

HOUSTONKEMP
Economists

Empirical evidence of grocery sector competition – further analysis

A report for Foodstuffs

3 December 2021

Confidential information subject to undertakings – highlighted in blue

Foodstuffs confidential information – highlighted in green

Report authors

Greg Houston

Luke Wainscoat

Sarah Turner

Zoe Odgers

Contact Us

Sydney

Level 40

161 Castlereagh Street

Sydney NSW 2000

Phone: +61 2 8880 4800

Disclaimer

This report is for the exclusive use of the HoustonKemp client named herein. There are no third party beneficiaries with respect to this report, and HoustonKemp does not accept any liability to any third party. Information furnished by others, upon which all or portions of this report are based, is believed to be reliable but has not been independently verified, unless otherwise expressly indicated. Public information and industry and statistical data are from sources we deem to be reliable; however, we make no representation as to the accuracy or completeness of such information. The opinions expressed in this report are valid only for the purpose stated herein and as of the date of this report. No obligation is assumed to revise this report to reflect changes, events or conditions, which occur subsequent to the date hereof. All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the client.

Contents

Executive summary	i
Multi-dimensional nature of competition is under-recognised	ii
Frontier Economics' analysis is not unambiguous evidence of weak competition	ii
National pricing is highly unlikely to facilitate coordination	iii
Stable market shares provide insufficient evidence to support a conclusion	iv
Conclusion	v
1. Introduction	1
2. Dimensions of competition	3
2.1 Evidence before the Commission on multi-dimensional competition	3
2.2 Overseas regulators examine competition across many dimensions	5
2.3 Multi-dimensional competition is good for consumers	7
2.4 Implications for the analysis of competition	8
3. Frontier Economics analysis	10
3.1 Price and concentration analysis	11
3.2 Entry and exit analysis	22
4. Uniform pricing as a coordination mechanism	31
4.1 Review of the literature presented by Commissioner Small	31
4.2 Coordination is highly unlikely	34
4.3 Views on uniform pricing by competition regulators	37
5. Stability of market shares	39
5.1 Commission's conclusion regarding stable market shares	39
5.2 Local market shares are not stable over time	42
5.3 Stable market shares do not indicate a lack of competition	44

Figures

	43
	43
	44

Tables

Table 5.1: Market share of grocery stores in Great Britain.....	46
---	----

Executive summary

1. We have been asked by the two Foodstuffs cooperatives, Foodstuffs North Island (FSNI) and Foodstuffs South Island (FSSI), to prepare this further report on both empirical evidence and relevant theories as to the nature and intensity of competition in the retail grocery sector. This report builds on our earlier report on empirical evidence of grocery sector competition.¹
2. The context for this report is the market study into the retail grocery sector being undertaken by the Commerce Commission (the Commission) and the preliminary finding expressed in the Commission's draft report that the major grocery retailers amount to a duopoly and choose strategies that limit the extent to which they compete with each other.²
3. The purpose of this report is to examine in further detail various matters arising during the Commission's conference. In particular, we review elements of the empirical evidence as to the nature and intensity of competition to assess the extent to which that evidence provides support for the Commission's central finding that competition is not working well for consumers.³
4. Our review of the evidence reveals three key oversights made by the Commission in relation to the empirical or theoretical analysis and its interpretation, ie:
 - a. first, where empirical analysis has been undertaken, there are significant limitations in the measurement of key variables and the methodologies adopted;
 - b. second, where the results of such empirical analyses have been considered by the Commission, they have been interpreted incorrectly; and
 - c. third, where empirical evidence has been relied on to draw findings and conclusions, such evidence is equally consistent with alternative conclusions suggesting competition is effective.
5. It follows that the empirical evidence and relevant theories relied upon by the Commission do not provide unambiguous support for its conclusion that competition is less than would be expected in a workably competitive market. The evidence is equally consistent with the alternative conclusion that competition is operating effectively in the grocery sector.
6. The empirical evidence and theories examined in further detail in this report span:
 - a. the Frontier Economics analysis of local market competition, and the extent to which that analysis allows any inferences to be drawn as to the effectiveness of competition in retail grocery markets;
 - b. the question raised during the conference by Commissioner John Small – including by reference to academic literature – as to whether the national pricing strategies adopted by each of the major grocery retailers may facilitate coordinated pricing conduct, thereby detracting from the effectiveness of competition;⁴ and

¹ HoustonKemp, *Empirical evidence of grocery sector competition*, 9 September 2021, pp 27-31.

² Commerce Commission, *Market study into retail grocery sector Draft report*, 29 July 2021, p 299, paras 9.10 and 9.12.

³ Commerce Commission, *Market study into retail grocery sector Draft report - Executive summary*, 29 July 2021, p 3.

⁴ *Day 1 - Transcript of grocery market study conference*, 21 October 2021, p 37, lines 28-39.

- c. the validity of the contention in the Commission’s draft report that the stability of market shares, as between each of the major grocery retailers, is evidence that major grocery retailers are not competing closely with each other.⁵
7. An important backdrop to our further examination of this evidence is the widespread recognition that retail grocery sector competition takes place by reference to four principal dimensions, ie, price, quality, range, and service (PQRS). We therefore include a brief, prior discussion of the implications of the PQRS dimensions of competition for the interpretation of any empirical evidence as to the nature and degree of competition.

Multi-dimensional nature of competition is under-recognised

8. The Commission acknowledges that competition takes place on the basis of more than prices alone, referring to the additional competition dimensions of quality, range, and service throughout its draft report.⁶ Indeed, the evidence before the Commission includes numerous examples of intense non-price competition.⁷
9. The results of the consumer survey presented by the Commission confirm that customers value the differentiated aspects of the retail offer,⁸ implying that competition on such aspects should be considered in any empirical analysis of competition.
10. These same considerations are reflected internationally, where regulators recognise the importance of competition on all aspects of PQRS between grocery retailers. Regulators in Australia and the United Kingdom have emphasised the role of non-price competition in past studies into grocery markets.
11. Intense competition on those elements of PQRS that are valued by consumers is pro-competitive and welfare enhancing. It results in the provision of a wide range of products and service levels, encourages innovation, and improves the retail offering overall.
12. Despite acknowledging its role in the sector, the Commission appears to have under-recognised the multi-dimensional nature of competition in its empirical assessment of grocery sector competition. The empirical evidence assessed by the Commission is limited in scope for two reasons:
 - a. first, the Commission has not assessed the extent of competition between retailers on all PQRS aspects of the retail offer in a meaningful way; and
 - b. second, the effect of QRS elements on price has not been adequately controlled for when assessing the relationship between price and concentration.
13. By these omissions, the Commission’s analysis of the intensity of grocery sector competition is incomplete.

Frontier Economics’ analysis is not unambiguous evidence of weak competition

14. Frontier Economics provided analysis to the Commission examining the extent to which the structure of local grocery markets affects price competition between grocery stores.⁹

⁵ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.93.

⁶ See, for example: Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.48

⁷ See, for example: FSNI, *Post-conference submission on the grocery market study draft report*, 3 December 2021, section ‘QRS competition’.

⁸ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, figure F20, p 467.

⁹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, pp 135 and 137, paras 5.118 and 5.127-5.128.

15. In our first report on grocery sector competition, we provided a response to Frontier Economics' analysis and results, and an assessment of the conclusions drawn by the Commission.¹⁰ In this report, we further consider the limitations of the analysis and provide a number of alternative conclusions that are equally consistent with the results, demonstrating that the analysis of Frontier Economics does not provide unambiguous empirical evidence in support of the Commission's conclusions.
16. We explain that there are a number of limitations to the approach taken by Frontier Economics, making it challenging to interpret the results with confidence. For example, the metrics chosen as a measure of concentration do not fully reflect local market concentration, and the analysis excludes a number of key product categories, including fresh fruit, vegetables, and meat.
17. Importantly, the analysis does not account for the non-price elements of competition, or the possibility that prices are set on a national or regional basis with some local variation. As such, the results of the analysis mask important aspects of competition.
18. The Commission states that Frontier Economics' analysis suggests that local market concentration has a limited effect on price competition, and concludes that such a finding suggests that competition between major grocery retailers is less than effective, ie:¹¹

Overall, the analysis by Frontier Economics suggest that local market concentration appears to have little or no effect on price competition between the major grocery retailers. This is consistent with our preliminary finding that price competition between the major grocery retailers is less than we would expect in a workably competitive market.

19. However, the Commission's interpretation of the results is incorrect. Setting aside the limitations in the approach, the results of the analysis are mixed. Frontier Economics produces a number of both statistically significant and non-significant results, which cannot be interpreted to conclude that there is 'little or no' relationship between the chosen measures of local market concentration and price between the major grocery retailers.¹²
20. Nevertheless, the finding that local market concentration has little or no effect on local prices is equally consistent with a number of alternative conclusions, including that:
 - a. local and national grocery markets are subject to effective competition and retailers are earning normal profits;
 - b. intense price competition takes place on a national level between the major retailers; and
 - c. intense competition between the major retailers and other retailers takes place on the basis of all aspects of the retail offer.
21. We conclude that the empirical evidence presented by Frontier Economics is does not provide unambiguous support for the Commission's conclusion that competition is less than expected in a workably competitive market.¹³

National pricing is highly unlikely to facilitate coordination

22. We review the academic evidence in relation to a question raised during the conference by Commissioner John Small as to whether the national pricing strategies adopted by each of the major grocery retailers may facilitate coordinated pricing conduct, thereby detracting from the effectiveness of competition.

¹⁰ HoustonKemp Economists, *Empirical evidence of grocery sector competition*, 9 September 2021, pp 27-31.

¹¹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 136, para 5.125.

¹² Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 136, para 5.125.

¹³ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 136, para 5.115.

23. The literature referred to by Dr Small assesses the profit maximising incentives for chain-store retailers of adopting national pricing, both unilaterally or jointly by coordinating with rivals.¹⁴ Using a highly simplified, parameterised example, the paper finds there is some scope for the joint profits of rival retailers in a duopoly to be higher when both commit to uniform pricing and can agree to coordinate their prices.¹⁵
24. However, the scope for such circumstances to arise depends on the key parameters of the model, and there are limitations in drawing comparisons to the grocery sector in New Zealand owing to the complexities and uncertainties of ‘real life’.
25. Further, it is widely acknowledged that chain-store retailers adopt uniform pricing for a variety of reasons other than to engage in coordination or facilitation, including to minimise costs, increase customer satisfaction, and due to the difficulties in measuring local demand.¹⁶
26. The parameterised example in the literature referred to by Dr Small assumes chain-store rivals will be able to coordinate their pricing strategies, without consideration of the factors that may or may not facilitate such coordination.
27. In our opinion, coordination in the grocery sector appears to be highly unlikely. The empirical evidence suggests it is likely to be very difficult to reach and sustain an agreement to weaken competition. This is consistent with the Commission’s finding that its study did not disclose evidence of the major grocery retailers accommodating each other’s strategies.¹⁷
28. We conclude that the literature referred to by Dr Small, along with empirical evidence from the sector, does not provide support to the position that coordination is likely between the major grocery retailers as a result of the adoption of uniform pricing strategies.

Stable market shares provide insufficient evidence to support a conclusion

29. Finally, we review the validity of the contention in the Commission’s draft report that the stability of market shares is evidence that competition is not working well for consumers. We find that there are limitations in the measurement of market shares and interpretation of the results, and there are a number of alternative conclusions that can be drawn.
30. In our opinion, there is insufficient information to draw a conclusion that market shares are stable because:
 - a. the Commission does not have good quality of information on market shares;
 - b. the shares used by the Commission are annual, when competition occurs over a matter of days;
 - c. the information used by the Commission aggregates the shares of individual firms into groups; and
 - d. there is variation in market shares, even when they are aggregated into a yearly basis for a group of firms.

¹⁴ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008.

¹⁵ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 19.

¹⁶ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, pp 8-9, 24-25.

¹⁷ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 112.

31. The Commission finds that the combined share of the major grocery retailers varies by approximately three to six per cent per year when specialist grocery retailers are excluded.¹⁸ This does not lead to any particular conclusion about the nature of competition because:
 - a. there is some variation from year to year, ie, some net switching from major grocery retailers to or from other grocery retailers has taken place – there is no reason to believe that this amount of variation indicates a problem with competition; and
 - b. using annual shares is not appropriate when retailers monitor sales and the conduct of rivals on a weekly basis and react quickly – there is variation in market shares from week to week that is lost when considering annual shares.
32. Stable market shares are equally consistent with the alternative conclusion that competition is effective between firms with similar cost bases. These firms would be expected to increase and decrease their prices in line with their underlying cost base, which is similar.
33. Alternatively, stable market shares can indicate that there is a lack of competition if they are caused by collusion, or there is only a small proportion of customers that would consider switching between the firms. The available evidence does not support these reasons, so any stability in market shares is likely not caused by a lack of competition.
34. We conclude that the empirical evidence relating to the stability of market shares presented by the Commission does not provide sufficient support for the conclusion that grocery retailers are not competing closely with each other.¹⁹

Conclusion

35. Our detailed examination of the empirical evidence and relevant theories relied upon by the Commission shows that such evidence does not provide conclusive support for its preliminary finding that competition is less than expected in a workably competitive retail grocery sector.
36. Much of the evidence is equally consistent with the conclusion that competition on the basis of price, quality, range, and service is effective between grocery retailers.

¹⁸ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, figure 5.2, p 130.

¹⁹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, paras 5.91, 5.93.

1. Introduction

37. We have been asked to prepare this further report on both empirical evidence and relevant theories as to the nature and intensity of competition in the retail grocery sector by the two Foodstuffs cooperatives, ie, Foodstuffs North Island (FSNI) and Foodstuffs South Island (FSSI).
38. The context for this further report is the market study into the retail grocery sector being undertaken by the Commerce Commission (the Commission) and the preliminary finding expressed in the Commission's draft report that the major grocery retailers amount to a duopoly and choose strategies that limit the extent to which they compete with each other.²⁰
39. Of particular significance for this report, in the conference proceedings following the Commission's draft report, Commissioner John Small commenced the fourth day with the observations that:²¹
 - a. the Commission's findings in its draft report that profitability in the retail grocery sector was abnormally high had been over-emphasised; and
 - b. in its final report, the Commission would be placing relatively greater weight on other dimensions of its competition analysis in seeking to draw its final conclusions as to the state of competition in retail grocery markets.
40. The purpose of this report is to examine in further detail various matters arising during the Commission's conference with significant implications for such other, non-profitability related dimensions of competition. In particular, we review elements of the empirical evidence as to the nature and intensity of competition to assess the extent to which that evidence provides support for the Commission's central finding that competition is not working well for consumers.²²
41. The empirical evidence examined in further detail in this report spans:
 - a. the Frontier Economics' analysis of local market competition, and the extent to which that analysis allows any inferences to be drawn as to the effectiveness of competition in retail grocery markets;
 - b. the question raised during the conference by Commissioner John Small – including by reference to academic literature – as to whether the national pricing strategies adopted by each of the major grocery retailers may facilitate coordinated pricing conduct, thereby detracting from the effectiveness of competition;²³ and
 - c. the validity of the contention in the Commission's draft report that the stability of market shares, as between each of the major grocery retailers, is itself evidence that major grocery retailers are not competing closely with each other.²⁴
42. An important backdrop to our further examination of this evidence is the widespread recognition that retail grocery sector competition takes place by reference to four principal dimensions, ie, price, quality, range, and service (PQRS). We therefore include a brief, prior discussion of the implications of the PQRS dimensions of competition for the interpretation of any empirical evidence as to the nature of competition.

²⁰ Commerce Commission, *Market study into retail grocery sector Draft report*, 29 July 2021, p 299, paras 9.10 and 9.12.

²¹ *Day 4 - Transcript of grocery market study conference*, 27 October 2021, pp 3-4.

²² Commerce Commission, *Market study into retail grocery sector Draft report - Executive summary*, 29 July 2021, p 3.

