

# Groceries Unit pricing: pricing analysis

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# 1. Introduction

- 1.1 This report details the findings from our analysis of unit prices. We have examined for a basket of grocery products the extent to which their unit prices vary according to their size, packaging and whether they are on promotion, and in turn the extent to which this unit pricing information can help shoppers identify savings when grocery shopping. This forms part of a suite of work the Competition and Markets Authority (CMA) has carried out on unit pricing in the groceries sector, including a review of compliance, the findings of which we published in July 2023, as well as consumer research, which we have published alongside this report.<sup>1</sup> This sits within the wider work the CMA is doing on the cost-of-living.<sup>2</sup>
- 1.2 Unit pricing is a labelling system for displaying the cost of different products by reference to standard units of quantity, usually either weight or volume. It is intended to assist shoppers in comparing the relative costs of different products, irrespective of the packaged size, so they can work out which product is the best for their needs.<sup>3</sup>
- 1.3 Consumer research carried out on behalf of the CMA<sup>4</sup> suggests many shoppers do not regularly use, or may not even be aware of, unit pricing. Shoppers may instead often rely on assumptions or ‘rules of thumb’ for working out which products offer them the best value. We sought to test some of these ‘rules of thumb’ that shoppers may be using on the products in our basket.
- 1.4 To assess the potential to make savings by using unit pricing, we developed a basket of twenty-six everyday grocery items including fresh, frozen, and non-perishable food and drink, and household products. This basket of products overlaps with that used in our compliance review and by the Office for

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<sup>1</sup> [CMA Review of unit pricing in the groceries sector \(publishing.service.gov.uk\)](#) July 2023

<sup>2</sup> [Action to help contain cost of living pressures \(publishing.service.gov.uk\)](#)

<sup>3</sup> In Great Britain unit pricing is largely regulated by the Price Marking Order 2004 (PMO), and in Northern Ireland by the PMO (NI). These require traders that sell goods to shoppers to display both the selling price and unit price in an unambiguous, easily identifiable, and legible way in stores and online. The current legislation allows some exemptions such as shops no larger than 280 square meters, goods on auction and goods supplied during a service.

<sup>4</sup> Qualitative research carried out to better understand how and when UK shoppers make use of unit pricing information when shopping for grocery products. [CMA consumer research](#).

National Statistics (ONS) in their cost-of-living work.<sup>5</sup> We assessed a snapshot of data based on a particular day in May 2023.

- 1.5 The analysis focused on whether unit pricing could be used to help shoppers make savings when shopping across different pack sizes and packaging formats (in particular loose and pre-packed fresh fruit and vegetables), including when products are on promotions.
- 1.6 We set out the methodology in section 2, report our findings in section 3 and provide our conclusions in section 4. More detailed examples from our analysis of retailers' data are set out in the Appendix to this report.

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<sup>5</sup> [Tracking the price of the lowest-cost grocery items, UK, experimental analysis - Office for National Statistics \(ons.gov.uk\)](https://ons.gov.uk)

## 2. Methodology

- 2.1 We obtained data on a basket of products from eleven large grocery retailers operating across Great Britain. The data contained product, selling price, unit pricing, and promotion information for a specific day (9 May 2023). Our analysis relates to main stores and online sales channels.<sup>6</sup> For most items there was no difference in the selling prices in stores and online. Our initial request was for data on twenty products. We later<sup>7</sup> made a request to nine of the retailers<sup>8</sup> for data on six additional products to support the analysis and fill gaps identified in our evidence base.<sup>9</sup>
- 2.2 The basket of products<sup>10</sup> was selected to include items available in a range of sizes that shoppers purchase regularly as part of their grocery shopping. The basket contained standard-tier retailer own-brand and leading branded versions of products where these are available and appropriate.<sup>11</sup>
- 2.3 We analysed the data according to three themes, which were:

*Theme 1: Trading up a pack size* - are larger packs always cheaper per unit than smaller packs of the same product? Do unit prices always decrease as we move up each pack size? Are unit price savings consistent as we move up pack sizes? Does this vary between retailers and products?

*Theme 2: Promotions* - do products on promotion always offer the lowest unit price, and how does this relate to pack size? Can a smaller pack on promotion be cheaper per unit than a non-promoted larger pack?

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<sup>6</sup> Sales channels included, for example, “main stores”, “online”, “convenience stores” and “petrol stations”. However, we excluded convenience stores and petrol stations as there were too few goods across which to compare unit prices within these stores in our data set.

<sup>7</sup> Our initial request, for information about 20 products, was made on 9 May 2023 and requested information on selling prices on that date. The follow-up request, concerning six extra products, was made on 14 August 2023. For consistency, we requested information on their 9 May selling prices.

<sup>8</sup> Two retailers were excluded from this follow-up request because their data would not materially impact the analysis. This was because they had a limited range of the selected products.

<sup>9</sup> For example, the initial request provided us with the data to fully analyse only one fresh fruit or vegetable product and so our follow-up request added additional similar products to our basket.

<sup>10</sup> The basket contained 26 products: wheat biscuit breakfast cereal, fresh milk, cheddar cheese, spreadable butter, bananas, baking potatoes, carrots, mushrooms, broccoli, onions, courgettes, dried pasta, dried rice, tinned tuna, baked beans, tinned chopped tomatoes, tea bags, tomato ketchup, mayonnaise, frozen fish fingers, ready salted potato crisps, milk chocolate digestive biscuits, beer, toilet roll, laundry detergent, washing up liquid. Fresh fruit and vegetables contained within the basket were sold both loose and pre-packed.

<sup>11</sup> For example, our basket includes branded and retailer own-brand rice but only own-brand milk. It excludes organic or low fat non-standard versions of products and own-brand premium tiers.

*Theme 3: Packaging formats, in particular loose versus pre-packed fresh fruit and vegetables* - is there a difference in unit price between loose and pre-packaged fruit and vegetables? If so, how much of a difference is there? Does this vary between products and retailers, and if so, how?

### 3. Results

- 3.1 We found that unit pricing can help shoppers identify savings on their grocery shopping in two overarching ways:
- by showing shoppers which option is cheapest per unit when it is not easy to work out by comparing selling prices alone
  - by offering shoppers an alternative to relying on rules of thumb (such as 'larger pack sizes are always cheaper per unit' and 'products on promotion are always cheaper per unit').
- 3.2 Many grocery products are offered in a wide range of sizes. While it might be relatively easy to compare some options (such as a twin pack of tins with an equivalent single tin), sometimes the sizes are not easy to compare, for example because their sizes are not simple multiples, pack sizes differ between brands or because there are promotions on some options but not on others.
- 3.3 Our analysis found, as might be expected, that bigger pack sizes often presented savings in terms of lower unit prices, but that the gains from trading up a pack size are not always consistent for each increase in pack size within a product range, between products and between retailers. In addition, we also found a number of examples where larger pack size had *higher* unit prices than smaller versions of the product. We also found that, while products on promotion were often the cheapest in terms of unit price, this was not always the case. Given the complexity of pack sizes, variations in savings and the fact that some common 'rules of thumb' don't always hold, unit pricing provides valuable information to help shoppers identify the item with the cheapest price per unit.
- 3.4 We recognise that buying a larger pack size may not be an option for all shoppers, for example, if their shopping budget does not extend to that, they lack storage space, or indeed if the goods are perishable and likely to expire before being used up. We also acknowledge that not all pack sizes will be available in every store. However, unit prices can still be used by shoppers to understand the best value from the options that are suitable for them.
- 3.5 The examples we use throughout this report are based on a snapshot of data from 9 May 2023, therefore each specific example may not hold over time. Nonetheless we use these to highlight the sort of situations in which paying greater attention to unit pricing could facilitate savings.



## Unit pricing can help shoppers save money

***Unit prices can help shoppers make comparisons between products when this could be difficult using selling prices alone***

3.6 Unit prices can help shoppers work out which option has the cheapest unit price by allowing them to easily compare the per unit price of a range of similar products. This is particularly useful in situations where a shopper would need to carry out calculations to determine the product with the cheapest price per unit if they were to make comparisons based on selling price alone. This includes situations such as:

- where pack sizes are different within or across brands;
- where pack sizes are not simple multiples of each other, making mental calculations difficult;
- where there is a mixture of pack sizes<sup>12</sup> and promotions; and
- when comparing loose and pre-packed fresh fruit and vegetables;

*Unit prices are useful for comparing products where pack sizes are different within or across brands*

3.7 Unit pricing can help shoppers identify which product is cheapest per unit when there are different pack sizes. A good example of this that we saw during our analysis is in packs of toilet rolls. In the data we collected, toilet rolls from a leading brand were sold in packs with different numbers of rolls and the rolls had different numbers of sheets. Comparing selling prices or prices per roll does not account for differences in roll size.

3.8 For example, one brand of toilet roll was stocked in three different pack sizes (4, 9 and 12 rolls). The 4- and 9-packs had 190 sheets per roll, but the 12-pack had 300 sheets per roll. The pack of 4 rolls was priced at £3.15, the pack of 9 rolls was £5.75, and the pack of 12 rolls was £11.50. A difficult mental calculation is required to work out which was the cheapest option per unit. The 9-pack (£5.75 or 64p per roll) would appear cheaper than the 12-pack (£11.50 or 96p per roll) if the shopper compared by price per roll, but not all rolls contained the same number of sheets. Comparing prices per 100 sheets would reveal that the pack of 12 rolls was 6% cheaper in terms of the unit

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<sup>12</sup> Including different packaging types such as glass, plastic and cans.

price (32p per 100 sheets for the 12-roll pack compared with 34p per 100 sheets for the 9-roll pack).

*Unit prices are useful for comparisons where pack sizes are not simple multiples of each other making mental calculations difficult*

- 3.9 Unit pricing simplifies comparison between products in pack sizes that are not simple multiples of each other. Some types of products (such as pasta and rice) come in standard pack sizes that are round numbers (500g, 1kg etc), but others (such as tinned goods) are sold in sizes that make it difficult to do comparisons (a standard size and a smaller single-serving tin which is often not exactly half the size of the standard tin).
- 3.10 For example, several retailers sold baked beans and chopped tomatoes in standard tins (415g and 400g, respectively) and a smaller tin (baked beans were sold in 200g tins, and chopped tomatoes in tins of between 200g and 230g). There can be large unit price savings from sizing up from the small tin - these smaller tins had a 40 – 50% greater unit price.<sup>13</sup>
- 3.11 We saw other examples where pack sizes were not simple multiples of each other. Cheddar cheese was sold in pack sizes such as 200g, 240g, 350g, 400g and 550g; and a leading brand of toilet rolls included rolls with 190, 210, 225 and 300 sheets per roll.
- 3.12 Likewise, branded and own-brand packs of frozen cod fish fingers appear to be comparable, as they contain the same number of fingers, but we found that the fish fingers can be of different weights. Comparing selling prices alone will not account for these differences in pack size. For instance, one retailer sold a pack of 30 branded cod fish fingers for £7.75 and a pack of 30 own-brand cod fish fingers for £7.00. The branded pack would appear only 11% more expensive than the own-brand pack. However, the own-brand fish fingers were around 7% heavier than the branded ones, so comparing unit prices would reveal that the branded product was in fact 19% more expensive.

*Unit prices are useful for comparing products where there is a mixture of pack sizes and promotions*

- 3.13 Unit pricing can be particularly useful for comparing similar products when there are promotions as well as different pack sizes.

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<sup>13</sup> See paragraph A.11 of the Appendix for more details.

- 3.14 For instance, cheddar cheese is sold in pack sizes that are not simple multiples of each other (as mentioned in paragraph 3.11 above) and, when promotions are applied it can become very difficult to rely on selling price alone to work out the lowest unit price. We saw examples of branded cheddar on promotion being cheaper per unit than own-brand cheddar which was not on promotion in two retailers. When a promotion was applied to the largest branded products (550g packs) stocked by these retailers, these became around 7 – 14% cheaper in terms of the unit price than their largest own-brand pack. This may not have been obvious by looking at selling prices alone: the branded products had a promotion selling price of £4.00 in the first retailer and £4.75 in the other, compared to a selling price of £3.40 for the own-brand product in the first retailer and £3.70 in the other.<sup>14</sup>
- 3.15 Beer is another example of a product where pack sizes are often not simple multiples of each other, and where promotions are regularly available. Beer is sold in packs with different numbers of cans or bottles, and the cans and bottles can have different volumes. Some packs may also be on multi-buy promotions or price discounts. Unit prices can help shoppers compare these different packs and offers by accounting for such complexities.
- 3.16 For instance, one retailer sold a leading lager in different can sizes (440ml and 568ml) and offered packs containing different numbers of cans (either four, ten or eighteen). There were also four promotions available: price reductions on the 4x568ml and 18x440ml packs, and two multi-buy promotions on the 10x440ml pack (2 for £16, and 3 for £22). Unit prices ranged from £1.51 per litre to £2.84 per litre.<sup>15</sup> Without unit price information it could be difficult to compare the selling prices of packs of 568ml cans with packs of 440ml cans, to compare packs with different numbers of cans, or to compare these with the promotions.

*Unit prices are useful for comparing loose and pre-packed fresh fruit and vegetables*

- 3.17 Our consumer research indicated that shoppers may have pre-existing beliefs regarding how the prices of loose and pre-packed fresh fruit and vegetables should relate to each other.<sup>16</sup> We tested which of loose or pre-packed versions of products was cheaper (per unit) using the data we collected from retailers. This analysis is set out in detail with additional examples in the Appendix.

