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Review of Fonterra's 2022/23 base milk price calculation: Dairy Industry Restructuring Act 2001

Draft report

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Associated documents

Publication date	Title
1 August 2023	Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation
30 March 2023	Proposed focus areas for our review of Fonterra's 2022-23 base milk price calculation
15 December 2022	Final report – Review of Fonterra's 2022-23 Milk Price Manual – 15 December 2022
15 September 2022	Final Report – Review of Fonterra's 2021/22 base milk price calculation: Dairy Industry Restructuring Act 2001
15 September 2020	Review of Fonterra's base milk price calculation 2019-20 – 15 September 2020
12 September 2019	Final Report – Review of Fonterra's 2018/19 base milk price calculation: Dairy Industry Restructuring Act 2001
15 September 2017	Final Report – Review of Fonterra's 2016/17 base milk price calculation: Dairy Industry Restructuring Act 2001
15 September 2015	Final Report – Review of Fonterra's 2014/15 base milk price calculation: Dairy Industry Restructuring Act 2001

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Chapter 1 Introduction

Purpose of this report

1.1 This report sets out our draft conclusions from our statutory review of the extent to which Fonterra's 2022/23 base milk price calculation (the **Calculation**) is consistent with the purpose of the base milk price monitoring regime under subpart 5A of the Dairy Industry Restructuring Act 2001 (**DIRA**).[1]

1.2 This report follows our review of Fonterra's Milk Price Manual (**Manual**) for the 2022/23 season and builds on the analysis and conclusions from our previous reviews of Fonterra's base milk price calculation (**Calculation review**) and Manual. [2]

How this report is structured

1.3 Chapter 2 explains our review framework and the scope of our 2022/23 Calculation review.

1.4 Chapter 3 sets out our draft conclusions from:

1.4.1 our review of the focus areas for the 2022/23 Calculation review; and

1.4.2 our fit for purpose review of the assumptions adopted, and inputs and processes used by Fonterra when calculating the base milk price.

1.5 Attachment A provides a summary of our responses to submissions and cross submissions by stakeholders on our Proposed Focus Areas Paper for our review of Fonterra's 2022/23 base milk price calculation where we have not included them in our focus area reviews in Chapter 3.[3]

1.6 Attachment B provides a glossary of the key terms and abbreviations used in this draft report.

1.7 Attachment C provides a detailed list of the cost lines considered in our inflation cost adjustment component of our fit for purpose review. It provides a detailed breakdown of cost drivers and the method applied to each line as well as variances.

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1 The term 'base milk price' defined by DIRA is the price per kilogram of milk solids set by Fonterra for a dairy season. See also paragraph 2.6 below.

2 Commerce Commission "Final Report – Review of Fonterra's 2022/23 milk price Manual: Dairy Industry Restructuring Act 2001" (15 December 2022).

3 Commerce Commission "Proposed focus areas for our review of Fonterra's 2022-23 base milk price calculation" (30 March 2023)

How you can provide your views

Invitation to comment

1.8 As required under DIRA, we are consulting with Fonterra on this draft report.[4] We have also extended our consultation process to other interested parties.

1.9 We welcome stakeholder views on any aspects of this draft report before we finalise our conclusions. Your views on our draft report will help inform our final conclusions for our review.[5]

Deadline for submissions

1.10 To allow us time to consider your views, submissions on this draft report must be provided to us no later than **12 noon, Tuesday 15 August 2023**.

1.11 Our final report on the Calculation will be published by 15 September 2023.

Format of submissions

1.12 Please address all written comments to:

Louise Stephenson, Head of Fuel and Dairy

c/o market.regulation@comcom.govt.nz

Subject line: Milk Price Calculation 2022/23

1.13 We prefer submissions in both a format suitable for word processing (such as a Microsoft Word doc), and a 'locked' format (such as a PDF) for publication on our website.

1.14 The protection of confidential information is something the Commerce Commission (**Commission**) takes seriously. The process requires you to provide (if necessary) both a confidential and public version of your submission and to clearly identify the confidential and public versions.

1.15 When including commercially sensitive or confidential information in your submission, we offer the following guidance:

1.15.1 Please provide a clearly labelled confidential version and public version of your submission. We intend to publish all public versions on our website.

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4 DIRA, section 150U.
5 DIRA, section 150U.

1.15.2 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.

1.16 Please note that all submissions we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we do not publish unless good reason existed under the Official Information Act 1982 to withhold it. We would normally consult with the party that provided the information before any disclosure is made.

Chapter 2 Our review framework

Our approach for the Calculation review

2.1 This report should be read with our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation (**Approach paper**), which we have applied in this review and which forms part of this report.[6] The Approach paper explains how we perform our reviews of Fonterra's Manual and base milk price calculation and includes:

2.1.1 an overview of how the base milk price is set;

2.1.2 our interpretation of key legislative provisions guiding our statutory reviews; and

2.1.3 our analytical and practical approach to our statutory reviews.

2.2 The base milk price monitoring regime is intended to provide incentives for Fonterra to act efficiently, while providing for contestability in the market for the purchase of milk from farmers. The regime also promotes greater transparency of Fonterra's base milk price setting processes.[7]

2.3 In our Approach paper, we discuss both the efficiency and contestability dimensions in the context of the base milk price calculation review.[8] In summary:

2.3.1 Efficiency: our view is that the assumptions adopted, and inputs and processes used in the Calculation will provide an incentive for Fonterra to operate efficiently where the Calculation uses independent notional benchmarks for the revenue and cost inputs.

2.3.2 Contestability: the contestability dimension is satisfied if the assumptions adopted, inputs and processes used in the Calculation are practically feasible for an efficient processor. The essence of contestability is that efficient firms can compete in the market. If efficient firms are able to compete in the market, then the market is contestable.

2.4 Our analytical and practical approach to our statutory reviews is described in Chapter 4 of the Approach paper.[9]

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6 Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" (2023).

7 DIRA, section 150A.

8 Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" (2023).

9 Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" (2023).

2.5 Under DIRA we are required to review the calculation of the base milk price and assess the extent to which the assumptions adopted, and the inputs and processes used by Fonterra in setting the base milk price, are consistent with the efficiency and contestability dimensions, as outlined in section 150A of DIRA (the **section 150A purpose**).

2.6 The base milk price in relation to a season means the price per kilogram of milk solids that is set by Fonterra for that season.[10] The forecast for the base milk price is currently $8.10 - $8.30 per kilogram of milk solids (**kgMS**) for the season under review in this draft report, which ended on 31 May 2023.[11]

2.7 We note that Fonterra uses the term 'farmgate milk price' when referring to the base milk price in its Manual and annual Farmgate Milk Price Statement. In this draft report we use the term 'base milk price' in all cases unless quoting from Fonterra materials.

2.8 More information on the distinction between the base milk price, which is subject to our statutory reviews, and other prices in the dairy supply chain is provided in our Approach paper.

Scope of our review of the 2022/23 Calculation

2.9 Our review of the Calculation builds on the conclusions from our previous reviews. Based on the information we gather, we determine the key areas to focus on for each Calculation review.[12] These constitute our 'focus areas' for which we undertake more detailed analysis.

2.10 For this year's Calculation review, our focus areas are:

2.10.1 Foreign Exchange Translation

2.10.2 Milk Diversion Costs

10 DIRA, section 5.

11 See https://www.nzx.com/announcements/412009.

12 Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" (2023).

2.11 In our Proposed Focus Areas Paper[13] we proposed the calculation of the monthly Benchmark FX Conversion Rate[14] as a focus area for this year's review. We have also included Milk Diversion Costs as a focus area in response to submissions requesting that we review the impact of these costs on the milk price and potential inconsistencies with the two dimensions of contestability and efficiency.

2.12 Where stakeholders raised points in their submissions and cross submissions on the Proposed Focus Areas Paper for this year's review, we have addressed the related points in Chapter 3 where relevant to our consideration of the matter. In Attachment A we provide a summary of our responses to other matters raised in submissions and cross submissions.

2.13 For the other revenue and cost components of the Calculation that are not part of the focus areas analysis, we undertake a fit for purpose review, which typically includes:[15]

2.13.1 an analytical verification of the values used in each component against our previous reviews of the same component; and

2.13.2 a review of the consistency of the assumptions, inputs and processes related to the different components.

2.14 We have expanded the scope of the 'fit for purpose review' review for this year to include a review of cost inflation adjustments due to the widespread increase in inflation. Furthermore, it serves to highlight any possible underreporting of adjustments for cost or capital asset value inflation.

2.15 This expanded scope of the 'fit for purpose review' includes a review of cost inflation adjustments to all other cash costs, in addition to the existing review of adjustments to revenue and cost components as well as for capital asset valuations.

