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Evaluation of the Minimum Price for Alcohol in Wales – Interim report on Research with Retailers and Quantitative Analysis

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Views expressed in this report are those of the researcher and not
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Glossary

Acronym/Key word	Definition
Alcohol shop	Shops primarily supplying alcohol, such as off licences or specialist alcohol products, e.g. 'craft' beers.
Alcohol unit	A way of expressing the quantity of pure alcohol in drinks. One unit equals 10ml or 8g of pure alcohol.
Baseline study	Study that provides an information base against which to monitor and assess an activity's progress and effectiveness during implementation and after the activity is completed.
Chain	Retail outlet in which multiple branches share a brand, central management, and standardised business practices.
Enforcement notice	A fixed penalty notice issued to an alcohol retailer if they are found to be selling, or authorising the sale of, alcohol below the 50p Minimum Unit Price.
Independent	Retail outlet with a single location or up to three locations often owned by an individual, a family or a two-person partnership.
Minimum pricing for alcohol (MPA)	A way of setting a baseline price below which no one can sell an alcoholic drink.
Minimum Unit Price (MUP)	The Minimum Unit Price (MUP) – the minimum price to be charged per unit of alcohol and used in the formula for calculating the minimum price at which the alcoholic drink can be sold. An MUP of 50p per unit of alcohol was introduced in Wales from 2nd March 2020.
Off-trade	Sector of the alcoholic drinks market comprising sales for consumption outside the vendor's premises.
On-trade	Sector of the alcoholic drinks market comprising sales for consumption on the vendor's premises.

1. Introduction

- 1.1 This report is part of the mixed methods evaluation of the Minimum Price for Alcohol (MPA) in Wales. This research was carried out by the National Centre for Social Research (NatCen) on behalf of the Welsh Government.
- 1.2 The report presents the second set of findings from longitudinal qualitative research with Welsh alcohol retailers. The [baseline](#) wave explored retailers' understanding and views of the minimum pricing policy prior to its introduction and their expectations for the effects of the policy. This second wave explored any changes to retailer's understanding and views of the policy, as well as their experiences and perceived impacts of the MPA since implementation. The third and final wave will examine longer term impacts.
- 1.3 This report also incorporates quantitative analysis of time series data on alcohol purchasing (Kantar) and sales from smaller stores (The Retail Data Partnerships (TRDP)) in Wales. The quantitative analysis explored the impact of the MUP on alcohol sales and purchasing in Wales, how the implementation of the policy affected smaller border stores in Wales, and whether its impact varied depending on beverage type.
- 1.4 The effects of the implementation of the MUP were measured using Controlled Interrupted Time Series (CITS), a quasi-experimental evaluation method where an outcome variable is observed over multiple equally spaced time periods before and after the introduction of a policy intervention and compared with a control group that did not receive the intervention. This methodology was chosen to disentangle the effects of MPA policy from those of Covid-19 mitigation measures, which were implemented concurrently with MUP in March 2020, causing severe disruption to alcohol purchasing and sales. England was chosen as a control group for comparison, since it implemented similar Covid-19 mitigation measures to Wales but did not implement MUP.

Background to the Minimum Price for Alcohol in Wales

Why minimum pricing was introduced in Wales

- 1.5 Alcohol consumption has been identified as a major public health issue in Wales. According to the National Survey for Wales (2019-20), 19 per cent of adult respondents reported drinking more than the weekly guideline amount (above 14 units), with 25 per cent of men reporting that they drink above weekly guidelines (StatsWales, 2020). In 2018, the rate of alcohol-specific deaths in Wales was 13.1 deaths per 100,000, higher than the UK rate of 11.9 deaths per 100,000 people (ONS, 2019).
- 1.6 The introduction of minimum pricing sought to tackle alcohol-related harm by reducing consumption amongst hazardous and harmful drinkers. It constitutes an important part of the Welsh Government's strategy of reducing consumption of low-cost and high-alcohol content products and follows Scotland's alcohol strategy and implementation of the Alcohol (Minimum Pricing) Act 2012¹.

The introduction of the Minimum Pricing in Wales

- 1.7 A minimum unit price (MUP) of 50p for alcohol was introduced in Wales from 2nd March 2020. The introduction of the MPA in Wales increased the price of alcoholic products previously sold or supplied below the minimum price and meant that retailers could not legally sell an alcoholic drink below that price.
- 1.8 The Act made it an offence for alcohol retailers to supply alcohol from qualifying premises in Wales, or to authorise the supply of alcohol from qualifying premises in Wales, at a selling price below the applicable minimum price for the alcohol. It included a formula for calculating the minimum price using the MUP of 50p, the percentage strength of the alcohol, and its volume. The Act established a local authority-led enforcement regime and powers to bring prosecutions ([Welsh Government, 2020](#)). The inspection regime was established in collaboration with Trading Standards Wales.
- 1.9 The baseline research on retailers' understanding, views, and expectations for the effects of the MPA before it was introduced found that retailers' awareness and preparedness for the policy's implementation varied (Bartasevicius et al, 2021). Those who were aware and prepared had accessed information about the policy,

¹ ¹ Following a legal challenge and a vote in the Scottish Parliament, MUP was implemented on 1st May 2018. *Source: NHS Health Scotland*

and across awareness levels, knowledge gaps included the date of implementation, how the MUP was calculated, and whether the policy applies to wholesalers.

Retailers predicted the MPA would affect their finances, with some expecting to benefit through increased competitiveness, and others foreseeing a fall in sales.

- 1.10 Following the MPA's implementation, a report was published which assessed the impact of Covid-19 and the early implementation of MPA on the wider population of drinkers, based on 32 qualitative interviews (Holloway et al, 2022). It should be noted that this research was not intended to draw conclusions about the impact of the legislation but was intended to provide context for future waves of longitudinal interviews. At that early stage, it found that drinkers among the qualitative sample had not prepared for, or were not aware of the policy's implementation, nor did they expect it to have much of an impact on their lives.
- 1.11 Among those drinkers who were aware of the policy, they noticed price changes to strong ciders, beers, wine, spirits, some lower alcohol products and bulk products. Alcohol purchasing and consumption was reported to have stayed the same, increased, or decreased. However, any increases or decreases were reported to be caused by Covid-19 rather than to MPA. Increases in alcohol purchasing and consumption were attributed to having less to do, loneliness and anxiety during lockdowns, and decreases were attributed to less socialising due to Covid-19 restrictions. The research also explored whether baseline predictions on the replacement of alcohol with other substances had materialised post-implementation. It found that switching to illegal drugs was only noted among dependent drinkers with a history of using these substances.

Contextual changes to Minimum Pricing in Wales

- 1.12 It is important to note that retailers' experiences and views of the MPA in this wave have been affected by wider events coinciding with the implementation of the policy. This includes the Covid-19 pandemic and associated restrictions introduced from March 2020, which influenced retailers' ability to operate as usual and their levels of alcohol sales. Many retailers with on-trade licences, such as bars and restaurants, closed after the pandemic started. Some had re-opened not long before being interviewed for this wave, meaning that their experience of the MPA policy being

operational was limited. On the other hand, many retailers with off-trade licences remained open and consequently experienced increased alcohol sales during Covid-19 restrictions. The more recent rise in cost of living, increases in fuel prices and rising levels of inflation have also affected retailers' experiences of the MPA.

Aims and objectives

- 1.13 The qualitative research aimed to collect feedback from retailers on their understanding, experiences, and views on the implementation of the MPA and its effects on their businesses and on customers.
- 1.14 To meet this aim, the research sought detailed views and perspectives from a comprehensive range of alcohol retailers in Wales to understand:
- Any changes to the level of awareness and understanding of the policy following its introduction;
 - Views on the policy and whether this had changed over time;
 - Actions taken to prepare for the implementation of the policy and experiences of implementation once the policy had taken effect;
 - Perceived impacts that resulted from the policy, including potential unintended consequences.
- 1.15 Based on the baseline findings that some retailers lacked awareness of key details, such as how MPA was calculated, this second wave explored whether these gaps persisted, and if not, how they came to learn about and act on these details. It also explored retailers' experiences, views and perceived effects on their businesses since implementation.
- 1.16 The quantitative research aimed to explore the impact of the MPA on alcohol sales and purchasing in Wales, how it affected smaller border stores in Wales and whether its impact varied depending on beverage type.

1.17 To meet this aim, the research was structured around the following research questions²:

- Is the MUP associated with a change in alcohol retail sales in Wales, compared to England? In particular, has off-trade small retailer turnover (i.e. revenue) in Wales increased relative to England?
- How is the implementation of the MUP affecting alcohol sales in smaller border stores in Wales? For instance, are alcohol sales revenues from smaller border stores in Wales increasing less due to their proximity to England where prices are likely to be lower?
- What is the impact of the MUP on customer purchasing in Wales? In particular, has the total volume of alcoholic beverages purchased by Welsh households decreased relative to English households? Has the amount households spend on alcohol increased and has the price paid for alcoholic beverages increased since the introduction of MUP?
- Does the impact of the MUP on purchasing vary by beverage type in Wales in comparison to England?

Reporting conventions

1.18 The qualitative results in this report avoid giving numerical findings, since qualitative research cannot support numerical analysis. This is because purposive sampling seeks to achieve range and diversity among sample members rather than to build a statistically representative sample. Moreover, the questioning methods used are designed to explore issues in depth within individual contexts rather than to generate data that can be analysed statistically. What qualitative research does do is provide in-depth insight into the range of experiences, views and recommendations. Wider inference can be drawn on these bases rather than based on prevalence.

² The wording of research questions that guided the analysis differed from those proposed in the 2020 Evaluation of the Minimum Price for Alcohol in Wales – Baseline Research with Retailers and Quantitative Analysis Plan. Differences were primarily due to the feasibility of the investigations that we could undertake with the available data (see Appendix C).

1.19 Verbatim quotations are used to illuminate the findings. They are labelled to indicate retailer type, whether the retailer holds an on-trade alcohol licence, off-trade licence or both.

2. Methodology

Qualitative methodology

2.1 The work with retailers adopted a qualitative approach to address the research aims. In-depth interviews were chosen to facilitate detailed insights into different retailers' views of the minimum pricing changes

Sampling and recruitment

2.2 A sample of 30 participants was designed purposively, to reflect the diversity of alcohol retailers in Wales. The sample was structured to include:

- Retailers from the five different Welsh regions;
- A spread of urban, rural, and suburban locations;
- Different alcohol licenses – on-trade, off-trade, and both;
- Both chain and independent retailers;

The selection also included retailers close to the Welsh-English border. Further details about the sample can be found in Annex A.

2.3 The recruitment of participants and interviews for the research were conducted by Welsh consultancy Arad Research, in order to allow for retailers to participate in Welsh if they wanted to. Although one participant took part in Welsh at baseline, no participants chose to participate in Welsh at this stage.

2.4 For this wave of the research, the intention was to conduct follow-up interviews with the same 30 retailers interviewed at baseline. All baseline participants were invited to take part by email or phone in the second wave. However, four participants had gone out of business and 11 were either uncontactable or declined to take part. 15 retailers interviewed at baseline participated in this wave, and 15 new retailers were recruited.

2.5 The sample for additional recruits was drawn from two commercial lists with a total of 680 registered Welsh alcohol retailers. Retailers who accepted the invitation were then contacted with follow-up phone calls to arrange the interview.

2.6 The composition of the achieved sample is shown in Table 2.1 below.

Table 2.1: Achieved sample composition

Sampling criteria	Sampling characteristics	No. interviews
Region	Mid and West Wales	5
	North Wales	7
	South Wales Central	7
	South Wales East	5
	South Wales West	6
	Total	30
Licence	On-trade	9
	Off-trade	11
	Both	10
	Total	30
Retailer type	Chain	10
	Independent	20
	Total	30

2.7 Major chain supermarkets are not represented in the sample. When approached for the baseline wave, they said that they were being directly consulted by the Welsh Government and felt their views and experiences were already being registered in this way. Despite the inclusion of franchise retailers, the absence of major chain supermarkets should be considered as a limitation of the research.

Data collection

2.8 The topic guide for the interviews was designed by NatCen in collaboration with the Welsh Government. The topic guide included a mixture of prompts and probes across a range of themes structured around the research questions. Full details of the topic guide can be found in Annex B. The themes covered included:

- Retailer and participant background;
- Understanding and awareness of the policy;
- Preparing for implementation;
- Impacts;

- Concluding thoughts and key messages.

2.9 The 30 interviews were conducted between March and June 2022 by telephone. The decision to carry out telephone interviews, rather than face-to-face interviews, was made to offer greater convenience and flexibility to retailers. The interviews were with store owners and managers with responsibility for implementing the MPA. Interviews were designed to last 30 minutes but varied between 11 and 60 minutes depending on whether the participant was new or had been interviewed at baseline, and whether they were already selling above the minimum price or not. The latter affecting how much participants felt they had to say.

Qualitative analysis

2.10 The qualitative data was analysed using NatGen's Framework approach which allows in-depth exploration of the data by case and by theme. The analysis process involved several stages. First, a draft analytical framework was drawn up by the research team and the data from interviews was then organised into this framework. This approach reduces large volumes of data to facilitate systematic investigation of the data, both between cases (looking at what different participants said on the same issue) and within cases (looking at how an individual's opinions on one topic relate to their views on another).

2.11 Through reviewing the charts, the full range of views and experiences described by participants were systematically mapped, and the accounts of different participants, or groups of participants (e.g. off-trade retailers) were compared, with emergent patterns and explanations tested.

Quantitative methodology

2.12 The quantitative analysis consisted of Controlled Interrupted Time Series (CITS) of relevant outcome measures from two different datasets:

- TRDP (The Retail Data Partnerships) Convenience Market Data;
- Kantar FMCG (Fast-moving consumer goods) Panel Purchase Data.

2.13 The sales data (TRDP) data was aggregated monthly and covered the period from March 2019 to February 2022, while the consumer purchasing data (Kantar) was

aggregated into 4-weekly time blocks and covered the period between March 2015 and February 2022.

2.14 The analysis on sales data focused on four outcome measures:

- Store average alcohol sales (primary outcome indicator);
- Percentage of total sales coming from alcohol;
- The average number of alcohol transactions;
- The percentage of all sales transactions that include some alcohol.

2.15 The analysis on purchasing data focused on three outcome measures:

- Average household volume (litres) (primary outcome indicator);
- Average household alcohol spending (£);
- Average price per litre of beverage.

2.16 In order to isolate the effects of Covid-19 mitigation measures, these outcome measures were analysed using Controlled Interrupted Time Series (CITS). CITS are a type of time series where an outcome variable is observed over multiple equally spaced time periods before and after an intervention is introduced and in comparison to a control group where the intervention is not introduced. In this way it is possible to assess whether the data pattern observed post-intervention is different to that observed pre-intervention while accounting for omitted confounding variables (Bernal et al., 2017; Linden, 2015). CITS was considered an appropriate method for strengthening impact estimates by isolating the effects of Covid-19 mitigation measures that were implemented in March 2020 concurrently with MUP. We used England as a control group, a nation that implemented similar Covid-19 mitigation measures to Wales but did not implement MUP.

2.17 The analysis also includes CITS of the relevant outcome measures for small border and non-border stores in Wales in comparison to small border and non-border stores in England to assess whether the impact of MUP on small border stores in Wales was affected by geographical proximity to England. Moreover, sub-group analysis of the purchasing data was undertaken to assess whether the impact of MUP varied depending on the type of alcoholic beverage.

2.18 Finally, sensitivity analysis was conducted for the primary sales outcome, average alcohol sales. The aim of the sensitivity analyses was to explore the impact of MPA while accounting for key dates of the Covid-19 mitigation strategy, since pandemic mitigations had a disruptive effect on the retail sector and should be expected to influence how and where alcohol was consumed.

3. Awareness and understanding of minimum pricing among retailers

3.1 This chapter discusses retailers' awareness and understanding of the minimum pricing policy since implementation and compares the findings at this stage with insights from the baseline study. The chapter outlines levels of understanding and awareness of the minimum price for alcohol (MPA) among retailers, factors that affected those levels and gaps in retailer's awareness and understanding. The chapter also explores the sources of information that retailers had used and where further information on the policy is needed.

Key findings

- Compared with the baseline study, retailers showed greater awareness of the MPA policy. This was especially in relation to knowledge of the policy, and the unit price for alcohol of 50p. The way in which individual prices were calculated was less well understood, as well as how the MUP affected promotions, offers and discounts. Some retailers, especially on-trade retailers, lacked an understanding about how the policy would be enforced.
- Lower levels of understanding of the policy were found among retailers that had been closed during Covid-19 lockdown restrictions; who believed that their 'high end' prices meant the MUP would not affect the products they sold; and among staff who did not make decisions about prices.
- While some retailers understood that the policy was targeted at reducing consumption of higher strength alcohol, others believed it was aimed at 'binge drinking' or problem drinkers. Some held a cynical view that the policy is a money-generating exercise for the Welsh Government, especially where they were sceptical the policy would have an effect.
- Prominent sources of information for retailers were the internet, news media, social media, the Welsh and Local Government, trade organisations and word-of-mouth. Retailers said there was a need for better information on the way in which the MUP affects offers and discounts, and for policy reminders, updates and any evidence that show whether the policy was beneficial.

Awareness and understanding

- 3.2 Levels of awareness and understanding of the MPA policy varied across retailers. Some provided accurate information on the policy while others exhibited less knowledge or mentioned not having much understanding of the policy or specific parts of it. This was sometimes despite detailed [Guidance](#) and other awareness-raising information sent directly to retailers by the Welsh Government³.

Levels of awareness and understanding

- 3.3 **At baseline** retailers fell into one of four categories of awareness and understanding of the minimum pricing policy: high, medium, low and very low (chapter 3 of the [baseline report](#)). Retailers with high levels of awareness had an accurate understanding of many aspects of the policy and generally sought or received further information on the policy, often from multiple sources. Those with high or medium levels of awareness and understanding of the policy were mostly chain stores that had received information about the policy both in the post (assumed to be from the Welsh Government) and/ or from their company head office. It also included independent breweries and pubs, who had heard about the MPA from both the Welsh Government and trade-specific organisations.
- 3.4 Those at the **lower levels of awareness** included a range of on- and off-trade retailers who had heard about the policy but had gaps in their understanding regarding the implementation date, policy aims and how the minimum price would be calculated. The very lowest level of awareness and understanding was made up of mostly on-trade retailers who said they had not heard about the policy (for more information see chapter 3 of the baseline report).

Awareness and understanding at first follow-up

- 3.5 **At this first follow-up stage**, interviews with retailers suggested a modest improvement in levels of awareness and understanding of the MPA policy. All retailers demonstrated a basic understanding of the MPA policy and the MUP.

³ NB this included an A4 letter, two A3 posters, an A5, eight-page leaflet, one shelf barker, and self-edges. Materials were also made available digitally to download for retailers who required additional copies.

However, levels of awareness and understanding varied for different components of the policy.

- 3.6 Where retailers **exhibited higher levels of awareness and understanding** of the policy, this related to: (a) that the minimum unit price was 50p and that alcohol cannot be sold at less than this price per unit; (b) that the policy mostly effects cheaper, high-strength drinks; and (c) having a broadly accurate awareness of the aims of the policy, albeit with some misinterpretations – see paragraphs 3.12 and 3.13.
- 3.7 Other than on-trade retailers who were closed during Covid-19 restrictions, there was no clear pattern showing a connection between whether the retailer was on- or off-trade, chain or independent, and having knowledge of these aspects of the policy. Also, unlike in the baseline report, there was no clear association between seeking or receiving further information on the policy or accessing multiple sources of information and having higher understanding of the policy.
- 3.8 Where retailers exhibited **lower awareness and understanding of the policy**, this was to do with: (a) how the minimum price is calculated, which applied especially to how it affected offers and promotions; (b) when offers and promotions can be applied; and (c) limited knowledge among some retailers about the ways the policy would be enforced. Poor understanding of how to calculate offers and promotions mirrored findings at baseline.
- 3.9 A lower level of awareness and understanding of the MPA was found among three groups of retailers to do with their context, type of business and their role:
- **Retailers who were closed during the pandemic** - this was at least partly explained by the fact that many were closed for most of the pandemic and therefore did not get a chance to engage much with the policy, its aims and rules. For example, an on-trade independent hotel and an on-and off- trade independent restaurant, had not heard of the policy prior to being contacted for the interview.
 - **Retailers with prices above the minimum price per unit** - lower levels of understanding were also linked with retailers who believed that they already

charged well above minimum price per unit, and therefore didn't feel they needed to inform themselves about the policy beyond the basics. This was often the case among on-trade retailers such as pubs and restaurants that comfortably charged above the minimum price per unit. An owner of an on- and off-trade independent pub went as far as to say that he didn't read the letter he received from the Welsh Government telling him about the policy, despite having a responsibility to be informed about it (for more information about the letter see paragraph 3.17). This was because he believed the policy would not affect his business as he sold alcohol above the minimum price:

'So the letter... I doubt I read it. I'm not particularly interested because it doesn't affect my business at all, because I'm nowhere near that... I'm selling alcohol at probably £1.80 to £1.90 per unit.' (Pub, on trade, independent).

- **Retailers who were not the pricing decision-makers:** On- and off-trade retailers who were part of a larger chain, a franchise or were run on behalf of an external body cited lower levels of understanding because they are not the main decision-makers when it came to pricing. These retailers gave two reasons why they were not fully informed on the policy. These were: (a) that their head office had received the letter from the Welsh Government informing them about the policy, but they were not directly informed; and (b) because their head office set the prices so they didn't feel they needed to have an understanding of the policy. For example, this was the case with a chain hotel where the assistant manager of the hotel, who had worked there three years, had not heard of the policy prior to the interview:

'No understanding of this seen as we are part of a chain, so we are just told what prices to put.' (Hotel, chain, on-trade).

- 3.10 Other types of retailers who didn't make pricing decisions and were not as informed about the policy, included two independent pubs. One of whose prices were implemented by "the brewery", and one of which was run on behalf of social club and therefore didn't make pricing decisions. Similarly, an off-trade grocery store also said that they had a low understanding of the rules on offers and discounts as, being a part of a franchise, they do not set them themselves.

- 3.11 By contrast, chain retailers' head offices passed down the letter from the Welsh Government to their branches, or distributed information about the policy to ensure that all staff were informed.