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<sup>14</sup> See paragraph A.36 of the Appendix for more details.

<sup>15</sup> See paragraph A.16 – A.20 and Figure A.4 of the Appendix for more details.

<sup>16</sup> [CMA consumer research](#), page 25

- 3.18 Our analysis revealed a mixed picture in terms of which product format had the lower unit price. We found that fresh fruit and vegetables can be cheaper per unit when sold loose or pre-packed, depending on the retailer and product in question.<sup>17</sup> For example, one retailer sold loose onions with a cheaper unit price than pre-packed versions, but in another loose onions were more expensive, and in other retailers both options had the same unit price.
- 3.19 We also found that which format works out cheaper per unit may depend on the quantity the shopper wants. For example, loose carrots always had a cheaper unit price than the smallest pre-packed option (500g) but for some retailers (not all) loose carrots had a more expensive unit price than a 1kg pack. In this case loose carrots would be cheaper in certain retailers if a shopper wanted less than 1kg.
- 3.20 Comparing unit prices for loose and pre-packed fresh fruit and vegetables can therefore help shoppers identify which option is cheapest per unit in each retailer they use.

***Unit prices offer shoppers a reliable alternative to using rules of thumb***

- 3.21 Our consumer research found that shoppers often follow ‘rules of thumb’ as mental shortcuts to choose from the large number of products in a grocery store.<sup>18</sup> For example, the research revealed that some participants automatically assumed larger pack sizes of the same product would have a lower price per unit, and that participants expected promoted products to be ‘much better value’<sup>19</sup> than similar products not on promotion.
- 3.22 Unit prices take into account differences in pack size, allowing shoppers to compare products in terms of the price for a consistent quantity (eg price per kilogram). Therefore, unit prices can help shoppers save money by offering a reliable alternative method to using rules of thumb to compare products and determine the cheapest option per unit.
- 3.23 Our more detailed analysis (set out in the Appendix) found that common rules of thumb regarding which product will be cheapest (per unit) are not always accurate:

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<sup>17</sup> See paragraphs A.41 – A.47 of the Appendix for detailed examples.

<sup>18</sup> [CMA consumer research](#), page 25

<sup>19</sup> ‘Value’ or ‘value for money’ is defined in the consumer research (on page 13) as determined by an individual’s assessment of a product’s attributes (such as quality) against its price. As such, perceptions of ‘value’ vary across shoppers. This report focuses only on price differences (and not quality differences) between products and therefore does not refer to value.

- bigger pack sizes are not always cheaper;
- products on promotion are not always cheapest.

*Bigger pack sizes are not always cheaper per unit*

- 3.24 Our analysis showed that larger pack sizes can in some cases have higher unit prices.<sup>20</sup> Some examples of this were found across more than one retailer, for example in toilet roll, cheese, and laundry detergent pods, whereas other examples related to a single retailer. While these examples of bigger pack sizes having a more expensive unit price than smaller packs were relatively unusual, our analysis showed that assuming otherwise could lead to shoppers paying more, and checking unit prices can help shoppers identify these exceptions.
- 3.25 For example, for cheddar cheese we found that for one leading brand a 550g block had a higher unit price than the 350g block in two retailers. In one, the larger pack had a unit price that was 11% higher; and, in the other, it was 6% higher. Both these were standard selling prices (ie not on promotion). Similarly, looking at laundry detergent pods, one retailer sold two packs of own-brand laundry pods, neither of which were on promotion. A pack of 20 pods had a selling price of £3.25 (16p per pod) and a pack of 36 pods had a selling price of £7.75 (22p per pod). The larger pack was therefore 32% (or around 5p) more expensive in terms of unit price.<sup>21</sup>
- 3.26 Another example was fish fingers. We found one retailer selling a pack of 10 of its own-brand fish fingers for £2.20 (£7.33 per kilogram). It also sold a pack of 30 for £7.00 (£7.78 per kilogram). The larger pack was 6% more expensive than the smaller pack in terms of unit price and neither of these were on promotion.
- 3.27 Another example was again found in toilet roll, where we have already noted in paragraphs 3.8 and 3.11 that sizes of rolls can vary, making comparisons based on selling price alone difficult. One retailer stocked a prominent brand in a pack of 16 rolls with 180 sheets per roll for £11.75 and a pack of 4 rolls with 360 sheets per roll for £4.70, neither of which were on promotion. A shopper following the rule of thumb that the largest pack, in this case 16 rolls, offers the best price would save money by checking the unit pricing information (price per 100 sheets): they would be better off buying two of the

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<sup>20</sup> See paragraph A.15 of the Appendix for detailed examples.

<sup>21</sup> For Laundry pods we have used unit price per pod, as this was most intuitive, however this is not specified in the PMO, grocery retailers normally unit price according to weight on Laundry pods

double roll 4-roll packs that provides the same number of overall sheets (with a unit price of 33p per 100 sheets) than the 16-roll pack (with a unit price of 41p per 100 sheets), a per unit saving of 20%.<sup>22</sup>

- 3.28 While the examples of higher unit prices for larger packs were relatively unusual, and our analysis found that bigger pack sizes often presented savings in terms of lower unit prices, we also found that the gains from trading up a pack size are not always consistent for each increase in pack size within a product range, between products and between retailers. Where this is the case, unit prices can help shoppers assess whether the additional savings per unit are worthwhile for them given any inconvenience they experience from purchasing a larger pack.
- 3.29 For example, for a leading brand of wheat biscuit cereal the average unit price of a 72-pack box was 10.5p per biscuit, compared with 16.8p per biscuit for a 12-pack box – a saving of almost 40% (see paragraph A.4); and for own-brand milk the average unit price of a 4 pint/2 litre carton was 68p per litre compared with £1.58 per litre for a 1 pint/500ml carton – a per unit saving of more than 50% (Figure A.2). But for a leading brand of washing up-liquid the average unit price of the largest bottle was £2.96 per litre compared with £3.13 per litre for the smallest (Figure A.1) - a per unit saving of only about 5%.<sup>23</sup>

### *Products on promotion are not always cheapest*

- 3.30 The CMA's wider work into the groceries sector indicates that cost reductions in the food supply chain for branded goods may be increasingly passed on to shoppers through promotional activity, as opposed to through reductions in list prices.<sup>24</sup> In fact, according to Kantar data all large grocery retailers have increased the proportion of sales through promotions compared to last year, with shoppers' spending on promotions reaching 27% of all grocery sales in October 2023 compared with less than 25% in October 2022.<sup>25</sup>
- 3.31 Our consumer research found that 'deal seeking' was a common behaviour among participants, and that promotional activity strongly influenced grocery purchases.<sup>26</sup> Participants followed a rule of thumb that promoted products were 'much better value' than similar products not on promotion and therefore

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<sup>22</sup> Each toilet roll in the 16 pack had 180 sheets whereas each toilet roll in the 4 pack had 360 sheets

<sup>23</sup> See paragraphs A.3 – A.14 of the Appendix for more detail and examples.

<sup>24</sup> [Price inflation and competition in food and grocery manufacturing and supply \(publishing.service.gov.uk\)](https://publishing.service.gov.uk), paragraph 24 (page 12) and paragraph 4.54 (page 56).

<sup>25</sup> [Grocery price inflation hits single digits for first time this year \(kantar.com\)](https://www.kantar.com)

<sup>26</sup> [CMA consumer research](https://www.cma.gov.uk), page 12 and 25.

looked out for deals, especially on branded goods. Often promotion information was the main consideration used by participants to assess 'value'.<sup>27</sup> We tested this rule of thumb using the data we collected from retailers, and our analysis is set out in detail in the Appendix Theme 2.

- 3.32 Our analysis found that products on promotion often had the cheapest price per unit.<sup>28</sup> However, we also found some examples where promoted products had an equal or more expensive unit price than alternative pack sizes which were not on promotion.<sup>29</sup> Some of these examples were found across more than one retailer, for example in laundry detergent pods and tea bags, and others related to a single retailer.
- 3.33 Although examples where products on promotion were not the cheapest option (per unit) were fairly unusual, our analysis found that it cannot be assumed that items on promotion will always have the cheapest unit price. Checking unit prices can help shoppers identify these exceptions and make savings – if such unit prices are displayed.
- 3.34 For example, we found that, despite there being a promotion in one retailer on the medium size of a branded ketchup (700g), a shopper could still save 30% in terms of unit price by buying the smaller 570g version or 12% by buying the larger 910g version in that retailer.<sup>30</sup>
- 3.35 This was also the case for a brand of laundry detergent sold in pod format.<sup>31</sup> Despite there being a promotion on the smallest size, making it £3.99 for 15 pods (27p per pod), a shopper could still save 15% in terms of unit price by buying the next size up which was not on promotion (32 pods for £7.25, or 23p per pod). While there was a different promotion on the largest size, making it £11.50 for 50 pods (23p per pod), this represented no saving in unit price compared to the pack of 32 pods not on promotion (also 23p per pod).
- 3.36 We found that this also extended to multi-buy promotions.<sup>32</sup> For example, in one retailer a multi-buy promotion was applied to the smallest pack of a branded mayonnaise in a plastic bottle. This resulted in a selling price of

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<sup>27</sup> 'Value' is defined in footnote 19. As noted there, this report focuses only on price differences (rather than quality differences) between products, and therefore does not refer to 'value'.

<sup>28</sup> For example when a discount was applied to a pack of 4x330ml beer cans it became around 12% cheaper (rather than 15% more expensive) per unit than a pack of 12x330ml cans not on promotion from the same brand (see paragraph A.22 and Figure A.5). Similarly, when a branded 540g bottle of mayonnaise was on promotion, it became 19% cheaper (rather than 22% more expensive) per unit than the 775g bottle not on promotion (see paragraph A.23 and Figure A.6). See paragraph A.22 – A.24 of the Appendix for further detail and examples.

<sup>29</sup> See paragraphs A.26 – A.30 of the Appendix for detailed examples.

<sup>30</sup> See Figure A.7 in the Appendix for details.

<sup>31</sup> See Figure A.9 in the Appendix for more detail.

<sup>32</sup> See paragraphs A.32 – A.35 of the Appendix for details.

£3.00 for two 215g bottles (ie 430g of mayonnaise), and a unit price of 70p per 100g. It was around 26% cheaper in terms of the unit price to buy the bigger plastic bottles (540g or 775g) instead of the multi-buy.

### **Some retailer practices can prevent shoppers getting the most out of using unit pricing to compare some product prices.**

3.37 While unit prices can help shoppers make savings, we note that retailers' differing practices can create barriers to using unit prices to make comparisons between some products. Many of these could be overcome by changes to retailers' practices.

#### ***Retailers sometimes used different units for the unit price within a product range***

3.38 We found inconsistencies in the data we collected in terms of the unit measurements used to display unit prices across brands, pack sizes and packaging formats in a product range (eg loose and pre-packed fruit and vegetables, or plastic bottles versus glass jars). This can make it difficult to compare the different options and prevent shoppers from being able to identify the product with the lowest unit price.

3.39 For example, when sold in glass jars all retailers unit priced a popular mayonnaise by weight and the unit prices were given per 100g or per kilogram. However, of the nine retailers who sold it in plastic bottles, seven unit priced this product by volume rather than weight and the unit price was given per 100ml. For these seven retailers, it would likely be difficult to compare the prices of the mayonnaise sold in glass jars with the prices when sold in plastic bottles. The other two retailers unit priced some mayonnaise in plastic bottles in terms of weight and others in terms of volume. In these two retailers it would likely be difficult to compare the prices of two different pack sizes, despite them being the same product in the same type of container. We also saw an example where the size of a plastic bottle was given in grams, but the unit price was given by volume (per 100ml).<sup>33</sup>

3.40 Likewise, the unit prices for many fresh fruit and vegetables were not comparable across loose and pre-packed versions as one was priced per kilogram while the other was priced per item. For example, among the eight retailers for which we obtained data for loose and pre-packed bananas, only two unit priced their loose and pre-packed bananas in consistent units. In the

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<sup>33</sup> To compare mayonnaise products in this report we used product label information to convert all pack size and unit pricing information to be in terms of weight.



other retailers, one option was unit priced per kilogram and the other was unit priced per banana.<sup>34</sup> When products are unit priced in this way, shoppers are not easily able to make comparisons to identify the cheapest product per unit before reaching the check-out. Instead, they would need to take additional steps, such as weighing the loose products and printing a price label. This is only possible when shopping in-store at a location with weighing scales available on the shop floor.

- 3.41 Unit pricing information was also inconsistent across tinned tuna products in water in several retailers. Unit prices for some items were displayed as a price per 100g based on the drained weight, while others were displayed as a price per 100g based on the undrained total weight. This inconsistency was seen both across brands and within the same brand. For example, in one retailer the unit price of a branded three-pack of 80g tins was calculated using the drained weight, whereas the unit price was calculated using the undrained weight for a single 145g tin from the same brand. These unit prices are not comparable and mean that a shopper would be unable to tell which option was cheaper per unit.