²³ *Day 1 - Transcript of grocery market study conference*, 21 October 2021, p 37, lines 28-39.

²⁴ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.93.

43. Accordingly, the remainder of our report is structured as follows:
- a. in section 2, we explain that competition between grocery retailers takes place by reference to multiple dimensions of the retail offer and set out the implications of this widely accepted maxim for the analysis of competition itself;
 - b. in section 3, we consider the limitations of the empirical analysis undertaken by Frontier Economics, as well as setting out a number of alternative conclusions that are equally consistent with the Commission's finding that local market concentration has little or no effect on prices;
 - c. in section 4, we review the academic evidence in relation to a question raised by Commissioner John Small as to whether the national pricing strategies adopted by each of the major grocery retailers may facilitate coordinated pricing conduct; and
 - d. in section 5, we review the Commission's contention that the stability of market shares is evidence that competition is not working well for consumers and explain that there is insufficient evidence to draw such a conclusion.
44. Finally, we note that two forms of empirical evidence discussed in our earlier report are not addressed in this further report, on the presumption that the Commission generally accepts our earlier, central conclusions, that:²⁵
- a. competition for grocery retailing is not limited to or even focused on consumers' regular, full shopping mission, but rather is strongly influenced by the nine out of ten shopping missions that are driven by consumer need for a particular category of groceries – such as the cooking from scratch mission (ie, dinner), beer and wine mission, on the go mission, homecare and pet mission, personal care and wellbeing mission, etc;²⁶ and
 - b. the Commission's analysis of the extent to which changes to the cost of goods sold is passed through in the form of changed retail prices does not allow any conclusions to be drawn as to the intensity or otherwise of competition in the retail grocery sector.

²⁵ HoustonKemp Economists, *Empirical evidence of grocery sector competition*, 9 September 2021, paras 46, 54-55, 148-150.

²⁶ *Day 1 - Transcript of grocery market study conference*, 21 October 2021, p 14, lines 18-37.

2. Dimensions of competition

45. In this section, we explain the basis for the widely accepted maxim that retail grocery sector competition takes place by reference to multiple dimensions of the consumer grocery shopping experience. We summarise the evidence on the multi-dimensional nature of competition brought before the Commission, its consistency with conclusions drawn in light of similar retail grocery market studies undertaken in other countries, and its implications for the analysis of competition itself.
46. The Commission acknowledges that competition takes place on the basis of more than prices alone, referring to the additional competition dimensions of quality, range, and service throughout its draft report.²⁷ The evidence before the Commission includes numerous examples of intense non-price competition.²⁸
47. The results of the consumer survey presented by the Commission also confirm that customers value the differentiated aspects of the retail offer,²⁹ implying that competition on such aspects should be considered in any empirical analysis.
48. These same considerations are reflected internationally, where regulators recognise the importance of competition on all aspects of PQRS between major grocery retailers. Regulators in Australia and the United Kingdom have emphasised the role of non-price competition in past studies into grocery markets in their respective countries.
49. Intense competition on those elements of PQRS that are valued by consumers is pro-competitive and welfare enhancing. It results in the provision of a wide range of products and service levels, encourages innovation, and improves the retail offering overall.
50. Despite acknowledging its role in the sector, the Commission appears to have under-recognised the multi-dimensional nature of competition in its empirical assessment of grocery sector competition. The empirical evidence assessed by the Commission is limited in scope for two reasons:
 - a. first, the Commission has not assessed the extent of competition between retailers on all PQRS aspects of the retail offer in a meaningful way; and
 - b. second, the effect of QRS elements on price has not been adequately controlled for when assessing the relationship between price and concentration.
51. By these omissions, the Commission's analysis of the intensity of grocery sector competition is incomplete.

2.1 Evidence before the Commission on multi-dimensional competition

52. It is broadly acknowledged that grocery retailers offer strongly differentiated products and levels of service to customers. Retailers compete on a range of non-price factors, offering points of differentiation for each element of the PQRS dimensions.

²⁷ See, for example: Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.48

²⁸ See, for example: FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, section 'QRS competition'.

²⁹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, figure F20, p 467.

53. The Commission refers to the importance of the multi-dimensional nature of competition between grocery retailers throughout its draft report,³⁰ and states:³¹

Grocery retailers generally provide an array of complementary services such as carparking, product range and product quality to consumers in addition to their core function of selling groceries. In order to compete for consumers located within close proximity to the store, grocery retailers differentiate their offering by combining the set of products and services offered in different ways to attract different types of consumers and shopping missions....

We understand that the major grocery retailers tend to compete across the full price, quality, range and service (PQRS) spectrum in an effort to make their retail grocery offer attractive to consumers on many different types of shopping missions.

54. The Commission's findings on the multi-dimensional nature of competition are reflected in the submissions made by both the Foodstuffs' entities and Woolworths.

55. FSNI provides examples of such non-price competition between itself and local rivals, including:³²

a.

b.

c.

d. the development of the Fresh Collective Brand to compete with [REDACTED] on dimensions such as convenience and store size;

e. the development of meal kits as a new product offering to compete on product range with meal kit providers;

f. the development of a number of product categories to compete with other local retailers on range, such as health and wellbeing products, ethnic products, personal care products, gourmet products, and ready meals;

g. the introduction of a range of 'recipe builder options' to compete with meal kit providers and other retailers on service, including 'Recipe of the week' at New World, 'Love Food Hate Waste' weekly meal planners, and shoppable recipes; and

h. the introduction of a grocery delivery service through UberEats to compete with other convenience stores on service.

56. Similarly, in its public submission, Woolworths provides evidence that it has recently upgraded its Richmond Rd Countdown in Grey Lynn to compete with a Farro Fresh store on the basis of quality, range, and service.³³ Woolworths also states that it competes on a range of dimensions:³⁴

Our view is that the extent to which grocery retailers in New Zealand seek to differentiate their product and service offering through competing on aspects such as innovation, shopping

³⁰ See, for example: Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, paras 4.23-4.56 and 5.49-5.59.

³¹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, paras 4.47-4.48.

³² See, for example: FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, section 'QRS competition'.

³³ Woolworths New Zealand, *Woolworths New Zealand Limited's submission on the New Zealand Commerce Commission's draft report regarding the market study into the retail grocery sector*, 10 September 2021, para 29.3.1.4.

³⁴ Woolworths New Zealand, *Woolworths New Zealand Limited's submission on the New Zealand Commerce Commission's draft report regarding the market study into the retail grocery sector*, 10 September 2021, para 29.3.2.2.

experience, product range and service levels is evidence of the intensely competitive nature of the sector in New Zealand.

57. These examples illustrate the nature and responsiveness of non-price competition initiatives between the major retailers and other retailers in the grocery sector.
58. The results of the consumer survey conducted by the Commission also reflect the wide range of preferences held by consumers, encompassing an array of PQRS factors.³⁵
59. The survey results illustrate that many non-price elements of the retail offering are highly valued by consumers.³⁶ Only 30 per cent of consumers consider 'low prices overall' as one of the reasons for shopping at their main store, with just 15 per cent considering 'low prices overall' as the single most important reason for their decision.³⁷ These results show that the large majority of grocery customers value other aspects of the retail offering over price.
60. For example, QRS elements that were valued by a larger proportion of respondents than those who cited the importance of price include:³⁸
 - a. 'convenience/easy to get to', which is valued by around 48 per cent of respondents, with over 20 per cent considering it as the single most important reason for shopping at their main store;
 - b. 'wide choice of products', which is valued by around 33 per cent of respondents; and
 - c. 'easy parking', which is valued by 45 per cent of respondents.
61. In our opinion, these results suggest that all aspects of PQRS are valued by consumers and so require careful consideration when assessing the intensity of competition in the grocery retail sector.

2.2 Overseas regulators examine competition across many dimensions

62. Internationally, competition regulators and industry participants recognise the important role of non-price competition in grocery retail markets.
63. The ACCC conducted an inquiry into the grocery sector in 2008.³⁹ It undertook a consumer survey and reported that consumers often value non-price elements greater than or equal to price.⁴⁰ The ACCC concluded that non-price elements of the retail offer play an important role in competition in the sector:⁴¹

Overall, the ACCC consumer survey indicated that, with some variations according to the types of shoppers, consumers place a very high value on the wider elements of the supermarket retail offer. This includes non-price elements, such as parking, the standard of facilities and product range. The results indicate that the non-price elements of the retail offer play an important role in competition between supermarkets.

64. The ACCC noted that the major supermarket chains (MSCs) compete on both price and non-price elements of the retail offer, but that competition is most intense on non-price elements:⁴²

³⁵ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, figure F20, p 467.

³⁶ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, figure F20, p 467.

³⁷ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para F108.

³⁸ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, figure F20, p 467.

³⁹ ACCC, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, July 2008.

⁴⁰ ACCC, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, July 2008, p 72.

⁴¹ ACCC, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, July 2008, p 73.

⁴² ACCC, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, July 2008, p 103.

Competition between the MSCs takes many forms. Arguably, competition between the MSCs is the strongest on non-price elements of the retail offer, such as the freshness of produce and meat, and the quality and variety of products on offer (including private labels).

65. The results of the consumer survey and the characterisation of competition between major retailers appears to be consistent with the circumstances found in New Zealand. However, the Commission's approach to assessing the effectiveness of competition appears to place less emphasis on the importance of non-price competition in the grocery sector than that of the ACCC.
66. In the United Kingdom, competition regulators have assessed competition in the grocery sector on numerous occasions.⁴³ In each case, the importance of non-price competition is recognised, and empirical analysis is carefully conducted to control for QRS elements, as well as price.
67. In 2000, the Competition Commission reported that supermarkets were of the view that prices could not be isolated from quality, range, and service:⁴⁴

Of the larger main parties, nearly all were of the view that consumers' decisions of where to shop for groceries were made on the basis of a range of factors, and that the role of price could not be isolated from that of quality, range and service.

68. Recognising the importance of non-price competition, the Competition Commission adopted a wide range of measurement techniques to identify consumer preferences towards elements of the retail offer, and to assess performance in respect of each of these elements.⁴⁵ This evidence was considered when assessing competition between the major retailers.
 69. The Competition Commission conducted a further investigation into the grocery sector in 2008. It again emphasised the importance of PQRS elements on the nature of competition between major retailers, and stated that all price and non-price factors must be considered in the assessment of competition:⁴⁶
- Price and product range are key concerns for consumers.... other factors include the quality of products (eg freshness), store layout, store location, availability of food counters and other store amenities, store cleanliness, parking facilities and opening hours. In assessing the impact of competition on the retail offer, we need to take account of all of these variables.
70. The Competition Commission collected evidence to assess the extent to which grocery retailers adjust components of their retail offer at the store-level in response to local competitive conditions.⁴⁷ In contrast to the approach taken by the Commission, it did not attempt to measure the relationship between local competitive conditions and price alone.
 71. Ultimately, the Competition Commission concluded that little weight could be placed on studies seeking to assess the impact of local competition on the store-level retail offer by observing variations in its individual components.⁴⁸ This was due to the great difficulty in measuring certain aspects of the store-level retail offer (eg, quality of service) and capturing all the different elements in the studies.⁴⁹

⁴³ See, for example: Competition Commission, *Supermarkets: A report on the supply of groceries from multiple stores in the UK*, October 2000; and Competition Commission, *The supply of groceries in the UK market investigation*, April 2008.

⁴⁴ Competition Commission, *Supermarkets: A report on the supply of groceries from multiple stores in the UK. Volume 2: Background chapters*, October 2000, para 6.119.

⁴⁵ Competition Commission, *Supermarkets: A report on the supply of groceries from multiple stores in the UK. Volume 2: Background chapters*, October 2000, para 6.121.

⁴⁶ Competition Commission, *The supply of groceries in the UK market investigation*, April 2008, paras 3.39, 4.16.

⁴⁷ Competition Commission, *The supply of groceries in the UK market investigation*, April 2008, para 6.35.

⁴⁸ Competition Commission, *The supply of groceries in the UK market investigation*, April 2008, para 6.61.

⁴⁹ Competition Commission, *The supply of groceries in the UK market investigation*, April 2008, para 6.61.

72. The Competition Commission instead relied on an assessment of the relationship between profit margins and concentration, since store-level profit margins, by capturing all the influences on a store's revenues and costs, more comprehensively reflect the store-level retail offer.⁵⁰
73. More recently, in 2019 the Competition and Markets Authority (CMA) assessed a proposed merger between two major grocery retailers in the United Kingdom, ASDA and Sainsbury.⁵¹
74. When assessing the merger, the CMA assessed the potential effect on quality, range and service, as well as price:⁵²

...we have assessed whether the Merged entity could profitably increase prices, and/or worsen other aspects such as the quality, the range and the service it delivers to customers relative to the situation that would have existed absent the Merger (collectively, we refer to these price and non-price factors as 'PQRS').

75. The CMA conducted a Performance Concentration Analysis (PCA) to test how stores' revenue responds to the entry and exit of competing stores within their local area.⁵³ Revenue is used as the dependent variable because it is more likely to capture other elements of QRS in addition to price, although it is also subject to estimation bias.⁵⁴ In contrast, in the analysis undertaken for the Commission by Frontier Economics, the effect of entry and exit is confined to prices alone, thereby overlooking the measurement and effect of other elements of non-price competition.⁵⁵
76. Finally, in Europe an industry report about the state of grocery retail in 2021 highlighted results from a consumer survey citing the key reasons for switching to a new store or banner.⁵⁶ The top two responses included value and convenience.⁵⁷ This finding again confirms that customers value more than just low prices.

2.3 Multi-dimensional competition is good for consumers

77. Multi-dimensional competition is beneficial for consumer welfare whenever retailers differentiate their offering and compete on price and non-price factors that are valued by consumers.
78. The Commission acknowledges the benefits of non-price competition, as well as noting that the key drivers of store choice for consumers are based on price, convenience, location and familiarity with brands.⁵⁸ It states:⁵⁹

Differentiation on the retail grocery offer may therefore offer benefits to consumers through an expanded set of choices and increased competition between grocery retailers....

We acknowledge that there are benefits to consumers from having more choice in local markets to satisfy diverse needs and preferences.

⁵⁰ Competition Commission, *The supply of groceries in the UK market investigation*, April 2008, paras 6.61.

⁵¹ Competition and Markets Authority, *Anticipated merger between J Sainsbury PLC and Asda Group Ltd*, Final report, April 2019.

⁵² Competition and Markets Authority, *Anticipated merger between J Sainsbury PLC and Asda Group Ltd*, Final report, April 2019, para 21.

⁵³ Competition and Markets Authority, *Anticipated merger between J Sainsbury PLC and Asda Group Ltd*, Final report: Appendix C, April 2019, para 1.

⁵⁴ Competition and Markets Authority, *Anticipated merger between J Sainsbury PLC and Asda Group Ltd*, Final report: Appendix C, April 2019, p C3.

⁵⁵ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 34.

⁵⁶ McKinsey & Company and EuroCommerce, *Disruption & uncertainty - The state of grocery retail 2021 - Europe*, March 2021, pp p 12.

⁵⁷ McKinsey & Company and EuroCommerce, *Disruption & uncertainty - The state of grocery retail 2021 - Europe*, March 2021, pp p 12.

⁵⁸ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.66.

⁵⁹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, paras 4.23, 5.59.