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13 Commerce Commission "Proposed focus areas for our review of Fonterra's 2022/23 base milk price calculation" (30 March 2023).

14 This draft report refers to our proposed Focus Area as foreign exchange translation as it more appropriately captures the way in which the Benchmark FX Conversion Rate applies to the Notional Producer. This is not a departure from the proposed scope of the Benchmark FX Conversion Rate review which included this translation process.

15 Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" (2023).

2.16 If any aspect of this 'fit for purpose' review identifies material changes from our previous analysis of the base milk price reporting model, we will consider whether more analysis of that component is required.[16] This year we have only identified material changes to two components compared to last year: lactose and energy costs.

Information considered in our review process

2.17 In reaching our draft conclusions we have considered:

2.17.1 submissions and cross submissions received on the proposed focus areas;[17]

2.17.2 Fonterra's Reasons paper in support of the base milk price calculation for the 2022/23 season;[18]

2.17.3 additional models and documentation that Fonterra provided to us during our review which show the application of the assumptions, inputs and processes used by Fonterra in the base milk price calculation.

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16 Commerce Commission "Our approach to the milk price manual and milk price calculation reviews" (2023). As described, for purposes of identifying changes which might be elevated to a focus area, we apply an 'indicative operational' materiality of an equivalent of 0.5% of the WACC used in the milk price reporting model for the season under review.

17 Submissions and cross submissions on our Proposed Focus Areas Paper were received from five stakeholders (Fonterra Co-operative Group Limited, and a joint submission by Miraka Limited, Open Country Dairy Limited, Westland Milk Products Limited and Synlait Milk Limited), available at https://comcom.govt.nz/regulated-industries/dairy/milk-price-manual-and-calculation/milk-price-calculation/milk-price-calculation-202223-season.

18 Fonterra "'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2022/23 Season" (15 June 2023).

Chapter 3 Draft conclusions

Purpose of this chapter

3.1 In this chapter we outline our draft conclusions on the extent to which the assumptions, inputs and processes of the base milk price calculation for the 2022/23 season are consistent with the Section 150A Purpose.

3.2 Specifically, we set out:

3.2.1 a summary of our overall draft conclusion and draft conclusions on our focus areas review and fit for purpose review;

3.2.2 our detailed findings from the review of the focus areas; and

3.2.3 our detailed findings from the fit for purpose review.

Summary of overall draft conclusion

3.3 Our draft conclusion is that, except for inter-site diversion costs, the assumptions adopted, and the inputs and processes used by Fonterra to calculate the 2022/23 base milk price are consistent with the contestability and the efficiency dimensions of the section 150A purpose.

3.4 Our draft conclusion is that inter-site diversion costs are likely to be consistent with the contestability dimension of the section 150A purpose, and are consistent with the efficiency dimension of the section 150A purpose.

Focus areas review

3.5 Our draft conclusion is that the assumptions adopted, and the inputs and processes used by Fonterra that we reviewed as part of our focus areas review are consistent with the contestability and efficiency dimension of the section 150A purpose.

Foreign exchange

3.6 We consider that:

3.6.1 the foreign exchange translation process is consistent with the practical feasibility dimension as Fonterra can demonstrate it is able to achieve substantially similar foreign exchange outcomes.

3.6.2 the foreign exchange translation process is consistent with the efficiency dimension and that there are sufficiently strong incentives for Fonterra to operate efficiently with respect to its hedging activities.

Milk diversion costs

3.7 Our draft conclusion is that the assumptions adopted, and the inputs and processes used in the modelling of notional inter-site diversion costs and inter-island milk transport costs are likely to be practically feasible for an efficient processor. We consider that:

3.7.1 the modelling simplifications result in a small net understatement of inter-site diversion costs. However, given the immaterial size of the net understatement and its minimal effect on the final base milk price, our overall draft conclusion is that inter-site diversion costs in the base milk price calculation are likely to be practically feasible for an efficient processor.

3.7.2 there is sufficient capacity within each island to process all raw milk produced in each island. As such, the Notional Producer would not have been required to transport milk between islands. Accordingly, we consider that inter-island transport costs would be zero, and are practically feasible for an efficient processor.

3.8 Our draft conclusion is that the modelling of notional inter-site diversion costs and inter-island milk transport costs appropriately incentivises Fonterra to operate efficiently.

Fit for purpose review

3.9 In our fit for purpose review, we identified a material variance from last year's costs for lactose. This was driven by changes in international lactose prices and shipping costs applied to the notional milk price volumes and is outside Fonterra's control. We consider this variance consistent with the efficiency and contestability dimensions of section 150A.

3.10 We also identified a material variance to energy costs, also driven by changes in energy prices the Notional Producer faced, over which Fonterra has limited control. Relying on our prior conclusions, as no changes have been made to the manual rules, we consider this variance consistent with the efficiency and contestability dimensions of section 150A.

3.11 We did not identify any other material variances in inputs and assumptions compared with last year's base milk price calculation.

3.12 For cost inflation adjustments, the rates used are compiled independently of Fonterra's current year performance and so provide an appropriate notional benchmark to beat.[19]

[19] Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" (5 July 2021), p.75-79.

3.13 In its Reasons paper in support of the Calculation, Fonterra has confirmed that it has:

3.13.1 not made any substantive amendments to the Manual for 2022/23 in respect of the revenue calculation; and

3.13.2 not made any material changes[20] to the Calculation methodology since last year.[21]

3.14 We rely on our conclusions from previous years' reviews for those aspects of the Manual and the Calculation methodology that have not significantly changed from previous years.

3.15 Therefore, for the assumptions and inputs that we have analysed as part of the fit for purpose review, our draft conclusions are as follows:

3.15.1 the assumptions adopted, and the inputs and process used by Fonterra in calculating the 2022/23 base milk price are consistent with the efficiency dimension of the section 150A purpose; and

3.15.2 the assumptions adopted, and the inputs and process used by Fonterra to calculate the 2022/23 base milk price are consistent with the contestability dimension of the section 150A purpose.

Conclusions on foreign exchange focus area and reasons

Scope of focus area

3.16 We proposed the monthly Benchmark Foreign Exchange (FX) Conversion Rate (Monthly Benchmark Conversion Rate) as a focus area for this calculation review.[22]

3.17 The joint submission from Independent Dairy Processors (IDPs) on our proposed focus areas requested that the Commission widen the focus area to include the impacts of the section 150B amendments.[23]

3.18 We note that our proposed focus areas on the Monthly Benchmark Conversion Rate proposed that we consider the application of section 150B(1)(c), which would necessarily consider the effect of new section 150B(2). In any event, we have considered the effect of section 150B(2) as part of this focus area.

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20 We note there was an amendment to clarify that the Asset Beta must comply with DIRA requirements.

21 Fonterra 'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2022/23 Season" (1 July 2022), at 12, 21 and 33.

22 Commerce Commission "Proposed focus areas for our review of Fonterra's 2022/23 base milk price calculation" (30 March 2023), at 5-6

23 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 21.

3.19 IDPs also submitted that reviewing the calculation of the Monthly Benchmark Conversion Rate was a lower priority compared to the other assumptions in section 150B(1), because such a review would be unlikely to provide anything not already known, and the Commission had already rejected IDP concerns about practical feasibility of the calculation.[24]

3.20 We note these points but consider it important to review the Monthly Benchmark Conversion Rate as part of this calculation review, because:

3.20.1 the Monthly Benchmark Conversion Rate can have a significant impact on the base milk price; and

3.20.2 amendments to section 150B now allow us to assess the way in which the section 150B(1) assumptions are used in setting the base milk price for consistency with section 150A.

3.21 We agree that reviewing the application of the other assumptions in section 150B(1) is important in light of the amendments to section 150B, and we will consider how to do this for upcoming reviews of the base milk price calculation and the Manual, as appropriate.

Consideration of the application of section 150B(1)(c)

3.22 As indicated above, before considering the extent to which Fonterra's approach to foreign exchange is consistent with section 150A, we consider the application of section 150B(1)(c) and 150B(2).

Fonterra's approach to section 150B(2) for the 2022/23 calculation review

3.23 Fonterra regards "the way in which [Fonterra] uses an assumption" in section 150B(2) as referring to the process by which actual figures are converted into notional values in the model. As set out in the opinion attached to Fonterra's Reasons paper for this year's base milk price calculation review:[25]

> 10. … The meaning [of s 150B(2)] can be derived by reference to Fonterra's practice of generating notional values used in the base milk price calculation through a process that in many instances begins with actual values, and translating these into notional values relevant to an efficient producer of the reference commodity products. Where notional values are used in the model, the Commission has historically tested both the applicability of the actual values, and the process used to translate those values into base milk price inputs against the s 150A purpose tests. In effect, where s 150B(1) actuals are used, then the first phase of that analysis is avoided by the presumptive effect of s 150B(1).