### ***Unit prices are not always given for products on promotion***

- 3.42 During our compliance review, published in July 2023, we identified that some grocery retailers were not always displaying unit prices for promoted products.<sup>35</sup> The review found that promotional unit prices were displayed for price reduction promotions, whereas the unit price displayed for multi-buy promotions and loyalty card discounts by some retailers referred to the original or single selling price. If a promotional unit price is not displayed, shoppers cannot easily compare items on promotion with alternative products.
- 3.43 Our consumer research found that promotions strongly influence shopping behaviour. However, our price analysis suggests that products on promotion are not always the cheapest per unit. Displaying promotional unit prices for all promotions can help shoppers to identify the product with the cheapest price per unit and make savings. This therefore reinforces our earlier recommendation to UK Government set out in the compliance review report that the appropriate legislation should be amended to ensure promotional unit prices are displayed wherever feasible.<sup>36</sup>

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<sup>34</sup> See paragraph A.39 of the Appendix for more detail.

<sup>35</sup> [CMA Review of unit pricing in the groceries sector \(publishing.service.gov.uk\)](#) page 25 – 27

<sup>36</sup> [CMA Review of unit pricing in the groceries sector \(publishing.service.gov.uk\)](#) page 29, paragraphs 114 and

### ***Barriers when shopping online***

- 3.44 When shopping online for a particular item, it is possible to see unit prices for different brands and different pack sizes. But the 'sort' function to order the products (e.g. by price from low to high) generally only allows shoppers to sort by selling price, and not by unit price.<sup>37</sup> This can create a barrier to the use of unit pricing.
- 3.45 We also note that when shopping for regularly bought items, or 'favourites', the shopper will not see comparable goods, so unit pricing is less likely to be used.

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<sup>37</sup> [CMA Review of unit pricing in the groceries sector \(publishing.service.gov.uk\)](https://publishing.service.gov.uk) page 32, paragraph 127

## 4. Conclusion

- 4.1 Consumer research carried out on behalf of the CMA<sup>38</sup> suggests many shoppers do not regularly use, or may not even be aware of, unit pricing. Shoppers may instead rely on ‘rules of thumb’. This work sought to examine to what extent it is possible to make savings by using unit pricing during grocery shopping. We also sought to test some of these ‘rules of thumb’ that shoppers may be using on the products in our basket.
- 4.2 We found that unit pricing can help shoppers make savings on their shopping in two key ways.
- 4.3 Firstly, unit pricing can help shoppers make savings by enabling them to identify which item has the cheapest unit price within a range of products. If a shopper were to use the selling price to make comparisons, they would have to carry out mental calculations to account for differences in pack size. Therefore, we found unit pricing to be a particularly useful tool for shoppers to identify savings in situations where these mental calculations could be time-consuming. As mentioned in section 3, this includes situations such as:
- When comparing loose and pre-packed fruit and vegetables.
  - Where there is a lot of variation in pack sizes within or across brands eg toilet rolls.
  - Where pack sizes are not simple multiples of each other eg tinned baked beans and chopped tomatoes, cheddar cheese, and fish fingers, as opposed to items that come in more standardised packaging such as pasta and rice.
  - Where there is a mixture of pack sizes and promotions.
- 4.4 Secondly, unit pricing can help shoppers make savings by offering them an alternative to relying on rules of thumb to work out which item has the cheapest price per unit when considering a range of products. Our analysis found that these rules of thumb are not always correct. Unit pricing offers shoppers an alternative and accurate way to make comparisons between products which can lead to savings.
- 4.5 For the basket of products that we considered, we found that trading up a pack size generally led to unit price savings but not always, which reinforces the usefulness to shoppers of using unit pricing over rules of thumb. We

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<sup>38</sup> [CMA consumer research](#)

acknowledge however that buying a larger pack size will not be an option for all shoppers and in all situations.

- 4.6 We saw that the savings per unit from trading up a pack size were not always equal for each increase in pack size. For certain items there were large per unit savings from sizing up from the smallest pack, such as milk and small tins of baked beans and chopped tomatoes. Unit price savings from moving up a pack size may differ across products. For example, much larger unit price savings could be made by buying the largest pack instead of the smallest pack in branded wheat biscuits than in branded washing up liquid. We also saw that the unit price savings from moving up a pack size can differ across retailers.
- 4.7 Sometimes the savings in unit price from trading up were not very significant, but we also found some examples where larger pack sizes were *more expensive* on a unit pricing basis. These included tea bags, cheddar cheese, toilet rolls and tinned tomatoes. Unit prices can help shoppers compare products and identify the cheapest option per unit by accounting for differences in pack size.
- 4.8 The consumer research found that promotions heavily influence shopping decisions. However, our analysis of the basket of goods indicates that while promoted products often have a cheaper unit price, this is not always the case particularly when promotions apply only to one pack size of a product. We found some examples of packs on promotion that were more expensive on a unit price basis than other sized packs in ketchup and laundry detergent. We also found examples where products on multi-buy offers were still more expensive on a unit price basis than a different pack size that was not on offer, such as for mayonnaise. This makes unit pricing a really useful tool to shoppers when assessing promotions where these apply to individual pack sizes rather than all pack sizes in a range.
- 4.9 In our basket of products we found that there was little consistency across products and across retailers as to whether pre-packed or loose fresh fruit and vegetables were cheaper per unit. For example, loose onions were cheaper per unit than pre-packed in one retailer but more expensive in another, and in other retailers the two options were priced equally; whereas loose carrots were cheaper per unit than a 500g pre-packed bag in all retailers and often (but not always) cheaper per unit than a 1kg pre-packed bag of carrots. Therefore, there is no rule of thumb or shortcut to determine which format is cheaper per unit across every product in each retailer. Comparing unit prices can help shoppers identify the cheapest option per unit and make savings on different fruit and vegetables in each retailer they use.

4.10 However, we note that retailers' practices can create barriers to using unit pricing in some situations.

- In our basket of products we found that unit prices were not always in a comparable format for all items in a product range. This can make on the spot comparisons between products impossible.
  - Loose and pre-packed fresh fruit and vegetables were often not unit priced comparably. For instance, loose bananas were often unit priced per kilogram, whereas pre-packed bananas were often unit priced per item.
  - Unit prices for mayonnaise were often not comparable across all products. Some packs were unit priced per 100g or per kilogram while others were unit priced per 100ml.
  - Tins of tuna were not always unit priced comparably. Some packs were unit priced per 100g of drained weight while others were unit priced per 100g of undrained weight.
- Promotion unit prices are not always displayed.
- When shopping online for regularly bought items, or 'favourites', the shopper does not see comparable goods or their unit prices. In addition, the 'sort' function to order the products, e.g. by price from low to high, generally only allows shoppers to sort by selling price, and not by unit price.<sup>39</sup>

4.11 Overall, we conclude that a small change in behaviour, in terms of paying greater attention to unit prices, could help shoppers save money on their grocery shopping. Retailers can help shoppers achieve this by improving consistency and comparability of the unit prices they display.

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<sup>39</sup> [CMA Review of unit pricing in the groceries sector \(publishing.service.gov.uk\)](https://publishing.service.gov.uk) paragraph 86

## Appendix A: More detailed examples from our analysis of retailer data

A.1 In this appendix we set out a more comprehensive set of examples from our analysis of the retailers' data. These examples inform our results and conclusions as set out in sections 3 and 4 of this report. Unless stated otherwise, the prices in this section all refer to prices in the retailers' main large stores and online.<sup>40</sup>

### Theme 1: Trading up a pack size

A.2 Our consumer research found that many shoppers follow the rule of thumb that bigger pack sizes offer cheaper prices per unit. To test this, we compared the standard unit price for different sizes of the same product available in the same channel of a grocery retailer.<sup>41</sup> For example, we compared prices within main stores for each retailer, and separately we compared each retailer's prices when buying online.

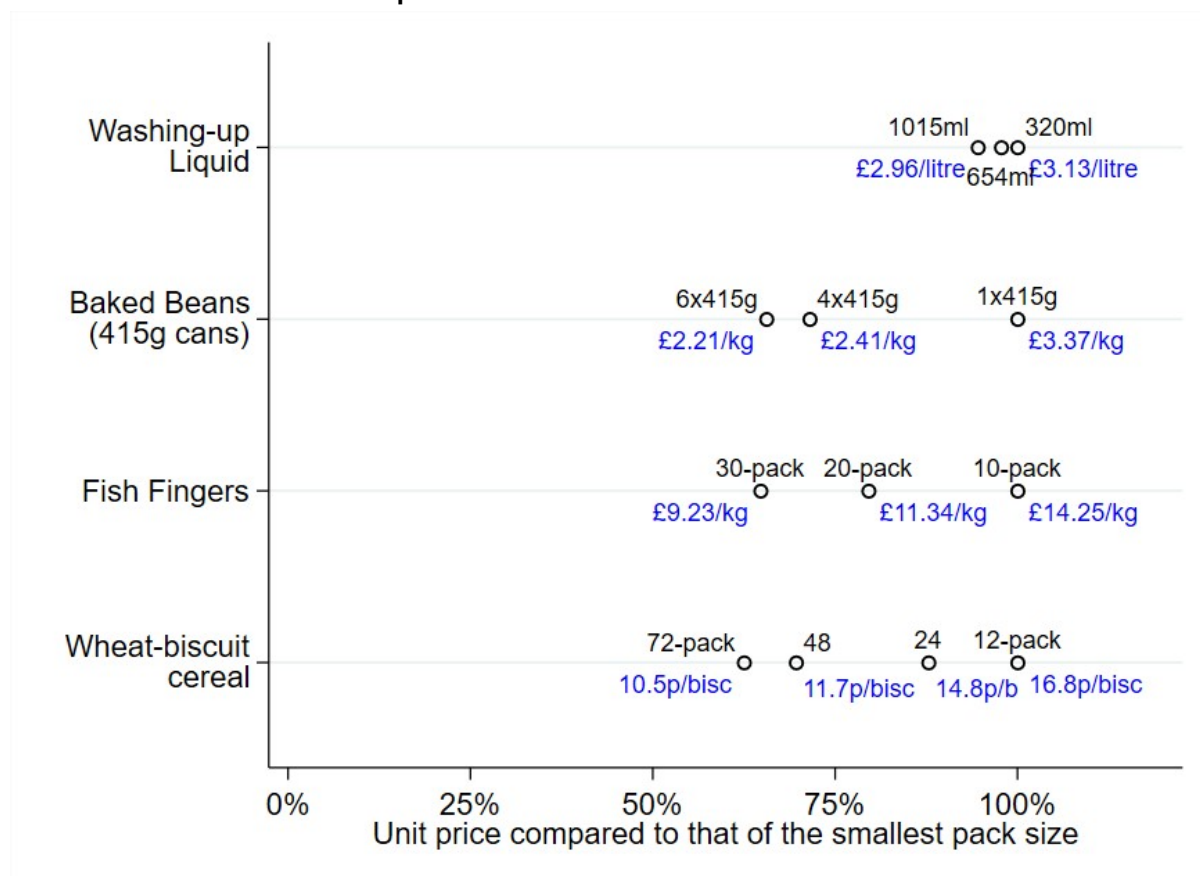
A.3 **We found a number of examples where buying a product in a larger size reduced the unit price paid by the shopper**, and Figure A.1 shows how the unit prices of four popular branded products varied by pack size. The prices of these products did not tend to vary much between retailers, so these average unit prices can be regarded as 'typical' unit prices.

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<sup>40</sup> We do not cover prices in convenience stores or petrol stations because the limited range of products did not facilitate comparison.

<sup>41</sup> When looking at trading up pack sizes we do not discuss promotions unless stated explicitly. We looked separately at promotions.

**Figure A.1: Median unit prices of branded products (main stores) – by pack size. Unit price shown relative to the smallest pack size**



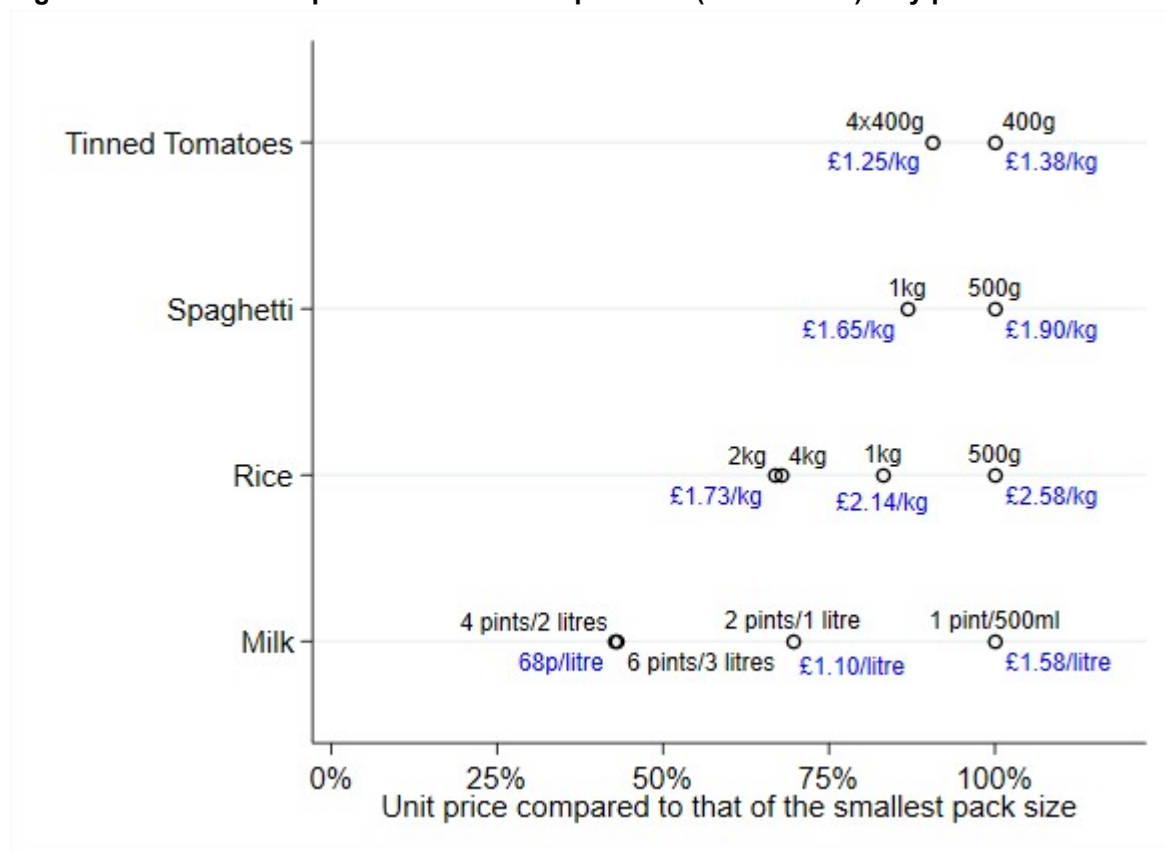
Notes: (i) Brand names have been omitted. (ii) The baked beans are also sold in smaller tins (200g or smaller). These have been excluded. (iii) The wheat-biscuit cereal is also sold in packs of 36 biscuits. These are not widely available and so have not been included in the graph.

