine consumption is only marginally sensitive to incomes levels - a 1% increase in the incomes leads to a 0.07% increase in consumption.
- Consumption is insensitive to price.
- The analysis does however indicate a positive time trend for wine. This matches the reality that consumption has been increasing over most of the time period under consideration, albeit recent data points to a plateauing of consumption (Figure F7 overleaf).

Table F11: Wine Model Q4 1996-Q4 2015

Variables	(1) Ln(Wine Consumption Per Adult SA)	ARMA	sigma	(2) Ln(Wine Consumption Per Adult SA)	ARMA	sigma
ln_Relative CPI Wine	-0.00711					
	(0.0135)					
Ln(Relative CPI Wine Off-trade)				-0.00576		
				(0.0153)		
Ln(Relative CPI Wine On-trade)				-0.00502		
				(0.0522)		
Ln(RSI Excl. Motor Sales SA)	0.0698**			0.0694**		
	(0.0317)			(0.0321)		
Quarter	0.00886***			0.00888***		
	(0.00330)			(0.00331)		
L.ar		1.949***			1.949***	
		(0.0412)			(0.0418)	
L2.ar		-0.955***			-0.955***	
		(0.0406)			(0.0412)	
Constant	-2.565***		0.00374***	-2.566***		0.00374***
	(0.584)		(0.000333)	(0.585)		(0.000333)
Observations	77	77	77	77	77	77

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure F7: Estimated Vs Actual Spirits Consumption [Logged, Model (1), Table F11]



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