

Authorisation of Collective Bargaining for Inghams' Chicken Growers

Prepared for

Waikato-Bay of Plenty Chicken Growers Association
Incorporated

Authorship

John Small

john.small@covec.co.nz | (09) 916 1966

© Covec Ltd, 2017. All rights reserved.

Disclaimer

Although every effort has been made to ensure the accuracy of the material and the integrity of the analysis presented herein, Covec Ltd accepts no liability for any actions taken on the basis of its contents.

Contents

Executive Summary	4
1 Introduction	7
1.1 Existing Process.....	7
1.2 Economic Framework	9
1.3 Structure for Balance of Report.....	11
2 Transaction Costs	12
2.1 Modelling Assumptions.....	13
2.2 Modelling Results	14
2.3 Sensitivity Analysis.....	15
2.4 Conclusion on Transaction Costs	15
3 Contract Price Changes	17
3.1 Estimation.....	17
3.2 Welfare Effects.....	20
3.3 Conclusion on Contract Price Changes	22
4 Retail Prices	23
4.1 Economic Analysis	23
4.2 Comparator Product Analysis: Fresh Milk	27
4.3 Conclusion on Retail Price Impact	31
5 Conclusion	32

Executive Summary

1. The meat chicken industry in New Zealand is largely centred around three processing companies, one of which, Inghams, is the focus of this report. Inghams provides day-old-chicks to growers, along with the feed needed to grow these birds to slaughter age; it pays growers around [] to grow each bird to slaughter weight. For animal welfare reasons, growers are all located near the Inghams processing plant at Te Aroha. Historically, all growers have received the same terms from Inghams. These have been negotiated collectively between Inghams and a few members of the Waikato-Bay of Plenty Chicken Growers Association ('Growers' Association').
2. Though long-standing, this arrangement has now been identified as a breach of the price-fixing provisions in s30 of the Commerce Act 1986. The growers are therefore applying to the Commerce Commission for authorisation of collective bargaining. []
3. This report is an independent professional examination of the public benefits and detriments that are likely to flow from a decision to authorise collective bargaining. It compares public benefits and detriments between two future worlds: with and without authorisation of collective bargaining. The main factors explored are as follows.
 - Transactions costs. It may be less costly to reach agreement on pricing once with the Growers' Association, than to undertake 33 individual contract negotiations with growers (there are 37 farms, but some growers have more than one farm).
 - Contract prices and wealth transfers. It may be that prices to growers would be different with and without authorisation, in which case there may be a transfer of wealth between Inghams and the growers.
 - Final market effects. If the pricing to growers is different with and without authorisation, then there is potential for some price and volume differences in the retail markets which would affect consumer welfare.

Transaction Costs

4. Our analysis of transaction costs is based on information supplied by growers. We consider the opportunity costs of the time taken by growers and Inghams executives in negotiating contracts, along with outlays on specialist advice. For both parties, we value time at the managerial salaries agreed for growers in recent collective contracts. [] though contract prices may change less frequently.
5. We estimate that there is only a minor difference between the cost of negotiating a collective contract and an individual contract. To model individual contracting (something the relevant parties have no experience of) we scale back the input of Inghams time *per negotiation*, on the basis that Inghams will gain some economies from repeating

the negotiation process with 33 growers. We also increase the outlay on professional advice by individual growers who would lack access to better-informed colleagues under individual bargaining.

6. While our modelling indicates slightly higher per negotiation costs under individual bargaining, the primary driver of transaction cost differences is the number of contracts that need to be negotiated: 33 instead of one. We estimate that transaction costs will increase by [] per annum under individual bargaining. A sensitivity analysis with very wide bands for potential errors shows that, even under extreme assumptions there is a material public benefit from collective bargaining.

Contract Prices

7. Since Inghams incurs a large fraction of the extra transaction costs, it would be irrational for it to move to individual contracting without a benefit that more than offsets its extra negotiating costs. We consider potential sources of this benefit, and model it as a reduction in contract prices.
8. Growers have made substantial sunk investments that are dedicated to supplying Inghams processing plant. It is possible for Inghams to opportunistically wind back its payments to growers, since the growers have no other supply options. However, since Inghams wishes to maintain supply, there are limits to the feasible contract prices that Inghams could impose through individual bargaining. Based on an examination of the [], our assessment is that a reduction of payments to growers of around [] could be sustained without losing supply. This outcome would result in an annual transfer of wealth to Inghams of [] after deducting the increase in Inghams' negotiating costs.
9. Ordinarily, transfers of this type are neither public benefits or detriments. However, in this case, Inghams is fully foreign-owned and the growers are not. If it occurred, the transfer to Inghams would be a functionless rent. It would arise from the exercise of market power and is properly described as a supranormal profit. Since its repatriation from New Zealand would have no offsetting economic benefits for New Zealand, an authorisation that avoided this annual transfer would be a public benefit to New Zealand.

Retail Market Effects

10. We then analysed the likelihood of Inghams passing on unit cost savings in its chicken prices to retailers, along with the consequent impact on retail prices. If retail chicken prices would fall, then foregoing that price cut (through authorisation) would be a public detriment.
11. We found evidence that this would not a good time for Inghams to cut its prices to retailers. Retail chicken prices are still near historic lows, almost a year after a glut of chicken on retail markets gained media attention.
12. Moreover, the fact that growers are effectively running a tolling operation for Inghams means that their payments per bird are a small proportion (around []) of the *wholesale* price of chicken to retailers. If Inghams were to save [] of its grower payments, then even with full pass-through of that saving to retailers, we estimate that the wholesale

price would fall by []. Bearing in mind that retailers will retain part of any price cut, this is unlikely to affect the retail price of Inghams chicken.

