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New Zealand Commerce Commission

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Dear Hristina,

Asset Beta and Specific Risk Premium

CEPA was commissioned to undertake a review of the Milk Price Group's (MPG) paper on asset beta and specific risk premium. This note sets out our advice on this issue. It is supported by a separate PowerPoint presentation which sets out our methodology and findings in more detail.

The Commission is responsible for undertaking a review of both the milk price manual and the calculation of the base milk price on an annual basis. Inputs into these calculations include the asset beta and the specific risk premium; these are used in the calculation of the return on capital element of the cost of a notional milk processor (in this letter "NP"). The aim of the Commission's monitoring regime is to provide incentives for Fonterra to act efficiently while providing for contestability in milk processing. In addition to this there are a set of 'mandatory assumptions' under Section 150C of the Dairy Industry Restructuring Act (DIRA). An amendment to the Act in June 2021 added specific requirements for the estimation of asset beta, in particular that it should be "*consistent with the estimated asset betas of other processors of dairy and other food products*". The amendment only comes into force for the review of the base milk price in the 2021/22 season. However, we understand that Fonterra has sought to apply the requirements of the new provision in advance of it coming into force

We have undertaken our review in light of these requirements. Specifically, we have assumed that if MPG have met the mandatory assumptions under s 150C they have met the requirements for asset beta. This is regardless of whether the asset beta meets the efficiency and contestability dimensions. However, given our previous work on this issue we have provided some consideration for whether there is now evidence that a notional processor (NP) has a higher or lower asset beta than previously considered. Furthermore, our judgement on specific risk premium is this comes down to asset stranding risk. If asset stranding risk is considered systematic it will be captured by asset beta and by extension covered by s 150C.

Our review was structured into three stages:

- Comparator selection
- Asset beta estimation
- Specific risk premium

Comparator selection

MPG have constructed a comparator set which they use to estimate asset beta. To construct an appropriate comparator set requires an interpretation of s 150C, and specifically:

- "*Uniform technical specifications*" – MPG has interpreted this to mean products which are typically transacted according to a standard market convention, considered sufficiently undifferentiated that the entities identify is immaterial to the purchaser's decision to buy and current prices are readily available.

- "*Traded in significant quantities in globally contested markets*" – MPG has interpreted this to mean firms with products sold in globally traded markets.

MPG have then undertaken a comparator selection process to select firms that meet this interpretation. A crucial step in their process is the individual review of the 286 firms in their long-list to produce the list of 19 firms which meet their interpretation of the s 150C requirements. Of note, MPG included many firms where they considered only a small proportion of their operations were consistent with the requirements.

Given the above interpretation, we consider MPG's implementation to be reasonable. However, we have not set out to construct our own comparator sample and we do not have access to MPG's long-list of 286 firms. It is possible that MPG may have missed comparators which meet their stated interpretation. In the supplementary PowerPoint we list 5 potential firms.

Asset beta estimation

MPG have estimated equity betas using a 5-year period to five separate end dates using daily, weekly and four-weekly periodicity. We consider MPG have generally applied standard well-accepted methods for estimating beta. We can closely replicate their results using their comparators and specifications. MPG find that their core comparator sample has an average asset beta of 0.47, their extended sample 0.59 and their full sample 0.50.

There are two areas which may deviate from common regulatory approaches to estimating beta:

- MPG have applied an adjustment to gearing in an attempt to apply a consistent level of net debt over the period of estimation. This was a period when there was an accounting standard change (IFRS16). We estimated asset betas with and without this adjustment to net debt and find the adjustment has a limited (~0.01 asset beta) impact for the set of comparators used by MPG.

- MPG has chosen 5 overlapping time periods and there does not appear to be a justification provided for the time periods chosen. We assessed the impact on asset beta if the same method were applied as we did in our 2018 report. Specifically, use the two most recent 5-year periods. We find that this results in slightly higher asset beta estimates but the ranges generally include MPG's averages.

We also re-estimated asset betas for the comparator sample we used in our 2018 report. Using more recent data we find that asset beta estimates are slightly higher. However, the full sample average asset beta has only shifted from 0.55 to 0.56. We concluded last time that this sample was a good fit for a notional processor. Given that we concluded that a 0.45 asset beta could be justified on this evidence this conclusion still stands. However, given that several of the 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.

