

Review of Fonterra's 2015/16 base milk price calculation:

Dairy Industry Restructuring Act 2001

Draft report

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Executive Summary

What this report covers

- X1 This draft report sets out our conclusions on our statutory review of Fonterra's 2015/16 base milk price calculation ('the calculation').¹
- X2 We invite submissions on this draft report from interested parties, which will help inform our final report.²
 - X2.1 Submissions are due by **5pm, Thursday, 1 September 2016**.
 - X2.2 More detail on how you can provide your views can be found in Chapter 7.

Draft report conclusions

- X3 We consider that the assumptions adopted, and the inputs and processes used by Fonterra to calculate the 2015/16 base milk price are consistent with the purpose of the milk price monitoring regime as set out in s 150A of the Dairy Industry Restructuring Act 2001 ('the Act').
- X4 We would like to see continued development from Fonterra in the following areas:
 - X4.1 more frequent reviews of the current reference commodity product ('RCP') basket;
 - X4.2 increased transparency of forecast information, in particular forecast prices used in calculation;
 - X4.3 disclosure of future years' Global Ingredients and Operations businesses' RCP operation cost performance to allow interested parties to compare it with the notional producer.

¹ This report is supported by a separate paper that provides an overview of the approach we have taken in reviewing the calculation for the 2015/16 dairy season. That supporting paper outlines how we conduct our annual reviews of Fonterra's Milk Price Manual and each season's base milk price calculation. It is available at: <http://www.comcom.govt.nz/regulated-industries/dairy-industry/review-of-fonterra-s-farm-gate-milk-price-and-manual/statutory-review-of-milk-price-calculation-2/review-of-milk-price-calculation-201516-season/>.

² Our final report will be published on 15 September 2016.

- X5 In reaching our conclusions, we have considered whether the assumptions adopted, inputs and process used in the base milk price calculation provide:
- X5.1 an incentive for Fonterra to operate efficiently ('the efficiency dimension'); and
 - X5.2 for contestability in the market for the purchase of milk from farmers ('the contestability dimension').³
- X6 Our review this year has continued to build on previous reviews. We have concentrated on looking at the feasibility of the notional producer as a whole to allow us to better understand the practical feasibility of the individual revenue and cost components of the calculation.
- X7 We have also focussed on resolving issues that remained outstanding from previous seasons.
- X8 We have appreciated the willingness of stakeholders to engage with us during our review and this has again assisted us with our assessment of the calculation.
- X9 We are seeing that our annual reviews are having an impact on improving the transparency of Fonterra's information. Encouraging transparency is a priority for us, particularly with respect to forecast milk price information.
- X10 We acknowledge the willingness of Fonterra to engage with us on areas where transparency of information could be improved.

Consistency with the efficiency dimension

- X11 We consider that the assumptions adopted, and the inputs and processes used in calculating the 2015/16 base milk price are consistent with the efficiency dimension of the s 150A purpose.
- X12 Fonterra uses notional data for most of the components in its calculation of the base milk price. However, where Fonterra does use data based on its current actual levels of performance to calculate some of the components of the base milk price, we consider that this still provides Fonterra with incentives to operate efficiently. However, in those exception cases, the incentives are potentially weaker than if notional data had been used.

³ These two dimensions for our review are set out in section 150A of the Dairy Industry Restructuring Act 2001.

Consistency with the contestability dimension

- X13 We consider that the assumptions adopted, the inputs and processes used by Fonterra to calculate the 2015/16 base milk price are consistent with the contestability dimension of the s 150A purpose.
- X14 Fonterra could adopt or use other assumptions, inputs and processes for some of the components (selling costs, fixed assets' related components), which may be more consistent with the practical feasibility test. However, we consider that this would most likely result in a higher milk price if these components were based on more 'real world' scenarios. Therefore, we consider that Fonterra's current approach in calculating these components provides more contestability than a more 'real world' approach.
- X15 We welcome any cost information from interested parties to inform us of particular areas where the costs for the notional producer are potentially over-optimised.

Substantive areas of focus in this year's review

- X16 We identified the following substantive areas of focus as priorities for this year's review of the calculation:
- X16.1 weighted average cost of capital (WACC), with emphasis on the asset beta and specific risk premium;
 - X16.2 production yields and related pricing;
 - X16.3 consistency of fixed asset assumptions; and
 - X16.4 corporate costs (administration, plant labour, other supply chain costs, site overhead costs, and selling costs).
- X17 We also followed through from last season on our work on the aggregate assessment of the notional producer's revenues and costs to allow us to better understand the practical feasibility of the individual components as part of a package (the notional producer refers to the notional business that is derived from Fonterra's Milk Price Manual to set the base milk price).

Aggregate assessment of the notional producer

- X18 This year we were able to use Fonterra's Global Ingredients and Global Operation businesses' reference commodity product operation ('the GOGI RCP operation') as a basis for an efficient real world processor that closely resembles the notional producer in our aggregate assessment.
- X19 The GOGI RCP operation was not an exact fit with the notional producer, but it was close enough for us to make conclusions on the practical feasibility in aggregate.

- X20 Overall we are satisfied that the notional producer is practically feasible in aggregate.
- X21 We had expected to see some differences in performance due to differences in cost structures and where there were differences we were able to get explanations for these.
- X22 The larger area of difference we noted was in the way that revenues are respectively calculated. The comparison of the GOGI RCP operation revenues with those of the notional producer suggests that using predominately GlobalDairyTrade ('GDT') as a source of prices may not be the most accurate basis for determining reference prices for reference commodity products ('RCPs').
- X23 We note that Fonterra announced on 1 August 2017 that in the 2016/17 calculation it will use more off-GDT sales to inform the notional producer's prices. It has estimated a consequential increase in the base milk price of between four to five cents per kgMS.
- X24 Fonterra's proposal is included in the 2016/17 Milk Price Manual ('2016/17 Manual'). We intend to look at the practical feasibility of the notional producer using off-GDT prices and will consider the associated impact on non-milk costs in our 2016/17 Manual review and our 2016/17 calculation review.

WACC

- X25 We are satisfied that the WACC has been calculated consistent with the efficiency and contestability dimensions.
- X26 We have been able to conclude on the practical feasibility of the asset beta and the specific risk premium for asset stranding risk. These are key inputs of the WACC calculation that we were previously unable to conclude on. In our assessment we have considered two experts' views and interested parties' submissions.
- X27 We consider that an asset beta of 0.38 is within an acceptable range for an efficient processor with the notional producer's risk profile.
- X28 Based on the information available to us, there is no clear evidence that the specific risk premium for asset stranding risk of 0.15% is unreasonable.
- X29 We note that we have not received any information from interested parties on what an alternative asset beta or specific risk premium should be or what discounts should be applied to the various market comparators' asset betas.

Production yields and related pricing

- X30 We are satisfied that the yields of the notional producer have been calculated consistent with the efficiency and contestability dimensions. For this year's review, we engaged an independent yields expert to assist us.
- X31 For the losses input to the yields, there is no allowance for some variable losses that may occur during the shoulder periods of the season. However, we consider the amount is immaterial to the overall losses or the milk price. We recommend Fonterra include an allowance for these losses for the 2016/17 base milk price calculation.
- X32 We are satisfied that the mass balance calculation reconciles (i.e. the amount of milk going in can produce the amount of products coming out). We are also satisfied that the product specification assumed for each of the RCP products can be sold at GDT prices.

Corporate costs

- X33 We consider Fonterra's approach to the estimation of corporate costs is reasonable. Fonterra's adjustments to budgeted 2014/15 figures to arrive at its estimates are consistent with the scale and assumptions of the notional producer. Therefore, we consider the costs to be practically feasible for an efficient processor.
- X34 Fonterra has included a cost savings adjustment in its corporate cost estimates that reflects the savings being made as part of Fonterra's actual cost restructuring. We are satisfied that the velocity adjustment does not represent any "double dipping" in the removal of staff headcount.

Consistency of fixed asset assumptions

- X35 We are satisfied that the fixed asset assumptions in the calculation are consistent with the efficiency and contestability dimensions.
- X36 Considered together as a whole, the assumptions adopted and the inputs and processes used in the calculation of the capital charge provide a practically feasible outcome that satisfies the contestability dimension.

Other areas of focus for this year's review

- X37 Other areas of focus for our review this year include farmer support costs and winter milk premiums.
- X38 Although largely immaterial, for greater alignment with the Act, we consider that associated costs of providing farmer support loans should be included in the calculation.

- X39 Winter milk premiums are not treated as a cost component under the Manual. We recommend Fonterra provides better clarity on how winter milk premiums are treated in the milk price in its Milk Price Statement.

Non-focus areas for this year's review

- X40 This year we considered that some components of the base milk price calculation did not require detailed analysis. For example, Fonterra's review of the RCP basket of the notional producer.
- X41 Fonterra's review of the RCP basket did not result in any changes. However, we have concluded that Fonterra should consider more frequent reviews of the RCP basket. This would ensure more timely consideration is given to Fonterra commodity products that might warrant further evaluation for inclusion in the basket.
- X42 We have commented on the components where Fonterra has made amendments to how it calculates them. For other non-focus areas, where there had been no methodology amendments in the calculation between seasons, we relied on our conclusions from previous years and tested for any material differences in the numbers to satisfy ourselves on the consistency of the calculation.

Chapter 1 Introduction

Purpose of this report

1.1 This draft report sets out our draft conclusions on the extent to which Fonterra's 2015/16 base milk price calculation is consistent with the purpose of the milk price monitoring regime in the Dairy Industry Restructuring Act 2001 ('the Act').

1.2 The purpose of the milk price monitoring regime is set out in s 150A of the Act:

The purpose of this subpart is to promote the setting of a base milk price that provides an incentive to new co-op to operate efficiently while providing for contestability in the market for the purchase of milk from farmers.

For the purposes of this subpart, the setting of a base milk price provides for contestability in the market for the purchase of milk from farmers if any notional costs, revenues, or other assumptions taken into account in calculating the base milk price are practically feasible for an efficient processor.

1.3 This draft report builds on our conclusions on the Manual and the calculation reviews from previous years. For those components of the calculation where the methodology has not changed or where there has been no outstanding issues, we have relied on our previous conclusions.⁴

1.4 Key terms and abbreviations used in this draft report are explained in more detail in the Glossary in Attachment B.

1.5 We acknowledge Fonterra's effort in providing the necessary information for our reviews and its willingness to engage with the Commission on areas where transparency of information can be improved in the interests of stakeholders.

Information considered in our review process

1.6 Our conclusions are outlined in Chapter 3. In reaching our conclusions we have considered:

1.6.1 information that Fonterra has provided to us under s 150T of the Act;⁵

1.6.2 additional documentation that Fonterra has provided to us during the course of our review;⁶

⁴ We have reconsidered our previous conclusions only where there was substantive information causing us to do so.

⁵ Fonterra "'Reasons' Paper in support of Fonterra's base milk price for the 2015/16 Season" (1 July 2016).

- 1.6.3 submissions and cross-submissions on our Process and Issues paper;⁷
 - 1.6.4 our independent expert's (Dr Martin Lally) peer review of Fonterra's expert's report on the asset beta and specific risk premium in the cost of capital;⁸
 - 1.6.5 comments from interested parties on our independent expert's peer review of Fonterra's expert's report;⁹
 - 1.6.6 Dr Lally's responses to comments from interested parties and additional questions from us on the asset beta and specific risk premium;¹⁰ and
 - 1.6.7 our independent yield expert's (Greg Winter) review of the practical feasibility of the assumed yields in this season's calculation.
- 1.7 In reaching our conclusions for our final report, we will consider:
- 1.7.1 any submission made to us by Fonterra on this draft report in accordance with the Act;¹¹ and

⁶ This includes Fonterra's independent expert's report on the asset beta and specific risk premium. Dr Alastair Marsden (Auckland UniServices) "Update on asset beta for Fonterra's New Zealand-based commodity manufacturing businesses and specific risk premium for Fonterra's notional business" (10 April 2016).

⁷ Fonterra "Submission to the Commerce Commission on Process and issues paper - Review of 2015/16 base milk price calculation" (5 February 2016), Miraka "Submission to the Commerce Commission: Process and issues paper - Review of 2015/16 base milk price calculation" (4 February 2016), Open Country "Submission on the Commerce Commission's on Process and issues paper - Review of 2015/16 base milk price calculation" (February 2016), Stuart and Lorae King "Submission on the Commerce Commission's Process and issues paper - Review of 2015/16 base milk price calculation" (February 2016), Fonterra "Cross-submission to the Commerce Commission on Process and issues paper - Review of 2015/16 base milk price calculation" (26 February 2016), Open Country "Cross submission on the Commerce Commission's Process and issues paper - Review of 2015/16 base milk price calculation" (2 February 2016).

⁸ Dr Martin Lally (Capital Financial Consultants Ltd) "Assessment of the asset beta for Fonterra's notional business" (16 May 2016).

⁹ Castalia "Report to Open Country: Submission on asset beta and specific risk premium reports" (17 June 2016), Open Country "Submission on asset beta and specific risk premium reports" (17 June 2016), Miraka "Submission on asset beta and specific risk premium reports" (17 June 2016), Synlait "Submission on asset beta and specific risk premium reports" (17 June 2016).

¹⁰ Dr Martin Lally (Capital Financial Consultants Ltd) "Assessment of the asset beta for Fonterra's notional business: further analysis" (1 August 2016).

¹¹ Under s 150U(2)(a) of the Act Fonterra may make a submission on this draft report, or must otherwise notify us that it does not wish to make a submission.

- 1.7.2 any submissions made by other interested parties on this draft report under our invitation to provide comments.

