

**Response from the Association of
Convenience Stores to the Competition
Commission working paper on the
waterbed effect**

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Association
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1 SUMMARY AND OVERVIEW

- 1.1 The background to this submission is the ACS' original submission on the "waterbed effect"¹ and the subsequent responses of RBB Economics² (RBB) and the Competition Commission³ (referred to here as "CC paper").
- 1.2 The purpose of the ACS' original submission was to show that in contrast to claims made in previous investigations into the grocery sector the waterbed effect could not be easily dismissed on the grounds that it was just an "accounting exercise" without any economic support (cf. ACS para. 1.5). Consequently, the submission presented a carefully developed, logically complete argument of how a waterbed effect could work. The formal economic modelling set out how and when competitive harm through a waterbed effect was likely to occur (cf. ACS para. 1.12). The ACS' submission demonstrated a sound theoretical basis for the operation of a waterbed effect as a result of the negotiation of non-cost related discounts by larger retailers and showed how this can harm not only the consumers using smaller retail outlets but consumers as a whole (cf. ACS para. 1.22).
- 1.3 The original ACS' submission was in three parts. The first part covered a basic "static model" (Section 2). The second part extended this into a "dynamic model", allowing for knock-on effects through adjustments in the upstream market (Section 3, para. 3.1 – 3.19). The final part dealt less formally with the potential of additional competitive harm that could be triggered or amplified through the working of a waterbed effect. Here, the ACS' submission referred, in particular, to the development of private or own-labels.
- 1.4 In their "emerging thinking" working paper on buyer power, the Competition Commission acknowledged that the ACS' submission "provides a clear explanation for the existence and possible consumer harm of waterbed effects".⁴ However the recent CC paper has criticised the assumptions underlying the ACS model and has argued that any consumer detriment from a waterbed effect appears to be small.
- 1.5 ACS considers that the criticisms that the CC paper has made of our economic arguments as well as of the formal model are misdirected and we elaborate on the specific points in more detail below.
- 1.6 We make no apology for the fact the ACS submission set out a highly stylised model of the grocery market. Economic modelling inevitably involves the presentation of structures which are a simplification of day-to-day business. Such

¹ Association of Convenience Stores, The 'Waterbed Effect': How Non-Cost Related Discounts to Large Retailers can Harm Consumers, 15 November 2006.

² RBB Economics, The Potential for 'Waterbed Effects' in the UK Grocery Retail Industry, March 2007.

³ Competition Commission, The Waterbed Effect working paper 10 July 2007.

⁴ Competition Commission, 2007, Working Paper on Buyer Power (published alongside their "Emerging Thinking"), para. 21.

simplification allows insights about the way players in a market may interact, which can then be fed back into a more complex 'real life' scenario. This abstract starting point was essential to address the strong assertions from the major supermarkets that 'there was no theoretical basis for the waterbed effect'.

- 1.7 The ACS submission addressed the waterbed effect from first principles and set out how a realistic and logically consistent argument supporting a waterbed effect can be sustained. The ACS' submission used formal economic modelling to establish from first principles both how size-related discounts can arise in the first place and how differential buyer power can then lead to consumer harm through a waterbed effect. The arguments put forward in the ACS' submission were, by definition, general because formal modelling requires particular sets of assumptions. The Competition Commission acknowledges this, noting also that some of the modelling assumptions follow those that are "often made for analytical convenience in the related literature on supplier-retailer interaction" (cf. CC paper para. 10).
- 1.8 In ACS' view the Competition Commission's discussion of a waterbed effect fails to capture the full generality of the economic arguments and the formal model in the ACS' submission.
- 1.9 We also argue that some of the Competition Commission's comments do not properly reflect the nature of supplier-retailer interactions that we have observed in the UK's grocery retail market.
- 1.10 Finally, there are also more technical details on which we disagree with the comments made by the Competition Commission. We respond in detail to all the issues raised by the Competition Commission in the second part of this submission but highlight a number of key issues in this overview.
- 1.11 First, the CC paper implies that the ACS model relies on an assumption that retailers purchase directly from a monopolistic supplier and does not consider different degrees of competition. This is not correct. The model in the ACS' submission is not based on the assumption of a single monopolistic supplier. In fact, the potential for supply-side substitution is a key feature of the chosen model of buyer power. This critique is also a particular feature of the RBB submission (to which we respond in a separate document) and has been repeated in the CC paper. The critique focuses on a particular interpretation of the ACS' model, where a retailer's only alternative option is to integrate backwards and self-supply. This interpretation may be convenient for academic purposes, but it is neither suggested by the ACS' submission nor is it necessary for the results let alone realistic in many circumstances.
- 1.12 Second, we strongly disagree with the view in the CC paper that the inclusion of a wholesale sector in the model would minimise or eliminate the waterbed effect. This takes no account of the fact that the wholesale buying groups are still much smaller than the large retail chains, that the economics of the buying groups and

the nature of their relationship with both suppliers and retailers is fundamentally different from that of an integrated supermarket chain and that it is possible for a waterbed effect of the sort outlined in the ACS model to operate within the wholesale sector.

- 1.13 Third, the CC paper also comments on the nature of supplier-retailer contracts. Our reading of the CC paper is that it asserts that the way contracts are modelled in the ACS' submission fails to capture the reality of supplier-retailer negotiations and that with a more "realistic" set of assumptions there could be no waterbed effect.
- 1.14 In contrast to this critique, we argue that it is *precisely* a salient feature of supplier-retailer contracting in the UK that differential buyer power manifests itself in a competitive advantage for a more powerful retailer, be it through lower unit prices, additional over-riders, additional promotional support, or through the potential to obtain additional services (such as shelf-ready packaging or dedicated staff) at no cost. A pure academic distinction between the use of "linear" and "multi-part" tariffs in supplier-retailer negotiations risks failing to capture adequately how terms of trade are negotiated.
- 1.15 In the second part of this response we elaborate on these issues and on other major comments that were advanced in the CC paper. The third part of this response then deals, paragraph by paragraph, with all further comments.
- 1.16 We have provided a separate paper dealing with RBB's note. RBB's paper made strong assertions questioning the validity of the economic analysis and the derived conclusions in the ACS' submission. We show that RBB's criticism is not only unfounded but that if RBB's own analysis was carried out with the specific circumstances of the ACS' members in mind, then this would actually entail a much *stronger* presumption of competitive harm through a waterbed effect.
- 1.17 Overall, our response reconfirms that under the circumstances prevailing in the UK's grocery market the operation of a waterbed effect is both possible and likely.