MPG have argued that a downward adjustment to the asset beta obtained from their sample average should be considered. They highlight three circumstances where the Commission has in principle accepted that there should be an adjustment:

- An adjustment downwards should be made because of the impact of multi-divisional betas. MPG presents evidence implying that Synlait's implied commodity asset beta is between 0.3 and 0.4 compared to Synlait's observed asset beta of between 0.39 to 0.48. We do not consider the evidence presented to be robust.

- An adjustment downwards should be made due to the regulatory differences between Fonterra and the comparator set. In our 2018 report we considered that changes in the value of growth opportunities in response to changes in economic conditions would be similar between companies in the comparator sample and a NP. We see no reason to deviate from this conclusion. We also concluded that there is insufficient evidence to conclude that regulation in general impacts beta. Furthermore, while our regulated milk price sub-sample provides a lower asset beta range it is based on a sample of just two comparators.

- An adjustment downwards due to differences in systematic risk between services. Specifically, MPG argue that our 2018 report showed that Fonterra's NP business had less risk than other comparators. However, the comparator sample being considered by MPG is not the same as the comparator set we considered in 2018.

We do not consider a strong justification has been put forward for a downward adjustment from the sample average.

Specific risk premium

We consider that the specific risk premium fundamentally comes down to the asset stranding risk faced by a NP.

We can consider asset stranding risk from the perspectives of demand and supply risks.

In terms of asset stranding caused by changes in demand, as we are considering notional assets of a processor of staple goods it follows that demand related asset stranding risk is likely to be systematic. By extension, this suggests that applying the specific risk premium with regard to demand risk should be considered in the context of asset beta. MPG appears to agree with this line of thinking.

A further question is whether a NP's demand-related asset stranding risk is likely to be materially different from the sample used to estimate asset beta. MPG states the phrase 'consistent with' in s 150C should not be interpreted as requiring them to use the average of asset betas. Indeed, they make an argument for an overall downward adjustment.

In our 2018 report we concluded that a NP faces similar demand-related asset stranding risk to the firms in our sample. We also concluded that there is no reason to expect that a NP would have materially different demand-related asset stranding risk compared to companies operating in competitive, rather than regulated, markets. The comparator sample selected by MPG on this occasion can also be characterised as operating in a competitive market. We do not see a strong justification from moving away from our conclusion in the 2018 report.

Asset stranding risk can also be considered from the supply side. Specifically, that environmental regulation may reduce the supply of milk available to a NP and create assets which are surplus to requirements and by extension stranded. While we consider that supply risk is also partially systematic there may be a non-systematic element which is also asymmetric. Nonetheless, we consider that the justification for a specific risk premium for these elements remains weak. Specifically:

- It is unlikely that government will rapidly and without notice phase in environmental measures which lead to asset stranding risk being realised for a NP. If investors set their expectations based on the Climate Change Committee's June 2021 reference case, they would view asset stranding risk as low. Compared to fibre networks, which are characterised by fairly rapid change and obsolescence of existing technologies, our expectation is that a NP's exposure to supply-side asset stranding risk is lower.

- We consider the framework applying to a NP has flexibility in terms of the 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 is mitigated possibly entirely. The Milk Price Manual makes repeated references to "economic lives" of assets rather than technical lives. This suggests that if there is risk of stranding the appropriate response would be to re-examine whether assets have appropriate economic lives.

We consider that there are advantages to considering asset stranding risk through asset lives and depreciation profiles. If the Commission is concerned that a NP's assets are going to be stranded prior to end of their currently assumed economic lives, then a modification to the depreciation profile may represent a solution that is better targeted at the problem. This has the advantage of requiring the explicit identification of those assets at risk of stranding, their value as well as explicitly stating how rapidly they might become stranded.

Conclusion

MPG concludes that (a) an appropriate asset beta for the Milk Price calculation is 0.45 and (b) the specific risk premium should be nil.

Contingent on the appropriate choice of asset beta, we agree that the specific risk premium should be nil. We regard the average of the core sample selected by MPG to be a reasonable estimate of the asset beta for a notional processor, which we find is slightly higher than 0.47.

Yours sincerely,

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Director