Source for all charts in this Appendix: CMA analysis of retailer responses to the CMA's Request for Information (RFI).

- A.4 For a leading brand of wheat biscuit cereal, moving up a pack size resulted in unit price savings of just over 10% when replacing a 12-biscuit pack with a 24-biscuit pack; but very large unit price savings were possible when moving to larger pack sizes. The average price of a 72-pack box was the equivalent of 10.5p per biscuit, compared with 16.8p per biscuit for the 12-pack box. This is a saving of almost 40% in terms of the unit price.
- A.5 The graph shows that similar percentage unit price savings were possible when moving up from a prominent brand's pack of 10 fish fingers to a 20- or 30-pack box, and from a standard 415g tins of branded baked beans to a pack of four or six.
- A.6 However, the graph also shows that much smaller savings (in terms of price per unit) were achievable from changing pack size in a leading brand of washing up liquid. The unit price of the largest 1,015ml bottle was only slightly (5%) less than that of the smallest (320ml) bottle, despite there being a big difference in pack size. This shows that moving up a pack size will not always lead to large unit price savings.

- A.7 Unit pricing is particularly useful in the washing up liquid example as it is sold in irregular bottle sizes (320ml, 654ml etc). This makes it much harder to make a comparison without using unit pricing, compared to other products which generally come in standard sized packages such as pasta or rice.
- A.8 Figure A.2 shows the equivalent information for some own-brand products. The prices of own-brand rice, spaghetti, tinned tomatoes and milk tended not to vary much between retailers, so the average unit prices can be regarded as 'typical' unit prices.
- A.9 The spread of points shows that **the magnitude of the unit price savings possible by moving up pack sizes varied across products**. Shoppers could make savings of about 10-15% on the price per unit if they replaced a 500g pack of own-brand spaghetti or rice with a 1kg pack, or a single 400g tin of tomatoes with a pack of four. Larger unit price savings (around 30%) were possible when a 500g pack of rice was replaced by a 2kg or 4kg pack. But much larger unit price savings were possible when switching from a 1-pint/500ml carton of milk to a 4-pint/2 litre carton. In this case the saving was almost 60%, though we note that no additional savings in terms of unit price could be made by moving up to a 6-pint/3-litre carton.

**Figure A.2: Median unit prices of own-brand products (main stores) – by pack size**

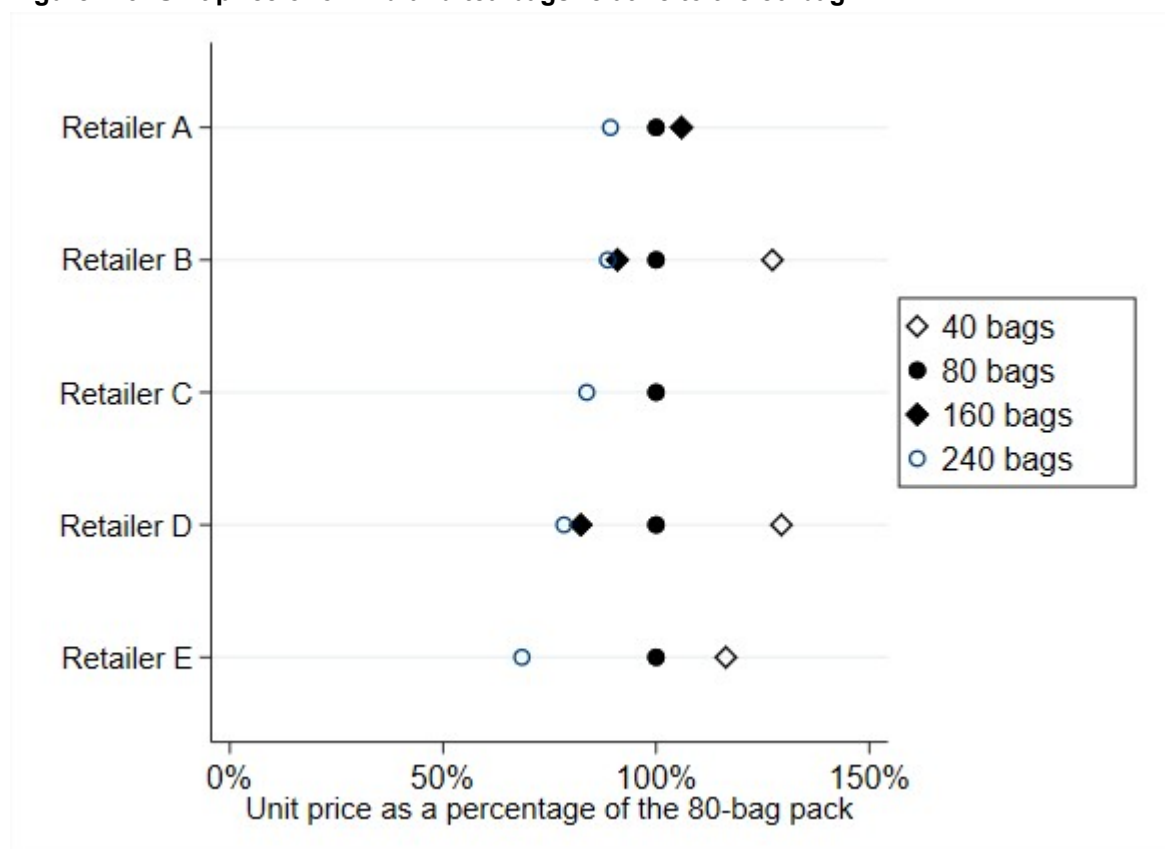


*Note: Retailers also sell small tins of chopped tomatoes (220g and 227g tins). These are not included.*



- A.10 **In the examples above, buying larger packs would lead to savings in the price per unit.** The biggest savings we found were in milk (replacing a 1-pint carton of milk with a 4-pint carton). Being a perishable product, this might not be relevant to smaller households.
- A.11 **For tinned goods, we found examples where the very smallest tins had particularly high unit prices.** We saw, for example, very large gains when moving up from the very smallest tin of baked beans or tomatoes, For example:
- Among the five retailers who sold both a small tin (220g-230g) of own-brand chopped tomatoes and a standard 400g tin, the average unit price of the small tin was 45% higher than that of the 400g tin.
  - Among the six retailers who sold both a 200g and a 415g tin of a leading brand of baked beans, the average unit price of the 200g tin was almost 50% higher than that of the 415g tin.
- A.12 **Also gains in trading up are not always consistent as you move up pack sizes.** In both of the examples in paragraph A.11, the smaller tin has a considerably higher unit price than the standard-size tin, and moving up to buy the standard size would lead to very large unit price savings. However, as shown in Figure A.1 and Figure A.2, moving up to buy the next largest pack (a pack of 4 standard-sized tins) results in smaller savings per unit (about 10% for chopped tomatoes, and about 30% for the branded baked beans).
- A.13 Similarly, Figure A.2 shows large gains are possible when moving up from a 1-pint carton of milk to a 2- or 4-pint carton. But moving up from a large to a very large pack of rice (Figure A.2) or tea bags (see Figure A.3, below) may lead to very small gains – or can even cost more.
- A.14 For tea bags (Figure A.3), larger boxes usually had a lower unit price than that of the standard 80-bag box, though the possible unit price savings varied among the retailers. In one retailer (retailer E in Figure A.3) the 240-bag box had a unit price 31% lower than that of the 80-bag box, but for others (A and B) the unit price saving was only 11%. For one retailer (A) the unit price of a box of 160 own-brand tea bags was actually *higher* than that of an 80-bag box (around 6% higher).

Figure A.3: Unit price of own-brand tea bags relative to the 80-bag



Note: Prices are retailers' standard prices for own-brand tea bags not on promotion.

A.15 **We found a number of other examples where buying a product in a larger pack would result in the shopper paying a higher unit price:**

- Toilet rolls
  - One retailer priced a pack of 6 toilet rolls of 360 sheets from a leading brand at £9.25 (43p per 100 sheets). But a smaller pack from the same brand containing 4 rolls of 360 sheets was only £4.70, or 33p per 100 sheets. This smaller pack was cheaper per unit, saving 23% on the unit price.
  - Another retailer sold a pack of 24 toilet rolls with 180 sheets per roll and a pack of 12 rolls with 360 sheets per roll from the same brand. These two had the same number of sheets (4,320 in total) but the first had a selling price of £15.60 (36p per 100 sheets) and the second of £17.30 (40p per 100 sheets). Therefore, the pack of 12 rolls was had a unit price that was 11% higher than the 24-roll pack despite having exactly the same number of sheets.
  - A third retailer sold three pack sizes of toilet rolls (4, 9 and 12 rolls) with 190 sheets per roll from another leading brand. A pack of four rolls was priced at £3.15 (41p per 100 sheets), a pack of nine rolls cost £5.00

(29p per 100 sheets), and a pack of 12 rolls cost £8.25 (36p per 100 sheets). The largest pack (of 12 rolls) had a unit price 24% higher than the pack of nine rolls, although both had a lower unit price than the smallest pack size.

- Cheddar cheese
  - One retailer sold a 350g pack of a brand of cheddar cheese for £3.15 (a unit price of £9.00 per kilogram). The 550g pack from the same brand had a selling price of £5.50, corresponding to a higher unit price of £10.00 per kilogram, 11% more expensive than the unit price of the 350g pack.
  - Another retailer sold the same two packs of this cheese at £3.25 and £5.40. These correspond to unit prices of £9.23 and £9.82 per kilogram. Again, the larger pack had a higher unit price, costing around 6% more.
- Laundry detergent pods<sup>42</sup>
  - One retailer sold three pack sizes of laundry detergent pods from a leading brand. A pack of 13 pods was sold at £4.50 (35p per pod), a pack of 25 pods at £7.00 (28p per pod), and a pack of 33 pods at £10.00 (30p per pod). The largest pack had a more expensive price per unit than the medium sized pack, by around 8%.
  - Another retailer stocked five pack sizes of laundry detergent pods from another leading brand. They sold a pack of 15 pods for £5.50 (37p per pod), a pack of 32 pods for £9.00 (28p per pod), a pack of 40 pods for £9.50 (24p per pod), a pack of 50 pods for £12.00 (24p per pod), and a pack of 100 pods for £26.00 (26p per pod). It was cheapest per unit to buy either a pack of 40 or 50 pods, saving around 8% compared to the largest pack size.
  - A third retailer sold two packs of own-brand laundry detergent pods. A pack of 20 pods had a selling price of £3.25 (16p per pod) and a pack of 36 pods was priced at £7.75 (22p per pod). The larger pack was over 30% more expensive by unit price.
- Frozen and tinned goods

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<sup>42</sup> For Laundry pods we have used unit price per pod, as this was most intuitive, however this is not specified in the PMO, grocery retailers normally unit price according to weight on laundry pods.

