

Hristina Dantcheva  
Principal Economist  
New Zealand Commerce Commission

13 September 2021

Dear Hristina,

**Response to submissions - Asset Beta and Specific Risk Premium**

The Commission requested CEPA provide a response to points raised by stakeholders in relation to our review of the Milk Price Group's (MPG) paper on asset beta and specific risk premium dated 21<sup>st</sup> July 2021. The Commission has made us aware of four submissions with relevant points:

- Milk Price Group Response to CEPA asset beta report – 24<sup>th</sup> August 2021 (MPG).
- Miraka Submission to the Commerce Commission – 24<sup>th</sup> August 2021 (Miraka).
- Open Country Dairy Limited – submission on milk price calculation – 2020/21 season– 1<sup>st</sup> September 2021 (Open Country).
- Synlait - Submission to the Commerce Commission on the “Review of Fonterra's 2020/21 base milk price calculation: Dairy Industry Restructuring Act 2001” draft report – 16<sup>th</sup> August 2021 (Synlait).

This response is organised thematically with a summary of each stakeholder's views and our response.

After careful consideration of these responses, we see no reason to change the advice from our 21<sup>st</sup> July letter.

Yours sincerely,

**Jonathan Mirrlees-Black**  
Director



## Context

Before providing specific responses to the issues raised in submissions, there are three points that are worth noting.

First, section 150A of the DIRA provides that the purpose of setting the base milk prices is to provide incentives on Fonterra to operate efficiently while “*providing for contestability in the market for the purchase of milk from farmers*”, and it does this if “*notional costs, revenues, or other assumptions ...are practically feasible for an efficient processor*”. This purpose means that it must be possible for an efficient competitor or potential competitor to Fonterra to achieve the cost levels proposed, including the cost of capital. For example, if the risk profile of a notional processor were to be achievable only by the benefits of a position of market power and a lack of competition this is not consistent with the requirement that the asset beta should reflect that of a practically feasible efficient processor.

Second, the 2020 revisions to the DIRA in section 150C will provide constraints on the asset beta that can be used, and in particular, it must “*be consistent with the estimated asset betas of other processors of dairy and other food products*”. This restriction ensures that the asset beta is based on observed asset betas using empirical data on the industry in which Fonterra operates to ensure that the requirements of 150A are met. It also means that some of the arguments made by stakeholders in submissions are now moot.

Third, it is the MPG that sets the asset beta, and the Commerce Commission assesses it. Our advice to the Commerce Commission is not on our best estimate of the asset beta, but whether the MPG’s asset beta is consistent with the Act. A low asset beta may be consistent with MPG’s obligations under the Act but be below our best estimate of the asset beta.

## Downward adjustment

### MPG’s comment

MPG’s estimated asset beta for its full comparator set is 0.50. MPG downwardly adjusts this estimate by (a) identifying a core comparator set which has an average asset beta of 0.47 (b) applying a further downward adjustment of 0.02 to arrive at an estimate of 0.45.

In our review, we stated that MPG had failed to provide a strong justification for a downward adjustment from the core comparator set average. MPG disagrees with this conclusion. Its arguments are:

1. Its estimate of the asset beta of Synlait’s commodity processing operations is 0.32 or 0.46. MPG indicates that this provides evidence that a Notional Processor would have an asset beta of 0.45 by including this estimate of Synlait’s asset beta as one of the datapoints for asset beta of the comparator set.
2. That a Notional Processor would have lower systematic risk than the comparator set because it would have a lower value of growth options, and changes in the value of these would therefore have a lower correlation with changes in the value of growth options of the comparator set.
3. That a Notional Processor would have lower systematic risk than the comparator set because of the form of regulation applied to it. This is a representation of MPG’s position on page 11 of its submission which examines statements by the Commission on whether regulation affects asset beta. MPG concludes that the Commission does consider that regulation has no impact on asset beta, but that there are no reliable estimates of its impact. MPG is suggesting that the milk price is derived under a “*quasi-regulatory framework*”. We draw the inference that MPG considers that the quasi-regulatory framework applied to the notional processor warrants a downward adjustment, although the paragraph does not state this clearly.
4. MPG argues that the beta of the Fonterra Shareholder Fund (FSF) units are representative of the beta of a notional processor. MPG claims that their evidence shows that marginal investors in Fonterra were FSF unit holders both prior to and after the suspension of the convertibility of FCG shares and FSF units and that this in turn supports their argument that the beta of Fonterra is representative of a notional processor.