Understanding of policy aims

- 3.12 The key aim of the MPA policy is to reduce alcohol related harm by targeting hazardous and harmful drinking and the sale of cheap, high strength alcohol. While some on-trade and off-trade participants understood this, others talked about aims such as: reducing binge drinking, making it harder for people 'with issues' to purchase cheap alcohol and generally improving public health. One retailer believed its aim was to standardise retail alcohol prices across Wales.
- 3.13 There were also cynical views that the policy was introduced for the government to make money, while some retailers thought the money from the policy would be going towards the Welsh Government and the Welsh NHS because the policy was introduced for health reasons. Understanding in this respect had not changed much since baseline when the key aims were found to be: (a) to reduce harmful and excessive alcohol consumption, and (b) to tackle the sale of cheap alcohol and to improve public health. Also mirroring baseline findings, participants identified two main groups targeted by the policy: young people and problem drinkers

Sources of information

- 3.14 The **baseline report** found that retailers' levels of awareness were influenced by their exposure to, and engagement with, the sources of information they received and sought out.
- 3.15 At **this stage** no clear link was found between sources of information accessed and participants' knowledge and awareness of the policy. This may be because retailers more actively sought out information around the time of the implementation of the policy but had been less active in doing so at this stage. This may also reflect that other more pressing social issues such as Covid-19 had been on their minds in the intervening period, and that the cost of living increases was on their minds now.
- 3.16 Retailers that had heard of the policy discussed the sources of information they had accessed. Some retailers looked at only one source of information, while others

accessed multiple sources. Sources of information cited included the internet and the media, Government, trade sources and word-of-mouth - which was similar to findings from the baseline study.

- 3.17 **Internet, media and social media:** Among those who had actively sought out information about the policy, the media was used as a source. This included searching news websites such as BBC news, the Welsh Government website, looking on Google and on social media, as well as generally looking at “mainstream media”. Furthermore, one participant cited using the [Welsh Government’s MUP app](#) when checking their compliance with the policy and ensuring that they are doing their pricing calculations properly.
- 3.18 **National and Local Government:** Retailers also learned about the policy through receiving a letter from the Welsh Government. This happened mostly with chain retailers where the head office either passed the letter from the Welsh Government to the individual retailer, sent out an “email shot” to Welsh stores informing them of the changes, or informed individual retailers by providing briefings. Some participants cited hearing about the policy from their local council, while others said that they had received a letter but were not certain where it came from; this could be explained by the fact that the letter from the Welsh Government was distributed over two years ago.
- 3.19 **Trade sources:** Another way that retailers learned about the policy was by searching industry literature for information – for example a pub trades subscription magazine, or through receiving information from within their company. Retailers also learned about the policy by speaking to traders and friends in the industry.
- 3.20 **Word of mouth:** In some cases, retailers learned about the policy through word of mouth, as one independent on-trade retailer put it: ‘word of mouth, people were just talking about it you know’. A business partner at an independent on- and off- trade restaurant said that they knew about the policy because they have family in Scotland, where the policy was introduced first.

Further information

- 3.21 As mentioned above, there is evidence to suggest that where retailers were aware of, and had access to, the Welsh Government's MUP app, they expressed less need for further information. However, this did not always apply when it came to offers and promotions.
- 3.22 While some said that the information they had received from the Welsh Government was enough, others asked for further information, support, reminders and updates. Where they wanted further information, this included:
- **Further information and support on how to price** – Several retailers who struggled with pricing said that they would like more support on how alcohol products should be priced when using the MUP. An off-trade independent retailer suggested that local council officers could do more to provide support and improve retailers' understanding, despite visits to off trade retailers by local Trading Standards Officers to explain the policy and how to comply. Another retailer asked for written information from wholesalers on the minimum prices. He also said it would be helpful for independent businesses to receive reminders from the Welsh Government about minimum prices for 70cl and one litre spirit bottles and wines due to changes in the government budget on customs and excise. They argued that while this may be because they're not experienced in looking for information online, guidance and advice should still be more easily accessible on the website.
 - **Policy reminders/updates** – Retailers thought that the Welsh Government needed to maintain an on-going awareness of the policy in the form of follow-up letters or leaflets to be sent to retailers:

'They could've advertised it a bit more and promoted it a bit more, so people understand what's going on and how... Say everything has gone up 50p, and how they calculated it, I suppose' (Pub, independent, on-trade)
- 3.23 Retailers said that updates from the Welsh Government would help new staff and customers become aware of the policy. They also thought that updates on the

policy and whether it has been beneficial would be useful to maintain support for the policy.

4. Retailer views of the minimum pricing policy

4.1 This chapter discusses retailers' current views of the Minimum Price for Alcohol (MPA) policy in Wales, two-years since it took effect. It explores retailers' attitudes towards the policy, including its likely effects on competition in the alcohol sales market, and the extent to which retailers believe it is their role to promote responsible drinking.

Key findings

Views on the MPA, and extent of support for it revolved around three themes:

- **Effectiveness** - retailers who saw alcoholism or binge-drinking as a health issue and not a choice, saw the policy as an effective way of preventing illness and promoting public health. Negative views were found where the policy was regarded as futile because retailers thought there would always be people who drink excessively.
- **Competition in the market** - positive views emerged where the policy hadn't affected the price of many products that retailers sold. On-trade retailers were happy with the policy because they saw it as a leveller, believing it created a more 'even playing field' between them and shops who had been selling alcohol more cheaply. Retailers with a negative view of the policy believed they should be allowed to sell at what price they liked.
- **Responsibility for alcohol consumption** - support for the policy stemmed from the perspective that retailers needed to be responsible in the way they sold alcohol. Firstly, so that excessive drinkers didn't deter more responsible drinkers from using retailers and, secondly, because retailers had a role to play in promoting public health. Retailers who argued for consumer choice and individual responsibility were most negative about a MUP.
- The changes in support for the policy since baseline were because fewer prices had been affected by the MPA than some retailers had expected. For on-trade retailers, greater support came from the view that the policy had levelled competition with off-traders.

4.2 Retailer views on the MPA policy revolved around three issues: (a) whether they thought the policy would be **effective**; (b) whether they believed it created better or fairer **competition** in the market; and (c) the extent to which they believed retailers had a responsibility to help prevent hazardous and harmful drinking. Views on these issues, in turn, affected whether retailers had a positive, mixed, or negative view of the MPA policy, as shown in Figure 4.1 below.

Figure 4.1: Issues affecting retailer views of the MPA policy



Effectiveness of the MPA policy

4.3 At baseline, before the MPA was introduced, and post-implementation, a **positive or supportive view** of the MPA policy was linked to whether retailers believed it would be effective in changing customer behaviour and improving public health. In some cases, views on this were linked to other public health campaigns that showed effects on levels of consumption by price, such as increasing the price of cigarettes to reduce the number of people smoking. Views on whether the policy was likely to help reduce hazardous and harmful continued to affect retailer views at this stage.

4.4 Belief that the policy would be effective was also linked to the perspective that problem drinking, and alcoholism are illnesses over which individuals have no or limited control. Price increases on the most harmful alcohol may therefore help

dissuade people from buying it. For example, a manager of an alcohol shop argued that making harmful, high strength alcohol less accessible by price could help to prevent ill-health:

‘I see alcoholism as perhaps not a choice but an illness... so I think it's actually a good thing to have those sorts of products certainly off the market in Wales’
(Alcohol shop, chain, off-trade)

- 4.5 Those who viewed the policy in this respect also saw it as an important way to tackle binge-drinking, thereby reducing the burden on the National Health Service.
- 4.6 Retailers with more **mixed views or concerns about the policy**, said they thought the MUP had not been set high enough to be truly effective. They were also concerned that the emphasis on price as the mechanism of change would mainly affect the poorest and most vulnerable who were likely to be hit hardest by price increases. While they broadly agreed with the policy and its aims, they still had concerns about its effects on low earners. These concerns were extended more widely to the general public at this stage at a time when the cost of living had significantly increased. They also pointed out that people on higher incomes could carry on drinking whatever they liked, which they felt was unfair.
- 4.7 While these retailers understood and accepted the idea of making cheaper, higher strength alcohol less accessible, they were less accepting of the policy in relation to higher strength premium products that were already expensive (e.g. higher strength wines and spirits). This was because the health risks from these drinks were perceived as less socially harmful than adding more cost to already expensive products. As this manager of a restaurant argued:
- ‘I don't see the point of doing it on a £14 bottle of Chablis, but I do get it if you're doing it on four cans of Special Brew. Do you know what I mean? The aims of the initiative, I think you should have left your premium alcohols alone, but 14 cans of Special Brew shouldn't be able to be bought for under £10’. (Restaurant, independent, on-trade).

- 4.8 Retailers with mixed views or concerns may therefore be persuaded of the efficacy of the MPA provided its effectiveness in reducing harmful drinking can be shown, and that there isn't a disproportionate impact on lower earners.
- 4.9 The most **negative or unsupportive views** on the policy came from retailers who disagreed with the policy because they simply thought that it wouldn't be effective. Those who held this view believed the policy was 'futile' because there would always be people who drink too much, become alcoholics and turn to drugs. This suggests that strong evidence of the effectiveness of the policy would be needed to change their minds.

Effects of the policy on competition in the market

- 4.10 At baseline, some retailers had expected a benefit of the policy to be increased competition in the market, which they felt turned out to be the case.
- 4.11 On-trade retailers held more **positive and supportive views** of the policy at this stage, because they had believed it had prevented shops and supermarkets from selling alcohol at very low or discounted prices. As a result, they felt this created a more level playing field with prices charged by shops more comparable to those charged by pubs, bars and clubs and restaurants.
- 4.12 They also said that, if customers could not drink cheap alcohol at home, they may be more inclined to go out and drink in pubs, bars, clubs and restaurants. This view was especially important post-Covid-19 as retailers who closed during the pandemic tried to make up for lost business. Further discussions on views and experiences on whether the policy created a more even playing field between retailers is covered in chapters 5 and 6.
- 4.13 Positive views were also found among on-trade and off-trade retailers who said they didn't think the policy would or had affected their sales. This was because, either they didn't view the policy as a threat to demand for alcohol, or because the policy had negligible effects on their business to date. Some retailers reported that only a small number of their products were affected by price increases, and their customers had barely noticed the change.

- 4.14 More **mixed views** of the MPA policy reflected concerns about competitiveness, especially that the MPA policy should be implemented UK-wide to prevent potential cross-border sales. Both on-trade and off-trade retailers claimed they were aware of anecdotal evidence of people crossing over to England to buy unrestricted amounts of cheaper alcohol, but they said they did not believe this was happening. The impacts on cross-border sales are discussed further in chapter 6 and 7.
- 4.15 The most **negative and unsupportive views** were found among retailers who felt that, contrary to the idea of achieving a level playing field between on-trade and off-trade retailers, the policy was undermining competition in the market. Some independent, off-trade retailers argued that they have been prevented from being competitive with on-trade retailers and larger supermarkets and chain stores. They saw the policy as preventing them from making necessary price reductions for promotional offers to be able to compete.
- 4.16 Some retailers at follow-up interviews thought they should have the freedom to charge what they want and sell what they want. However, these views had not significantly changed since baseline, or were found among new participants expressing their views for the first time.

Responsibility to manage or control alcohol consumption

- 4.17 Views on responsibility for controlling alcohol sales and consumption also affected the extent to which retailers supported the MPA policy or not. However, these views were not linked to whether the retailer was on or off-trade, chain or independent.
- 4.18 Those who were **most supportive and positive about the policy** believed retailers had an important responsibility to manage and control levels of alcohol consumption. Both participants interviewed at baseline, and at this stage, said they needed to be 'responsible retailers', or had a role alongside others to promote the health and wellbeing of society.
- 4.19 Both off-trade and on-trade retailers thought their image among the public had been damaged by the sale of cheaper, high strength alcohol, and excessive levels of drinking. An independent pub and brewery argued that it was right to prevent the

sale of cheap, high strength alcohol because it had contributed to a bad reputation for the industry:

'It's the right thing to bring in to stop the price promotions, to stop cheap alcohol, because alcohol has a bad reputation, and we need to be responsible in how we promote it, because actually it has a knock-on effect for the industry longer term. People are going to start moving away from the industry if we don't promote or advertise responsibly, so for me, 100 per cent behind it'. (Pub and brewery, independent, both on and off-trade)

4.20 However, for some retailers, this sense of responsibility went beyond solely the remit of the alcohol industry. Here it was also couched as being part of a broader sense of responsibility towards customers as members of society. This view reflected that society, retailers, individuals and government needed to take more care of the health of those around them. As one store manager argued:

'We should take more responsibility for the people around us as well because the more we care about those around us, the easier it is to care on a wider basis. It stops being about the I and starts being about the we' (Grocery store, independent, off-trade).

4.21 Retailers who **broadly supported the policy but had some concerns**, tended to place the responsibility of retailers for managing consumption of alcohol as part of a bigger picture. They emphasised the responsibility of retailers combined with that of government and individuals. They suggested that the government should continue to educate young people on the potential harms of alcohol consumption, so they could make informed decisions about drinking alcohol throughout their lives. They argued that alcoholism is a health issue that the government needed to check. In particular, they argued that price controls on drinking are likely to have limited effect unless the government provides better access to support services such as the Alcoholics Anonymous (AA), counselling, healthcare, and financial support.

4.22 Retailers **most negative and unsupportive views** about the policy argued customers alone should take responsibility for their alcohol consumption. They said the government should not 'dictate' people's lives, nor how much alcohol they drink. They believed that everyone's limit with alcohol is different, and that it should up to

the individual to take responsibility for how much they drink. Likening the issue to smoking cigarettes and choice of food, one publican said the issue is one of consumer choice:

'You can't blame the tobacco companies if somebody is smoking 60 a day, or if somebody is living on crap food. It's their choice' (Pub, independent, on-trade).

- 4.23 This demonstrates the importance of educating retailers about when alcohol consumption may or may not be a choice (especially when customers are already intoxicated or dealing with alcoholism). Emphasising the role retailers can play alongside individuals and government in promoting responsible drinking might also persuade some retailers to give greater support for the policy.

5. Experiences of implementation

5.1 The baseline report explored the extent to which retailers had prepared for the introduction of the MPA in Wales, and the reasons why they had or had not. This chapter examines whether additional preparations were made prior to implementation, and adaptations to their practices since. It also examines whether retailers' expectations about the amount and complexity of change that would be required was borne out, and where there are operational issues remaining.

Key findings

- Retailers who were assessed at baseline as being the most prepared for the MPA in Wales, were best prepared to handle price changes since implementation.
- The least well prepared since implementation were those:
 - o Staff working for retailers where they were not the person primarily responsible for decisions on pricing.
 - o Who tended to sell higher quality, high priced alcohol that they considered would already be above the MUP, and who put less effort into preparation as a result.
 - o Who had only just re-opened post-Covid-19 and for whom alcohol sales were a small part of their business.
- MPA was not front of mind for retailers at the time of the interviews. Price increases related to the MPA were overshadowed by closures during the Covid-19 pandemic; the more recent cost of living increases; and the fact that only a few products were found to have increased in price.
- Retailers who struggled with how the MPA affected pricing and discounts tended to be unaware of the Minimum Unit Price (MUP) app or had not used it. Where they had, retailers found it to be useful when dealing with pricing, and especially in relation to promotions and discounts. Those who used the app also said it made transition to the new regime smoother and more straightforward.

- None of the retailers in the sample had received an enforcement fixed penalty notice, which reflected that few notices had been issued in Wales at the time of reporting. Others were self-policing using the MUP app and a few received compliance visits from the local council or their head office.

Preparations and adaptations

- 5.2 Pre implementation, baseline findings suggested that chain retailers were the **most prepared** for implementation of the policy. They had already begun: (a) checking their product prices against the minimum unit price; (b) adjusting stock to include what they considered higher quality, better value-for-money products; (c) training staff; and (d) alerting customers to the coming changes. Those who were **least** prepared and lacked awareness of the policy said they tended to be disorganised until the last minute or didn't think the policy would affect the price of the alcohol they sold.
- 5.3 **Post implementation**, staff who were responsible for pricing decisions in chains of shops or hotels, or as part of a brewery, were aware of the policy, with all recalling receiving a letter from the Welsh Government about its introduction. Other sources of information and awareness of the policy are discussed in chapter 3. The only exception to this pattern was retailers who had been closed during Covid-19 lockdown restrictions, and who were only just re-opening their businesses. Information received prior to, or at the time of implementation in March 2020, was therefore not front of their minds.
- 5.4 **Where preparations were made**, this consisted of shops training their staff on the policy and raising awareness of it among customers. Shop staff used signage provided by the Welsh Government, head offices or trade organisations to highlight the policy. One online retailer used pop-up messages prior to implementation to highlight prices on products would increase, and why. Some smaller, independent retailers said they specifically sought out wholesalers who they believed were aware of the policy and had taken it into account in their pricing.
- 5.5 **Where retailers were least prepared for changes in pricing**, this was for three reasons.

- 5.6 Firstly, where retailers were part of a chain of shops, or pubs that belonged to a brewery or where decisions about pricing were taken centrally or at a head office. However, some staff still showed an awareness of the policy, or recognised its implications where discounts or special offers were being made.
- 5.7 Secondly, where retailers thought that all, or most of the products they sold were at the more expensive end of the market and would therefore not be affected by the MPA. Which, in turn, led them to prepare less thoroughly. 'Higher end' retailers reported that their expectations were met except for a few higher strength products sold off-trade. It may, therefore, be helpful to include examples of higher price, higher end products that are affected by the MUP in any new publicity about the implications of the policy.
- 5.8 Thirdly, some retailers had only recently re-opened their business post-Covid-19 and the MPA policy was not front of their mind. In this case information about the policy may have been received prior to or at the point of the first Covid-19 lockdown, and not been the focus of retailers' attention in the intervening period. This was particularly the case for restaurants and cafes where selling alcohol was only a relatively small part of their business. This suggests renewed and more targeted promotion of the policy will be needed to stop retailers falling foul of the law over the remainder of this year.

The context of Covid-19 and high inflation

- 5.9 As discussed in the introduction to this report, there can be no doubt that the experience of implementing the policy was affected by the emergence of Covid-19 and resulting restrictions on gatherings and socialising. It was also affected by more recent cost of living crisis, increases in prices of fuel, and higher levels of inflation.
- 5.10 For off-trade retailers, such as shops, the closure of pubs, bars and clubs, or restrictions on their opening during the Covid-19 pandemic, meant their experience was that sales of alcohol tended to increase. Retailers also thought that customers were less likely to notice increase in prices arising from the MPA in the context where they were dealing with the implications of stay at home instructions and other lockdown restrictions. This also applied to on-trade retailers, who also said that the relief for customers of being able to go out and socialise post Covid-19, meant that

price increases arising from the MPA were not the focus of their customers' attention. Both these circumstances were considered to make managing customer reaction to policy more manageable by being less highly visible.

- 5.11 At the same time, the few prices that increased as a result of the MPA in Wales were thought to pail into insignificance compared to wider price increases and costs coming from higher inflation. As one independent pub owner said:

'I don't think minimum pricing is going to be on top of many people's agendas at the moment, you know. With obviously the increase in energy prices and inflation going nuts, diesel prices, war in Ukraine...'. (Pub, independent, on trade)

Another retailer observed it was 'fortunate' for the Welsh Government that price increases from the MUP were not as prominent in the minds of consumers over the last two years as they might have been. However, it was this plus the fact that price increases did not apply to as many products as retailers had expected, that contributed to the prominent view that the introduction of the policy had been largely manageable.

Experience of pricing, promotions and offers

- 5.12 Working out pricing on promotions, offers and discounts, was the main difficulty cited by on- and off- trade retailers related to the introduction and management of the MPA policy. This was despite detailed guidance on these issues being published online by the Welsh Government, and especially the case where retailers were unaware of the Welsh Government's MUP app.
- 5.13 Pricing in relation to promotions and offers was particularly difficult for a range of retailers to grasp. For instance, one convenience store said that rules around promotions were complicated for them to follow because they can be for anywhere in the United Kingdom. A manager had to read the small print on the MPA in Wales to see how it applies to their store. Retailers also had different interpretations of rules around promotions: while an independent on-and off-trade retailer believed that any promotions that encourage sales of alcohol were not allowed, an on-trade chain alcohol retailer thought that the minimum pricing policy didn't apply to offers and promotions:

'It's exactly the same as what they've done in England... if you mix any six bottles you get a discount overall; that can be up to 20 per cent off a particular bottle...as far as I'm aware, nothing has really changed in regards to the promotion of alcohol - on our end anyway.' (Alcohol shop, chain, off-trade)

This indicates the potential for items to slip through the net of the MPA policy because of confusion on promotions, offers and discounts, and how they must be priced.

- 5.14 However, some retailers used the MUP app to help them calculate the price of alcohol and avoid having such issues. Off-trade retailers cited using the app to make sure that their pricing was correct. Generally, participants used the app for reassurance they were pricing correctly. As one participant working in a chain convenience store put it:

'I rely on the app to tell me that I'm doing it all right, I'm not going to lie!' (Convenience store, chain, off-trade)

- 5.15 A broad range of retailers said the app was also helpful for calculating discounts on single and multi-pack items, which made it simpler and more straightforward. As one participant working in a garage shop put it:

'I didn't bother doing it through working out the costs or anything. I just used the app because it's so easy' (Garage, chain, off-trade)

This was also found to be useful to work out at what minimum price alcohol could be sold at if it was coming to the end of its sell-by date.

- 5.16 In this way, the app also made self-policing and checking of prices against the MUP straightforward and was perceived to make the transition to the new regime smoother and more straightforward. However, as was noted in chapter 4, not all retailers were aware of the app, or how to find the correct information on the Welsh Government's website. Some also still struggled with applying the app to promotional offers and discounts. Given the usefulness of the app to some retailers, further promotion, and how to use it, would be beneficial for those still struggling with pricing.

Compliance and enforcement

- 5.17 None of the retailers in the interview sample had been subject to enforcement procedures or fixed penalty notices to date. In line with current policy by the Welsh Government, compliance visits and checks were reported for off-trade retailers. They described visits by their local council or staff from headquarters for pubs run by breweries and shops that were part of a chain or franchise. Some retailers re-opening after Covid-19 thought that they would benefit from local officials coming to talk to them and their staff about the policy, expectations about compliance, and the nature of enforcement.

6. Perceptions of impacts

6.1 This chapter reports on experiences and perceived effects of the MPA policy from the interviews with retailers. It provides an assessment of the impact of the MPA in Wales since implementation in March 2020. Secondary analysis of relevant datasets on sales of alcohol, alcoholic beverages, and purchases of alcohol along the Wales-England border are covered in chapter 7.