79. The Commission's consumer survey highlights the value placed on many aspects of the retail offering by customers, which we describe at paragraphs 59 and 60 above. It follows that non-price competition is likely to enhance consumer welfare relative to a market where competition is based solely on prices.
80. On these considerations, differentiation by reference to PQRS between different retail banners is pro-competitive. It drives the provision of a wide range of products and services that consumers want and encourages constant innovation and improvement of the retail offering. The result is that consumers have more choice and that the choices more closely match their preferences.
81. In contrast to the interpretation suggested by the Commission, differentiation is not necessarily an indicator of a weak price competition.⁶⁰ Differentiation occurs when firms compete on non-price elements to provide better offers to consumers. The existence of non-price competition also does not imply that the intensity of price competition is relatively weak overall.⁶¹

2.4 Implications for the analysis of competition

82. In our opinion, the principal importance of the multi-dimensional nature of competition in the grocery sector is that the intensity of competition should be assessed by reference to quality, range, and service, in addition to price.
83. In contrast, the Commission relies on empirical evidence that is of inherently confined scope to draw its conclusions about competition, ie:
 - a. first, it has not attempted to assess in a meaningful, empirical manner the extent of competition between rivals on the basis of quality, range or service; and
 - b. second, where it has attempted to assess empirical evidence as to the extent of price competition, it has not adequately controlled for the effect of QRS on price.
84. Notwithstanding its acknowledgment that local competition often takes place on the non-price elements of PQRS, while prices are often set centrally by the major grocery retailers, the Commission's empirical analysis focuses on price competition alone, ie:⁶²

...most of the competition on pricing ... by the major grocery retailers takes place at a national or island level. However, there is some discretion at a local store level for owner-operators and store managers to adjust their product range and other non-price dimensions of competition such as opening hours in response to local competition.
85. The focus by other grocery retailers on the non-price dimensions of competition is also emphasised by the Commission:⁶³

Other grocery retailers compete ... by differentiating their retail grocery offer from the major grocery retailers on non-price dimensions of the retail grocery offer, such as product range and quality.
86. This characterisation of the nature of competition – and the intuitive logic underpinning it – has significant implications for the analysis of the relationship between price and concentration.
87. Where competition is multi-dimensional and takes place on a local level, it would be unsurprising to find a statistically significant relationship between local market structure and local variations in the

⁶⁰ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.50. The Commission also says that the major grocery retailers attempt to differentiate themselves mainly with the aim of attracting a more loyal and exclusive customer base. Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.110. On the contrary, product differentiation is also consistent with firms competing on QRS terms to provide retail offers that consumers want.

⁶¹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.50.

⁶² Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.42.

⁶³ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.49.

combination of price, quality, range, and/or service offered by rivals. However, analysis of this kind – which, by its nature, is empirically more challenging – has not been undertaken.

88. However, an assessment of the relationship between local concentration and local prices without controlling for differences in QRS between stores, including stores in the same banner, is likely to provide inconsistent results. Nevertheless, this is the analysis that Frontier Economics have undertaken.⁶⁴
89. Where prices are set nationally by the major retailers and local rivals compete on QRS aspects of the retail offer, as described by the Commission,⁶⁵ it would not be expected to find a significant relationship between local market concentration, or local entry or exit, and average local prices at the major retailers.
90. Further, where other grocery retailers primarily choose to compete with the major retailers on the non-price dimensions of the retail grocery market, as described by the Commission,⁶⁶ it would not be expected to see a significant influence of their proximity on local prices at the major retailers. Even where other grocery retailers compete with the major retailers on both price and non-price dimensions of the retail offer, assessing the relationship between proximity and prices without controlling for differences in QRS between local stores is also likely to provide inconsistent results. Nevertheless, this is the analysis that Frontier Economics have undertaken.⁶⁷
91. The fact that the results of Frontier Economics' empirical analysis are largely not statistically significant is consistent with the expectations we describe above. We provide a more detailed assessment of this analysis in section 3.
92. In summary, the Commission has not attempted to undertake any empirical assessment of the extent of competition between rivals on the basis of quality, range or service. Further, in drawing its conclusions as to the effectiveness of competition, the Commission does not appear to place sufficient weight on these non-price dimensions of competition, even though it finds quality, range and service to be the basis of competition between rivals in local markets. By consequence of these shortcomings, the empirical analysis of the intensity of competition on which the Commission relies is incomplete.

⁶⁴ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, section 3. Frontier Economics does attempt to control for differences in QRS between banners but does not adequately control for QRS differences between stores within the same banner. In any case, for the reasons we describe at paragraphs 128 to 132 and 134 to 138, the metric used by Frontier Economics to measure concentration does not fully reflect the extent of market concentration.

⁶⁵ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.42.

⁶⁶ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.49.

⁶⁷ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, see section 3. We note that Frontier Economics does not include a number of product categories that are likely to be important in any relationship between price and concentration between major and other retailers, the implications of which we describe in more detail at paragraphs 115-120.

3. Frontier Economics analysis

93. Frontier Economics provided analysis to the Commission examining the extent to which the structure of local grocery markets affects price competition between stores.⁶⁸ Specifically, Frontier Economics undertook an analysis of:
- a. the levels of local market concentration in the areas surrounding 694 major grocery stores to assess how variations in concentration across local grocery markets are related to variations in prices;⁶⁹ and
 - b. a sample of 32 events when stores entered, exited, changed location, or rebranded to assess whether these events had an economically significant effect on the prices charged by competing stores within the same local markets.⁷⁰
94. In our first report on grocery sector competition, we provided a response to Frontier Economics' analysis and results, as well as an assessment of the conclusions drawn by the Commission.⁷¹ In this report, we further consider the limitations of the analysis and provide a number of alternative conclusions that are equally consistent with the results, demonstrating that the report does not provide unambiguous empirical evidence in support of the Commission's conclusions.
95. Importantly, the analysis does not account for the non-price elements of competition, or the possibility that prices are set on a national or regional basis, such as for the north and south islands, with some local variation. As such, the results of the analysis mask important aspects of competition.
96. Further, the approach taken by Frontier Economics contains a number of limitations, making it challenging to interpret the results with confidence. These limitations include, but are not confined to:
- a. the assessment of competition on local prices, while overlooking the effect on national prices;
 - b. the exclusion of important grocery categories, including fruit, vegetables, and meat;
 - c. the potential endogeneity between variables;
 - d. the incomplete measurement of market concentration;
 - e. the focus on price competition, while overlooking competition on QRS elements of the retail offer;
 - f. the absence of the effect of other retailers (ie, not the major banners) in many of the models; and
 - g. potential omitted variable bias in some results.
97. The Commission states that Frontier Economics' analysis suggests that local market concentration has a limited effect on price competition, and concludes that such a finding suggests that competition between major grocery retailers is less than effective, ie:⁷²

Overall, the analysis by Frontier Economics suggest that local market concentration appears to have little or no effect on price competition between the major grocery retailers. This is consistent

⁶⁸ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, pp 135 and 137, paras 5.118 and 5.127-5.128.

⁶⁹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, pp 135-136, paras 5.118-5.126.

⁷⁰ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, pp 137-138, paras 5.127-5.132.

⁷¹ HoustonKemp Economists, *Empirical evidence of grocery sector competition*, 9 September 2021, pp 27-31.

⁷² Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 136, para 5.125.

with our preliminary finding that price competition between the major grocery retailers is less than we would expect in a workably competitive market.

98. Setting aside the limitations in the approach, the results of the analysis are mixed. Frontier Economics produces a number of both statistically significant and non-significant results, which is not consistent with the proposition that local market concentration appears to have little or no effect on price competition between the major grocery retailers.⁷³
99. Nevertheless, the finding that local market concentration has little or no effect on local prices is equally consistent with a number of alternative conclusions, including that:
 - a. intense price competition takes place on a national level between the major retailers;
 - b. local and national grocery markets are subject to effective competition; and
 - c. intense competition between the major retailers and other retailers takes place on the basis of all aspects of the retail offer.
100. We conclude that the empirical evidence presented by Frontier Economics does not provide unambiguous support for the Commission's conclusion that competition is less than expected in a workably competitive market.⁷⁴

3.1 Price and concentration analysis

101. In our first report on competition in the grocery sector, we provide an outline of the analysis conducted by Frontier Economics.⁷⁵ The section below builds on the content in our first report.
102. Frontier Economics was requested by the Commission to undertake an econometric analysis to test whether there is a relationship between concentration and price and/or margins in local grocery markets.⁷⁶ More specifically, its analysis examined the relationship between local market concentration and the variation in the average price level of all products at a local store level.

3.1.1 Analysis undertaken by Frontier Economics

103. Frontier Economics measures local market concentration using two methods, ie:⁷⁷
 - a. the distance weighted share of supply of the major grocery retailers (Foodstuffs and Woolworths) to which the focal stores belonged, where:
 - i. the total market is the sum of the distance weighted revenues of all Foodstuffs and Woolworths stores within the market,⁷⁸ which is obtained by multiplying the store's revenue by its normalised proximity⁷⁹ to the focal supermarket, ie, the one whose prices are being examined;
 - ii. the share is the sum of the distance weighted revenues of either Foodstuffs or Woolworths stores from all banners; and

⁷³ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 136, para 5.125.

⁷⁴ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 136, para 5.115.

⁷⁵ HoustonKemp Economists, *Empirical evidence of grocery sector competition*, 9 September 2021, paras 156-170.

⁷⁶ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 9.

⁷⁷ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 23-24.

⁷⁸ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 23.

⁷⁹ The normalized proximity of the supermarket measures the distance from the focal store as a percentage. A store at the spatial center of the market will have a weighting of 100 per cent, but a store at the spatial boundary of the market will have a weighting of zero.

- iii. the distance weighted share of supply is effectively a measure of the size of Woolworths (Foodstuffs) relative to Foodstuffs (Woolworths) in each market, weighted by distance; and
 - b. the proximity or drive time as a percentage of the market drive time boundary size (ie, 5, 10, 15 or 20 minutes) from the focal store to:⁸⁰
 - i. the closest of each of the six banner stores, and:
 1. in one variation of this analysis:
 - a. the closest other supermarket (not any of the banner stores);
 - b. the closest international supermarket; and
 - c. the closest butcher;
 2. in another variation of this analysis:
 - a. the closest Warehouse retail store, Chemist Warehouse, and closest convenience store; and
 3. in another variation, the distance to the second closest banner store.
104. The analysis controls for a number of other factors that are likely to affect variation in prices, including:⁸¹
 - a. the banner group, since the relationship between concentration and prices is measured separately for each of the six banners;
 - b. area type, eg, urban or rural areas;
 - c. demographic characteristics, including, population, median income, median age, proportion of the population identifying as Maori, proportion of population identifying as foreign born, and proportion of population reporting a highest qualification of bachelor's degree/level 7 and above; and
 - d. store size, entered as a logarithm in the regression model.
105. Frontier uses an instrumental variable method when regressing price on the distance weighted share of supply to attempt to control for the potential endogeneity between price and concentration.⁸² However, it was not able to find a good instrument for the proximity measure and uses ordinary least squares (OLS) to estimate those models.⁸³

3.1.2 Limitations of the approach

106. There are a number of notable limitations of the analysis, which have implications for the usefulness of the results, including:
 - a. the analysis is limited to the specific relationship between local market conditions and local prices, overlooking the relationship between local concentration and prices set on a regional or national basis;

⁸⁰ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 24.

⁸¹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 25-26.

⁸² Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 27-28.

⁸³ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 28.

- b. the exclusion of certain products in the analysis, including unpackaged and unbranded fruit, vegetables, and meat;
 - c. the potential endogeneity between key variables; and
 - d. the use of metrics that do not adequately measure market concentration.
107. Further, the analysis considers the effect of local market concentration on local prices. The measures of concentration and prices do not allow for an analysis of the effects of local market concentration on price competition at a national level, or the elements of non-price competition, such as quality, range, and service. We set out these limitations below.

Local and national prices

108. The econometric models used by Frontier Economics to assess the relationship between concentration and price and/or margins do not allow for an assessment of the effect of local competition on prices set at a regional or national level.
109. However, the Commission sets out examples and evidence that the major retailers often adopt uniform national or regional pricing in its draft report.⁸⁴ For example, it states:⁸⁵

Woolworths NZ operates a national business model for its Countdown stores. This means that pricing in Countdown stores is almost entirely consistent nationwide...

Foodstuffs NI told us that its pricing policies at a co-operative level aim to provide more consistent value to consumers across core and staple items. It also noted that pricing and promotions for fresh products, including produce and meat, operate to a different dynamic than other product categories due to their seasonality, certainty of supply and short shelf life. There also appears to be some scope for pricing at Foodstuffs NI and Foodstuffs SI stores to vary on a store-by-store basis.

...many of the aspects of the retail grocery offer, such as pricing, are set uniformly across the retail banners of the major grocery retailers at a national or regional level.

110. This evidence suggests that one may not expect to see much variation in local prices as a result of variations in local concentration. For example, if PAK'nSAVE sets uniform competitive prices across all its stores in a region, we would not expect to see lower (higher) prices in less (more) concentrated local areas.
111. The Commission quotes the UK Competition Commission in a grocery market inquiry, explaining that, where prices are set nationally, local market conditions can instead influence the overall level of national prices, as well as the non-price dimensions of competition that are set on a local basis:⁸⁶

...the fact that many grocery retailers set a substantial proportion of their retail grocery offer nationally or regionally on a uniform basis across all their stores does not mean that the intensity of competition in local markets for grocery retailing is not important. The intensity of competition in local markets could influence the retail grocery offer in two main ways:

4.56.1 through affecting those dimensions of the retail grocery offer that are adjusted locally at the store level; and

4.56.2 through affecting the overall level at which nationally uniform dimensions of the retail grocery offer are set.

⁸⁴ See, for example: Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, paras 4.28, 4.35-4.37, 4.55 and 5.18.

⁸⁵ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, paras 4.35-4.36, 4.55.

⁸⁶ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 4.56; see Competition Commission, *The supply of groceries in the UK market investigation*, April 2008, para 6.33.

112. Consistent with these observations, FSNI considers the aggregate effects of competition in local markets when setting recommended prices at an island-wide level. For example, FSNI category managers have the ability to adjust island-wide recommended prices in response to all other retailers, even where they only compete in a particular catchment.⁸⁷ This effect of local competition on national or regional prices is not assessed by the Commission.
113. Going to the same international comparison quoted by the Commission, when making a link between local concentration and national components of the retail offer (including price), the Competition Commission in the United Kingdom considered the degree of local competition faced by each store belonging to a retailer, and the proportion of a retailer's stores that face little or no competition before attempting to draw a conclusion about the relationship between local market concentration and prices.⁸⁸
114. In our opinion, the results of Frontier Economics' analysis are limited to the specific relationship between local market conditions and local prices. The results do not provide a sound basis for drawing conclusions about price competition in general.

Choice of products

115. Frontier Economics excludes fresh fruit, vegetables and meat that was not packaged and identified with a brand name to ensure they are comparing products with the same physical characteristics.⁸⁹ It also excludes florist/gardening products, prescription pharmaceuticals, HealthPac payments, recharge cards, gift cards, payphone cards, donations, and Christmas club cards.⁹⁰ It is not clear what proportion of goods are excluded and how important these products are to assessing competition between grocery retailers.
116. In our opinion, this decision is likely to exclude many items over which price competition takes place. In response to the comments in our first report on competition in the grocery sector,⁹¹ Frontier Economics said:⁹²

We disagree that excluding unbranded and unpackaged fruit, vegetables and meat from our analysis limits the reliability of the results. The results apply to all grocery items not excluded from the analysis, and the reliability of those results is not affected by the exclusion of unbranded and unpackaged fruit, vegetables and meat.

117. We agree with Frontier Economics that the reliability of the results on the other goods are not affected by the exclusion. However, the exclusion of these important categories of food, particularly unpackaged fruit, vegetables, and meat, limits the extent to which they can be relied upon to draw conclusions about competition across all grocery products. The analysis undertaken by Frontier Economics only provides information as to the prices of the goods that are included in the analysis.
118. Where other retailers compete with the major retail banners on prices for the excluded products, this will not be reflected in the results of Frontier Economics' analysis. For example, it is likely that the major retailers compete with:
 - a. local butchers on the price and non-price aspects of unpackaged and unbranded meat;

⁸⁷ FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, sections 'Price competition'.

⁸⁸ Competition Commission, *The supply of groceries in the UK market investigation*, April 2008, para 6.68.

⁸⁹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 10.