2 RESPONSE TO THE MAIN ISSUES

- 2.1 To avoid unnecessary duplication, we first provide a response to the main issues, thereby reorganising and bundling the different arguments and assertions that are made in the CC paper. This also covers points raised at the CC Hearing with ACS on 14 June 2007.

Competition in the upstream market

- 2.2 In the CC paper it is asserted that the ACS' submission does not consider different degrees of competition in the upstream market (para. 10) and is therefore unrealistic. In our view this criticism is unfounded (cf. also Sections 1.1 and 1.2 our response to RBB's note.)
- 2.3 As acknowledged by the Competition Commission, the stylized nature of the ACS' submission was dictated by the need to advance a formal argument that was both self-contained (including a formalization of the source of buyer power) and still tractable to be accessible to non-experts. The specification that, in equilibrium, all active retailers stock goods from the same supplier was a starting point for this presentation, but we are clear that it is not a necessary assumption.
- 2.4 To see this in an informal manner, note that the argument in the static analysis uses only the result that through passing on some of their additional discounts larger retailers take away volume and market share from their smaller rivals, which in the presence of size-related discounts should then lead to a worsening of the terms of supply for the latter. It is inconsequential for this argument whether the different retailers source from the same or from different suppliers. Consequently, all formally derived results from the ACS' submission are robust to a modification of the single supplier assumption and can also take into account interaction between branded and private label goods.
- 2.5 It should also be noted here that even if one and the same supplier was chosen by a large number of different retailers and even if no close substitute was stocked in the same category, then it would still be misleading to assert that this supplier yields monopolistic power over retailers. Such a view would neglect the constraints that typically arise from competition "for the market", or in this case from competition for the patronage of a given retailer.⁵
- 2.6 We must also make it clear that the formal model in the ACS' submission in no way equates a retailer's outside option with the potential for backward integration and self-supply. Instead, it could represent precisely the switch to another, more or less

⁵ The ACS' submission makes it, however, clear that for the strength of a waterbed effect it is not inconsequential how attractive is a retailer's alternative substitute (cf. ACS para. 2.53).

equally suited, supplier, while the respective costs could arise in different forms both with the retailer and the supplier (cf. ACS para. 2.9 for an informal and para. 2.27 for a more formal discussion).

- 2.7 The CC paper links this issue with the absence of a wholesale sector in the ACS model and argues that the inclusion of a wholesale sector would “minimize (or eliminate) the waterbed effect”. We do not accept this assertion. The role of wholesalers or buying groups is considered in the ACS analysis of a dynamic model and the aggregation role played by wholesalers can easily be taken into account in the static model by considering them as a ‘quasi retailer’ as far as volume of purchasers from suppliers is concerned.
- 2.8 Wholesalers form part of the size spectrum over which the waterbed effect occurs but to assert that inclusion of wholesalers in the model would remove the difference in input costs between large and small retailers is to ignore the key differences between wholesalers and the large integrated retail chains. In particular, it must be recognized that UK wholesale groups are still significantly smaller than the largest integrated retail group. The 2000 Inquiry showed that even co-ops which are at the larger end of the spectrum were at a significant disadvantage.
- 2.9 In addition, although it is at first suggestive to treat them equally, the economics of a buyer group differ fundamentally from those of an integrated retailer. In particular, while the latter can commit to generate a certain sales growth this is not feasible for wholesalers and buyer groups, which must typically rely on retailers’ own incentives to take up particular promotions or prefer one product over another.⁶ While this would suggest that there would be incentives for a buyer group to achieve more commitment and thereby better purchasing conditions, this may not only go against the business rational of certain shop formats but may also be to the ultimate detriment of consumers, given that it would deprive local shops of their flexibility.
- 2.10 The CC paper also neglects the potential that there could be a (dynamic) waterbed effect working through adjustments in the wholesale sector. In a more consolidated wholesale sector less competition should then push up prices. What is more, as the underlying volume shrinks, fixed costs must be spread over a lower number of units, which again should put smaller retailers at an additional disadvantage.⁷

⁶ It is our understanding that in most product categories a retailer has either a very precise idea about realized sales or can easily target a certain growth rate even only through allocating additional shelf space or through repositioning the product on the shelves.

⁷ In addition, in their referral decision the Office of Fair Trading made also reference to a “tipping point”, from which on the operation of certain wholesale segments would no longer be profitable. Office of Fair Trading, The grocery market – The OFT’s reasons for making a reference to the Competition Commission, May 2006, para. 6.16 and following.