13. Since retailers are unlikely to pass-on such a minor cost change, Inghams has no real incentive to pass on any cost savings to retailers. This view is reinforced by analysis of the fresh milk market where farmer payments are around 40% of the *retail* prices (rather than [] of wholesale prices) and yet there is still only a weak connection between farmer prices and retail prices.
14. We also used a critical loss analysis to examine whether Inghams would prefer to pocket a transfer of [] per annum or pass it on to retailers to gain profit from extra sales. Under a range of elasticity assumptions we find that Inghams would prefer to keep the extra margin rather than pass it on.

Summary

15. We conclude that, relative to individual bargaining, authorisation of collective bargaining Inghams chicken growers would:
 - Reduce transaction costs by around [] per annum;
 - Eliminate a wealth loss from New Zealand of around [] per annum; and
 - Have no effect on the retail prices paid for chicken meat by consumers or the overall volumes offered for sale.

1 Introduction

16. There are three main chicken processors in New Zealand. Tegel operates processing plants in Auckland, New Plymouth and Christchurch and claims to be New Zealand's "leading poultry producer".¹ Inghams has one processing plant in the Waikato region which is supplied by 37 growing farms.² Brinks appears to be smaller in scale than Inghams, though details are scarce.³
17. This report is primarily focused on Inghams, and in particular on the process by which Inghams sets contract terms for the growers supplying its factory. Although there are 37 farms supplying Inghams, these are controlled by 33 farmers. In what follows we focus on the 33 farmers rather than the 37 farms, since doing so weighs against the case for authorisation.
18. Since at least the 1980s, the price setting process has involved collective bargaining between Inghams and the Growers' Association representing Inghams suppliers. It has recently been noticed that this process breaches s30 of the Commerce Act, under which it is an offence for firms in competition to fix, control or maintain prices for their output. This is a *per-se* provision: the overall merits or otherwise of the conduct are irrelevant to whether a breach has occurred. However, it is possible for such conduct to be *authorised* under Part 5 of the Commerce Act provided that the public benefits outweigh the public detriments.
19. In the balance of this introductory section, we describe the way the price setting process has been operating, and outline the economic framework that will be applied in the subsequent sections to estimate the relevant public benefits and detriments.

1.1 Existing Process

20. The Growers' Association is operated by a small executive group, each of whom is also a grower. Subscriptions are minimal and the executive group is not paid []. The executive group negotiates growing contracts with Inghams on behalf of all members of the Growers' Association. Inghams has not just endorsed this process, but has actively referred prospective and new growers to the Association.

21. [

]

22. [

]

¹ <http://investors.tegel.co.nz/>

² <http://ingham.co.nz/network/>

³ <http://brinks.co.nz/contact>

[
23.

24.

25.

26.

27.

28.

29.

30.

31.

]

1.2 Economic Framework

32. This section begins by developing a rational economic explanation of the existing contracting practices. It then describes the way the balance of the report will analyse the public benefits and detriments.

1.2.1 Rationale for Existing Practices

33. As noted above, Inghams and its predecessor Harvey Farms has been bargaining collectively with its growers since the 1980s. It is fair to assume that there was a sound economic rationale for initiating this approach, and for maintaining it for well over 20 years. Though the industry practitioners may use different terminology, standard economic analysis can provide a very strong rationale.

34. The latest [] information suggests that growers need to invest over [] to start supplying Inghams. Of this capital, over [] is needed for relationship-specific assets, namely sheds and plant/equipment. [

]. Whereas there are ready markets for on-selling a rural land and house package, capital invested in the relationship-specific assets is largely sunk. If Inghams closed its processing plant or simply decided not to buy from a grower, capital losses would occur. There is consequently a risk of growers being “held-up” after investing in assets that are effectively dedicated to supplying Inghams.⁴ Other factors that reinforce this hold-up risk include:

- that most of Inghams’ growers are too far from a rival processing plant to be able to supply it, and
- that Inghams has unique specifications for growing sheds which differ from other processors.

35. Hold-up risk of this type is not uncommon in agricultural processing activities. In some industries, notably dairy, it was traditionally resolved through co-operative ownership of the processor by the farmers.⁵ However irrespective of ownership structures, processors need to build and maintain the confidence of suppliers by cultivating a reputation for fair-dealing.

⁴ There is an extensive economic literature on hold-up problems, with a good introduction being Benjamin Klein, 1996, “Why Hold-ups Occur: The Self-Enforcing Range of Contractual Relationships, *Economic Inquiry*, XXXIV, pp. 444 – 463.

⁵ A useful analytical framework for such ownership issues is provided by Henry Hansmann, *The Ownership of Enterprise*, 1996, Belknap: Harvard, at pp. 12 – 16.

36. Collective bargaining assists this reputation-building process because it transparently offers the same terms to all growers. This guarantees that growers will have common cause with each other, rather than being divided into (potentially) 33 different individual units for negotiation purposes. Under collective bargaining, it is impossible for Inghams to favour one or more growers over the others, or to discriminate against one or more growers. If Inghams tried to pay much lower rates to growers it would likely face a widespread rebellion. Thus, collective bargaining can be seen as a tangible indication of Inghams' commitment to not hold-up its growers.

1.2.2 Scenarios

37. To properly assess the public benefits and detriments of collective bargaining we need to begin by defining the future scenarios from which the flows of economic value might arise. For each group of economic agents (eg: growers, Inghams) the effect of collective bargaining is the difference in value between a future world with and without collective bargaining. We can then aggregate the group level effects to estimate the net effect for New Zealand as a whole.
38. *Collective Bargaining.* Under this scenario, the contracting process will proceed in broadly the same way it has since the 1980s. We will draw on the outcomes of that process in the recent past to draw inference about likely outcomes in the near future.
39. *Individual Bargaining.* If collective bargaining is not authorised then it will need to cease and contracting will revert to bilateral negotiations between Inghams and each individual grower. Our modelling of this counterfactual scenario will initially focus on estimating the individual and average contract prices. The implications of price differences (relative to the collective bargaining scenario) will then be following through into final economic welfare estimates.