How this report is structured

- 1.8 Chapter 2 covers the scope of our review.
- 1.9 Chapter 3 sets out our overall conclusions.
- 1.10 Chapter 4 discusses the substantive focus areas of our review. The reasons for selecting these focus areas were outlined in our Process and Issues paper published on 18 December 2015.
- 1.11 Chapter 5 discusses the other areas of focus, also outlined in our Process and Issues paper.
- 1.12 Chapter 6 provides our 'fit-for-purpose review' of components that had less-substantive methodology amendments in the calculation. We have relied on previous conclusions for revenue or cost components where Fonterra has advised there has been no methodology change in the calculation between seasons, and no new information has been provided.
- 1.13 Chapter 7 outlines how interested parties can provide their views on this draft report.

Our supporting paper

- 1.14 Alongside this report we have published a supporting paper which sets out:
- 1.14.1 our interpretation of key legislative provisions;
 - 1.14.2 our practical approach to the statutory reviews;
 - 1.14.3 an overview of how Fonterra sets its base milk price;
 - 1.14.4 assumptions of the notional producer (the notional producer refers to the notional business that is derived from Fonterra's Milk Price Manual to set the base milk price); and
 - 1.14.5 internal and external controls supporting the integrity of milk price calculation.¹²

¹² Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" (15 August 2016).

Additional material published alongside this report

- 1.15 Additional material has been published on our website along with this draft report.¹³ We suggest referring to this material as you read this paper. This includes:
- 1.15.1 Fonterra's Reasons Paper in support of its 2015/16 base milk price calculation;
 - 1.15.2 Fonterra's independent expert's report (from Dr Alastair Marsden, Auckland UniServices) on the asset beta for Fonterra's New Zealand-based commodity manufacturing business and specific risk premium for Fonterra's notional business;
 - 1.15.3 Dr Martin Lally's (Capital Financial Consultants) review of the reasonableness of Dr Marsden's milk price asset beta estimate, and his responses to comments received from interested parties;
 - 1.15.4 a letter from our independent yields expert, Greg Winter, outlining his view on the practical feasibility of the losses for the yields' component of this season's calculation; and
 - 1.15.5 Fonterra's simplified model of capital cost recovery and an explanatory note.

¹³ <http://www.comcom.govt.nz/review-of-milk-price-calculation-201516-season/>

Chapter 2 Scope of our review

- 2.1 The scope of this season's review of the milk price calculation was signalled earlier in the season in our Process and Issues paper and aligns with the requirements of the Act.¹⁴
- 2.2 We have considered the extent to which the assumptions adopted, inputs and processes used, provide an incentive for Fonterra to operate efficiently, while providing for contestability in the market for the purchase of milk from farmers.
- 2.3 We have also assessed the internal consistency of associated inputs, processes and assumptions of the calculation.
- 2.4 We have provided comments on:
 - 2.4.1 aspects of the calculation where improved clarity could be provided; and
 - 2.4.2 aspects of the calculation which could be improved to increase transparency of the assumptions, the inputs and processes.
- 2.5 This year we have concentrated our review on looking at the notional producer as a whole (which we refer to as the aggregate assessment) to allow us to better understand the practical feasibility of the individual components. We have also focussed on resolving issues that remained outstanding from previous seasons.¹⁵
- 2.6 For those components outside of our identified focus areas, we have completed the 'fit-for-purpose' review (see also Chapter 6).

¹⁴ Commerce Commission "Process and issues paper - Review of 2015/16 base milk price calculation" (18 December 2015).

¹⁵ These issues were collated from previous reviews where we were unable to conclude and include concerns raised by interested parties in submissions or meetings with us.

Chapter 3 Conclusions

Purpose of this chapter

- 3.1 In this chapter we outline our conclusions on the extent to which the calculation is consistent with the purpose of the milk price monitoring regime.

Our overall conclusion

- 3.2 We consider that the assumptions adopted, the inputs and processes used by Fonterra to calculate the 2015/16 base milk price are consistent with the s 150A purpose statement.

Our conclusions on the efficiency dimension

- 3.3 We consider that the assumptions adopted and the inputs and processes used in calculating the 2015/16 base milk price are consistent with the efficiency dimension of the s 150A purpose.
- 3.4 The base milk price calculation relies on a mix of actual and notional inputs. We consider that the use of notional inputs provides Fonterra with stronger incentives to operate efficiently relative to inputs based on Fonterra's actual performance.¹⁶
- 3.5 We accept that, in some instances, the use of actual performance data in calculating the base milk price is reasonable.¹⁷ However, the incentive to operate efficiently is potentially weaker than if notional data was used.
- 3.6 Consistent with our 2014/15 base milk price calculation conclusion, we consider that:
- 3.6.1 the use of Fonterra's actual data for product mix, sales phasing and milk collection costs is reasonable, as there is insufficient information, or it would be unreasonably costly, to derive notional inputs;
 - 3.6.2 the use of Fonterra's actual prices achieved on reference commodity products ('RCPs') through using the GlobalDairyTrade auction platform ('GDT') is reasonable; and

¹⁶ Our approach for assessing the efficiency dimension can be found in our supporting paper. Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" (15 August 2016), chapter 3.

¹⁷ This is particularly so where there is insufficient information or unreasonable cost associated with setting a notional input, or Fonterra has very limited control over the actual values used in the milk price calculation.

- 3.6.3 actual usage and unit cost rates for determining packaging costs, although these could be readily changed to notional values, is unlikely to have a significant impact on the overall incentive for Fonterra to operate efficiently.

Our conclusions on the contestability dimension

- 3.7 We consider that the assumptions adopted, the inputs and processes used by Fonterra to calculate the 2015/16 base milk price are consistent with the contestability dimension of the s 150A purpose.
- 3.8 Our Process and Issues paper indicated that we would use comparable cost information from interested parties (if received) to help us identify any cost components that are potentially 'over-optimised'.¹⁸ No additional cost information was received.

Assessment of individual components of the base milk price calculation

- 3.9 We consider that some individual assumptions may not be practically feasible.¹⁹ However, combined with the other assumptions in the calculation, these individual assumptions result in a lower milk price than using more 'real world' assumptions.²⁰ These, therefore, provide greater contestability.
- 3.10 We consider the associated costs of providing farmer support (eg, the financing and administration costs of interest-free loans) should be included in the base milk price calculation to be consistent with the contestability dimension.

Cross-check of consistency of assumptions, inputs and process across components

- 3.11 We have not identified any inconsistencies in assumptions, inputs or processes across the individual components in our analysis.
- 3.12 Commentary on the consistency of individual components of our substantive focus areas is provided throughout Chapter 4.

¹⁸ Commerce Commission "Process and issues paper - Review of 2015/16 base milk price calculation" (18 December 2015), paragraph 37.

¹⁹ In the 'real world' Fonterra's older plants may not actually be able to be upgraded to the notional producer's physical standards. Also, Fonterra or any other processors do not sell the notional producer's assumed volumes on GDT.

²⁰ These approaches are outlined in chapter 4.

Cross-check of consistency of calculation with the Manual

- 3.13 We performed a cross-check of the components against the provisions in the Manual. We found the calculation to be consistent with the Manual provisions.

Our conclusions on the aggregate assessment

- 3.14 The aggregate assessment looks at the practical feasibility of the notional producer as a whole. This year, we have been able to compare the notional producer's performance with a real world operation, Fonterra's GOGI RCP operation ('the GOGI RCP operation').
- 3.15 Overall based on our analysis, we conclude that the notional producer is practically feasible in aggregate.
- 3.16 Fonterra's comparison of the GOGI RCP operation and the notional producer's revenue performance suggests that using the GDT as the sole basis for RCP reference prices for whole milk powder ('WMP'), skim milk powder ('SMP') and anhydrous milk fat ('AMF') may no longer be appropriate. This is because Fonterra is selling a greater proportion of its RCPs off-GDT and able to achieve prices materially above GDT prices.
- 3.17 When comparing non-milk cost performance of the notional producer and the GOGI RCP operation, we have found a difference of 18 cent per kgMS in favour of the notional producer.
- 3.18 We would expect to see a difference for the following reasons:
- 3.18.1 The calculation assumes that the notional producer sells all of its products on-GDT, whereas Fonterra sells less than half of its RCPs on-GDT.
 - 3.18.2 The calculation assumes a simple logistics model, with each site having sufficient storage and with product being moved once from site to port.
 - 3.18.3 The calculation benefits from a standardised plant based on the performance of Fonterra's efficient plants, which has cost benefits across most cost components.
- 3.19 We recommend Fonterra compare and disclose the costs of the notional producer and GOGI's RCP operation annually. In our view, this will enable Fonterra and interested parties to see if the efficiency incentives from the calculation of the milk price translate into efficiency gains for Fonterra and assess if the notional producer is practically feasible in aggregate.

How our overall conclusion differs from our 2014/15 conclusion

- 3.20 Previously, we were unable to conclude on the practical feasibility of the WACC component which resulted in us concluding that the calculation was largely consistent with the contestability dimension.
- 3.21 This year, we have been able to conclude on the practical feasibility of the WACC component. We were previously unable to conclude on the practical feasibility of two key inputs of the WACC: the asset beta and specific risk premium for asset stranding risk.
- 3.22 We have also been able to conclude that the notional producer is practically feasible in aggregate.
- 3.23 We therefore consider that the assumptions adopted, the inputs and processes used by Fonterra to calculate the 2015/16 base milk price are consistent with the efficiency and contestability dimensions.

Chapter 4 Substantive areas of focus

Purpose of this chapter

- 4.1 In this chapter, we set out our comments and conclusions for our substantive areas of focus. These include:
- 4.1.1 the aggregate assessment;
 - 4.1.2 the weighted average cost of capital (WACC);
 - 4.1.3 production yields and related pricing;
 - 4.1.4 corporate costs; and
 - 4.1.5 consistency of fixed asset assumptions.

Aggregate assessment

- 4.2 Our aggregate assessment examines whether the revenues and costs of the notional producer are practically feasible as a whole. To do this we have worked with Fonterra to compare the values used by the notional producer against the equivalent real world revenue and cost values of Fonterra's RCP production operation (the GOGI RCP operation).²¹
- 4.3 This section sets out:
- 4.3.1 our analysis of the comparison between the GOGI RCP operation's performance to the notional producer enabling us to assess the practical feasibility of the notional producer in aggregate;
 - 4.3.2 our conclusions and recommendations on the aggregate assessment;
 - 4.3.3 our comments on Fonterra's use of standard costs (i.e. the expected costs of manufacturing the product) in the analysis as a basis for the 'actual' costs incurred by Fonterra's Global Ingredients and Global Operations businesses ('GOGI'); and

²¹ The GOGI businesses was formerly known as NZMP. Global Operations operates the core of Fonterra's New Zealand milk business including milk collection, manufacturing and logistics. Global Ingredients operates optimisation, marketing and global sales. Synlait considers that investigating the performance gap between the notional producer and NZMP (particularly at EBIT per KgMS level) is critical to assessing the practical feasibility of the notional producer. Synlait "Submission on the Commerce Commission's Draft Report – Review of Fonterra's 2014/15 Base Milk Price Calculation" (1 September 2015), page 9.

- 4.3.4 our comments on comparing the notional producer's performance on a financial year basis.

Using the GOGI RCP operation's performance to compare with the notional producer

- 4.4 Interested parties have raised concerns about what they consider to be material differences between the financial performance of an efficient processor and the performance of the notional producer.²²
- 4.5 In order to carry out the aggregate assessment, we had to find a real world operation that closely replicated the notional producer. We worked with Fonterra to use Fonterra's GOGI businesses as an appropriate starting point.²³
- 4.6 Using Fonterra's GOGI businesses as a starting point, Fonterra has made adjustments based on the assumptions of the notional producer to get to a comparable business.²⁴
- 4.7 We consider it appropriate to compare the notional producer with GOGI by only including the performance of the GOGI RCP operation, which has the same product mix as the notional producer, to obtain the best like-for-like comparison.
- 4.8 We are satisfied with Fonterra's process for deriving a GOGI RCP operation that is a reasonable representation of a real world processor reasonably comparable to the notional producer.
- 4.9 Fonterra provided a breakdown of the performance of the GOGI RCP operation for the 2014/15 financial year. We agreed with Fonterra that using a full year data set is more appropriate for the purposes of this comparison than using forecast or incomplete data for 2015/16.
- 4.10 Attachment A outlines in more detail Fonterra's steps taken to allow us to compare the performance of the notional producer with the GOGI RCP operation's performance.

²² For example Synlait "Submission on the Commerce Commission's Draft Report – Review of Fonterra's 2014/15 Base Milk Price Calculation" (1 September 2015), page 7-8.

²³ Fonterra's Shareholders' Council's 2014/15 annual report shows that it is possible for GOGI to achieve greater returns than its WACC rate. We note that this includes features that are different from the notional producer. We outline these differences in our conclusions below. Fonterra Shareholder Council "Fonterra's Shareholders' Council Annual Report 2014/15" (2015), page 24.

²⁴ This has been done by extracting revenues and costs for GOGI's RCP products: Butter, AMF, BMP-Regular, SMP-Regular, SMP-Instant, SMP-Partly skimmed, WMP-Agglomerated, WMP-Instant and WMP-Regular.

Our conclusion on the aggregate assessment

- 4.11 After comparing the notional producer with the performance of the GOGI RCP operation, we conclude that the notional producer is practically feasible in aggregate.
- 4.12 Our conclusions of the core financial performance components are outlined in Table 4.1 below.