- One retailer sold two pack sizes of own-brand frozen fish fingers: a pack of 10 and a pack of 30. The smaller pack had a selling price of £2.20 (£7.33 per kilogram) whereas the larger pack cost £7.00 (£7.78 per kilogram). The larger pack therefore had a 6% more expensive unit price.
- Another retailer sold three pack sizes of own-brand tinned tuna in water. A 145g tin was sold at 80p (78p per 100g drained), a 400g tin cost £2.25 (80p per 100g drained) and a pack of three 80g tins cost £2.10 (£1.25 per 100g drained). The smallest pack overall (a single 145g tin) had the cheapest unit price, saving 2.5% compared to the 400g tin and 38% compared to the pack of three 80g tins.
- Chopped tomatoes from a leading brand were usually sold as single 400g tins or in packs of four 400g tins. But we saw one example where a retailer sold a pack of 12 tins for £15.00 (31.3p per 100g). The same retailer priced a single tin at £1.00 (25.0p per 100g). Therefore, despite being a significantly larger pack size, the pack of 12 branded tins had a unit price 25% higher than that of the individual tin.
- Mayonnaise
  - One retailer sold four pack sizes from a leading brand of mayonnaise in plastic bottles. A 235g bottle had a selling price of £2.00 (85.1p per 100g), a 404g bottle was sold for £2.65 (65.6p per 100g), a 545g bottle cost £3.00 (55p per 100g), and a 705g bottle cost £3.90 (55.3p per 100g). The largest pack size was therefore slightly more expensive per unit than the 545g pack.
  - Another retailer sold two pack sizes from the same brand of mayonnaise in glass jars. The 400g jar cost £2.40 (60p per 100g) and the 600g jar cost £3.75 (62.5p per 100g). The larger size therefore had a 4% more expensive unit price.
  - The same retailer sold three pack sizes from another leading brand of mayonnaise in plastic bottles. A 215g bottle had a selling price of £2.30 (107p per 100g), a 540g bottle was priced at £2.50 (46.3p per 100g), and a 775g bottle was £4.00 (51.6p per 100g). In terms of unit price, the largest pack size was 11% more expensive than the 540g bottle.
- Beer
  - One retailer stocked four multi-packs of lager in 440ml cans from a prominent brand. A pack of four cans had a selling price of £4.55 (£2.59 per litre), a pack of 10 cans was priced at £9.50 (£2.16 per litre),

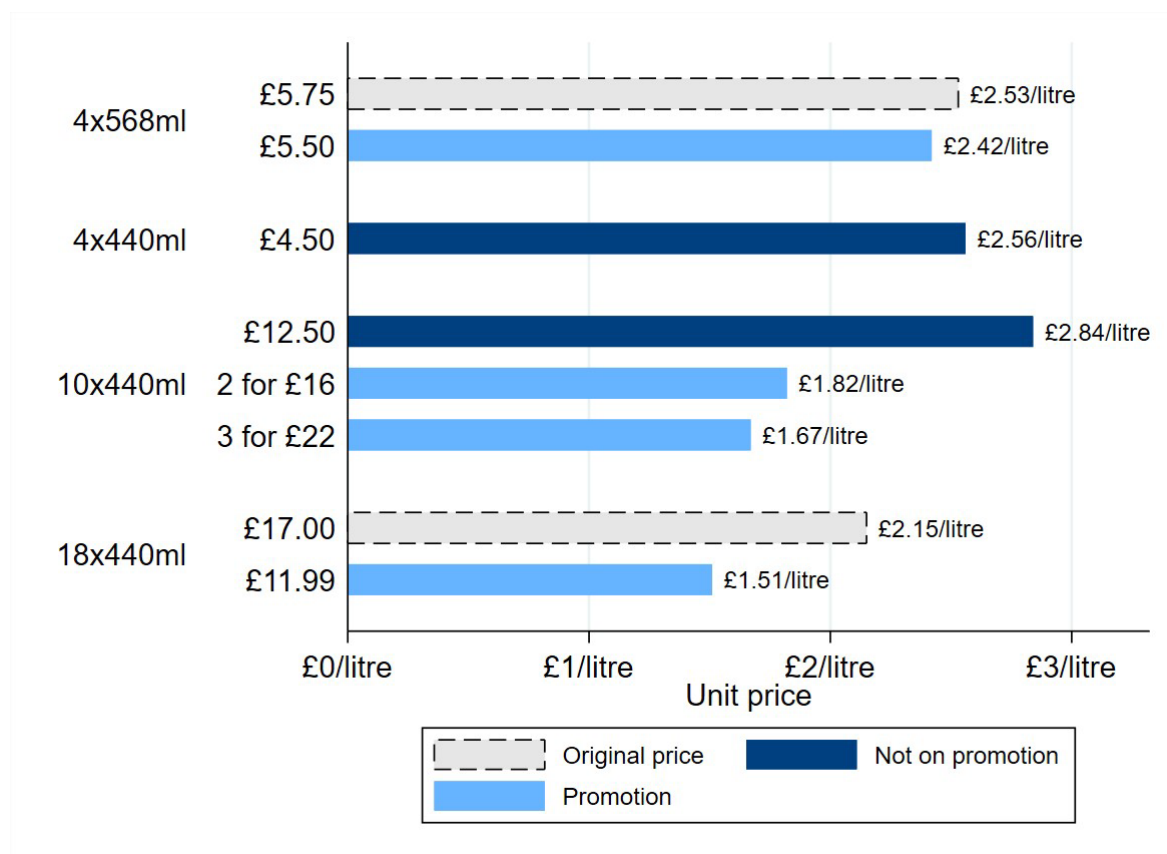
a pack of 12 cans cost £9.00 (£1.70 per litre), and a pack of 18 cans cost £15.99 (£2.02 per litre). The pack of 12 cans has the cheapest overall unit price, saving 16% compared to the largest size (18 cans).

- A second retailer sold various multi-packs of lager cans from another prominent brand. A pack of four 440ml cans had a selling price of £5.00 (£2.84 per litre), a pack of six 330ml cans was priced at £6.50 (£2.86 per litre), a pack of four 568ml (one pint) cans also had a selling price of £6.50 (£3.28 per litre), and a pack of ten 440ml cans cost £13.00 (£2.95 per litre). The multi-pack with the smallest total amount of lager (four 440ml cans) had the cheapest unit price, saving 4% compared to the pack with the largest overall volume (ten 440ml cans).
- Another retailer stocked various multi-packs of lager in glass bottles from a different prominent brand. The smallest pack, containing six 330ml bottles, had a selling price of £5.75 (£2.90 per litre); the mid-sized pack of four 568ml (one pint) bottles was sold at £5.85 (£2.57 per litre); and the largest pack, containing 12 330ml bottles, cost £12.00 (£3.03 per litre). The largest pack had the most expensive price per unit of the options, 4.5% higher than that of the smallest pack of six 330ml bottles and 18% greater compared to the mid-sized pack of four one-pint bottles.

- A.16 Unit pricing is of most use where goods are in packs of irregular sizes, and we have found many examples where this is useful. For example, one retailer sold a leading brand of beer in different can sizes (either 440ml or 568ml (one pint)) and had varying numbers of cans per pack (either 4, 10 or 18). This makes it difficult to compare directly using selling prices.
- A.17 Figure A.4 below, shows the beer was sold in four different pack sizes, but there were also four different promotions (the light blue lines). Two of these promotions are simple discounts, but two (“2 for £16” and “2 for £22”) were multibuys involving buying larger quantities.
- A.18 Concerning the products not on promotion: without unit pricing it is difficult to compare a pack of four 568ml (1 pint) cans with ten 440ml cans. Shoppers relying on the rule-of-thumb that larger packs offer a better price per item than smaller packs might assume that the ten-pack of 440ml cans has a cheaper price per item than the four-pack. But unit pricing shows that this is not true. The ten-pack (£2.84/litre when bought as a single pack and not on a multipack offer) had an 11% higher unit price than the four-pack of 440ml cans (£2.56/litre), and a 12% higher unit price than the four-pack of 568ml cans (£2.53/litre).

A.19 Taking promotions into consideration: shoppers might assume that the largest pack size (or multibuy) (3x10x440ml) will have the lowest unit price. In fact, its unit price (£1.67 per litre) is about 10% higher than the unit price of an 18x440ml pack (£1.51 per litre).

**Figure A.4: Unit price of cans of a brand of lager – various pack sizes and promotions [retailer X]**



*Note: Retailers are anonymised. Retailer X in Figure A.4 will not necessarily correspond to retailer X in other Figures in this report.*

A.20 In this example there was a wide range of unit prices, from £1.51 per litre to £2.84 per litre. Without having the unit price information, it is difficult to compare the prices of packs of 568ml cans with packs of 440ml cans, or to compare packs with different numbers of cans.

## Theme 2: Promotions

A.21 Our consumer research found that many shoppers follow the rule of thumb that products on promotion are 'better value' than similar products not on

promotion when grocery shopping.<sup>43</sup> To test the accuracy of this, we explored whether products on promotion tended to have a lower unit price than other sizes of the product not on promotion. We compared the standard and promotion unit prices across all sizes of a product available in the same channel of a grocery retailer.<sup>44</sup>

A.22 In our basket of products, **we found examples where items on promotion were the cheapest option across all pack sizes in terms of unit price.** For instance, one retailer stocked three multi-pack sizes from a prominent brand of lager in 330ml glass bottles in large stores and online.<sup>45</sup> When none of these were on promotion, the unit price decreased as pack size increased. As shown in Figure A.5 below, when a discount was applied to the smallest pack size, which reduced its unit price by 23%, it became cheaper in terms of unit price to buy this pack than to buy either of the larger sizes. Additionally, when a promotion was also applied to the largest pack size, this was the cheapest option per unit.

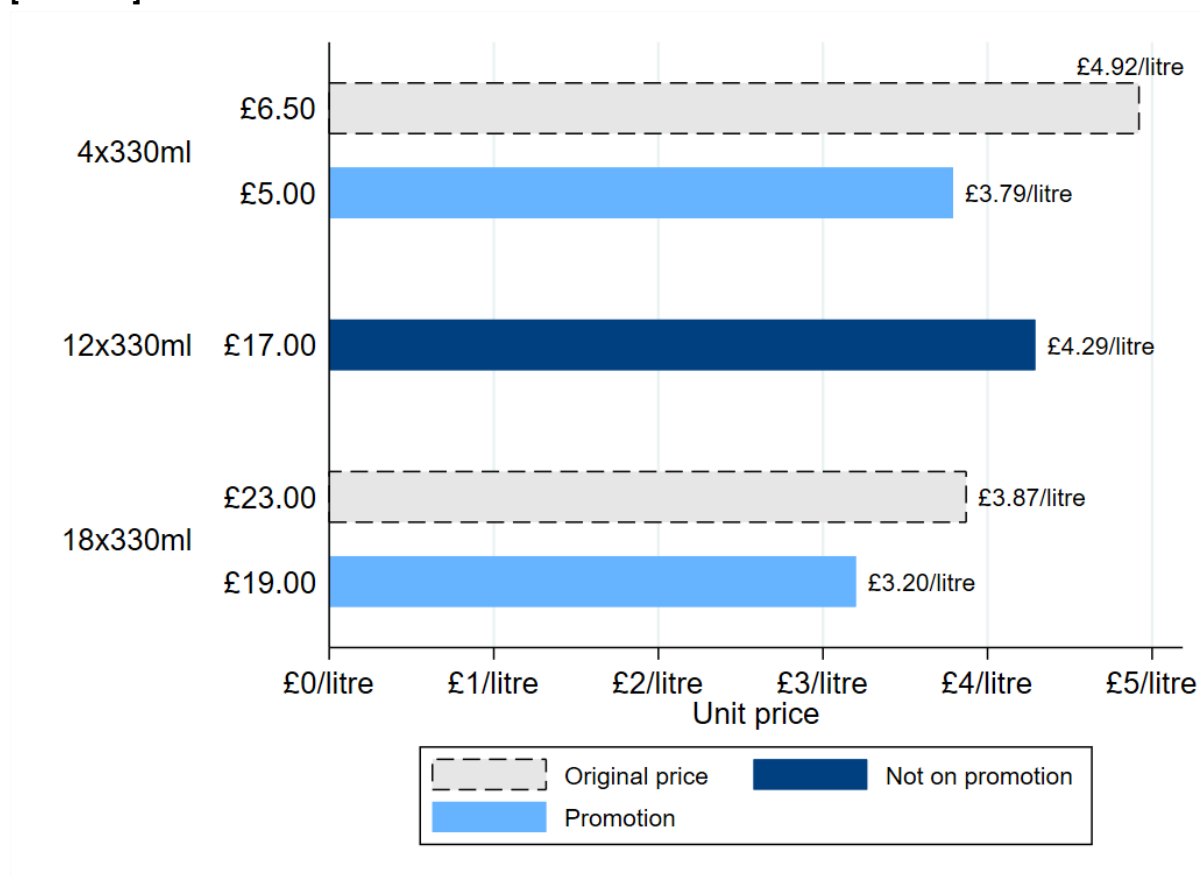
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<sup>43</sup> 'Value' is defined in footnote 19. As noted there, this report focuses only on price differences (rather than quality differences) between products, and therefore does not refer to 'value'.

<sup>44</sup> For each retailer we compared main store non-promotion prices with the same retailer's main store promotion prices. We also compared online non-promotion prices with the same retailer's online promotion prices for all retailers with an online offering.

<sup>45</sup> The smallest size was a pack of four 330ml bottles, followed by a pack of twelve 330ml bottles and the largest size was a pack of eighteen 330ml bottles.

