EVALUATING THE ECONOMIC IMPACT OF MINIMUM UNIT PRICING IN SCOTLAND

OUR UNDERSTANDING OF THE REQUIREMENTS

The Scottish Government's approach to tackling alcohol misuse in Scotland was set out in 'Changing Scotland's Relationship with Alcohol: A Framework for Action' in 2009. This identified the significant health, economic and social costs of alcohol misuse in Scotland, with alcohol related mortality more than doubling in the preceding 15 years.[1] The framework set out four areas for sustained action to tackle alcohol misuse: reduced alcohol consumption; supporting families and communities; positive public attitudes, positive choices; and improved treatment and support. The introduction of a minimum unit price (MUP) for alcohol was identified as a key policy instrument for achieving the first of these aims.

The costs of alcohol misuse remain high, despite some reductions in levels of alcohol consumption and harm since the Framework for Action was published. Fifty percent more Scottish people die from alcohol misuse now than in the 1980s, and the economic and social cost is estimated at £3.6 billion per year.[2] The availability of cheap strong alcohol has been identified as a particular problem, with it being possible to exceed the recommended weekly alcohol intake for just £2.52.[3] The MUP is targeted at reducing the affordability of such alcohol, with price measures having been shown to be one of the most effective instruments for reducing alcohol consumption, particularly for young people, binge drinkers and problem drinkers.[4] There is also continued debate about the option for an MUP in the UK more widely, with a recent Public Health England study finding evidence that "*setting a minimum price for alcohol can reduce alcohol-related harm while saving health-care costs*".[5]

The impact of the MUP for the Scottish alcohol sector will be different for different products. The total retail value of alcohol consumed in Scotland in 2015 was approximately £4 billion,[6] with spirits, wine and beer each making up around 30% of this.[7] However, spirits and beer constituted 40% and 29% (respectively) of total alcohol sold at less than 50p per unit in 2015, while high strength ciders are also likely to be particularly affected by the MUP.[8]

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[1] Scottish Government, Changing Scotland's Relationship with Alcohol: A Framework for Action, 2009
[2] Beeston C et al: NHS Health Scotland, Monitoring and Evaluating Scotland's Alcohol Strategy. Final Report., 2016
[3] Scottish alcohol price survey, Alcohol Focus Scotland, 2016
[4] Booth et al, University of Sheffield, Independent Review of the Effects of Alcohol Pricing and Promotion, 2010
[5] Public Health England, Public health burden of alcohol and the effectiveness and cost-effectiveness of alcohol control policies : an evidence review, 2016, pp88-101
[6] MESAS (a) alcohol sales and price update 2016, Alcohol retail sales dataset http://www.healthscotland.scot/media/1203/27345-01-alcohol-retail-sales-dataset-1994-to-2015-may-2016.xls
[7] MESAS (b) Monitoring Report 2017, http://www.healthscotland.scot/media/1449/mesas-final-report_english1.pdf
[8] MESAS (c) Alcohol consumption and price in Scotland 2015, page 3 http://www.healthscotland.scot/media/1202/27345-00-alcohol-consumption-and-price-in-scotland-2015-may2016.pdf

There were 225 alcohol manufacturing firms registered in Scotland in 2017 who might be affected by the legislation.[9] However, since only sales in Scotland would be affected by MUP, sectors with a larger exposure to the Scottish market would be more affected. In particular, less than 10% of Scotch Whisky produced was consumed in the UK in 2015[10] (with the proportion in Scotland smaller still), while the proportion is significantly higher in the case of Scottish beer products. The wider supply chain may also be impacted across the Scottish alcohol sector, from agricultural producers to bottling contractors, distribution networks, and so on.

Most direct impacts are expected to be associated with the off-trade sector. In 2016, 73% of total sales were via this sector, and the average unit price was 52p, with 50% of alcohol sold being priced under the 50p per unit level.[11] While most off-trade sales are through supermarkets, some specialist retailers may also be particularly impacted such as off-licences, because alcohols often make-up a larger proportion of their overall sales than is the case in supermarkets. The on-trade sector is unlikely to have significant direct impacts from price changes, as the average per-unit price in this sector was £1.79.[12] It is possible however that some consumers switch some of their alcohol consumption from off-trade to on-trade because of the relative cost change.

The Scottish Government passed the Alcohol (Minimum Pricing) (Scotland) Act in 2012 and, following an unsuccessful legal challenge from the Scotch Whisky Association, the MUP will now come into effect in May this year. The legislation includes a 'sunset clause' whereby it will expire after six years unless the Scottish Parliament votes for its continuation. Ministers are required to report on the impact of the MUP after five years, to inform the decision on whether to extend the MUP beyond the sunset clause. It is therefore vital to establish robust and credible evaluation evidence on the impacts of the MUP against its legislative requirements. The overall MUP evaluation portfolio seeks to address two overarching questions:

- To what extent has implementing MUP in Scotland contributed to reducing alcohol-related health and social harms?
- Are some (people and businesses) more affected (positively or negatively) than others?

The evaluation of economic impacts for alcohol producers and retailers in Scotland contributes to the second of these questions. It will sit alongside the portfolio of studies forming the overall Monitoring and Evaluation of Scotland's Alcohol Strategy. The evaluation of economic impacts will focus on alcohol producers and retailers, to determine any impacts on the industry in terms of: number of businesses, employment, turnover, gross value added, and value of output. The evaluation will need to isolate the impact of the MUP by taking into account other factors influencing the alcohol industry, such as the wider policies and regulations of the Scottish alcohol strategy, policy changes at the UK level including alcohol duties, and macroeconomic changes such as potential impacts from Brexit.