Key findings

- A broadly positive perception of the effects of the MPA on retailers and their customers arose partly because price increases were overshadowed by Covid-19 over the last two years, and higher inflation than at baseline at this first follow-up.
- Off-trade retailers tended to think that the policy was having the desired effect by reducing the amount of cheaper, higher strength alcohol being sold and consumed. The effects of the policy on on-trade retailers at this stage, as businesses emerged from Covid-19 restrictions, were less clear.
- Negative effects from the policy on retailers included wastage because products couldn't be discounted as they reached best before dates; promotional offers and discounts placed on UK-wide distributed products, which then had to be spotted and changed by retailers in Wales; and perceived additional information and training costs.
- Retailers indicated that increases in prices arising from the MUP were hardly noticed by customers in the recent context of higher inflation.
- Some retailers suggested the Welsh Government, could periodically send point of sale posters they could display to help maintain understanding and support for the policy. Evidence that the policy is having a positive would be beneficial to include in this information.

Effects of the MPA in the context of Covid-19 and cost of living increases

6.2 The extent to which the MPA affected retailers, and was perceived to have affected their customers, at this stage, must be seen in the wider context of Covid-19

restrictions and recent cost of living increases (as discussed above). Given that the policy was introduced in March 2020, this coincided almost at the same time as the emergence of Covid-19, and exactly at the same time as the first lockdown restrictions were introduced.

- 6.3 This meant that many retailers, mostly on-trade pubs, bars and clubs, were closed for most of the period between baseline and first follow-up interviews. Some were only just fully re-opening and getting back into operation at the time of interview. As a result, some had forgotten the information provided when the policy was being introduced, and/ or it was not at the forefront of their minds as they were struggling to re-establish their businesses.
- 6.4 Both off-trade and on-trade retailers said that more recently the cost of living crisis and high inflation had affected perception of the prices of the products they sold more than the MPA. The result was that changes arising from the MPA tended to be overshadowed by larger and more widespread price increases due to the war in Ukraine, the increased cost of fuel and distribution of products, and higher rates of inflation. This was viewed by retailers as making prices arising from the MPA less noticeable, and more manageable among their customers than they might otherwise have been. Retailers' views of the policy therefore need to be seen in this context.

Effects on prices of alcohol

- 6.5 Retailers' perceptions of the policy, however, also needs to be seen in the context of far fewer products increasing in price as a result of the MUP than had been expected. Those retailers at baseline who thought that all prices would go up a great deal, said that these expectations were not borne out:

'I was thinking, oh my God! All the prices are going to go through the roof, it's going to plummet our sales, we've got shops literally a five-minute drive down the road, it's going to be a nightmare! But that's not been the case at all'

(Convenience store, chain, off-trade).

Instead, retailers found that price increases were limited to only a few types of products.

- 6.6 **Where prices increased as a result of the MPA**, this was discussed mainly in relation to two or three litre bottles of strong, cheap cider, cheaper wines and some spirits served in bars and restaurants (e.g. vodka). The introduction of the policy was therefore described as 'smooth' or 'straightforward', or as having minimal effects on business.
- 6.7 **Where prices did not increase as a result of the policy**, this was for two reasons. Firstly, all the products they sold by alcohol volume were already within the permitted range. In some cases, pubs stocked a limited range of drinks, none of which were affected by the MPA. In other cases, a few products increased in price, but the vast majority stayed the same. Secondly, the context in which alcohol was sold, such as a restaurant, hotel or family-oriented pubs selling food, tended to have a higher mark-up relative to other retailers, and so increases in prices were able to be absorbed within the existing price. For instance, a restaurant owner said he noticed the price of a drink of vodka increased, but the high margin they had on drinks meant the increase was absorbed by the retailers without any difficulties.

Effects on the sale of cheaper, higher strength alcohol

The interviews - primarily with off-trade retailers - suggested that the MPA policy is having the desired effect by reducing the amount of cheaper, higher strength alcohol being sold by retailers and bought by customers. Changes in the price of cheap, high strength two or three litre bottles of cider featured prominently in off-trade retailers accounts. As a manager of a local convenience store said:

'We had a few things that went up really high. Whereas before, we do a three-litre bottle of cider, and before, it would probably be down to just under £5, something like that, and it went up to £12. So, I think the people who bought that did notice that one...They just bought something else, something that was cheaper'. (Convenience store, chain, off-trade).

This pattern was also borne out from the quantitative analysis discussed in chapter 7.

- 6.8 In some cases, retailers said that these cheaper, higher strength products became much **slower moving lines**. Others, by contrast, **stopped stocking such**

products all together and replaced them with lower alcohol volume, or higher quality, higher priced alcohol. In the latter case this was regarded to offer the customer better value for money.

- 6.9 There was less evidence of the effect of the MPA on prices for on-trade retailers, as many were only just re-opening their businesses at the time of interview. This means inclusion of their views will be even more important in the final stage of data collection next year.

Creation of a level ‘playing field’

- 6.10 Another prominent theme to emerge from the interviews was that some on-trade retailers said they thought the MPA policy had created a ‘more level playing field’ on price for them compared to off-trade retailers (as discussed in chapter 4). They therefore welcomed what they saw as a more equal footing with off-trade retailers while they were trying to regain their business.
- 6.11 However, some off-trade retailers questioned if pubs, bars and clubs were being advantaged by the policy because they could sell as much alcohol as they liked to an individual. Some felt the chances of a pub, bar or club being served a fixed penalty notice, or going to court if they served a person who was highly intoxicated, would be much less than if a shop sold alcohol above the minimum unit price. For example, one garage shop manager questioned whether there should be a limit on the number of drinks a person can be served per day in a public house:

‘Maybe if you go into a pub and buy six pints that is as much as you are allowed’
(Garage, chain, off-trade).

To this extent, a level playing field was thought to involve both the volume of alcohol per unit, and the amount of alcohol a person consumes overall.

Perceived negative effects on retailers

- 6.12 Negative effects on retailers arising from the MPA were regarded as limited. Retailers raised three negative effects of minimum unit pricing on them.

6.13 **Product wastage** - by far most prominent of these in retailer accounts was the issue of product wastage. This was reflected in the view of a shop manager who was part of a chain franchise, who said:

‘If something was coming up to its best before, we would've really reduced the price on it and we're not able to do that now so we're getting more waste than what we would normally, I would say’ (Village convenience store, chain, off-trade).

However, even among retailers who raised this issue, it wasn't considered to have a significant impact on their profits. For example, a manager of another shop that was part of a franchise chain estimated they lost about £2,000 per annum as a result of such wastage. Wastage attributed to the MPA was only part of this amount.

6.14 **UK-wide promotions and discounts** - retailers reported that MPA in Wales raised difficulties with UK-wide distribution and sales in three ways. The first was in the way in which products distributed for sale across the UK by, or supplied from England, meant that discounts printed on products had to be spotted, checked and sometimes re-priced. A good example of this was a shop worker who was part of the chain of shops, who said:

‘We're always conscious if something comes in and we see the price, that it's been reduced. I certainly am, and I know a couple of my colleagues are. Almost, it's got to be double-checked that basically it meets the regulations because obviously it could be that it's a general [name of chain of shops] one and it's got through the system’ (Garage shop, chain, off-trade).

6.15 The second way UK-wide distribution was affected was that some retailers believed they had to **switch suppliers from England to Wales**. This was to more easily source products that would comply with the Welsh MPA. For instance, one shop manager said that his store used to get supplies for some products from Hereford in England, but they had started getting more supplies from Wrexham in Wales. However, he noted that they still received wines from Shrewsbury in England, and so was unsure whether this change was directly attributable to the MPA in Wales. Some UK-wide retailer chains said they would welcome greater consistency in policy on minimum pricing of alcohol across all countries of the UK.

6.16 The third related to a hotel that was part of a **chain with headquarters in England**, where the manager said she did not receive information from the Welsh Government about the introduction of MPA policy. The interviewee attributed this to the fact that their chain's headquarters (HQ) were in England, and so information about the policy may not have been sent to their HQ address. This also meant information may not have reached the right staff responsible for pricing and staff training.

Effects on sales near Wales-England border

6.17 None of the retailers who were interviewed said they specifically went to England to take advantage of cheaper minimum unit prices there. They suspected that some customers might do so if they lived near the border, or that this practice might increase as the Covid-19 restrictions were lifted and people began going out to socialise and travel again. For instance, one retailer anticipated that they might be the equivalent of so called 'booze cruises' to France, where people travelled to buy large numbers of products to take advantage of lower prices.

6.18 This may raise the issue of black market or criminal activity in the supply and sale of alcohol in future, particularly as there are no customs controls within the UK. To date, however, retailers did not detect that this had happened. It is possible that any savings by travelling to England to purchase cheaper, high strength alcohol will be outweighed by increases in the cost of fuel and travel costs resulting from inflation.

Effects on customers

6.19 Retailers also discussed the perceived level of effects the MPA had on their customers. Some retailers thought that price changes from the policy were so limited that customers were not even aware of them (both in terms of the number of products affected, and the actual increase in price for all but a few products). Others said that the effects on their customers had been limited to "grumbles" about price increases, which they always experienced in relation to increase in prices more generally.

6.20 Where retailers explained that increases in price were primarily due to the MPA in Wales, they said customers were usually won over when the purpose of the policy

was explained. In some cases, retailers indicated point of sale posters that were supplied by the Welsh Government or trade organisations that explained the policy. However, as with the effects of the policy more generally, price increases arising from the MPA were thought to be overshadowed by those arising from the cost of living crisis and inflation in the wider economy. Increases in price arising from the MUP in Wales were therefore not at the forefront of their customers' minds.

- 6.21 A recommendation made by several retailers was that the Welsh Government should periodically (e.g. every two or three years) send retailers point of sale information and posters to reiterate the policy, and to help maintain public support for it. They thought that any evidence that the policy was having a positive impact would also be useful in this respect.

Effects on problem drinking

- 6.22 Retailers thought the effects on problem drinkers by comparison were yet unclear. While some noticed that regular buyers of the higher strength, low price alcohol had switched to other products within the price range allowed by the policy, others thought these customers had simply disappeared. There was some concern that problem drinkers would switch to other drugs, especially cheap substitutes such as “spice”:

‘What I have realised with the alcoholics and druggies, they just don't bother with the alcohol anymore. They just get more drugs because it's cheaper. So are we helping them, or are we making them worse?’ (Supermarket manager, chain, off-trade).

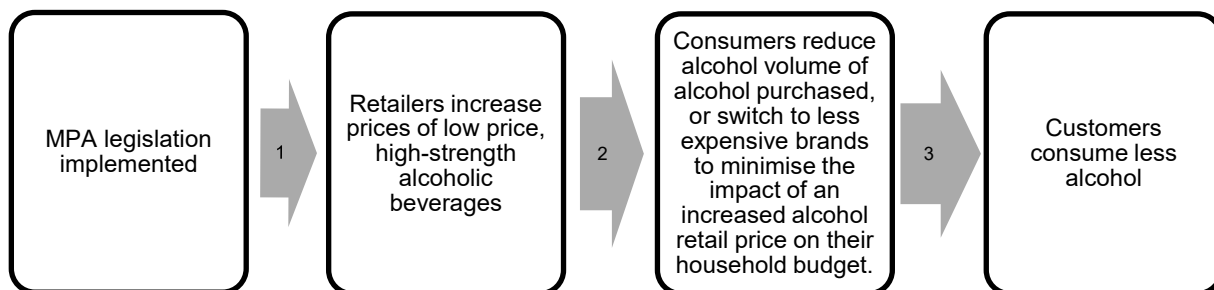
- 6.23 However, others thought that problem drinkers would simply prioritise buying the stronger alcohol over other costs such as food. It is the latter view that was borne out in the recent research on the impact of [minimum unit price for alcohol in Scotland](#).
- 6.24 Another view expressed by an off-trade retailer, was that they did not think the policy would be effective for problem drinkers unless there was better access to support for them, and signposting to addiction services.

7. Analysis of sales and consumer purchasing data

Introduction

- 7.1 This chapter presents an analysis of alcohol sales and purchasing data. These data were derived from two sources: (1) point-of-sale data from smaller retailers across the England and Wales and (2) a large panel of shoppers recording their purchases at large supermarkets and smaller retailers. Analyses assessed whether the introduction of minimum unit pricing (MUP), £0.50 per unit (8 g) of ethanol, was associated with (i) a change in alcohol-related revenue and transactions for small retailers or (ii) a change in customer purchasing behaviour (covering small and large retailers). A number of sub-group analyses were also conducted to assess whether (iii) small Welsh retailers located near the border with England were differentially affected by MUP, given their close proximity to cheaper options in nearby English stores, and (iv) whether MUP influenced customers' choice of alcoholic beverage.
- 7.2 Even after some projected decrease in alcohol purchasing, it was anticipated that MPA would increase retailer revenue due to the higher prices paid by customers for the same beverages (Angus et al., 2018). This is the first step of effect in any theory of change related to MPA and is a question of retailer compliance that we assessed in this report. However, the influence of MUP-induced price increases on customer purchasing was less clear as customers can respond to price rises in multiple ways, some of which are more and less positive from a public health perspective. Ideally, customers respond to price increases by buying less alcohol, but it is also possible that customers would simply absorb the price increases and therefore continue to purchase at the same level, rendering the policy ineffective. Additionally, there is the possibility of unintended consequences caused by MPA, such as customers shifting their purchases to alcoholic beverages that offer better value for them while maintaining or even increasing the volume of alcohol they purchase. It is important to note that this report does not contain data on switching or on the last step of the causal chain, that is, the available datasets do not measure actual consumption.

Figure 7.1. Indicative theory of change for the MPA intervention



7.3 The implementation of MPA in Wales (1st March 2020) happened as the hospitalisation rate attributable to the SARS-CoV-2 pandemic was rapidly increasing. Up to March 2020 advice to the general population was to minimise social contact. Statutory instruments were enacted on 26th March 2020 that forced the closure of non-essential retailers and restricted freedom of movement. To disambiguate the association between MPA and alcohol retail sales from the influence of pandemic mitigations, alcohol sales in Wales were compared to those in England. Pandemic mitigations were broadly similar in England and Wales in 2020, but there were no alcohol price policies enacted in England at this time.

Research Questions

7.4 The analyses were guided by the two overarching questions stated in the baseline report (Bartasevicius et al., 2020). These were:

- What are the effects and economic impact of the MPA on retailers in Wales?
- What role do cross-border sales play in explaining this impact? Are there changes in cross-border sales behaviour after the MPA implementation and, in particular, how is this impacting Welsh retailers near the border?

The baseline report also stated we would examine whether effects differed by retailer ‘type’, however, it was not possible to conduct these analyses as the available data did not provide meaningful categories for this. Please see Annex C for more details.

7.5 Controlled Interrupted Time Series (CITS) analyses were used to test the association between the introduction of MPA and alcohol retail sales using two datasets: The Retail Data Partnerships (TRDP) Convenience Market Data and the Kantar Fast-moving consumer goods (FMCG) panel⁴. The overarching research questions were used to develop four specific research questions that align with the available datasets and the variables they contained. These research questions were:

1. Is MPA associated with a change in alcohol retail sales in Wales, compared to England? In particular, has off-trade small retailer turnover (i.e. revenue) in Wales increased relative to England?
2. How is the implementation of MPA affecting alcohol sales in smaller border stores in Wales? For instance, are alcohol sales revenues from smaller border stores in Wales increasing less due to their proximity to England where prices are likely to be lower?
3. What is the impact of MPA on customer purchasing in Wales? In particular, has the total volume of alcoholic beverages purchased by Welsh households decreased relative to English households? Additional analyses assess whether household spend on alcohol has increased and whether the price paid for alcoholic beverages has increased since the introduction of MUP.
4. Does the impact of MPA on purchasing vary by beverage type in Wales in comparison to England?

7.6 If effective, the impact of MPA in Wales should reduce consumption of cheap, high-strength alcoholic beverages compared to England. Therefore, for research questions 1 and 3 indicators of MPA's effectiveness would be reduced sales volumes of alcohol and reduced purchasing of alcoholic beverages. Please note that the available datasets do not distinguish beverage sales and purchases that

⁴ To answer research questions 1 and 2, we used data retailer sales data from the TRDP (The Retail Data Partnerships) Convenience Market Data which includes smaller convenience stores and excludes supermarkets. To answer research questions 3 and 4, we used consumer purchasing data from Kantar FMCG (Fast-moving consumer goods) Panel Purchase Data, which includes supermarkets, independent, symbol and bargain stores.

are cheap and high strength, therefore claims can only be made at a very general level. As described above, retailers were expected to see increased sales revenue after MPA and individual responses to this may not have been simply to buy less (in terms of volume) but to shift purchases to different beverage types. The available data are useful for generating a general picture of how sales and purchases have varied over time, but they are limited in the extent to which they can be used to assess how MPA has influenced individual level behaviour such as shifting to new beverage types.

7.7 There was concern – including among some retailers interviewed during our qualitative work – that people living close to the Welsh border would cross to England to take advantage of lower alcohol pricing, especially when it was possible to travel due to the absence of pandemic-related restrictions (e.g. lockdowns). This seemed unlikely given that MPA was expected to increase retailer revenue, however, if this was happening, findings around research question 2 would be expected to show that sales in Welsh border stores are more adversely affected by MPA, such as reduced sales revenues from alcohol. It is important to note that the retailer data used here are only from smaller retailers and exclude supermarkets. It is possible that any differential geographic effects of MPA on smaller retailers was not as strong as those seen in supermarkets where prices are generally lower and special offers on multibuys are more common.

7.8 It was anticipated that the impact of MPA may have been larger for lower-priced, high-strength alcoholic beverages, such as some cider brands that were typically sold at prices well below the MUP threshold. Evaluations of the sales impacts of MUP in Scotland showed differences by beverage type such as large falls in cider sales, a more modest fall in spirits sales, and no change (or if anything a small increase) in wine sales (Robinson et al, 2021). Thus, for research question 4 it was anticipated that effects on pricing and purchasing would differ across types of alcoholic beverage in a similar fashion. It should be noted however that our data only disaggregate by beverage type and not between cheaper and more expensive brands so this analysis may be biased assuming prices have changed more for low priced beverages.

Methods

Design

- 7.9 Outcome measures on small retailer sales from the Retail Data Partnerships (TRDP) Convenience Market Data and consumer purchasing panel data from the Kantar Fast-moving consumer goods (FMCG) panel were analysed using Controlled Interrupted Time Series (CITS).
- 7.10 Interrupted time series analysis is a quasi-experimental evaluation method where an outcome variable is observed over multiple equally spaced time periods before and after the introduction of an intervention (e.g. MPA) in order to examine whether the data pattern observed post-intervention is different to that observed pre-intervention (Bernal et al., 2017; Linden, 2015). Interrupted Time Series designs are increasingly used for the evaluation of public health interventions as they are particularly suited to assess the impact of interventions introduced at a population level over a clearly defined time period (Beard et al., 2019; Bernal et al., 2017).
- 7.11 To assess the impact of MPA in Wales CITS models were run using England as the control group. England was an appropriate control group since the alcohol sales and purchase trends were similar to those of Wales for the period before the intervention. Kantar data⁵ were also available for Scotland, however analyses in our earlier report indicated that England is a better comparison for Wales than Scotland (Bartasevicius et al, 2021). This was mainly because alcohol purchasing trends in Scotland were affected by implementation of MPA legislation on 1 May 2018.
- 7.12 CITS was considered an appropriate method for isolating the impact of confounding variables such as the Covid-19 mitigation measures which were implemented in March 2020 at the same time as MPA was implemented in Wales. Though not identical in timing or scope, England had similar and similarly timed Covid-19 mitigation measures relating to alcohol sales, such as: lockdown measures in March 2020, re-opening of shops and on-trade alcohol vendors in June 2020, followed by further restrictions in Autumn 2020. These measures have substantially impacted alcohol consumption, with literature reporting an association between lockdown and

⁵ Consumer purchasing data from the Kantar FMCG (Fast-moving consumer goods) Panel Purchase Data.

a significant increase in high-risk drinking prevalence across various socio-demographic groups as well as an increase in alcohol-related mortality between April and September 2020 (Holmes & Angus, 2021; Jackson et al., 2021).

Data and measures

- 7.13 The quantitative analysis used two datasets:
- Retailer sales data from the TRDP (The Retail Data Partnerships) Convenience Market Data;
 - Consumer purchasing data from the Kantar FMCG (Fast-moving consumer goods) Panel Purchase Data.
- 7.14 The TRDP data provided aggregate alcohol sales data for four different store locations: border stores in England (24-27 shops for different months, depending on data availability), border stores in Wales (13-14 shops), non-border stores in England (2035-2239 shops) and non-border stores in Wales (315-344 shops). A five-mile catchment area on both sides of the England-Wales border was used to distinguish border stores from non-border ones. The TRDP data is collected via electronic point of sale system (EPoS) in smaller convenience stores. Supermarkets and larger stores are not covered.
- 7.15 The Kantar data came from a consumer panel and contained aggregate figures on alcohol purchasing in Wales, England, Scotland and Great Britain. The sample includes 30,000 households chosen to be representative of all GB households by region and demographics. As of February 2022, the panel had 1,428 households in Wales and 25,234 households in England. The panel is a continuous reporting panel, meaning that those who join, will remain part of the panel for as long as they want to take part and that they meet Kantar panellist compliance requirements. The panel continuity is high, with over 70% of the panel being involved for more than 3 years.
- 7.16 The panel records information on off-trade food and drink purchases by collecting data on several key performance indicators (KPIs) including the total expenditure on a particular category in a given time period and the average amount (measured in terms of spending and volume) of a category bought per household in a given time

period. The panel presents purchasing data aggregated across multiple off-trade retailers (Tesco, Asda, Sainsbury's, Morrisons, The Co-operative, Waitrose, Aldi, Lidl, Marks & Spencer and All Others which includes independent, symbol and bargain stores) and across various demographic variables (household size, presence of children and age of the main shopper).

7.17 The TRDP data represented a monthly time series from March 2019 to February 2022, while the Kantar data was aggregated into 4-weekly time blocks and covered the period between March 2015 and February 2022.