Private Labels

- 2.11 As noted in para. 2.4, the ACS' model and its results do not rely on the presumption that all retailers procure from a single supplier. In the static model, as long as a large or otherwise powerful retailer becomes more competitive through better terms of supply and thereby expands at the cost of smaller rivals, the terms of trade of the latter retailers will deteriorate. Whether the former, larger retailers procure from the same supplier or whether they even rely predominantly on private labels is inconsequential for the argument.
- 2.12 In fact, in the light of the dynamic version of the waterbed effect the presence of private labels could strengthen the adverse effect on smaller rivals and consumers alike. As larger retailers switch more to private labels, this could have, amongst other effects, the following two implications. First, with respect to those suppliers whose goods are not de-listed the large retailers' buyer power increases. As these suppliers' profitability deteriorates, another round of the dynamic waterbed effect could be set free. Second, as large retailers switch away from branded goods in favour of their own-label goods, they reduce the size of the potential market that branded goods manufacturers in this particular category could still serve. In the long run, this may not only lead to exit or further consolidation among these suppliers, but the loss in volume may also undermine incentives to invest and innovate. To the extent that smaller retailers must rely on these (often secondary-line) branded goods, it is possible that quality and choice as well as terms of supply may deteriorate. (In the ACS' submission this effect was discussed in para. 3.20 ff.)
- 2.13 With respect to private labels as well as the difference between primary and secondary brands, it should be noted that the ACS' submission does not argue that the waterbed effect should be equally weak or strong. As we note there, if all retailers can easily choose from and switch between different suppliers of relatively homogeneous goods and if there is free capacity in the market, then there should be little scope for price discrimination in the first place. On the other hand, also suppliers that are relatively powerful themselves given that they own "must-stock" products may see little need to yield to buyer power.⁸ These considerations would suggest that empirically a test of the static theory of the waterbed effect should neither focus exclusively on the weakest nor on the strongest brands. That said, through the aforementioned dynamic implications that private labels could have, an adverse "waterbed effect" might also be expected for products where large retailers increasingly switch to private labels, regardless of whether these replace secondary or primary brands.

⁸ The formal analysis in the ACS' submission focuses on the role of buyers' outside option as a source of buyer power. In order to fully distinguish between buyers and suppliers with different degrees of market and bargaining power, also suppliers' outside options would have to be incorporated.

Contracts

- 2.14 The “static theory” of a waterbed effect, which is presented in the first part of the ACS’ submission, relies on the simple insight that the more advantageous terms of supply that are obtained by a more powerful buyer undermine the competitive position of its rivals. It is probably helpful to recall at this point the following much simplified, though conveniently short, description of the waterbed effect in the static model (cf. ACS para. 1.11): *“A large retailer obtains an increased discount not related to cost because of its buyer power. This allows it to reduce prices to consumers and attract additional business. Some of that increased business will be at the expense of smaller retailers. The scale of activity of smaller retailers is therefore reduced and the discounts they can obtain from suppliers falls. Prices paid to suppliers by large retailers have fallen and prices paid by smaller retailers have risen.”*
- 2.15 The Competition Commission seems to doubt that better terms put the respective retailers at a competitive advantage. Such criticism originates from the distinction in academic work between linear contracts and non-linear contracts (in particular, in the form of “two-part tariffs”). Taken literally, with linear contracts, as stipulated in the ACS’ submission, suppliers and retailers negotiate over unit price. The important implication of this is that as a more powerful retailer can extract better terms, this results in a lower marginal purchasing price. In a competitive market place this is, at least partially, passed on to consumers through an improved offering, putting rivals at a competitive disadvantage.
- 2.16 The arguments put forward in the CC paper seem to suggest that with a more general (multi-part) contract a supplier would cede higher profits to a powerful retailer without conceding lower unit prices and thus without giving him a competitive advantage in the marketplace compared to less powerful and smaller retailers. What is more, it is suggested that the latter picture conforms more with the reality in the UK’s grocery market.
- 2.17 To dispel these arguments, we deal in what follows first with what we regard as the most important issue: the reality of contracting in the UK’s grocery market. We argue that a naive distinction between linear and multi-part tariffs fails to capture the reality of supplier-retailer relationships. What is more, in a reversal of the Competition Commission’s claims we argue that the actually observed “non-linear features” in the terms of trade are in fact bound to give rise to a greater competitive advantage of powerful retailers and should thus exacerbate a waterbed effect.
- 2.18 Subsequently, we argue that even if some of the advantages that powerful retailers obtain are in the form of “lump-sum” payments, it is inconceivable that these should not give rise to competitive advantages. Our argument there draws on the treatment of fixed-cost savings in merger cases. In addition, as part of the Technical Annex to this submission we also discuss more generally the modelling issues that arise in supplier-retailer relationships.

Supplier-retailer negotiations and trade terms in the UK's grocery market

- 2.19 It is our understanding that relations between manufacturers of fast-moving consumer goods and retailers in the UK are often characterized by an ongoing process of negotiations. That is, overall trade terms are not pinned down by annual negotiations. Instead, suppliers find themselves under continuous pressure to make additional investments into particular retailers through price cuts or the funding of additional promotions.
- 2.20 It is also our understanding that discounts to individual retailers are given in numerous different ways, including through over-riders, which will be “stretched” so as to truly ensure that they incentivise retailers to achieve volume growth. All these individually adjusted contract terms will feed into differences in the ultimate “net net” prices. This must thus also include differences in the extent to which manufacturers provide promotional support (e.g., through margin support) can differ between retailers. Moreover, such promotional support seems to be increasingly important as most of the major UK grocers adopt hybrid pricing strategies, relying both on overall low prices as well as regular promotional campaigns.
- 2.21 Suppliers that grant more powerful retailers additional discounts through “hard” over-riders, thereby ceding margins to the retailer in exchange for growth, are certainly shifting profits in a “non-linear” fashion. Far from what seems to be the perception of the Competition Commission, however, we would argue that this form of discount makes a retailer even more aggressive than if such discounts had been given under a linear contract. With over-riders the retailer enjoys a reduction of its *total* invoiced price if he meets certain sales targets, given that the discount is obtained on all units that the retailer sold. That is, if a retailer’s terms are improved through putting into place an additional over-rider, then the retailer will have very high incentives to actually achieve the additionally agreed growth in volume. In fact, the retailer will now “earn” the additional discount if and only if his sales surpass this threshold. In contrast, if a constant per-unit discount was given, then the retailer would have less incentive to stretch sales as he could already earn some of the discount at a lower realized volume.
- 2.22 Furthermore, the extent to which suppliers fund promotions clearly makes a direct competitive difference in the UK’s promotion-intensive retail environment. As noted above, it is our understanding that suppliers’ overall “trade spend” varies considerably between retailers and that for many product categories a considerable fraction of this is accounted for by promotional support.
- 2.23 In addition, we believe that in the UK negotiations between retailers and suppliers are of a very “fluid” nature, with suppliers facing pressure from some retailers almost on a daily basis to make further concessions. Suppliers will clearly be hesitant to respond to this by continuously granting further concessions in ways that may make them seem to be permanent, which includes also discounts on the contract price. Instead, they may be more likely to accept additional concessions by

funding temporary (promotional) price cuts as well as through granting additional over-riders. As we argued above, though, this could put some retailers even more at a competitive advantage vis-à-vis rivals given that, in effect, the total negotiated discount is put much more “at the margin”.⁹