Table 4.1 Our conclusions on the core components of the aggregate assessment

Financial performance component	GOGI RCP Operation (\$ per kgms)	Notional producer (\$ per kgms)	Difference (\$ per kgms)	Our conclusions
Net sales	7.24	6.53	0.71	<p>We expect to see a variance as GOGI RCP operation includes both on and off-GDT RCP sales while the notional producer is assumed to sell its products on-GDT.²⁵ In reality, Fonterra sells less than half of its products on-GDT.</p> <p>The revenue difference suggests that sole reliance on-GDT for WMP, SMP and AMF may not be an appropriate basis for prices.</p>
Non-milk costs (excluding supply chain and selling costs) ²⁶	1.56	1.48	0.08	<p>The 8 cents per kgMS difference comprises a number of small differences across various cost components.</p> <p>We expect to see a variance as the notional producer benefits from a standardised plant based on the performance of Fonterra's efficient plants, which has lower costs across most cost components. In contrast, Fonterra owns and operates plants with greater ranges of sizes, ages and processing capabilities because of the historical commissioning of plants over a long time span.</p> <p>The average performance of Fonterra's actual plants would be expected to be less efficient (on average) than that of the standard plant assumed in the milk price calculation.</p>

²⁵ The GOGI RCP operation's revenues include non-standard RCP specifications, contract sales through sales channels where customers are not willing to purchase on GDT or high risk markets, customers who are willing to pay a premium over GDT prices for security of supply and sales contracted with a shipment date after 5 months.

²⁶ These costs include collection, lactose, operating, administration costs and depreciation. For a full breakdown see Fonterra's public version of the 2014/15 milk price model. Available at: <http://www2.fonterra.com/our-financials/milk-price-methodology>

Financial performance component	GOGI RCP Operation (\$ per kgms)	Notional producer (\$ per kgms)	Difference (\$ per kgms)	Our conclusions
Supply chain costs	0.17	0.15 ²⁷	0.02	<p>The calculation assumes a simple logistics model for the notional producer with each site having sufficient storage and with product being moved once from site to port. This is practically feasible for an efficient processor.</p> <p>The GOGI RCP operation varies as:</p> <ul style="list-style-type: none"> - Fonterra's products move up to twice on average before arriving at port. - It has a combination of on-site, hub and third party storage. - It is also dependent on third party storage to manage peak volumes and has a wider range of products which require different storage solutions.
Selling costs	0.16	0.08	0.08	We expect to see a variance as Fonterra incurs significantly higher costs from selling products to a wider global market and to achieve significantly higher revenues off-GDT.
Milk costs	4.48	4.40 ²⁸	0.09	The GOGI's RCP Operation milk costs are calculated to align with shipment base method which is how the notional producer's milk cost is calculated. ²⁹ We have not focussed our conclusions on the amount of the milk costs.
Earnings before interest and tax (EBIT)	0.87	0.43	0.44	Result of the calculation above (i.e. EBIT calculated by net sales minus non-milk costs minus milk costs) .We have not focussed our conclusions on the EBIT amount. The GOGI RCP operation's EBIT is higher because of the significantly higher sales revenue achieved off-GDT.
Earnings before interest, tax, depreciation and amortisation (EBITDA)	1.06	0.59	0.47	Result of the calculation above (i.e. EBITDA calculated by net sales minus non-milk costs excluding depreciation minus milk costs). We have not focussed our conclusions on the EBITDA amount.

²⁷ We note that supply chain costs in the milk price model include some fixed supply chain overhead costs. Some of these costs are report under GOGI administration costs.

²⁸ The calculated milk price under the Manual for the 2014/15 season.

²⁹ GOGI reports the cost of milk from the month of manufacture for a given material.

Aggregate revenue conclusions

- 4.13 Our analysis suggests that using the GDT as the sole basis for RCP reference prices for WMP, SMP and AMF may no longer be appropriate, as Fonterra now sells a greater proportion of its RCPs off-GDT and is consistently able to achieve RCP prices materially above GDT prices.
- 4.14 Fonterra has announced that it will include some off-GDT WMP, SMP and AMF sales to inform the milk price revenues for the 2016/17 season.³⁰ As noted in its Reasons Paper for the 2016/17 Manual, the approach used to determine prices for WMP, SMP and AMF will be aligned with the current approach used for Butter and butter milk powder ('BMP').³¹
- 4.15 Our preliminary analysis of Fonterra's announcement has raised questions on:
- 4.15.1 transparency of the off-GDT prices that inform the milk price;
 - 4.15.2 the adequacy of the costs associated with including off-GDT sales such as selling costs;
 - 4.15.3 whether there are any significant differences in product specifications between RCPs sold on-GDT and off-GDT; and
 - 4.15.4 whether the assumed prices can be achieved by other NZ processors for sales of commodity products on contested global markets.³²
- 4.16 We intend to look at the practical feasibility of the notional producer using off-GDT prices and will consider the associated impact on non-milk costs in our 2016/17 Manual review and our 2016/17 calculation review.

Aggregate non-milk cost conclusions

- 4.17 We found the notional producer's non-milk costs were 18 cents per kgMS lower than the GOGI RCP operation's cost.
- 4.18 We expected to see a difference in the notional producer's non-milk costs. Our reasons for the difference are outlined in Table 4.1.

³⁰ NZX Market Announcement: Fonterra advises changes to the Farmgate Milk Price Manual (1 August 2016). Available at: <https://www.nzx.com/companies/FCG/announcements/286479>

³¹ Fonterra "Reasons Paper in support of 2016/17 Manual" (1 August 2016), page 7.

³² We recognise that the practical feasibility test is met if Fonterra can achieve these prices. However, given that RCP prices have a significant impact to the milk price, we intend to look further into this area.

- 4.19 The variance comprises of the following:
- 4.19.1 We estimated the difference in selling costs between GOGI RCP operation and the notional producer at around 8 cents per kgMS.
 - 4.19.2 We have estimated the difference in supply chain costs to be around 2 cents per kgMS in favour of the notional producer.
 - 4.19.3 The remaining 8 cents per kgMS difference comprises a number of small differences across various cost components. Given the level of accuracy we could achieve in the analysis it is not practical to pin down reasons for each of them but we recognise that some of the difference is attributed to the notional producer's standard plants which are more efficient on average than Fonterra's plants.

Our recommendation

- 4.20 We recommend that Fonterra compares and discloses the costs of the notional producer and the GOGI RCP operation annually. Although not required under the Act, we think this could enable interested parties to see if the efficiency incentives from the calculation translate into efficiency gains for Fonterra and show whether the assumptions adopted, inputs and process used in the base milk price calculation remain practically feasible as a whole.³³

Use of standard costs as a basis for actual costs incurred by GOGI

- 4.21 The GOGI RCP operation's non-milk costs are based on standard costs (the standard costs refer to the budgeted cost rates used to estimate manufacturing costs).
- 4.22 We found no significant variances in the manufacturing costs between 2014/15 budgeted and actual costs incurred by GOGI and are therefore satisfied that standard costs largely reflect actual manufacturing costs incurred by the GOGI RCP operation.
- 4.23 We analysed the variances between the entire GOGI business's budgeted and actual costs for 2014/15 and most of 2015/16 to give us comfort that the standard costs closely reflect the GOGI RCP operation's actual costs incurred, and therefore consider that the standard costs are generally an accurate representation of a real world operation.

³³ We note that for the efficiency dimension, we are only required to assess whether the assumptions, inputs and processes in the calculation provide incentives for Fonterra to act efficiently.

- 4.24 However, we found that there was a significant variance in GOGI's supply chain budgeted costs from actuals. We applied the variance difference to the GOGI RCP operation's supply chain costs which results in a 3 cents increase in non-milk costs.³⁴

Comparison using the notional producer's performance on a financial year basis

- 4.25 Fonterra has provided the revenue and costs for the 2014/15 milk price calculated on a financial year basis by recalculating the notional producer's revenues and costs to match the timing of the GOGI RCP operation's revenues and costs. The total non-milk costs are almost identical in either approach on a per kgMS basis, with revenues and the cost of milk increasing. The net result is a slightly lower EBIT.³⁵

Weighted average cost of capital (WACC)

- 4.26 After analysis and independent reviews this season, we conclude that the parameter estimates used by Fonterra including the asset beta, and Fonterra's overall estimate of the WACC, are consistent with the efficiency and contestability dimensions.
- 4.27 We were unable to conclude on the practical feasibility of the WACC in our 2014/15 review as we were unable to conclude on two of its key parts: the asset beta and the specific risk premium for asset stranding risk.³⁶ In particular, we were unable to properly consider these two measures due to limited explanation by Fonterra's expert on how the estimates for these measures were derived in his report.³⁷
- 4.28 We note that it is not our role to determine what the asset beta and specific risk premium should be. Rather, our role is to review the assumptions adopted, the inputs and processes used by Fonterra in calculating the milk price for consistency with the s 150A purpose.

Our conclusions on the efficiency and contestability dimensions

- 4.29 We consider that the WACC rate is consistent with the efficiency dimension. The WACC rate is notional because it is an estimate of the market-determined cost of capital.

³⁴ This amount has been applied to Table 4.1.

³⁵ Approximately 1 cent difference in EBIT if comparing to the 2014/15 Milk price on a financial year basis.

³⁶ Commerce Commission "Final Report: Review of Fonterra's 2014/15 base milk price calculation" (15 September 2015), paragraph 2.9.

³⁷ Alastair Marsden (Auckland UniServices) "Asset beta for Fonterra's New Zealand-based Commodity Manufacturing Business and Specific Risk Premium for Fonterra's Notional Business" (2 December 2014).

- 4.30 We consider that Fonterra's asset beta estimate of 0.38 is within a reasonable range for a business with the notional producer's features and that the asset beta is therefore practically feasible.
- 4.31 We consider for the specific risk premium that there are good reasons for making an allowance for asset stranding risk. However, there is limited empirical information on which to base an estimate of the appropriate allowance for the notional producer. Fonterra has exercised its judgement and has chosen an increment to the cost of equity of 0.15%. Based on the information available to us, this does not appear unreasonable.

Process undertaken to conclude on the practical feasibility on the asset beta and risk premium

- 4.32 This year, Fonterra has again engaged its expert, Dr Alastair Marsden to address the comments of independent processors and our queries about his previous report.
- 4.33 In his most recent report, Dr Marsden has maintained an asset beta estimate for Fonterra's notional business of 0.38.³⁸ Dr Marsden was unable to conclude on the size of asset stranding risk allowance. He suggested that Fonterra may wish to exercise its own judgement on the size of any increment to the WACC or the "equivalent" increment to the cost of equity as compensation for expected losses associated with asset stranding.
- 4.34 Fonterra has subsequently used the 0.38 asset beta estimate for the notional producer and has chosen to keep the asset stranding risk allowance at 0.15% for the forecast 2015/16 milk price.³⁹
- 4.35 We acknowledge that estimating the asset beta is difficult as it cannot be observed and is a matter on which experts' views can reasonably differ. In reviewing Fonterra's estimate of the asset beta and specific risk premium, we have considered a range of reports and information including:

- 4.35.1 the update report by Dr Alastair Marsden to Fonterra;⁴⁰

³⁸ Dr Alastair Marsden (Auckland UniServices) "Update on asset beta for Fonterra's New Zealand-based commodity manufacturing businesses and specific risk premium for Fonterra's notional business" (10 April 2016), para E8. Dr Marsden defined the notional business as Fonterra's NZ based commodity milk powders manufacturing business scaled to process all of Fonterra's milk collected. The differences in risks between the notional business and the notional producer are outlined in para 2.12 of Dr Marsden's report. Dr Marsden refers the notional producer as the Milk Price Purely Notional Business in his report.

³⁹ We note that there has not been any particular apportionment of the specific risk premium in regards to a change in RCP basket and a decline of milk supply.

- 4.35.2 the review of Dr Marsden's report by Dr Lally;
 - 4.35.3 submissions from interested parties;⁴¹
 - 4.35.4 Dr Lally's responses to interest parties' submissions;⁴²
 - 4.35.5 our own estimates of asset betas for electricity lines businesses ('ELBs') as we consider they have broadly similar risk profiles to the notional producer; and
 - 4.35.6 estimates of asset beta for dairy processors from other analysts especially equity research analysts.
- 4.36 We have not received alternative estimates from interested parties on what the asset beta or the specific risk premium should be for the notional producer.

Practical feasibility of asset beta

- 4.37 After considering all of the available information, we are of the view that the asset beta estimate of 0.38 used by Fonterra for the notional producer is within an appropriate range and is therefore practically feasible for a business with similar features to the notional producer.
- 4.38 We have reached our view, which we expand on further below, for the following reasons:
- 4.38.1 the Act effectively reduces the notional business and the notional producer to a cost reimbursement operation akin to a tolling operation (i.e. the business determines the price paid for farmers' milk supplied during the season once it knows what its actual revenues and costs are at the end of season);

⁴⁰ Dr Alastair Marsden (Auckland UniServices) "Update on asset beta for Fonterra's New Zealand-based commodity manufacturing businesses and specific risk premium for Fonterra's notional business" (10 April 2016).

⁴¹ Castalia "Report to Open Country: Submission on asset beta and specific risk premium reports" (17 June 2016), Open Country "Submission on asset beta and specific risk premium reports" (17 June 2016), Miraka "Submission on asset beta and specific risk premium reports" (17 June 2016), Synlait "Submission on asset beta and specific risk premium reports" (17 June 2016).

⁴² Dr Martin Lally (Capital Financial Consultants Ltd) "Assessment of the asset beta for Fonterra's notional business: further analysis" (1 August 2016).