1.2.3 Public Benefits and Detriments

40. Material economic difference between these two scenarios could show up in three different ways.
41. Transaction costs are likely to be lower under collective bargaining, as Inghams and growers will have just one set of negotiations, and the associated drafting and execution of contracts, rather than 33. We estimate these transaction cost differences below.
42. Contract prices are likely to be different between the two scenarios. This will change the way surpluses are shared between growers and Inghams but for reasons discussed below it is unlikely to change the volume of trade. These effects are consequently wealth transfers, rather than changes in allocative efficiency. However the fact that Inghams is foreign-owned means that wealth transfers could change the net economic position for New Zealand.
43. Retail prices might also change in response to changes in contract prices. We therefore also need to assess the likely impact on final consumers of chicken in New Zealand.

1.3 Structure for Balance of Report

44. The remainder of this report is structured as follows.

- Transaction cost differences between the two scenarios are estimated in section 2;
- Economic modelling is used to predict changes in contract prices for growers in section 3;
- Retail market impacts are assessed in section 4; and
- These components are brought together and summarised in section 5.

2 Transaction Costs

45. The transaction costs of relevance here are the total costs of reaching agreement over grower contracts. Costs will generally be incurred both by Inghams and by the growers. Time spent working on contracts should be valued at its opportunity cost, irrespective of whether any payment is made.
46. As noted above, the executive members of the Growers' Association have typically negotiated the contracts directly with Inghams on behalf of their fellow growers. The executive members of the Growers' Association are elected by the growers, largely based on their business acumen and experience in the industry. This arrangement is assumed to continue under the collective bargaining scenario.
47. Under individual bargaining, each grower would need to either do their own bargaining or retain professional assistance, or possibly both. There are sound reasons to believe that most of the growers would be ill-equipped to negotiate their own contracts. Two facts point towards this view.
 - Financial and negotiation skills are unevenly distributed in the population, which is why there are specialist providers of these functions. There is no *a-priori* reason to expect that such skills are unusually concentrated in the group of 33 Inghams chicken growers.
 - The available evidence shows that the Growers' Association picks the people among its ranks best suited to the financial negotiation task, delegating responsibility to them. It is therefore safe to infer that *the growers* believe that these people are best suited to this particular task.
48. Knowing their comparative weakness in this area, and its vital importance to their business, at least some growers are likely to retain external advice. However these growers will also still need to spend some of their own time on the contracting process. At a minimum, this would involve selecting and briefing the advisors and reviewing the proposed outcomes. In all likelihood, each grower would also accompany advisors to any meetings with Inghams.
49. It is to be expected that collective bargaining will incur materially lower transaction costs since it involves striking a single contract rather than 33 contracts. However, estimates of the cost difference inevitably depend on various assumptions, mainly about the time involved and the value of that time. As a general point, the estimated cost difference will be higher, the longer it takes to strike a contract and the more valuable the time involved. In this analysis, we aim to err towards understating the net public benefits of authorisation, so we will take care to adopt conservatively low values for parameters that affect negotiation costs.
50. In what follows, we explain the modelling assumptions adopted, and then present the results of the analysis. Sensitivity analysis is then used to indicate how our final estimate of transaction cost differences varies with the key assumptions.

2.1 Modelling Assumptions

51. The main modelling assumptions concern the amount of time required to negotiate contracts and the value of that time. These are explained below, separately for the two scenarios. All contracts are treated as equivalent in this section. There is no need for any distinction between commercial and free-range growers since we are simply analysing the cost of reaching commercial agreements.

Collective Bargaining

52. Based on information received from the Growers' Association, we assume there will be nine days of work for the growers to strike a single contract (3 people, for 3 days each). This time is valued []⁶.
53. The same assumptions are used for Inghams: 9 person-days at \$[]. Inghams has at least as much to gain/lose as the growers, so it is reasonable to assume Inghams will devote about the same amount of time to the negotiations. Valuing this time at an annual salary of \$[] is likely to materially understate the value of executive time, which is consistent with the approach signalled above (¶49).
54. A modest allowance of \$[] is made for legal review of the contract terms, consistent with advice from the Growers' Association.

Individual Bargaining

55. In the absence of authorisation, it would be illegal for any grower to assist any other grower during contract negotiations. We therefore assume just one person involved on the grower side of negotiations for each contract, but that this person spends five days on the process. This time is valued as above (¶52).
56. On the Inghams side, we assume that slightly less labour input is required *per contract* than under collective bargaining. This is for two reasons: each contract will be of lower value; and Inghams will enjoy some economies of repetition (i.e. they will become more efficient at contracting as they finalise more contracts). We assume 6 person days for Inghams, valued again at \$[] per hour.
57. Since each grower is negotiating alone in this scenario, we expect that more professional advice will be procured on the grower side, for each contract. An allowance of \$[] per contract is made.
58. While these assumptions seem reasonable, especially for in the early rounds of individual contract negotiations, it is possible that Inghams might seek over time to move to an ultimatum-based structure using standard form contracts. Inghams' incentives to use this (ultimatum) approach will depend on a range of factors including demand for its chicken

⁶[

]

products, processing capacity, the potential cost of disputes with growers, and the ease of recruiting new growers. Our information resources are insufficient to assess these factors, much less to draw reliable inference about how Inghams would trade-off the opposing factors (e.g. less costly negotiations against the risk of more costly disputes). We therefore model the remaining uncertainty through sensitivity analysis.

Sense Check on Assumptions

59. The net effect of the above assumptions is that the total cost of reaching agreement is slightly (5%) higher for the collective bargaining scenario than the individual bargaining scenario: [] as against []. This outcome does not seem implausible, and the sensitivity analysis reported below provides further insight.