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24 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 22.

25 Fonterra, "'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2022/23 Season" (15 June 2023), at 53 p.10.

3.24 We consider that the focus on the translation of actual values into notional values is potentially too narrow an interpretation of section 150B. We discuss the application of section 150B(2) in the specific context of section 150B(1)(c) and foreign exchange below.

Fonterra's approach to section 150B(1)(c)

3.25 Fonterra addresses section 150B(1)(c) in its Reasons Paper for the 2022/23 season, as follows:

3.25.1 Fonterra explains that it uses "Fonterra's actual average conversion rates" applied "without any further adjustments to the NMPB's notional monthly USD cash receipts." Fonterra explains that, because "the NMBP is using Fonterra's actual monthly average conversion rates it falls within the s 150B(1)(c) safe harbour."[26] It further submits that because there is not any translation of an actual value into a notional one, it does not consider it necessary to consider s 150B(2).[27]

3.25.2 However, Fonterra says that in any case, the process used is consistent with section 150A, because the model assumes that the NMPB applies Fonterra's foreign currency risk-management policies in an identical manner to Fonterra, entering into individual hedging contracts for slightly different amounts to Fonterra,[28] and Fonterra's treasury team does not have routine access to NMPB monthly cash receipts, so does not know whether it is hedging a larger or smaller exposure than the NMPB and therefore gives an incentive to operate efficiently.

3.25.3 Fonterra's position that it is not necessary to consider section 150B(2) is consistent with its position that the Commission's review role is limited to the process of converting actual into notional figures (as summarised at paragraph 3.23 above).

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26 Fonterra, "'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2022/23 Season" (15 June 2023), at 20.

27 Fonterra, "'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2022/23 Season" (15 June 2023), at 10.

28 Reflecting the difference between Fonterra's actual USD receipts and the NMPB's notional USD receipts, which Fonterra says fall within +/- 20 per cent – see Fonterra, "'Reasons' Paper in Support of Fonterra's Base Milk Price for the 2022/23 Season" (15 June 2023), at footnote 13.

3.26 We consider that Fonterra's interpretation in this respect is too narrow. Fonterra's description of the process that it uses to implement the assumption in s 150B(1)(c) demonstrates that there is more to the process than simply adopting actual values: instead, Fonterra uses a combination of actual data to generate an exchange rate on a monthly basis, which is then applied to a notional figure. It would be open to Fonterra to adopt a different methodology to calculate and incorporate its "gains and losses" into the milk price model, or to apply its model in a different way. For example, it could decide to calculate the applicable exchange rate on a daily or quarterly basis, instead of a monthly basis, and this would have a theoretical effect on the resulting milk price.

3.27 Instead, we consider that the correct approach to interpreting and applying section 150B(1)(c) and 150B(2) is as follows:

3.27.1 the Commission cannot review whether incorporating into the base milk price "gains and losses experienced by [Fonterra] resulting from foreign currency fluctuations, including from [Fonterra's] foreign currency risk-management strategies" is consistent with the s 150A purpose; but

3.27.2 the Commission is able to review the way in which Fonterra incorporates these "gains and losses" into the base milk price.

3.28 We have conducted our review, as set out below, consistent with this approach.

How Fonterra incorporates foreign exchange into the base milk price

3.29 The Monthly Benchmark Conversion Rate is a monthly weighted average exchange rate, based off Fonterra net receipts, that is used to convert monthly notional processing USD revenue into NZD. It is calculated by:

3.29.1 Converting all Fonterra's USD-equivalent receipts to NZD at the daily average spot exchange rate for the month.

3.29.2 Adding (subtracting) to the NZD receipts the gains (losses) on foreign exchange contracts exercised by Fonterra in the month.

3.29.3 Subtracting (adding) from the NZD receipts premiums paid (received) in respect of any options for foreign exchange that are exercised or which expire in the month.

3.29.4 Subtracting (adding) from the NZD receipts a provision for interest on option premiums in respect of options exercised or expired in the month for the period elapsed since the acquisition (sale) of the option.

3.29.5 Dividing the adjusted NZD receipts obtained through steps above by USD receipts, to derive Fonterra's Monthly Benchmark Conversion Rate.[29]

3.30 While Fonterra has some small amounts of receipts in foreign currencies other than US dollars (approximately 2%), those are converted and hedged as USD exposures. Accordingly, only USD exposures are used for the purposes of the Monthly Benchmark Conversion Rate.

3.31 There are few notional costs incorporated into the Benchmark Conversion Rate calculation. While Fonterra uses a combination of option and forward contracts to hedge forecast exposure, only option contracts have associated notional costs due to capital required to purchase the premium. Forward contracts are priced in accordance with interest rate differentials and reflect market expectations for future spot rates. Additionally, while there is a treasury allowance to incorporate operational costs associated with hedging, that does not form part of the Benchmark Conversion Rate, and instead contributes to notional overheads.

Quantum and phasing of Monthly Benchmark Conversion Rate

3.32 Fonterra does not make any manual adjustments to the Monthly Benchmark Conversion Rate to account for differences between the quantum and phasing of Fonterra's and the Notional Producer's monthly USD-equivalent cash receipts.

3.33 While the Monthly Benchmark Conversion Rate that Fonterra achieves is the same, or substantially similar as the Notional Producer,[30] the effective sales weighted annual average exchange rate will be different as the amounts of USD to convert into NZD will have different weights for the Notional Producer.

3.34 We previously explored whether the base milk price should convert notional USD revenue at Fonterra's annual average conversion rate instead of a monthly basis.[31] In relation to our 2012/13 calculation review, Miraka submitted that converting USD revenue based on Fonterra's annual average is more consistent with the actual rate achieved by Fonterra across the season. Miraka considered that the annual average is also more consistent with the purpose of s 150B(c) (now s 150B(1)(c)) and applies Fonterra's actual gains and losses associated with foreign exchange.

3.35 We examine this point in relation to discussion of the practical feasibility of the foreign exchange translation process at paragraph 3.49 below.

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29 Calculation steps taken from Fonterra "Reasons' Paper in Support of Fonterra's Base Milk Price for the 2022/23 Season" (15 June 2023), at 19.

30 There are still small differences between a relevant reported Fonterra monthly exchange rate and the Monthly Benchmark Conversion Rate applied to Notional Producer's due to a notional consideration associated with option premiums.

31 Commerce Commission "Review of Fonterra's 2012/13 base milk price calculation - Final report" (15 September 2013), p. G.12-G.16.

Hedging and key assumptions

3.36 Fonterra's hedging strategy, that gives rise to Fonterra's gains and losses that are then incorporated into the Benchmark Conversion Rate, is a passive strategy and covers two forms of currency exposure:

3.36.1 A forecast sales cash flow hedging book, which hedges the forecast of sales receipts out up to 18 months on a stepped profile. The percentage of the exposure hedged increases over time to 100% giving an average conversion rate for that month's forecast exposure.