- 2.24 Finally, if a retailer manages to obtain additional services without having to pay for them in full, these may also constitute a viable competitive advantage, in particular if this reduces the retailer’s per-unit cost of handling and selling the good. An example is that of shelf-ready packaging. Our understanding is that in this way one large retailer has recently managed to ensure itself sizable per-unit cost savings.

Competitive advantage and the difference between fixed and variable cost savings

- 2.25 We do not dispute that manufacturers make payments to retailers that are more of a lump-sum nature than a reduction in unit costs. We also acknowledge that according to most “static models” such lump-sum payments would not be passed on immediately to consumers. These models essentially presume a “one-off” interaction both on the retail market as well as between retailers and suppliers. They also assume that any firm can easily fund any price cut and any additional promotional activity, while operations take place under perfect certainty about demand and cost. In particular, in these models there is thus no role for either investments in future market share or for current cash flows, which can be ploughed back into future price cuts.
- 2.26 The formal analysis of even such simple “one-shot” games certainly provides a valuable tool for antitrust economics. On the other side, however, the limitations of these models must be well understood, in particular in the light of retailing. There, it is our understanding that a key strategic concern of the large grocers is to invest in future market share through attracting loyal customers. These dynamics have to be taken into account. Also, there must be a realistic presumption of the costs of external financing, which create a premium for current profits and cash. Finally, we understand that it is a declared corporate strategy of some of the biggest grocers to “re-invest” their purchasing savings into future price cuts, irrespective of the way in which these savings have been achieved.
- 2.27 From a conceptual perspective, the difference between lump-sum transfer and discounts at the marginal purchasing price resembles that between fixed and marginal cost savings in merger analysis. The OFT’s guidelines¹⁰ require

⁹ To be more precise here, note that in the “linear” model, where discounts are given through a lower per-unit price, the total discount that a retailer enjoys is essentially “earned” uniformly over all purchased units. The additional discount that the retailer earns at all sufficiently low volumes has (even under uncertainty about demand) no immediate effect on the retailer’s pricing policy. In contrast, an adequately designed over-rider ensures that the retailer earns all of the discount if and only if he chose retail prices (as well as shelf allocation and presentation) so as to realize the agreed target. Likewise, promotional discounts are by their very nature immediately linked to a (temporarily) more competitive offering.

¹⁰ Office of Fair Trading, 2002, Mergers: Substantive Assessment Guidance.

consideration of efficiency gains that have a positive effect on rivalry (OFT par 4.32) and thereby to take into account “cost savings (fixed or variable)” (OFT para. 4.33). While marginal or variable costs savings are arguably more likely to influence the analysis, the guidelines acknowledge that fixed cost savings may play an important role in long-term price formation.

Market stealing vs. market expansion

- 2.28 The Competition Commission remarks that the model in the ACS’ submission is extreme in that it considers a market of fixed size (CC paper para. 16). The ACS’ submission has clearly acknowledged this limitation, which resulted from the choice of the “workhorse model” of retail competition, namely that of Hotelling competition. The ACS’ submission also recognized that at least the static model of a waterbed effect, though not necessarily the dynamic variant, requires an overlap of the catchment areas of the larger retailer’s outlets and of those owned by adversely affected retailers.
- 2.29 It should, however, be noted that even a considerable expansion of the overall sales volume may not per se constitute adequate evidence against the working of a waterbed effect. Such a view would miss the fact that customers often buy more than one unit of a given product. Once this is taken into account, as the price of a product at one retailer drops, this has now two implications. First, a given customer who patronizes the respective outlet may end up buying more units at the lower price. Second, the outlet may still draw in additional customers who may, otherwise, have shopped elsewhere.¹¹ While with durable and storable goods both effects could clearly harm smaller convenience stores, more generally it could be conceived that it is, in particular, the second effect that is more harmful to their sales.
- 2.30 The consideration of multi-unit purchases could also set free additional dynamics that could lead to a stronger waterbed effect. As a lower retail price at the larger retailer’s outlet not only draws in additional customers but also leads to higher sales per customer, the resulting sales growth is higher. On the other hand, a higher purchasing price that is fed into a higher retail price at the adversely affected retailers not only makes some customers switch to rivals’ outlets but also reduces sales per remaining customers.¹²

Switching costs and sources of discounts

- 2.31 The ACS’ submission presents a coherent and self-contained argument of the waterbed effect, formalized by a theoretical model. It resolves from “first principles”

¹¹ To a limited extent, the outlet could also attract customers who would, otherwise, not have shopped at all.

both how size-related discounts arise in the first place and how this leads to a waterbed effect, which can then cause harm to consumers. The ACS' submission repeatedly makes clear that the latter theory, namely of how size-related discounts give rise to a waterbed effect, does *not* rely on what generates size-related discounts in the first place. The extant academic literature is almost silent on the working of a waterbed effect, which is mainly due to more general and deeper problems of how to adequately conceptualize the interaction of multilateral upstream negotiations and downstream competition. It was therefore deemed necessary to choose a specific formal model of how size-related discounts arise.