**Figure A.5: Unit prices of a brand of lager (bottles) – various pack sizes and promotions [retailer X]**



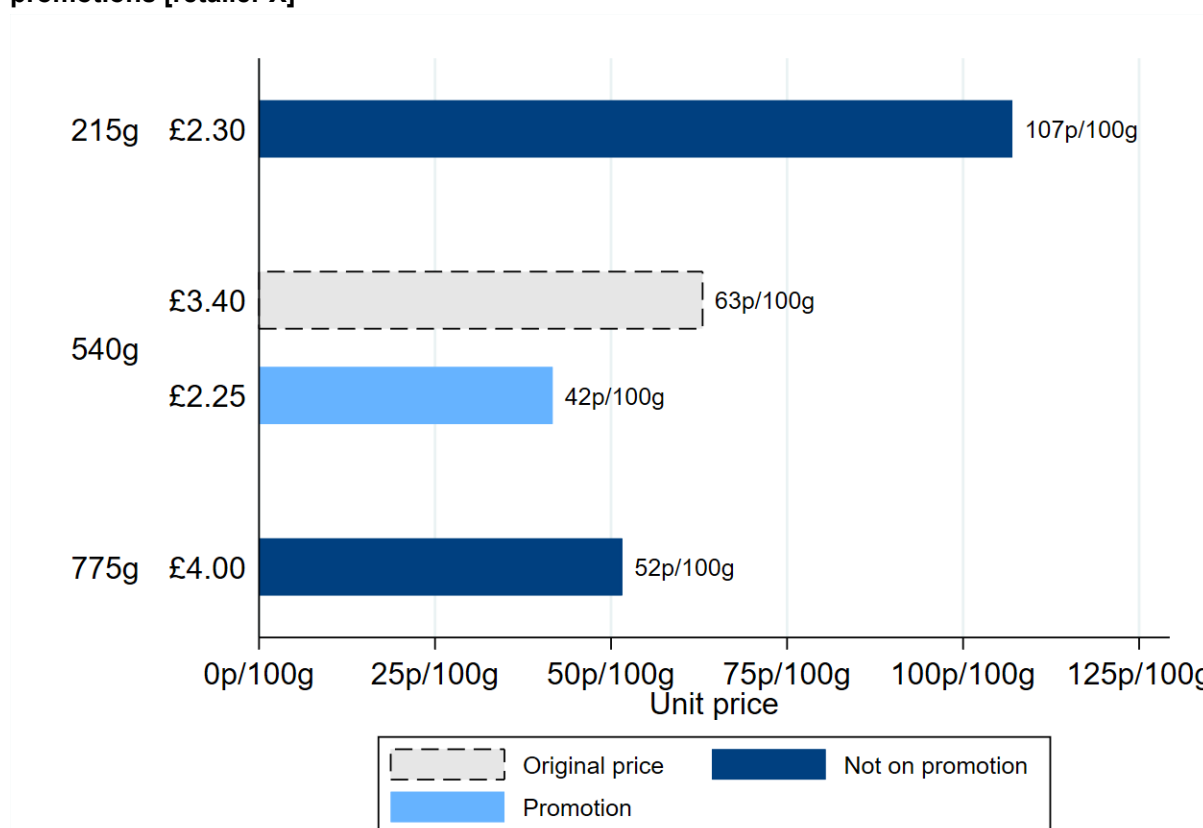
*Note: The product was also available in a 660ml bottle and in other sizes when canned. These have been excluded.*

A.23 Similarly, another retailer stocked three pack sizes from a leading brand of mayonnaise in plastic bottles in their large stores and online.<sup>46</sup> Selling and unit pricing information, including promotions, is displayed for these in Figure A.6 below. When none of these were on promotion, the unit price (price per 100g) decreased as the pack size increased. The smallest pack had a 70% higher unit price than the medium size, and the medium size had a 21% higher unit price than the largest pack. When we considered a discount on the medium sized product, it had a 19% lower unit price than the largest pack size.

<sup>46</sup> The smallest size was a 215g bottle, the medium size was a 540g bottle and the largest size was a 775g bottle.



**Figure A.6: Unit prices of a brand of mayonnaise in plastic bottles – various pack sizes and promotions [retailer X]**



A.24 We found promotions had a similar effect on the relative unit prices of different pack sizes in many other products, such as branded chocolate digestives sold online by another retailer. The smallest pack size (266g) had a 5% higher unit price than the largest (2x316g) without a promotion, whereas when the smallest pack was discounted its unit price was 14% lower than the largest pack size.

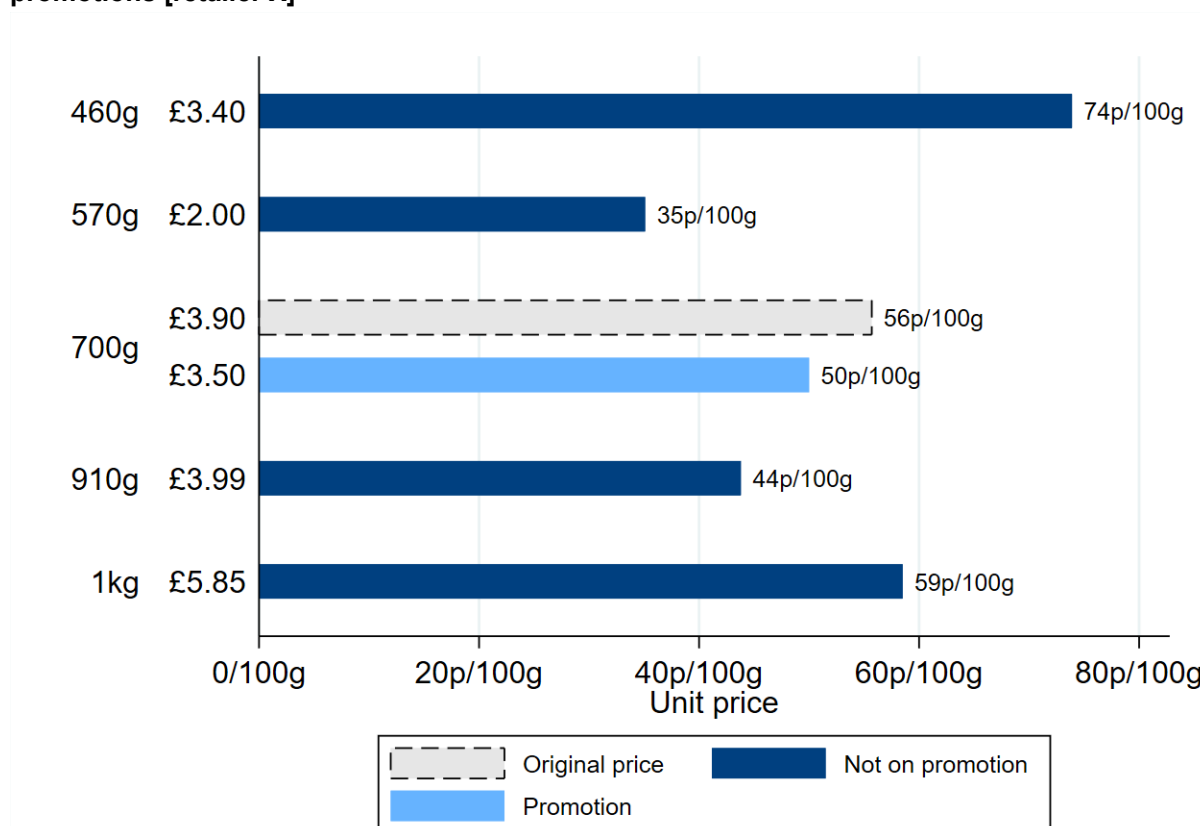
A.25 However, **we also found examples where a product in one pack size remained the cheapest option, or no more expensive, in terms of unit price, despite there being a promotion on another pack size.** Sometimes it was the largest pack size that remained the cheapest by unit price, but not in all cases.

A.26 For example, one retailer stocked five sizes of a leading brand of ketchup in plastic bottles in large stores and online.<sup>47</sup> Unlike a number of other products, on the date we captured the pricing data the unit price (price per 100 grams) did not decrease as pack size increased when none of these were on promotion, as shown in Figure A.7 below. The second smallest pack

<sup>47</sup> The smallest size was a 460g bottle, followed by a 570g bottle, a 700g bottle, a 910g bottle, and the largest size was a 1kg bottle.

(570g) had the cheapest unit price, followed by the second largest pack (910g). The smallest pack size (460g) had the most expensive unit price, and the largest pack size (1kg) had the second most expensive unit price. The medium size pack (700g) had a unit price in the middle of these other sizes. Figure A.7 shows that, when the unit price of the medium pack size was discounted by around 10%, it remained the third cheapest option by unit price. It was still cheaper in terms of unit price to buy the second largest size (12% cheaper) or the second smallest size (30% cheaper) than the size on promotion.

**Figure A.7: Unit prices of a brand of ketchup in plastic bottles – various pack sizes and promotions [retailer X]**

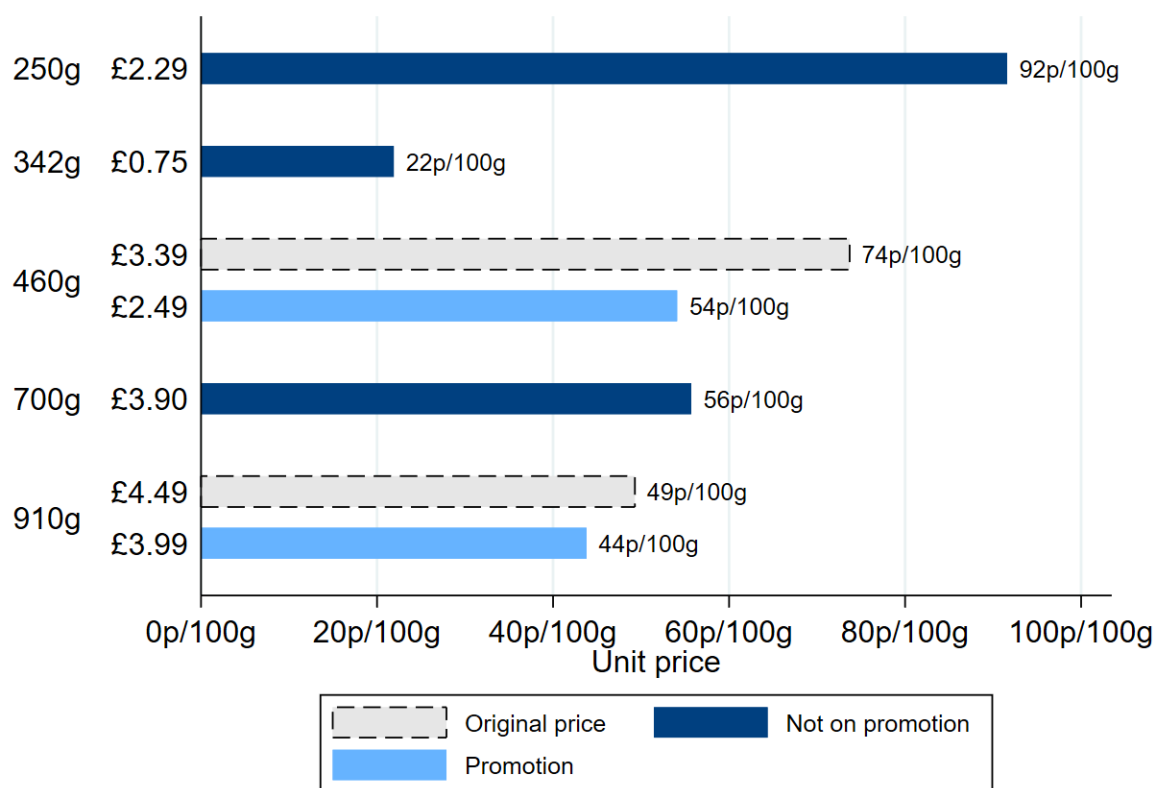


*Note: The product was also available in one size in a glass bottle (342g). This has been excluded.*

**A.27** Another retailer sold five pack sizes from the same brand of ketchup in plastic bottles online and in large stores. A 250g bottle had a selling price of £2.29 (92p per 100g), a 342g bottle was priced significantly lower at £0.75 (22p per 100g), a 460g bottle was priced at £3.39 (74p per 100g), a 700g bottle was priced at £3.90 (56p per 100g), and a 910g bottle at £4.49 (49p per 100g). A discount was applied to the mid-sized bottle (460g) which reduced its selling price to £2.49 (54p per 100g), and a discount was also applied to the 910g bottle which reduced its selling price to £3.99 (44p per 100g). Despite both promotions, Figure A.8 (below) shows that it was still cheapest in terms of unit price to buy the 342g bottle. This would save 60%

compared to the unit price of the promoted 460g pack, and 50% compared to the unit price of the promoted 910g pack.