2.2 Modelling Results

60. Under these assumptions, the total cost of negotiating a collective contract, shown in Table 1, is estimated at [].

Table 1: Cost of Negotiating Collective Contract

	Hours	Total
Opportunity Cost of Grower Time	[
Grower hours / contract		
Opportunity Cost of Inghams Time		
Ingham hours / contract		
Total opportunity cost / contract		
Legal Review		
Total cost / contract]

61. Each of the 33 individual contracts are estimated to cost \$[] to negotiate, as shown in Table 2.

Table 2: Cost of Negotiating Each Individual Contract

	Hours	Total
Opportunity Cost of Grower Time	[
Grower hours / contract		
Opportunity Cost of Inghams Time		
Ingham hours / contract		
Total opportunity cost / contract		
Professional advice / grower		
Total cost / contract]

62. The total cost of individual bargaining is therefore estimated at [] so the transaction cost *saving* from collective bargaining is estimated to be [].

2.3 Sensitivity Analysis

63. As discussed above, the assumptions underlying these estimates are considered reasonable and have been checked with the Growers' Association: we will refer to these estimates as the "base case". It is good modelling practice to explore how sensitivity the base case final estimates are to the assumptions made.
64. To achieve this, we focus on the three main items in each estimate: the value of growers' time, the value of Inghams' time and the cost of professional advice. For each item, we calculate "low" and "high" values by subtracting and adding (respectively) 50% of the base case value. This is an aggressively large range for error; it is used solely to indicate range. In particular, errors of 50% should not be interpreted as reflecting our own confidence in the base case assumptions.
65. The outcome of this process is reported in Table 3, where it should be noted that the second panel (for individual contracts) is reported on a *per-contract* basis.

Table 3: Sensitivity Analysis by Cost Item

Collective Bargaining	Low	Base Case	High
Inghams Time	[
Grower Time			
Professional Costs			
Total			
<hr/>			
Individual Bargaining Per Contract			
Inghams Time			
Grower Time			
Professional Costs			
Total			
]		

66. The difference in transaction costs is defined as 33 times the individual contract cost minus the collective contract cost. Obviously, there are many possible permutations for calculating this from the sensitivity analysis data in Table 3. We report five such outcomes that span the full range of possibilities.

[

--

]

2.4 Conclusion on Transaction Costs

67. This analysis leads to the following conclusions.

- Under reasonable assumptions collective bargaining saves around [] each time a contract is negotiated [].
- This result is primarily due to the many additional contract negotiations required under individual bargaining.
- Even under extremely low estimates of costs, collective bargaining is substantially less costly than individual bargaining.

3 Contract Price Changes

68. [

69.

]

70. If contract prices will be lower under individual bargaining, we need to consider how this will affect public benefits and detriments. There are several stages to this analysis:

- Likely contract price changes need to be estimated;
- The welfare status of Inghams and the growers needs to be considered; and
- The potential impact on final consumers of chicken meat need to be analysed.

71. The first two of these stages are reported in this section; retail market impacts are discussed in 4 below.

3.1 Estimation

72. Our analysis of contract prices under individual bargaining is underpinned by a construct from co-operative game theory. The Nash Bargaining Solution⁸ makes two very plausible predictions about the outcome of bargaining between two parties.

73. First, the agreed outcome will maximise the total available surplus. The “available” surplus is the amount of extra profit in total between Inghams and a single grower, relative to a scenario in which there is no agreement. Second, this total surplus will be split between the two parties in proportion to their market power over each other. The Nash bargaining solution (NBS) neatly separates the distinct between the creation of surplus and its distribution.

⁷ We discussed above (at ¶58) the possibility that Inghams might move to an ultimatum-based model using standard contracts. For the reasons discussed there, it is not clear that this would be less costly for Inghams than collective bargaining. [

] Finally, note that the next section (section 4) on Retail Price effects depends fully on the grower price reductions analysed here. If the Commission does not believe that grower payments would reduce under individual bargaining, then it should ignore this section *and* the following section.

⁸ John Nash, 1953, Two-Person Cooperative Games, *Econometrica*, 21, pp. 128 – 140.

74. The (NBS) prediction can be written as a simple function of just a few parameters. It requires selecting P_o (the payment to a chicken grower) to maximise:

$$NBS = \max(\pi_{A1} - \pi_{D1})(\pi_{A2} - \pi_{D2})$$

where π_{A1} is the profit Inghams expects if there is agreement over the payment P_o , π_{D1} is the profit Inghams expects if there is disagreement, and similarly for firm 2 (the grower).

75. Notice that the terms in parentheses are therefore the *additional* profit each party gets if it can reach agreement over P_o compared to the outcome with no agreement. Choosing the P_o that maximises the product of these terms therefore results in the largest possible incremental profit in aggregate across both parties.
76. In the event of agreement between the firms, the finally agreed growing price will serve both functions of the NBS simultaneously: it will determine the joint surplus that accrues in aggregate, and it will divide this surplus between the parties *in proportion to their market power*.

3.1.1 Market Power Effects

77. It seems clear that, in individual negotiations, Inghams would have a much stronger negotiating position than any single grower. One way to understand this is through their relative *disagreement points*: i.e. their position in the event that agreement cannot be reached. These are the profit values with a 'D' subscript in the NBS equation shown above.
78. Disagreement deprives the grower of all her profit from supplying Inghams, while Inghams loss is (on average) one thirty-third of its profit. Each party would then look elsewhere for replacement trade, but again, the grower would be looking to replace 100% of her trade while Inghams would need [].
79. There is a stark contrast between this difference in potential loss under individual bargaining and the more balanced market power that has existed so far. Under collective bargaining, *both* parties lose everything from disagreement. Both therefore need to rebuild from scratch.
80. It is therefore safe to conclude that shifting to individual bargaining would substantially increase the market power Inghams has over each of its growers.

3.1.2 Minimum Grower Prices

81. [

]

82. It therefore seems reasonable to proceed by estimating the lowest prices that growers might feasibly accept while continuing to supply Inghams. In doing so, we emphasise that growers:

- are not homogeneous; they are all in different financial positions and have different attitudes towards their business; and
- will therefore make their own choices and may disagree with the bottom lines suggested here.