- 4.38.2 other processors, co-operatives and non-co-operatives similarly determine their season's milk price at the end of the season which transfers risk to their farmer supplier; and
- 4.38.3 the risk profile of Fonterra's notional business and the notional producer is low and in our view has a comparable level of systematic risk to ELBs. We therefore consider our estimate of asset beta for ELBs of 0.34 is a relevant consideration in this context.
- 4.39 Fonterra's independent expert, Dr Marsden, has provided his view on the appropriate asset beta for Fonterra's notional business. His estimate of asset beta is 0.38.⁴³
- 4.40 Dr Lally reviewed Dr Marsden's estimate. His estimate of the asset beta for Fonterra's notional producer is 0.34. Although these experts have different point estimates for asset beta, they are relatively close given the difficulty of reliably estimating beta, and do support our conclusion that the estimate used by Fonterra is reasonable.
- 4.41 The Act requires the milk price to be calculated using revenues less efficient costs (i.e. the milk price formula). This milk price formula effectively reduces Fonterra's notional business and the notional producer to a cost reimbursement operation akin to a tolling operation where most of the risk is borne by its farmer suppliers through the milk price.⁴⁴ This significantly reduces the processors' systematic risk. This means Fonterra's notional business and the notional producer face relatively low risk because the only source of risk is the variation between their actual and efficient costs (apart from the cost of milk). The milk payment represents about 80% of their costs which results in a substantially lower asset beta than if they were not a cost reimbursement operation.

⁴³ Dr Marsden estimate for Fonterra's notional business of 0.375 rounded to 0.38.

⁴⁴ We note Dr Lally's view that the asset beta would not change if there was only regard to s 150A to s 150C of the Act (i.e. the Manual is not considered). Dr Martin Lally (Capital Financial Consultants Ltd) "Assessment of the asset beta for Fonterra's notional business: further analysis" (1 August 2016), page 13-14. Without the Manual, we consider that the milk price formula would still be substantially the same because the notional producer and would continue to operate on a cost reimbursement basis. Accordingly, we would not expect the asset beta to change in the absence of the Manual.

- 4.42 We note that other processors operate a cost reimbursement model also. For example, other co-operatives set their milk prices at the end of the season. We note that corporate processors also seek to use the final setting of the milk price at the end of the season to transfer risk (including systematic risk) to farmers thereby generating a less volatile return (ie, less risky) for themselves.⁴⁵
- 4.43 We consider the risk profile of Fonterra's notional business and the notional producer to be substantially similar to ELBs. ELBs are also exposed to very low systematic risk. Accordingly, we consider that the asset beta estimate for ELBs of 0.34 is a useful guide for the purposes of reviewing the asset beta for Fonterra's notional business and notional producer.⁴⁶
- 4.44 Castalia, Miraka and Synlait suggest using market comparators as a starting point.⁴⁷ However, we note that none of the submissions suggest the extent of any deduction for differences in risk between the notional business and other firms or how that deduction might be determined.
- 4.45 We have also considered the views of Castalia on the possible impact of options for growth on the asset beta of the notional producer.⁴⁸ There is no evidence that having more growth options would raise the cost of capital or on the size of any effect, for a cost reimbursement business such as the notional producer.

Consistency of approach used by Fonterra to determine the asset beta with s 150A

- 4.46 Miraka questions whether the approach taken by Fonterra and Dr Marsden is consistent with the practical feasibility test under s 150A. Miraka submits that the notional producer's asset beta cannot be determined by using other notional businesses.⁴⁹

⁴⁵ For example, see Synlait's discussion of how its gross margins are unaffected by changes in milk price. In other words, the systematic risk affecting revenue has been effectively transferred to its farmers. Synlait "Investor update" (December 2015), page 3.

⁴⁶ We have estimated the asset beta for ELBs at 0.34 for the purposes of Part 4 (Commerce Act) regulation.

⁴⁷ Interested parties have raised concerns that the use of the ELB asset beta estimate is not an appropriate starting point, citing fundamental differences in regulation and sector risks. Castalia "Report to Open Country: Submission on asset beta and specific risk premium reports" (17 June 2016), page 1, Miraka "Submission on asset beta and specific risk premium reports" (17 June 2016), paragraph 2.3, Synlait "Submission on asset beta and specific risk premium reports" (17 June 2016), page 1.

⁴⁸ Castalia "Report to Open Country: Submission on asset beta and specific risk premium reports" (17 June 2016), page 6.

⁴⁹ Miraka cites that it cannot have been the intention of s150A(2) that the test of practical feasibility be determined by the notional performance of yet another notional entity. Miraka further cites that would be a test of theoretical feasibility rather than a test of practical feasibility. Miraka "Submission to the

- 4.47 We consider that in order to meet the practical feasibility test it must simply be reasonably possible for a business with the features of the notional producer to exist. The notional producer must be constructed in a way that is consistent with s 150C and the estimate of the asset beta should reflect that.⁵⁰
- 4.48 The asset beta for Fonterra's notional business was determined using a portion of Fonterra's ingredients business (referred to by Dr Marsden as Fonterra's actual business). This business is largely comparable to the GOGI RCP operation used in the aggregate assessment, which we consider is capable of existing as a standalone business.⁵¹
- 4.49 Given the above, we consider it is reasonable for Fonterra to estimate the asset beta using a business that most closely resembles these features. We consider that using Fonterra's notional businesses to derive the notional producer's asset beta does not produce an outcome that is inconsistent with s 150A.

Using analyst estimates as a reasonableness check on the asset beta used in milk price

- 4.50 We also considered the analysts' asset beta estimates for Fonterra's ingredients business referred to in Dr Marsden's report. The asset beta estimates from Credit Suisse and UBS Investment Research were respectively 0.45 and 0.55.
- 4.51 However they represent estimates for a different business that is exposed to more market risk than the notional business or the notional producer. We would therefore expect the notional business or the notional producer to have less systematic risk and therefore a lower beta than the estimates above.⁵²

Commerce Commission: Process and issues paper - Review of 2015/16 base milk price calculation" (4 February 2016), paragraph 4.4.

⁵⁰ Section 150C of the Act outlines the mandatory assumptions that Fonterra must use in calculating the milk price.

⁵¹ The difference between Fonterra's actual business as defined by Dr Marsden and the GOGI's RCP operation used for the aggregate assessment is that Fonterra's actual business includes non-RCPs.

⁵² Dr Marsden understands Fonterra's ingredients business has a greater product range. The product range includes food service and nutritional products. It is Dr Lally's view that at best, the estimates for Fonterra's ingredients business (0.45 – 0.55) are upper bounds for Fonterra's notional business. Dr Martin Lally (Capital Financial Consultants Ltd) "Assessment of the asset beta for Fonterra's notional business" (16 May 2016), page 7.

Practical feasibility of the specific risk premium for asset stranding risk

- 4.52 We consider the inclusion of the specific risk premium is consistent with the contestability dimension. However, there is limited information on the size of the allowance and Dr Marsden has concluded that Fonterra should use its own judgement in determining the size of the allowance.⁵³
- 4.53 Based on the information available to us, there is no clear evidence that the 0.15% increment to the cost of equity is unreasonable. Further, even if the asset stranding risk doubled, the impact on the milk price would not be material.

Practical feasibility of the approach taken by Dr Marsden

- 4.54 Miraka submits that Dr Marsden's specific risk premium assessment is flawed. Miraka argues that the asset stranding risk has not been assessed on a practically feasible basis in the event of a decline in milk supply. It asserts that in the case of a change in product mix, the asset stranding risk has simply been ignored.⁵⁴
- 4.55 We consider that Dr Marsden's analysis is consistent with what is most likely to happen in practice:
- 4.55.1 Most of Fonterra's milk supply in the South Island is concentrated in the Canterbury and Southland region. Two of the sites in these two regions are much older than the other sites. It is therefore reasonable to assume that the oldest plants in the milk price model are on the older sites and that they could be closed in the event of a decline in milk supply.
- 4.55.2 Most of Fonterra's milk supply in the North Island is concentrated in the Waikato and Taranaki. It is therefore reasonable to assume that the oldest plant in the milk price model is in one of those regions.
- 4.56 For stranded asset costs to be material, multiple plants would need to be removed. In order for this happen, the loss of milk supply would most likely be spread across an island rather than a particular region.

⁵³ Dr Alastair Marsden (Auckland UniServices) "Update on asset beta for Fonterra's New Zealand-based commodity manufacturing businesses and specific risk premium for Fonterra's notional business" (10 April 2016), paragraphs E16 and 8.25.

⁵⁴ Miraka argues that Dr Marsden's analysis has not been done in a practically feasible way citing that the locale in which the diminished supply occurs would have a significant bearing on the actual plant to be written off.

- 4.57 We accept that in some cases, the oldest plant may not be the plant that is removed as there would be consideration given to Fonterra's optimisation strategy. However, we consider that more often than not, the oldest plant or approximately the oldest plant in an island would be removed first. Therefore, on balance, we consider that the approach taken by Dr Marsden is consistent with the contestability dimension.
- 4.58 Dr Marsden looked at asset stranding risk due a change in RCP basket in his first report.⁵⁵ We are satisfied Dr Marsden has completed his analysis consistent with the contestability dimension. We note that we have not received any estimates on what the risk premium should be from interested parties.

Treatment of risk premium as an increment to cost of equity

- 4.59 In our 2014/15 calculation report, we noted that the specific risk premium was treated as an increment to the cost of equity rather than an increment to the WACC, resulting in a higher milk price.⁵⁶
- 4.60 Fonterra asked Dr Marsden to quantify an equivalent increment to the cost of capital.⁵⁷ The 0.15% risk premium used in the milk price calculation is within Dr Marsden's adjusted range.

Other matters

- 4.61 During the 2014/15 calculation review, Castalia raised a concern regarding the practical feasibility of Fonterra using a 5 year rolling average risk free rate rather than the current risk free rate.⁵⁸ The concern appears to be about the risk free rate resulting in a milk price that is too high rather than one that is a less accurate estimate.

⁵⁵ Alastair Marsden (Auckland UniServices) "Asset beta for Fonterra's New Zealand-based Commodity Manufacturing Business and Specific Risk Premium for Fonterra's Notional Business" (2 December 2014), paragraph 6.30. Dr Marsden states that asset stranding risk from changes in the RCPs could potentially have both a systematic and unsystematic component. The risk of any significant changes to the RCPs is likely to be relatively low. In any event, Fonterra's Notional and Actual Businesses have some protection against the risk of asset optimisation from adjustments to RCPs under Rule 30 of the Manual.

⁵⁶ Conceptually we have no issues with Fonterra adopting an increment to the cost of equity. Fonterra has advised that there was no impact on the milk price for 2014/15 as the milk price WACC is rounded to the nearest 10 basis points.

⁵⁷ Dr Alastair Marsden (Auckland UniServices) "Update on asset beta for Fonterra's New Zealand-based commodity manufacturing businesses and specific risk premium for Fonterra's notional business" (10 April 2016), paragraph 8.26.

⁵⁸ Castalia "Concerns on the Practical Feasibility of Fonterra's Capital Charge" (18 December 2014), page 2.

- 4.62 The 5 year rolling average risk free rate is currently higher than the current spot rate, which results in a higher WACC and lower milk price and therefore we do not consider a 'too high' milk price to be an issue for the 2015/16 calculation. We will continue to monitor this over future seasons and will also consider the results of our related work in our current Input Methodologies review.

Production yields and related pricing

- 4.63 Overall, we are satisfied that the yields have been calculated consistent with the efficiency and contestability dimensions:
- 4.63.1 The inputs used in the losses and specification offsets for the yields are independent from Fonterra's current year performance and therefore notional.⁵⁹ This provides incentives for Fonterra to operate efficiently.
 - 4.63.2 The losses are practically feasible but challenging.
 - 4.63.3 The specification offsets are practically feasible.
- 4.64 We engaged an independent yields expert, Greg Winter, to advise whether the production yields assumed in the milk price model are practically feasible. This included feasibility of:
- 4.64.1 each type of standard plant for a season;⁶⁰ and
 - 4.64.2 the number of plants assumed in the milk price calculation.
- 4.65 His advice covered the following:⁶¹
- 4.65.1 the practical feasibility of the losses;
 - 4.65.2 the loss data used for the calculation;
 - 4.65.3 a peer review of our analysis; and
 - 4.65.4 meeting with Fonterra's yields expert, Tina Gandell, on matters where we had concerns or clarification was needed.

⁵⁹ Specification offsets refer to the provision for actual usage of value components in excess of minimum allowed usage.

⁶⁰ The milk price calculation uses standard plants for each manufacturing each commodity products. These plants are assumed to have the same design specifications and technology.

⁶¹ A letter from Greg Winter outlining his work is available on our website:
<http://www.comcom.govt.nz/review-of-milk-price-calculation-201516-season>

- 4.66 We note that there is no allowance for some variable losses that may occur during the shoulder periods.⁶² We have received analysis from Fonterra showing that the magnitude of these losses would, at most, amount to \$2m. We consider this does not have a significant impact on the overall losses or the milk price.⁶³
- 4.67 We are also satisfied that:
- 4.67.1 the mass balance calculation reconciles (i.e. the amount of milk going into the production process can produce the amount of products coming out); and
 - 4.67.2 the product specifications assumed for each of the RCP products meet the product specifications on-GDT and that the notional producer can therefore achieve GDT prices.
- 4.68 To reflect an efficient processor, we recommend Fonterra should include an allowance in the milk price calculation for the variable losses not currently included in the milk price losses.
- 4.69 We also recommend that Fonterra obtains a more robust set of loss data. In particular, data at different points in the season (ie outside of the peak production period) that is largely consistent with milk price operating assumptions.⁶⁴

Losses

- 4.70 We comment on the practical feasibility of each of the production losses below. In assessing the losses with our independent expert we reviewed:
- 4.70.1 Fonterra's yield expert's methodology and calculation for:
 - 4.70.1.1 normalising the losses to reflect milk price operating assumptions;⁶⁵
 - 4.70.1.2 normalising the losses to reflect a seasonal average;
 - 4.70.1.3 removing outliers in the loss survey results; and

⁶² Variable losses include such occurrences as human error, software faults and mechanical faults.

⁶³ Impact of 0.1 cents to milk price.