7.18 Table 7.1 shows the outcomes of interest that were included in small store sales (TRDP) data:

Table 7.1 Outcomes of interest from small store sales data

TRDP Convenience Market Data	
Period	Monthly data from September 2019 to February 2022
Primary Outcome Indicator	
Store Average Alcohol Turnover	Average alcohol sales (£), by month
Secondary Outcome Indicators	
Alcohol % of Turnover	The percentage of total sales coming from alcohol (%), by month
Store Average Alcohol Footfall	Average number of alcohol transactions, by month
Alcohol % of Footfall	The percentage of all sales transactions that include some alcohol (%), by month

7.19 Table 7.2 reports the outcomes of interest that were included in the analysis from the consumer purchasing (Kantar) data:

Table 7.2 Outcomes of interest from consumer purchasing data

Kantar FMCG Panel Purchase Data	
Period	Data from September 2019 to February 2022, aggregated over a period of four weeks
Primary Outcome Indicator	
Average Household Volume (litres)	Average volume (litres) of alcohol bought per household in a period of four weeks
Secondary Outcome Indicators	
Average Household Spend (£)	Average alcohol spending per household in a period of four weeks
Average price per litre of beverage	Average price paid for a litre of alcoholic beverage (£) in a period of four weeks

Data quality and coverage

- 7.20 CITS works best with long time series and many data points. Typically, at least 50-100 data points are recommended for CITS analyses (Beard et al., 2019). Both available datasets cover a relatively short time span. The Kantar data includes 91 data points, but the TRDP data only covers 31 data points.
- 7.21 The scope of both datasets is limited. Kantar data only covers alcohol purchased off-trade and brought into the home, while TRDP data only covers smaller off-trade retailers and does not include supermarkets, which account for the majority of off-trade alcohol sales in the UK (Euromonitor, 2022). Moreover, the outcomes of interest available for analyses are not necessarily the most appropriate to assess the impact of MPA. Crucially, the primary outcomes do not account for alcohol by volume content. Limitations of the data are explored more in detail in the limitation section of this report (see sections 7.66 – 7.69).

7.22 Finally, both datasets present aggregate data rather than individual data, meaning that each time point represents the average across the sample of retailers or shoppers. Individual level data would provide more variance and statistical power.

Analysis

7.23 Controlled Interrupted Time Series (CITS) includes a control group (or groups) to strengthen the impact estimates, as the comparison with the control group is used to account for omitted confounding variables. The key assumption is that omitted confounding variables affect both treatment and control groups similarly so that the control group provides a counterfactual of what would have happened to the treatment group had it not received the intervention (Linden, 2015). The CITS models included in this report are OLS regression models adjusted for autocorrelation with a multiple group analysis (Linden, 2015).

7.24 The CITS models examine changes in the level (i.e. the intercept) of the outcome of interest between treatment and control groups and changes in the slope of the outcome between treatment and control groups. For treatment and control groups to be balanced, there should not be any statistically significant difference in the level and slope of the outcome for treatment and control groups prior to the intervention. On the contrary, statistically significant changes in the level of the outcome compared with the counterfactual that occur in the period immediately following the introduction of the intervention indicate an immediate treatment effect, while statistically significant differences between treatment and control groups in the slope of the outcome variable between pre-intervention and post-intervention indicate a treatment effect over time (Linden, 2015).

7.25 CITS models were run allowing for separate intercepts, pre-intervention slopes, step-changes at the point of intervention in March 2020 and post-intervention slopes. For each outcome y the fitted models were of the form

$$y = \beta_1 + \gamma_1\beta_2 + \beta_3t_0 + \gamma_1\beta_4t_0 + \gamma_2\beta_5 + \gamma_1\gamma_2\beta_6 + \gamma_2\beta_7t_i + \gamma_1\gamma_2\beta_8t_i$$

7.26 Where γ_1 is a dummy variable that takes the value 1 for Wales and 0 for England, γ_2 is a dummy variable that takes the value 0 for pre-intervention time points and 1 post-intervention, t_0 represents the number of time points since baseline and t_i the

number of time points since the intervention. In this formulation, the interpretation of the various beta coefficients is as follows:

Table 7.3 Table of coefficients for Controlled Interrupted Time Series (CITS)

Coefficient	Interpretation
β_1	The baseline level of the outcome in England
β_2	The difference in the baseline level between England and Wales
β_3	The pre-intervention linear trend (i.e. slope) in England
β_4	The difference in the pre-intervention slopes between England and Wales
β_5	The step-change at the point of intervention in England
β_6	The difference in the step-changes at the point of intervention between England and Wales
β_7	The slope change between pre- and post-intervention periods in England
β_8	The differences in the slope change between pre- and post-intervention periods between England and Wales

7.27 The key coefficients of interest are therefore β_6 , which tells us whether there was a significant difference in any immediate change in the outcome between England and Wales in March 2020, and β_8 , which tells us whether there was a significant difference in the change in slope between England and Wales in March 2020. Coefficients β_2 and β_4 report differences in baseline level and pre-intervention slopes between England and Wales and should not be statistically significant for treatment and control groups to be balanced and, thus, comparable (Linden, 2015).

7.28 Analyses were conducted in STATA version 17, using the **itsa** command, which estimates the effect of an intervention on an outcome variable when compared with

one or multiple control groups. The Prais-Winsten estimation was used to adjust for serially correlated errors (Linden, 2015).

7.29 Analyses were guided by the research questions stated earlier. Specifically, these analyses were⁶:

- For research question 1, CITS comparing Wales and England in March 2020 were run for the primary outcome of average alcohol sales and the three secondary outcomes: percentage of total sales coming from alcohol; average number of alcohol transactions; and percentage of all sales transactions that include some alcohol. In order to test the robustness of these analyses, sensitivity analyses were conducted, accounting for the potential impact of phases of the Covid-19 mitigation strategy in 2020.
- To address research question 2, CITS models were run on the sales data to compare whether MUP had a different impact on border and non-border off-trade stores in England and Wales.
- For research question 3, CITS comparing Wales and England in March 2020 were run for the primary outcome of average volume (litres) of alcohol as well as for the secondary outcomes of average alcohol spending (£) and average price paid for a litre of alcoholic beverage (£).
- Finally, research question 4 was addressed by conducting a subgroup analysis of purchasing data to assess whether the impact of MPA on primary and secondary outcomes varies depending on different categories of alcoholic beverages (wine, spirits, lager, ale & stout, cider, sparkling wine, flavoured alcoholic beverages (FABs) and fortified wine).

Sensitivity and subgroup analyses

7.30 All analyses follow the model described above, with some slight variations for sensitivity and subgroup analyses. Sensitivity analyses for the TRDP data add additional interruption points to account for Covid-19 mitigation policies during 2020 (described in more detail in section 7.36 – 7.39). Subgroup analyses using the

⁶ Please see Annex C for deviations from the 2020 Evaluation of the Minimum Price for Alcohol in Wales – Baseline Research with Retailers and Quantitative Analysis Plan.

Kantar data run the CITS model described above separately by beverage type (described in more detail in sections 7.54 – 7.59).

Findings

- 7.31 This section reports findings by research question, followed by a summary of key findings.

Research question 1: Is MUP associated with a change in alcohol retail sales in Wales, compared to England? In particular, has off-trade small retailer turnover (i.e. revenue) in Wales increased relative to England?

Primary outcome: average alcohol sales

- 7.32 The patterns of average alcohol sales (turnover) in small retailers is shown in figure 7.2. Alcohol sales in both Wales and England show a dramatic increase from March 2020, which is likely due to Covid-19 mitigations such as closure of on-trade sales. However, by the start of 2022, sales in both nations had steadily declined to just above pre-pandemic levels. Despite these interesting patterns of change during the pandemic, figure 7.2 shows there is little difference between the two nations once MPA was implemented which is indicative of MPA having little effect on sales revenues in small retailers.
- 7.33 Specifically, there was no significant difference in average alcohol sales at baseline between England and Wales ($\beta_2 = -763.98$, 95% CI -4659.20 to 3131.22) or in baseline slopes ($\beta_4 = 97.04$, 95% CI -1078.97 to 1273.06). In this model, there was no significant immediate treatment effect ($\beta_6 = 1319.57$, 95% CI -3518.54 to 6157.69) and no statistically significant difference in slopes ($\beta_8 = -90.69$, 95% CI -1304.06 to 1122.67) between England and Wales following the implementation of MPA (Figure 7.2).

Figure 7.2 CITS for average alcohol sales

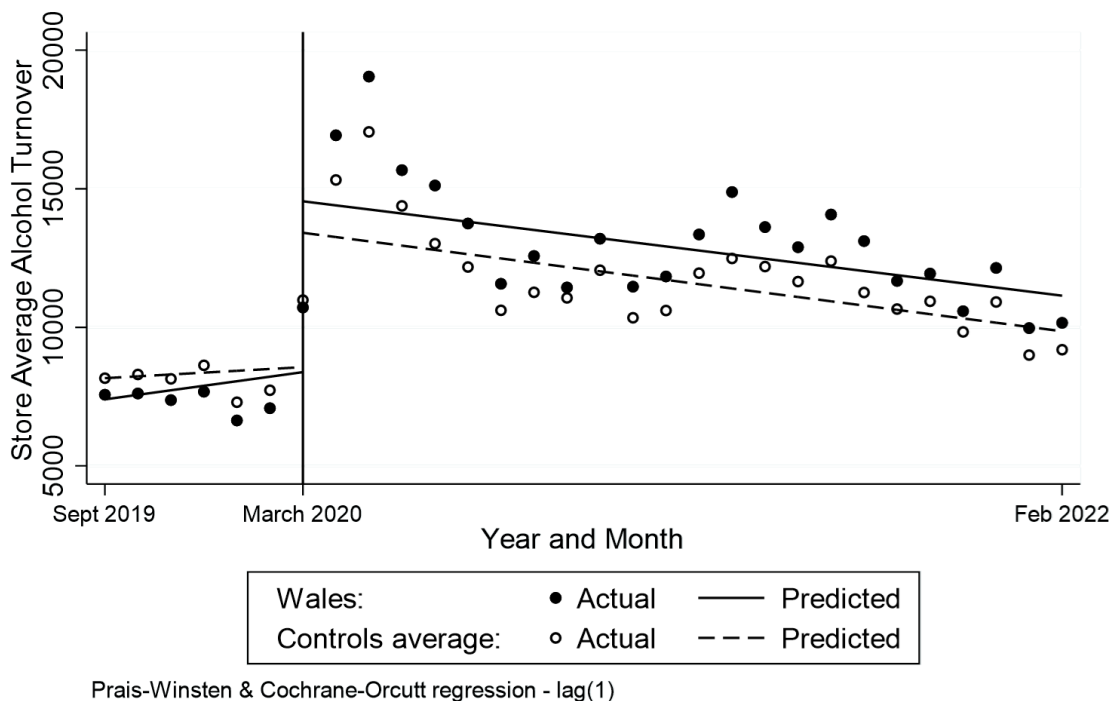


Figure 7.2 - ITSA for average store alcohol turnover with interruption in March 2020, after the implementation of MPA in Wales for Wales and England. Actual values = observed data points in the dataset. Predicted values = predicted data values based on the ITSA model.

Secondary outcomes

The percentage of total sales coming from alcohol

7.34 There was no significant difference in percentage of total sales coming from alcohol sales at baseline between England and Wales ($\beta_2 = -0.01$, 95% CI -0.04 to 0.01) or in slopes pre-MPA implementation ($\beta_4 = 0.00$, 95% CI -0.009 to 0.009). In this model, there was no significant immediate treatment effect ($\beta_6 = 0.02$, 95% CI -0.01 to 0.06) and no statistically significant difference in slopes ($\beta_8 = -0.00$, 95% CI -0.01 to 0.00) between England and Wales following the implementation of MPA (Figure 7.3).

Figure 7.3 CITS for the percentage of total sales coming from alcohol

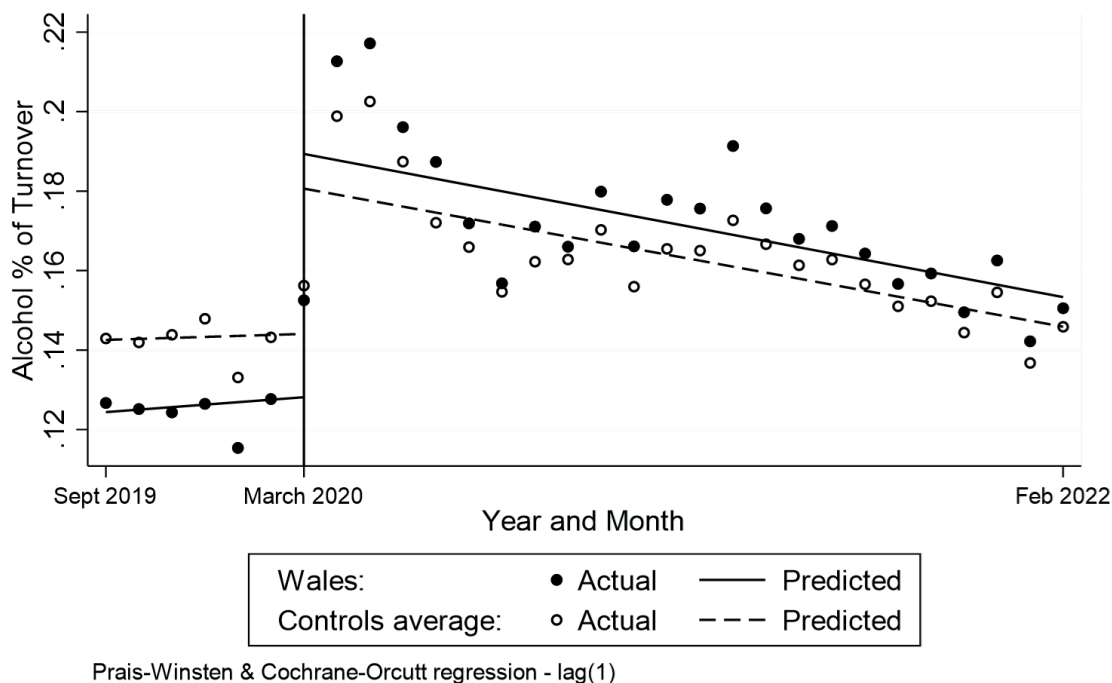


Figure 7.3 – ITSA for alcohol % of turnover with interruption in March 2020, after the implementation of MPA in Wales for Wales and England.

Average number of alcohol transactions

7.35 There was no significant difference in average number of alcohol transactions at baseline between England and Wales ($\beta_2 = -119.07$, 95% CI -510.04 to 271.89) and at baseline slopes ($\beta_4 = 9.03$, 95% CI -97.99 to 116.06). In this model, there was no significant immediate treatment effect ($\beta_6 = 33.46$, 95% CI -374.49 to 441.41) and no statistically significant difference in slopes ($\beta_8 = -7.36$, 95% CI -120.92 to 106.19) between England and Wales following the implementation of MPA (Figure 7.4).

Figure 7.4 CITS for average number of alcohol transactions

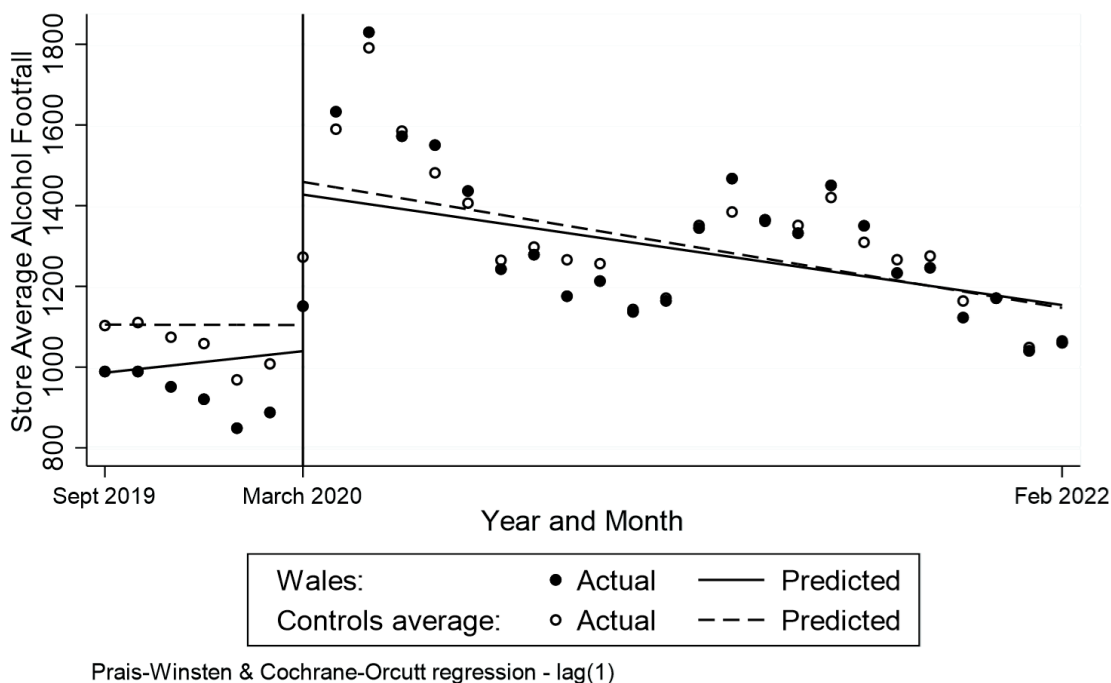


Figure 7.4 – ITSA for store average alcohol footfall with interruption in March 2020, after the implementation of MPA in Wales for Wales and England.

The percentage of all sales transactions that include some alcohol

7.36 There was no significant difference in the percentage of all sales transactions that include some alcohol at baseline between England and Wales ($\beta_2 = -0.01$, 95% CI -0.04 to 0.01) and at baseline slopes ($\beta_4 = 0.00$, 95% CI -0.01 to 0.01). In this model, there was no significant immediate treatment effect ($\beta_6 = 0.01$, 95% CI -0.03 to 0.05) and no statistically significant difference in slopes ($\beta_8 = 0.00$, 95% CI -0.01 to 0.01) between England and Wales following the implementation of MPA (Figure 7.5).

Figure 7.5 CITS for the percentage of all sales transactions that include some alcohol

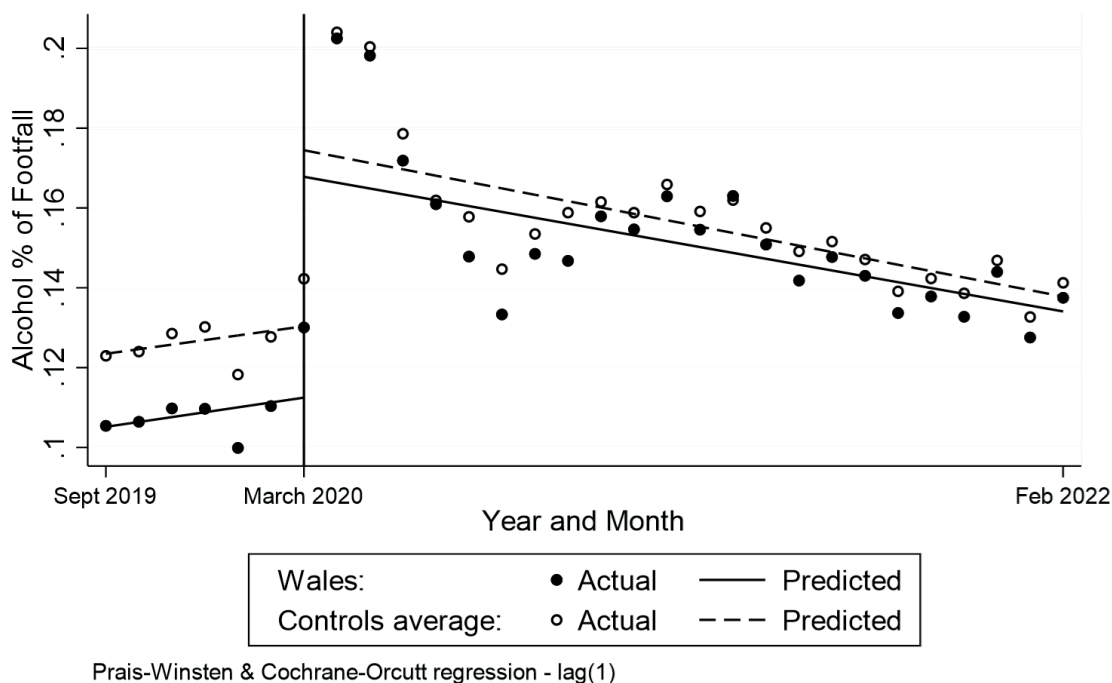


Figure 7.5 – ITSA for alcohol % of footfall with interruption in March 2020, after the implementation of MPA in Wales for Wales and England.

Sensitivity Analyses: Potential impacts of phases of the pandemic mitigation strategy

7.37 In order to explore whether different phases of the response to the Covid-19 pandemic and associated changes in restrictions had a differential effect on the impacts of MPA over time, the following key dates of the 2020 Covid-19 mitigation strategy were included in a sensitivity analysis:

- **March 26th:** legal enforcement of lockdown measures in Wales and England. All non-essential shops, licensed premises, restaurants, and other leisure activities were closed.
- **June 15th and 22nd:** non-essential shops reopened in England and Wales respectively.

- **November 5th:** this represented the legal enforcement of a national lockdown in England. A similar set of restrictions were imposed in Wales, such as a firebreak lockdown from October 23rd to November 9th.

- 7.38 Pandemic mitigations should be expected to influence how and where alcohol was consumed. The expectation is that, all else being equal, as non-essential retail outlets and other licensed premises close, sales will increase in those premises that remain open. If it is assumed that alcohol consumption remained stable, then the closure of non-essential retail outlets and licensed premises would likely cause an increase in alcohol purchased from retail outlets that remained open. Moreover, panic-buying and stockpiling caused by the very first national lockdown could be contributing factors in explaining the increase in alcohol sales in March 2020. Because people were required to limit social contact, those who did shop in retail outlets that remained open may have purchased alcohol for those unable to leave home and, generally, the number of people going shopping decreased following lockdown and instructions to minimise travel. Fewer people shopping in fewer outlets might explain why there is no significant difference in transactions.
- 7.39 The sensitivity analysis for the primary sales outcome is presented below, with multiple intervention points aligned with the 3 dates above.