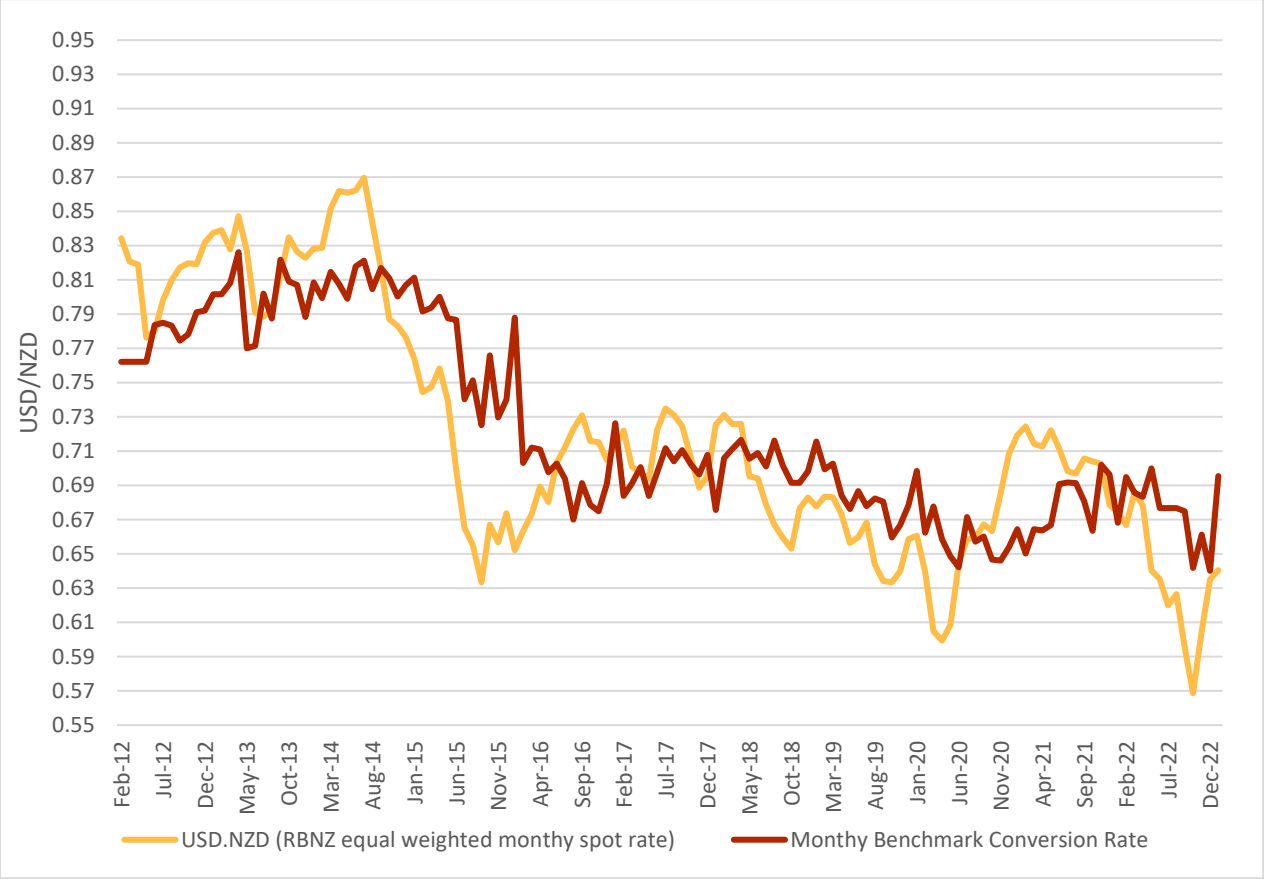
3.36.2 An actual receivable hedging book, which covers the on-balance sheet exposure arising from the invoicing of a sale to a customer. As sales are made, that volume of cover is transferred from the forecast sales book to this book, maintaining the average conversion rate. Both books consider the same set of hedges and this transfer is an accounting treatment driven exercise that allows matching of the gains/losses from movements in the fair value of the hedges to offset the movements in the NZD value of the debtor balance arising from translation to the current NZD spot rate.[32]

3.37 For a traditional domestic exporter, hedging is designed to reduce exchange rate volatility and increase certainty with respect to NZD revenue to help with budgeting and capital allocation decisions. In the case of Fonterra, hedging serves the additional purpose of reducing volatility with respect to the base milk price. This allows greater certainty for advance payments to farmers and improves accuracy in relation to forecasting.

3.38 Figure 3.1 below compares the Monthly Benchmark Conversion Rate to spot rates and illustrates the 'smoothing' effect of hedging.

[32] For completeness we note that Fonterra maintains five hedge books in respect of its New Zealand operations, with each hedge book dealing with a certain category of exposure. The benchmark conversion rate is based only on the two we describe.

Figure 3.1: Spot rates vs Monthly Benchmark Conversion Rate



3.39 The Monthly Benchmark Conversion Rate will largely be driven by the hedging decisions Fonterra made over the 18 months prior. Based off Fonterra's hedging target, the rate is approximately +85% set from up to 6 months before the USD is actually received. In practice, however, Fonterra is unlikely to be able to forecast USD receipts with 100% accuracy (as both prices and volumes are uncertain and depend on a variety of factors such as GDT, product mix and collection volumes).

3.40 Any errors forecasting USD receipts will be incorporated in the Monthly Benchmark Conversion Rate by reference to relevant spot rates. Additionally, there may be some deviations from the percentage of hedged forecast exposure to the target percentage of hedged forecast exposure as forecast exposure is regularly adjusted through the forecast period.

3.41 Two key assumptions are used when applying the Benchmark Conversion Rate to the Notional Producer:

3.41.1 The Notional Producer will make proportionately the same forecasting errors as Fonterra when forecasting its USD-equivalent monthly cash receipts – if, for example, Fonterra's forecast for a particular month was overstated by 10%, the Notional Producer's would also be overstated by 10%. This assumption reflects the fact that the Notional Producer's treasury team's forecasts would be based on the same information as Fonterra's team, and that it would be applying the same hedging policy.

3.41.2 The differences between the Notional Producer's and Fonterra's demand for foreign currency hedging instruments in any particular month would not, on average, have any impact on the effective conversion rate achieved through the purchase of those instruments.

3.42 The combination of these assumptions means the Notional Producer effectively achieves a similar monthly exchange rate as Fonterra achieves for the sale of its products, irrespective of differences between the products and volumes sold which contribute to separate monthly amounts of USD exposure.

3.43 We have considered the implications of having the Notional Producer adopt the same hedging decisions as Fonterra (and any associated forecasting error or deviation from Fonterra's target hedging policy). We discuss the assumptions in the context of Fonterra's incentive to operate efficiently with respect to hedging at paragraphs 3.44 to 3.48 below.

Conclusion on efficiency dimension of section 150A

3.44 We consider Fonterra operates efficiently in relation to calculating and translating the Monthly Benchmark Conversion Rate when incentives are sufficient to improve certainty of the impacts of foreign exchange on the base milk price.

3.45 Fonterra in its Reasons paper states why the foreign exchange process provides for efficiency:[33]

> Fonterra's treasury team does not have routine access to forecast NMPB monthly cash receipts, and therefore does not generally know whether it is hedging a smaller or larger exposure than that faced by the NMPB. This uncertainty means the translation process also appropriately incentivises Fonterra to operate efficiently.

[33] Fonterra "Reasons' Paper in Support of Fonterra's Base Milk Price for the 2022/23 Season" (15 June 2023), at 10.

3.46 We are satisfied that Fonterra's treasury team, responsible for executing hedging in accordance with hedging target policy, is incentivised to reduce uncertainty in relation to the effects of foreign exchange on the base milk price. Additionally, we consider that there is no strong incentive for Fonterra to take advantage of foreign currency movements and allocate foreign exchange gains or losses to earnings instead of the base milk price.

3.47 Our review of the calculation of Monthly Benchmark Conversion Rates identified variance between forecast and actual Fonterra USD receipts (forecast errors) and deviations from Fonterra's target hedging policy. We consider the existence of these variances did not convey significant information about Fonterra's efficiency.

3.48 For these reasons, our draft view is that the way Fonterra uses the assumption in section 150B(1)(c) is consistent with the efficiency dimension in section 150A.

Conclusion on contestability dimension of section 150A

3.49 The calculation and the translation of the Monthly Benchmark Conversion Rate is practically feasible if it can be demonstrated that Fonterra can achieve it.[34] Our draft view is that it is practically feasible for an efficient processor to achieve the Monthly Benchmark Conversion Rate and that the translation process is consistent with the s150A purpose. In reaching this conclusion we consider the following.

3.49.1 Any differences between the Monthly Benchmark Conversion Rate and the actual effective exchange rate Fonterra achieves are likely to be very small.

3.49.2 Translating the Notional Producer's USD revenue monthly better incorporates differences in the quantum of sales phasing than if Fonterra's annual average exchange rate was applied to notional revenue.

3.49.3 Assumptions relating to applying Fonterra's hedging decisions to the NMBP, including that the Notional Producer makes proportionally the same forecast error as Fonterra, are not inconsistent with practical feasibility. We consider that any difference in forecast error between Fonterra and the NMBP would not systematically bias Monthly Benchmark Conversion Rate in any particular direction.

[34] Commerce Commission "Our approach to reviewing Fonterra's Milk Price Manual and base milk price calculation" (5 July 2021), p.55. "We therefore consider the base milk price setting is consistent with the contestability dimension if the assumptions adopted, and inputs and process used, are practically feasible for Fonterra, or another processor that is efficiently building and operating an incremental plant."

Conclusion on milk diversion costs focus area and reasons

Scope of focus area

3.50 In its submission on the 'Proposed Focus Areas Paper' for the 2021/22 Calculation review, Miraka requested that we undertake a review of the practical feasibility of milk collection costs and consider including a review of milk collection costs in the 2022/23 Calculation review.[35]

3.51 Milk collection costs were considered in our 2022/23 Proposed Focus Areas Paper but we did not propose milk collection costs as a focus area as there was, at the time, insufficient evidence to justify a detailed review.[36]

3.52 We received a joint submission from the IDPs raising concerns regarding milk diversion costs. In particular, IDPs raised concerns that Fonterra's actual diversion costs and inter-island milk costs are necessary costs of delivering milk, that are excluded in the calculation of collection costs:

> the Notional Producer Milk Collection Costs are based on Fonterra actual costs, the Notional Producer costs do not include all Fonterra costs. Diversion costs and inter-island milk transport costs are excluded. Those excluded costs however, are the necessary costs of delivering milk in accordance with Fonterra actual processing of milk at each site.[37]

3.53 We received no cross submissions from stakeholders on the matters set out above.

3.54 Therefore, given the concerns raised in submissions, we proposed a review of milk diversion costs.

Summary of what milk diversion costs are and how they are incorporated into the base milk price

3.55 The base milk price calculation takes into account the costs of transporting raw milk, or by-products produced from the processing of raw milk, to the most appropriate processing site. These are known as milk collection costs.