⁹⁰ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 11.

⁹¹ HoustonKemp Economists, *Empirical evidence of grocery sector competition*, 9 September 2021, para 159.

⁹² Frontier Economics, *Response to HoustonKemp report*, 2021 p 1.

- b. local fishmongers on the price and non-price aspects of unpackaged and unbranded fish;
 - c. local greengrocers on the price and non-price aspects of unpackaged and unbranded fruit and vegetables.
119. FSNI actively competes on prices in these categories. [REDACTED]
120. The exclusion of some product categories from the analysis means that the full extent of price competition between the major retailers, and between major retailers and other retailers has not been assessed. It is therefore not possible to draw a conclusion that other retailers do not have an effect on the prices set by the major grocery retailers.

Endogeneity

121. A widely acknowledged limitation of price-concentration analyses is the ability to control for the endogeneity between prices and concentration.⁹⁵
122. In a working paper on competition in grocery retailing in the United States, the FTC explains that the relationship between price and concentration is extremely difficult to estimate, stating:⁹⁶

Empirically identifying a causal relationship between price and market concentration is extremely difficult because market concentration is rarely exogenously determined. Demsetz (1973) noted firms that attain large market shares are likely those that are most efficient, and that markets where scale economies are important will tend to be dominated by a small number of efficient firms. As a result, studies that simply estimate the price/concentration relationship without controlling for the endogeneity of market structure are unlikely to be successful (Evans et al. (1993)), Bresnahan and Reiss (1989, 1990)).

123. Further, the economic literature sets out the econometric problems involved in empirically estimating the relationship between price and market structure, noting:⁹⁷

Market structures are not randomly assigned, a necessary condition for correct inference about this relationship in a standard regression framework. Instead, firms base their entry decisions on demand and cost factors as well as the anticipated entry and pricing behavior of their competitors.... the presence of unobserved cost and demand factors that are correlated with both prices and market structure may prevent consistent estimation of the relationship between those two variables.

The atheoretical nature of the typical price regression makes it difficult to infer the nature of the biases that may occur... If costs in some markets are high in ways that the outside observer cannot easily measure, then prices may be unusually high where entry is unusually low... Conversely, unobserved positive demand shocks may support both higher prices and a higher number of firms.

⁹³ FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, sections 'Price competition'.

⁹⁴ FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, sections 'Price competition'.

⁹⁵ See, for example: Manuszak, M and Moul, C, *Prices and endogenous market structure in office supply superstores*, *The Journal of Industrial Economics*, 56, 2008; and Federal Trade Commission (FTC), *Do retail mergers affect competition? Evidence from grocery retailing*, December 2012.

⁹⁶ Federal Trade Commission (FTC), Hosken, D, Olson, L and Smith, L, *Do retail mergers affect competition? Evidence from grocery retailing*, December 2012, p 1.

⁹⁷ Manuszak, M and Moul, C, *Prices and endogenous market structure in office supply superstores*, *The Journal of Industrial Economics*, 56, 2008, p 96.

124. Frontier Economics does not control for endogeneity in its models that use proximity as a measure of concentration.⁹⁸ In our opinion, the reliability of those results should be interpreted with caution.⁹⁹
125. Frontier Economics has responded to this by saying that the measure of concentration may be endogenous, but it considers this is not likely to be an econometric issue in the analysis because:¹⁰⁰

For endogeneity to be an econometric issue in our analysis, prices in the year of the analysis would have to have had an impact, in the same year, on the concentration measures, i.e. on entry or exit in that year. It seems highly unlikely to us that an entry or exit of a store in response to a disequilibrium in a local market occurs within a single year. Moreover, in any one year, very few local markets are affected by entry or exit. Hence, even if the response to a market disequilibrium did occur within the same year, only a very small proportion of the observations would be affected.

126. We are not aware of the circumstances by any of the geographic locations had some entry or exit in the year in question, and the extent to which they have driven the results found by Frontier Economics. In our opinion, there remains a possibility that the results suffer from endogeneity bias and should be interpreted with caution.

Distance weighted share of supply specification

127. Frontier Economics was asked to examine whether there was a relationship between concentration and price or margins in local grocery markets.¹⁰¹ However, this is not the analysis that Frontier Economics has undertaken.
128. In the first specification of its models, Frontier uses the distance weighted share of revenue as the measure of concentration, which we describe at paragraph 103 above. This metric is the combined weighted revenue of the major grocery retailer to which the focal store belongs as a percentage of the combined Woolworths and Foodstuffs revenue in the local market.
129. This metric does not provide a complete measure of concentration. Rather, it is a measure of how large Woolworths sales are relative to those of Foodstuffs in a particular area.
130. Frontier Economics said that supermarket competitors may include pharmacies, pet shops, liquor stores, general merchandise stores, butchers, greengrocers and so on for individual product categories.¹⁰² However, these are excluded from the analysis.
131. Frontier Economics' analysis only includes sales at Woolworths and Foodstuffs, and so the shares of supply will not accurately measure the share of all grocery sales in the local area, ie, market concentration.¹⁰³ The analysis is therefore unable to provide any information on the effect of competition from other stores.
132. Further, the concentration measure does not account for differences in market share between the banners of the major retailers. Since the banners provide differentiated products and services to consumers, the closeness of competition is likely to vary between each pair of rivals. As such,

⁹⁸ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 27.

⁹⁹ Using ordinary least squares regression with an endogenous variable can lead to biased and inconsistent results. See Hausman, J A and Taylor W E, *Panel Data and Unobservable Individual Effects*, *Econometrica*, Vol. 49, No. 6, 1981, pp 1,377-1,378.

¹⁰⁰ Frontier Economics, *Response to HoustonKemp report*, 2021 p 2.

¹⁰¹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 9.

¹⁰² Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 21.

¹⁰³ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 10.

differences in market shares between individual banners may be expected to affect both price and non-price competition. This has not been accounted for in the analysis.

Proximity specification

133. In the second specification of its regression model, Frontier uses the proximity to each other banner store within a defined isochrone, as measured by driving time, as the dependent variable of interest.¹⁰⁴
134. Again, this metric does not provide a complete measure of concentration. Rather, it measures the distance between rival stores without considering how many rival stores are in each local market and the size of such stores. This means that important aspects of the structure of the local market are missing from the analysis.
135. Frontier Economics tested the effect of the presence of other local retailers, such as butchers and bulk food stores, on prices using the proximity specification of the model.¹⁰⁵ The analysis considered the effect that the presence of those stores had on the price index of each banner store. However, the price index is determined using the prices of thousands of common core grocery items, many of which are not sold by other local retailers, such as butchers.
136. A model specification of this form may mean it is less likely that a statistically significant result will be found, regardless of whether the major retailer banners compete with other local retailers.
137. For example, assume that a convenience store located close to a supermarket constrains the prices that the supermarket can charge for snack products. These products are only likely to make up a small percentage of the prices included in the analysis undertaken by Frontier Economics. It follows that the analysis may not find a statistically significant effect, even though the effect does exist.
138. Further, a number of grocery retailers were not included in the analysis since Frontier Economics did not have an exhaustive list.¹⁰⁶

3.1.3 Results of the analysis

Distance weighted share of supply results

139. Frontier Economics reports that the effect of local concentration on prices is positive and statistically significant at the five per cent level in:¹⁰⁷
 - a. three out of six instances when urban and rural areas are combined, ie, Four Square, New World, and SuperValue;
 - b. two out of six instances in urban areas, ie, Four Square and New World; and
 - c. three out of five instances in rural areas, ie, Countdown, FreshChoice and SuperValue.
140. In all other cases, the results are not statistically significant at the five per cent level. This means that fewer than half of the results reported by Frontier are statistically significant. In other words, the results are mixed, and do not provide a sound basis for any conclusions.

¹⁰⁴ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 24.

¹⁰⁵ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 24.

¹⁰⁶ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 10.

¹⁰⁷ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 29-30.

141. Frontier Economics concludes that:¹⁰⁸

In models with weighted revenue share as the concentration variable, we find that increased concentration in local markets tends to be associated with higher prices in the cases of Four Square, New World and SuperValue.

142. Similarly, the Commission states:¹⁰⁹

In models with weighted revenue share as the concentration variable, Frontier Economics found that increased concentration in local markets tends to be associated with higher prices in the cases of Four Square, New World and SuperValue. However, no consistent effects were found for the other major grocery retailer banners.

143. In our opinion, such conclusions cannot be confidently drawn because of the limitations we describe in paragraphs 127 to 132 above, including that the distance weighted own-group share is not an appropriate measure of concentration.

Proximity analysis results

144. Frontier Economics tested four variations of the model specification using proximity to competitors as the measure of concentration, each including dummy variables for a different set of competitor stores.¹¹⁰ Frontier Economics state that the specification that only included dummy variables for the six major banners ‘typically provided the best fit to the data.’¹¹¹

145. Frontier Economics report that the proximity of other competitors, including other supermarkets, bulk food stores, butchers, and international supermarkets, did not significantly improve the model fit in most cases.¹¹² However, there were three statistically significant coefficients for proximity variables other than for majors, ie:¹¹³

- a. proximity to butchers was statistically significant and negative in the FreshChoice regression using the full sample, meaning prices are lower on average when a butcher is nearby; and
- b. proximity to a bulk foods competitor was significant and positive in the Countdown regression using both the full and rural samples, meaning prices are higher on average when a bulk foods store is nearby.

146. Frontier Economics interpret their results to conclude that:¹¹⁴

We can conclude that there is little evidence that the competitors other than those of the major grocery retailers have an effect on the prices set by major banners. We do however note that non-packaged produce and butchery items were excluded from the analysis

147. In our opinion, given the limitations set out in paragraphs 133 to 138, such a conclusion cannot be confidently drawn from the results.

¹⁰⁸ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 33.

¹⁰⁹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 30.

¹¹⁰ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 24.

¹¹¹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 30.

¹¹² Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 30.

¹¹³ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 31, footnote 36.

¹¹⁴ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 31.

148. In relation to the proximity model specification, Frontier Economics presented a table of its preferred results over the full sample of data.¹¹⁵ For each of the six banners, there are three rival banners, giving 18 possible instances in which a rival banner could have a statistically significant (and negative) effect on prices. Overall, six of the 18 results were statistically significant and negative, ie:¹¹⁶
- a. Countdown, FreshChoice and SuperValue prices are lower when New World is nearby;
 - b. SuperValue prices are lower when PAK'nSAVE is nearby; and
 - c. Four Square prices are lower when FreshChoice and SuperValue are nearby.
149. The results are weaker when the sample is split by rural and urban areas. For the urban sample, there is only one coefficient that is statistically significant and negative from a competing banner out of a possible 18.¹¹⁷ The situation is similar for the rural sample, with two statistically significant and negative coefficients out of 12 that were reported.¹¹⁸
150. Some of the results showed that prices were higher when stores from the same major retailer were nearby. In the full sample, four out of 15 possible instances in which an own-group banner could have an effect on prices had a positive and statistically significant coefficient.¹¹⁹ However, one instance had a negative and significant coefficient, meaning the results suggest that the presence of a Countdown store leads to lower prices at a nearby Countdown store.¹²⁰
151. The large number of results that are not statistically significant suggests that more evidence is required before a conclusion can be drawn about the relationship between local prices and proximity to competitor stores. It is also possible the results suffer from endogeneity bias and should therefore be carefully interpreted.
152. Frontier Economics concludes that:¹²¹

In models with Proximity to major banners as the concentration measure, we find that Four Square stores tend to have lower prices when a FreshChoice or SuperValue store is nearby; and Countdown, FreshChoice and SuperValue stores tend to have lower prices when a New World store is nearby. Relationships between stores of other banners are less clear. We find that Proximity to stores of non-competitor banners in the same group tends to increase prices for certain pairs of stores but not for others. In particular, prices at Four Square stores tend to be higher if a PAK'nSAVE store is nearby; and prices at SuperValue stores tend to be higher when a Countdown or FreshChoice store is nearby.

153. The Commission repeats these conclusions in its draft report.¹²²

¹¹⁵ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 32.

¹¹⁶ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 32.

¹¹⁷ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 45-51.

¹¹⁸ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 52-56.

¹¹⁹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 32.

¹²⁰ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 32.

¹²¹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 33.

¹²² Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 136, paras 5.122 – 5.123.

3.1.4 Conclusions that can be drawn

154. The Commission states that Frontier Economics' analysis suggests that local market concentration has a limited effect on price competition. The Commission concludes that this finding suggests that competition is not effective in the retail grocery market, ie:¹²³

Overall, the analysis by Frontier Economics suggest that local market concentration appears to have little or no effect on price competition between the major grocery retailers. This is consistent with our preliminary finding that price competition between the major grocery retailers is less than we would expect in a workably competitive market.

The finding that local market concentration appears to have little or no effect on price competition between grocery retailers also appears to confirm that the aggregated effect of competition by other grocery retailers in local markets is not sufficient to increase the intensity of competition at either a local, regional or national level.

155. In our opinion, no such conclusion can be drawn from the results of Frontier Economics' analysis.
156. First, the results of the analysis are not consistent with the conclusion that local concentration has 'little or no effect' on prices. Frontier Economics finds evidence of statistically significant relationships at the five per cent level between local concentration and local prices for three out six banners in the distance weighted share analysis, and in six out of 18 pairs of rivals banners in the proximity analysis.¹²⁴
157. Both the Commission and Frontier Economics describe these results by saying that some stores 'tend to have lower prices' when a specific competitor store is nearby.¹²⁵ The subsequent conclusion that local concentration has little or no effect on prices appears incongruent with this summary.
158. The absence of statistical significance in the remaining results does not, by itself, prove that there is no relationship between two variables.¹²⁶ Rather, all that can be said is that the data do not provide sufficient evidence of a relationship at the five per cent confidence level under the assumptions chosen.
159. In our opinion, these results are mixed rather than a reflection that there is no relationship between local concentration and prices overall, as inferred by the Commission.
160. Further, the Commission does not attempt to define the meaning, or elaborate on the implications of a 'little' effect on prices. Given the modest profit margins in the sector, very small price changes can have a significant influence on profits, as recognised by Frontier Economics:¹²⁷

Although the coefficients may seem small, a relatively small increase in prices may lead to a large increase in profits if margins are small. For example, if a banner has average gross margins of 5 per cent, a one per cent increase in average prices would result in an increase of gross profits of around 20 per cent.

161. As such, the finding that local concentration has a 'little' effect on prices should not be taken to be equivalent to 'no effect'.

¹²³ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 136, paras 5.125 – 5.126.

¹²⁴ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 30 and 32.

¹²⁵ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 33, and Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 33.

¹²⁶ Wooldridge, J, *Introductory econometrics - A modern approach*, 7th edition, Cengage Learning, Boston, 2020, p 132.

¹²⁷ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 30.

162. Second, as set out above, the approach does not measure local market concentration. Rather, it examines the relative sizes of Woolworths and Foodstuffs in a local area, and the distance to an alternative major retailer banner store. Consequently, the results do not reveal the effect of concentration on prices.
163. Further, the analysis does not consider:
- a. non-price competition between the two major retailers, and the major and other retailers;
 - b. prices of unbranded and unpackaged fruit, vegetables, and meat, which is likely to have an important role in price and non-price competition between retailers;
 - c. competitive constraints from outside small locally defined markets; and
 - d. price competition taking place on a national or regional basis under uniform pricing, which means local concentration may not be correlated with local prices but may be correlated with national or regional prices.
164. The models used by Frontier Economics do not effectively measure the competitive constraint from retailers other than the major grocery retailers. It is therefore not possible to draw conclusions about the effect of competition by other grocery retailers on local, regional, or national markets using these results.
165. More generally, an analysis of the grocery market at the regional or national level has not been considered. As such, no inference can be drawn about regional or national competition from the results presented.
166. International examples of similar analyses by competition regulators are consistent with our view. For example, the ACCC conducted a similar assessment to that undertaken by Frontier Economics on the relationship between local prices and proximity to a rival store.¹²⁸ It emphasised that the effects of national price competition would not be captured in the study:¹²⁹

It is important to note that the statistical analysis undertaken by the ACCC is only designed to estimate the effects of price competition measured in terms of differences in prices across stores. Price discounting by Coles could, for example, produce a pricing response from Woolworths across all its stores or all Woolworths stores in a state or territory. Such effects would not be captured by this analysis.