- 2.32 Before commenting in more detail on whether and how size-related discounts might arise in practice, we would like to stress once more that the dynamic theory of the waterbed effect does *not* rely on a presumption that it is size *alone* that triggers discounts to more powerful buyers. That is, that some (less powerful) retailers may be adversely affected by the waterbed effect does not depend on whether more powerful retailers obtain more favourable terms only because of their size or also because of other factors. Besides a retailer's pure size, under the circumstances of the UK's retail market we would conjecture that it could be, in particular, a retailer's growth trajectory and his stranglehold over some local markets ("gate-keeping") that could provide additional levers of buying power. Regardless of why some retailers may ensure themselves a discount, our theory shows how this can adversely affect the terms of trade of other retailers.
- 2.33 The latter observation is immediate for the dynamic theory of the waterbed effect. But it also extends to the static model of the waterbed effect, where it is likewise conceivable that some powerful buyers extract additional discounts by other means than by playing purely on size.¹³
- 2.34 In the ACS' formal model there is only one "round" of interactions between suppliers and retailers. Consequently, a retailer's alternative option is to stock instead another product for precisely one "period". The extent to which this is attractive depends also on how attractive the given retailer's business is to an alternative supplier. In reality, this may depend on a number of different factors relating both to the retailer's current size as well as his perceived trajectory of growth or decline.¹⁴ It seems likely that through such dynamics the adverse effects of a waterbed effect could be further amplified.

¹² On the other hand, the consideration of multi-unit purchases should also affect the tendency to pass through changes in the wholesale price.

¹³ The difference between the two theories lies, however, in the fact that in the static model the adverse effect on other retailers arises through a reduction in size, while this is once again not necessarily the case in the dynamic model.

¹⁴ As pointed out in the ACS' submission, in the formal model the "costs of switching" could likewise arise, fully or in part, at the respective new supplier.

2.35 In previous inquiries into the UK's grocery market the UK's antitrust authorities have repeatedly acknowledged the existence of considerable (non-cost justified) price discrimination, recognizing thereby also the importance of retailers' size. In the 2000 Supermarkets inquiry it was shown that the largest grocery retail chains may enjoy significantly lower prices than smaller chains. The supply price differential between larger and smaller retailers was shown sometimes to exceed 10 per cent for purchasing the same goods. The Competition Commission then also concluded that lower prices were attributable to the exercise of buyer power rather than to operating cost differences, stating that "the major buyers, and indeed many of the other main parties, are large enough to achieve most of the cost savings associated with large orders" and that "operating cost differences will not have played a material part in the price differences achieve by them".¹⁵

2.36 In its Safeway merger inquiry in 2003, the Competition Commission reported that the leading chains had strengthened their market position and that in terms of purchasing conditions the price advantage of the market leader, Tesco, had "widened somewhat" as its market share increased and that "larger retailers still commanded better prices from their suppliers than could their smaller competitors, and that these lower prices were, at least partly, a function of buyer power."¹⁶

2.37 These findings were also squarely in line with those from previous studies such as the 1981 report by the Monopoly and Mergers Commission on "Discounts to Retailers".¹⁷ That Report found that

"Differences of costs are only one of the factors which most suppliers take into account in their pricing and in the according of special benefits. Competition between suppliers and the desire to increase (or secure) sales volumes are other important factors which induce suppliers to charge different customers different prices. There is a general tendency for large accounts to benefit from discrimination".

2.38 It is also our understanding that when reporting its previous findings about a relationship between size and buying terms, most importantly in the 2000 Supermarkets inquiry, the Competition Commission did not provide a hypothesis about why size could lead to buyer power. To the extent that the exercise buyer power was a concern to the Competition Commission, this would suggest that the Competition Commission did not see it necessary to distinguish between different (academic) theories of why size gives rise to buyer power in the first place. As noted above, also the theories of a waterbed effect that the ACS' submission

¹⁵ Competition Commission, Supermarkets: A Report on the Supply of Groceries from Multiple Stores in the United Kingdom, Cm 4842, 2000. Cf. Tables 5.6, 11.9 and 11.10, as well as para. 2.451.

¹⁶ Competition Commission, Safeway plc and Asda Group Limited (owned by Wal-Mart Stores Inc); Wm Morrison Supermarkets PLC; J Sainsbury plc; and Tesco plc: A Report on the Mergers in Contemplation, Cm 5950, 2003. Cf. para. 6.65).

¹⁷ http://www.competition-commission.org.uk/rep_pub/reports/1981/135discounts_retailers.htm

exposures do not rely on a particular channel through which size leads to discounts in the first place.

Competition from small and large retailers

- 2.39 The formal model in the ACS' submission presumes duopolistic competition in each locally segmented market, though a chain may operate outlets in different markets. Clearly, the presumption of a duopoly was made only for tractability. However, the Competition Commission questions whether the approach adequately takes into account competition between both small and large retailers.
- 2.40 The economic arguments in the ACS' submission apply regardless of whether in a particular local market all considered outlets are convenience shops or whether different shopping formats compete for the same clientele. When applied to competition between outlets operated by smaller chains and those operated by the UK's largest grocers, a waterbed effect could thus arise independently of whether the large grocer's outlet was as well a convenience store or if it had a different format.
- 2.41 The Competition Commission also argues that when applied to competition between a convenience store and a larger outlet, the model may not sufficiently incorporate that the large outlet simultaneously competes with similarly sized outlets operated by other large grocers. It is then argued that this omission could lead to an underestimation of the large retailer's pass-through and thereby an overestimation of potential consumer harm (cf. CC paper para. 43-45). While admitting that for tractability the formal model makes the assumption of duopolistic competition in each local market and thus does not incorporate variations in shopping formats, we disagree with the Commission's conclusions.
- 2.42 On a more technical note the pass-through rate need not be higher if a larger store format competes with both convenience stores and other large store formats. We elaborate on this in the technical annex to this submission. Moreover, even if a discount made to one large retailer led to a still lower retail price due to competition with outlets of different formats, then this would also exacerbate the waterbed effect through having a larger impact on smaller retailers. How these two effects play out is a priori unclear.