3.56 Rule 15 states as follows:

> In calculating the Farmgate Milk Price Fonterra's actual milk collection costs for a Year shall be deducted, adjusted for any difference between the actual cost to Fonterra of diverting product between Sites and the diversion costs implied by the Farmgate Milk Price Production Plan and the allocation of Reference Assets to Sites

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35 Miraka Limited "Submission on the proposed focus areas paper for base milk price calculation 2021-22" (6 May 2022), p. 35.

36 Commerce Commission "Proposed focus areas for our review of Fonterra's 2022/23 base milk price calculation" (30 March 2023), at.6

37 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 43.

if the difference is material to either the Aggregate Farmgate Milk Price or to Fonterra's earnings after paying for Milk at the Farmgate Milk Price.

3.57 We note that Fonterra's actual milk diversion costs are substantially different from that of the Notional Producer, and we therefore consider it appropriate to make adjustments as per Rule 15 of the Manual. We consider the approach to the calculation of collection costs to be consistent with Rule 15 of the Manual.

3.58 For the 2022/23 base milk price calculation, Fonterra has made this adjustment by replacing the following actual costs with notional (modelled) costs, constituting 4% of total collection costs, in the base milk price:

3.58.1 inter-site diversion costs; and

3.58.2 inter-island milk transport costs.

3.59 We have reviewed the extent to which the inputs, assumptions and processes associated with both of these costs are consistent with the section 150A purpose.

Inter-site diversion costs

Summary of the modelling of inter-site diversion costs

3.60 Inter-site diversion costs are the costs of transporting cream (a by-product of the processing of WMP and SMP) to a different processing site if a particular site does not have the ability to process cream and buttermilk into the other three RCPs (butter, AMF and BMP).

3.61 Inter-site diversion costs are modelled using the following key components:

3.61.1 total volume of cream and buttermilk to be diverted;

3.61.2 distance of cream and buttermilk diverted; and

3.61.3 transport cost per kilometre per unit of cream and buttermilk diverted.

3.62 We summarise below how each of these components are determined.

3.62.1 The total volume of cream diverted is the total of the volume of cream and buttermilk diverted from each site, which is calculated as follows:

3.62.1.1 The total raw milk available for processing into RCPs at each site is the actual amount of raw milk delivered to the site in each month.

3.62.1.2 Each site is categorised as either a SMP site, a WMP site, or a SMP/WMP site (a “swing site”), irrespective of whether the site also has the ability to process cream (a by-product of the production of WMP and SMP) into butter, AMF and BMP.

3.62.1.3 For SMP-only and WMP-only sites, all raw milk delivered to the site is processed into SMP or WMP respectively.

3.62.1.4 For SMP/WMP sites, the raw milk delivered to each site is first allocated to SMP processing in order to meet the island-wide SMP production target. The total amount of raw milk required to meet the island-wide SMP production target is pro-rated across all SMP/WMP sites. The remaining raw milk delivered to each site is allocated to WMP processing at the site. This allocation does not take into account whether a particular SMP/WMP site has the ability to process cream.

3.62.1.5 For example, if the island-wide SMP production target is 1000 units, and the SMP-only plants can produce 600 units, the SMP/WMP swing sites (together) must produce 400 units. If the combined SMP/WMP processing capacity of SMP/WMP sites is 1200 units, each SMP/WMP plant must allocate one-third of its processing capacity to SMP (and two-thirds to WMP).

3.62.1.6 If a particular site is able to process cream, no diversion is necessary. If the site is not able to process cream, the amount of cream produced at the site will be required to be diverted to another site that can process cream (Vice-versa for BMP).

3.62.1.7 The calculation does not take into account whether a particular site has sufficient capacity to process all milk delivered to the site into SMP or WMP, individually, but does consider a site’s aggregate SMP and WMP maximum production capacity. It, also does not take into account whether a site that is able to process cream has the capacity to process all of the cream diverted to it (in which case further costs would be incurred).

3.62.2 The distance of product diverted is determined as follows:

3.62.2.1 The distance between sites is the actual distance between sites.

3.62.2.2 Cream or BMP that is required to be diverted from a particular site is diverted to the nearest site that can process it.

3.62.3 The transport cost per kilometre per unit of product diverted is Fonterra's actual cost per kilometre rate for a standard Fonterra tanker.

Conclusion on contestability dimension of section 150A

3.63 As noted at paragraph 3.62.1.7 above, the calculation does not take into account whether a particular site has sufficient capacity to process all milk delivered to the site into SMP and WMP. Nor does it take into account whether a site that is able to process cream has the capacity to process all of the cream diverted to it. We understand from Fonterra that the calculation of diversion costs is simplified in this way to avoid creating technical complexity in the calculation.

3.64 If processing capacity was taken into account, further diversion of raw milk or cream would be likely to be required to ensure that all raw milk is processed into the RCPs. Accordingly, the calculation is likely to understate diversion costs in this respect, and the calculation of diversion costs therefore may not be practically feasible for an efficient processor.

3.65 However, we consider that the calculation, in another respect, is likely to overstate diversion costs relative to an efficient processor. As explained at paragraph 3.62.1.4 above, the total amount of raw milk required to meet the island-wide SMP production target is simply pro-rated across all SMP/WMP sites, irrespective of whether each SMP/WMP site can also process cream.

3.66 But since SMP production produces approximately six times as much cream as WMP production, an efficient processor would maximise SMP production at SMP/WMP sites that also had the ability to process cream, rather than pro-rating it, thereby minimising the cost of diverting cream to a site with the ability to process it. Accordingly, in this respect, the diversion costs of an efficient processor are likely to be less than the notional costs produced by the calculation.

3.67 We consider the simplifications that lead to the understatement of inter-site diversion costs in one aspect and overstatement in another aspect would likely only have a small net impact if considered together. This net impact in turn would only have a small impact on the base milk price. Our approximate quantification of the net impact on milk diversion costs is an understatement that we consider immaterial.

3.68 Because this net impact is immaterial, we do not consider that it has a material effect on the practical feasibility of inter-site diversion costs. Accordingly, we conclude that inter-site diversion costs are likely to be practically feasible for an efficient processor.

Conclusion on efficiency dimension of section 150A

3.69 Fonterra in its Reasons paper notes that the inter-site diversion costs are modelled on a basis that is independent of Fonterra's actual costs and considers that the approach does appropriately incentivise efficiencies.

3.70 We are satisfied that modelling notional inter-site diversion costs appropriately incentivise Fonterra to operate efficiently.

Inter-island milk transport costs

Summary of how milk transport costs are addressed in the base milk price calculation

3.71 Inter-island milk transport costs are the costs of transporting raw milk to the other island if a particular island does not have the ability to process milk due to capacity constraints.

3.72 In advance of a season, the Notional Producer forecasts peak milk supply for each island, and ensures it has sufficient processing capacity to process this milk. If actual milk supply is greater than forecast, we understand from Fonterra that the notional processor would be able to increase processing capacity by up to approximately 13% by reducing the lactose content of SMP/WMP. Only once it had exhausted this option would it transport raw milk between islands for processing.

3.73 The 2022/23 base milk price calculation has assumed that the Notional Producer has sufficient raw milk processing capacity in both the North Island and the South Island, such that no raw milk would be required to be transported between islands for processing, and as such the cost would be zero.[38] We have reviewed the extent to which this assumption is practically feasible for an efficient processor.

Conclusion on contestability dimension of section 150A

3.74 Rule 34 of the Manual states as follows:

> An additional Standard Plant will be added to the Farmgate Milk Price Fixed Asset Base if peak Milk Supply increases in circumstances where Fonterra has increased its actual processing capacity in a region, and where a requirement for increased processing capacity is otherwise indicated by an increase in actual or reasonably foreseeable peak supply in the Region.

3.75 This rule in effect requires the processing capacity in each island to be increased to ensure that each island has sufficient processing capacity to meet forecast raw milk volumes for the season in each island.

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[38] Fonterra "Reasons' Paper in Support of Fonterra's Base Milk Price for the 2022/23 Season" (15 June 2023), at 23.