The evaluation will need to be robust, in line with best practice approaches including the HM Treasury Green Book (which has been adopted in the Scottish Government's evaluation guidelines[13]), and impactful for policy makers.

Our proposed approach

We propose a contribution analysis to identify industry impact

The key challenge in evaluating the impact of Minimum Unit Pricing (MUP) on the Scottish alcohol industry is to establish a **counterfactual** – what would have happened had MUP not

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[9] Based on ONS statistics: number of companies by location of VAT and/or PAYE base registration. Contains SIC codes 1101-1106

[10] https://www.statista.com/statistics/422858/volume-of-scotch-whisky-released-for-consumption/ and https://www.statista.com/statistics/422809/volume-of-scotch-whisky-produced/

[11] MESAS (c)

[12] MESAS (b)

[13] http://www.gov.scot/Topics/Government/Finance/spfm/appraisal

been introduced. This can be compared with observed outcomes to isolate the effect of MUP. However the counterfactual is, by definition, not observed and so must be estimated in some way.
NHS Health Scotland are looking to assess the impact of MUP on the alcohol industry in terms of five key metrics:

- The number of businesses;
- Employment (headcount and/or full-time equivalent);
- Turnover;
- Gross Value Added (GVA); and
- Value of output.[14]

Ideally this should be broken down by key sub-sectors of the alcohol industry (including type of alcohol and part of the value chain).

Having reviewed the scoping study that considered options to evaluate price and non-price alcohol policy interventions in terms of industry impact,[15] and considered the proposed methodology in the Invitation to Tender (ITT), we think that a **theory-based evaluation** (Chen, 1990; Wiess 1997) is the best approach to this study. In particular, we suggest a **contribution analysis** which seeks to assess how far the introduction of MUP has affected observed outcomes and impacts in the Scottish alcohol industry, overall and by sub-sector.[16]
The contribution analysis has three phases, summarised in the diagram below:

We propose to draw on analysis of secondary data sources to provide estimates of the 'gross' change in the key metrics of interest over time following the introduction of MUP in May 2018. We then have a mixed methods approach to assess the contribution of MUP to those observed changes:

- **Quantitative** – using trends in the same metrics in England (or English regions) as a 'control'; and
- **Qualitative** – using expert judgement of industry body representatives and detailed longitudinal case studies of a range of different firms in the industry.

This evidence will be triangulated to inform the best assessment of the impact of MUP on industry performance. The qualitative evidence will also shed some light on the key pathways by which the effects are realised.

[14] Value of output measures the total market value of goods and services produced whereas turnover measures the value of goods sold. These may differ because of e.g. inventories and unsold stock, and minimum pricing could impact the two differently.
[15] Petrie, D. et al (2011), *Scoping study of the economic impact on the alcohol industry of pricing and non-price policies to regulate the affordability and availability of alcohol in Scotland*, Edinburgh: NHS Health Scotland (http://www.healthscotland.com/uploads/documents/15291-EconomicImpactOnAlcoholIndustryReport.pdf)
[16] See for example Wimbush, E. and C. Beeston (2010), 'Contribution analysis: what is it and what does it offer impact evaluation?', *The Evaluator*, Spring, 19–24 (http://www.healthscotland.com/ofhi/Admin/Contribution%20Analysis%20The%20Evaluator%202010-v4%20FINAL%20(2).pdf)

We agree with the ITT that there is value in conducting elements of the evaluation at different points after implementation of MUP is underway to provide short- and medium-term evidence of industry impact. At a high level, given the budget available, we suggest that the evaluation is best supported by:

- **Two waves of quantitative data analysis** in 2019H1 and again in 2022H1. The first wave will provide baseline information for Scotland (and control values for England) against which later values and trends can be compared.
- **Two waves of industry body stakeholder engagement** in 2018H2 and again in 2022H1. The first wave will support the theory of change and provide very preliminary industry viewpoints on the impact of MUP. The second wave will help disentangle the contribution to trends observed in data and provide viewpoints on medium-term impacts.
- **Two waves of case study interviews** from different sub-sectors of the alcohol industry, one in 2019H1 and the second in 2021H1. Both will provide evidence from specific businesses of perceived impact, the importance of MUP against other drivers, and mechanisms through which impacts are realised.

Comparing the approach suggested with the scoping study
We agree with the scoping study (which had a wider remit than MUP alone) that a purely econometric treatment is unlikely to yield robust results given the range of possible confounding drivers of industry performance, and the need for a long time series of post-intervention data will inhibit the ability to get timely evidence. The scoping study suggested that simulation modelling could be used, but in our view the large number of parameter assumptions needed, coupled with the need to obtain high-cost external data to calibrate the model and difficulties in estimating the model at more granular levels (e.g. by sub-sector) limit the usefulness of the approach. A simulation model would also say little about the mechanism by which effects are realised. Instead, relatively simple descriptive and comparative quantitative analysis combined with in-depth qualitative evidence from different sub-sectors of the industry are likely to yield the most cost-effective evidence.

We now give more detail on the three stages of the contribution analysis.