⁶⁴ We understand for the 2016/17 milk price calculation, Fonterra intend to measure the losses on an individual plant item basis to better satisfy the practical feasibility test and for internal benchmarking purposes.

⁶⁵ These adjustments are required as most Fonterra plants do not operate in the same way as assumed in the milk price. These adjustments include differences in product specification, technology and asset base.

4.70.1.4 The reasoning behind the yield recommendations.

Effluent losses

- 4.71 In the view of our expert, Greg Winter, the assumed effluent losses closely reflect an average seasonal production achievable for an efficient processor.
- 4.72 Fonterra's expert's methodology for adjusting the data from 10 day loss surveys performed by Aurecon when a plant is close to or at full capacity to derive a seasonal average is sound. We note that Fonterra has increased transparency on how the losses are adjusted in its Reasons Paper.⁶⁶
- 4.73 We consider Fonterra's reason behind achieving the low level of losses during the shoulder periods to be reasonable. Fonterra has explained it can 'square curve' its plants, by operating plants on full capacity and closing plants as necessary (including diverting milk to operating plants).⁶⁷
- 4.74 Fonterra was unable to provide data on actual losses achieved during the beginning, shoulders and end of the season for an efficient plant comparable to the milk price operation. Fonterra indicated that comparable data is difficult to obtain because:
- 4.74.1 very few Fonterra plants match the requirements of the milk price standard plants;
 - 4.74.2 Fonterra's plants can only be run on milk price product specifications and operation assumptions for a short window of time in any year; and
 - 4.74.3 the loss information during these periods is less robust than the loss surveys.
- 4.75 We consider the reasons above reasonable. Given the insignificant impact of the variable losses not accounted for, we consider that the assumed effluent loss largely reflects an average seasonal loss that can be achieved by an efficient processor operating with the same milk price assumptions.⁶⁸

⁶⁶ Fonterra "'Reasons' Paper in support of Fonterra's base milk price for the 2015/16 Season" (1 July 2016), Attachment 4, page 52.

⁶⁷ This is a 'safe harbour' assumption under s150B(a) of the Act. We note that Fonterra can minimise the impact of unexpected significant events during the shoulder periods by diverting milk to other plants.

⁶⁸ We recognise the effluent losses may not be achievable for an independent processor, which does not have the same scale advantages as Fonterra.

Stockfood, overweight, milk treatment and reception losses

- 4.76 The assumed stockfood losses are practically feasible. Our independent expert has reviewed the stockfood loss data and concluded that the removal of outliers in the data is reasonable.
- 4.77 The assumed overweight losses are practically feasible. Initially we had concerns the overweight losses appeared to be on the low side. We accepted Fonterra's expert's explanation that Fonterra's software allows Fonterra to achieve the assumed losses.⁶⁹
- 4.78 The assumed milk treatment and reception losses are practically feasible. We consider that a reasonable attempt has been made to include a realistic reception loss in the model. Our independent expert has confirmed that it is appropriate to calculate reception losses in isolation. The milk treatment losses have been adequately modelled from Fonterra-achieved losses from WMP and SMP plants.⁷⁰

Product specifications

- 4.79 The target specifications are practically feasible, as the specification offsets are based on how Fonterra's milk powder plants set budget target product composition.⁷¹ The milk price average standard deviation is calculated from Fonterra's four year average data.
- 4.80 We can confirm that the target specifications for all of the notional producer's products meet both the CODEX and GDT minimum specifications.⁷²

⁶⁹ We previously stated that Fonterra does not hold any intellectual property rights over the software and we are satisfied that the software can be replicated by another processor. Commerce Commission "Final Report: Review of Fonterra's 2013/14 base milk price calculation" (15 September 2014), paragraph D34.

⁷⁰ The difference in site makeup between the notional producer and Fonterra's actual sites affect the reception and milk treatment losses. We can confirm that the loss survey results, which the WMP and SMP plant effluent losses are based on includes the milk treatment process.

⁷¹ Target specifications = specification limits + specification offsets. Specification limits based on CODEX minimum requirements. The target specifications refer to the manufacturing specifications that are being targeted for a particular product.

⁷² CODEX refers to the CODEX Alimentarius, which is the international standard for food descriptions.

Mass balance calculation

- 4.81 We have been able to reconcile the mass balance calculation (i.e. the calculation that shows that the amount of milk that goes in equals the amount of product that goes out) using both our approach for our 2014/15 review and an independent processor's approach.⁷³
- 4.82 We acknowledge that interested parties are not able to reconcile the calculation based on the available public information. Although some of the information is confidential, we encourage Fonterra to release more information to assist greater understanding.

Internal consistency of the yields and milk price assumptions

- 4.83 We are satisfied that the calculation of the assumed yields is consistent with the other milk price assumptions of the notional producer.
- 4.84 For the adjustments to the loss survey results, Fonterra's yields expert has considered:
- 4.84.1 the different size manufacturing sites in the milk price calculation; and
 - 4.84.2 Fonterra's actual milk allocation to sites in determining the number of days in a season that the milk price plants on average operate at full capacity.⁷⁴
- 4.85 We previously concluded that the differences in milk composition in the different regions could result in the achievement of the assumed yields across all plants in its locations.⁷⁵
- 4.86 Synlait suggested that the loss wastage percentage assumed in the milk price was not practically feasible for an independent processor or Fonterra (with a mix of older and newer plants).⁷⁶

⁷³ We reconciled the mass balance calculation using a combination of publicly disclosed information on GDT and information provided to the Commission.

⁷⁴ The 2015/16 calculation assumes that there are 63 plants (49 WMP and SMP plants). The sites are split between small (1 plant), medium (2 plants) and large sites (3+ plants).

⁷⁵ Commerce Commission "Final Report: Review of Fonterra's 2014/15 base milk price calculation" (15 September 2015), paragraph 7.68.

⁷⁶ Synlait "Submission on the Commerce Commission's 2014/15 base milk price calculation review Draft report (1 September 2015), page 4.

- 4.87 We note in the consistency of fixed asset assumptions section, that the notional producer has substantially more replacement capex and repairs and maintenance spend than Fonterra. We consider this to be consistent with the assumption of the notional producer being able to achieve high-performing yields across its plants.

Related pricing

- 4.88 Synlait has suggested that if product specifications do not meet the typical GDT specifications for milk price products, then a pricing adjustment would be needed. This is because the notional producer could not receive prices based on the lower protein and fat content of the product.⁷⁷
- 4.89 We have confirmed that the milk price product specifications for each RCP meet minimum GDT specifications and CODEX minimum standards. Therefore the prices achieved on-GDT reflect the product specification on-GDT.⁷⁸
- 4.90 We have also confirmed that customers purchasing on-GDT do not expect to receive products that meet the typical GDT specifications, rather they expect to receive goods at or above the GDT minimum specifications. We consider a pricing adjustment is not required to the prices received on-GDT.

Corporate costs

- 4.91 The Manual requires the cost components of the calculation to be reviewed every four years.⁷⁹ We have completed our analysis of the corporate cost reset based on the pre-audited figures.⁸⁰

⁷⁷ Synlait "Submission on the Commerce Commission's 2014/15 base milk price calculation review Draft report (1 September 2015), page 4.

⁷⁸ The milk price assumes production and selling of five standard specification products: WMP Regular - NZ, SMP Medium Heat - NZ, Butter Unsalted - NZ, AMF Premium 210kg drum - NZ and BMP UHT - NZ. Fonterra "Farmgate Milk price Manual" (1 August 2015), page 58.

⁷⁹ We note the increased level of quality of the documentation and explanations provided by Fonterra of this reset in comparison to the last reset in 2013.

⁸⁰ Fonterra's external audit focus includes business transformation which will look at the amendments to the calculation surrounding the corporate cost reset and velocity savings.

- 4.92 A corporate cost reset has occurred in the 2015/16 season. Corporate costs consist of the following:
- 4.92.1 administration;
 - 4.92.2 plant labour;
 - 4.92.3 other supply chain costs;
 - 4.92.4 site overhead costs; and
 - 4.92.5 selling costs.
- 4.93 The cost reset has resulted in a 1% increase in total corporate costs since the 2014/15 model.⁸¹ Fonterra has taken the budgeted 2014/15 figures at a cost-centre level and has scaled these to reflect the operational requirements of the notional business.⁸²
- 4.94 In the absence of any comparable data from other processors, we consider this approach reasonable. Adjustments to the 2014/15 figures are consistent with the scaling and assumptions of the notional producer. Therefore, we consider the reset costs to be practically feasible for an efficient processor.

Velocity project

- 4.95 The corporate cost 'reset' includes a corporate cost restructuring adjustment ('velocity adjustment'). This is an adjustment of the number of full-time equivalents ('FTE') required by the notional producer.
- 4.96 We are satisfied that the velocity adjustment does not represent any "double dipping" in the removal of staff headcount.
- 4.97 The velocity adjustment to the calculation was made using the 2015/16 budget FTEs estimated by Fonterra to be required to operate the notional business. The calculated savings better align the notional business with real world circumstances. We consider an efficient processor is likely to be making dynamic decisions day-to-day on resourcing levels and structures.

⁸¹ This includes the velocity savings outlined below.

⁸² The periods between the reviews are based on the review year plus an inflation adjustment. Future numbers will be based on F16 corporate costs plus inflation.

- 4.98 We are satisfied that real world efficiency adjustments to resourcing only become material over time. The velocity savings included in the milk price are net of any estimated implementation costs.

Variable selling costs

- 4.99 We consider the assumption that all production sold on-GDT may not be practically feasible for an efficient processor of the notional producer's scale in isolation. However in combination with the fact that the notional producer receives less revenue on-GDT, the calculated milk price is lower than it would be if the higher prices achieved off-GDT were taken into account. Therefore the inclusion of selling costs based on all GDT sales is more consistent overall with the contestability dimension.
- 4.100 We note that Fonterra's approach of using on-GDT prices increases transparency, which reflects the overall purpose of the monitoring regime.
- 4.101 The notional producer assumes that all of its production is sold on-GDT.⁸³ GDT selling costs operate under a tiered fee structure, which means the seller gets discounts as they increase the volume they sell on the GDT. There have been previous concerns that no processor can achieve the same discount as the notional producer as no processor sells the same volume on-GDT. We acknowledge that this may not be feasible for another processor of the notional producer's size.
- 4.102 We had previously concluded that using the GDT fee structure was practically feasible as an incremental plant would produce in excess of the volumes required to receive the discounts. Miraka argues that if GDT selling prices are assumed to be practically feasible because they can be achieved by an efficient incremental plant, the cost rate of selling through GDT must be similarly be based on the volume assumed to be produced by that efficient incremental plant.⁸⁴

⁸³ As part of Fonterra's corporate costs reset, Fonterra have not included selling costs associated with selling 10% of its volume to Government procurement customers as the milk price now assumes to sell all of its products on GDT. The notional producer's revenue does not include any sales from government sales channel.

⁸⁴ Miraka further submits that lower prices from selling the greater assumed volumes on GDT have not been considered, whilst the scale advantages of the notional producer for the selling costs is taken into account. Miraka "Submission to the Commerce Commission: Process and issues paper - Review of 2015/16 base milk price calculation" (4 February 2016), paragraph 5.2.

- 4.103 As discussed earlier, we now consider that a notional producer would probably not sell its entire volume on-GDT. Instead, it would be likely to sell product both on and off-GDT. If we were to assume that the notional producer would sell the same volume as Fonterra on-GDT, with the rest of the volume sold off-GDT, this would result in a higher milk price. This is because the average off-GDT prices that Fonterra receives are materially higher and this would more than offset the increase in off-GDT selling costs per metric tonne (MT).⁸⁵

Consistency of fixed asset assumptions

- 4.104 Overall, we are satisfied with the consistency of the fixed asset assumptions. The fixed asset assumptions in the milk price calculation are consistent with the efficiency and contestability dimensions.
- 4.104.1 Notional inputs are used, which provide incentives for Fonterra to operate efficiently.
- 4.104.2 Considered together as a whole, the assumptions adopted and the inputs and processes used in the calculation of the capital charge provide a practically feasible outcome that satisfies the contestability dimension.
- 4.105 Independent processors, particularly Synlait, have identified a number of concerns with the assumptions that inform the capital cost used in the calculation of the capital charge. These concerns include:⁸⁶
- 4.105.1 The notional producer has the benefits of Fonterra’s scale and a modern portfolio of high yield, low operating cost plants, but the model does not have capital charges consistent with this;
- 4.105.2 The value of the asset base, and therefore the capital charges in the milk price model, are still too low for a single new plant;
- 4.105.3 The modelled asset base and capital charges are lower than they should be to be consistent with the yield and operating cost assumptions, which are based on a portfolio of modern plants;

⁸⁵ We have been provided evidence that Fonterra can materially higher prices selling off-GDT. The comparison between the notional producer and GOGI's RCP operation is consistent with the evidence provided.

⁸⁶ Refer to Synlait “Concerns regarding the Commerce Commission’s final report on the 2014/15 base milk price calculation” (13 October 2015).

- 4.105.4 Comparisons to Fonterra (presumably to the NZMP business, now called GOGI) do not remove the inconsistency within the milk price model;
- 4.105.5 Where errors in the model have been identified, they should be corrected, rather than relying on one error to offset another; and
- 4.105.6 Capex appears to be overstated in the model.
- 4.106 We do not have evidence that the fixed asset assumptions are inconsistent with the contestability dimension, even if the 'practical feasibility' of individual components in a real world sense may be unclear. We consider that the fixed asset assumptions are consistent with the assumption of the notional producer being able to achieve high-performing yields across its plants.
- 4.107 However, the transparency of the milk price model's fixed asset assumptions could be improved for interested persons. We continue to encourage Fonterra to look at how it can improve the quality and quantity of the information that it provides regarding its fixed asset assumptions for the milk price calculation.
- 4.108 Our approach to addressing issues raised in previous reviews has been to:
- 4.108.1 consider the use and effect of the tilted annuity methodology to further address concerns about the reasonableness of the capital charge;
- 4.108.2 update our analysis from last year using figures provided by Fonterra to assess the adequacy of replacement capex in the milk price model; and
- 4.108.3 consider the relationship between repairs and maintenance ('R&M') costs and other fixed asset assumptions.