Alternative conclusions

167. Setting aside the limitations we describe above, the finding that local market concentration appears to have little or no effect on price competition is equally consistent with a number of conclusions in addition to those drawn by the Commission, including:
- a. intense price competition taking place on a national level between the major retailers;
 - b. local and national grocery markets being subject to effective competition; and
 - c. intense competition between the major retailers and other retailers taking place on the basis of all aspects of the retail offer.
168. The measurement of prices by Frontier Economics does not account for variation in prices on a banner-wide level in response to an aggregation of local market conditions. It is therefore not able to

¹²⁸ ACCC, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, July 2008, p 96.

¹²⁹ ACCC, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, July 2008, p 96.

estimate the effect of competition on regional or national prices, and we do not see these effects in the results.

169. As such, the results are consistent with price competition on a national level between the major retailers.
170. Where competition between retailers is effective on a national or local basis, and firms are operating efficiently and earning normal profits, we would not expect to see strong and consistent evidence of a positive relationship between local concentration, including as measured by Frontier Economics, and local prices. This is because firms subject to effective competition will set efficient regional or local prices irrespective of variations in local market structure.
171. This demonstrates that the results are consistent with the conclusion that local and national grocery markets are subject to effective competition.
172. Further, where the major retailers in a local market compete on non-price elements of the retail offer, while prices are largely set on a national basis, one would not expect to see widespread evidence of a relationship between local concentration and local prices. However, it does not necessarily follow that the major grocery retailers are not competing with other retailers at the local level. The effect of competition may be on quality, range and service.
173. Consequently, the results are consistent with the conclusion that intense competition between the major retailers and other retailers takes place on the basis of all aspects of the retail offer, which is beneficial for consumers.

3.2 Entry and exit analysis

174. Frontier Economics was asked by the Commission to analyse the effect of new and rebranded entry and exit by Foodstuffs and Woolworths supermarkets in local grocery markets across New Zealand on prices and margins.¹³⁰
175. The Commission states that it expects grocery prices to increase in response to an exit event and decrease in response to an entry event:¹³¹

In general, we would expect grocery prices to increase in a local market if a retailer that was previously a strong competitor exits that market (an exit event) and for grocery prices to fall if a retailer that is expected to be a strong competitor enters a local market (an entry event). The expected impact of a rebranding of an existing store is less clear and might depend on the specific brand change that occurred.

176. Frontier Economics concludes that there is no systematic relationship between entry or exit and local prices.¹³² The Commission concludes therefore that local market concentration has little or no effect on competition.¹³³
177. In our opinion, setting aside the limitations in the methodology, the results are equally consistent with a number of other conclusions, including effective competition and national pricing.

3.2.1 Analysis undertaken by Frontier Economics

178. Frontier Economics uses a sample of 32 events between April 2016 and March 2019 to evaluate the effect on local market prices when grocery stores entered or exited the local market, changed location,

¹³⁰ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 34.

¹³¹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.127.

¹³² Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 7.

¹³³ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, pp 137-138, paras 5.131.

or rebranded.¹³⁴ Frontier Economics compared weekly prices at the closest competitor stores as between:

- a. the 12 months *prior* to the event; and
- b. the 12 months *following* the event.¹³⁵

179. The study assessed events involving New World and Pak'nSave (Foodstuffs), and Countdown (Woolworths NZ) stores, as well as the entry of two other retailers operating under the Farro Fresh banner.¹³⁶
180. The analysis of the effect of each event on prices was confined to the closest competitor store from each banner within 10 kilometres. Frontier Economics analysed 46 effects between pairs of stores in total.¹³⁷
181. For each competitor store, Frontier Economics estimated a fixed effects regression model with log price as the dependent variable. The estimation dataset consisted of the log prices of each product and for each week of the analysis period, for the competitor store and up to four control stores.¹³⁸ The dataset also included appropriate indicator variables.¹³⁹
182. The dependent variable of interest is a dummy variable labelled 'Post', which is equal to 1 if the store is the competitor store and the week is in the 52 weeks after the event.¹⁴⁰ The coefficient on Post is the average percentage difference in prices at the competitor store in the 52 weeks after the event compared to prices in the 52 weeks before the event.¹⁴¹

3.2.2 Limitations of the approach

183. There are a number of notable limitations of the analysis, which call into question the usefulness of the results, including:
 - a. the analysis measures the relationship between local entry, exit or rebranding and local prices, overlooking the evidence that many prices are set nationally and so this relationship may be weak;
 - b. the exclusion of small but statistically significant results, which are not deemed to be economically significant, when drawing conclusions;
 - c. the assessment being confined to the effect of an event on prices, while overlooking QRS elements of the retail offer;

¹³⁴ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 34-35.

¹³⁵ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 35.

¹³⁶ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 34.

¹³⁷ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 59-60.

¹³⁸ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 35.

¹³⁹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 36.

¹⁴⁰ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 37.

¹⁴¹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 37.

- d. the possibility of omitted variable bias;
- e. the exclusion of certain products and retailers in the analysis;
- f. the potential bias when assessing exit events;
- g. the competitive responses from rivals that take place prior to the event occurring not being measured; and
- h. the use of a small sample size and overlooking QRS elements in the case of entry by Farro Fresh.

National prices and economic significance

184. Frontier Economics measures the relationship between entry, exit and rebranding events on prices at local competitor stores. However, Foodstuffs sets recommended prices at the island-wide level, taking account of a range of retailers' prices at the regional and local level, whilst Foodstuffs members can and do respond to price competition at the local level.¹⁴²
185. This means that the entry or exit of one rival banner store may only have a small net effect on regional prices over 12 months after being considered alongside many other competitive constraints. Where local Foodstuffs members make price changes to a select number of key products in response to local competition, this may also have a very small effect on the average price measured over thousands of products across a store.
186. In such circumstances, it is expected that the net effect of local entry or exit on local prices, as measured by Frontier Economics, is likely to be small.
187. Frontier Economics sets a threshold of 0.5 per cent when classifying results as 'economically significant', which appears to be arbitrary.¹⁴³ In our opinion, this is a limitation of the approach because a number of relevant results are excluded when drawing conclusions about the relationship between entry or exit and prices overall.

Multi-dimensional nature of competition overlooked

188. The analysis of Frontier Economics is limited to considering the effect of local events on local prices. It does not consider the importance of QRS elements of the retail offer when assessing competition, or control for the effect of changes to QRS elements on prices.
189. For example, a store may respond to entry by a high quality, gourmet food retailer, such as Farro Fresh,¹⁴⁴ by improving the level of service it offers customers. Such an improvement in service is not controlled for in the model. The results of the analysis undertaken by Frontier Economics would indicate that entry did not affect prices, without accounting for the improvement in service that increased the value of the retail offer.
190. Analysis by competition regulators in the UK revealed that grocery sector rivals often react to local entry by competing on non-price factors, such as with store refurbishments, food counter initiatives, and improved staffing.¹⁴⁵ Important responses such as these have not been assessed in this analysis.

¹⁴² FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, sections 'Price competition' and 'Competition with WWNZ'.

¹⁴³ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 37.

¹⁴⁴ We set out evidence for this assumption at paragraph 204 below. See: Farro Fresh, www.farro.co.nz/corporate/about-us, accessed 26 November 2021.

¹⁴⁵ Competition Commission, *The supply of groceries in the UK market investigation*, April 2008, paras 6.39-6.43.

Influences on price are not held constant

191. Frontier Economics attempts to control for influences on price, such as inflation and cost pressures, by including up to four stores as controls in the model. While this is useful, it does not control for other influences on price that are specific to an individual store or banner without affecting the control stores over the 12 months before or after an event.
192. Where there are influences on price that are independent of (ie, are not caused by) the entry or exit event, but occur in the same time period (ie, are correlated with the timing of the event), and these are not controlled for in the model, the effect of the entry or exit event on prices will be over or underestimated.
193. For example, if a store refurbishment occurred at a similar time to an entry event, and led to higher prices after the refurbishment, but was not implemented as a competitive response to the entry event, then the model would overestimate the effect of entry on prices.
194. Without holding all the influences on price in the period constant, the results may be subject to bias.

Other general limitations

195. As in the price concentration assessment, the analysis excludes some important product categories, such as fresh fruit and vegetables, which may be an important source of price-competition in the case of entry and exit.
196. The analysis is restricted to events involving large stores under the Pak'nSave, New World and Countdown banners. As a result, conclusions cannot be drawn about the effect of entry and exit relating to smaller retailers, or in the market as a whole.
197. Estimating the effect of an exit event presents challenges and may not provide a good indication of the level of competitive constraint imposed more generally by a retailer. A store that is exiting a market presumably has not been successful in that market. As such, we may not see a large effect on the prices of its remaining rivals.
198. The model measures the average percentage difference in prices in the 12 months directly before and after an event occurs. However, a reaction by a rival retailer may commence before a store opens. For example, a store may start discounting prices in the months ahead of the opening. The analysis does not take this into account and, as such, the model estimates may not reflect the full price response of competitors.
199. In four cases of the 46 pairs of stores assessed, Frontier Economics measured and reported the effect of entry, exit, or rebrand by a New World store on prices at a nearby New World store.¹⁴⁶ These results are not relevant to the analysis of competition between retailers.
200. Further, in seven cases of the 46 pairs assessed, Frontier Economics measured and reported the effect of entry, exit, or rebrand by New World on prices at PAK'nSAVE or vice versa. Since New World and Pak'nSAVE are both Foodstuffs banners, these results are less relevant to the analysis of competition between the major retailers.
201. Frontier Economics reports these results alongside the remaining, more relevant results without acknowledging the difference in interpretation. It is unclear whether the results are discounted when

¹⁴⁶ The cases relate to the effect of the opening of NW Island Bay on NW Newtown, the opening of NW Ferry Road on NW St Martins, the opening of NW Prestons on NW Northwood, and the opening of NW Constellation and NW Albany. See: Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 59-60.

Frontier Economics concludes that there is 'no systematic relationship' between entry or exit and price.¹⁴⁷

Farro fresh assessment has significant limitations

202. The Commission asked Frontier Economics to include the two cases of entry by Farro Fresh stores in the study.¹⁴⁸ This is despite only three banners being assessed in the remainder of the study and no focus on any other competitors.
203. Using two examples is a highly limited sample from which to draw conclusions about the effect of other retailers on the prices set by major retailers.
204. Farro Fresh appears to have positioned itself as a high quality, gourmet retailer. The Farro Fresh website provides an indication of some of the PQRS elements of its retail offering:¹⁴⁹

At Farro, we like to make your grocery shopping an experience, not a chore and aim to provide our customers with a retail experience that ignites the senses. Our team takes the job of selection for our shelves very seriously and work to provide food that also reflects our own desires – free from artificial ingredients, high quality, provides value and of course, are delicious.

The entire team at Farro love to cook and are constantly being inspired by new ingredients, new ideas and exciting recipes. We commit to sharing that inspiration with our shoppers. We provide seasonal recipes, across the store, that tie in with our monthly themes and through Feast – our in-house-designed magazine, which is a showcase of everything great for the month ahead at Farro.

205. This suggests that Farro Fresh attracts customers through a retail offer that emphasises QRS over P, centred around high quality service and a gourmet, high quality product range. As such, we may not expect rival retailers to respond to entry by lowering prices. Instead, rivals may respond competitively by means of adjustments to quality, range, and service.
206. The event study has significant limitations because it does not measure the effect of Farro Fresh's entry on competition between retailers on all PQRS aspects of the retail offer.

3.2.3 Results of the analysis

207. Frontier Economics focuses its assessment on price changes that are 'economically significant', which it defines as those of at least 0.5 per cent up or down.¹⁵⁰ On this basis, Frontier Economics concludes that most events had no economically significant effect on price levels, ie, price levels do not change by more than 0.5 per cent.¹⁵¹
208. Frontier Economics conclude that nine events have a statistically and economically significant effect on prices.¹⁵² Two events led to an increase in prices, while seven led to a decrease.¹⁵³ However,

¹⁴⁷ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 7.

¹⁴⁸ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 34.

¹⁴⁹ Farro Fresh, www.farro.co.nz/corporate/about-us, accessed 26 November 2021.

¹⁵⁰ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 37.

¹⁵¹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 38.

¹⁵² Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 37.

¹⁵³ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 37.

Frontier Economics does not explicitly set out whether these results relate to entry, exit or rebranding events when drawing conclusions about the results.¹⁵⁴

209. Frontier Economics notes that many of the results are statistically significant, despite not being 'economically significant'.¹⁵⁵

210. The full results of the study show that of the 46 competitor price effects measured, 38 are statistically significant and only eight are not statistically significant.¹⁵⁷

211. Of the 29 relevant, statistically significant results:¹⁵⁹

- a. [redacted] are exit events – with [redacted] of these leading to price increases as expected by the Commission;
- b. [redacted] are rebranding, replacement or consolidation events – with [redacted] leading to price increases and [redacted] leading to price decreases; and
- c. [redacted] are entry events – with [redacted] of these leading to price decreases as expected by the Commission.

212. Frontier Economics says that the results do not reveal a systematic relationship and draws attention to several specific examples from the results, including some that are counter-intuitive.¹⁶⁰ For example:¹⁶¹

- a. a substantial price reduction of [redacted] following the closure of a [redacted] and [redacted]
- b. a price reduction at a [redacted] store following the replacement of a [redacted] in [redacted] both [redacted]

213. In our opinion, these results demonstrate the limitations of the approach, which we describe at paragraphs 188 to 194 above, and suggest that the model may be misspecified and subject to omitted variable bias. The model does not control for a range of store-specific influences on price, or the effect of changes in QRS.

¹⁵⁴ By this we mean Frontier Economics present the individual results in an appendix, but do not elaborate on the event types in the body of the report.

¹⁵⁵ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 38.

¹⁵⁶ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 62.

¹⁵⁷ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 59-60. We report on the 'post' results here and have not included a discussion of the 'during' results.

¹⁵⁸ Four results relate to New World and New World stores, and five results relate to PAK'n'SAVE and New World stores or vice versa.

¹⁵⁹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 59-60 – table 34.

¹⁶⁰ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 7.

¹⁶¹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 38.

214. For example, Frontier Economics notes that its results may be affected by other events that have not been controlled for in the model:¹⁶²

The impact of the [redacted] replacement on the pricing [redacted] is positive and economically significant [redacted]. However, this may reflect the expansion/renovation that occurred at [redacted] at about the same time, rather than the impact of the event.

215. In our opinion, meaningful conclusions cannot be drawn from the results of the entry and exit study owing to the significant limitations in the approach.

216. Nevertheless, setting aside these limitations and assuming the model is correctly specified, the majority of entry events, ie, [redacted]

Entry by Farro Fresh

217. The Commission asked Frontier Economics to examine the effect of two instances of entry by Farro Fresh stores on the prices of their local rivals.¹⁶⁵

218. Frontier Economics finds that the entry of Farro Fresh Remuera led to a [redacted]

219. The entry of Farro Fresh Mt Eden led to a statistically significant [redacted] at Mt Eden Countdown and a simultaneous [redacted] cent at [redacted]

220. Frontier Economics states that this evidence makes it challenging to conclude that entry by a small store constrains pricing of a much larger store.¹⁶⁶ However, Frontier Economics does not consider entry by any other small stores, choosing specifically to focus on large stores, and it is possible the results are biased for the reasons we describe in section 3.2.2 above.