3 FURTHER DETAILED COMMENTS

- 3.1 Para. 1, fn 1. One should also take into account that analogous arguments have been made at EC level in the Rewe/Meinl and Carrefour/Promodes cases (e.g., in relation to a “spiral effects”). It is also worthwhile pointing out that the possibility of a waterbed effect is explicitly acknowledged in the European Commission's Guidelines on horizontal agreements.¹⁸ There, it is stated that “[...]the primary concerns in the context of buying power are that lower prices may not be passed on to customers further downstream and that it may cause cost increases for the purchasers' competitors on the selling markets because either suppliers will try to recover price reductions for one group of customers by increasing prices for other customers or competitors have less access to efficient suppliers. Consequently, purchasing markets and selling markets are characterised by interdependencies [...]” (para. 126). The Guidelines then go on to work through a particular example, in which they state that the joint buying power of the merged firm “[...]is likely to increase the costs of the parties' smaller competitors because the two powerful suppliers probably recover price reductions for the group by increasing smaller customers' prices. Increasing concentration in the downstream market may be the result” (para. 135).
- 3.2 Para. 5. In light of our previous remarks (cf. Section 2.4) and in light of the Competition Commission's subsequent comments in the document, we feel that the expressions “always obtain better terms” and “depends solely” are misleading. As noted in this response, these are not key features of the theory of a waterbed effect.
- 3.3 Para. 6. We would like to emphasize again that while for reasons of internal consistency the ACS' submission developed the dynamic theory on the basis of the static model, for the dynamic theory of the waterbed effect to be applicable it is neither necessary that size (alone) is the main driver of buyer power nor that the market share of the adversely affected retailers shrinks considerably. We agree with the Competition Commission that through the dynamic adjustments the effects arising out of the static model “may be reinforced”. But it must be recognized as well that both effects can work also in isolation.
- 3.4 Para. 10. As discussed in detail in Section 1.1, the presumption that the ACS' submission does not consider different degrees of competition in the upstream market is not correct. Quite the contrary, the formal model of the waterbed effect builds on the potential to choose an alternative source of supply.

A1.1 ¹⁸ European Commission, 2001, Guidelines on the Applicability of Article 81 of the EC Treaty to Horizontal Agreements, Office Journal C31/5-18.

- 3.5 Para. 12, fn 4. The list of theories of buyer power is incomplete and, what is more, highly selective. It does not incorporate, in particular, theories relating to suppliers' relative dependency (outside options), even though they have arguably played an important role in recent European antitrust decisions in grocery retailing.
- 3.6 Para. 14. The Competition Commission should make clear that the remark on lump sum payments refers explicitly and exclusively to the formal model. Instead, it should be understood that the economics of the waterbed effect apply more generally as long as in the short or also in the long run a more powerful buyer can obtain a *competitive advantage* on the retail market through better purchasing conditions (cf. Sections 2.2.1 and 2.2.2 for a detailed discussion).
- 3.7 Para. 15. See the preceding comments and note as well that in reality competitive advantages can be obtained in various different ways, including through promotional support, over-riders, additional services etc.
- 3.8 Para. 16, fn 7. Stating that results of the model depend on the "specific value of the parameters" is misleading. Instead, the model obtains very robust and unambiguous results whenever the smaller retailers are already sufficiently squeezed.¹⁹
- 3.9 Para. 20. It should be noted that even the ACS' dynamic model does not require the exit of suppliers in order to obtain a waterbed effect. As the ACS' submission carefully pointed out, reduced entry as well as other forms of consolidation such as mergers are also sufficient.
- 3.10 Para. 21. See the preceding remark.
- 3.11 Para. 23 (a-c) relates to Tesco's remarks. As we do not have access to the original submission, we confine ourselves to responding to the statements in the Commission's document.
- 3.12 23a. A fixed cost of switching supplier has been assumed for simplicity of modelling. In practice switching costs may vary but any differential is unlikely to be in favour of smaller retailers. Such an assumption is not equivalent, as Tesco apparently suggests, to assuming that retail industries are natural monopolies, since it only relates to one element in total costs.
- 3.13 Para. 23b. We disagree that "competition from rivals only increases the incentive [of smaller retailers] to invest in achieving lower costs and greater efficiency". Such a statement goes against the key insights from the operation of a waterbed effect. Through the operation of a waterbed effect incentives for smaller retailers are in fact

stified. The additional (investment) dynamics are then bound to further amplify differences between retailers' size and purchasing conditions over time. RBB raise similar issues and we discuss this in more detail in our response to their note.

- 3.14 Para. 23c. Tesco argue that the model relies on the use by suppliers of per-unit-type cost structures whereas in practice suppliers would charge both a per-unit price and a lump sum. This issue has been covered extensively in the previous section under our discussion of supplier retailer negotiations
- 3.15 Para. 24: This paragraph deals with RBB's comments. We deal with these in detail in our separate submission. At the risk of missing some of our arguments, we nevertheless also provide a brief response here.
- 3.16 24a. In contrast to RBB's claims, the ACS' model allows for upstream competition. In fact, the formal model of the waterbed effect builds on the potential to choose an alternative source of supply. RBB seems to have equated this with the possibility of backward integration and self supply. This interpretation was neither favoured in the ACS' submission nor is it particularly realistic.
- 3.17 Para 24b. RBB presents an alternative model. In our separate submission we show why we disagree with the modifications. What is more, we then go on to show that a full analysis of their alternative model, which RBB failed to undertake, would actually strengthen the waterbed effect.
- 3.18 Para. 24c. RBB's criticism of the dynamic model seems to rely totally on their (mis-)interpretation of the static model, namely on the fact that they only consider the possibility of backward integration (cf. Para. 24a).
- 3.19 Para. 24d. RBB proposes that the formal model should take into account the potential that retailers make investment in, for instance, private labels. It is argued that this would change results fundamentally. We disagree with this and show in our separate response that, instead, the introduction of such dynamic considerations would further exacerbate the working of a waterbed effect.
- 3.20 Para. 25. We do not see where the Competition Commission actually tests for the "real relevance" of the ACS' model, as asserted. For instance, this could be done by using results from interviews or empirical studies into supplier-retailer relationships so as to compare the ACS' notion that powerful buyers obtain a competitive advantage through their better terms with the Competition Commission's notion that this only boosts these retailers' profits without leading to lower prices, more promotion, better service etc.