Use and effect of the tilted annuity methodology

- 4.109 The appropriate comparison when considering the adequacy and reasonableness of milk price capital charges is the combination of both the depreciation and the capital charge on fixed assets (i.e. the total annual capital recoveries).

- 4.110 In its submission on our draft report for the 2014/15 calculation review, Synlait sought clarification on why there is a difference between tax depreciation and milk price depreciation.⁸⁷ We acknowledge that the different methodology used for tax depreciation and milk price depreciation gives a different result. However, we consider that the resulting differences are not sufficiently material to warrant further explanation.
- 4.111 We recognise that Fonterra's model of capital cost recovery is complex and not readily accessible for independent processors. To aid transparency, Fonterra has provided a simplified model of capital cost recovery and an explanatory note, which we have published alongside this paper. This information demonstrates the effect of using the tilted annuity methodology relative to alternative cost recovery methods.⁸⁸ Publication of the simplified model enables interested parties to test alternative cost recovery scenarios.
- 4.112 Our analysis has concluded that:
- 4.112.1 the simplified model, when updated with values underpinning the 2015/16 milk price, provides a reasonable approximation of the actual amount of capital recoveries in the milk price model; and
 - 4.112.2 for a given asset base, the tilted annuity method results in a higher level of capital recoveries being incorporated into the 2015/16 milk price than would otherwise occur if an alternative method was applied.
- 4.113 Despite the complexity of the tilted annuity methodology, the overall effect, holding all other milk price components constant, is a 'structurally' lower 2015/16 milk price than may otherwise be calculated.
- 4.114 As with all capital recovery methodologies, the milk price approach allows for a reasonable expectation of full recovery of capital costs over the expected lifetime of assets. The milk price approach for capital recoveries also implicitly assumes that:

⁸⁷ Synlait "Submission on the Commerce Commission's 2014/15 base milk price calculation review draft report" (1 September 2015), paragraph 18. Our final report for the 2014/15 calculation review provided an explanation for this, refer: Commerce Commission "Final Report: Review of Fonterra's 2014/15 base milk price calculation" (15 September 2015), paragraph 9.20.

⁸⁸ Fonterra "Depreciation & Capital Charge under Tilted Annuity, Replacement Cost and Historic Cost Approaches" (22 March 2016); Fonterra "Supporting workbook - capital recoveries explanation paper" (22 March 2016).

- 4.114.1 annual capital recovery amounts for a particular year on assets of a specific category should be largely independent of each asset's acquisition date; and
- 4.114.2 generally, the asset base has been in a 'steady state' since the implementation of the milk price methodology.
- 4.115 The milk price methodology therefore breaks any link between capital recovery amounts and asset acquisition dates. This means that the allocation of fixed assets when the milk price regime started did not have a significant impact on the amount of the initial capital recoveries.
- 4.116 It also meant that the initial asset base could be 'spread back' on an assumption of progressive updates over time for new technology. However, this assumption does not imply a view that older plants can in the 'real world' be upgraded to match the performance standards of modern plants. It is simply intended to reflect that, similar to Fonterra in the 'real world', the notional producer was an already existing processor rather than a new entrant when the milk price regime began.
- 4.117 Relative to using a historic cost or replacement cost method of capital recovery, the tilted annuity methodology implicitly removes initial depreciation advantages that may otherwise have been available to a new entrant in the regime's early years. On that element alone, depreciation charges may appear 'too low', particularly for independent processors that use a GAAP straight line method of depreciation.
- 4.118 However, as the milk price's capital recovery methodology effectively places the notional producer in a 'steady state' position, its 'low' depreciation charges are more than offset by a higher capital charge on fixed assets. We consider that it is appropriate to consider these components together, rather than viewing an apparent departure from a more 'real world' scenario in one or both of the components as an 'error' or 'inconsistency' to be corrected.
- 4.119 The use of alternative assumptions or capital recovery methodologies could arguably be more 'real world'. However, we have not received any evidence that such approaches would achieve an overall outcome that is more consistent with the contestability dimension.

- 4.120 It has been claimed that "the value of the asset base and therefore the capital charges in the milk price model are still too low for a single new plant".⁸⁹ However, we consider that the value of the notional producer's asset base is reasonable and we have not been provided with information to support that contention.

Adequacy of replacement capex

- 4.121 As with the 2014/15 calculation review, we identified a substantially greater level of replacement capex by the notional producer than Fonterra's actual spend.⁹⁰ This results in our conclusion that higher replacement capex than might be expected in a 'real world' scenario indicates a higher capital charge and therefore a 'structurally' lower milk price.
- 4.122 We also note that incorporating an even higher level of replacement capex into the milk price would arguably make the notional producer even less reflective of a 'real world' scenario. However, we note that such an approach may result in a lower milk price, subject to our earlier point that total capital recoveries should be the focus of any assessment rather than the capital charge or depreciation independently.

Repairs & maintenance costs and other capital costs assumptions

- 4.123 As with last year, the reference sites used as a basis of the R&M calculation are older than plants in the milk price model. The available information suggests that R&M costs in the calculation are overstated rather than understated when compared to what might be expected in a 'real world' scenario. This again indicates a 'structurally' lower milk price than would otherwise occur.
- 4.124 The method by which R&M is calculated has changed. This has resulted in a decrease in the R&M component in the calculation relative to the previous approach.⁹¹ However, the notional producer's R&M costs appear to remain substantially above Fonterra's actual R&M spend. Without counter evidence, this suggests that this component is still overstated relative to a 'real world' scenario.

⁸⁹ Refer, for example: Synlait "Concerns regarding the Commerce Commission's final report on the 2014/15 base milk price calculation" (13 October 2015), paragraph 14.

⁹⁰ Commerce Commission "Final Report: Review of Fonterra's 2014/15 base milk price calculation" (15 September 2015).

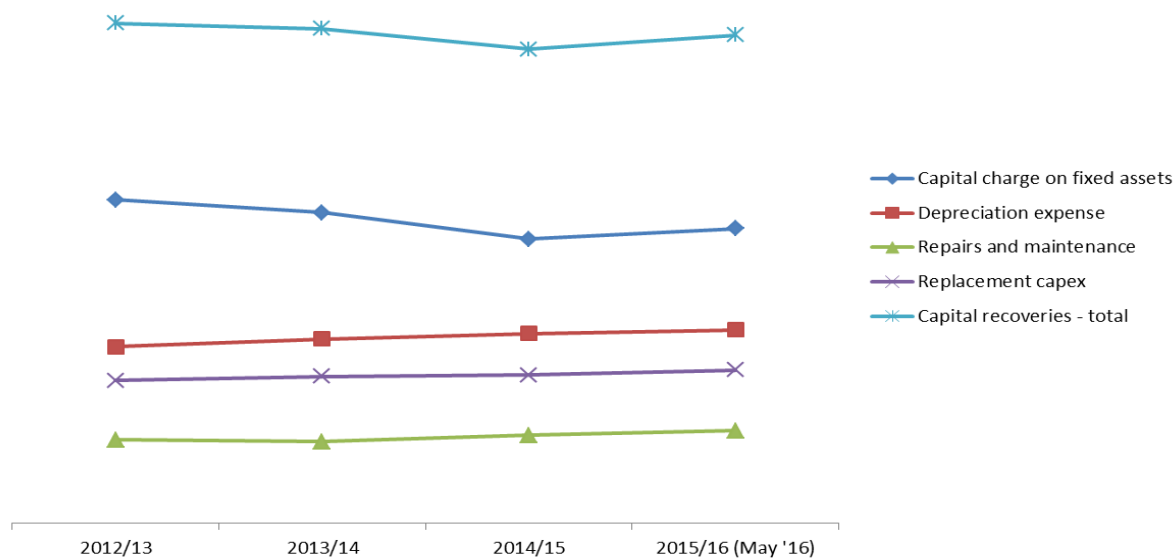
⁹¹ The labour and non-labour proportions of R&M costs in the milk price have previously been assumed to be 26% and 74% respectively. A modelled approach this year to calculating the labour component of the R&M costs has resulted in the labour and non-labour proportions changing to 35% and 65% respectively.

4.125 We also considered the profile of the notional producer's R&M costs and its capital charge. This exercise did not suggest that these cost categories are inconsistent either with each other or the section 150A objectives.

4.126 We also consider that the fixed asset and R&M assumptions, inputs and processes are consistent with each other. Figure 4.1 shows the profiles of the fixed asset assumptions in the milk price model from 2012/13 through to 2015/16. We do not consider that there is any obvious inconsistency apparent in the relationship in the patterns over time or the relationships between these assumptions.

4.127 While R&M costs are a specific component in the milk price model, replacement capex is recovered as a proportion of the model's depreciation over time as opposed to being a separate cost category. Figure 4.1 shows replacement capex separately in order to simply demonstrate its proportionate relationship to other fixed asset assumptions in the milk price model over recent years.

Figure 4.1 Profile of fixed asset assumptions in milk price model 2012/13 - 2015/16



Chapter 5 Other areas of focus

Purpose of this chapter

- 5.1 This chapter sets out our conclusions and reasoning for the following other areas of focus:
- 5.1.1 farmer support (which includes interest-free loans);
 - 5.1.2 winter milk premiums;
 - 5.1.3 practical effect of non-GDT sales;
 - 5.1.4 non-recurring costs; and
 - 5.1.5 disclosure of information.

Farmer support

- 5.2 We consider that the financing and associated administration costs of providing farmer support loans are being incurred to guarantee continued milk supply.⁹² These costs could therefore be considered to be an ordinary cost in any season rather than one-off costs each time they are applied.
- 5.3 We understand that Fonterra and other independent processors are also providing farmer support through mechanisms other than support loans. These mechanisms include the acceleration of cash flows to farmers. It is our view that these additional mechanisms should be considered in the calculation of systematic risk rather than as a cost component of the milk price calculation.
- 5.4 Fonterra first provided interest-free loans to shareholder-farmers for the 2015/16 dairy season.⁹³ Fonterra does not include any cost component in the milk price calculation for farmer support costs. Fonterra considers this expense as a shareholder cost.

⁹² Such costs of guaranteeing supply are a cost of collecting milk for the purposes of s150C(b)(i) of the Act.

⁹³ Details of the shareholder support loans offered by Fonterra can be found at the Fonterra media releases. "Fonterra forecasts total payout available to farmers for 2015/16 and announces Fonterra co-op support." (7 August 2015) www.fonterra.com/global/en/Hub+Sites/News+and+Media/Media+Releases (Viewed 5 July 2015).

- 5.5 Consistent with our conclusion in our review of the 2015/16 Manual, we recommend that Fonterra should consider how the financing and any associated administration costs of the support loans could be included and clearly described in the milk price calculation each season.
- 5.6 Costs incurred for ensuring continued supply of milk should be included in the base milk price in order to achieve the purpose of section 150A. We therefore consider that including such costs in the base milk price would be consistent with the contestability dimension because:
- 5.6.1 In circumstances where the milk price is less than the break-even price for farmers, we consider an efficient processor would need to offer support to ensure continued supply.⁹⁴
- 5.6.2 Other processors in New Zealand and Australia are offering loan support to farmers to ensure continued supply.⁹⁵
- 5.6.3 As a result of the adjustment to the forecast milk price for Australian farmers, Fonterra has since extended the support loan to its non-shareholding Australian farmers, again indicating that the support was provided to retain supply.⁹⁶
- 5.6.4 The cost of supplying the support loan is not a feature unique to Fonterra or subject to the safe harbour provisions. This means the contestability dimension is met.
- 5.7 The farmer support interest-free loans were considered in the expert review of the asset beta to be a systematic risk factor (given the importance of the dairy industry to NZ's gross domestic product ('GDP')), with a potential to increase the asset beta.⁹⁷ Fonterra has advised that after considering this, it has decided not to adjust the asset beta for this.

⁹⁴ DairyNZ provides a break-even point for the 2014/15 season as \$4.90. DairyNZ "Dairybase benchmarks" (2015) www.dairynz.co.nz/farm/dairybase/latest-dairy-benchmarks/. (Viewed on 23 May 2016).

⁹⁵ Murray Goulburn is providing a farmer support package and will recover costs through repayments of 0.20-0.27 cents per kgMS for three years. We are aware that other processors are offering support mechanisms for farmers this season.

⁹⁶ The Fonterra Australia support loan offers a loan of up to 60c per kgMS, repayable from FY18 onwards.

⁹⁷ Dr Martin Lally "Assessment of the asset beta for Fonterra's Notional Business" p. 6. Dr Alastair Marsden "Update on Asset Beta for Fonterra's New Zealand based Commodity Manufacturing Businesses and Specific Risk Premium for Fonterra's Notional Business" (report to Fonterra, April 2016), paragraph E.7.

- 5.8 Dr Marsden’s report on the asset beta estimates the current annualised costs of the farmer support loans to Fonterra’s notional business at \$19.2 million per annum. Assuming loan take-up of approximately \$430 million, these financing costs equate to 4.5% of the total loan. Including this in the milk price in a season when the loan support applies would result in an estimated reduction to the milk price of 0.95c per kgMS.⁹⁸

Winter milk premiums

- 5.9 A winter milk allowance is included in the overall milk price, but is not treated as a ‘cost’ in the calculation.⁹⁹ Currently, the Manual requires the calculation of the milk price as the average milk price paid to all farmers.
- 5.10 The winter milk allowance and other adjustments are included in the aggregate payment for milk (i.e. the milk price derived by applying the Manual).¹⁰⁰ This provides a milk price supplied on ‘standard terms’. We suggest for transparency that Fonterra should disclose the milk price on standard terms in the Milk Price Statement.¹⁰¹
- 5.11 The calculation of the price paid to each individual supplier is outlined in Figure 5.1.