## Our response

### MPG's estimated asset beta for Synlait's commodity processing business

On pages 6 – 10 and 13 of its submission, MPG argues that Synlait's commodity processing business has an asset beta of 0.32, or 0.46 using analysis set out in its original submission. Its approach is to use the relationship as set out in the following equation (not shown in MPG's analysis).

$$\beta_{S \text{ commodity}} = \frac{(EV_{NC} + EV_C)\beta_S - EV_{NC}\beta_{NC}}{EV_C}$$

where the value of Synlait's non-commodity and commodity businesses are represented by  $EV_{NC}$  and  $EV_C$  respectively,  $\beta_{S \text{ commodity}}$  is the asset beta for the commodity business,  $\beta_S$  is the asset beta for Synlait as a whole, and ( $\beta_{A2}$ ) is the asset beta for A2. It estimates the parameters for this equation as follows:

- It estimates an asset beta for A2 milk. ( $\beta_{A2}$ )
- It assumes that the asset beta for A2 milk is the same as that for Synlait's business other than commodity processing business (i.e.  $\beta_{NC} = \beta_{A2}$ )
- It calculates an asset beta for Synlait using daily data over 5 years ( $\beta_S$ )
- It assumes that the proportion of Synlait's enterprise value represented by the commodity and non-commodity businesses is proportional to the percentage of gross profit reported for each activity.
- Using this, it estimates an asset beta for Synlait's commodity processing business by substituting these values into the equation above for  $\beta_{S \text{ commodity}}$ .

The fundamental assumption which underpins MPG's analysis is that a2 is an appropriate proxy for Synlait's non-commodity operations. MPG's analysis does not show this. MPG reports a correlation between Synlait's asset beta and that of a2. That shows that there is a relationship between the asset beta of the two businesses, but it does not show that Synlait's non-commodity business has an asset beta that is the same as that of A2. Synlait produces an input for a product sold by a2. This does not imply that it has the same systematic risk. There are many counter-examples where a provider of an input to another business – even one where there is a close relationship – has a very different asset beta (e.g. generators selling electricity to integrated utilities or telecom towers businesses selling services to mobile communications providers). We would expect the betas of Synlait's non-commodity business and a2 to be correlated as they are listed in the same market, operate in similar geographies, and operate in related industries, but we would not expect the asset betas to be the same.

As there is insufficient evidence for this crucial assumption the remainder of the analysis can be disregarded. The commodity beta estimate is extremely sensitive to the values of the parameters in the above equation, and these have not been estimated robustly.

### Growth options

MPG asserts that the differences in systematic risk between a notional processor and the comparators should support a downward adjustment. An argument advanced by MPG is there is no value to growth options for a notional processor, therefore there is no systematic risk associated with the changes to that value, and that a notional processor differs from comparators in this regard. This argument was made in previous consultations and we responded in detail<sup>1</sup>: at that time we considered that this theoretical argument was *inter alia* inconsistent with the empirical evidence on the asset beta for a practically feasible efficient processor as required by S150A.

However, Section 150C will provide that the asset beta should be consistent with the estimates of asset betas of relevant companies in the industry. We consider that identification of a close comparator set (the core sample) and

---

<sup>1</sup> CEPA (2018), Dairy notional processor's asset beta – response to submissions.



using this to estimate the asset beta achieves this. A further downward adjustment as proposed by MPG would make the asset beta lower than that of appropriate comparator companies and be inconsistent with Section 150C.

#### *Approach to regulation*

Price or revenue controls applied to regulated businesses determine prices for a limited period of time. Changes in the value of cash flows over that limited period do contribute to asset beta. But the value of cash flows beyond that limited period form the bulk of the value of regulated businesses. It follows that different approaches to price controls for a few years have a small impact on beta compared to the factors affecting cash flows and valuation in the long term. As MPG notes, Dr Lally in work for the Commission has not found any empirical support that the form of price control for those limited periods has a measurable impact on beta.

However, with the forthcoming implementation of the change in legislation, and the provisions of 150C, the asset beta must be consistent with the estimates of asset betas of relevant companies in the industry. This will ensure that the cost of capital meets the requirements of section 150A, that the cost of capital is practically feasible for an efficient processor that competes or seeks to compete with Fonterra. A downward adjustment away from an asset beta so derived would be inconsistent with Section 150C.

#### *The beta of Fonterra Shareholder Fund units*

In its submission, MPG asserts that (a) the price of FSF units have exceeded the price of FCG shares and therefore (b) it is FSF unit holders that are setting prices at the margin. It is stated that this applies both before and after the suspension of convertibility between shares and units. MPG also argues that FSF unit holders are more likely to set prices as they are unrestricted as to their holdings, unlike farmer shareholders, and hold shares as part of a portfolio.