Phase 1: Developing a theory of change and baseline data

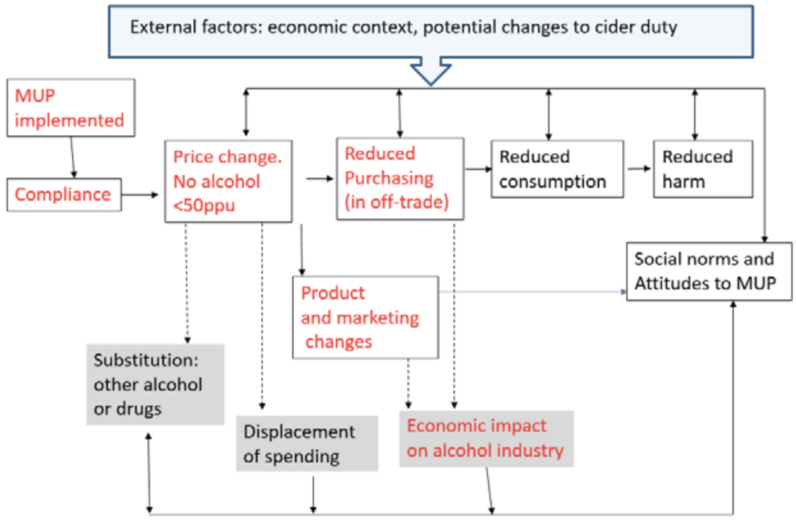
This step will be completed in late 2018/early 2019, a few months after the introduction of MUP.

This will be the right time to gather together secondary data sources on the key metrics of interest: given the lags in data availability, we would expect the data to reflect the relevant values for 2016/17, just before the policy is introduced. It will also allow those we engage with to reflect on initial views of the impact of MUP being implemented.

Theory of change

A theory of change sets out the logic for how a policy intervention generates particular impacts. It is considered best practice in evaluation to have this theory developed from the start to help develop hypotheses and evaluation questions which can be taken to data and evidence.
NHS Health Scotland, under the Monitoring and Evaluating Scotland's Alcohol Strategy (MESAS) work programme, has already developed a theory of change for the overall impact of MUP,[17] shown below.

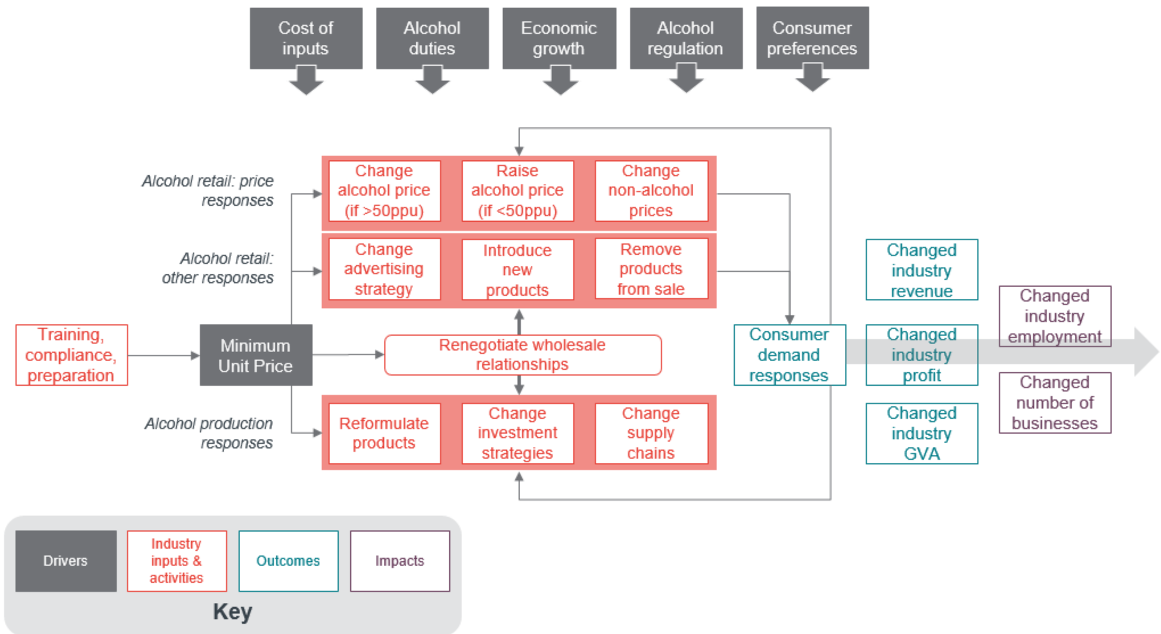
[17] See http://www.healthscotland.scot/media/1677/mup-proposed-portfolio-nov-2017.pptx.



The first stage of our work will be to develop a more detailed version of this theory of change focused on the strands that lead to the economic impact on the alcohol industry (highlighted in red). In particular we would want to set out:

- The **possible responses of the industry** to the implementation of MUP;
- Expectations of how these responses **affect consumer demand** and other outcomes which might then impact on industry performance;
- The **industry outcomes and economic impacts** of particular interest; and
- Possible **drivers of outcomes and impacts** besides MUP.

An initial version of a possible theory of change is shown below as a starting point.



Relative to the very high-level version in the MESAS work programme, this model highlights that industry response could:

- Include price responses in alcohol retail, including prices of alcohol previously retailing for *more* than 50 pence per unit (the expected MUP) and non-alcohol products;

- Include non-price responses in alcohol retail, including changes to product availability and advertising strategies;
- Include responses in alcohol production and distribution (earlier stages of the value chain), including product reformulation, investment and decisions about where to locate activity;
- Include effects in vertical supply chain relationships between retailers and producers/distributors; and
- Depend on a very wide range of other drivers of industry decision-making and consumer responsiveness, including other policy and regulation, wider economic performance, changing tastes and preferences, and changes to the cost of industry inputs and factors of production.