221. The model does not control for changes in QRS, and this is likely to be particularly challenging in the context of Farro Fresh, which positions itself as a high quality, gourmet food retailer.¹⁶⁷ In response to such a competitor, rival stores may adjust their retail offering on the basis of more than just price. A competitive response based on a combination of PQRS elements by different competitors is consistent with the results from Frontier Economics' analysis.

¹⁶² Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 37.

¹⁶³ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 59-60. We have removed the four instances measuring the effect of New World entry on nearby New World stores.

¹⁶⁴ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 5.131.

¹⁶⁵ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 34.

¹⁶⁶ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, p 37.

¹⁶⁷ We set out evidence for this assumption at paragraph 204. See: Farro Fresh, www.farro.co.nz/corporate/about-us, accessed 26 November 2021.

3.2.4 Conclusions that can be drawn

222. In relation to Frontier Economics' entry and exit analysis, the Commission concludes that the entry or exit of a major grocery retailer has a limited effect on the prices charged by close competitor stores, ie:¹⁶⁸

Frontier Economics found that there was no systematic relationship between the entry, exit or rebranding of a store and the prices charged by close competitor store in the 12 months after the event. This is consistent with their finding that local market concentration levels appear to have little or no effect on price competition between most of the major grocery retailer banners.

The lack of evidence that entry by two new Farro Fresh stores in Auckland constrained the pricing of the major grocery retailers in close proximity to these new openings seems to support the view that there is little evidence that other grocery retailers have an effect on the prices set by the major grocery retailers.

223. In our opinion, there is insufficient evidence to draw a confident conclusion on the basis of the entry and exit study. The results are likely to appear unsystematic because of the limitations in the approach used by Frontier Economics, rather than necessarily because entry or exit does not have an effect on competition in local markets.
224. Further, holding aside any limitations in the approach, the results of the entry and exit study should not be as easily dismissed as they are by Frontier Economics and the Commission.

225. The evidence of price competition in response to entry by Farro Fresh in local markets is not comprehensive or robust enough to draw broad conclusions about the effect that other grocery retailers have on the prices set by the major grocery retailers.

226. In our opinion, this result is not consistent with the conclusion that

Alternative conclusions

227. Setting aside the limitations outlined above, a finding that local market concentration appears to have little or no effect on price competition is consistent with a number of conclusions under which markets are effective and providing benefits for consumers, including:
- local competition taking place on the basis of all PQRS aspects of the retail offering, enhancing consumer welfare;
 - intense price competition taking place on a national level between the major retailers; and
 - local and national grocery markets being subject to effective competition.
228. First, the absence of a systematic relationship between price and local concentration, including when measured by entry or exit, is consistent with local rivals competing on both price and non-price

¹⁶⁸ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, pp 137-138, paras 5.131-5.132.

¹⁶⁹ Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, pp 59-60.

¹⁷⁰ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, pp 137-138, paras 5.131.

¹⁷¹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, pp 137-138, para 5.132.

aspects of the retail offer. Intense competition on QRS aspects may provide consumers with goods and services that they value more highly than low prices, leading to greater choice and improved consumer welfare.

229. Second, the finding that there is no relationship between prices and entry or exit events is consistent with local markets that are effectively competitive. Where markets are effectively competitive prior to the entry of a new competitor, we may not see any response in prices because firms are already operating at an efficient level and offering cost-reflective, competitive prices.
230. Finally, the finding is consistent with price competition taking place on a regional or national level. Where uniform prices are set on a regional or national basis, retailers may be unlikely to adjust prices across a large geographical region in response to entry in one local area.
231. For example, if Pak'nSAVE charges uniform prices across the North Island, and prices are determined on the basis of competition from rival retailers across the whole of that region, we would not expect to see a significant response in prices at one Pak'nSAVE store on the basis of new entry by Countdown in a local area. More generally, we would not expect to see a relationship between prices at Pak'nSAVE and local concentration.
232. In summary, there are a number of conclusions that are equally consistent with the Commission's finding that local market concentration has little or no effect on prices. These conclusions do not reflect weak competition and worse outcomes for consumers, rather they reflect effective competition and well-functioning markets.

4. Uniform pricing as a coordination mechanism

233. In this section, we review the academic evidence in relation to a question raised during the conference by Commissioner John Small as to whether the national pricing strategies adopted by each of the major grocery retailers may facilitate coordinated pricing conduct, thereby detracting from the effectiveness of competition.
234. The literature referred to by Commissioner Small assesses the profit maximising incentives for chain-store retailers of adopting national pricing, both unilaterally or jointly by coordinating with rivals.¹⁷² Using a highly simplified, parameterised example, the paper finds that there is some scope for the joint profits of rival retailers in a duopoly to be higher when both commit to uniform pricing and can agree to coordinate their prices.¹⁷³
235. However, the scope for such circumstances to arise depends on the key parameters of the model, and there are limitations in drawing comparisons to the grocery sector in New Zealand owing to the complexities and uncertainties of 'real life'.
236. Further, it is widely acknowledged that chain-store retailers adopt uniform pricing for a variety of reasons other than to engage in coordination or facilitation, including to minimise costs, increase customer satisfaction, and due to the difficulties in measuring local demand.¹⁷⁴
237. The parameterised example in the literature referred to by Commissioner Small assumes chain-store rivals will be able to coordinate their pricing strategies, without consideration of the factors that may or may not facilitate such coordination.
238. In our opinion, the prospect of coordination in the retail grocery sector appears highly unlikely. This is because it is likely to be very difficult to reach and sustain an agreement to weaken competition. This is consistent with the Commission's finding that its study did not disclose evidence of the major grocery retailers accommodating each other's strategies.¹⁷⁵

4.1 Review of the literature presented by Commissioner Small

239. The Commission acknowledges throughout its draft report that the major retailers often adopt uniform pricing on a regional or national basis.¹⁷⁶ For example, the Commission states:¹⁷⁷

Woolworths NZ operates a national business model for its Countdown stores. This means that pricing in Countdown stores is almost entirely consistent nationwide...

Foodstuffs NI told us that its pricing policies at a co-operative level aim to provide more consistent value to consumers across core and staple items. It also noted that pricing and promotions for fresh products, including produce and meat, operate to a different dynamic than other product categories due to their seasonality, certainty of supply and short shelf life. There also appears to be some scope for pricing at Foodstuffs NI and Foodstuffs SI stores to vary on a store-by-store basis.

¹⁷² Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008.

¹⁷³ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 19.

¹⁷⁴ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, pp 8-9, 24-25.

¹⁷⁵ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 112.

¹⁷⁶ See, for example: Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, paras 4.28, 4.35-4.37, 4.55 and 5.18.

¹⁷⁷ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, paras 4.35-4.36, 4.55.

...many of the aspects of the retail grocery offer, such as pricing, are set uniformly across the retail banners of the major grocery retailers at a national or regional level.

240. On the first day of the conference, Commissioner Small referred to literature assessing the use of uniform pricing by chain-store retailers. Commissioner Small said:¹⁷⁸

There is some economic literature that suggests that national pricing can accommodate facilitating behaviour, for example, through increased price transparency, so you can really see what your rival is doing...

241. Commissioner Small was referring to a paper by Dobson and Waterson that sets out a parameterised example exploring strategic pricing decisions in concentrated markets to assess the circumstances under which uniform pricing may be profit maximising relative to local price discrimination.¹⁷⁹

242. In this model, uniform national pricing is the commitment mechanism required for a weakening of competition to occur.¹⁸⁰ The model relies on an assumption that retailers are strongly committed to comprehensive uniform pricing across the markets in which they operate.¹⁸¹ The paper notes:¹⁸²

If national pricing is to have any possible strategic role in influencing the pricing decisions of rival retailers (i.e. be seen as beyond mere “cheap talk”), then the chain-store retailer would need visibly to pre-commit to uniform pricing in such a fashion that the other retailers could be certain that the chainstore’s hands are tied when it comes to actual determination of prices.

243. However, uniform pricing is not sufficient to predict that facilitating behaviour, or coordination, is likely.¹⁸³

244. The results show that the scope for uniform pricing to offer strictly higher profits than under local price discrimination, by weakening price competition in some contested markets, is highly limited when retailers act unilaterally.¹⁸⁴ This means that, in the absence of coordination, firms are unlikely to implement uniform pricing as a means of deliberately weakening price competition and therefore raising profits.¹⁸⁵

245. Dobson and Waterson extend their parameterised example to consider the conditions under which it may be jointly profit maximising, due to a weakening of competition, for two rival chain-store retailers, acting collusively, to adopt uniform pricing.¹⁸⁶ Importantly, the model hinges on the assumption that the two chain-store retailers can coordinate their pricing policy choices.¹⁸⁷ The authors note that this could amount to tacit collusion and be deemed illegal.¹⁸⁸

¹⁷⁸ Day 1 - Transcript of grocery market study conference, 21 October 2021, p 37, lines 28-33.

¹⁷⁹ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008.

¹⁸⁰ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 3.

¹⁸¹ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 3.

¹⁸² Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 7.

¹⁸³ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 17.

¹⁸⁴ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 19.

¹⁸⁵ Noting that this result is subject to the assumptions of the model.

¹⁸⁶ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 19.

¹⁸⁷ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 19.

¹⁸⁸ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 25.

246. The results show that if firms can agree to coordinate pricing strategies there is some scope for the joint profits of the rivals to be higher when both commit to uniform pricing.¹⁸⁹ In these circumstances, the rival firms have a joint incentive but not an individual incentive to adopt uniform pricing for the purpose of weakening competition and thus increasing profits.¹⁹⁰
247. However, the scope for such circumstances to arise is limited, ie, it will not occur in all cases, and is highly dependent on assumptions about the parameters of the model. In particular, key parameters relate to the substitutability of products sold by the rivals, the elasticity of demand in each market in which the rivals operate, and the density of consumers in local duopoly or monopoly markets. For example, where products are highly substitutable, there is very little scope for a weakening of price competition, ie, facilitation, as a result of uniform pricing.¹⁹¹

4.1.1 Limitations of applying the model in context

248. In the context of the grocery market in New Zealand, there is substantial evidence of cross shopping between banners by consumers¹⁹² and while the PQRS offering of stores may be differentiated, many products are substitutable between retail banners. This calls into question the likelihood that the profit maximising collusive equilibria presented in Dobson and Waterson's example could be achieved in the market in New Zealand at all. This is because when products are easily substitutable, the model reduces to a Bertrand duopoly with competitive prices as the only stable equilibrium.¹⁹³
249. Further, we show in paragraph 242 that the collusive equilibria require rivals to have a strong pre-commitment to uniform national pricing.¹⁹⁴ In contrast, while Foodstuffs sets recommended prices at the island-wide level, local members can reduce prices in local stores.¹⁹⁵ As such, it does not have a strong commitment to uniform pricing, which is required to facilitate any possibility of collusion in this model.
250. It is also important to recognise the limitations of extending the outcomes of a highly simplified model to 'real life'. For example, the parameterised example is based on two rival firms operating in three markets (two monopoly markets and one contested duopoly market), making pricing and best response decisions in relation to four products in total (two each). The example assumes the firms have identical and constant marginal costs.¹⁹⁶
251. The grocery retail sector in New Zealand is much more complex than provided for by such a model. Rival firms compete in hundreds of local markets and make pricing decisions about thousands of different products, each with varying price elasticities and substitutability. There are also a number of alternative retailers exerting competitive forces on the major retailers, complicating the duopoly model presented in the research paper.

¹⁸⁹ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 19.

¹⁹⁰ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 2.

¹⁹¹ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 18.

¹⁹² See, for example: FSSI, *Foodstuffs South Island's submission on grocery market study draft report*, para 272; FFNI, *Foodstuffs North Island's submission on grocery market study draft report*, para 300; and *Day 1 - Transcript of grocery market study conference*, 21 October 2021, p 8, lines 25 to 30.

¹⁹³ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 13.

¹⁹⁴ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 7.

¹⁹⁵ FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, sections 'Price competition'.

¹⁹⁶ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 16.

252. The introduction of real life complexity into the model is likely to have significant implications for the stability of the equilibrium outcomes where coordination is profit maximising. For example, the authors state that introducing uncertainty into the model complicates the results:¹⁹⁷

Introducing uncertainty is likely to have two opposing effects on the deterministic equilibria modelled here... It makes local pricing less likely because the process of determining appropriate prices becomes more difficult. But it also renders strategies like precommitment less plausible.

4.1.2 Retailers adopt uniform pricing for reasons other than coordination

253. Dobson and Waterson acknowledge that managers may choose to set uniform pricing for reasons other than attempting to weaken price competition. Specifically, they note:¹⁹⁸

One concern for managers customizing pricing at the store level might be negative consumer sentiment towards a retailer using discriminatory practices that would detrimentally impact on the chain's image and/or have an adverse effect on overall demand. Another might be arbitrage...

Beyond our stripped-down model there are likely to be other factors, apart from concerns about retail image and pricing costs, which may influence retail managers' choice of pricing policy. Demand differences between markets may be difficult to determine in practice and be shrouded by uncertainty, rendering the second-order profit gain involved in local pricing somewhat speculative.

254. The paper also reviews the establishment of uniform pricing in supermarkets in the UK in the early 2000s, noting that the 'big four' had all made commitments to such a pricing strategy at the time.¹⁹⁹ Quotes taken from the supermarket chains highlight that the perception that uniform pricing is fair and preferred by customers is an important factor in the pricing decisions made by supermarkets. For example:²⁰⁰

- a. ASDA said it would be a 'breach of its relationship of trust' and 'commercial suicide' to move away from uniform pricing;
- b. Morrisons said a 'policy of local prices... would damage its brand and reputation... and adversely affect customer goodwill'; and
- c. Tesco said that it charges the same prices across the country because 'customers want low prices, but they also want fair prices'.

255. These comments suggest that uniform pricing is desirable to retailers for reasons extending beyond a potential opportunity to weaken price competition, which may only occur under a limited range of uncertain circumstances.

4.2 Coordination is highly unlikely

256. The joint profit maximising equilibria in Dobson and Waterson's example is only possible under the assumptions that two chain-store retailers can:²⁰¹

devise a means to coordinate their pricing policy choices.

¹⁹⁷ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, footnote 26.

¹⁹⁸ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, pp 24-25.

¹⁹⁹ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, pp 7-9.

²⁰⁰ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, pp 8-9.

²⁰¹ Dobson, P and Waterson, M, *Chain-store competition: Customized vs. uniform pricing*, University of Warwick economic research papers, No 840, 2008, p 21.

257. However, the paper does not provide any further detail on the conditions under which such coordination is likely to be established or maintained.
258. Collusion is not inevitable in concentrated markets. For a collusive agreement to be established and sustained, firms must ensure that there are no incentives to deviate from the agreement.²⁰² This means firms need to be able to monitor the extent of adherence to an agreement and punish those that cheat on the agreement.²⁰³
259. Although monitoring and punishment need not be perfect, it is difficult for collusion to be sustained when:²⁰⁴
- a. monitoring is costly and inaccurate, because this allows firms to cheat on a collusive agreement without being punished; or
 - b. punishment for cheating either does not take place, takes a long time to occur, or does not have a big effect on the cheating firm's profits.
260. Collusion can therefore only take place if:²⁰⁵
- a. the firms involved are *able* to reach a collusive agreement – being the phenomenon by which firms achieve a common understanding, whether derived tacitly or explicitly, of how they each should conduct themselves and potentially allocate the benefits from collusion;²⁰⁶
 - b. the firms have an *incentive* to adhere to an agreement, rather than deviate from it – this requires that:²⁰⁷
 - i. firms monitor whether their rivals are adhering to the agreement; and
 - ii. those firms that do not adhere to the agreement (ie, they 'cheat' or 'deviate') expect to incur a cost (ie, a 'punishment') – say, in the form of lower prices for a period – that is greater than the benefit from cheating on the agreement;²⁰⁸ and
 - c. the firms outside the agreement are not able to supply such large quantities in competition with the firms in the agreement, such that it is undermined.²⁰⁹
261. We consider each of the three necessary conditions below and the extent to which they could relate to coordination of prices in the grocery market.