Figure 7.6 Sensitivity analyses for average alcohol sales

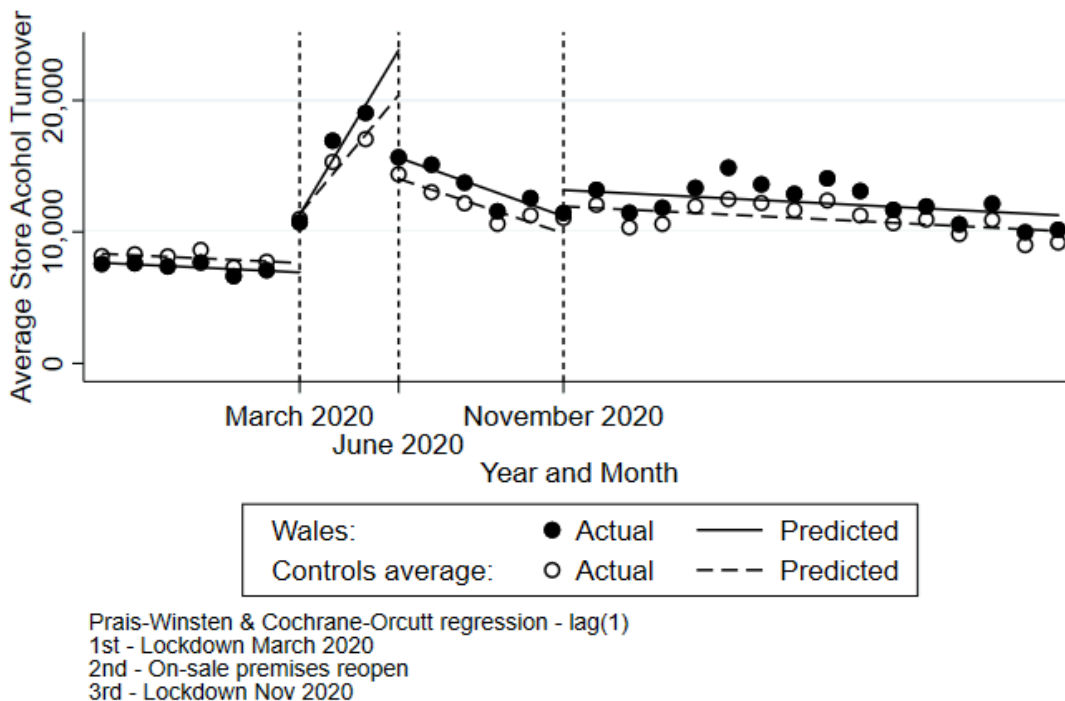


Figure 7.6 – ITSA for average store alcohol turnover with interruptions at March 2020, June 2020 and November 2020

7.40 Visually this 4-phase model appears to provide a better fit to the data, although given the limited number of datapoints this is perhaps unsurprising and it is important to be cautious about model overfitting. Although a number of the step and slope changes between pandemic mitigation phases are significant for England, there were no statistically significant immediate treatment effects or treatment effects over time in Wales in comparison to England in March, June and November 2020 for average alcohol sales (coefficients shown in table E.1 in Annex E). Thus, the pandemic mitigation phases appear to have similar effects in both nations.

Research question 2: How is the implementation of MPA affecting alcohol sales in border stores in Wales? For instance, are alcohol sales from smaller border stores in Wales increasing less due to their proximity to England where prices are likely to be lower?

Primary outcome: average alcohol sales

Border stores

7.41 There was no significant difference in average alcohol sales at baseline ($\beta_2 = -1129.05$, 95% CI -5097.09 to 2838.9) and at baseline slopes ($\beta_4 = 158.60$, 95% CI -973.55 to 1290.76) between border stores in England and Wales. In this model, there was no significant immediate treatment effect ($\beta_6 = -1570.68$, 95% CI -6049.60 to 2908.23) and no statistically significant difference in slopes ($\beta_8 = -103.68$, 95% CI -1290.39 to 1083.02) between border stores in England and Wales following the implementation of MPA (Figure 7.7).

Figure 7.7 CITS for average alcohol sales for border stores

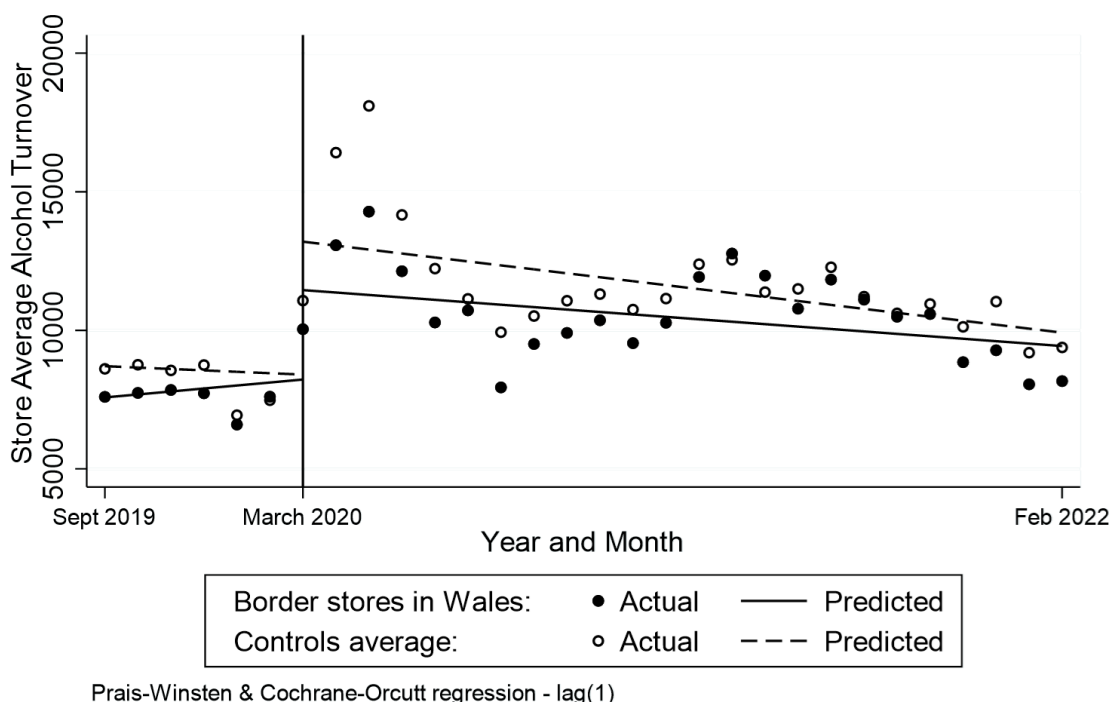


Figure 7.7 – ITSA for store average alcohol turnover with interruption in March 2020, after the implementation of the MPA in Wales for border stores in Wales and England

Non-border stores

7.42 There was no significant difference in average alcohol sales at baseline ($\beta_2 = -765.59$, 95% CI -4676.55 to 3145.35) and at baseline slopes ($\beta_4 = 97.73$, 95% CI -1085.68 to 1281.16) between non-border stores in England and Wales. In this model, there was no significant immediate treatment effect ($\beta_6 = 1448.27$, 95% CI -3426.46 to 6323.01) and no statistically significant difference in slopes ($\beta_8 = -94.47$,

95% CI -1314.75 to 1125.80) between non-border stores in England and Wales following the implementation of MPA (Figure 7.8).

Figure 7.8 CITS for average alcohol sales for non-border stores

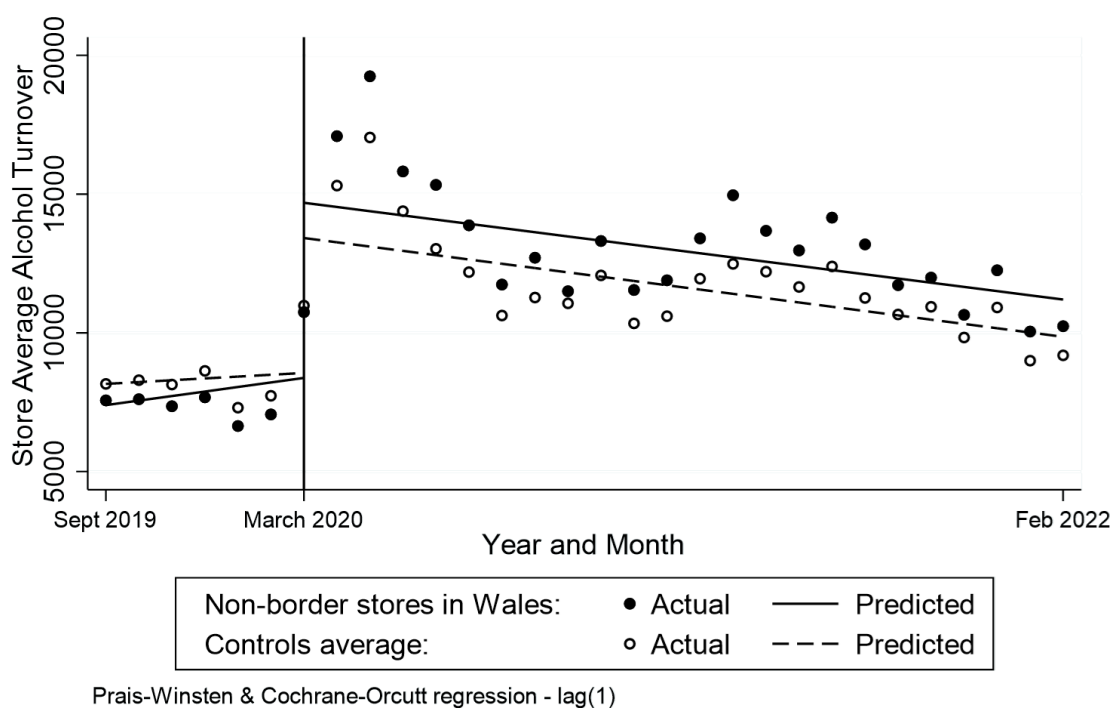


Figure 7.8 – ITSA for store average alcohol turnover with interruption in March 2020, after the implementation of the MPA in Wales for non-border stores in Wales and England

7.43 Results of the primary analysis for border-only stores are broadly similar to those for non-border stores. However there are some subtle differences, most notably the fact that coefficient β_6 , representing the difference in the step-change in March 2020, is negative in the border retailers (-1507.7, 95% CI -6049.6 to 2908.2) whereas it is positive (and of a similar magnitude) in the non-border analysis. This may suggest that, while non-border stores in Wales saw a larger increase in total alcohol turnover than non-border stores in England following the introduction of MPA, stores near the border in Wales saw a *smaller* increase than those just over the border in England. This would be consistent with the possibility that some shoppers near the border moved their alcohol purchases from Welsh to English stores, but the fact that these coefficients are both not statistically significant means that there is substantial possibility that this finding has simply arisen by chance.

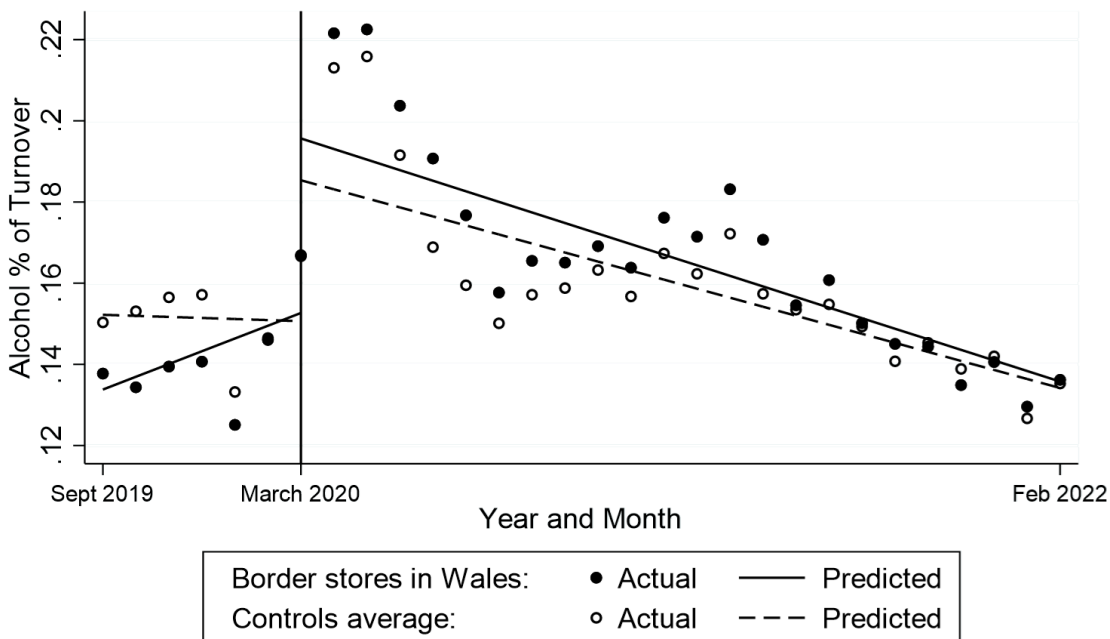
Secondary outcomes

The percentage of total sales coming from alcohol

Border stores

7.44 There was no significant difference in the percentage of total sales coming from alcohol at baseline ($\beta_2 = -0.01$, 95% CI -0.05 to 0.01) and at baseline slopes ($\beta_4 = 0.00$, 95% CI -0.00 to 0.01) between border stores in England and Wales. In this model, there was no significant immediate treatment effect ($\beta_6 = 0.00$, 95% CI -0.03 to 0.05) and no statistically significant difference in slopes ($\beta_8 = -0.00$, 95% CI -0.01 to 0.00) between border stores in England and Wales following the implementation of MPA (Figure 7.9).

Figure 7.9 CITS for the percentage of total sales coming from alcohol for border stores



Prais-Winsten & Cochrane-Orcutt regression - lag(1)

Figure 7.9 – ITSA for alcohol % of turnover with interruption in March 2020, after the implementation of the MPA in Wales for border stores in Wales and England

Non-border stores

7.45 There was no significant difference in average alcohol sales at baseline ($\beta_2 = -0.01$, 95% CI -0.04 to 0.00) and at baseline slopes ($\beta_4 = 0.00$, 95% CI -0.00 to 0.00) between non-border stores in England and Wales. In this model, there was no significant immediate treatment effect ($\beta_6 = 0.02$, 95% CI -0.01 to 0.06) and no statistically significant difference in slopes ($\beta_8 = -0.00$, 95% CI -0.00 to 0.00) between non-border stores in England and Wales following the implementation of MPA (Figure 7.10).

Figure 7.10 CITS for the percentage of total sales coming from alcohol for non-border stores

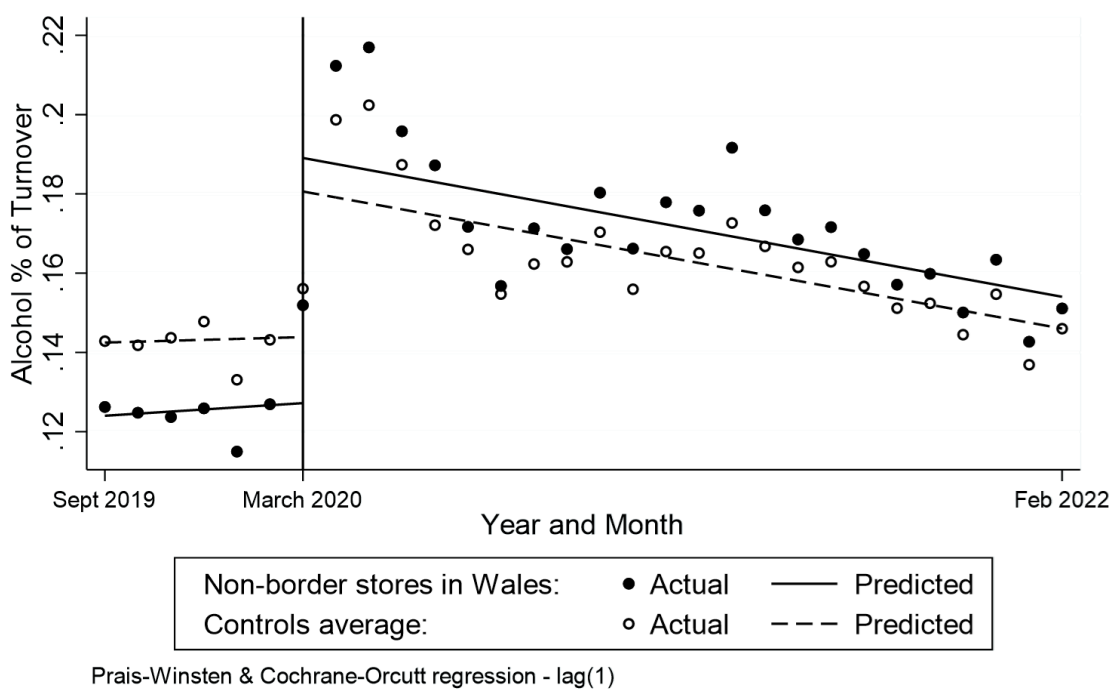


Figure 7.10 – ITSA for alcohol % of turnover with interruption in March 2020, after the implementation of the MPA in Wales for non-border stores in Wales and England

Average number of alcohol transactions

Border stores

7.46 There was no significant difference in average number of alcohol transactions at baseline ($\beta_2 = -56.80$, 95% CI -434.89 to 321.27) and at baseline slopes ($\beta_4 = 9.08$, 95% CI -94.75 to 112.92) between border stores in England and Wales. In this

model, there was no significant immediate treatment effect ($\beta_6 = -132.47$, 95% CI - 529.51 to 264.56) and no statistically significant difference in slopes ($\beta_8 = -5.59$, 95% CI -115.66 to 104.47) between border stores in England and Wales following the implementation of MPA (Figure 7.11).

Figure 7.11 CITS for average number of alcohol transactions for border stores

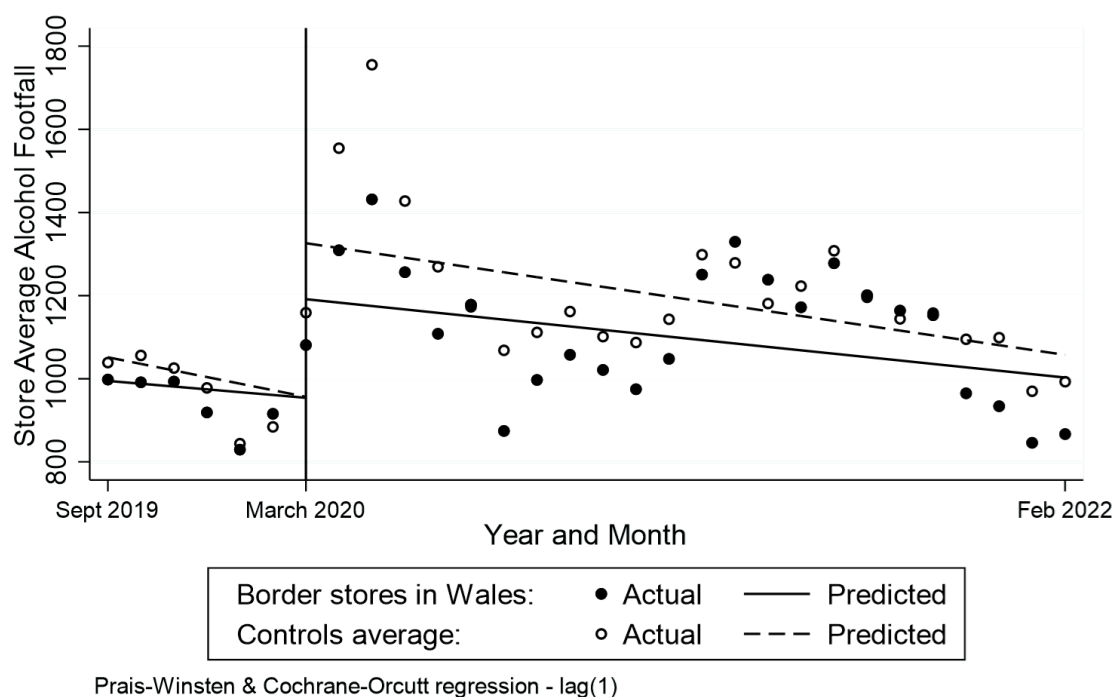
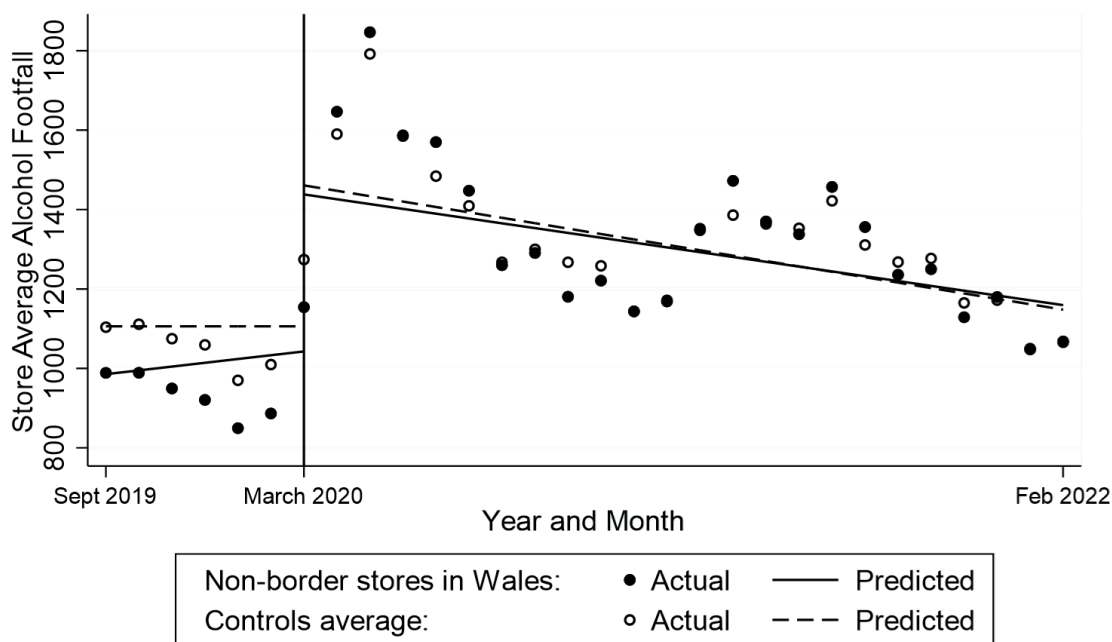


Figure 7.11 – ITSA for store average alcohol footfall with interruption in March 2020, after the implementation of the MPA in Wales for border stores in Wales and England

Non-border stores

7.47 There was no significant difference in average number of alcohol transactions at baseline ($\beta_2 = -120.15$, 95% CI -513.49 to 273.19) and at baseline slopes ($\beta_4 = 9.49$, 95% CI -98.28 to 117.27) between non-border stores in England and Wales. In this model, there was no significant immediate treatment effect ($\beta_6 = 40.37$, 95% CI -370.81 to 451.55) and no statistically significant difference in slopes ($\beta_8 = -8.01$, 95% CI -122.33 to 106.31) between non-border stores in England and Wales following the implementation of MPA (Figure 7.12).