Developing the theory

We will hold an inception meeting with the project team early in the project to review the scope and methodology, and agree how the theory of change will be developed. We would like to hold that face to face to meet representatives from the project team/Evaluation Advisory Group (EAG) and agree the timelines for delivery. This will include any research instruments that need to be signed off for this first part of the work – we suggest this should include the planned data sources and a topic guide for interviews with industry representatives.
At this stage we expect the theory of change will be refined based on **desk research**, consultation with **Frontier industry experts** and **industry engagement** with industry body stakeholders in Scotland.

Desk research

Desk research will involve a rapid review of published literature relating to the possible economic impacts of MUP on the Scottish alcohol industry. We would draw on the MESAS steering group to help identify evidence in the academic and grey literatures coupled with keyword searches of academic databases and Google. The focus of the review would be on identifying possible industry behavioural responses and pathways that generate impacts, rather than on studies that have attempted *ex ante* to estimate the size of any impact. This will also help map out the key supply chain relationships for different parts of the on- and-off trade sector and identify organisations we would wish to engage with in the development process.

Consultation with Frontier industry experts

We will supplement the desk research and draw on Frontier's internal advisory team including experts who have worked with alcohol producers and retailers to provide competition and strategic advice to the industry. The focus of these discussions will be entirely on developing the theory of change based on understanding the economics of the industry and likely behavioural responses, including possible vertical responses in the supply chain. Frontier's ability to draw across practices means we have unique industry insights which we can bring to bear on developing this important framework for the evaluation itself.

Consultation with industry bodies

Finally we will hold an initial round of consultation with industry body representatives to canvas views on a draft version of the theory of change, and to get insights into how the various pathways identified might vary across different sub-sectors (e.g. by alcohol type or part of the value chain). We suggest this should involve a series of face-to-face meetings between the Frontier evaluation team and industry body representatives to be held in Scotland over a 2-day period. This will help forge relationships and a two-way communication channel between the evaluation team and the industry, so that informal, ad-hoc consultation via phone and email can be more easily arranged throughout the evaluation period.

The interviews will be based on a topic guide, a draft of which would be shared with the project team/EAG and approved before being taken into the field. We expect the interviews with industry representatives to last around one hour, involving two members of the Frontier evaluation team. A draft version of the theory of change will be brought along to the interviews for review and discussion with the industry representatives involved.

At a high level, we anticipate the topic guide covering the following issues:

- Early views on the impact of MUP on the Scottish alcohol industry (overall or for a specific sub-sector);
- Views on other drivers of industry performance around the time of MUP being introduced;
- Data and statistics that could be provided to support the evaluation;
- Early evidence of particular behavioural responses by organisations in the industry (or specific sub-sectors of industry); and
- Industry views on likely future responses and timescales for change to occur.

Our expectation is that we would conduct around 6 to 8 expert interviews, though we are open to the format of these – these may be one-on-one semi-structured interviews or 'mini groups' bringing together a few representatives from the same Association. Another format would be a round-table, bringing together people from different bodies representing similar parts of the supply chain (e.g. retail, production, agriculture). This has advantages – it allows us to reach a larger number of people and for those attending to share knowledge and viewpoints which allows more critical reflection, in our experience. However there may be less willingness to discuss issues openly with people from other organisations. We would discuss the options with the project team/EAG to agree on the best approach; in reality we are likely to use a mix of formats to engage with industry.

We would also be open to receiving written input in the form of reports, survey evidence, informal emails, etc. from industry (at any time throughout the project). We would ask that the project team provides contact details for Frontier on their website to allow industry representation to be fed in.

Identifying and contacting interviewees

We would identify relevant organisations to interview in consultation with the project team/EAG. We agree with the ITT that the interviewees should cover a range of industry representatives to give a holistic set of viewpoints, covering for example:

- **Off-trade retail**: Scottish Grocers' Federation, Scottish Retail Consortium
- **On-trade retail**: Scottish License Trade Association, Beer and Pub Association
- **Wholesale**: Scottish Wholesale Association
- **Manufacture**: Beer and Pub Association, Scotch Whisky Association, Wine & Spirits Trade Association, Brewers Association of Scotland, National Association of Cider Makers
- **Agricultural inputs**: Maltsters' Association of Great Britain

Within the bodies selected, we would use desk research and any contacts from the project team/EAG to identify senior individuals within the organisations to invite to interview. This could include policy leads (particularly those focused on Scotland if they are not Scotland-specific organisations) and alcohol leads (if they are bodies not specific to the alcohol industry).

Once possible interviewees are identified, we would write to them sending a letter to introduce the evaluation and inviting them to take part in an interview, explaining how and why we want to engage them in the study. The letter will make clear the evaluation is an independent exercise being overseen by NHS Health Scotland on behalf of the Scottish Government, but conducted by Frontier Economics. This will help ensure buy-in to the study and elicit genuine feedback in the interview. The letter could come from NHS Health Scotland rather than Frontier if this would validate the evaluation, though we expect key industry bodies will already be aware of it.

We would follow-up with an email inviting the interviewee to take part and offering dates and times for the interview. As far as possible we would like them to be face-to-face to develop the working relationship, as outlined above; if need be, however, we would conduct some interviews by phone (this has worked well in other projects). The interviewee will be invited to give explicit consent to be interviewed and the email will explain (in a privacy statement) how the data from the interview would be obtained, used and retained. We would record the interview (with consent) using encrypted devices, with the recordings transferred to a secure, protected project file (only accessible to the evaluation team at Frontier) immediately after the interview is complete. This will aid later analysis of the responses.