²⁰² Baker, J, *Two Sherman Act section 1 dilemmas: parallel pricing, the oligopoly problem, and contemporary economic theory*, The Antitrust Bulletin, 1993, p 152.

²⁰³ Stigler, G J, *A theory of oligopoly*, Journal of Political Economy, 72, 1, 1964, pp 44 and 46.

²⁰⁴ Baker, J, *Two Sherman Act section 1 dilemmas: parallel pricing, the oligopoly problem, and contemporary economic theory*, The Antitrust Bulletin, 1993, p 152.

²⁰⁵ Davies, C, and Wainscoat, L, *Not quite a cartel: applying the new concerted practices prohibition*, Competition & Consumer Law Journal, 25, 2017, p 203. Stigler identified in 1964 that for collusion to occur the parties need to agree on prices, monitor behaviour and punish defectors. See: Stigler, G J, *A theory of oligopoly*, Journal of Political Economy, 72, 1, 1964, pp 45-46. Isaac and Plott explained in 1981 that firms had to solve two problems to collude: how to initiate a collusive arrangement and how to implement it. See: Green, E J, Marshall, R C and Marx, L M, *Tacit collusion in oligopoly*, in Blair, R D and Sokol, D D (eds), *The Oxford handbook of international antitrust economics, volume 2*, Oxford University Press, Oxford, December 2014, p 3.

²⁰⁶ Hay, G A, *Facilitating practices: the ethyl case (1984)*, Cornell Law School Legal Studies Research Paper Series, p 14. Kovacic, W E et al, *Plus factors and agreement in antitrust law*, Michigan Law Review, 110, 3, 2011, p 408.

²⁰⁷ Hay, G A, *Facilitating practices: the ethyl case (1984)*, Cornell Law School Legal Studies Research Paper Series, p 15.

²⁰⁸ This requires that it is in firm's interest to administer the punishment when necessary, and that the punishment is sufficiently bad for the firm being punished. See, for example: Baker, J, *Two Sherman Act section 1 dilemmas: parallel pricing, the oligopoly problem, and contemporary economic theory*, The Antitrust Bulletin, 1993, p 158; and Green, E J, Marshall, R C and Marx, L M, *Tacit collusion in oligopoly*, in Blair, R D and Sokol, D D (eds), *The Oxford handbook of international antitrust economics, volume 2*, Oxford University Press, Oxford, December 2014, p 8.

²⁰⁹ Carlton, D W, and Perloff, J M, *Modern Industrial Organisation*, 4th edition, Pearson Education Limited, Harlow, Essex, 2015, p 155.

4.2.1 Very difficult for grocery retailers to reach an agreement

262. The first requirement for coordination to occur is for rival firms to reach an agreement. This may be done explicitly or implicitly.
263. In the context of uniform pricing, this would involve an agreement about raising uniform national prices above the competitive level for competing products sold across the major retailers stores. There are several factors that may make an agreement about the setting of such prices improbable in the grocery sector.
264. First, the major grocery retailers face different competitive constraints because they do not have identical footprints or market shares in each local market. This will give grocery retailers different incentives to set prices. In contrast, Dobson and Waterson's model is based on symmetric competitors facing identical demand functions in separate monopoly markets. However, this is not reflective of reality.
265. Adding to the complexity, the major grocery retailers each operate three separate banners with a differentiated retail offer in terms of price, quality, range, and service. This means:
- there is a very large number of prices to be agreed, with thousands of SKUs sold across the six banners;
 - prices for various product categories are likely to be determined by a range of managers;
 - marginal costs are likely to vary between banners due to differences in quality, range, and service; and
 - the number of variables on which firms must agree expands as a result of non-price competition, making it more difficult to detect cheating.²¹⁰
266. As such, it is improbable that the major grocery retailers would be able to reach a consensus on prices in such a way that would weaken competition in the sector.

4.2.2 Internal stability of agreement

267. Where an agreement can be reached between competitors, collusion is internally stable if firms have an incentive to adhere to the agreement rather than deviate from it. This requires that firms are able to:
- monitor their rival's actions so that they can detect deviation when it occurs, and
 - effectively punish rivals, such that the costs are greater than the benefits of cheating.
268. In the context of uniform pricing in the grocery market, rivals are unlikely to be able to monitor defection and prevent cheating for a number of reasons.
269. First, rivals would need to monitor the prices of thousands of products across hundreds of stores to detect deviation. We understand that Foodstuffs tries to monitor the prices of Woolworths (in addition to other retailers),²¹¹ but this is an imprecise exercise because there are many thousands of products with prices changing often, in which case some cheating would be possible without there being a punishment. Conduct such as this would undermine coordination.

²¹⁰ Church, J and Ware R, *Industrial organisation: A strategic approach*, Irwin McGraw-Hill, Boston, 2000, p 345.

²¹¹ FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, sections 'Price competition' and 'Competition with WWNZ'.

270. The presence of non-price competition and differentiation in the retail offering means that firms can cheat not only by reducing their prices or increasing their output, but in a vast number of ways that are not easily detected, such as by improving service quality.²¹² Increasing the number of ways to cheat reduces the stability of the agreement.
271. Finally, prices are set by category managers for FSNI on an island-wide basis, and individual FSNI members have the ability to (and often do) discount below the island-wide prices.²¹³ This suggests that it would be difficult for Foodstuffs to maintain prices above the competitive level as part of a collusive agreement because local FSNI members would benefit by undercutting prices that had been agreed to at an island-wide level.

4.2.3 External stability of agreement

272. An agreement is externally stable if there is limited or no entry or expansion from firms outside of the collusive agreement, despite high profits being earned by the incumbents.²¹⁴
273. Competition from new or existing firms can undermine the profitability of an agreement, causing it to break down. It follows that an agreement must cover a sufficiently large proportion of the market and/or entry and expansion must be sufficiently difficult for an agreement to be stable.
274. This is not the case in the grocery sector in New Zealand. There are a number of other retailers exerting competitive pressure on the major retailers, including specialist stores like butchers, fishmongers, and fresh food grocers, as well as larger retailers like Chemist Warehouse.
275. Further, there does not appear to be any material barriers to entry or expansion for competitors catering for a range of shopping missions, operating different business models, and competing across the PQRS spectrum.²¹⁵ As such, high profits accruing as a result of coordination are likely to encourage entry.
276. In summary, coordination in the grocery sector appears to be highly unlikely. The economic literature referred to by Commissioner Small suggests there may be some circumstances, in theory, where coordination under uniform pricing may lead to higher profits than would be otherwise earned. However, this does not take account the real world complexities of reaching and maintaining such an agreement to raise prices.
277. These practical challenges are consistent with the findings set out in the Commission's draft report. The Commission states that its study did not disclose evidence that the major grocery retailers are accommodating each other's strategies.²¹⁶
278. In summary, it appears that the paper referred to by Commissioner Small does little to support the position that coordination is likely between the major grocery retailers as a result of the adoption of uniform pricing strategies.

4.3 Views on uniform pricing by competition regulators

279. Competition regulators in several countries support the view that retailers adopt uniform pricing strategies across large geographic regions for reasons other than to facilitate a weakening of

²¹² Church, J and Ware R, *Industrial organisation: A strategic approach*, Irwin McGraw-Hill, Boston, 2000, p 345.

²¹³ FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, sections 'Price competition'.

²¹⁴ Davies C and Wainscoat L, *Not quite a cartel: Applying the new concerted practices prohibition*, 2017, 25 Competition & Consumer Law Journal 173, p 204.

²¹⁵ FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, section 'Conditions of entry and expansion'.

²¹⁶ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 112.

competition. It is recognised as a common practice in grocery markets in countries like the United Kingdom and Australia.²¹⁷

280. In the United States, a working paper published by the Federal Trade Commission on uniform pricing suggests many large retailers set prices in broad geographic regions, rather than in response to highly localised demand conditions, noting:²¹⁸

Retailers have an incentive to exploit highly localized market power by charging different prices at each retail outlet in response to highly localized demand and competition. There are, however, significant costs of implementing highly localized pricing. Determining optimal prices at the store level requires retailers to invest significant resources in learning localized demand, and too much price variation across a retailer's stores within a metro area can affect a firm's ability to offer consumers a consistent price image. As a result, we observe retailers pursuing different pricing strategies within the broad markets they operate in.

281. In the UK, the Competition Commission considered enforcing national pricing as a remedy for price discrimination by supermarkets in 2000.²¹⁹ The regulator was concerned about the practice labelled 'price flexing', where retailers set different prices in local areas to take advantage of local conditions.²²⁰
282. The inquiry set out that many grocery retailers adopted national pricing strategies and did not see this as a problem for competition, noting that the approach was used by low-cost providers, such as Lidl, to keep administrative costs, and therefore prices, down.²²¹ Uniform national pricing was not ultimately recommended. However, this highlights the potential for many pricing strategies to be considered either anti- or pro-competitive, depending on their implementation.
283. In its inquiry into the grocery sector in 2008, the ACCC noted that larger supermarket chains often set national and regional pricing policies.²²² The regulator set out a number of factors influencing retailers to set uniform prices, including:²²³
- a. cost savings from standardising aspects of its operations, such as product labelling and pricing, across a large number of stores;
 - b. greater returns from promotions and advertising expenditure;
 - c. local markets with the same competing supermarket chains across local areas;
 - d. consumer dissatisfaction when observing different prices for the same product in different stores.
284. However, the ACCC did not express concern that uniform pricing could be adopted to facilitate coordination and a weakening of competition.

²¹⁷ See, for example: ACCC, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, July 2008, p 80; and Competition and Markets Authority, *Anticipated merger between J Sainsbury PLC and Asda Group Ltd*, Final report, April 2019, para 26.

²¹⁸ Federal Trade Commission (FTC), Hosken, D, Olson, L and Smith, L, *Do retail mergers affect competition? Evidence from grocery retailing*, December 2012.

²¹⁹ Competition Commission, *Supermarkets: A report on the supply of groceries from multiple stores in the UK. Volume 1: Summary and conclusions*, October 2000, para 2.566, p 146.

²²⁰ Competition Commission, *Supermarkets: A report on the supply of groceries from multiple stores in the UK. Volume 1: Summary and conclusions*, October 2000, para 2.566.

²²¹ Competition Commission, *Supermarkets: A report on the supply of groceries from multiple stores in the UK. Volume 2: Background and evidence*, October 2000, para 5.161, p 72.

²²² ACCC, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, July 2008, p 80.

²²³ ACCC, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, July 2008, p 80.

5. Stability of market shares

285. In this section, we review the validity of the contention in the Commission's draft report that the stability of market shares is evidence that competition is not working well for consumers.
286. In our opinion, there is insufficient information to draw a conclusion that market shares are stable because:
- a. the Commission does not have good quality information on market shares;
 - b. the shares used by the Commission are annual, when competition occurs over a matter of days;
 - c. the information used by the Commission aggregates the shares of individual firms into groups; and
 - d. there is variation in market shares, even when they are aggregated into a yearly basis for a group of firms.
287. The Commission has found that the combined share of the major grocery retailers varies by approximately three to six per cent per year when specialist grocery retailers are excluded. This does not lead to any particular conclusion about the nature of competition because:
- a. there is some variation from year to year, ie, some net switching from major grocery retailers to or from other grocery retailers has taken place – there is no reason to believe that this amount of variation indicates a problem with competition; and
 - b. using annual shares is not appropriate when retailers monitor sales and the conduct of rivals on a weekly basis and react quickly – there will be variation in market shares from week to week that is lost when considering annual shares.
288. Stable market shares are equally consistent with effective competition between firms with similar cost bases. These firms would be expected to increase and decrease their prices in line with their underlying cost base, which is similar.
289. Stable market shares can indicate that there is a lack of competition if they are caused by collusion, or there is only a small proportion of customers that would consider switching between the firms. However, the available evidence does not support these reasons, so any stability in market shares is not likely to be caused by a lack of competition.

5.1 Commission's conclusion regarding stable market shares

290. The Commission has said that the stable nature of grocery market shares is evidence that:
- a. other grocery retailers do not compete strongly with the major grocery retailers;²²⁴ and
 - b. the major grocery retailers are not competing closely with each other.²²⁵
291. The information the Commission uses to reach the conclusion that market shares are stable is set out in section 5 of the Commission's draft report, and is drawn from three main sources, ie:²²⁶

²²⁴ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.91.

²²⁵ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.93.

²²⁶ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.80 and para 5.91.

- a. table 5.1 of the Commission’s draft report, which shows the estimated market shares of Foodstuffs and Woolworths (separately) in the North Island, South Island, and the whole of New Zealand in January of each year from 2015 to 2020²²⁷ – this is based on a sample of market share estimates provided by the major grocery retailers;
 - b. figure 5.1 of the Commission’s draft report, which provides annual market share estimates for the major grocery retailers (combined) and the other grocery retailers (combined) based on sales revenue for FY15 to FY19, based on data from the major grocery retailers and a sample of other grocery retailers – the major grocery retailers have a combined share of approximately 97 per cent of grocery revenue in this figure, for each of the years;²²⁸ and
 - c. figure 5.2 of the Commission’s draft report, which provides annual market share estimates for FY15 to FY19, for:
 - i. the major grocery retailers combined; and
 - ii. other grocery retailers combined;²²⁹
292. Based on this evidence, the Commission states there is little variation in market shares over time.²³⁰ In our opinion, the information set out above is insufficient to draw such a conclusion because:
- a. the market shares are on an annual basis, or for January of each year. Competition between grocery retailers occurs over the short term because customers and retailers can react over a period of days.²³¹ Market shares at the banner level are variable from week to week. Figures Figure [REDACTED], Figure [REDACTED] and Figure [REDACTED] below demonstrate that it is not uncommon for the market shares of PAKn’SAVE and New World to fluctuate between [REDACTED] with a region. Examining annual market shares eliminates the week-to-week variation and response of grocery retailers to changes in market conditions;
 - b. most of the information is for the major grocery retailers combined, and for some other grocery retailers combined, in which case the market shares of each retailer may be variable, but these variations can be lost in the aggregation process;
 - c. the data is of poor quality because:
 - i. the Commission does not know how the market shares in table 5.1 of its draft report were calculated. It said there were some inconsistencies in the data, and they come from a range of sources, and so may not be comparable over time. It is not clear which other grocery retailers are included in forming the market share estimates (or whether this is consistent over time) and what units were used for each estimate. The Commission recognises the limitations of this data and so presents market share estimates using a ten per cent range – this data is therefore not sufficiently reliable to draw a conclusion regarding whether the market shares of each of the major grocery retailers, or both of them combined, are stable or not;²³²

²²⁷ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, paras 5.82-5.83.

²²⁸ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.86.

²²⁹ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, figure 5.2, p 130.

²³⁰ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.91.

²³² Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.84.

- ii. the market share estimates in figure 5.1 of the Commission's draft report are based on a sample of grocery retailers, ie, not all of them.²³³ The sample appears to be very limited and include only the major grocery retailers, Moore Wilson's, Farro Fresh and Commonsense Organics.²³⁴ This is consistent with the shares for other grocery retailers combined (two to three per cent) being much lower than those in figure 5.2 of the draft report (20-30 per cent), the estimate of Canstar (15 per cent),²³⁵ and those from the major grocery retailers (5-25 per cent)²³⁶ – the estimates in figure 5.1 differ so much from others that they should not be relied upon; and
- iii. the market share estimates provided in figure 5.2 of the draft report over-estimate the share of the major grocery retailers because they do not include specialist grocery retailers, but it is a consistent data set over time.²³⁷

293. In our opinion, the information provided by the Commission can only be used to draw the conclusion (from figure 5.2 of the Commission's draft report) that the combined share of the major grocery retailers varies from one year to the next by approximately three to six per cent when specialist grocery retailers are excluded.²³⁸ However, the exclusion of specialist grocery retailers means that some variation in market shares is likely to be missed.