¹⁹ See the condition in para. 2.58 of the ACS' submission. As stated there, once the smaller retailer's market share becomes sufficiently small, then an additional discount to the large retailer will always result in consumer detriment.

3.21 Para. 26. We disagree with the Competition Commission's statements on the role of the wholesale sector on several grounds.

- First, it must be recognized that UK wholesale groups are still significantly smaller than the largest integrated retail group.
- Second, the evidence from the 2000 inquiry showed that co-ops were at a significant disadvantage.
- Third, even though it is at first suggestive to treat them equally, the economics of a buyer group differ fundamentally from those of an integrated retailer. In particular, while the latter can commit to generate a certain sales growth this is not feasible for wholesalers and buyer groups, which must typically rely on retailers' own incentives to take up particular promotions or prefer one product over another.²⁰ While this would suggest that there would be incentives for a buyer group to achieve more commitment and thereby better purchasing conditions, this may not only go against the business rational of certain shop formats but may also be to the ultimate detriment of consumers, given that it would deprive local shops of their flexibility.
- Fourth, the Competition Commission neglects the potential that there could also be a (dynamic) waterbed effect working through adjustments in the wholesale sector. In a more consolidated wholesale sector less competition should then push up prices. What is more, as the underlying volume shrinks, fixed costs must be spread over a lower number of units, which again should put smaller retailers at an additional disadvantage.²¹

3.22 Para. 28, fn 8. See comments on fn 4 above.

3.23 Para 28. We disagree with the statement that "size is only relevant insofar as it affects suppliers' and retailers' outside options". This should not hold in practice and, what is more, it is also not supported by formal models of bargaining. For instance, this view takes the "sharing rule" as being exogenous. However, bargaining theory tells us that also this sharing rule will be endogenous and depends, for instance, on players' relative "impatience". (Then, a more patient player will get a larger share of the realized gains.) The economic literature has often identified, at least in models of bargaining, patience with financial strength, which may thus in turn relate to size as well as economic dependency. Likewise, the "curvature" of the bargaining frontier is endogenously determined, namely by

²⁰ It is our understanding that in most product categories a retailer has either a very precise idea about realized sales or can easily target a certain growth rate even only through allocating additional shelf space or through repositioning the product on the shelves.

²¹ In addition, in their referral decision the Office of Fair Trading made also reference to a "tipping point", from which on the operation of certain wholesale segments would no longer be profitable. Office of Fair Trading, The grocery market – The OFT's reasons for making a reference to the Competition Commission, May 2006, para. 6.16 and following.

the respective degrees of risk aversion, which may once again be linked to observable structural factors such as size.

- 3.24 Para. 29-30. As discussed in detail in Section 2.4, equating the theory of the waterbed effect with a particular theory of how buyer power arises in the first place is inadequate. There is no economic rationale for this. Moreover, also in other instances where competitive harm from buyer power was taken into account it was not deemed necessary to pinpoint one and only one precise “micro-theory” of how size-related discounts arise in the first place. Though costs of switching are not too far-fetched in many circumstances, in particular in relation to the circumstances of ACS’ members, the ACS’ submission does not argue that other sources of buyer power, e.g., those relating to suppliers’ economic dependency, are not also relevant in the context of UK grocery retailing. To the extent that they also generate a competitive advantage for some buyers, the working of the waterbed effect is not affected.
- 3.25 Para. 31. We feel that this paragraph seriously understates the findings in the 2000 report. It should also be noted that in light of the ACS’ submission, it is potentially misleading to refer to differences between Sainsbury’s and Tesco. Judging that one may thereby learn something about the difference between the buying terms of the ACS’ members and, say, Tesco presumes some proportionality in discounts, which may not be there. (In fact, the theories of buyer power that were omitted in fn 4 would suggest that there are certain thresholds.)
- 3.26 Para. 32. If the reference to this study stays in the final version, then Prof. Inderst would like to point out that the reported findings are distorted and provide a misleading picture.
- 3.27 Para. 34-39. We argue in detail in Section 2.2 why we think that the Competition Commission errs about the contracting reality in the UK grocery market and about the role of the contracting assumption in the ACS’ submission.
- 3.28 Para. 40. The ACS’ submission acknowledged that through the use of the Hotelling model, which is the workhorse model in retailing, it made several assumptions, including that of a market of fixed size. As discussed in detail in Section 2.3, however, we would conjecture that market expansion through multi-unit purchases may even work towards strengthening a waterbed effect, at least in the long run.
- 3.29 Para. 41. Figure 1 shows retailer market share, while the text refers to prices and sales. It is our understanding that the OFT’s evidence shows that markets are becoming increasingly concentrated over time and that, in particular, the big retailers grow their market shares. These facts are clearly consistent with a waterbed effect being at work.
- 3.30 Para. 43-45. The ACS’ model applies equally irrespective of whether a small retailer faces competition from a convenience store that is operated by a large multiple or

from a store with a different format. The Competition Commission seems to argue that in the latter case, where the large retailer's outlet may also face competition from other one-stop shopping outlets, the results may be altered or at least weakened. We do not agree with this as in this case we would also expect the waterbed effect to be stronger (cf. Section 2.5)