We would prepare a short summary of each interview (not a full transcript) to share with the interviewee, giving them the chance to 'sign-off' our interpretation of the interview and make any changes. We are able to share material via encrypted and password-protected email or using secure FTP file transfer systems.

We would not expect those interviewed to be named in the final (publishable) report unless they consent to this, to allow views to be expressed in a frank way. Where relevant, quotes from the interviews may be used in the reporting and analysis of the responses, again without attribution to individuals or organisations unless explicit consent is given.

Developing hypotheses

Evidence from the interviews will be used to finalise the theory of change. The final theory will be agreed with the project team/EAG and hypotheses identified that we would use to identify priorities for data collection and the case study interviews. This could include:

- Assessing which parts of the industry are likely to be most affected by MUP and focusing efforts to collect data and conduct case studies there;
- Identifying the most significant behavioural responses that industry could engage in and how these might affect industry outcomes, and whether these vary across sub-sectors; and
- Identifying the most important non-MUP influences on the outcomes of interest for different sub-sectors, and ensuring that data and evidence on these drivers is captured in the data collection phase of the evaluation.

Baseline data collection

The evaluation focuses on five particular industry outcomes (number of businesses, turnover, employment, GVA and value of output). We will use secondary sources to provide evidence on these outcomes in Scotland. Our assessment of the likely sources is shown below, though this will be fully developed in this phase of work. A final specification of sources that will be used will be agreed with the project team/EAG. We will identify the best sources and provide baseline data, drawing together as consistent a time series as possible of pre-MUP trends in these statistics. This is important, as it will help cut through 'noise' in some any of the trends and allow us to check whether trends in these metrics before MUP are the same in Scotland as in any control regions (see below).

We would look to make the figures as granular as is supported by the data, to allow analysis at the sub-sector level. We would also look to develop a similar time series for a 'control group', likely to be England, regions of Northern England, or whole UK figures. The figures will then be updated at a later stage (see below) to allow trend analysis (pre- and post-MUP in Scotland) and comparative analysis in trends and levels between Scotland and the control areas.

Alongside these outcome data, we will look to gather information on other key drivers of industry performance identified in the theory of change (tax rates, regulation, macroeconomic outcomes, etc.) both in Scotland and in control areas. We will gather data on these to allow us to make informed judgments about how far these other drivers also change over time and how this might affect trends in industry outcomes observed in the key metrics. Data being gathered on other parts of the MUP evaluation (e.g. on independent retailers, or on pricing) could be part of this and we would like to liaise with organisations leading on those parts of the portfolio to discuss whether there are data we could draw on. This could be done through the MUP evaluation collaborative or any other useful forum.

Should, as we expect, published data (from the ONS or Scottish statistical sources) prove insufficiently granular to provide data on the necessary metrics at a level that will support inference about the impact of MUP, Frontier has the experience, clearances and expertise to extract data from the Secure Research Service, SRS (previously known as the Virtual Microdata Laboratory, VML). This is made available to approved researchers who have been trained on data clearance processes by ONS and have a proven track record in quantitative analysis. We would review as early as possible whether access to the SRS is needed and if so make the necessary project application. Key members of the research team (Andrew Leicester and David Lawrence) are already trained and cleared to use the SRS and we can bring additional SRS-trained researchers onto the team if needed to support this process.

Figure 3 Possible quantitative data sources for the study

Metric	Preferred source	Other sources to explore
Business counts	ONS: UK Business – activity, size and location; regional data.[18] *Data available at 4-digit SIC level for UK Government Office Regions. Data available with short lag. Covers number of enterprises and local units; an enterprise can have multiple units.*	Secure Research Service: Original analysis of Business Structure Database to provide count data at more granular industry level (e.g. SIC 46.34/2 identifies wholesale of alcoholic beverages, not available in ONS data). Care needed with disclosure. Industry reports and publications. Scottish industry data.[19] Eurostat.[20]
Employment	Secure Research Service: Analysis of Business Structure Database at granular SIC and regional level. *Data available with 6-12 month lag but care needed with disclosure. Covers 98% of businesses (all those above PAYE/VAT threshold).*	ONS: UK Business – activity, size and location; regional data. Regional published data on employment only available at 2-digit SIC level so not sufficiently granular. Industry reports and publications. Scottish industry data. Eurostat.

18 https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation
19 http://www.gov.scot/Topics/Statistics/Browse/Business/SABS/Sectors
20 http://ec.europa.eu/eurostat/web/structural-business-statistics

Metric	Preferred source	Other sources to explore
Turnover	Secure Research Service: Analysis of Business Structure Database at granular SIC and regional level. *Data available with 6-12 month lag but care needed with disclosure. Covers 98% of businesses (all those above PAYE/VAT threshold).*	ONS: UK Business – activity, size and location; regional data. Regional published data on employment only available at 2-digit SIC level so not sufficiently granular. Industry reports and publications. Scottish industry data. Eurostat.
GVA	Secure Research Service: Analysis of Annual Business Survey at granular SIC and regional level. *Care needed with disclosure and may need to combine 2 years of data. Would expect 2017 data to be available in late 2018. Comes with survey error as not all large firms are surveyed each year. Measures approximate GVA (aGVA, not accounting for certain tax and non-market activities; however close alignment with GVA in manufacturing and retail).*[21]	ONS: ABS Regional Results. Published only at 2-digit SIC level so not sufficiently granular.[22] Industry reports and publications. Scottish industry data. Eurostat.
Value of output	Secure Research Service: Analysis of Annual Business Survey at granular SIC and regional level. *Care needed with disclosure and may need to combine 2 years of data. Would expect 2017 data to be available in late 2018. Comes with survey error as not all large firms are surveyed each year.*	ONS: ABS Regional Results. Published only at 2-digit SIC level so not sufficiently granular.[23] Industry reports and publications. Scottish industry data. Eurostat.