Figure 7.12 CITS for average number of alcohol transactions for non-border stores



Prais-Winsten & Cochrane-Orcutt regression - lag(1)

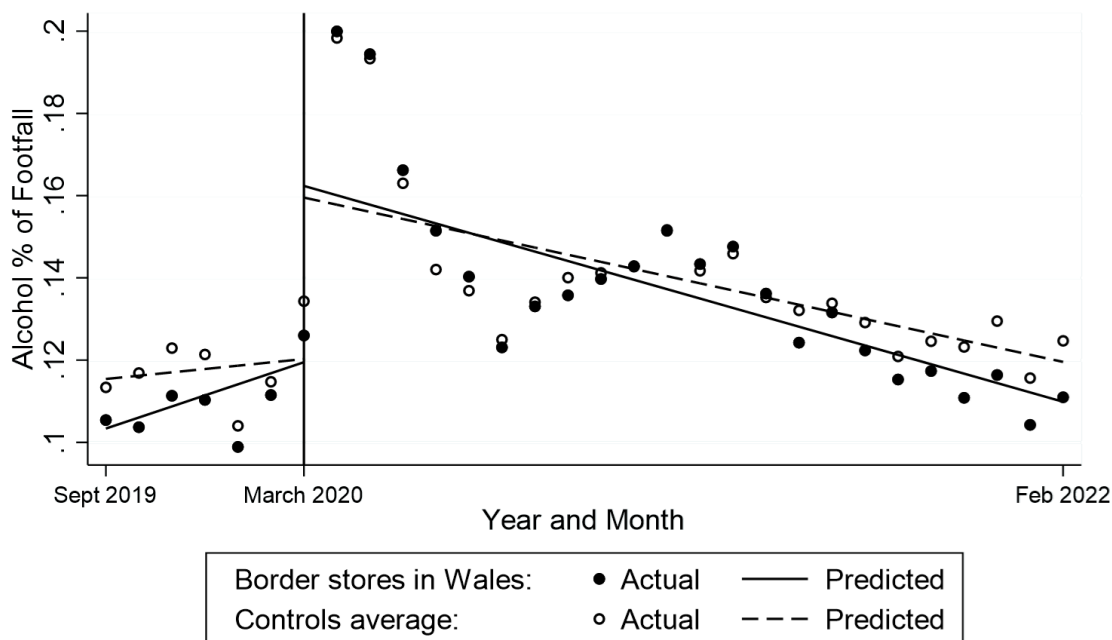
Figure 7.12 – ITSA for store average alcohol footfall with interruption in March 2020, after the implementation of the MPA in Wales for non-border stores in Wales and England

The percentage of all sales transactions that include some alcohol

Border stores

7.48 There was no significant difference in the percentage of all sales transactions that include some alcohol at baseline ($\beta_2 = -0.01$, 95% CI -0.04 to 0.02) and at baseline slopes ($\beta_4 = 0.00$, 95% CI -0.00 to 0.01) between border stores in England and Wales. In this model, there was no significant immediate treatment effect ($\beta_6 = 0.00$, 95% CI -0.04 to 0.05) and no statistically significant difference in slopes ($\beta_8 = -0.00$, 95% CI -0.01 to 0.00) between border stores in England and Wales following the implementation of MPA (Figure 7.13).

Figure 7.13 CITS for the percentage of all sales transactions that include some alcohol for border stores



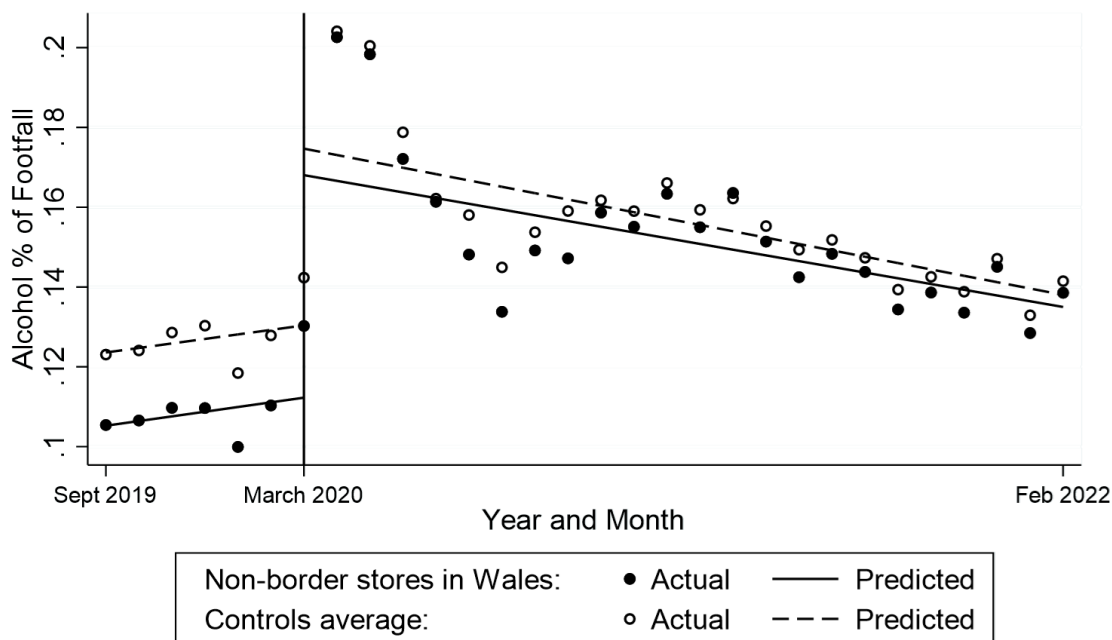
Prais-Winsten & Cochrane-Orcutt regression - lag(1)

Figure 7.13 – ITSA for alcohol % of footfall with interruption in March 2020, after the implementation of the MPA in Wales for border stores in Wales and England

Non-border stores

7.49 There was no significant difference in the percentage of all sales transactions that include some alcohol at baseline ($\beta_2 = -0.01$, 95% CI -0.04 to 0.01) and at baseline slopes ($\beta_4 = 0.00$, 95% CI -0.01 to 0.01) between non-border stores in England and Wales. In this model, there was no significant immediate treatment effect ($\beta_6 = 0.01$, 95% CI -0.03 to 0.05) and no statistically significant difference in slopes ($\beta_8 = 0.00$, 95% CI -0.01 to 0.01) between non-border stores in England and Wales following the implementation of MPA (Figure 7.14).

Figure 7.14 CITS for the percentage of all sales transactions that include some alcohol for non-border stores



Prais-Winsten & Cochrane-Orcutt regression - lag(1)

Figure 7.14 – ITSA for alcohol % of footfall with interruption in March 2020, after the implementation of the MPA in Wales for non-border stores in Wales and England

Research question 3: What is the impact of MPA on customer purchasing in Wales? In particular, has the total volume of alcoholic beverages purchased by Welsh households decreased relative to English households? Additional analyses assess whether household spend on alcohol has increased and whether the price paid for alcoholic beverages has increased since the introduction of MPA.

Primary outcome: average household volume (litres)

7.50 The model showed no significant difference in average household volume (litres) purchased at baseline between England and Wales ($\beta_2 = 0.59$, 95% CI -0.16 to 1.35) or on the baseline slope ($\beta_4 = 0.01$, 95% CI -0.009 to 0.031). In this model, there was no significant immediate treatment effect ($\beta_6 = -0.67$, 95% CI -2.08 to 0.73) and no significant difference in slope ($\beta_8 = -0.05$, 95% CI -0.13 to 0.03) between England and Wales following the implementation of MPA (Figure 7.15).

Figure 7.15 CITS for average household volume (litres)

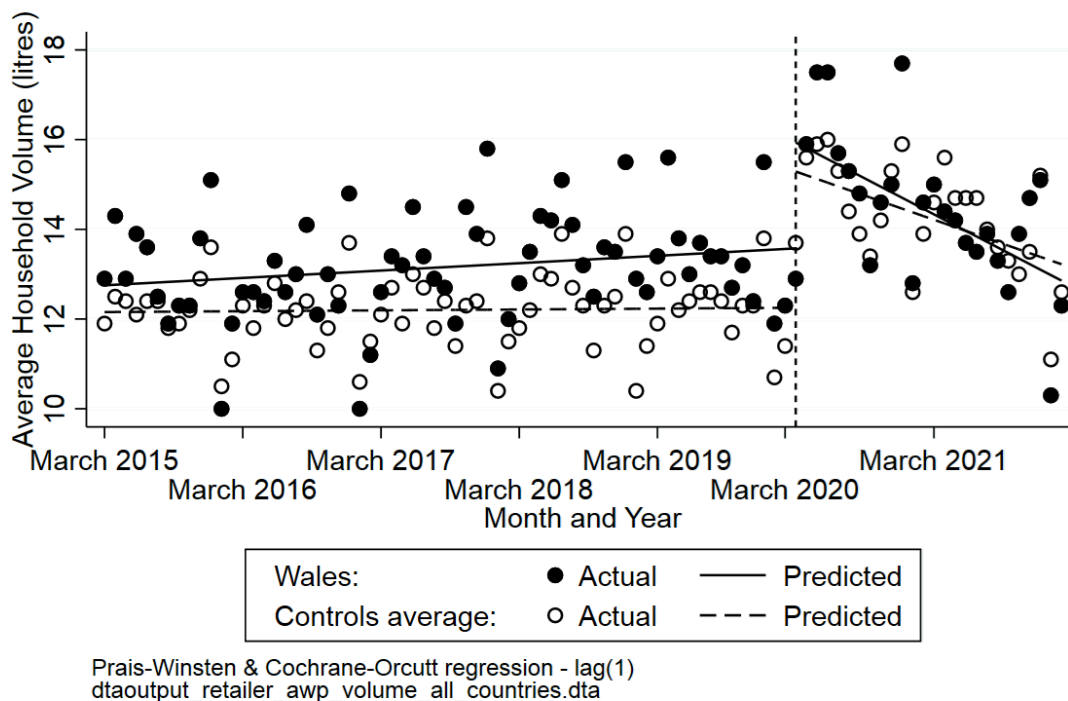


Figure 7.15 - ITSA for Average Household Volume (litres) in Wales and England with interruption in March 2020

Secondary outcomes

Average price per litre of alcohol beverage

- 7.51 The model showed no significant difference in average price per litre of alcoholic beverage at baseline between England and Wales ($\beta_2 = -0.28$, 95% CI -0.68 to 0.11) and at baseline slope ($\beta_4 = -0.002$, 95% CI -0.012 to 0.007).
- 7.52 There was a statistically significant difference in the change of average price paid per litre of alcoholic beverage ($\beta_6 = 0.68$, 95% CI 0.14 to 1.21) in Wales in comparison to England immediately after the implementation of MPA in March 2020. There was no significant difference in slopes ($\beta_8 = 0.01$, 95% CI -0.02 to 0.05) between England and Wales after the implementation of MPA (Figure 7.16). Thus, the data suggest prior to the introduction of MPA, the prices paid for alcohol in Wales were likely similar or slightly lower than England, although this difference was not significant. When MPA was introduced, the change in average price per litre

increased more in Wales than England, mostly characterised by an increase in Wales. This is evidence of MPA being implemented by retailers.

Figure 7.16 CITS for average price per litre of alcoholic beverage

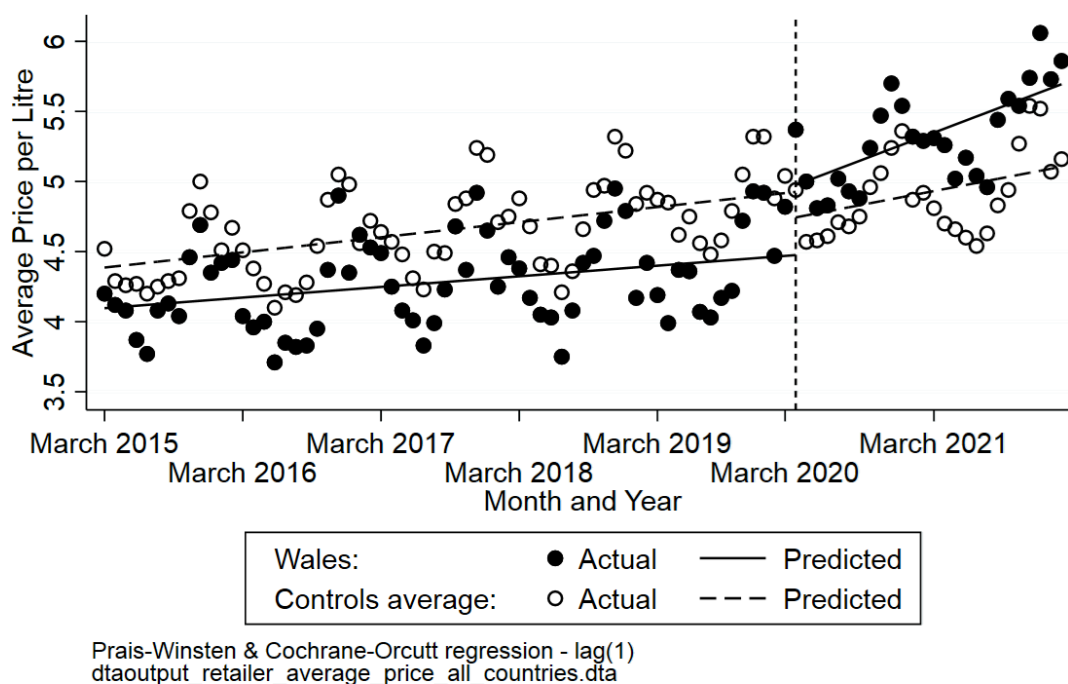


Figure 7.16 - ITSA for average price per litre in Wales and England with interruption in March 2020

Average household spend on alcohol (£)

- 7.53 The model showed no significant difference in average household spend on alcohol (£) at baseline between England and Wales ($\beta_2 = -1.06$, 95% CI -5.95 to 3.82) or in the baseline slope ($\beta_4 = 0.02$, 95% CI -0.11 to 0.15).
- 7.54 In this model, there was no significant immediate treatment effect ($\beta_6 = 6.94$, 95% CI -2.00 to 15.90) suggesting MPA did not affect household spend. There was no significant difference in slope between England and Wales following the implementation of MPA ($\beta_8 = -0.08$, 95% CI -0.61 to 0.46) (Figure 7.17).

Figure 7.17 CITS for average household spend on alcohol (£)

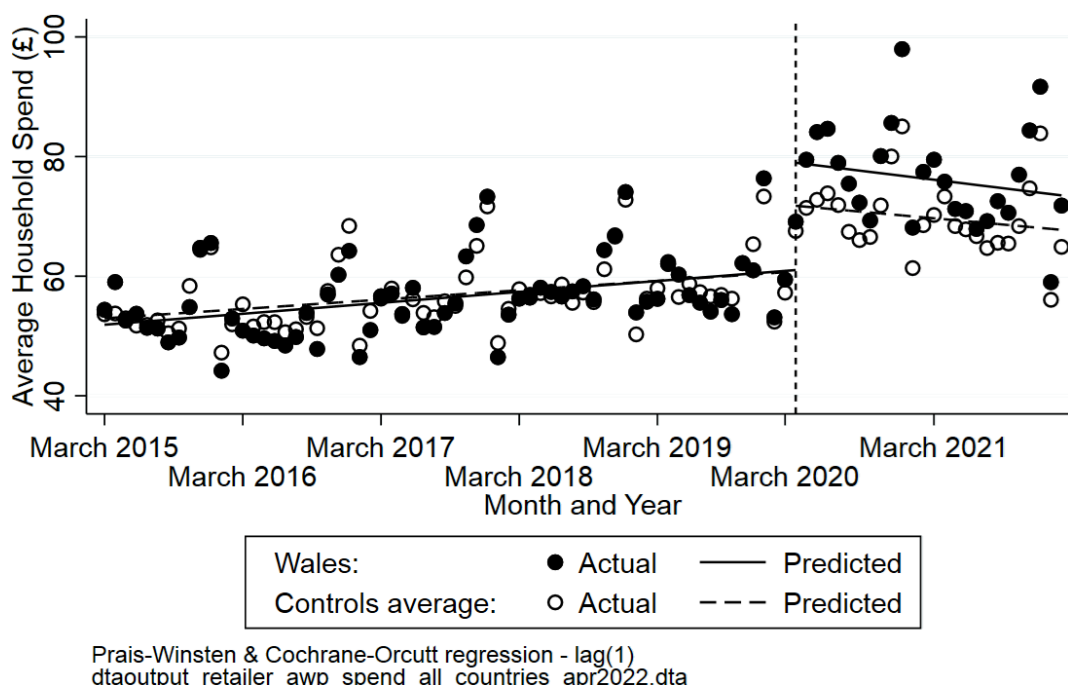


Figure 7.17 - ITSA for Average Household Spend (£) in Wales and England with interruption in March 2020

Research question 4: Does the impact of MPA on purchasing vary by the beverage type in Wales in comparison to England?⁷

- 7.55 Analyses were conducted in order to investigate how different alcohol types were affected by the implementation of the MUP. The consumer purchasing data from Kantar FMCG Panel Purchase Data reported the following alcohol types: wine, spirits, lager, ale & stout, cider, sparkling wine, flavoured alcoholic beverages (FABs) and fortified wine. CITS models were run for each alcohol type for all outcomes, using England as a control group.
- 7.56 Table 7.4 illustrates the results of the subgroup analysis by alcohol type: the highlighted cells correspond to statistically significant immediate treatment effects. Green cells indicate a significant increase in the outcome in Wales in comparison to

⁷ See Annex C for details of changes to research questions

England, while amber cells indicate a significant decrease.

Table 7.4 Subgroup analysis by type of alcoholic beverage

Alcohol Type	Average Price (£) per litres of alcoholic beverage $\beta_6(95\% \text{ CI})$	Average Household Spend (£) $\beta_6(95\% \text{ CI})$	Average Household Volume (litres) $\beta_6(95\% \text{ CI})$
Wine	0.33** (0.14, 0.51)	0.48 (-3.26, 4.23)	-0.27 (-0.79, 0.23)
Spirits	2.36** (1.70, 3.03)	3.58 (-0.65, 7.82)	-0.13 (-0.38, 0.11)
Lager	0.36** (0.27, 0.44)	4.3* (0.10, 8.50)	-0.32 (-2.33, 1.68)
Cider	0.57** (0.42, 0.73)	0.72 (-3.21, 4.65)	-2.6* (-4.75, -0.44)
Sparkling Wine	1.82** (1.10, 2.54)	1.17 (-1.65, 4.00)	-0.43 (-0.90, 0.03)
Fortified Wine	0.27 (-0.68, 1.24)	4.19* (1.15, 7.23)	0.42 (-0.09, 0.95)
Ale and Stout	0.05 (-0.1, 0.2)	-1.22 (-3.04, 0.59)	-0.59 (-1.33, 0.15)
FABs	-0.001 (-0.47, 0.46)	-0.57 (-1.98, 0.83)	-0.08 (-0.37, 0.20)

Table 7.4 – subgroup analysis by beverage type: highlighted cells correspond to statistically significant immediate treatment effects.

* $p < 0.05$

** $p < 0.002$

7.57 The subgroup analysis was overall consistent with the main analysis, since average price per litre was significant across most types of alcoholic beverage. A steady increase in the average sales price of alcohol was also observed in studies on Scotland’s MUP, where the average sales price of beer, spirits and particularly cider was found driving the rise. It is also noted that the Scottish studies found no steady changes in the average sales price of wine (Giles et al., 2020).

7.58 Wine, spirits, lager, cider and sparkling wine all reported a statistically significant immediate treatment effect on average price per litre of alcoholic beverages in Wales (in comparison to England) in March 2020. These effects indicate an increase in the average price per litre of these beverages across alcohol types after

the implementation of MPA. Fortified wine, Ale and Stout, and FABs did not show any increases in price post-MPA.

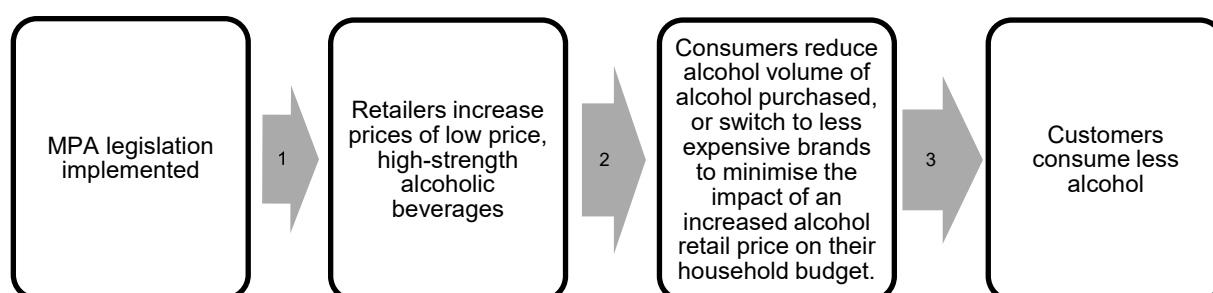
- 7.59 Lager and fortified wine also reported a statistically significant immediate treatment effect on average household spend of £4.30 and £4.19, respectively. This may be indicative of the price increases being absorbed by consumers of lager, that is, prices increased and so did average spend. It is not clear why fortified wine spend increased without an increase in average price or increased volume being purchased. More detailed data within beverage types may help understand this.
- 7.60 Cider reported both a positive immediate treatment effect on average price per litre of 57p per litre and a positive effect over time of £1.60 showing that the price increased after MPA and continued to do so in the period afterwards. These increased prices seem to have had the effect of reduced purchasing of cider as there was a statistically significant immediate treatment effect of -2.6 litres per household. However, it should be noted that the subgroup analysis illustrated in table 7.4 presents 24 multiple comparisons, which increases the probability that significant coefficients are due to chance. Bonferroni correction was used to account for the effect of multiple testing. By dividing the p-value of 0.05 by 24 tests, a more conservative estimate of statistical significance ($p\text{-value} < 0.002$) was obtained. After Bonferroni correction, all the beverage-specific findings relating to household spend and volume are non-significant. Therefore, these results should be interpreted with caution.
- 7.61 The results of the subgroup analysis by alcohol type align with the switching analysis conducted by Kantar (Kantar, 2022). Kantar conducted a descriptive analysis based on the 28 week period until December 1st 2019 (pre MUP) and the 28 week period until November 28th 2021 (post MUP). It investigates whether consumers switched from one type of alcohol to another and whether they bought more or less of a certain alcohol/beverage category in both England and Wales (a brief description of Kantar's switching analysis can be found in annex I). In the case of lager, the switching analysis found that people who bought lager pre-MUP, bought more of it post-MUP in both nations (Kantar, 2022). This aligns with our finding of an increase in the average household spend (£) for lager in Wales in

comparison to England and suggests that an increase in the price of lager was absorbed by consumers' spending. Kantar's switching analysis also reports that consumers bought less cider post MUP in both nations, but Wales had more a more substantial loss, with consumers switching from cider to several different types of beverage including lager, spirits and fortified wine (Kantar, 2022). This finding aligns with our findings of decreased household volume (litres) of cider purchased in Wales with respect to England.