We provided a detailed assessment of the determinants of the Fonterra share and unit prices in our response to the Commission in 2019.<sup>2</sup> This gave an explanation of the structure of the market for Fonterra shares and units, and the reasons why movements in the share price are structurally different from a normal security. These reasons still stand. The share structure has been designed in the interests of farmer shareholders by allowing third-parties to provide liquidity to farmers but without giving those third parties any opportunity to control the company or to influence it. Fonterra does not have pressure from third party shareholders to maximise returns to the processing activity, with its stated “*number one priority is and always has been to maximise the total payout to our farmers*”. The total payout includes the sum of all benefits to farmers including but not limited to the dividends from Fonterra shares. Further, trading in Fonterra shares is driven by farmer shareholder decisions. These factors point to share trading and thus beta that is unrelated to the economics of the business, and in particular one that would not reflect the beta for a competitor processor.

Our comments on the points raised by MPG in their latest submission, and the submission by Fonterra which it also refers to (to which we have not previously responded) are as follows:

- The price of FSF units have exceeded the price of FCG shares, therefore FSF shareholders are setting prices at the margin.

Prior to the suspension of the convertibility of FSH units and FCG shares, the relationship was determined by the actions of Fonterra which is permitted to buy and sell units to maintain the share value. Following the suspension of convertibility, there has been uncertainty about the capital structure and therefore the rights and rewards available. It is unsurprising that there would be a wedge between FSH units and FCG prices in these circumstances. It is unlikely that an entity subject to such structural change in the capital structure would have security prices, or changes in those security prices, that relate to fundamentals.

---

<sup>2</sup> [CEPA-Notional-processor-asset-beta-11-July-2019.pdf \(comcom.govt.nz\)](#)



- MPG asserts that FSH unit holders are more likely to set the price as they are unrestricted in their shareholdings.

Farmer shareholders have a need to sell and buy for business reasons, whereas non farmer unit holders do not. No evidence is presented that suggests that either directly or indirectly the farmer shareholders are not setting prices.

- Fonterra reports that CEPA (2019)<sup>3</sup> stated that the change in the value of the processing business does not necessarily feed through to the listed share value, but may be reflected in a change to the value of supply contracts which are unobserved. Fonterra said in response that farmers don't have any supply contracts, and that there are no *"rights, express or implied held by farmers that will absorb movements in the value of the processing units"*.

While there may not be a formal written contract, the offer of milk and payment for it is a contractual relationship, and there may be no explicit rights that will absorb movements in the value of the processing units. However, the company has stated *"we work hard to maximise the value of our farmer's milk and drive the highest possible total payout back to our farmers"*.<sup>4</sup> Benefits to the farmer shareholders are not just the dividends, and benefits that do not accrue through the shareholder relationship should accrue to cooperative members through other components of the relationship.

- CEPA (2019) said that transactions take place to meet the requirements of farmers and that trading is therefore not driven by normal portfolio decisions. Fonterra said that non-farmer shareholders would arbitrage any differences from share prices from fundamental value.

Fonterra is correct that non-farmer shareholders can arbitrage. The point, though, is that the dividends payable to non-farmer shareholders does not reflect the whole of the economic relationship between farmer shareholders and Fonterra. The value of the Fonterra units therefore does not reflect the fundamental value of the processing business, and changes in that value are not a proxy for the beta of processing business.

- MPG state that *"Fonterra is exposed to identical capital market disciplines as other listed companies"*.

Owners of FSF units do not have votes. They are not able to vote on resolutions, or vote to appoint a director to represent their interests. They would not be able to arrange for a takeover of Fonterra. It follows that Fonterra is not properly accountable to such unit holders and management is therefore not incentivised to act in their interests. They have no say in the current capital market restructure. In the capital market consultation, it is noted that changes *"could put farmer ownership and control at risk. We know that's not something any of us want to see"*. Fonterra is not exposed to the capital market disciplines of other listed companies.

## **Time period of beta estimation**

### **MPG's comment**

MPG's approach to estimating equity beta used a 5-year period to five separate end dates using daily, weekly, and four-weekly periodicity. In our review of MPG's analysis, we reviewed betas estimated over the five years to 2015 and five years to 2020.

MPG argues that it does *"not see a case for weighting these equally with more recent estimates...[and] we see a stronger case for considering more recent estimates over different periods"*. MPG considers that it is possible that some comparator firm operations may have changed over time and that these firms may not have had operations which satisfied the new DIRA test in an earlier period. However, it notes that the previous period can be a useful cross-check but should not be weighted equally with more recent estimates.