83. [

]

Table 4: Summary of Agreed Payments for 2012 and 2014

[

--

]

84. [

85.

86.

]

Table 5: Minimal Pricing Scenario for 2014

[

--

]

87. This outcome would shave around [] per annum from payments made to growers (on average), reducing the per bird payment by [] relative to the payment schedule that was actually agreed in []. Spread across 33 farms, Inghams would receive a benefit of [] per annum.

Sense Check

88. For Inghams, this annual gain would be offset by extra negotiating costs every one or two years (depending on contract duration). With annual contracting for 33 farmers, Inghams extra negotiation costs amount to [] per annum. The benefit of [] per annum materially exceeds this extra cost, so this strategy would be rational for Inghams, *provided growers continue to supply*.
89. From the perspective of each grower, losing [] per annum of gross income would be difficult to accept. However, while a [] reduction might well induce dissatisfaction or resentment, seems unlikely to trigger exit by growers. The relatively captured nature of the growers (see ¶33 – ¶36 above) underlines this point.
90. For these reasons, we consider that a reduction of around [] in the price paid to growers per bird is a reasonable assumption for analysis.

3.1.3 Contract Duration

91. An alternative or complementary strategy for increasing Inghams profits would be to materially extend contract durations in a way that restricts or prevents price increases. []
92. Shifting to a [] duration without (or with minimal) price increases could have a similar benefit over time to the immediate [] price reduction that we are adopting as our modelling assumption. From a modelling perspective, it does not greatly matter how a price cut is achieved.

3.2 Welfare Effects

93. If prices paid to growers are higher under collective bargaining than individual bargaining, Inghams receives less of the total surplus available from processing chickens

from the growers. In economic terms, there is a transfer of wealth between the parties, which we have estimated at [] per annum (see ¶87). This sum accrues to growers under collective bargaining, and to Inghams under individual bargaining.

94. In some situations, economic analysis is agnostic about wealth transfers. Attention is more likely to focus on pure efficiency questions, rather than the disposition of the surplus from trade. However, this is not always the case. One counter-example is in the regulation of monopoly infrastructure services, where the statutory requirement is to “*promote the long-term benefit of consumers*” by doing certain things.⁹
95. A second counter-example is relevant to this matter as a result of the statutory language of “*benefit to the public*” used to describe the situations in which authorisations may be granted by the Commission.¹⁰ The transfer at issue is between chicken growers who are members of the public and the shareholders of Inghams who are not. Inghams operates in New Zealand through Inghams Enterprises (NZ) Pty Limited which is listed in the Companies Office register as a foreign owned entity.

3.2.1 Legal Precedent

96. The Court of Appeal has recently considered how transfers of wealth to foreign owners should be considered by the Commission in an authorisation context.¹¹ It effectively endorsed the following position of the High Court in the AMPS-A case.

If there are circumstances in which the exercise of market power gives rise to functionless monopoly rents, supranormal profits that arise neither from cost savings nor from innovation, and which accrue to overseas shareholders, we think it right to regard these as an exploitation of the New Zealand community and to be counted as a detriment to the New Zealand public.

97. The history of Inghams’ operations in New Zealand shows that the firm has been able to survive and grow while collectively bargaining with chicken growers. It is understood that the other two main chicken producers in New Zealand also use collective bargaining. This indicates that Inghams’ financial returns have been sufficient to attract and retain foreign investment.
98. The transfer resulting from a decision to decline authorisation fits squarely within the High Court’s view of a “*functionless... rent*” but other parts of the above quoted statement need explanation. Clearly, the transfer Inghams would receive is a monoposony rent rather than a monopoly rent. Both of these rents are supranormal profits gained by the exercise of market power. The High Court’s statement is focused on sell-side (monopoly) market power, which is why it references “*cost savings*”. Cost savings that accrue to a foreign-owned monopolist as a result of efficiencies are explicitly excluded from the High Court’s definition of functionless rents, however it is likely that the Court would have

⁹ Commerce Act, 1986, s52A.

¹⁰ See, for example Commerce Act 1986, s61.

¹¹ Godfrey Hirst vs Commerce Commission and others, November 2016, CA351/2016 [2016] NZCA 560. While this case concerned an acquisition authorisation, the reasoning applies with equal force to the conduct authorisation being sought by chicken growers in this matter.

taken the opposite view had it considered *price increases* by such a firm. Thus, one test of whether a rent is functionless is whether it is secured through the exercise of market power rather than from innovation, rationalisation or other efficiency-enhancing change. This view is reinforced by the Court’s description of functionless rents as “*an exploitation of the New Zealand community*”.

99. Just as a monopolist might generate a functionless rent by increasing output prices, a monopsonist can generate a functionless rent by reducing input prices. [

]

3.2.2 Economic Commentary

100. The above law and economics analysis is supported by the normal economic approach to the estimation of public welfare arising from activities in New Zealand. We would generally not include economic welfare that accrues to foreigners in a cost-benefit analysis. For example, the gross value of New Zealand’s dairy exports would be assessed at the prices received by exporters; it would exclude any supply chain profits that might accrue in foreign countries and it would exclude any consumer surplus that might accrue to foreign consumers.

101. This approach is not inconsistent with a broader recognition of the value of foreign trade (in the case of dairy products) or of foreign investment (in the case of Inghams). In both cases, we value the participation of the foreigners because it helps New Zealand earn income. However it remains the case that when compiling estimates of public benefits and detriments in New Zealand, the economic value received by these parties should be ignored.

3.3 Conclusion on Contract Price Changes

102. [

]

103. We consider that Inghams might reasonably expect to reduce the net payment to an average grower by a bit over [] per annum, representing around [] of grower revenue. [

Our assessment is that, once deprived of mutual support by an individual contracting model, most growers would reluctantly accept this impost rather than shut down their operations.