Source: Frontier Economics

We would only seek to extract descriptive (time series) information from the SRS where needed, and would ensure that any data extracted complies with disclosure rules as laid down by the ONS given the intention to publish the findings. Once we have developed the sources and code to extract the baseline data we would ensure these are fully replicable and easily updatable so that consistent metrics can be obtained easily and cost effectively at later stages of the evaluation.

Under the assumption that we do rely heavily on SRS-extracted data sources for the five metrics, we will carry out the baseline exercise in early 2019. Our understanding is that by then the 2018 'wave' of BSD (covering employment and turnover data) will be available in the SRS.

21 https://www.ons.gov.uk/ons/guide-method/method-quality/specific/business-and-energy/annual-business-survey/quality-and-methods/a-comparison-between-abs-and-national-accounts-measures-of-value-added.pdf

22 https://www.ons.gov.uk/businessindustryandtrade/business/businessservices/datasets/uknonfinancialbusinesseconomyannualbusinesssurveyregionalresultssectionsas

23 https://www.ons.gov.uk/businessindustryandtrade/business/businessservices/datasets/uknonfinancialbusinesseconomyannualbusinesssurveyregionalresultssectionsas

However, based on our use of the BSD in other projects, we understand that in reality much of the data labelled 2018 would in fact refer to financial year 2016/17 values, just ahead of MUP implementation.[24] We also understand that by early 2019, the 2016/17 wave of ABS data (underpinning GVA and value of output data) will be published in the SRS (the 2015/16 wave was published in January 2018).

We would confirm with the SRS that our assumptions about data timing and availability are correct.

Phase 2: Quantitative and qualitative analysis to support the contribution narrative

Having gathered the baseline data and conducted the stakeholder engagement to develop the theory of change, we propose three further points of evidence-gathering to support the analysis:

2019H1: An initial wave of **case studies** with firms in the alcohol industry in Scotland. We will conduct 8 case studies in this period, 9 to 12 months after MUP is implemented. These will focus on providing early assessments of impact based on interviews with representatives of the selected businesses, and analysis of data and documents which can be provided by the businesses. Having the first wave of case studies relatively soon after implementation means that the businesses may be able to separate the impact of MUP from other drivers of outcomes, though the full effects may not have had time to fully materialise.

2021H1: A second round of case studies (ideally with the same organisations who participated in 2019), giving a longitudinal element to the analysis and allowing us to explore impacts within the businesses over time moving from the short- to medium-term after MUP is implemented – these second round case studies will take place around 33 to 36 months after implementation. At this second point, we expect that the full impacts will have materialised but the firms may find it harder to isolate the impact of MUP from other drivers of performance.

2022H1: In this part of evidence-gathering we will conduct two activities:

- We will also pull out a refresh of the trend data, originally set up for the baseline data collection. Since we expect most of the data to come from government sources, we expect the data will be available in a consistent way meaning relatively little time should be needed to refresh the figures, though we will review this and ensure that we are getting comparable numbers and that any revisions to the original baseline data are fully accounted for and explained. At this point, we would anticipate key data sources being available for the 2019/20 period, giving around two years of post-implementation data for Scotland and the control region(s) identified in the baseline exercise.
- We will also conduct follow-up industry engagement, ideally with the same bodies we speak with when developing the theory of change, to assess views on the longer-term impacts and cross-check possible drivers of the trends observed in the quantitative data and the relative importance of MUP.

We explain the methods of each of these elements in more detail below.

[24] The BSD is taken as an extract of a live database, the Inter-Departmental Business Register (IDBR). The IDBR is updated in a real-time basis as new industry returns on employment and turnover figures are made available. The snapshot of the IDBR taken to generate the BSD dataset is taken in March and made available in the SRS the following Autumn. This means the a snapshot of data will be taken in March 2018 and available by the end of 2018. This data will largely refer to 2016/17 business returns supplied to HMRC.

Case studies

Case studies will provide valuable qualitative evidence to the contribution analysis, and will be a core part of the overall evaluation of industry impact. They will allow us to explore in-depth impacts on a small number of firms, working with the businesses to provide both qualitative and quantitative insights of trends in key metrics relating to that company and views on how far any changes are attributable to MUP or to other factors. We will also be able to identify the mechanisms through which MUP effects are realised, which will help validate and test the key pathways identified in the theory of change.

This depth comes at the expense of breadth – it will be hard to generalise the case studies to industry-wide conclusions as there are likely to be a large number of idiosyncratic factors that affect outcomes for individual case study organisations. That is why we do not rely entirely on them for the contribution analysis, but instead triangulate the in-depth evidence from the case studies with the broader industry viewpoints in the industry interviews and the trends observed in quantitative data.

Frontier is enormously experienced in using case studies of businesses to provide evaluation evidence. We abide by the Market Research Society code of conduct (2014)[25] and have information security policies in place which are in line with ISO27001 standards. This means those participating can have full confidence that the data and evidence gathered will be stored, analysed, reported on and then destroyed in ways that are fully compliant with best practice.