---

<sup>3</sup> [CEPA-Notional-processor-asset-beta-11-July-2019.pdf \(comcom.govt.nz\)](#)

<sup>4</sup> [pdf-stronger-together-booklet-web-layout.pdf \(fonterra.com\)](#)



In support of its arguments MPG cites the Fibre Input Methodologies Final Reason Paper from October 2020.

### **Our response**

When a beta estimate is required for a regulatory purpose in most cases this is done for a forward-looking purpose. For example, setting revenues for a future five-year regulatory period. This is also the case here where the asset beta estimate will inform costs used for setting the base milk price for the 2021-2024 period.

In practice, for regulatory purposes, there is no attempt to forecast beta and historic estimates are used instead, as it is assumed that betas are relatively stable. Average betas may drift over time due to a variety of factors and MPG make exactly this argument, specifically that *“other differences in [comparators] more recent operations would have meant their [earlier] beta estimates were less relevant”*. However, a trade-off exists. The shorter the time-period considered the lower the number of observations and the higher the statistical uncertainty. The average beta obtained by using more relevant recent data may be more inaccurate than one obtained using a longer series.

We can demonstrate this by running a combined regression including all of MPG’s core comparators. 5-years of data using a weekly return interval produces an equity beta of 0.68 with a standard error of 0.0102 providing a 95% confidence interval of 0.66 to 0.70. If the same is done with ten years of data an equity beta of 0.68 with a lower standard error of 0.0077 and a 95% confidence interval of 0.67 to 0.69. We find that the equity beta using this specification is similar in both periods, but asset betas are further apart. This shows that the average gearing of the comparator sample changed between the two periods.

We can also compare the relative trade-off between relevance and accuracy with reference to fibre. We previously highlighted that *“due to the pace of innovation in the telecommunications sector, a longer returns horizon of 20 years may be less appropriate than for energy networks”*.<sup>5</sup> On that occasion, we settled on focusing on a time horizon taking account of the previous 10-year period. The judgement on this trade-off appears to have been accepted by the Commission. MPG accepts that the pace of technological change is lower for a notional processor than in fibre stating that *“In contrast [to fibre], RCP manufacturing technology is mature, and has evolved only incrementally over a long period of time, and there is not at present any plausible alternative technology”*.<sup>6</sup> This suggests when considering technological change the trade-off between using recent data and ensuring sufficient observations is less severe than in fibre, which points to the longer period being useful here.

## **Adjustments to gearing**

### **MPG’s comment**

MPG applied an adjustment to gearing to include capitalised lease obligations (IFRS 16 adjustment) and we suggested that this is not consistent with standard regulatory approaches.

### **Our response**

We do not observe other regulators making this adjustment nor has the Commission done so in the past. As with MPG we do not have a strong view as the adjustment does not have a substantial impact on the calculated asset beta. However, it is important that the gearing value used for estimating asset beta is calculated on the same basis as the gearing value used for re-gearing the asset beta when calculating the WACC. We have not been asked to review the WACC calculation nor the appropriate gearing level for a notional processor.

## **Differences in beta estimates**

### **MPG’s comment**

---

<sup>5</sup> CEPA (2019), Cost of capital for regulated fibre telecommunication services in New Zealand: Asset beta, leverage and credit rating.

<sup>6</sup> MPG (2021), Attachment 6: Asset beta and specific risk premium.



MPG examined our estimated asset betas, equity betas as well as our calculation methodology. They found that there was a 0.01 difference due to differences in estimated equity betas and a 0.02 difference due to differences in gearing.

### **Our response**

As with MPG we consider that the differences in equity betas to be minor. We have not used dividend-adjusted share prices and accept that the difference between our estimated equity betas and MPG's estimates could be caused by this. We accept that it is total returns which are of interest when estimating beta and an adjustment for dividends is justified. However, convention is to use share prices without such an adjustment as academic research on this subject has shown that the incorporation of dividends makes little difference as is the case here.<sup>7</sup>

As suggested by MPG, we agree that the difference caused by gearing could be attributed to different estimates of net debt employed by the two financial data providers (Capital IQ and Bloomberg). It is also possible that there are differences in methodology. We estimated average gearing for each comparator by using the net debt and market capitalisation values on the same days as those that fed into our beta calculation. This means that if an observation has been dropped from the beta analysis, for example because it was a non-trading day for that stock, then our estimate of average gearing also does not include that observation.