104. Under this scenario, there would be an annual transfer from growers to Inghams of []. Since Inghams is foreign-owned, its estimated net benefit (i.e. deducting the increase in negotiating costs) of [] per annum represents a public detriment to New Zealand. This is value that would remain in New Zealand under collective bargaining.

4 Retail Market Effects

105. We have concluded above that the contract prices paid to Inghams' growers are likely to fall in the absence of an authorisation, as Inghams uses its market power on individual growers. In this section, we consider how lower Inghams contract prices might affect the retail price of chicken. This includes analysis of the incentive Inghams would have to share cost savings with retailers. If retail chicken prices would fall without authorisation, the welfare difference for final consumers would count as a public detriment from authorisation. We also include analysis of volume effects that might follow a reduction in grower prices.
106. The response of downstream prices to upstream cost reductions is referred to by economists as "*pass-through*", and the practical task is to estimate the rate of pass-through. There are very few theoretical guidelines for this task. We know that under perfect competition pass-through of a unit reduction will be 100%, and that under very strict conditions an outright monopolist will pass through 50% of a unit cost reduction. However, these outcomes do not bound the feasible outcomes: upstream cost reductions may not affect retail prices at all; and cost *increases* may be passed through at more than 100%. It is of course possible to simulate unit cost changes in a complete model of competition such as a Cournot model but such models involve their own approximations.
107. Since pure theory is insufficient to generate a prediction of retail price impacts, we adopt a mixed approach. This begins by analysing what economic theory can reliably tell us about this issue. We then use fresh milk as a comparator for chicken, and draw inference.

4.1 Price Impacts

108. There are two basic questions to be addressed in this section.
- If Inghams reduces grower payments by [], should we expect retail prices for chicken to fall?
 - If so, by how much?
109. To address these questions we need to start by considering the industry structure. Inghams competes with two other substantial chicken-meat firms: Tegel and Brinks. Growers estimate that Tegel has a 52% share of the retail market, Inghams has 34%, and Brinks has around 10%.
110. All three major processors sell into a very highly concentrated retail sector, dominated by a supermarket duopoly. In this context, having secured a price reduction from growers, how will Inghams price the processed chicken it produces? The two polar extreme options are:
- pass through 100% of the cost reduction to retailers in the hope that these price cuts will be passed on by retailers and Inghams will gain market share by having an improved price/value combination for final consumers; or

- retain 100% of the cost reduction, perhaps reasoning that either retailers will not pass through the price cut, or that (even if they did) it is not large enough to materially shift market share.

111. Inghams will need to choose a wholesale price point at or between these two extremes. Market share gains (which would require significant pass-through by retailers) would be relatively more attractive if Inghams has spare processing capacity, so we investigate this question below. Alternatively, full retention of extra profit would be relatively more attractive if Inghams believe that retailers will not pass on price cuts, so we also investigate this issue below.

4.1.1 Spare Capacity

112. [

]

113. The most recent volume data available for Inghams is from the 2015 – 16 year. These data show [

]

114. [

]

115. [

116.

]

117. Overall demand for chicken has been increasing in New Zealand, so over a moderately long-term horizon Inghams will need to expand production just to maintain market share.

The firm is reported to be seeking consent to expand production capacity by 50% over the next decade.¹² This proposed investment to accommodate long-term growth is not directly relevant to assessing whether Inghams would pass-on unit cost reductions to gain market share, but if anything, it reinforces the view that the firm does not currently have a lot of spare capacity.

118. Overall, we consider there is modest scope for Inghams to increase production at its existing processing site, but while Inghams appears to want more commercial growers to adopt the free-range model, there is no strong evidence that Inghams is actually seeking to increase its overall market share.

4.1.2 Retail Pass-Through

119. We focus now on the retailing of chicken, where the supermarket duopolists are the main suppliers. The final prices paid by consumers (and received by retailers) reflect the outcomes from competition between:

- chicken processors to supply retailers (i.e. the wholesale prices); and
- retailers to supply final consumers.

120. In deciding whether to pass on unit cost reductions to supermarkets, Inghams would need to form a view on the likelihood that doing so would increase its market share. For consumers (and Inghams), competitive outcomes could turn on volume or price factors, so we consider these options separately.

Volume Competition

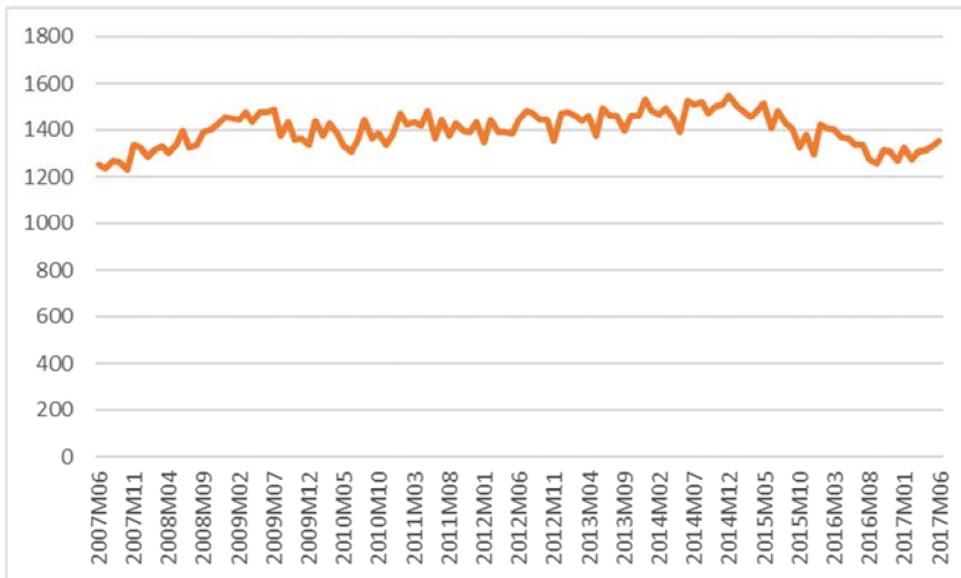
121. It appears that the retail markets for chicken meat in New Zealand are currently over-supplied when assessed against recent history. In October 2016, First NZ Capital was reported as considering there was a temporary glut on the domestic market, and the Poultry Industry Association said that oversupply “occurred from time to time when operators misjudged how much supply was needed to meet future demand”.¹³