Overall summary

7.62 In the available samples, off-trade retail sales (among small retailers) and customer purchases (from small and larger retailers) of alcoholic beverages increased in both Wales and England in March 2020, likely due to the Covid-19 mitigation measures such as closure of pubs, clubs, bars and restaurants. The effect of this appears to be far more substantial than the effects of MPA. This is not unexpected given that MPA was only expected to have modest reductions in alcohol consumption (e.g. prior modelling suggested a 3.5% fall in consumption) which is dwarfed by the potential displacement of on-trade alcohol sales to off-trade sales caused by Covid-19 lockdowns (on-trade represented 29% of total alcohol sales in England & Wales in 2019) (Angus et al., 2018).

Figure 7.1. Indicative theory of change for the MPA intervention



7.63 The findings are briefly reviewed in relation to the steps shown in the theory of change for MPA (figure 7.1). First, there is evidence that the policy change was implemented by retailers as there were generally increases in the average price spent for a litre of alcoholic beverage in Wales (in comparison to England) in March 2020. This is in line with other recent research (Anderson et al., 2021). More

specifically, the difference in the average price paid for a litre of alcoholic beverage increased to 68 pence across the total market in Wales in comparison to England. Increases in prices per litre of beverage were seen for most (but not all) types of beverage. The available data do not allow a test of whether the price increases are more concentrated on the low-price, high-strength beverages that MPA targets. To do this, data would likely be required at the brand level or stratified by price and strength.

- 7.64 Most of the key research questions in this chapter refer to step 2 in figure 7.1. That is, what impact has increased prices had on customer behaviour. First, as described above, there was no evidence that MPA influenced retail sales revenue and customer transactions over and above the changes in alcohol retail and consumption brought about by COVID-19 mitigations. However, the purchasing data provide more useful data for assessing this step of the theory. In this respect, on average, it was not found that Welsh customers bought lower volumes of alcoholic beverages or spent more money on alcoholic beverages post-MPA. This is caveated by noting the measures available for this analysis do not account for ethanol content (alcohol by volume) so may not present the best test of this theory.
- 7.65 For the smaller sized retailers in the TRDP sample, average sales revenues increased in March 2020. This pattern was observed for both border and non-border stores and there were no statistically robust differences showing that sales in (small) Welsh-border stores were adversely affected by MPA. Taking a liberal reading of the data (placing us at risk of overinterpreting the fairly sparse data) it is possible that Welsh-border retailers had a smaller increase in revenue than the Welsh non-border stores, raising the possibility that some shoppers near the border moved their alcohol purchases from Welsh to English stores, but the fact that these coefficients were not statistically significant means it is not possible to be sure that this finding has not simply arisen by chance.
- 7.66 Analyses by beverage type showed that cider was the only beverage type that reported a decrease in average volume (litres) purchased in Wales in comparison to England in March 2020. Though we note that this finding did not hold after controlling for multiple testing. Anderson et al. (2021) found that the implementation

of MUP in Wales was associated with a reduction in the purchase of some alcohol types including Cider. Cider is a very broad category and there is no way of distinguishing whether reduced purchasing was focused on the low-price, high-strength brands, however, this is consistent with the expected effects of MPA and provides some support for step 2 in figure 7.1. Findings for lager are less supportive of MPA's effectiveness as the increased price and increased spend is consistent with customers absorbing the price increases brought about by MPA. The current data were not able to assess switching behaviour.

7.67 It is noted again that the datasets analysed here do not cover consumption so are unable to say if changes to off-trade sales have led to changes in consumption (step 3 in figure 7.1).

Limitations of the data

7.68 The analyses presented in this report represent the most comprehensive effort possible to identify the impact of the introduction of MPA in Wales on alcohol sales, however there are significant limitations to the extent to which firm conclusions can be drawn on the basis of these analyses.

7.69 The most obvious challenge lies in the arrival of the COVID-19 pandemic and the introduction of associated lockdowns and other mitigation measures in March 2020. These measures also included the closure of pubs, bars and restaurants, dramatically changing many aspects of the ways in which people were able to purchase and consume alcohol. Previous studies have shown that the start of the pandemic led to a significant increase in high-risk drinking in England (Jackson et al., 2020) but that this increase was not equal across all groups in the population (Jackson et al., 2021), and may be attributable to an increase in discretionary spending as the need to travel to work decreased (Moore et al., 2022). Disentangling the impacts of MPA in Wales, which was introduced almost concurrently with the start of these measures, is a significant challenge.

7.70 One further limitation lies in the nature of the data used. Both Kantar and particularly the TRDP data cover a relatively short time span, with 91 and 31 data points respectively. These are relatively small sample sizes compared to recommendations for at least 50-100 data points for CITS analyses (Beard et al.,

2019). The scope of both datasets is also limited. Kantar covers only alcohol purchased in the off-trade and brought into the home and thus does not include any on-trade alcohol, or alcohol purchased in the off-trade and then drunk without returning to the home, for example a bottle of wine purchased on the way to a meal at a friend's house. TRDP data covers only a sample of smaller off-trade retailers and does not include larger supermarkets, whose sales account for around 70% of all off-trade alcohol sold in shops in the UK (Euromonitor, 2022). Moreover, both Kantar and TRDP report aggregate data with no information on the methods used to manage and provide aggregate statistics. In addition, the variables provided are not necessarily those best suited to addressing the specific research questions at hand. In particular, TRDP data was available on alcohol sales value rather than on the volume of alcohol sold (that is, volume of alcohol/ethanol content rather than beverage volume). This is a particular issue as MPA increases the price of cheaper alcoholic products, and as a result prior modelling suggested overall alcohol sales value to *increase* by 1.4% even as the total volume of alcohol sold was estimated to fall by 3.6% (Angus et al., 2018). It was also not possible to assess the extent of consumers switching between larger supermarkets and smaller convenience stores. It is possible that spending simply shifted from one type of retailer to another rather than changing the amount of alcohol purchased and consumed. This may be an important limitation as a study from Scotland found some evidence that smaller retailers felt as though the introduction of MPA had been beneficial to them as it had narrowed the price differential between themselves and the major supermarkets for alcohol (Stead et al., 2020).

7.71 In summary, whilst the analysis presented here provide a part of the overall picture, they cannot provide a comprehensive assessment of the full impacts of MPA on alcohol sales in Wales. Further research using a longer time series of data (ideally both pre- and post-March 2020), incorporating data on sales of on-trade alcohol, alcohol sales in supermarkets⁸, and analysing data on the volume of alcohol sold, rather than sales values, may help to further the understanding developed through the current analysis.

⁸ The Nielsen data were considered for this, but the dataset is not suitable for this project as the data owners do not allow publication of results using their data.

Conclusions

- 7.72 There was little supporting evidence for the claim that small retailers' sales were affected by MPA and most patterns of change were consistent with the effects of COVID-19 related policies, which had a much larger impact than any effects of MPA. There was no strong evidence of border stores being adversely affected by MPA. Beverage prices increased post-MPA suggesting adherence to the MPA policy. The only beverage showing significantly reduced purchasing in Wales (compared to England) was Cider, while price rises for Lager appear to have been absorbed by consumers.

8. Conclusions

8.1 This chapter summarises the findings from the interim report approximately two-years since the implementation of the MPA in Wales. It does so, first based on evidence from the qualitative interviews with retailers, and second drawing on the quantitative data analysis.

Qualitative interviews with retailers

Levels of awareness, understanding and views of the MPA

8.2 Retailers' levels of awareness and understanding of the policy had moderately improved since baseline, with all demonstrating a basic understanding. As was the case at baseline, those with higher levels of awareness of the policy tended to fall into two groups: chain retailers who could rely on headquarters for information; or those who had time to actively seek out information. Knowledge gaps that persisted since baseline were how individual prices were calculated, and how the MUP affected promotional offers and discounts. The evidence continues to suggest a need for further or new forms of information from Welsh Government on these issues.

8.3 New knowledge gaps emerged about how the policy is enforced. This was primarily found among on-trade retailers, perhaps reflecting a focus on local authority compliance visits and support for off-trade retailers to date. Lower levels of awareness were found among retailers who were closed during the pandemic and who believed that the policy was not relevant for retailers who typically sold products above the MUP. Ongoing awareness raising activities would help to raise the profile of the policy, particularly among recently re-opened establishments and those who may presume it does not apply to them.

8.4 Retailers were altogether more supportive of the policy if they: (a) believed it would achieve its aims; (b) thought it would have a minimal effect on their prices; (c) expected it to level competition in the alcoholic drinks market; and (d) if they viewed retailers as having a responsibility for promoting responsible drinking.

Communicating evidence of the impacts of the policy, if positive, may also secure more support for it in future.

Preparation for implementation and experiences since baseline

- 8.5 There was little doubt the period of implementation was disrupted by the Covid-19 restrictions, especially for on-trade retailers. Chain retailers who had been prepared the most before implementation were still the most prepared post-implementation. Reasons for not being prepared for implementation were that the interviewee was not the main person responsible for decisions on pricing; or they had only recently re-opened post-Covid-19 and the MPA policy was not front of mind.
- 8.6 The main difficulty retailers experienced was the pricing of promotional offers and discounts, especially those who were unaware of the Welsh Government's MUP app. This was especially the case where products were supplied from outside Wales, or promotional offers and discounts came from UK-wide distributors or chains. Retailers who had used the MUP app, to help them verify their calculations were reassured that they had priced products correctly. Further targeted promotion of the availability of the MUP app may therefore help prevent unintended non-compliance.
- 8.7 Compliance visits were happening, with off-trade retailers especially describing visits and checks from Local Authorities or headquarters. There was less clarity among on-trade retailers about what compliance and enforcement involved, or where to seek advice and support. This reflected the focus on compliance for off-trade retailers to date, partly arising from on-trade closures during the Covid-19 pandemic.

Perceived effects and impacts, including potential unintended consequences.

- 8.8 Retailers who initially expected most prices would go up significantly due to the policy found this was not the case. Instead, price increases tended to be limited to two or three litre bottles of strong, cheap cider; cheaper wines; and some spirits served in bars and restaurants. All other products sold by retailers were reportedly already within the permitted range or had a high mark-up, meaning price increases from the MPA were able to be absorbed within existing profit margins.
- 8.9 The key positive effect reported from the policy was that retailers now sold less cheap, higher strength alcohol. This meant they stopped stocking these products

altogether; replaced them with lower alcohol volume; or with premium products which they believed gave their customers better value for money.

- 8.10 Unintended negative effects included product wastage due to inability to discount products close to their best before date; perceived additional costs incurred in training staff, and the need for retailers to watch out for products priced for UK-wide distribution that were not within the permitted range in Wales. Nevertheless, these effects were not seen as overly burdensome.
- 8.11 Some retailers believed that customers were unaware of the price changes, especially in the context of higher inflation. Others observed some 'grumbles' about price increases in general, but these customers tended to be placated once retailers explained the policy. The effects of the MPA on problem drinkers were less clear to retailers. They speculated that this group would either substitute cheap alcohol with drugs or prioritise their spending on stronger alcohol over other costs such as food.

Quantitative data analysis

- 8.12 Covid-19 restrictions were associated with large increases in off-trade alcohol sales in both Wales and England in March 2020. However, in the sample of smaller-sized retailers analysed in this report, there was no evidence that the MPA policy influenced small-retailer revenue and transactions over and above the changes brought about by COVID-19 mitigations.
- 8.13 The available data suggests small retailers in Welsh-border stores were not differentially affected by the MPA policy in terms of overall sales revenue and transactions relating to alcohol.
- 8.14 The available sales data are of limited use as they refer to overall revenue levels and do not account for the alcohol content making up those sales.
- 8.15 The consumer panel data shows that prices per litre of beverages had risen in Wales, which indicates that retailers were implementing the MUP. However, the implementation of the MPA was not associated with changes in average household spend on alcohol (£) or the average household volume (litres) of alcoholic beverage purchased.

- 8.16 Most (but not all) categories of alcoholic beverage had increased in the price paid for a litre of alcohol. But cider was the only beverage that reported a decrease in average volume (litres) purchased in Wales in comparison to England. This is in line with the qualitative findings suggesting some cheaper, high strength cider brands had ceased to be sold by some retailers. Increased prices for lager appeared to be absorbed by consumers spending more.
- 8.17 The available purchasing data are of limited use as they refer to volume of beverage and do not account for the alcohol content of those beverages.

9. Recommendations

9.1 This wave aimed to capture qualitative experiences among retailers, and quantitative analysis of alcohol sales and purchases comparing Wales and England, since the Minimum Price for Alcohol (MPA) was implemented in Wales in March 2020.

9.2 The next stage of the research could explore the effects of any changes to the MUP, any further campaigns to promote the policy, and perceived impacts. This section makes recommendations for the issues that the final waves of interviews could explore qualitatively with retailers, and through further analysis of data:

Qualitative interviews

- **Effects of any further information and advice campaigns targeting retailers:** Firstly, on retailers' awareness and understanding of the policy, particularly lesser known or understood aspects of the policy such as how promotional offers and discounts should be priced. Secondly, among types of retailers showing less awareness and understanding. And thirdly, whether further promotion of the MUP app and how to use it helps to reduce retailers' experiences of pricing difficulties.
- **Compliance and enforcement:** further review of retailer experiences of compliance and enforcement – especially on-trade retailers – as the policy is embedded. A small number of interviews with Local Authority representatives may help identify compliance issues arising, what support is available to retailers, and the circumstances in which enforcement occurred or could have been avoided.
- **Capturing whether and how views on the MPA evolve:** especially if the MUP remains the same or is increased in line with inflation, where there were concerns about impacts on competitiveness, on retailers operating at the cheaper end of the market, or on cross-border sales.
- **Disentangling contextual factors from the impact of the policy:** further investigation of on-trade retailers' awareness, understanding and experiences of the policy once they have had more time to emerge from the effects of Covid-19 restrictions. It will be important in the final interviews to try to further

disentangle where possible the effects of the policy from those of high inflation.

- **Perceived effects on customers and problem drinkers:** continue to explore retailer experiences of feedback from customers, especially within the context of wider inflationary rises and cost of living increases.

Quantitative analysis and recommendations

9.3 For the quantitative analysis, expanding the data available for this research would enhance the assessment of the impact of the MPA, specifically:

- Data on outcome measures assessing sales and purchasing of pure alcohol (ethanol) volume, i.e., the total number of units of alcohol sold and purchased.
- Data on alcohol sales from all retailers, i.e., expanding the dataset from small retailers to include other retailers such as supermarkets.
- Longer periods of time series data, particularly for the TRDP (retailer sales) dataset.

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Annex A: Retailer profiles

Table A.1: Retailer type by region

Retailer Type	Region	Count
Pub / bar	Mid and West Wales	1
	North Wales	1
	South Wales Central	3
	South Wales East	2
	South Wales West	3
Convenience store	Mid and West Wales	2
	North Wales	2
	South Wales Central	1
	South Wales East	0
	South Wales West	1
Hotel	Mid and West Wales	0
	North Wales	1
	South Wales Central	0
	South Wales East	1
	South Wales West	0
Garage shop	Mid and West Wales	0
	North Wales	0
	South Wales Central	0
	South Wales East	0
	South Wales West	1

Alcohol shop	Mid and West Wales	0
	North Wales	1
	South Wales Central	0
	South Wales East	1
	South Wales West	0
Restaurant	Mid and West Wales	0
	North Wales	2
	South Wales Central	3
	South Wales East	0
	South Wales West	1
Coffee Shop	Mid and West Wales	0
	North Wales	0
	South Wales Central	1
	South Wales East	0
	South Wales West	0
Grocery store	Mid and West Wales	1
	North Wales	0
	South Wales Central	0
	South Wales East	0
	South Wales West	0

Table A.2: Retailer type by chain or independent

Retailer Type	Chain / Independent	Count
Pub / bar	Chain	8
	Independent	1
Convenience store	Chain	5
	Independent	1
Hotel	Chain	1
	Independent	2
Garage shop	Chain	2
	Independent	0
Alcohol shop	Chain	2
	Independent	0
Restaurant	Chain	0
	Independent	6
Coffee shop	Chain	0
	Independent	1
Grocery store	Chain	0
	Independent	1

Table A.3: Retailer type by size

Retailer Type	Size	Count
Pub / bar	0-10 employees	4
	11-15 employees	1
	26-50 employees	2

	51-100 employees	0
Convenience store	0-10 employees	2
	11-15 employees	4
	26-50 employees	0
	51-100 employees	0
Hotel	0-10 employees	0
	11-15 employees	0
	26-50 employees	0
	51-100 employees	1
Garage shop	0-10 employees	2
	11-15 employees	0
	26-50 employees	0
	51-100 employees	0
Alcohol shop	0-10 employees	1
	11-15 employees	0
	26-50 employees	0
	51-100 employees	0
Restaurant	0-10 employees	2
	11-15 employees	1
	26-50 employees	0
	51-100 employees	1
Coffee shop	0-10 employees	1
	11-15 employees	0
	26-50 employees	0
	51-100 employees	0

Grocery store	0-10 employees	1
	11-15 employees	0
	26-50 employees	0
	51-100 employees	0

During interviews, not every retailer gave the size of the organisation, or gave the size of the venue (rather than the number of employees). Therefore, not every retailer is represented in this table

Table A.4: Retailer type by proportion of sales coming from alcohol

Retailer Type	% of sales coming from alcohol	Count
Pub / bar	4-25%	0
	26-50%	3
	51-75%	2
	76-100%	3
Convenience store	4-25%	1
	26-50%	3
	51-75%	0
	76-100%	0
Hotel	4-25%	1
	26-50%	0
	51-75%	1
	76-100%	0
Garage shop	4-25%	2
	26-50%	0
	51-75%	0

	76-100%	0
Alcohol shop	4-25%	0
	26-50%	0
	51-75%	0
	76-100%	2
Restaurant	4-25%	0
	26-50%	3
	51-75%	0
	76-100%	0
Coffee shop	4-25%	1
	26-50%	0
	51-75%	0
	76-100%	0

During interviews, not every retailer discussed their proportion of sales coming from alcohol. Therefore, not every retailer is represented in this table.

Table A.5: Retailer type by ability to remain open during COVID-19

Retailer Type	Ability to remain open	Count
Pub / bar	Stayed open	0
	Limited opening	2
	Closed	9
Convenience store	Stayed open	5
	Limited opening	1
	Closed	1

Hotel	Stayed open	0
	Limited opening	1
	Closed	1
Garage shop	Stayed open	1
	Limited opening	1
	Closed	0
Alcohol shop	Stayed open	0
	Limited opening	1
	Closed	1
Restaurant	Stayed open	0
	Limited opening	2
	Closed	3
Coffee shop	Stayed open	0
	Limited opening	1
	Closed	0
Grocery store	Stayed open	1
	Limited opening	0
	Closed	0

'Limited opening' here either refers to restricted opening hours, restricted number of people able to enter at a time, or opening in-between lockdowns.