3.76 We have reviewed Fonterra's application of this rule in the calculation of the 2022/23 base milk price, as set out in information Fonterra provided to us. We consider that the capacity assumptions, and application to the calculation, allow for the processing of all raw milk within each island. In particular, we consider that the Notional Producer has sufficient processing capacity in each island for the peak milk collection months of October and November 2022.

3.77 Even if processing volumes had exceeded capacity for any month, the Notional Producer would first increase processing capacity by reducing lactose content of SMP/WMP before transporting raw milk between islands (as explained above).

3.78 We therefore consider that the Notional Producer has sufficient capacity within each island to process all raw milk produced in each island. As such, the Notional Producer would not have been required to transport milk between islands. Accordingly, we consider that the assumption that no inter-island milk transport would be required, and that associated costs would be zero, is practically feasible for an efficient processor.[39]

Conclusion on efficiency dimension of section 150A

3.79 We are satisfied that inter-island milk transport costs appropriately incentivise Fonterra to operate efficiently.

Detailed findings from our fit for purpose review

3.80 We reviewed Fonterra's base milk price calculation model, as well as supporting models for each of the key inputs. We assessed further information on a confidential basis where we considered it necessary.

3.81 As part of this analysis, we have also examined any changes in the following assumptions that could impact the base milk price:

3.81.1 changes in costs;

3.81.2 inclusion of off-GDT sales as a reference for calculating RCP prices;

3.81.3 changes in sales phasing;

3.81.4 changes in timing or volume of milk collected; and

3.81.5 yield and loss calculations.

[39] We note, for transparency, that Fonterra's actual inter-island milk transport costs were less than $50k.

3.82 Our draft conclusion is that we consider that the inputs and assumptions and processes covered in our fit for purpose review are consistent with the efficiency and contestability dimensions of section 150A.

Changes in costs versus prior year

3.83 A significant increase in milk price component costs for the 2022/23 season has occurred, with non-milk expenses rising by $425.1m or around 28c per kgMS for the 2022/23 season. Increases in lactose costs and energy costs have been flagged as significant.

3.84 Lactose costs have increased by $200.5m or around 13c per kgMS for the 2022/23 season. The increase is driven by changes in international lactose prices and shipping costs applied to the notional milk price volumes and is outside Fonterra's control.

3.85 Prior to the beginning of a season, Fonterra chooses whether it will use either its own lactose price or that of other processors in calculating the base milk price, based on which is lower of the two. For the 2022/23 season, Fonterra has used the competitor price series, reflecting actual costs for lactose landed in New Zealand. [40] We therefore consider that the assumptions relating to lactose costs are practically feasible.

3.86 We consider that selecting the lower of Fonterra's or its competitors' actual lactose costs as a benchmark, prior to the beginning of the season, in combination with notional lactose volume requirements that are significantly larger than Fonterra's actual volumes, meaning that lactose costs are significantly multiplied in the Calculation, incentivises Fonterra to reduce its actual lactose costs (ie, operate efficiently).

3.87 Therefore, our draft conclusion is that we consider the lactose cost assumptions are consistent with the efficiency and contestability dimensions of section 150A.

3.88 Energy costs have increased by $70.5m or around 5c per kgMS for the 2022/23 season. This increase of 22.7% from 2021/22 is primarily driven by changes in energy prices, specifically electricity and steam unit rates, applied to the Farmgate Milk Price Fixed Asset Base usage rates and over which Fonterra has limited control.

3.89 The way in which these energy costs are set has not changed, therefore we are relying on our conclusion from our previous calculation reviews, that the energy costs are consistent with the efficiency dimension of the section 150A purpose.

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[40] Fonterra "Reasons' Paper in Support of Fonterra's Base Milk Price for the 2021/22 Season" (1 July 2022), at 21.

3.90 We also conclude that the energy costs in the milk price calculation are practically feasible for an efficient processor and accordingly, satisfy the contestability criteria in section 150A.

Inclusion of off-GDT sales as a reference for calculating commodity prices

3.91 In our previous years' fit for purpose reviews we looked at the off-GDT prices and volumes against the previous season to obtain comfort in what was being used as a reference for prices used for the Notional Producer.

3.92 We obtained the same information for the 2022/23 season as of 30 June 2023. This shows that the overall impact of off-GDT pricing for WMP, SMP and AMF was 8.3 cents per kgMS compared with 10.9 cents per kgMS in 2021/22, a decrease of 2.6c, driven by declining off-GDT prices, which continue to be benchmarked from on-GDT prices.

3.93 Given the process for including off-GDT costs has not changed since last year's calculation review and a downward adjustment in the overall impact of off-GDT pricing, we continue to consider that the use of off-GDT sales pricing is practically feasible.

3.94 As provided for in section 150C(1)(a), using a GDT or off-GDT benchmark set independently of Fonterra's current year performance provides an incentive to Fonterra to operate efficiently.

Sales phasing

3.95 Fonterra's approach to sales phasing has not changed from previous years' reviews. The revenue is recognised in the base milk price model based on the contracted prices, and the use of total phasing is consistent with the production profile of the Notional Producer, therefore our draft conclusion is that we consider that the phasing is practically feasible.

3.96 Furthermore, as Fonterra's approach to sales phasing is unchanged from previous years' reviews, we are relying on our conclusion from our previous calculation reviews, that the approach to sales phasing is consistent with the contestability dimension of the section 150A purpose.

3.97 While the incentive to operate efficiently is potentially weaker than if notional data had been used, we continue to consider the current approach to sales phasing using Fonterra's actual data to be consistent with the efficiency dimension of the purpose because:

3.97.1 there is insufficient data to develop a reasonable notional figure; and

3.97.2 Fonterra only has limited discretion over its sales phasing.[41]

Changes in volumes of milk collected

3.98 The 2022/23 volume of milk collected (1,483m kgMS) was around 0.4% higher than 2021/22, only standardised product was processed.

3.99 The most recent review of the fixed asset base was completed in 2021, and resulted in a decision to maintain the assumed processing capacities of incremental and replacement plants for the manufacture of all five RCPs at the same levels assumed for the previous 2017-2020 Review Period.

3.100 Given this and the total annual volume of milk collected has only marginally moved and volumes of milk collected during the peak months of the milk season are marginally lower than the 2021/22 season, we consider this to be appropriate.

Yield calculations

3.101 A full description of Fonterra's process to update the specification offset and loss assumptions (the yield inputs) can be found in its 2022/23 Reasons paper. This year's specification offsets and losses are broadly in line with those achieved last season with a very minor downward adjustment to losses and specification offsets, but had no discernible impact on yields.

3.102 We confirmed the calculated yield by performing a 'mass balance' calculation to verify that loss assumptions have been properly taken into account. This reconciles the milk solids in the total volume of raw milk purchased by the Notional Producer with the fat and protein milk solids components of the RCPs together with associated losses.

3.103 The yield input assumptions are based on manufacturing field trials of plants that are similar to the Notional Producer's Standard Plant and recommendations by Fonterra's independent expert.

3.104 Having reviewed the information provided by Fonterra and performing our own 'mass balance' calculation using the yield input assumptions, we are satisfied that the yields of RCPs can be achieved by Fonterra and that they are therefore practically feasible for an efficient processor.

3.105 The specification offset and loss inputs are notional and provide a benchmark to beat. Therefore, our draft conclusion is that the yield inputs are consistent with the efficiency dimension of the section 150A purpose.

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41 Commerce Commission "Review of Fonterra's 2014/15 base milk price calculation - Final report" (15 September 2015), p. 7.94-7.106.

Cost inflation adjustments

3.106 Stakeholders requested that we consider adding as a focus area, a review of assumptions relating to the impact on milk price costs of current inflationary pressures across the broader economy.

3.107 The Joint IDP submission on the 2022/23 Proposed Focus Areas Paper submitted regarding the capital asset base:

> The Commission added a focus area for the 2021/22 BMP Calculation review to include a review of adjustments for cost inflation. That review extended to adjustments for variable manufacturing costs and to update the cost of the capital asset base. With inflation continuing at historically high levels, the IDPs request the Commission include the same level of scrutiny of Notional Producer inflation-based cost adjustments for the 2022/23 BMP calculations review.[42]

3.108 The Joint IDP submission also raised a request to review all cash costs:

> It is requested that review extend to include all cash costs, not just the variable manufacturing costs.[43]

3.109 We have reviewed the processes for updating capital asset base and variable manufacturing costs to take account of the current cost environment, as part of our annual fit-for-purpose review and have not considered it as a separate focus area, but we will consider if this should more appropriately be considered as part of a future focus area.