122. This over-supply situation appears to be reflected in lower retail prices for poultry, as shown in Figure 1.

¹² <http://www.stuff.co.nz/business/84933392/our-chicken-addiction>

¹³ http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11727574

Figure 1: Retail Price Index for Poultry (Source: StatsNZ)



123. These data also show that recovering from an excess supply situation takes quite some time. Even the most recent value of the poultry price index (June 2017) is below the average value over the decade from November 2006 to October 2016, so today's prices are still low by historic standards, most of a year after the glut was reported. Tegel's share price reinforces this view. When broker comment was reported in October 2016 (see footnote 13), Tegel's share price was 1.47. Since then it has fallen to \$1.05 and recovered to \$1.22 (as of 10 August 2017).

124. It therefore seems safe to infer that excess production of chicken has fed through into lower retail prices. This could occur from a single processor being excessively optimistic about demand for its product, ramping up production, and then finding that overall market growth (or growth in its own market share) did not materialise. Once one chicken processor is holding excess product, supermarkets can credibly claim that the other two processors must also reduce wholesale prices. This claim is made credible by presence of excess product.

Price Competition

125. The fact that retail chicken prices are near historic lows suggests that this may not be a good time for Inghams to further reduce its wholesale prices. Absent collusion, it may take another year or more for processors to correct the current excess-supply.

126. Aside from these timing issues, the profitability of a unilateral cut in Ingham's wholesale pricing to supermarkets raises materiality questions. These stem from the difference between the price received by growers and the final retail price.

127. [

]

¹⁴ <http://www.wattagnet.com/articles/25768-ways-to-maximize-poultry-processing-yields>

switching to individual contracts [

].

128. We do not know the wholesale price at which retailers buy chicken meat, but the retail prices for breast meat (the premium cut) are reported to have fallen from \$16.60/kg to \$13.52/kg due to the glut.¹⁵ If average meat prices are [] lower than breast meat prices and retailers mark-up chicken meat by [], the wholesale price would be as shown in Table 6.

Table 6: Estimates of Inghams Selling Prices to Retailers

[

--

]

129. Inghams cost savings from moving to individual contracting are therefore less than [] of its estimated selling price, in the depths of a glut. A cost saving of four times this amount (i.e. around []), even if *fully* passed on to retailers will result in (at best) a tiny shift in the retail price of Inghams chicken relative to its rivals, because retailers will pocket some (we assume []) of the cost saving.

130. No sensitivity analysis is presented for this analysis because it is considered unnecessary. We will provide our spreadsheets to the Commerce Commission.

4.2 Comparator Product Analysis: Fresh Milk

131. The above analysis shows how unit cost savings for oligopoly processors who sell to oligopoly retailers might not show up in retail prices.

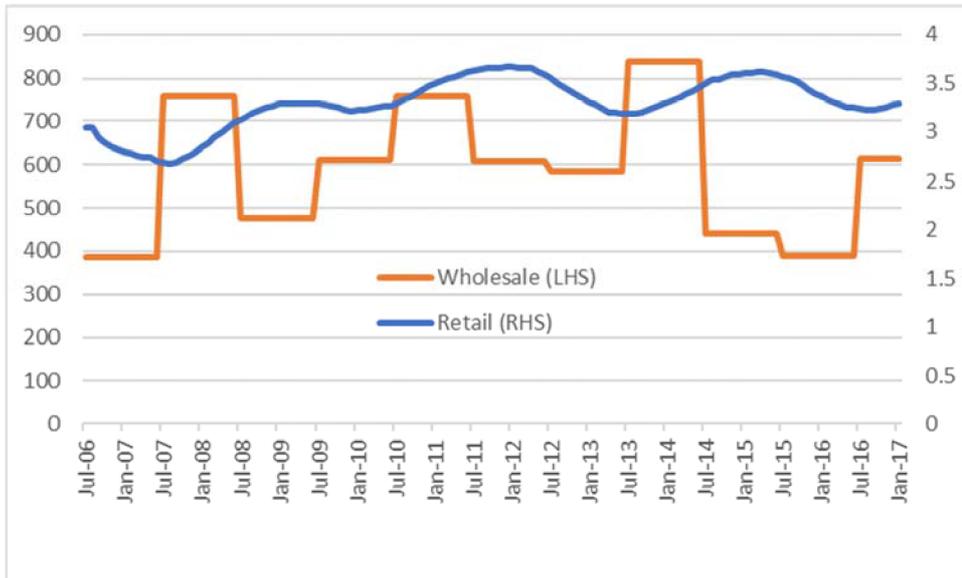
132. The fresh milk industry provides further evidence of this proposition, so it is briefly discussed here. Before doing so, we note the important economic difference between the fresh milk and chicken production chains. Fresh milk prices paid to farmers are a much larger percentage of retail prices. We found above that chicken growers are paid at best about [] of the wholesale price of chicken. For fresh milk, it is around 40% of the retail price.¹⁶ We would therefore expect a much tighter link between farm and retail prices for fresh milk than for chicken meat.

133. In Figure 2 we show for the last decade Fonterra's payment to farmers for milk and a 12-month rolling average of StatsNZ prices for a standard 2 litre bottle of homogenised milk. There does not appear to be a tight relationship, and the period from July 2014 to July 2016 clearly shows that retail prices for fresh milk can be very insensitive to farm gate prices.