Identifying those who would be the subject of a case study

We suggest eight case studies, cutting across parts of the value chain and different alcohol types. This could include:

- A producer organisation in the spirits sector, probably whisky (a list of producers is available from the Scotch Whisky Association website);[26]
- A producer organisation in the beer sector (possible identified from an industry association, e.g. The Brewers Association of Scotland lists more than 40 breweries);[27]
- A producer organisation in the cider sector (likely to be a small craft producer);
- A key wholesale organisation;
- A large supermarket chain (this could be defined in multiple ways but for example could include UK-wide supermarkets with more than 5% market share, which would cover Tesco, Sainsbury's, Asda, Morrisons, Aldi, Co-op, Lidl and Waitrose);
- A small supermarket chain with at least some Scottish presence (this could include e.g. Farmfoods, Budgens, Iceland, Londis, Costcutter, Bargain Booze); and
- A key on-trade retailer (e.g. a pubco or restaurant chain, or an independent on-trade retailer).

We understand that small independent off-trade retailers are not in scope as these are covered in a separate observational study in the MUP evaluation portfolio being conducted by the University of Stirling. We would welcome the opportunity to connect with the researchers conducting that evaluation as evidence from it could also feed into our overall triangulation in assessing the wider alcohol industry impact.

We suggest the final list of case studies is not agreed until after the first phase is complete and the baseline data and theory of change are in place. This will help us, working with the project

[25] https://www.mrs.org.uk/standards/code_of_conduct
[26] http://www.scotch-whisky.org.uk/members-brands/
[27] https://tbas.scot/

team/EAG, identify the specific behavioural changes that are most likely, and the parts of the value chain where the case studies could most usefully focus.

We would identify the case study businesses we want to invite to participate based on discussions with the project team/EAG, desk research and discussions with trade organisations who may recommend particular businesses. This will help develop a longlist of possible case studies from which the Frontier team would select the shortlist to take forward. In particular we understand that data being gathered for other parts of the MUP evaluation may provide insights into types of alcohol that are more affected and steer us towards particularly interesting cases. We will use the data to inform a purposive sample of case studies based on types of alcohol or parts of the value chain that, from other data or the industry body interviews, appear to be affected in interesting ways (positively or negatively).

While the broad categories of who would be selected are as identified above, we would ensure that a mix of other characteristics of firms are covered within the organisations selected – for example:

- A mix of larger and smaller businesses (likely to be covered by the different retailer types, but we would want to ensure that we have larger and smaller producers as well); and
- Geography within Scotland (in case there are local-specific factors that affect industry performance, such as variation between border regions and other regions).

For each of the eight cases, we will identify a first choice organisation and a second choice organisation with broadly similar characteristics. To maximise the likelihood that selected organisations will take part and provide objective information, we would prefer if possible that the specific companies are not known to the project team/EAG or industry bodies, as this guarantees anonymity. However this may not always be possible (particularly for large retailers or where there are only a small number of producers), and there may also be value in an industry body or representative from NHS Health Scotland helping to contact and recruit individual firms to participate. We would discuss this with you.

Assuming that Frontier lead on contacting companies, we would (for large firms) seek to identify the alcohol lead or public affairs lead using desk-based searching of company websites, LinkedIn, etc. We would send a letter to that individual inviting them to participate, explaining the purpose of the evaluation and what it would involve, and following-up with an email. If needed we would further follow-up by email or phone. If there is no response or a negative response we would follow the same process with the backup company.

In explaining the purpose of the evaluation we would ask the individual contacted to identify the most relevant interviewees in their organisation. These will likely include alcohol leads, public affairs leads and financial leads.

As with the industry body interviewees, we would seek explicit consent to participate and develop a privacy statement on how the data would be collected, used and destroyed.

Content of and approach to case studies

Case studies will involve a mix of qualitative and quantitative evidence.

We would ask those selected to take part in two to three interviews with the Frontier team. As with the industry body interviews, these would be around one hour long, based on a topic guide which would be developed and agreed with the project team/EAG. The guide would be based on the key behavioural pathways of possible responses to MUP identified in the theory of change. The broad aim of the qualitative interviews will be to seek views from the organisations about how far MUP has led them to change commercial behaviours and affected commercial outcomes, and how far other drivers have been more or less important influences.

In the first wave of interviews, these would focus on more immediate impacts of MUP and the organisation's experience of implementing and complying with the policy. This might include exploring:

- Changes in alcohol (retail or wholesale) prices and product availability;
- Changes in marketing behaviour for alcohol products (value, strategy);
- Costs incurred in complying and implementing MUP (fixed and ongoing);
- Actual or planed changes to negotiations with upstream or downstream parts of the value chain;
- How extra revenue from alcohol-related sales (if any) are being distributed;
- (For retailers) changes in non-alcohol prices, product availability and marketing that could be attributed to MUP;
- (For producers) actual or planned changes to product characteristics e.g. size or strength;
- (For producers) actual or planned changes in investment in product development

In follow-ups, we would have a broadly similar structure, with less emphasis on planned changes for longer-term strategic behaviours and more emphasis on actual outcomes. As the follow-ups would be around 3 years after implementation, we would also seek views on non-MUP drivers of outcomes.

Where possible we would conduct interviews face-to-face, again looking to spend around 2 to 3 days in Scotland at each phase of the case studies to travel and meet case study firms in person. However if this is not possible or hard to arrange, we would conduct interviews by telephone. Our experience is that telephone interviews do work very well where this is the most practical option – for example, in our evaluation of Catapult Centres (which has so far involved 40 case studies of organisations working with Catapults) almost all interviews were telephone-based.