294. No conclusion can be drawn about the stability of the market share of Foodstuffs and Woolworths individually because no reliable data is provided by the Commission on this topic.

295. In our opinion, the fact that the combined share of the major grocery retailers varies by approximately three to six per cent when specialist grocery retailers are excluded does not lead to any particular conclusion about the nature of competition between major grocery retailers and other grocery retailers. This is because:

- a. there is some variation from year to year, ie, some net switching from major grocery retailers to or from other grocery retailers has taken place (even though it does not provide any information about the total amount of switching between firms) – there is no reason to believe that this amount of variation indicates a problem with competition;
- b. using annual shares is not appropriate when [REDACTED]

[REDACTED] There is variation in market shares from week to week that is lost when considering annual shares. For example, in the North Island:

- i. PAK'nSAVE's share of all products provided by Woolworths and Foodstuffs fell [REDACTED]

²³³ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.86.

²³⁴ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 3.28.

²³⁵ No information is available on how this estimate was calculated. See: FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, section 'The Commission's market share analysis does not present an accurate picture'.

²³⁶ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 5.90.

²³⁷ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.88, footnote 301.

²³⁸ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, figure 5.2, p 130.

ii. [REDACTED]

- c. it is possible that retailers are growing and shrinking, but this cannot be seen from the Commission’s draft report because the market shares are aggregated to the major grocery retailers combined, and other grocery retailers combined; and
- d. there are a number of reasons that may be contributing to market shares being stable, and stable market shares do not necessarily indicate a lack of competition, as we explain in section 5.3 below.

5.2 Local market shares are not stable over time

296. Competition between grocery retailers in New Zealand takes place on a local and national basis on each of price, quality, range and service.²⁴² For example, Foodstuffs monitors and responds to the prices of other stores and it sets prices at an island level, but local managers are able to, and do, make some changes to prices.²⁴³
297. In our opinion, an assessment of whether market shares are stable should therefore consider them at a local level. Prices vary considerably between banners,²⁴⁴ so it also makes sense to see how the share of each banner varies at a local level (and over the short term, as described in paragraph 303).
298. By way of example, figure 5.1, Figure [REDACTED] Figure 5.3 below shows that shares of grocery sales, which includes sales of seafood, liquor, deli, bakery, produce, butchery, and Asian/ethnic food stores, as well as the Countdown competitor set, in the regions of Auckland, Manawatu-Wanganui and Tasman between December 2016 and January 2018, vary from week to week for each banner at a regional level (data at a local level is not available to us).²⁴⁵
299. Figure 5.1, Figure [REDACTED] Figure 5.3 below illustrate the fluctuations in market share that occur on a short-term, weekly basis. For example, at PAKn’SAVE in Auckland, it is not uncommon for market share to [REDACTED] with some weekly changes [REDACTED]. A similar pattern is seen in the Manawatu-Wanganui region and across many of the regions of New Zealand for which we have data.
300. In the Tasman region, shown in figure Figure [REDACTED] weekly fluctuations in market share are [REDACTED]. For both PAKn’SAVE and New World, it is not uncommon for shares to change by [REDACTED] over the space of a week or fortnight, with weekly changes up to [REDACTED].

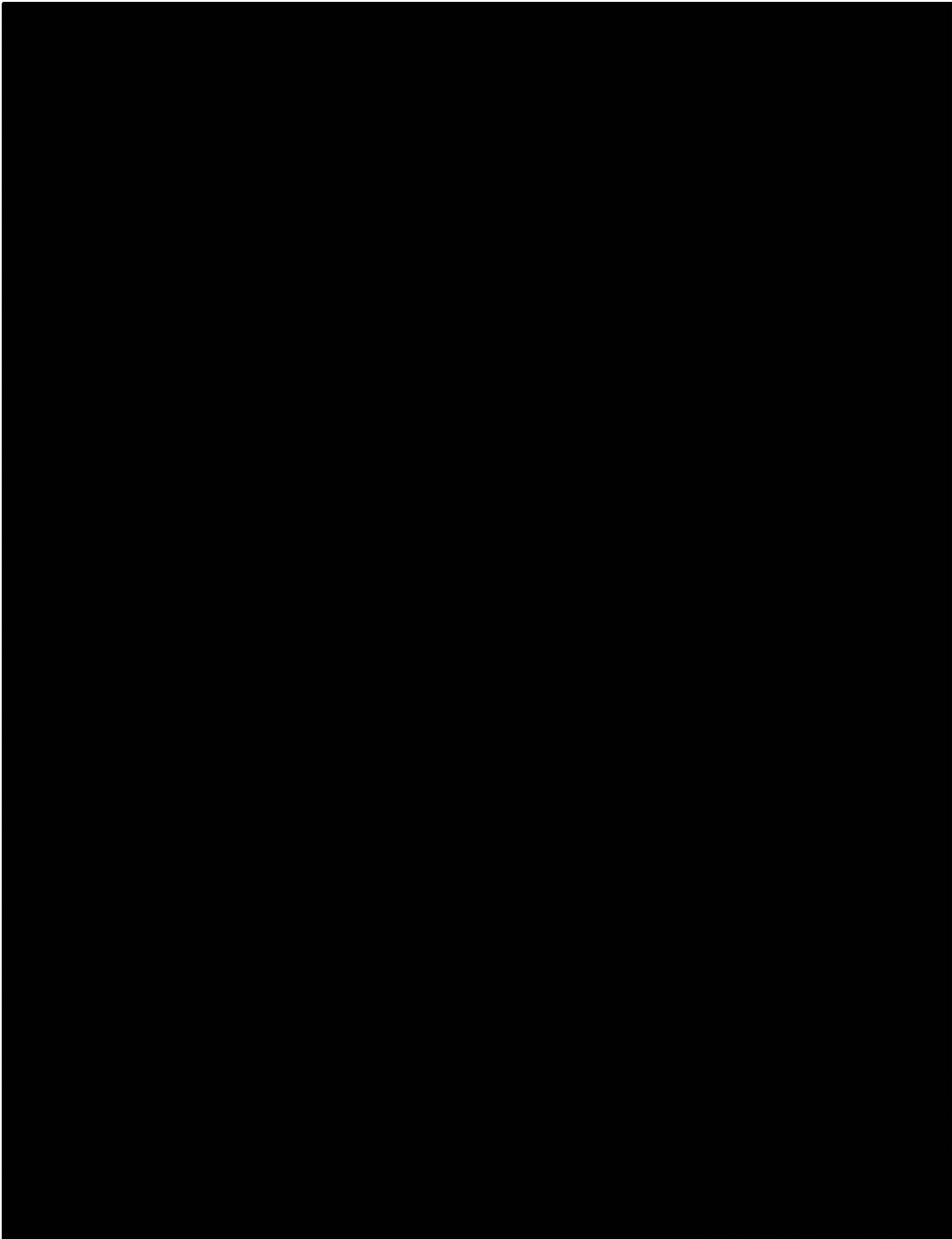
[REDACTED]

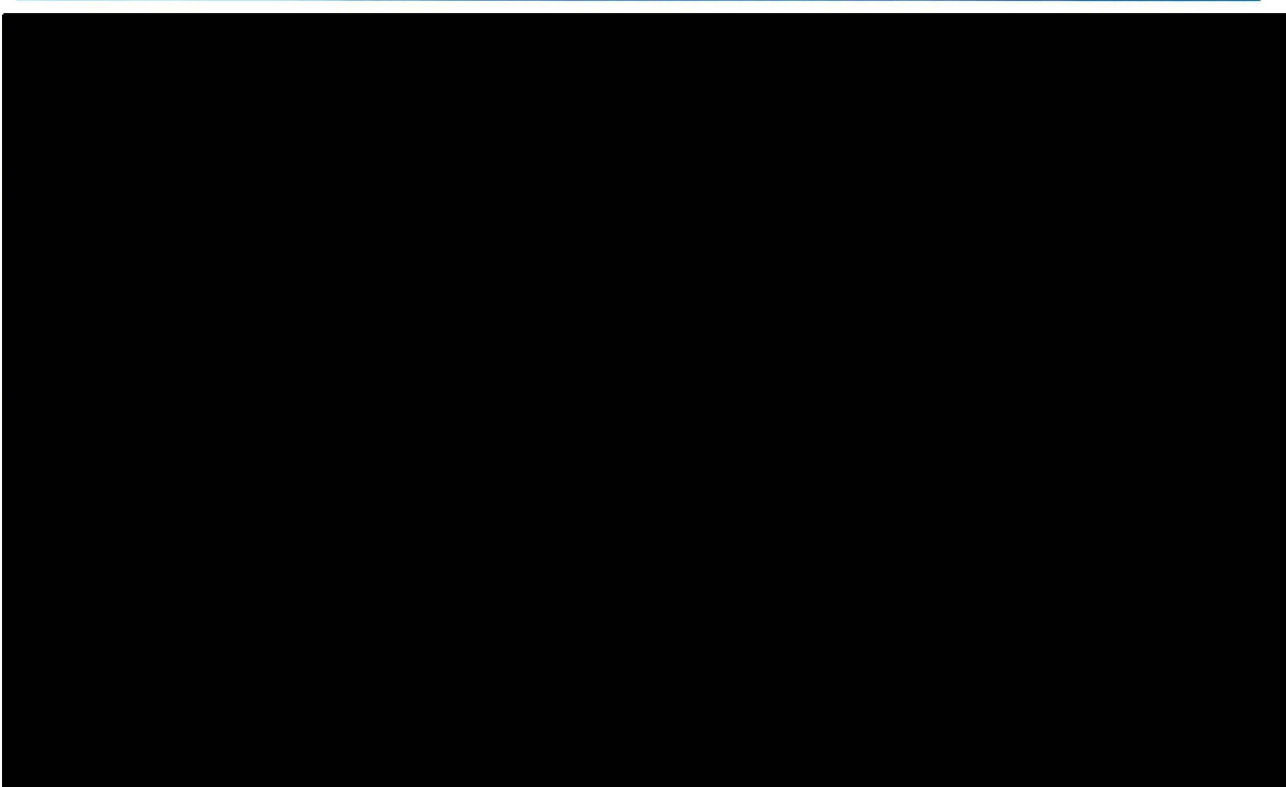
²⁴² FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, sections ‘Price competition’, and ‘QRS competition’.


²⁴³ FSNI, *Post-conference submission on the grocery market study draft report*, December 2021, section ‘Price competition’.

²⁴⁴ See: Frontier Economics, *Econometric analysis of the New Zealand Retail Grocery Sector*, Report for the Commerce Commission, July 2021, table 7, p 18.

[REDACTED]





- 301. Whilst there is variation in market shares from week to week, this does not tend to lead to large share changes over a year or more because rivals are able to respond quickly to price and share changes.
- 302. Aggregating market shares at an island or national level means that some of that variation is lost. For example, the 
- 303. We conclude that the Commission is not able to draw the conclusion that market shares are stable because it has not examined market shares at a weekly or local level. The available evidence suggests that there is variation in market shares between local areas and across time.

5.3 Stable market shares do not indicate a lack of competition

- 304. The Commission concludes that market shares are stable over time, and that:²⁴⁷

This suggests that the major grocery retailers are not competing closely with each other. In a workably competitive market, we would expect to see greater variation in market shares as firms compete for each other's customers.
- 305. There are a number of factors that could affect whether market shares are stable, setting aside the question of competition, including:
 - a. the profit margin – a firm is more likely to respond quickly to losing market share (leading to more stable shares) if a loss of sales has a significant effect on its profits;

²⁴⁷ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, para 5.93.

- b. how quickly firms are able to respond to each other – the quicker they are able to respond, the more stable market shares will appear;
 - c. the stability of demand – market shares are more likely to be stable when demand is also stable; and
 - d. whether the firms have similar cost bases – market shares may be stable because firms have a similar cost of providing a product.
306. Stable market shares are consistent with effective competition between firms with similar cost bases. In this situation, the firms would be expected to increase and decrease their prices in line with their underlying cost base, which is similar. Market shares would be stable because the relative prices of suppliers would not change much over time. Entry would not be profitable because prices would be close to the level of costs.
307. It follows that stable market shares do not, on their own, indicate a lack of competition. They can be consistent with a lack of competition depending on the reason for that stability. Stable market shares can indicate that there is a lack of competition if they are caused by:
- a. there being only a small proportion of customers that would consider switching between the firms; or
 - b. collusion between the firms, eg, market sharing would lead to stable market shares.
308. There is no indication of the Commission having explored the cause of the stable market shares (if shares are indeed stable). It follows that the Commission is not able to conclude that they indicate a lack of competition.
309. The available evidence indicates that consumers use multiple grocery retailers, and so presumably would switch between them. The analysis in our previous report shows that respondents to the Commission’s survey commonly shop from multiple banners,²⁴⁸ and information from Foodstuffs indicates that many consumers purchase groceries from both the two major grocery retailers.²⁴⁹
310. The Commission states that its work did not disclose any evidence that the major grocery retailers are accommodating each other’s strategies.²⁵⁰ We set out in section 4.2 that coordination between grocery retailers is highly unlikely.
311. We conclude therefore that the available evidence is not consistent with stable market shares being caused by a lack of competition.
312. Last, the degree of market share stability described by the Commission is similar to other markets. For example, Table 5.1 below shows that over a similar period to table 5.1 in the Commission’s draft report, grocery market shares in Great Britain have also been reasonably stable. The stability of the market shares set out by the Commission is similar to those below, ie, they are not particularly unusual.

²⁴⁸ HoustonKemp, *Empirical evidence of grocery sector competition*, September 2021, para 116.

²⁴⁹ FSSI, *Foodstuffs South Island’s submission on grocery market study draft report*, para 272.

²⁵⁰ Commerce Commission, *Market study into the retail grocery sector*, Draft report, July 2021, p 111.

Table 5.1: Market share of grocery stores in Great Britain

	Jan-17	Jan-18	Jan-19	Jan-20	Jan-21
Tesco	28.1	27.9	27.7	27.3	27.3
Sainsbury's	16.5	16.3	15.9	15.8	15.9
Asda	15.6	15.5	15.3	14.9	14.3
Morrisons	10.9	10.8	10.6	10.3	10.4
Aldi	6.2	7	7.5	7.9	7.4
The Cooperative	6	5.8	5.9	6	6
Lidl	4.5	5	5.3	5.9	6.1
Waitrose	5.3	5.2	5.1	5	5
Iceland	2.3	2.3	2.3	2.3	2.5
Symbols and Independent	1.8	1.6	1.5	1.6	1.7
Other Multiples	2.9	2.7	3.6	1.7	1.8
Ocado				1.4	1.6

Source: Kantar, see: <https://www.kantarworldpanel.com/en/grocery-market-share/great-britain/snapshot>, accessed 22 November 2021

313. The New Zealand Productivity Commission has found that many sectors had stable Hirschman-Herfindahl Indexes (HHI), ie, the sum of the square of the market shares from all firms in the market, from 2005 to 2016, including for supermarkets.²⁵¹ Stable levels of HHI are likely to be caused by market shares being stable over time.

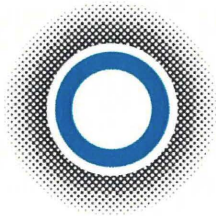
314. The New Zealand Productivity Commission was not particularly concerned about this, stating that:²⁵²

Across time, the HHI measure tends to be the most stable, but this is not surprising given that in many industries the HHI values based on the national market shares of a large number of small firms

315. We conclude that many sectors have stable market shares, especially when measured on an annual basis, and this does not indicate that competition is weak.

²⁵¹ See, for example: New Zealand Productivity Commission, *Competition in New Zealand: highlights from the latest data*, August 2019, figure 4, p 11.

²⁵² New Zealand Productivity Commission, *Competition in New Zealand: highlights from the latest data*, August 2019, p 13.



HOUSTONKEMP

Economists

Sydney

Level 40
161 Castlereagh Street
Sydney NSW 2000

Phone: +61 2 8880 4800