¹⁵ http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11728200

¹⁶ This assumes a farm gate milk price of \$6/kg milk solids, that 9% of milk volume is solids, and that the retail price of milk is \$1.50/litre.

Figure 2: Wholesale and Retail Milk Prices in NZ (2006 - 2017)

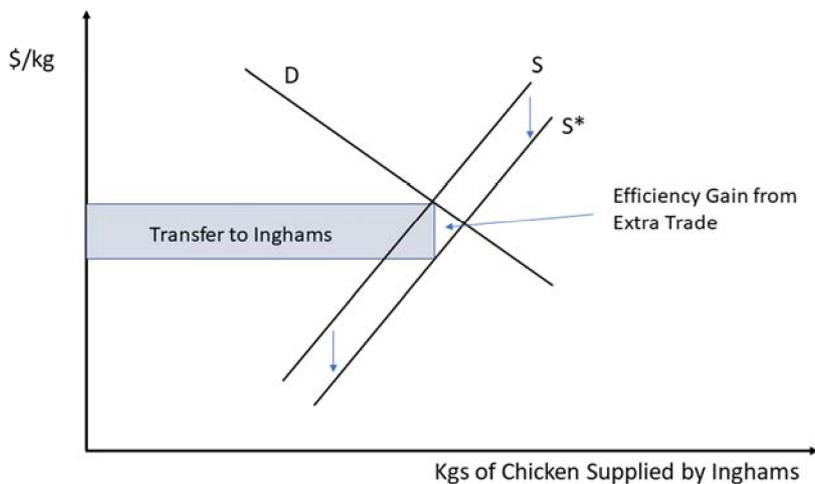


134. This lends further weight to the view that the scale of the unit cost savings that Inghams might achieve through individual contracting would not be enough to shift retail prices, even if fully passed on to retailers.

4.3 Volume Effects

135. If we think of Inghams as having an upward sloping supply curve, standard economic analysis would predict that it might offer more chicken for sale after reducing grower prices. The following diagram illustrates this proposition.

Figure 3: Stylised Graph of Potential Volume Increase



136. The supply and demand curves are labelled S and D respectively. As a result of lower grower prices, Inghams supply curve falls from S to S*. The point of intersection between the supply and demand curves shifts down the D curve. The transfer to Inghams is shown

in the shaded rectangle but the interest in this section is on the small triangle immediately to the right of this transfer box.

137. In theory, Inghams could earn extra profit by expanding production to include the trade represented by the triangle shown in Figure 3. In practice, since Inghams competes against Tegel and Brinks, a price cut would be required in order to persuade wholesale customers to purchase extra output. As explained in section 4.1, the very small impact on wholesale prices is a severe constraint on the incentive of Inghams to reduce its wholesale prices, as are the glut conditions in the market currently.

138. Volume considerations further deter Inghams from seeking to expand output following a cut to grower prices. To see this, notice that there are two distinct stages here. First Inghams uses its market power to reduce grower prices, gaining the transfer rectangle shown in Figure 3. Then, Inghams decides whether to seek extra volume by cutting its output prices. In this latter decision, there are two effects to consider:

- The potential gain from the extra trade shown in the triangle; and
- The loss of transfer revenue required to achieve that gain.

139. The size of the transfer revenue was estimated above at [] per annum (see ¶104), so the question of whether Inghams would seek to expand output can be answered by considering whether its potential profit from extra sales could exceed that amount. We therefore proceed to estimate the potential gross benefit from extra sales (i.e. the value to Inghams before deducting the transfer rectangle).

4.3.1 Gross Value of Extra Sales

140. Three inputs are required to construct an estimate of the gross value to Inghams of extra sales resulting from reduction in output prices of [] of chicken meat. These are:

- The pass-through rate from wholesale prices into retail prices, since retail demand is the ultimate determinant of sales;
- The price elasticity of demand, which is an indicator of the steepness of the relevant demand curve; and
- The cost elasticity of supply, which indicates the steepness of the supply curve.

141. In section 4.1 we assumed retail mark-ups of [], which implies a retail price cut (for Inghams chicken only) of []. For simplicity, we round this off to [] of chicken meat.

142. It is known that retail demand for chicken is quite inelastic, with elasticity values of around -0.2 or perhaps -0.4.¹⁷ This is for all chicken however. We would expect that own-brand elasticities would be higher, implying larger gains from price reductions. We will

¹⁷ These values come from Commission Decision 658 at paragraphs 75 and 70 respectively.

4.4 Conclusion on Retail Market Impacts

147. The analysis in this section leads us to the following conclusions.

- Inghams currently has limited ability to expand production in response to increased market share.
- From Inghams commercial perspective, this would be a bad time to seek extra market share by cutting its prices to retailers. The industry has clearly not recovered from a glut that was reported on almost 12 months ago.
- Even if the timing were propitious, the scale of Inghams cost savings from moving to individual contracting is tiny compared to the prices it receives from retailers (around []). Even full pass-through is unlikely to change retail prices for Inghams chicken.
- These views are supported by evidence from the fresh milk market. Farmer payments are a much larger share of retail prices for fresh milk (around 40%), but there is only a weak relationship between farmer payments and retail prices.
- There is no realistic prospect that Inghams would supply extra volume as a consequence of cutting payments to growers. Standard economic analysis shows that the extra profits available to Inghams from increasing supply are dwarfed by the loss of transfer revenue on pre-existing volumes that would occur if prices were cut.

5 Conclusion

148. The analysis above has been designed to be as realistic as possible, given information constraints. Where judgements have been required, we have sought to err on the side of understating the net public benefits from authorisation of collective bargaining.

149. We conclude that, relative to individual bargaining, authorisation of collective bargaining Inghams' chicken growers would:

- Reduce transaction costs by around [] per annum;
- Eliminate a wealth loss from New Zealand of around [] per annum;
- Have no effect on the retail prices paid for chicken meat by consumers; and
- Cause no extra volume of chicken meat to be supplied.