Annex B: Interview topic guide

1 Retailer background

- About the participant
- Role and responsibilities
 - Within the organisation
 - In relation to alcohol pricing and sales
- Length of time at the organisation
- Any changes since previous interview

- Description of the retailer and the products it sells
 - Size (no. employees, no. branches, whether multinational)
 - When established
 - Opening hours
 - Type of alcohol licence they have

- Alcohol sales, annual turnover
 - Whether on / off trade
 - Proportion of sales coming from alcohol
 - Types of alcohol sold, probe around low-cost / high strength alcohol

- Whether business was affected by Covid-19 pandemic and restrictions
 - Ability to remain open throughout
 - Effects on sale of alcohol
 - Any other relevant effects

2 Understanding and awareness of the policy

- What they know about the minimum pricing policy in Wales
 - Why it is being introduced / policy aims
 - When it took effect (NB 2nd March 2020)
 - Changes the policy introduced to alcohol pricing generally
 - What types of products minimum pricing effected

- Change in price
 - Type or quality of product sold
 - What the policy is being targeted at (i.e. low price / high content consumers)
- Understanding of how the minimum price is calculated
 - Level of minimum unit price (viz. 50p)
 - Calculation of minimum price
 - How additional charges interact with (e.g. online sales delivery charges, duty and VAT)
 - Rules in relation to:
 - Offers
 - Pre-price marked products / flash packs
 - Price reductions due to damages
- Sources of information
 - Pre-implementation
 - Where they heard about the policy
 - Single or multiple sources
 - Whether/ where they have sought further information
 - Gaps in understanding / anything they were unclear on at the time
 - Further information or guidance they would like/ would have liked about the policy
 - Availability of information and guidance in Welsh
- Awareness of specific pre-implementation activities
 - Letter from Welsh Government
 - Point of sales display poster
 - Media or trade press
 - Other publicity/ campaigns (e.g. Alcohol Change UK Cymru)
 - Shelf or trolley adverts
 - Views on/ improvements suggested
- More recently

- Guidance on sales January 2020
- Enforcement
 - Form taken
 - Whether advice or guidance given?
- Effects of the COVID-19 pandemic
 - Prominence/ importance in their mind/ as a retailer
 - Importance of the policy during the pandemic regarding level of sales
- Views of the minimum pricing policy
 - Extent to which they agree/d or disagree/d with the aims of the policy
 - Whose responsibility they think it is to reduce alcohol consumption i.e. retailers, consumers, government etc
 - Any change in views over time
 - Concerns regarding the policy, if any
 - Future changes to the policy

3 Preparations for implementation

- If anything, what they did as a retailer in relation to the minimum pricing policy
 - Ahead of the policy taking effect
 - When the policy took effect
- If they didn't give much thought to preparations
 - Why was that (e.g. perception that prices already exceeded minimum price, thought they could accommodate price changes)
 - Who they foresaw as being responsible for pricing and ensuring compliance
 - Who they thought they would seek advice / guidance from (e.g. Welsh Government, legal advice, trade bodies)
 - Consequences of not making preparations
 - Last minute activity
 - Any enforcement or fines
 - Other consequences

- If they did think about it / made plans,
 - The approach they took
 - Training staff
 - Alerting customers
 - Buying lower alcohol/ high quality products
- Who was responsible for pricing and ensuring compliance
 - How they went about setting prices
 - Advice / guidance from trade bodies
 - Responsibility (e.g. themselves, managers, HQ)
- Planned costs of implementation
- Effects of the COVID-19 pandemic and associated restrictions on plans

4 Experiences of implementation and its effects

- Experiences of implementation in general
- How experiences compared with expectations
 - Pricing (e.g. whether existing prices did exceed minimum pricing)
 - Manageability of changes
 - Price increase
 - Manageable decline in sales
 - Change in products (e.g. lower alcohol, better quality)
 - More competitive market (e.g. supplying cheaper low alcohol, levelling the market between smaller and larger retailers)
 - Minor/ temporary effects on sale
 - Whether affected levels of alcohol consumption
 - Among occasional customers
 - Regular customers
 - Level of alcohol dependency

- Cross border sales, where retailer is close to border with England
- Negative effects
 - Costs associated with compliance
 - Effects on sales
 - Negative attitudes/ feedback from customers
 - Effects on staff
 - Any others?
 - Ways of mitigating
- Positive effects
 - Changes in customer purchasing patterns, which customers
 - Lower alcohol consumption
 - Better product range/ quality of products
 - Any others?
- Wider / other impacts on the business
- Effects of Covid-19 and restrictions
 - On their business
 - On sales of alcohol
 - Where increased
 - Where decreased
 - Ability to disentangle effects of minimum pricing and Covid-19 restrictions
 - Any other effects of Covid-19 and restrictions

5 Concluding thoughts and reflections

- Overall views of the policy and its effect
- Whether views have changed over time
 - Positive/ negative direction
 - Main factors influencing change in views
- Key messages for government

- Ongoing implementation/
- Possible policy changes
- Information/ support needs

Annex C: Deviations from MPA evaluation plan

The baseline report (Bartasevicius et al., 2020) suggested investigating the effect of the implementation of the MPA on retailer type. By conducting a sub-group analysis of the Kantar data. However, the types of retailer included in the Kantar data⁹ were not classifiable in meaningfully distinct categories (e.g. we had anticipated ‘chain stores’ and ‘independent stores’), instead it was dominated by large stores with a substantial market share. While it was possible to use the Kantar data to conduct further analysis on the effect of the MPA on individual retailers, we deemed analysis by retailer ‘type’ (i.e. independent vs chain) not feasible.

Additionally, the 2020 baseline quantitative plan suggested a sensitivity analysis for the Kantar data that included separate time series for England, Wales and Scotland and a lag of 13 to account for seasonality (i.e. seasonal patterns in alcohol purchase). However, we did not include Scotland as a control nation since Scotland implemented its own MPA in 2018. Also, seasonality was assumed to be common across England and Wales and therefore it did not represent an issue to control for. For these reasons, we did not include these two sensitivity analyses for the Kantar data.

⁹ Tesco, Asda, Sainsbury’s, Morrisons, The Co-operative, Waitrose, Aldi, Lidl, Marks & Spencer and All Others which includes independent, symbol and bargain stores.

Annex D: Sales data tables of coefficients

The following tables report the coefficients, p-values and 95% confidence intervals of the CITS on the sales outcome measures in Wales and England.

Primary outcome: average alcohol sales

Table D.1 CITS model results for average alcohol sales

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	8165.758	< 0.001	5411.428 to 10920.089
β_2	Baseline level diff. (Wal vs. Eng)	-763.988	0.696	-4659.200 to 3131.224
β_3	Baseline slope	66.487	0.873	-765.084 to 898.057
β_4	Baseline slope diff. (Wal vs. Eng)	97.047	0.869	-1078.971 to 1273.065
β_5	Intervention step (Eng)	4846.912	0.006	1425.846 to 8267.979
β_6	Intervention step diff. (Wal vs. Eng)	1319.573	0.587	-3518.545 to 6157.691
β_7	Intervention slope change (Eng)	-220.992	0.607	-1078.977 to 636.993
β_8	Intervention slope change diff. (Wal vs. Eng)	-90.695	0.881	-1304.069 to 1122.678

Table D.1: ITSA model results for average alcohol sales in Wales and England with interruptions in March 2020.

Coefficients highlighted in bold are significant at the $p < 0.05$ level

Secondary outcomes

Percentage of total sales coming from alcohol

Table D.2 CITS model results for percentage of total sales coming from alcohol

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	0.143	< 0.001	0.123 to 0.162
β_2	Baseline level diff. (Wal vs. Eng)	-0.018	0.197	-0.046 to 0.010
β_3	Baseline slope	0.000	0.938	-0.006 to 0.007
β_4	Baseline slope diff. (Wal vs. Eng)	0.000	0.934	-0.009 to 0.009
β_5	Intervention step (Eng)	0.037	0.008	0.010 to 0.063
β_6	Intervention step diff. (Wal vs. Eng)	0.025	0.198	-0.013 to 0.063
β_7	Intervention slope change (Eng)	-0.002	0.586	-0.008 to 0.005
β_8	Intervention slope change diff. (Wal vs. Eng)	-0.000	0.925	-0.010 to 0.009

Table D.2: ITSA model results for percentage of total sales coming from alcohol in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Average number of total alcohol transactions

Table D.3 CITS model results for average number of alcohol transactions

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	1105.328	< 0.001	828.871 to 1381.786
β_2	Baseline level diff. (Wal vs. Eng)	-119.076	0.544	-510.045 to 271.894
β_3	Baseline slope	-0.129	0.997	-75.812 to 75.553
β_4	Baseline slope diff. (Wal vs. Eng)	9.036	0.866	-97.995 to 116.068
β_5	Intervention step (Eng)	354.492	0.017	66.024 to 642.961
β_6	Intervention step diff. (Wal vs. Eng)	33.460	0.870	-374.496 to 441.417
β_7	Intervention slope change (Eng)	-13.442	0.738	-93.741 to 66.856
β_8	Intervention slope change diff. (Wal vs. Eng)	-7.367	0.897	-120.926 to 106.192

Table D.3: ITSA model results for average number of alcohol transactions in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Percentage of all sales transactions that include some alcohol

Table D.4 CITS model results for percentage of all sales transactions that include some alcohol

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	0.123	< 0.001	0.102 to 0.145
β_2	Baseline level diff. (Wal vs. Eng)	-0.018	0.233	-0.049 to 0.012
β_3	Baseline slope	0.001	0.742	-0.006 to 0.008
β_4	Baseline slope diff. (Wal vs. Eng)	0.000	0.988	-0.010 to 0.010
β_5	Intervention step (Eng)	0.044	0.004	0.015 to 0.074
β_6	Intervention step diff. (Wal vs. Eng)	0.011	0.591	-0.030 to 0.053
β_7	Intervention slope change (Eng)	-0.003	0.439	-0.010 to 0.004
β_8	Intervention slope change diff. (Wal vs. Eng)	0.000	0.991	-0.010 to 0.010

Table D.4: ITSA model results for percentage of all sales transactions that include some alcohol in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Annex E: Sensitivity Analyses table of coefficients

Table E.1 reports the coefficients, p-values and 95% confidence intervals of the sensitivity analyses on average alcohol sales in Wales and England, accounting for key dates of the pandemic mitigation strategy (March, June and November 2020).

Table E.1 Sensitivity analyses model results for average alcohol sales

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	8343.4	0.000	6743.7 to 9943
β_2	Baseline level diff. (Wal vs. Eng)	-116.5	0.000	-5437.2 to -2231.4
β_3	Baseline slope	-694.8	0.445	-6542.1 to 2923
β_4	Baseline slope diff. (Wal vs. Eng)	-4.2	0.282	-3491 to 1042.7
β_{5-1}	Intervention step (Eng)	3725.8	0.099	-396.7 to 4472.5
β_{6-1}	Intervention step diff. (Wal vs. Eng)	657.0	0.723	-3054.8 to 4368.9
β_{7-1}	Intervention slope change (Eng)	3123.3	0.000	1589.8 to 4656.8
β_{8-1}	Intervention slope change diff. (Wal vs. Eng)	1164.2	0.285	-1004.5 to 3332.9
β_{5-2}	Intervention step (Eng)	-6351.0	0.000	-9697.4 to -3004.6
β_{6-2}	Intervention step diff. (Wal vs. Eng)	-1809.5	0.445	-6542.1 to 2923
β_{7-2}	Intervention slope change (Eng)	-3834.3	0.000	-5437.2 to -2231.4
β_{8-2}	Intervention slope change diff. (Wal vs. Eng)	-1224.1	0.282	-3491 to 1042.7
β_{5-3}	Intervention step (Eng)	2037.9	0.099	-396.7 to 4472.5

β_{6-3}	Intervention step diff. (Wal vs. Eng)	-43.2	0.980	-3486.2 to 3399.9
β_{7-3}	Intervention slope change (Eng)	703.1	0.045	14.9 to 1391.2
β_{8-3}	Intervention slope change diff. (Wal vs. Eng)	61.3	0.900	-911.9 to 1034.5

Table E.1: ITSA model results for average alcohol turnover with interruptions in March 2020 (1), June 2020 (2) and November 2020 (3). Coefficients highlighted in bold are significant at the $p < 0.05$ level

Annex F: Sales data tables of coefficients for border stores in England and Wales

The following tables report the coefficients, p-values and 95% confidence intervals of the CITS on the sales outcome measures for border stores in Wales and England.

Primary outcome: average alcohol sales

Table F.1 CITS model results for average alcohol sales for border stores

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	8707.608	< 0.001	5901.775 to 11513.441
β_2	Baseline level diff. (Wal vs. Eng)	- 1129.051	0.570	-5097.098 to 2838.996
β_3	Baseline slope	-50.805	0.899	-851.360 to 749.750
β_4	Baseline slope diff. (Wal vs. Eng)	158.607	0.780	-973.549 to 1290.763
β_5	Intervention step (Eng)	4796.880	0.004	1629.804 to 7963.957
β_6	Intervention step diff. (Wal vs. Eng)	- 1570.684	0.485	-6049.606 to 2908.239
β_7	Intervention slope change (Eng)	-91.874	0.827	-931.004 to 747.256
β_8	Intervention slope change diff. (Wal vs. Eng)	-103.682	0.862	-1290.391 to 1083.027

Table F.1: ITSA model results for average alcohol sales for border stores in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Secondary outcomes

Percentage of total sales coming from alcohol

Table F.2 CITS model results for percentage of total sales coming from alcohol border stores

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	0.152	< 0.001	0.128 to 0.176
β_2	Baseline level diff. (Wal vs. Eng)	-0.018	0.282	-0.052 to 0.016
β_3	Baseline slope	-0.000	0.943	-0.008 to 0.007
β_4	Baseline slope diff. (Wal vs. Eng)	0.003	0.511	-0.007 to 0.014
β_5	Intervention step (Eng)	0.035	0.025	0.005 to 0.065
β_6	Intervention step diff. (Wal vs. Eng)	0.008	0.697	-0.034 to 0.051
β_7	Intervention slope change (Eng)	-0.002	0.602	-0.009 to 0.006
β_8	Intervention slope change diff. (Wal vs. Eng)	-0.004	0.478	-0.014 to 0.007

Table F.2: ITSA model results for percentage of total sales coming from alcohol for border stores in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Average number of alcohol transactions

Table F.3 CITS model results for average number of alcohol transactions for border stores

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	1051.658	< 0.001	784.311 to 1319.005
β_2	Baseline level diff. (Wal vs. Eng)	-56.809	0.764	-434.895 to 321.277
β_3	Baseline slope	-15.852	0.667	-89.277 to 57.574
β_4	Baseline slope diff. (Wal vs. Eng)	9.081	0.861	-94.758 to 112.921
β_5	Intervention step (Eng)	369.664	0.011	88.913 to 650.415
β_6	Intervention step diff. (Wal vs. Eng)	-132.474	0.506	-529.516 to 264.567
β_7	Intervention slope change (Eng)	4.168	0.915	-73.661 to 81.997
β_8	Intervention slope change diff. (Wal vs. Eng)	-5.594	0.919	-115.661 to 104.473

Table F.3: ITSA model results for average number of alcohol transactions for border stores in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Percentage of all sales transactions that include some alcohol

Table F.4 CITS model results for percentage of all sales transactions that include some alcohol for border stores

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	0.115	< 0.001	0.090 to 0.141
β_2	Baseline level diff. (Wal vs. Eng)	-0.012	0.508	-0.048 to 0.024
β_3	Baseline slope	0.001	0.840	-0.007 to 0.009
β_4	Baseline slope diff. (Wal vs. Eng)	0.002	0.740	-0.009 to 0.013
β_5	Intervention step (Eng)	0.039	0.022	0.006 to 0.073
β_6	Intervention step diff. (Wal vs. Eng)	0.004	0.879	-0.044 to 0.051
β_7	Intervention slope change (Eng)	-0.003	0.535	-0.011 to 0.006
β_8	Intervention slope change diff. (Wal vs. Eng)	-0.002	0.676	-0.014 to 0.009

Table F.4: ITSA model results for percentage of all sales transactions that include some alcohol for border stores in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Annex G: Sales data tables of coefficients for non-border stores in England and Wales

The following tables report the coefficients, p-values and 95% confidence intervals of the CITS on the sales outcome measures for non-border stores in Wales and England.

Primary outcome: average alcohol sales

Table G.1 CITS model results for average alcohol sales for non-border stores

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	8160.346	< 0.001	5394.884 to 10925.808
β_2	Baseline level diff. (Wal vs. Eng)	-765.598	0.696	-4676.551 to 3145.356
β_3	Baseline slope	65.623	0.876	-771.184 to 902.429
β_4	Baseline slope diff. (Wal vs. Eng)	97.737	0.869	-1085.686 to 1281.160
β_5	Intervention step (Eng)	4864.299	0.007	1417.340 to 8311.258
β_6	Intervention step diff. (Wal vs. Eng)	1448.275	0.554	-3426.462 to 6323.011
β_7	Intervention slope change (Eng)	-220.506	0.610	-1083.371 to 642.359
β_8	Intervention slope change diff. (Wal vs. Eng)	-94.475	0.877	-1314.750 to 1125.801

Table G.1: ITSA model results for average alcohol sales for non-border stores in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Secondary outcomes

Percentage of total sales coming from alcohol

Table G.2 CITS model results for percentage of total sales coming from alcohol for non-border stores

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	0.142	< 0.001	0.123 to 0.162
β_2	Baseline level diff. (Wal vs. Eng)	-0.018	0.189	-0.046 to 0.009
β_3	Baseline slope	0.000	0.942	-0.006 to 0.007
β_4	Baseline slope diff. (Wal vs. Eng)	0.000	0.947	-0.009 to 0.009
β_5	Intervention step (Eng)	0.037	0.008	0.010 to 0.064
β_6	Intervention step diff. (Wal vs. Eng)	0.025	0.189	-0.013 to 0.063
β_7	Intervention slope change (Eng)	-0.002	0.590	-0.008 to 0.005
β_8	Intervention slope change diff. (Wal vs. Eng)	-0.000	0.944	-0.009 to 0.009

Table G.2: ITSA model results for percentage of total sales coming from alcohol for non-border stores in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Average number of alcohol transactions

Table G.3 CITS model results for average number of alcohol transactions for non-border stores

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	1105.800	< 0.001	827.661 to 1383.939
β_2	Baseline level diff. (Wal vs. Eng)	-120.150	0.543	-513.498 to 273.197
β_3	Baseline slope	0.038	0.999	-76.175 to 76.250
β_4	Baseline slope diff. (Wal vs. Eng)	9.497	0.860	-98.284 to 117.278
β_5	Intervention step (Eng)	354.847	0.018	64.095 to 645.598
β_6	Intervention step diff. (Wal vs. Eng)	40.374	0.845	-370.811 to 451.559
β_7	Intervention slope change (Eng)	-13.638	0.736	-94.477 to 67.201

β_8	Intervention slope change diff. (Wal vs. Eng)	-8.011	0.889	-122.335 to 106.312
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Table G.3: ITSA model results for average number of alcohol transactions for non-border stores in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Percentage of all sales transactions that include some alcohol

Table G.4 CITS model results for percentage of all sales transactions that include some alcohol for non-border stores

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	0.124	< 0.001	0.102 to 0.145
β_2	Baseline level diff. (Wal vs. Eng)	-0.018	0.230	-0.049 to 0.012
β_3	Baseline slope	0.001	0.744	-0.006 to 0.008
β_4	Baseline slope diff. (Wal vs. Eng)	0.000	0.994	-0.010 to 0.010
β_5	Intervention step (Eng)	0.044	0.004	0.015 to 0.074
β_6	Intervention step diff. (Wal vs. Eng)	0.011	0.581	-0.030 to 0.053
β_7	Intervention slope change (Eng)	-0.003	0.440	-0.010 to 0.004
β_8	Intervention slope change diff. (Wal vs. Eng)	0.000	0.981	-0.010 to 0.010

Table G.4: ITSA model results for percentage of all sales transactions that include some alcohol for non-border stores in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Annex H: Consumer purchasing data tables of coefficients

The following tables report the coefficients, p-values and 95% confidence intervals of the CITS on the purchasing outcome measures in Wales and England.

Primary outcome: average household volume (litres)

Table H.1 CITS model results for average household volume (litres)

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	12.156	0.000	11.617 to 12.694
β_2	Baseline level diff. (Wal vs. Eng)	0.001	0.841	-0.013 to 0.015
β_3	Baseline slope	0.596	0.124	-0.164 to 1.358
β_4	Baseline slope diff. (Wal vs. Eng)	0.011	0.284	-0.009 to 0.031
β_5	Intervention step (Eng)	3.037	0.000	2.038 to 4.037
β_6	Intervention step diff. (Wal vs. Eng)	-0.675	0.347	-2.089 to 0.737
β_7	Intervention slope change (Eng)	-0.084	0.006	-0.143 to -0.025
β_8	Intervention slope change diff. (Wal vs. Eng)	-0.051	0.224	-0.135 to 0.031

Table H.1: ITSA model results for average household volume (litres) in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Secondary outcomes

Average price per litre of alcohol beverage

Table H.2 CITS model results for average price per litre of alcoholic beverage

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	4.386	0.000	4.103 to 4.669
β_2	Baseline level diff. (Wal vs. Eng)	0.008	0.028	0.000 to 0.015
β_3	Baseline slope	-0.289	0.154	-0.689 to 0.110
β_4	Baseline slope diff. (Wal vs. Eng)	-0.002	0.640	-0.0129 to 0.007
β_5	Intervention step (Eng)	-0.182	0.343	-0.559 to 0.195
β_6	Intervention step diff. (Wal vs. Eng)	0.681	0.013	0.147 to 1.215
β_7	Intervention slope change (Eng)	0.006	0.655	-0.021 to 0.033
β_8	Intervention slope change diff. (Wal vs. Eng)	0.016	0.391	-0.021 to 0.055

Table H.2: ITSA model results for average price per litre of alcoholic beverage in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Average household spend on alcohol (£)

Table H.3 CITS model results for average household spend on alcohol (£)

Coefficient	Meaning	Value	P-value	95% Confidence Interval
β_1	Baseline level (Eng)	52.950	0.000	49.492 to 56.408
β_2	Baseline level diff. (Wal vs. Eng)	0.120	0.011	0.027 to 0.213
β_3	Baseline slope	-1.065	0.668	-5.955 to 3.825
β_4	Baseline slope diff. (Wal vs. Eng)	0.020	0.763	-0.111 to 0.151
β_5	Intervention step (Eng)	10.992	0.001	4.659 to 17.325
β_6	Intervention step diff. (Wal vs. Eng)	6.948	0.127	-2.006 to 15.904
β_7	Intervention slope change (Eng)	-0.281	0.142	-0.658 to 0.094
β_8	Intervention slope change diff. (Wal vs. Eng)	-0.077	0.775	-0.609 to 0.455

Table H.3: ITSA model results for average household spend on alcohol (£) in Wales and England with interruptions in March 2020. Coefficients highlighted in bold are significant at the $p < 0.05$ level

Annex I: Kantar FMCG Purchase Panel and Gains and Loss Analysis

Kantar FMCG Purchase Panel is a market research panel comprising 30,000 households chosen to reflect all GB households by region and demographics. The methodology is set up with the aim of collecting all food and drink purchases brought back into the home regardless of place of purchase (e.g., corner shop, supermarket or department store) and includes supermarket delivery and click and collect purchases. Products purchased and consumed out of the home are not included.

The project completed for the Welsh Government used Kantar FMCG Purchase panel to review changes in Alcohol purchasing across a) Wales and b) England separately. The time periods and corresponding samples were as follows:

	28w/e 1 st Dec 2019	28 w/e 28 th Nov 2021
Wales	1,165 households	1,066 households
England	19,153 households	18,264 households

The Gains Loss analysis explains the changes in volume across the two time periods.

This analysis was run at 4 different levels within the Take Home Alcohol market:

- Alcohol Type (e.g. Beer, Spirits);
- Retailers (e.g. Tesco, Asda);
- Range ABV (e.g. Spirits ABV 40+, Wine ABV up to 6%);
- Pack size (e.g. 75cl, 18x440ml).

The analysis classifies the volume change for each line (e.g. Beer) into the following:

- **Net Switching** (volume switched from one alcohol type¹⁰ to another);
- **Shoppers Held** (increased volume from shoppers who bought the alcohol type* in period 1, buying more of it in period 2 without impacting their purchasing of any other alcohol type);

¹⁰ Alcohol type used as an example. Volume movements can also be negative and should therefore be interpreted as decreases.

- **Shoppers Won/Lost** (increased volume from existing alcohol shoppers adding the alcohol type to the repertoire of alcohol purchases without impacting their purchasing of any other alcohol type);
- **Category Arrivals/Departures** (increased volume from those who did not buy alcohol in P1 purchasing the alcohol type in P2).

The work was carried out by Roz Wade – Consumer Insight Director at Kantar. Please contact Sally.Ball@kantar.com for further details about Kantar.