**Figure A.8: Unit prices of the same brand (as Figure A.7 above) of ketchup in plastic bottles – various pack sizes and promotions [retailer X]**



*Note: The product was also available in one size in a glass bottle (342g). This has been excluded.*

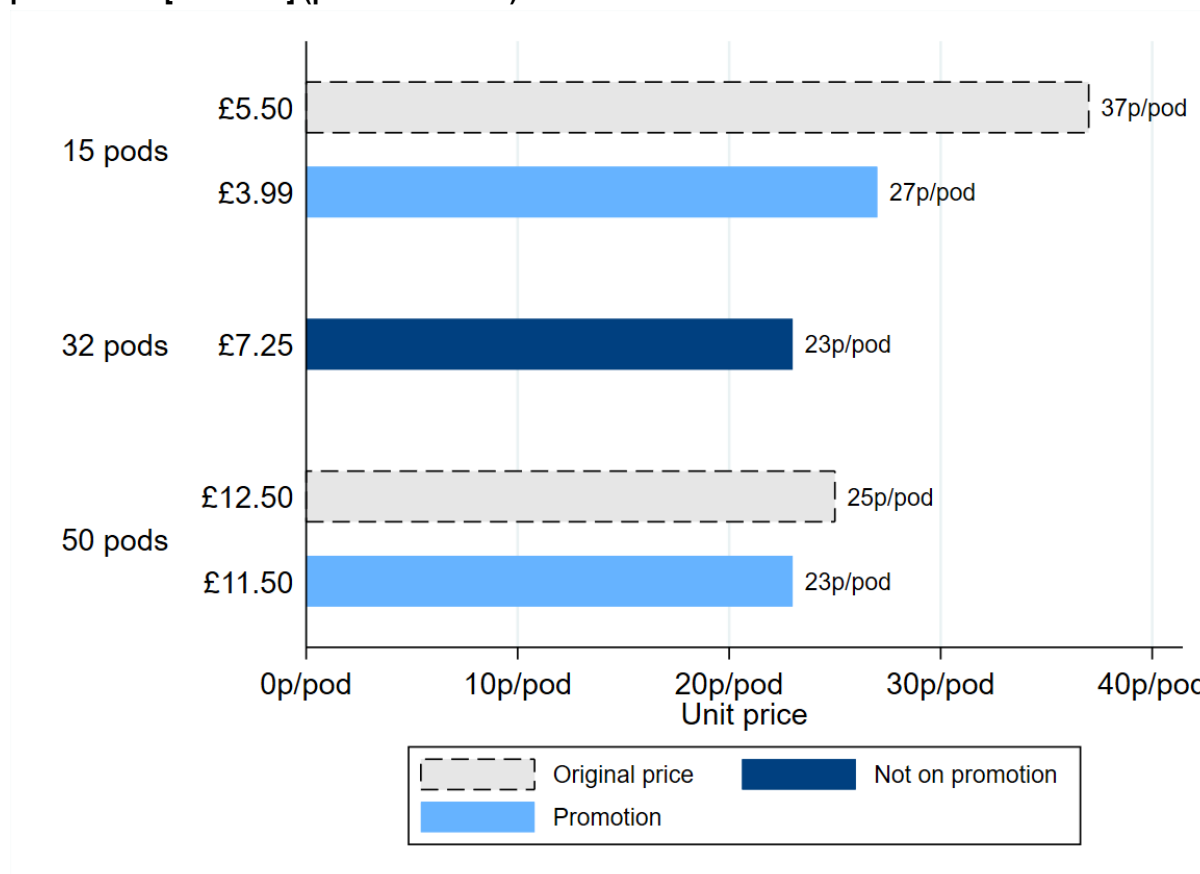
A.28 This was also the case for a brand of laundry detergent sold in pod format. One retailer sold three pack sizes of a leading laundry detergent brand in pods in its large stores. Figure A.9 below contains the selling and unit pricing information, including promotions, for these.<sup>48</sup> A pack of 15 pods had a selling price of £5.50 (37p per pod), a pack of 32 pods was priced at £7.25 (23p per pod), and a pack of 50 pods had a selling price of £12.50 (25p per pod). A discount was applied to the pack of 15 pods, which reduced its selling price to £3.99 (27p per pod). Despite this, it still had the highest unit price of the three pack sizes; the pack of 32 pods not promotion had a 15% lower unit price.

A.29 A discount was also applied to the pack of 50 pods, reducing its selling price to £11.50 (23p per pod). Nonetheless, it was no cheaper in terms of the price

<sup>48</sup> This retailer occasionally had different prices for products across its retail channels. This product was available online in the same pack sizes but with different pricing and promotion information.

per pod to buy the pack of 50 pods on promotion than the pack of 32 pods (also 23p per pod). Figure A.9 shows that both of these products had around a 15% cheaper unit price compared to the pack of 15 pods on promotion (27p per pod).

**Figure A.9: Unit prices for a brand of laundry detergent pods – various pack sizes and promotions [retailer X] (prices in stores)**



**A.30 We found a number of other examples where buying a product on promotion would result in the shopper paying a *higher* unit price than an alternative pack size not on promotion:**

- Laundry detergent pods
  - One retailer stocked four pack sizes (19, 51, 61 and 140 pods) from a leading brand of laundry detergent pods. When none of these were on promotion unit price fell as pack size increased. A pack of 19 pods had a selling price of £6.00 (32p per pod), a pack of 51 pods was priced at £14.00 (27p per pod), a pack of 61 pods was priced at £16.00 (26p per pod) and a pack of 140 pods cost £28.00 (20p per pod). A discount was applied to the pack of 51 pods, which reduced its selling price to £11.00 (22p per pod), making it cheaper than the smaller packs on a unit price basis. However, the largest pack size (140 pods) remained the cheapest in unit price terms by 7% (at 20p per pod).

- Mayonnaise
  - One retailer sold three sizes (404g, 545g, 705g) of a leading brand of mayonnaise in plastic bottles. When none were on promotion, unit prices decreased with each increase in pack size. The 404g pack was sold at £2.90 (72p per 100g), the 545g pack was £3.49 (64p per 100g), and the 705g pack was £3.90 (55p per 100g). When the small size was discounted, reducing its unit price by 7% to 67p per 100g, it remained 4% cheaper in terms of unit price to buy the next size up (545g) which was not on promotion. When the largest (705g) pack was also discounted (with a promotion unit price of 50p per 100g) it was the cheapest option by unit price.
  
- Rice
  - One retailer stocked four packs (500g, 1kg, 2kg and 5kg) of branded white basmati rice. The 500g pack was sold at £3.15 (£6.30 per kilogram), the 1kg pack was sold at £5.25 (£5.25 per kilogram), the 2kg pack at £8.90 (£4.45 per kilogram), and the 5kg pack at £11.55 (£3.15 per kilogram). A discount was applied to the 1kg pack, which reduced its selling price to £4.40 (£4.40 per kilogram). Therefore, the largest pack size had a unit price that was 28% cheaper than the product on promotion.
  
- Tea bags
  - Two retailers sold tea bags from a major brand. The first retailer sold boxes of 40, 80, 160, and 240 bags, whereas the second retailer sold boxes of 40, 80, and 240 bags. When not on promotion, the retailers had the same prices as each other for each of the pack sizes, with the larger boxes having lower unit prices. Unit prices ranged from £1.40 per 100g for the 40-bag box to 84p per 100g for the 240-bag box. Both retailers had a single promotion on the pack of 80 tea bags: the 80-bag box had a promotion price of 90p per 100g in one retailer, and a promotion price of £1.00 per 100g in the other. Table A.1 (below) shows that the promotion resulted in the 80-bag box having a lower unit price than the 160-bag box in the retailer where this size was available, but in both retailers the 240-bag box had the lowest unit price (saving around 7% compared to the discounted 80-bag box in the first retailer, and 16% in the second).

**Table A.1: Two retailers' prices of a brand of tea bags**

Pack size	Retailer A				Retailer B			
	Standard price		Promotion price		Standard price		Promotion price	
	Price	Price per 100g	Price	Price per 100g	Price	Price per 100g	Price	Price per 100g
40 bags	£1.75	£1.40			£1.75	£1.40		
80 bags	£3.30	£1.32	£2.25	£0.90	£3.30	£1.32	£2.50	£1.00
160 bags	£4.95	£0.99			n/a	n/a		
240 bags	£6.30	£0.84			£6.30	£0.84		

**A.31 We even found examples where multi-buy promotions had higher unit prices than packs not on promotion.<sup>49</sup>**

A.32 One retailer had five different sizes of baked beans from a leading brand available in their main stores and online.<sup>50</sup> The selling and unit pricing information for these, including any promotions, is displayed in Figure A.10 below. When none of these were on promotion, the unit price (price per kilogram) decreased with each increase in pack size as might be expected. We considered a multi-buy promotion on the single 415g tin. This promotion reduced the unit price by 11% to £3.01 per kilogram if the shopper bought two 415g tins. Despite the multi-buy promotion, Figure A.10 shows that the product remained at least 25% more expensive in terms of unit price than the larger pack sizes not on promotion (four or six 415g tins), which began at £2.41 per kilogram.<sup>51</sup>

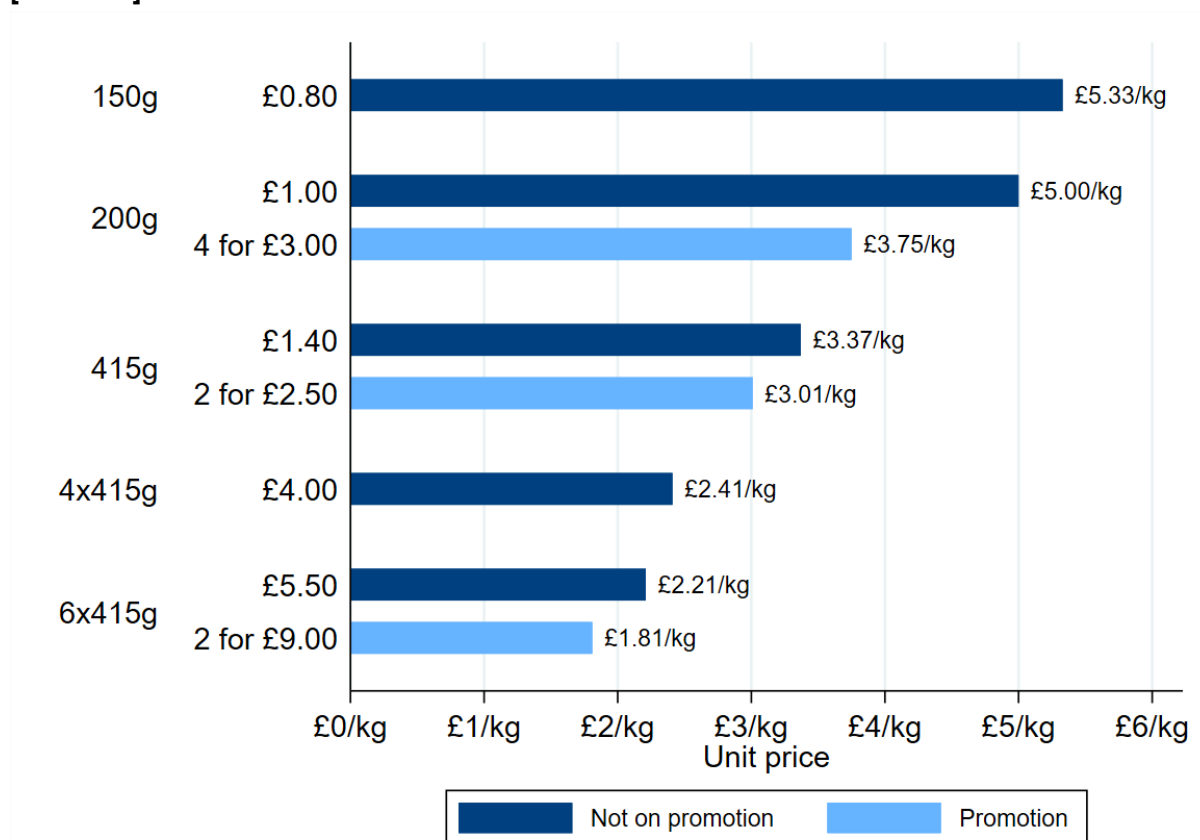
A.33 We also considered a multi-buy promotion on the 200g tin at the same retailer (four for the price of three). This reduced its unit price from £5.00 per kilogram to £3.75 per kilogram. As shown in Figure A.10, this was still more expensive than the unit price of a single 415g tin (£3.37 per kilogram), even though it would involve buying 800g of beans. Therefore, it was still cheaper in terms of unit price to buy the 415g pack size than the 200g product on promotion.

<sup>49</sup> Multi-buy promotions refer to price discounts for buying larger quantities of a product. Examples of multi-buy promotions include offers that allow a shopper to buy four of the same product for the price of three, and offers that allow a shopper to buy four of the same product for a specific and lower price than this would normally cost.

<sup>50</sup> The smallest size was a 150g tin, followed by a 200g and 415g tin, and the largest sizes were multi-packs of 415g tins: a 4-pack and 6-pack.

<sup>51</sup> We note that there was a multi-buy offer on the pack of six 415g tins: if a shopper were to buy two of these packs the unit price would be £1.81 per kilogram. This would be the cheapest option in terms of unit price but it would involve buying 12 tins of beans, which may not be possible or practical for all shoppers.