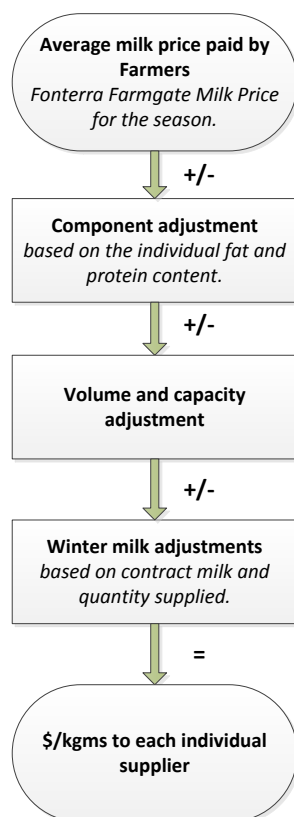
⁹⁸ Alastair Marsden “Update on Asset Beta for Fonterra’s New Zealand based Commodity Manufacturing Businesses and Specific Risk Premium for Fonterra’s Notional Business” (report to Fonterra, April 2016), paragraph 4.13.

⁹⁹ Open Country submits that costs of winter milk premiums must be included in the milk price to satisfy the practical feasibility test. Open Country “Submission on the Commerce Commission’s on Process and issues paper - Review of 2015/16 base milk price calculation” (February 2016), page 3.

¹⁰⁰ Fonterra includes adjustments such as contract milk, discounts, Demerits, volume charge net underpayment and DDE in the milk price. These are adjusted out along with winter milk premiums to get to the average milk price on standard terms.

¹⁰¹ The milk price on standard terms is the price before any adjustments.

Figure 5.1 Deriving the price paid to each individual supplier



- 5.12 We consider this approach to be practically feasible. The majority of winter milk supply purchased by Fonterra is used to service local markets. Therefore, the costs of purchasing winter milk to service the local market would not be incurred by the notional producer. We also consider that the cost of winter milk premium included in the milk price would be restricted to the incremental return for the milk used (including the relevant avoided fixed costs). Given the above, it is appropriate that some of the winter milk premiums paid by Fonterra is not funded through the milk price.
- 5.13 Given the winter milk premium allowance is tied to Fonterra's actual cost per KgMS for winter milk (excluding winter milk contracts), we consider this provides incentives for Fonterra to act efficiently. However, this incentive is potentially weaker than if notional data was used.
- 5.14 We have recommended to Fonterra that it provides better clarity as to how winter milk premiums have been considered in the calculation.¹⁰² This is important, as there is insufficient detail in the Milk Price Statement.

¹⁰² We note Fonterra has attempted to provide greater clarity on winter milk adjustments in Attachment 5 of Fonterra's "Reasons' Paper in support of Fonterra's base milk price for the 2015/16 Season" published on

Practical effect of non-GDT sales

5.15 In our report on the review of the 2015/16 Manual, we said:

“we do not think Fonterra needs to provide more clarity regarding selling prices achieved off-GDT within the Manual. However, we encourage continued disclosure and clarity by Fonterra as to its reliance on-GDT and off-GDT sales in its Milk Price Statement and Reasons Paper supporting its base milk price calculation.”¹⁰³

5.16 We also said:

“we therefore consider that the prices achieved from off-GDT sales make up a relatively small proportion of the notional producer’s revenue mix, so the impact of any such sales on the base milk price would appear to be small. However, this is an issue that could be considered again as part of our 2015/16 calculation review.”¹⁰⁴

5.17 We have confirmed that for the 2015/16 milk price calculation, WMP, SMP and AMF prices are solely based on-GDT sale prices. We have also confirmed that there has been no material difference in Butter and BMP sales volumes from the 2014/15 season. Given the proportion of BMP products in milk price (around 2% of all sales) and the proportion of those volumes using off-GDT prices, we conclude that moving to all off-GDT prices for BMP would not have a significant impact on the milk price.

5.18 As noted in the aggregate assessment section in Chapter 4, Fonterra has announced that in future it will include off-GDT pricing in calculating the WMF, SMP and AMF revenue. We intend to look at the changes in our review of the 2016/17 Manual, including the impact on the transparency of prices to interested parties.

1 July 2016 and which is available on our website. Fonterra has noted it will expand its explanation of the process and treatment in the 2015/16 Farmgate Milk Price Statement. Fonterra ""Reasons' Paper in support of Fonterra's Milk Price Manual for the 2016/17 season" (1 August 2016), page 9.

¹⁰³ Commerce Commission "Review of Fonterra's 2015/16 base milk price calculation (Final report)" (15 December 2015), paragraph 47.

¹⁰⁴ Commerce Commission "Review of Fonterra's 2015/16 base milk price calculation (Final report)" (15 December 2015), paragraph 50.

Non-recurring costs

- 5.19 The Manual has a new “Rule 19” which is intended to include certain costs of a non-recurring nature that are not otherwise provided for under a specific rule.¹⁰⁵ Fonterra has advised that the velocity adjustment and the corporate cost reset adjustments will be included in the underlying models of the 2016/17 milk price calculation in place of the non-recurring costs.¹⁰⁶
- 5.20 The corporate cost reset adjustment will recur in future seasons. For this reason we agree that this adjustment should be included in the underlying models.
- 5.21 The velocity adjustment is a non-recurring adjustment to the staff numbers assumed in the notional business. It is our view that this one-off saving could be included in the non-recurring costs line item to provide greater transparency.

Disclosure of information

- 5.22 The milk price monitoring regime provides an independent review of the calculation, with an intention of improving transparency of information to stakeholders over time. The forecast price for the following season is only published a few days before the start of each season and updated throughout the season.¹⁰⁷ At this current point, we would like to see an improvement in the quality and timeliness of forecast information.¹⁰⁸
- 5.23 The farm gate Milk Price Statement is informative. We will continue to suggest to Fonterra incremental improvements to the statement as they arise. However, this is historic information which is published by Fonterra four months after the end of the season and is not provided early enough to inform investment and production decisions by farmers or other stakeholders for the next season.

¹⁰⁵ See Rule 19 in page 45 of Fonterra’s Farm gate Milk Price Manual 2015 at <http://www2.fonterra.com/our-financials/milk-price-methodology> (viewed 17 June 2016).

¹⁰⁶ For further details on the velocity adjustment and the corporate cost reset, see Chapter 4.

¹⁰⁷ We note that a number of other sources provide more timely pricing information. For example, AgriHQ provides a milk price calculator that assesses the price based on the latest GDT auction using prior seasons’ cost inputs. AgriHQ Farmgate Milk Price Calculator <https://agrihq.co.nz/toolbox/farmgate-milk-price-calculator/> (sourced 8 June 2016).

¹⁰⁸ We understand that Fonterra Farmer Shareholders are supported with more timely information through Farmer Source which provides details of Fonterra’s financial performance and returns, share and unit trading information and reports and publications relating to the co-operative.

- 5.24 We recognise and support Fonterra's continued improvements in:
- 5.24.1 providing the context for the model inputs which underpin the calculation;
 - 5.24.2 reviewing the updated asset beta after considering submissions from interested parties;
 - 5.24.3 continued engagement with the Commission to provide timely information to enable us to complete our review; and
 - 5.24.4 specifically addressing some of the concerns raised by independent processors in its submissions.
- 5.25 We invite interested parties to provide details of any further disclosures of information which would support the transparency of the base milk price calculation.

Chapter 6 Non-focus areas

Purpose of this chapter

- 6.1 In this chapter, we set out our reasoning and conclusions on:
- 6.1.1 Fonterra's review of the composition of the notional producer's RCP basket;
 - 6.1.2 Fonterra's introduction of Guaranteed Age at Time of Departure ('Guaranteed ATOD') products; and
 - 6.1.3 those components that are outside of our identified focus areas, and on which we carried out a 'fit-for-purpose' review.

Reference Commodity Product basket review

- 6.2 Fonterra is required by s 150C(2)(a) to determine the portfolio of RCPs for the calculation using the most profitable Fonterra commodities for a time period not exceeding five years.¹⁰⁹
- 6.3 Fonterra has completed an RCP review this season and has not recommended any change to the current RCP basket. However, we have received a submission that revenues from non-RCP products should be included in the calculation.¹¹⁰
- 6.4 In Fonterra's analysis, consideration was given to include of current non-RCP products in two ways:
- 6.4.1 Products manufactured by other processors; and
 - 6.4.2 The potential impact on the milk price of adding products to the RCP basket.

¹⁰⁹ We note that this review was meant to be completed prior to our 2014/15 base milk price calculation review.

¹¹⁰ Fonterra farmers, Stuart and Lorae King, submitted that the non-RCPs should be included in the milk price. They believe that the margin on sales of ingredient products are substantially higher than those achieved on GDT and that this value should be considered when modelling the milk price. See Stuart and Lorae King "Submission on the Commerce Commission's Process and issues paper - Review of 2015/16 base milk price calculation" (February 2016), paragraph 6. As outlined in para 6.2, Fonterra is required under the Act to set the milk price by using its most profitable commodities.

- 6.5 Fonterra's analysis showed that inclusion of either mozzarella or Milk Protein Concentrate 85 ('MPC 85') would have increased the base milk price (from 2010/11-2015/16) if it had been substituted for the WMP RCP. The amounts are only an estimate, with Fonterra stating to us that it reflects the simple average of monthly stream returns across a season, with no adjustments for any variance in volumes produced or sold in a particular month.
- 6.6 Fonterra's justifications for not including mozzarella or MPC 85 as an RCP are:
- 6.6.1 none of Fonterra's New Zealand competitors manufacture mozzarella or MPC 85. Therefore, including them would fail the applicable test in the Manual for inclusion;¹¹¹ and
- 6.6.2 these products are not significantly 'commoditised' to meet the requirement of the Act.
- 6.7 Despite its conclusions regarding mozzarella and MPC 85, Fonterra proposes to look further into the potential inclusion of UHT as an RCP, as it believes this product has become sufficiently commoditised to qualify as an RCP. However, it has yet to determine a benchmark commodity equivalent price for UHT.
- 6.8 Fonterra's analysis and conclusions appear reasonable and we have no reason to consider that the current RCP basket is not the most profitable combination basket at this current time. However, given the recent added-value stream returns and the relative volumes of products, we recommend that Fonterra:
- 6.8.1 reviews the volumes of mozzarella and MPC 85 that could be considered to be commoditised in accordance with the requirements of the Act;
- 6.8.2 evaluates the impact on the milk price if it were to include UHT as an RCP; and
- 6.8.3 considers reviewing its RCP basket more frequently - possibly even annually. This would ensure that timely consideration is given to Fonterra commodity products, particularly mozzarella, MPC 85 and UHT that might warrant further evaluation for inclusion in the RCP basket.
- 6.9 We note that removing one RCP and replacing it with a new one needs to be considered in the context of the profitability of the basket of RCPs as a whole, as the RCP products are interlinked in the production process. Products are therefore not necessarily directly substitutable for the purpose of the calculation.

¹¹¹ We note that the Manual test is not part of the requirements of the Act.

Guaranteed Age at Time of Departure

- 6.10 During the 2015/16 season, Fonterra began offering a Guaranteed Age at Time of Departure ('Guaranteed ATOD') product on-GDT.¹¹² Some buyers are prepared to pay a price premium for a guaranteed age of product.
- 6.11 The premium received on the sale of Guaranteed ATOD products has been included in the base milk price calculation since December 2015, when these products commenced being included for sale on-GDT. These ATOD products are part of the RCP basket, as the product specifications are identical to the standard GDT Medium Heat SMP and Regular WMP, with the only variable being the age of the product at time of departure.
- 6.12 Providing ATOD products is practically feasible for an efficient processor, as the product specifications are identical to the standard GDT Medium Heat SMP and Regular WMP products.

How we reached our conclusions on the non-focus areas

- 6.13 Our 'fit-for-purpose' review involved looking for any methodology amendments in respect of the non-focus components. Where there was no change between seasons in Fonterra's approach to calculating these components and no new information was identified, we have relied on our conclusions from previous years. We also carried out some basic analytical checks to ensure that there was consistency in the numbers and ratios for these components.
- 6.14 Commission staff also visited Fonterra to observe its process of updating the forecast milk price. This provided additional confidence that Fonterra has the necessary controls in place to ensure consistency of regular calculations.
- 6.15 We note that we did not audit Fonterra's procedures or carry out an internal audit. However, Fonterra's own quality controls surrounding the calculation provide us confidence about the calculation of components where we have carried out a limited scope 'fit-for-purpose' review.¹¹³
- 6.16 Table 6.1 outlines our conclusions on these components.

¹¹² The product was first launched in the 1 December 2015 Auction. Product age is less than 90 days ATOD for Regular WMP and less than 120 days ATOD for Medium Heat SMP.

¹¹³ For more information about the governance structure for the milk price, see Attachment B of Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation.