Summaries of the case study interviews would be shared with the interviewees for review and sign-off; again these can be shared using secure channels. Quotes and evidence from the interviews would not be attributed to named individuals or organisations in any reporting – the need for anonymity is likely to be paramount if respondents are to give honest accounts of their views. We would instead attribute to broad job title and business type (e.g. "Alcohol lead, major UK supermarket chain").

We would ask case study firms to provide quantitative data as well, and would sign any NDA required to obtain this. This could include data on the key metrics of interest for the study (turnover, wages and profits (needed to measure GVA), employment, number of stores) as well as wider information related to industry performance (prices and sales for different alcohol products, investment, exports, advertising spend, etc.)

We routinely receive business-level data which are commercially sensitive for projects and have data handling and security processes to ensure businesses can be confident the data would be held securely, including options to transfer data securely and appropriate mechanisms to destroy data.

We would use the quantitative data both to support the contribution narrative and to help inform questions to follow-up in qualitative interviews with the organisation to help interpret and understand the data. We suggest developing a data request template which could be shared with the organisations prior to case study interviews which would be filled in and returned to the Frontier team (likely by the relevant commercial lead in each organisation).

Given that we want to conduct longitudinal case studies (we want to re-visit the same organisations in 2021 as in 2019 to look at within-firm changes) there is a small risk that the firms chosen will not be willing or able to participate in the second wave. Should this prove to be the case we would select a replacement case study in wave two with similar characteristics. We would be clear in making the initial approach to firms that we would like to repeat the case study in 2021.

Quantitative data refresh

In the first phase of the project, we will have identified and interrogated sources of quantitative data to provide baseline figures for the key industry outcomes of interest and other drivers of these outcomes. These data will be refreshed, re-running code and re-extracting information from secondary sources to provide a longer time series of evidence. We will look at trends in the outcomes in Scotland and in control areas to provide evidence of 'gross' impacts of MUP (adopting a 'difference in difference' approach, for example, to see if alcohol industry turnover in Scotland as a whole or in particular sectors has grown more or less slowly than in England since MUP was introduced). We will also look at trends in some of the other drivers to assess whether there are important correlations which suggest that other factors have affected the outcomes observed.[28]

This part of the work (along with the case study re-visits conducted a year earlier) will help us to develop hypotheses which could be tested with industry interviews, about whether any or all of the trends identified could be attributed to MUP or are the result of other factors.

Industry stakeholder engagement

The second wave of stakeholder engagement in 2022H1 would look to revisit the same organisations as interviewed in 2018H2. The aim would be to get qualitative reflections on the longer-term impact of MUP for different parts of the value chain around three years after implementation, how far other drivers are more or less important, and to consider how far key trends observed in the quantitative data refresh are attributable to MUP.

We would develop a topic guide, adapted from the guide used in the interviews supporting the theory of change, and agreed with the project team/EAG. We would conduct interviews face-to-face or over the phone. Interview summaries would be shared for sign-off before any of the evidence is used to support the contribution narrative.

Should people interviewed in an organisation in 2018 no longer be in post in 2022 we would look to interview the person in the same role. As needed we may need to draw in other industry groups who were not interviewed in 2018 depending on changes that take place over the period.

Phase 3: Triangulating evidence and reporting

We will draw on the quantitative and qualitative evidence and triangulate to produce our best assessment of the impact of MUP on industry outcomes in Scotland.

The key deliverable will be a final written report that will be part of the overall MUP evaluation portfolio. This will be written in a concise, clear, accessible way, setting out the important quantitative trends (overall and broken down by industry sub-sectors) and our assessment of how far MUP has affected outcomes relative to a counterfactual. We will ensure this aligns with NHS Scotland guidelines.[29]

The evidence base drawn on to support these conclusions will be thoroughly documented and articulated. For example, themes from the case studies and the qualitative interviews will be drawn out using an evidence matrix where issues will be identified in the columns and individual cases or interviews will make up the rows. Findings from the interviews and case studies will populate the cells. This will help draw out common themes across sub-sectors of the industry and where issues seem to vary, being conscious of how far we can generalise from the case study findings to the wider industry. We can then readily write-up the relevant qualitative evidence to support the contribution narrative in the final report.

[28] We do not expect to have sufficiently granular data or sufficiently long time series to carry out any formal econometric treatment. We will therefore be looking at trend differences in outcomes and drivers to help formulate hypotheses to test with industry.

[29] http://www.healthscotland.com/documents/2635.aspx

The final report will include a detailed data annex setting out the sources drawn on and more detail on the trends and quantitative findings.[30] It will also include all research instruments, and short summaries of each case study drawing across both of the longitudinal interviews for each case. It will also include a concise executive summary (which could stand alone), which could make use of infographics. A short abstract of the report will be produced as a publication description which can be used by NHS Scotland when publicising the work.

We propose that the baseline data, theory of change and initial case study findings could be written into an interim report in early 2019. These should be of a publishable quality but are not necessarily expected to be published.

All research tools, letters seeking consent to participate, etc. would be developed and shared with you before being used in the research.

Draft versions of outputs would be shared well in advance for comment with the Governance Board. We are happy for all outputs to be subject to external peer review by the External Advisory Group or others as deemed appropriate.

We will agree a dissemination plan for the study. We suggest this should be done before publication of the final report once the narrative of the report is clear. This could include industry engagement, academic engagement and political engagement. We have extensive experience in presenting policy findings to a range of audiences – for example, Andrew Leicester has presented work on MUP to the Health and Sport Select Committee of the Scottish Parliament as well as at academic conferences in Scotland, England and Wales.

[30] All underlying data will be provided in an excel sheet.