**Figure A.10: Unit prices for a brand of baked beans – various pack sizes and promotions [retailer X]**



- A.34 One retailer stocked three sizes (215g, 540g, and 775g) of a leading brand of mayonnaise in plastic bottles. A 215g bottle was sold at £2.30 (107p per 100g), a 540g bottle was sold at £2.80 (52p per 100g), and a 775g bottle was sold at £4.00 (52p per 100g). A multi-buy promotion was applied to the 215g bottle which resulted in a selling price of £3.00 for two 215g bottles (70p per 100g). It was therefore still around 26% cheaper in terms of the unit price to buy the 540g or 775g bottles than to opt for the promotion and buy two 215g bottles (ie 430g of mayonnaise).
- A.35 One retailer stocked three multi-packs of canned lager from a prominent brand. A pack of four 440ml cans was priced at £5.00 (£2.84 per litre), a pack of six 330ml cans was £6.00 (£3.03 per litre), and a pack of ten 440ml cans cost £10.50 (£2.39 per litre). A multi-buy promotion was available on the six pack of 330ml cans: a shopper could buy two of these packs ie 12 of the 330ml cans for a selling price of £10.00 (£2.53 per litre). Therefore, the largest pack size had a unit price 5.5% lower than the multi-buy promotion.
- A.36 We also found occasional examples where a promotion resulted in a branded product being cheaper in terms of unit price than an own-brand equivalent product. For instance, we saw cases where branded cheddar cheese on promotion was cheaper per unit than own-brand cheddar (which was not on promotion):

- One retailer stocked three sizes of one prominent brand of mature cheddar cheese, two sizes from another brand, and two sizes of its own-brand version.<sup>52</sup> When none of these were on promotion, the largest own-brand cheese (400g) was the cheapest product per unit, at £8.50 per kilogram (with a selling price of £3.40), 8.5% cheaper than the next cheapest product by unit price. When a promotion was applied to the largest branded products (550g packs) in that retailer, this had a unit price 14% cheaper than the own-brand product, at £7.27 per kilogram (with a promotion selling price of £4.00). This may not have been obvious by looking at selling prices alone: the branded product had a promotion selling price of £4.00, compared to a selling price of £3.40 for the own-brand product.
- Another retailer stocked one size from a prominent brand of mature cheddar cheese, and two sizes of its own-brand version.<sup>53</sup> When none of these were on promotion, the largest own-brand cheese (400g) was the cheapest product per unit, at £9.25 per kilogram (with a selling price of £3.70), almost 6% cheaper than the next cheapest product by unit price. When a promotion was applied to the branded product (a 550g pack sold at £4.75) in that retailer, its unit price fell to £8.64 per kilogram, almost 7% lower than the unit price of the largest own-brand product. This also may not have been obvious based on selling prices: the branded product had a promotion selling price of £4.75, compared to a selling price of £3.70 for the own-brand product.

### **Theme 3: Loose versus pre-packed fresh fruit and vegetables**

- A.37 Our consumer research indicated that shoppers may make assumptions regarding how the price of loose produce should relate to pre-packed.<sup>54</sup> Some may expect loose produce to be cheaper than pre-packed, or vice versa. To test the accuracy of these assumptions, we explored whether fresh fruit and vegetables were cheaper per unit when sold loose or pre-packed.
- A.38 We compared the standard unit prices for all loose and pre-packed versions of a product available in the same channel of a grocery retailer. We analysed pricing data for seven food items which are commonly sold in both loose and

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<sup>52</sup> This retailer stocked one brand of mature cheddar cheese in blocks of 200g, 350g and 550g, another brand in blocks of 350g and 550g and its own-brand cheddar cheese in blocks of 220g and 400g.

<sup>53</sup> This retailer stocked one brand of mature cheddar cheese in a 550g block, and its own-brand cheddar cheese in blocks of 220g and 400g.

<sup>54</sup> [CMA consumer research](#), page 25



pre-packed formats: bananas, broccoli heads, carrots, courgettes, closed cup mushrooms, brown onions and baking potatoes.

- A.39 However, for bananas, broccoli heads, and baking potatoes it was often not possible to compare the loose and pre-packed unit prices as one was provided per kilogram while the other was provided per item. For example, bananas and broccoli were often unit priced per kilogram when loose and per item when pre-packed, while baking potatoes could be unit priced per item when loose and per kilogram when pre-packed.
- A.40 As mentioned in paragraph 3.40 of the Results section, when unit prices are displayed in this way, shoppers are unable to compare fresh fruit and vegetable products sold in different formats to identify which option has the cheapest price per unit whilst doing their grocery shopping, unless they can weigh the products before reaching the check-out (which is not an option when shopping online).
- A.41 For some products the loose offering had a lower (or the same) unit price than the pre-packed offering(s).
- A.42 This was the case with courgettes. Three of the retailers we looked at offered both loose and pre-packed courgettes that were unit priced in a comparable way. As shown in Table A.2 (below) in each case the loose courgettes were either unit priced equally to the pre-packed version, or the loose option was cheaper (by 4% – 14%).

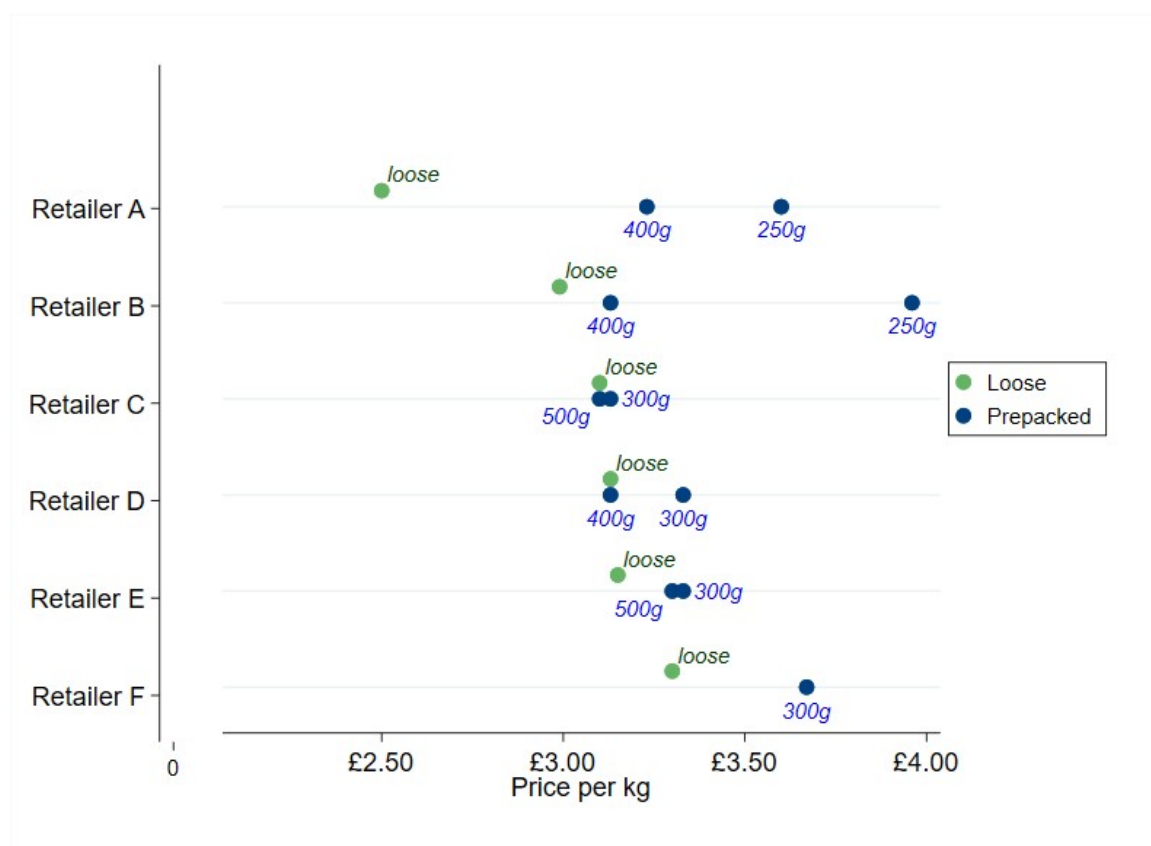
**Table A.2: Retailers' unit prices of courgettes (loose and pre-packed)**

Courgettes		
Retailer	Loose unit price (per kg)	Pre-packed unit price (per kg)
A	£2.40	£2.50 (600g pack)
B	£2.90	£2.90 (500g pack)
C	£2.39	£2.78 (3 pack, no weight)

- A.43 This was also the case for mushrooms. Six of the retailers we looked at offered both loose and pre-packed mushrooms that were unit priced in the same way (per kilogram). Pre-packed mushrooms were sold in a variety of pack sizes across retailers: they came in packs of 250g, 300g, 400g and 500g. In our dataset loose mushrooms were always cheaper than pre-packed in terms of unit price, except two cases where the loose offering had the same unit price as the largest pre-packed option (see Figure A.11 below).
- A.44 In some cases, the unit price difference between loose and pre-packed mushrooms was considerable. For example, one retailer sold loose

mushrooms with a 22.6% cheaper unit price than pre-packed (Retailer A in Figure A.11). However, in another retailer (B) the unit price difference was only 4.5%.

**Figure A.11: Unit prices of closed cup mushrooms (loose and pre-packed)**

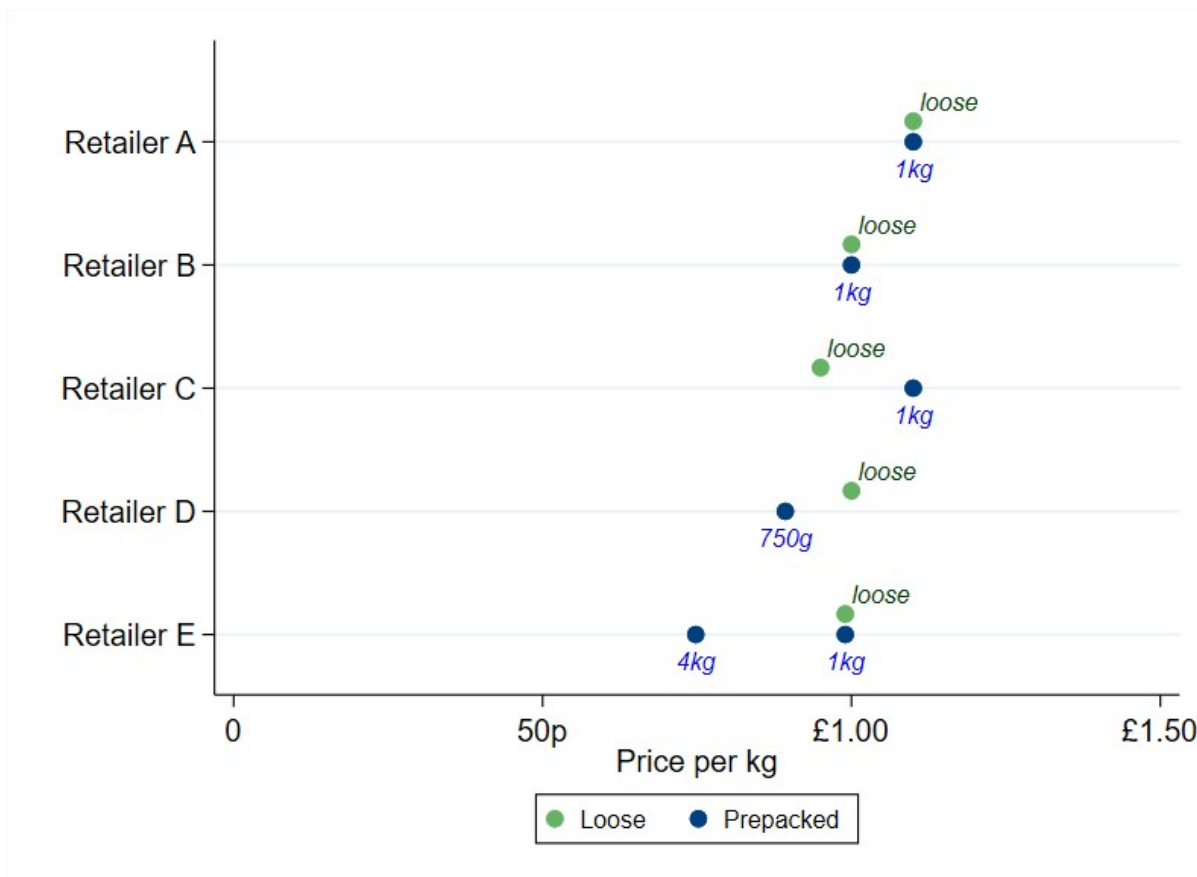


*Note: The x-axis has been broken at zero.*

*Retailers are anonymised. Note that retailer A in Figure A.11 will not necessarily correspond to retailer A in other figures in this report.*

- A.45 For other products such as brown onions, carrots, and baking potatoes the picture was mixed; the loose offering had a unit price lower or equal to pre-packed in some retailers and a higher unit price than pre-packed in others.
- A.46 For example, five retailers sold both loose and pre-packed brown onions unit priced in the same way (per kilogram). Pre-packed onions were generally sold in 1kg bags, although one retailer also sold a 4kg bag and another sold these in a 750g bag. There was little consistency across retailers as to whether loose or pre-packed was cheaper per unit. Figure A.12 below shows that three retailers sold loose onions at the same unit price as their 1kg pre-packed bag, another retailer sold loose onions with an almost 14% cheaper unit price than their 1kg pre-packed bag, and one retailer sold loose onions with a 12% more expensive unit price than their 750g pre-packed bag.

Figure A.12: Unit prices of onions (loose and pre-packed)



A.47 For carrots, six of the retailers we looked at offered both loose and pre-packed carrots unit priced in the same way (per kilogram) (Figure A.13, below). Pre-packed carrots were usually sold in 500g and 1kg bags, although one retailer also sold an 800g pack. Loose carrots were always cheaper in terms of unit price than the 500g pack and were often cheaper or no more expensive than the 1kg pack in terms of unit price. Only two retailers, Retailer B and F in Figure A.13, sold loose carrots at a higher unit price than their 1kg pack. Pre-packed carrots could therefore possibly be a cheaper option if the shopper was buying a large quantity (1kg or more) but for smaller quantities it would be cheaper to buy the exact quantity of loose carrots and have no waste. In some cases, the unit price saving on loose carrots compared to the 500g pack was considerable (over 30% for two retailers (retailers B and D)).

Figure A.13: Unit price of carrots (loose and pre-packed)