## **Choice of comparators**

### **Miraka's and MPG's comments**

MPG have now included Freedom Foods, WHL and Beston as comparators. MPG highlight that Murray Goulburn was delisted in 2018 and Mengniu Yili is only consistent with MPG's interpretation of the new DIRA requirements since 2019.

Miraka highlight that we have not reviewed MPG's long list of 286 firms and did not set out to construct our own comparator set.

### **Response**

We accept the explanations provided by MPG regarding Murray Goulburn and Mengniu Yili.

With regards to Miraka's comments, we confirm we have not reviewed MPG's long list of 286 firms, nor have we set out to construct our own comparator set. It remains possible that other relevant comparators exist though we note that none of the submissions propose additional comparators.

## **Stranding risk and specific risk premium (SRP)**

### **Open Country's, Miraka's and Synlait's comments**

Open Country, Synlait and Miraka have all made comments arguing that the SRP should not be nil.

Synlait's comments regarding the SRP are directed to the Commission and are not directly relevant to our advice.

Open Country state that stranding risk is pronounced given the decline in milk production. Furthermore, citing the Climate Change Commission's draft findings is insufficient to assess the risk of asset stranding.

Miraka make several arguments for a positive SRP some of which are directly relevant to our advice. Specifically:

- Miraka agrees that the most likely cause of asset stranding would be loss of milk supply. They do not agree that a reduction in investment in replacement assets would be sufficient to make this loss immaterial. Furthermore, Miraka highlights that it is not a realistic assumption that the location of an asset that is no longer required would align with those factories at the end of their economic lives. The ability to respond to declining milk volumes is less than assumed as stranding occurs at a specific geographic location.

---

<sup>7</sup> Ogier, Rugman and Spicer (2012), The Real Cost of Capital.



- Miraka states that there has been no effort to consider the risk of asset stranding in the comparators.
- Miraka argues that the long-term milk supply forecasts provided by Fonterra should not be relied upon to assess asset stranding.
- Miraka highlights evidence that asset stranding has already occurred with 5 plants being stranded in FY17.

### **Our response**

In our previous advice to the Commission, we set out our assessment that the specific risk premium should be nil. We have reviewed the arguments put forward and do not consider there is sufficient evidence to change this conclusion.

For an ex-ante SRP to be considered the risk needs to be material, non-systematic and asymmetric. Our judgement is asset stranding risk in this circumstance only meets one of these criteria – it is an asymmetric risk. The evidence that risks from environmental measures are material enough to strand assets remains weak. The submissions of Open Country and Miraka on the link between flat or declining milk supply and asset stranding do not provide sufficient evidence on stranding risk to counter our analysis. Furthermore, even if this risk were material there would need to be a convincing justification put forward that it is non-systematic and would not instead be captured in beta, and we have seen no evidence of this. In our advice to the Commission in 2018, we considered asset stranding risk for the Notional Processor was likely to be similar to that of comparators in the same industry.

We also highlighted our assessment that the framework applying to a notional processor has flexibility in terms of depreciation profile applied. If a NP can change the depreciation profile of assets at risk of stranding and is able to recover that depreciation, then the asset stranding risk can be mitigated, possibly entirely. Regarding the stranded assets highlighted by Miraka, we understand that these assets have not strictly been stranded. Investors will continue to be fully compensated as the “*capital expenditure amounts (ie, capital charge and depreciation) relating to these plants are still included in the milk price calculation.*”<sup>8</sup>

## **Clarifications**

### **Miraka’s and Synlait’s comments**

There are two related comments on our previous conclusions that require clarification. Miraka states that “*CEPA concludes the Fonterra ‘asset beta of 0.45 could be justified’*”. This conclusion is though unexplained because an asset beta of 0.45 falls below the ranges calculated by CEPA.” Synlait states that “*CEPA states that an asset beta of 0.45 could be justified for a notional processor*”.

### **Our response**

In our previous advice to the Commission, we stated that our 2018 analysis found a 0.45 asset beta could be justified. However, our view is that the requirement for judging an appropriate asset beta will change with the forthcoming change in legislation. In our July letter we stated that “*given that several comparators we used in 2018 are unlikely to meet the new Section 150C requirements this evidence may be of limited use for the Commission’s assessment.*” Our overall conclusion is that the average of the core sample selected by MPG to be a reasonable estimate of the asset beta for a notional processor. We find that this average is slightly higher than 0.47.

---

<sup>8</sup> Commerce Commission (2017), Review of Fonterra’s 2016/17