Capital asset base costs

3.110 Fonterra has carried out an annual update of capital goods inflation-based on an independent report from Jones Lang LaSalle (**JLL**) using movements in Fonterra asset values.[44]

3.111 We have reviewed the advisory report prepared by JLL for the purpose of valuation of specified plants and assets at various sites to assist with the milk price index pricing update.[45]

3.112 The information sources used to create the capital cost index include, but are not limited to:

3.112.1 JLL Plant and Machinery Database;

3.112.2 searches of similar plant from internet websites;

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42 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 48.

43 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 48.

44 From MPG 2022/23 work programme.

45 JLL, Valuation Advisory, 1 June 2023.

3.112.3 discussions with suppliers and dealers of machinery and equipment; and

3.112.4 information provided by Fonterra such as receipts, fixed asset schedule and verbal advice as to original purchase costs and date when assets were acquired.

3.113 The overall increase in the replacement cost of the asset base from 2022 to 2023 was 10.4%. In our 2021/22 Calculation review[46], we used the PPI Outputs Building construction index, as a relevant benchmark. We have performed a crosscheck against these benchmarks. The annual movements for this index for the March 2023 quarter was 10.3%.[47]

3.114 We therefore consider that the capital asset costs have been appropriately adjusted to take account of current inflationary effects and are practically feasible.

Variable manufacturing costs

3.115 We have reviewed the variable manufacturing cost lines to assess the appropriateness of the methods used to update the costs.

3.116 The list of the cost lines and the method applied to each line are outlined in Attachment C.

3.117 The allowable methods for updating variable manufacturing costs are specified in the Manual in Table 3.1 Detailed Rules. We consider the cost assumptions have been updated in accordance with the Manual.

Other cash costs

3.118 We have reviewed all other cash cost lines to assess the appropriateness of the methods used to update the costs.

3.119 The list of the cost lines and the method applied to each line are outlined below.

Depreciation expense

3.120 We have reviewed the depreciation expense cost line and noted a 10.5% decrease relative to 2021/22.

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46 Commerce Commission "Review of Fonterra's 2021/22 base milk price calculation - Final report" (15 September 2022), p. 3.131.

47 Statistics NZ, PPI Outputs price index tables for March 2023 quarter.

3.121 The capital charge methodology uses a tilted annuity approach as it results in a constant annual capital cost in real terms (ie, the capital cost increases in time only by the forecast rate of inflation in capital costs). Without this assumption, the depreciation and capital charges would fluctuate from year to year. [48]

3.122 The decrease was caused by higher inflation impacting the future value of the asset base upwards, and thereby creating a steeper tilt. To ensure the tilt is NPV neutral, the current season's depreciation expense had a downwards adjustment. We have reviewed the forecasts for depreciation expense and are confident that the impact is NPV neutral with a greater increase in depreciation expense expected in the following years.

Assessment of cost inflation adjustments against the purposes of section 150A

3.123 Our draft conclusions are:

3.123.1 the methods used are appropriate for the capital asset and variable manufacturing cost lines to which they have been applied. They are based on industry trends in actual cost data and therefore we consider they are practically feasible; and

3.123.2 the rates used are compiled independently of Fonterra's current year performance and so provide an appropriate notional benchmark to beat. Therefore, we consider that the efficiency dimension is met.

[48] For further information on the approach to Depreciation using Tilted annuity, refer to; Fonterra "Depreciation & Capital Charge under Tilted Annuity, Replacement cost and Historic Cost Approaches" (22 March 2016), at 1-6.

Attachment A Responses to Proposed Focus Areas Paper Submissions

Submitter(s)	Key points	Cross Submissions (where applicable)	Our response
Calculation of the monthly Benchmark FX Conversion Rate			
Joint IDP Submission	Assess the other three s 150B(1) assumptions (assumption (a), (b) and (d)), in addition to the assessment of s 150B (1) (c) as this alone is unlikely to alter the lottery result nature of FX.[49]	No cross submissions	We have decided to consider the s150B(1)(c) assumption as part of this year's FX focus area. We will develop a workplan to assess the other assumptions over future review years.
	Assess the need for increased transparency and disclosure and consider the feasibility of further disclosures, in particular amending the range of the FGMP as the season progresses and less currency exposure is faced.[50]	No cross submissions	Fonterra is now required to make publicly accessible all "non-sensitive information" within 20 working days after the Commission makes publicly available its final report on the base milk price calculation – see section 150QA.
	Consider the feasibility of increasing frequency of existing disclosures, at every FGMP forecast update as opposed to annually.[51]	This was not envisaged by legislators, who explicitly recognised the aim was to require release of information after year end.[52]	

49 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 22-25.
50 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 24, 33-37.
51 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 24, 37.
52 Fonterra Cross Submission "Cross submission on proposed focus areas for base milk price calculation 2022-23" (30 May 2023), at 5,6.

Submitter(s)	Key points	Our response
Milk Collection Costs		
Joint IDP Submission	Assess the feasibility of excluding Fonterra's actual diversion, to model notional diversion costs and exclude inter-island milk costs altogether.[53]	We have taken the IDPs' view into consideration and added a focus area with the scope to examine the use of modelling notional diversion costs.
	Particularly, assess the feasibility of diversion costs, with respect to costs associated with a Notional Producer business model that squares its production curves more aggressively than Fonterra, therefore should incur greater diversion cost.[54] This, potentially, impacts diversion costs as plants may be processing milk while not in operation, due to not meeting higher usage thresholds required to stay operational, whereas they would have processed the milk at lower yields for Fonterra.	The model does not explicitly account for the Notional Producer's plants being in operation at full capacity for a shorter duration than Fonterra's, given that neither the Notional Producer's site overheads, nor any explicit assumptions in either the reasons paper or manual, reflect a shorter operation period of production facilities or the diversions associated with the shorter operation period. We will consider the view presented by IDPs, that surveys for yields take place when plants are running at full capacity and generally at newer plants opened within the last 10 to 15 financial years, which may not represent yields that are practically feasible for the entire asset base, in future calculation reviews.
	The Companies request that the commission also consider the practical feasibility of using Fonterra Actual costs for Notional Producer Milk Collection costs, due to higher unit cost for milk transport associated with the wider catchment area of large plants[55].	An issue might occur if certain sites in the Milk Price Fixed Asset Base had a materially different processing capacity to the same site as Fonterra. These sites with different processing capacity are likely to have different catchment areas and thereby different collection costs, arising from the longer or shorter distance that milk tankers need to travel. We will consider this issue when we address the national network assumption in future calculation reviews.

53 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 43.
54 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 46.
55 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 46.

Inflation Cost Adjustments		
Joint IDP Submission	Review adjustments for cost inflation, for carriable manufacturing costs and capital asset base cost, to include the same level of scrutiny of Notional Producer inflation-based cost adjustments as the 2021/22 BMP calculations review.[56]	We have taken into consideration the IDP submission and extended the review for cost inflation to all cash costs, to the same level of scrutiny of Notional Producer inflation-based cost adjustments as our 2021/22 Calculation review.
	Request to extend review to include all cash costs, not just variable manufacturing costs.[57]	
Prevailing Market Price Test		
Joint IDP Submission	Include compliance review of Off-GDT qualifying reference sales based on an appropriate and disclosed prevailing market price test.[58]	We consider we have addressed the outstanding issues in respect of the application of the "prevailing market price" test. Our final report on our 2019/20 Calculation Review concluded that the "prevailing market price" should not be limited to GDT standard specification products only and that we consider there may be good reasons higher prices may be achievable off-GDT. [para. 2.61] We also responded to this point in our 2021/22 Calculation review and we confirmed our previous conclusions. [Attach A]
Standard Product Offerings (substitution test)		
Joint IDP Submission	Review unresolved issues relating to the substitution test including those raised by the Commission in its final report on the 2021/22 BMP calculations review.	We consider we have addressed the outstanding issues in respect of the application of the "substitution test," in our final report on our 2021/22 Calculation Review. [para. 3.75 onwards]

56 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 48.
57 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 48.
58 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 52.

Significant Quantities			
Joint IDP Submission	Ensure that Fonterra, explicitly, demonstrates that qualifying reference sales in the 2022/23 BMP Calculations are compliant with the DIRA definition ("Significant quantities") of dairy commodities. Particularly, as the Manual does not define "significant quantities."[59]	We consider the recommendation made in our 2021/22 Calculation review, to revise the Manual to provide guidance on the interpretation of what constitutes significant quantities and over what time frame the assessment of quantity is made [Para. 3.64], to have addressed this issue. We would expect Fonterra to address the points raised in the 2021/22 Calculation review when it next reviews the Manual.	
Valuation of reference assets			
Joint IDP Submission	Seek increased assurance that the capital costs attributed to the Notional Producer reference assets remains practically feasible. Consider increased transparency of the movements in the value of the Notional Producer reference assets each year.[60]	Fonterra is now required to make publicly accessible all "non-sensitive information" within 20 working days after the Commission makes publicly available its final report on the base milk price calculation – see section 150QA.	
	Consider, from the current season, that Fonterra make available an annual statement which explains the movements in the book value of Notional Producer fixed assets.[61]		
Submitter(s)	**Key points**	**Cross Submissions (where applicable)**	**Our response**
Disclosure			
Joint IDP Submission	Consider including a new focus area addressing the new DIRA disclosure requirements.[62]	No cross submissions	

59 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 54.
60 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 55.
61 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 55.
62 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 26, 27.