APPENDIX 1: TECHNICAL ANNEX

Technical remarks on contracting

- A1.1 Tesco (whose comments have not been published but are reported in the CC paper) seems to have remarked that the specification that retailers and suppliers bargain over discounts on the unit price is incorrect and that suppliers would have an incentive to negotiate on the both the unit and lump-sum element of the payments (CC paper para. 23c). To see that this criticism is misleading we have to discuss more broadly some deeper, conceptual issues of how to adequately model supplier-retailer negotiations.
- A1.2 Consider for this purpose first a monopolistic supplier with constant marginal costs of c selling to a single monopolistic retailer. Any contract that specifies a marginal purchasing price (i.e., an incremental purchasing price on the last unit that is purchased) of strictly larger than c will not maximize joint profits, giving rise to a problem of double-marginalization. In particular, a linear contract, specifying a constant per-unit purchasing price of $w > c$, will thus leave money on the table. Instead, one contract that achieves joint-surplus maximization is a so-called "two-part tariff" contract, where the retailer pays a constant per-unit price of $w = c$ and, in addition, makes himself (!) a "lump-sum" transfer of T . Such a contract falls into the category of "multi-part tariffs".
- A1.3 In this most simple environment linear contracts seem thus indeed to be hard to justify. The inefficiencies arising should be negotiated away. We conjecture that this rather straightforward observation motivated the critique on the choice of linear contracts.
- A1.4 Even if there was a bilateral monopoly, however, in practice a host of different factors would militate against the extreme outcome where regardless of the ultimately realized demand a supplier must end up selling his last unit at a zero margin. Such factors, some of which have received a formal treatment in the literature, include asymmetric information, the provision of incentives for retailers or problems of opportunistic behaviour (e.g., with regards to quality or time of delivery).
- A1.5 Far more important, though, is the fact that this benchmark fully abstracts from any competition at both the up- and the downstream level. In what follows, we consider only the introduction of competing retailers.²²
- A1.6 A particular extreme way of conceptualizing bilateral transactions between a single supplier and competing rivals presumes that the supplier is, in essence, himself his worst competitor. This situation is obtained by the following key presumptions: first, the supplier enters into secret bilateral negotiations with each individual retailer; second, by ignoring

²² The introduction of competing suppliers whose goods can be simultaneously stocked at any given retailer introduces still other issues, in particular those of "rent extraction", where bilateral contracts may be distorted so as to extract more "rents" from other transactions. Again, the upshot is that not only the "fixed-part" (or lump-sum) component of a contract would then be used to transfer rents.

the possibility of repeated interactions it is ruled out both that retailers over time learn through observed retail prices about each others' (relative) terms of supply and that suppliers build up a reputation. With some additional technical assumptions, under two-part tariff contracts each retailer will purchase at $w=c$, irrespective of the size of the retailer and irrespective of how many retailers there are in the downstream market and of how vigorously they compete. As a consequence, the monopolistic supplier's profits may get almost completely wiped out! What is more, once we introduce upstream competition, the purchasing price that all retailers pay will not change at all in such a setting. Though this modelling framework is common in the academic literature, we dismissed it for the purpose of understanding the sources and consequences of potential price discrimination in bilaterally oligopolistic markets.

A1.7 A second framework of how to conceptualize contracting in bilateral oligopolies is that of linear prices. Even when extended to the case where retailers can stock multiple suppliers' goods, this setting produces intuitive and realistic results, e.g., that wholesale and retail prices behave monotonically in the extent of up- and downstream competition. The ACS' submission is precisely in this tradition.

A1.8 Still a third variant that is used in the literature is that of non-linear but *observable* contracts. It is well known that if all retailers must purchase from the same supplier, then observable contracts lead to a *full monopolization* of the downstream market. This is achieved through a judiciary choice of the respective wholesale price w so as to sufficiently dampens retail competition, while profits are then shared via the "lump-sum part" of any contract. This extreme result renders also this simple model useless for any comparative analysis in antitrust.²³ That said, we know from our own modelling that once we allow retailers either to switch to different suppliers or to stock other suppliers' goods or private labels at the same time, then more realistic results can be obtained. In this case, however, it should be noted that once again wholesale prices now adjust to retailers' specific circumstances, including the attractiveness of selling more of a private label or of other suppliers' goods. Consequently, it is then again not true that only the "lump-sum parts" of a contract are adjusted.

A1.9 This short discussion thus makes clear that the ACS' submission chose the most natural and in light of an analysis of potential price discrimination in bilaterally oligopolistic markets most reasonable modelling framework.

Competition between different outlet formats

A1.10 We briefly discuss here more formally a potential extension of the model to allow for the possibility that a small retailer's outlet competes against a different format owned by a

²³ It may be interesting to note, however, that also in this setting one may have a "waterbed" effect in that as one retailer obtains a competitive advantage (e.g., through lower operating costs) then a supplier would want to lower the wholesale price of this retailer while increasing that of other retailers.

larger chain. As noted in the main text above, the Competition Commission's remarks (para 43-45) seem to suggest the following assertions: First, as the large format may also be in competition with other outlets of the same size, the pass-through should be higher; second, this would make consumer harm less likely. In what follows, we contest both assertions.

- A1.11 We argue first that competition with more than one outlet (of possibly different formats) need not increase the pass-through rate. In fact, an extension of the standard Hotelling model that is used in the ACS' submission shows immediately that the pass-through stays constant (and equal to $2/3$, once the equilibrium prices are calculated). More formally, we could imagine that one outlet, say outlet $i=1$, competes for different customers with outlet $i=2$ and outlet $i=3$, where the respective (fully covered markets) are of size z_2 and z_3 . (We should note that this formulation should not suggest that outlets of different size and format are per se in different markets. Instead, this formulation is again only chosen for convenience.) After solving for the three equilibrium prices, it can be confirmed that the pass-through is $2/3$ for either firm, irrespective of the choice of z_2 and z_3 .
- A1.12 On the other hand, we would not dispute that alternative models (with alternative demand specifications) could lead to higher pass-through if an outlet is in competition with more outlets of different formats. In this case, however, it should be noted that the higher pass-through will also have a greater effect on the sales and market share of the adversely affected outlets. In particular, for the small outlet this may then further reduce the already small volume. As the effect of the waterbed effect in our model is non-linear and stronger the smaller is the share of the adversely affected outlet, this would suggest that consumer detriment could be even more likely to occur.