Table 6.1 Conclusions on the components outside of focus areas

Component	Change in methodology in 15/16	Type of data used	Provides incentives for Fonterra to act efficiently?	Reliance on conclusion from 2014/15 report	Practically feasible?	Consistency of rule in the Manual	Any additional comments	
Production Plan	No	Actual	Yes	No	Yes	Yes	See commentary on RCP basket review.	
Lactose costs	No	Notional	Yes	Yes	Yes	Yes	Lactose prices have significantly decreased since last season. ¹¹⁴ See additional comments on lactose costs below.	
Sales phasing	No	Actual	Yes	Yes	Yes	Yes		
Foreign exchange conversion	No	Actual	Covered by safe harbour provision ¹¹⁵					
Net working capital	No	Actual	Yes	Yes	Yes	Yes		
Energy costs	Yes	Notional	Yes	No	Yes	Yes	The milk price now includes an electricity adjustment for "hedge settlement allowance". That is, hedging in relation to wholesale price exposure. Renegotiations of plant contracts and increased gas costs have also affected this component.	
Collection costs	No	Notional	Yes	Yes	Yes	Yes		
Water, cleaning and CIP, consumables, effluent and lab testing costs	No	Notional	Yes	Yes	Yes	Yes	We are satisfied that the resource usage rates used in the calculation have been independently reviewed.	
Packaging costs	No	Notional	Yes	Yes	Yes	Yes		
Storage costs	No	Notional	Yes	Yes	Yes	Yes		

¹¹⁴ See the Global Dairy Trade for the lactose pricing results over the last five years. Sourced from www.globaldairytrade.info/en/product-results/lactose/ (viewed 15 June 2016)

¹¹⁵ See s 150B(c) of the Act.

Component	Change in methodology in 15/16	Type of data used	Provides incentives for Fonterra to act efficiently?	Reliance on conclusion from 2014/15 report	Practically feasible?	Consistency of rule in the Manual	Any additional comments
Freight costs	Yes	Notional	Yes	No	Yes	Yes	Freight costs now include an adjustment by way of rebate of the Kotahi earnings to represent the amount an efficient processor could achieve due to its ability to negotiate with a high volume of product to freight. ¹¹⁶
Company tax expense	No	Notional	Yes	Yes	Yes	Yes	

¹¹⁶ Fonterra considers this adjustment to better reflect the negotiated rates achievable given the volume processed by the notional producer being incentivised to negotiate rates when the freight company is not a related party such as Kotahi.

Ability to pick the lowest lactose costs

- 6.17 Fonterra calculates the lactose prices monthly. This is done by taking the lower of the average lactose price for either Fonterra or its competitors for the last twelve months. The lower method is chosen when the milk price model is updated.
- 6.18 Synlait argues that the notional producer is therefore able to retrospectively choose the lowest lactose cost, an assumption not accessible to any actual participant in the New Zealand milk processing sector.¹¹⁷
- 6.19 Fonterra advised us that retrospectively picking the lactose price is not practically feasible. However, Fonterra lactose prices will be mostly higher than competitor prices because of product mix changes.
- 6.20 We agree that it is not practically feasible for the notional producer to retrospectively pick the lower of the available lactose prices. However, given that competitor lactose prices have been used as the price every month since the 2013/14 season, we do not consider this is currently a practical issue.¹¹⁸ If interested parties remain concerned about Fonterra's current approach, you may provide your comments to us and we may consider looking into this further in our 2016/17 Manual review.

Transparency of GDT pricing details

- 6.21 Concerns have been expressed to us on the practical feasibility and transparency of the GDT prices used in the milk price model.¹¹⁹
- 6.22 We acknowledge that interested parties cannot accurately calculate the average base commodity prices ('BCPs') used as the monthly average prices for the milk price from the currently available public information.
- 6.23 Fonterra has advised us that it is open to considering disaggregating the data published in Attachment 5 of its Milk Price Statement into on-GDT and off-GDT average contract tenor.¹²⁰

¹¹⁷ Synlait "Submission to Commerce Commission: Draft 2014/15 calculation report" page 7.

¹¹⁸ We have confirmed that Fonterra has taken the competitors monthly price into the milk price calculation for the last three seasons (F14-16).

¹¹⁹ Miraka notes that the output prices used to determine the notional producer's revenue cannot be replicated from publicly available information. Miraka submits that Fonterra should publish the equivalent GDT prices to demonstrate the practical feasibility of the notional producer. Miraka " Submission to the Commerce Commission: Process and issues paper - Review of 2015/16 base milk price calculation" (4 February 2016), paragraph 4.2. As noted in paragraph 5.17, we have confirmed that WMP, SMP and AMF prices for the notional producer have been solely derived from GDT prices.

- 6.24 Fonterra has also advised us that it is open to considering including the following information in the public version of the milk price model:
- 6.24.1 Relevant weighted average contract month prices;
 - 6.24.2 The weighting methodology; and
 - 6.24.3 The weights used to convert these to shipment month prices.
- 6.25 We invite interested parties' views on whether this level of information would be of value if disclosed and whether it would be sufficient to address the transparency issue with GDT prices.
- 6.26 We are satisfied that Fonterra has the necessary controls in place to accurately incorporate Fonterra prices received on-GDT and off-GDT for Butter and BMP into the milk price model.

¹²⁰ Fonterra "Cross-submission to the Commerce Commission on Process and issues paper - Review of 2015/16 base milk price calculation" (26 February 2016), page 6.

Chapter 7 How you can provide your views

Invitation to comment

- 7.1 This chapter outlines how you can provide your views on our draft report.
- 7.2 As required under the Act, we will consult with Fonterra on our draft report. We also invite interested parties to comment through the submission process.
- 7.3 We welcome views on any aspects of this draft report or any other issue that you think we should consider before finalising our conclusions.

Deadline for submissions

- 7.4 To allow us time to consider your views for our final report, submissions should be provided to us no later than **5pm, Thursday 1 September 2016**.
- 7.5 We will consider submissions and, as required under the Act, publish our final report by Thursday 15 September 2016.
- 7.6 We may not have time to consider all comments in submissions. Any new substantial issues may be carried forward, where appropriate, to our 2016/17 Manual review later this year, or to our 2016/17 review of the calculation.

Format of submissions

- 7.7 Submissions must be provided electronically in a format suitable for word processing. You should address your response to:

Vannessa Turner, Manager – Market Assessment and Dairy

regulation.branch@comcom.govt.nz
- 7.8 We intend to publish all submissions on our website. If you would like the published electronic copy to be 'locked', we ask that you provide multiple versions of your comments. At least one version should be provided in a file format suitable for word processing, rather than a locked PDF file format.

Requests for confidentiality

- 7.9 We encourage full disclosure of submissions so that all information can be tested in an open manner. However, we offer the following guidance where you wish to provide information in confidence:
 - 7.9.1 If you include confidential material in a submission, both confidential and public versions of the submission should be provided; and

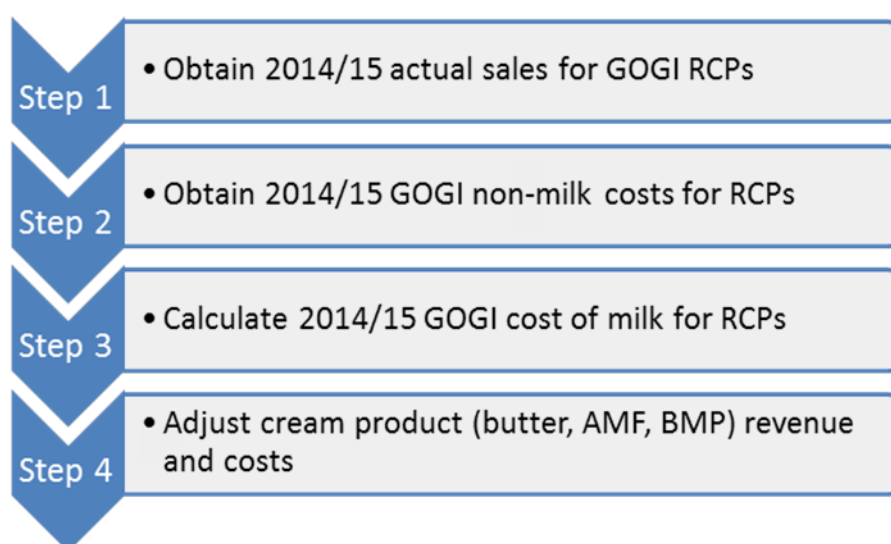
- 7.9.2 The responsibility for ensuring that confidential information is not included in a public version of a submission rests entirely with the party making the submission.
- 7.10 You can also request a confidentiality order under s 100 of the Commerce Act. Any request for a s 100 order must be made at the time the relevant information is supplied to us, outlining the reasons why the relevant information should not be made public. We will provide further information on s 100 orders if requested.¹²¹

¹²¹ A key benefit of such orders is to enable confidential information to be shared with specified parties on a restricted basis for the purpose of making submissions. However, any s 100 orders will apply for a limited time only as specified in the order. Once an order expires, we will follow our usual process in response to any request for information under the Official Information Act 1982.

Attachment A Steps taken by Fonterra to provide a comparator to the notional producer

A1 This Attachment sets out the steps taken by Fonterra to allow us to compare the performance of the notional producer with the GOGI RCP operation performance.

Figure A1 Steps taken to compare the GOGI RCP operation with the notional producer



Step 1: Obtain 2014/15 actual sales for GOGI RCPs

A2 The sales are based on the 2014/15 financial year running from 1 August 2014 to 31 July 2015 (in comparison, the notional producer's sales are from production in the dairy season from 1 June to 31 May, and occurred over the period from 1 September to 31 October 2015).

A3 The RCPs included are: Butter, AMF, BMP-Regular, SMP-Regular, SMP-Instant, SMP-Partly skimmed, WMP-Agglomerated, WMP-Instant and WMP-Regular.

A4 The average exchange rate used for the GOGI RCP operation is largely aligned to the base milk price calculation.

Step 2: Obtain 2014/15 GOGI non-milk costs for RCPs

A5 The non-milk costs in the gross margin calculation for GOGI are the Fonterra standard cost of goods sold ('COGS') for RCPs. These standard COGS are updated quarterly.

A6 The selling costs have been determined by deriving the sales cost rate per region for GOGI. This rate is then applied to GOGI RCP volumes sold in each region.

A7 Fonterra has advised that the individual cost categories set out in the base milk price calculation largely align with Fonterra's gross margin reporting system. The most significant differences in cost categories are related to selling costs, administration costs and depreciation.

Step 3: Calculate 2014/15 GOGI cost of milk for RCPs

A8 The GOGI cost of milk in each month's sales has been calculated using a shipment-based milk cost to align with how the cost of milk is calculated in the base milk price. This is derived using shipment-based base commodity price ('BCP') rates from the milk price model, which can be used to calculate shipment-based fat and protein milk cost rates.

Step 4: Adjust cream product (Butter, AMF, BMP) revenue and cost¹²²

A9 An adjustment was made to cream products to align with the fat to protein ratio used in the milk price calculation. An adjustment is required on these products because:

A9.1 Some of the cream in the GOGI gross margin has come from the manufacture of non-RCPs (e.g. cheese, casein, MPC 85);¹²³ and

A9.2 Cream products have lower cents per kg manufacturing costs relative to powder products.

¹²² The secondary products: AMF, butter and buttermilk powders are by-products of WMP and SMP. These secondary products use cream from the manufacture of WMP and SMP.

¹²³ MPC 85 is Milk Protein Concentrate 85.

Attachment B Glossary of terms

Table B1 Glossary

Term/Abbreviation	Definition
The Act, or DIRA	Dairy Industry Restructuring Act 2001
AMF	Anhydrous milk fat
BCP	Average base commodity price used to derive monthly prices for the milk price calculation
Base milk price	Farm gate milk price expressed per kilogram of milk solids
BMP	Butter milk powder
Capex	Capital expenditure
CODEX	CODEX Alimentarius, the international standard for food descriptions
COGS	Cost of goods sold
Dairy season	1 June to 31 May
EBIT	Earnings before interest and tax
EBITDA	Earnings before interest, tax, depreciation and amortisation
ELB	Electricity lines business
Fonterra's actual business	A business used by Fonterra's independent expert, Dr Marsden for the purposes of deriving an asset beta for the notional producer. This business includes the portion of Fonterra's business relating to the manufacture and sale of both RCPs and commodity products not included in the RCP basket such as Cheese, Casein and Milk Protein Concentrate
Fonterra's notional business	A business used by Fonterra's independent expert, Dr Marsden for the purposes of deriving an asset beta for the notional producer. Fonterra's business that manufactured and sold RCPs both on and off-GDT. This business is largely Fonterra's milk powder manufacturing business, scaled up to process all milk supplied to Fonterra in New Zealand
FTE	Full-time equivalent
GAAP	Generally accepted accounting principles
GDT	Global dairy trade, Fonterra's online auction platform used to sell commodities
GOGI	Fonterra's Global Operations and Global Ingredients businesses. These businesses represents the collection, processing and distribution of New Zealand milk; global sales and marketing of New Zealand and non-New Zealand milk products; Global Brands and Nutrition; Co-operative Affairs and Group Services
The GOGI RCP operation	An operation that only includes Fonterra's Global Operations and Global ingredients businesses' manufacturing and selling of RCPs. This operation is used for the purposes of this review's aggregate assessment
Guaranteed ATOD	Guaranteed Age at Time of Departure
kgMS	Kilogram of milk solids
Losses	The amount that of milk is lost during processing to final product. These losses include effluent, stockfood, overweight, milk treatment and reception
Milk Price Manual or the Manual	Fonterra's Farm Gate Milk Price Manual generally referred to by the version relating to each dairy season (eg, 2015/16 Manual). The Manual contains the methodology used to calculate Fonterra's base milk price
MPC 85	Milk Protein Concentrate 85
MT	Metric tonne
Notional producer	The notional commodity business that is used to calculate the base milk price
R&M	Repairs and maintenance

Term/Abbreviation	Definition
RCP	Reference Commodity Product. These products are manufactured and sold by the notional producer. Currently consists of WMP, SMP, BMP, Butter and AMF
SMP	Skim milk powder
UHT	Ultra high temperature
WACC	Weighted average cost of capital
WMP	Whole milk powder