	Consider including the new DIRA disclosure requirements of Section 150QA as a focus area for the review of the 22/23 BMP calculations.[63]	Fonterra is actively considering further disclosures consistent with new legislative provisions, and expects the Commission will consider disclosure matters, irrespective of designation as a focus area.[64]	We will consider whether to publish guidance on the disclosure requirements.
Processing Capacity			
Joint IDP Submission	Assess the feasibility of Notional Producer's assumed square production facilities, with respect to Fonterra's own allocation of milk and peak production periods.[65]	No cross submissions	We will develop a workplan to assess the other s150B assumptions over future review years, with respect to the intensive nature of work required to review broad application of assumptions as opposed to individual issues.
	Review the feasibility of the processing capacity assumption, that is the practical feasibility of the Notional Producer plants having the same large processing capacity as Fonterra, with respect to Fonterra's dominant market share being unavailable to other competitors.[66]	Fonterra cross submits that the assumptions; - remain fundamental features and do not need to be translated into a notional input - where Fonterra translates an actual into a notional input, the Commission may review against the purposes of s150A[67]	

63 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 32.
64 Fonterra Cross Submission "Cross submission on proposed focus areas for base milk price calculation 2022-23" (30 May 2023), at 5.
65 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 25, 42.
66 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 25.
67 Fonterra Cross Submission "Cross submission on proposed focus areas for base milk price calculation 2022-23" (30 May 2023), at 4.

Network of Facilities Assumption			
Joint IDP Submission	Assess the other three s 150B (1) assumptions (assumption (a), (b) and (d)), Assumption (a): network of facilities.[68]	Fonterra cross submits that the assumptions; - remain fundamental features and do not need to be translated into a notional input - where Fonterra translates an actual into a notional input, the Commission may review against the purposes of s150A[69]	We will develop a workplan to assess the other assumptions over future review years, with respect to the intensive nature of work required to review broad application of assumptions as opposed to individual issues.
Yields			
Joint IDP Submission	Assess the other three s 150B (1) assumptions (assumption (a), (b) and (d)), Assumption (d): associated yields of milk processed and volume of milk processed.[70]	Fonterra cross submits that the assumptions; - remain fundamental features and do not need to be translated into a notional input - where Fonterra translates an actual into a notional input, the Commission may review against the purposes of s150A[71]	We will develop a workplan to assess the other assumptions over future review years, with respect to the intensive nature of work required to review broad application of assumptions as opposed to individual issues.

68 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 25.
69 Fonterra Cross Submission "Cross submission on proposed focus areas for base milk price calculation 2022-23" (30 May 2023), at 4.
70 IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 25.
71 Fonterra Cross Submission "Cross submission on proposed focus areas for base milk price calculation 2022-23" (30 May 2023), at 4.

Submitter(s)	Key points	Our response
Use of New Regulatory Powers		
Joint IDP Submission	Review unresolved issues relating to the substitution test including those raised by the Commission in its final report on the 2021/22 BMP calculations review.[72]	We consider this as part of our Approach paper review.

[72] IDP Joint Submission "Submission on proposed focus areas for base milk price calculation 2022-23" (27 April 2023), p. 4, 5, 6, 7, and 31.

Attachment B Glossary of terms

AMF	Anhydrous milk fat
Approach Paper	Our approach to reviewing Fonterra's Milk Price Manual and Base Milk Price calculation
Base milk price	Price per kilogram of milk solids that is set by Fonterra for that season
BMP	Butter milk powder
Calculation	Fonterra's 2022/23 base milk price Calculation
Calculation review	Review of Fonterra's base milk price Calculation
Dairy season	1 June to 31 May
DIRA, or the Act	Dairy Industry Restructuring Act 2001
GDT	Global dairy trade, online auction platform used to sell dairy commodities
IDPs	The Independent Dairy Processors (the IDPs); Miraka, Open Country Dairy, Synlait Milk and Westland Milk Products
IPC	Incremental product costs
ISMP	Instantised skim milk powder
kgMS	Kilogram of milk solids
Manual review	Review of Fonterra's Milk Price Manual
MPG	Milk price group, the independent group responsible for calculating the base milk price
Milk Price Manual or the Manual	Fonterra's Farm Gate Milk Price Manual generally referred to by the version relating to each dairy season (e.g., 2022/23 Manual). The Manual contains the methodology used to calculate Fonterra's base milk price
MT	Metric tonne
Notional Producer, or NP	The notional commodity business that is used to calculate the base milk price
NMPB	Notional Milk Price Business, comprising the notional milk powder manufacturing business conducted by the Notional Producer as implied by Fonterra's Farmgate Milk Price Manual
PTMRP	Post Tax Market Risk Premium
RCP	Reference Commodity Product. These products, manufactured and sold by the Notional Producer, are in the Reference Basket. They currently include WMP, SMP, BMP, Butter and AMF
Reference Basket	The RCPs used to calculate the base milk price
Reasons paper	Fonterra's Reasons paper which is provided alongside the Manual for each dairy season (this is also provided when Fonterra discloses its base milk price calculation at the end of each dairy season)

SMP	Skim milk powder
SRP	Specific risk premium
WACC	Weighted average cost of capital
WMP	Whole milk powder

Attachment C Inflationary cost variances and cost drivers

Cost line	% change*	Unit cost update basis	Usage rate basis
Variable manufacturing costs			
Packaging	+13.5%	Actual unit packaging costs for Milk Price base Product Specifications.	Packaging usage items as per Fonterra Product Specification, Wastage as per Fonterra actuals after outlier data exclusions.
Energy	+22.7%	Actual rates	Actual usage rates from Milk Price Energy Audits on Fonterra Plants (Darfield / Pahiatua), Equipment supplier data for Butter, AMF and BMP.
Water	+16.0%	Budget rates	Equipment supplier information.
Cleaning & CIP	+24.3%	Actual rates	Equipment supplier Information and Plant acceptance testing information.
Consumables	+86.3%	Actual rates	Equipment supplier Information.
Effluent	+14.2%	Budget rates	Effluent kg's Fat/Protein from Milk Price Loss audit of Actual Fonterra Plants.
Laboratory	+2.5%	Prior year actuals + Inflation (PPI)	Unit testing requirement as Per Fonterra Product specification, in process testing requirements as per Fonterra actual in process costs for Benchmark plants comparable to NMPB plants.
Total	+21.0%		

Cost line	% change*	Unit cost update basis	Usage rate basis
Fixed manufacturing costs			
Wages & ERE	+5.9%	Actual rates	Staffing requirements, by level, for each of Fonterra's standard plants, Average per cent Overtime as per Fonterra's actuals, Average per cent temporary labour as per Fonterra's actuals, Average per cent Employee related expenses as per Fonterra actuals.
Repairs & Maintenance	+11.6%	Actual rates	Actual R&M spend as a per cent of total replacement cost of eight most similar manufacturing sites of Notional Producer. Total replacement cost of Milk Price Asset Base.
Energy - Fixed	+2.5%	Budget rates	Equipment supplier information for Peak energy demand.
Site Overheads	+2.8%	Actual rates	Average Direct and Indirect cost rates as per Fonterra's actuals, FTE provisions for nonplant site labour
Total	+7.2%		
Other Cash Costs			
Commission	+10.0%	Notional unit costs.	Calculated; Once every four years an update is made to Sales overheads.
Collection Costs	+9.3%	Actual rates	Calculated usage rates from production plan using asset footprint and product mix.
Lactose	+28.8%	Notional/Actual rates	Yield calculations as per Fonterra actuals and Loss allowance based on Fonterra actuals.
Inland Freight costs	+10.7%	Actual rates	Calculated Production volumes of each RCP at each site, with respect to actual volume milk allocated by Fonterra
Other supply chain costs	+2.6%	Actual/notional rate	Fixed usage rates for certain activities, reviewed at 4-year review

Cost line	% change*	Unit cost update basis	Usage rate basis
Storage costs	13.1%	Actual rates and notional rates	Peak Production MT of RCPs and Lactose requirements based notional, Fixed storage
Administration	+3.1%	Actual rates	Adjustments to exclude activities not incurred by Notional Producer
Miscellaneous costs	-2843.2%	Actual rates	As incurred as per Fonterra actuals
Total	+15.8%		