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NZX Milk Price Futures Contracts: an expected value approach

Issued: 10 March 2020

G31

This determination may be cited as Determination G31: NZX Milk Price Futures Contracts: an expected value approach

1 Explanation (which does not form part of the determination)

When to use this determination

1. This determination provides the method that must be used by a Farmer who enters into an NZX MKP Milk Price Futures Contract (MKP Futures Contract) to calculate the income derived and the expenditure incurred over the term of that contract.
2. This determination applies to a Farmer who:
 - a. enters into a MKP Futures Contract for the sole purpose of Hedging the price received for all or part of their anticipated milk solids production; and
 - b. does not use IFRSs to prepare financial statements and to report for financial arrangements under the financial arrangements rules in the Act.
3. A Farmer to whom this determination applies must use this determination for MKP Futures Contracts they enter into on or after 1 April 2020.

What is an MKP Futures Contract?

4. An MKP Futures Contract is a cash-settled futures contract traded on the NZX Derivatives Market. It is a financial arrangement under the Act.
5. The underlying asset of an MKP Futures Contract is the price for 6,000 kilograms of milk solids (one Lot) as set by reference to the Farmgate Milk Price.
6. A Farmer initiating a price hedge against all or part of their reasonably anticipated milk production for a Season will sell (short) one MKP Futures Contract for every 6,000 kilograms of anticipated milk solids (kg MS) that the Farmer wishes to hedge for that Season.
7. Each MKP Futures Contract is identified by a Contract Month, as specified in the Expiry Calendar. The month is September in the year of expiration. The contract may have a term of up to 5 years during which it may be traded before expiring. The Expiry Calendar identifies the significant dates corresponding to each Contract Month. For example, the Expiry Calendar for the September 2021 Contract Month, provides as follows:

- the first Trading Day was 17 September 2018
 - the Last Trading Day is 9 September 2021
 - the Expiry Date is 30 September 2021
 - the Settlement Day is 1 October 2021
8. A Farmer enters into an MKP Futures Contract by placing an order, through a Broker, to buy or sell a contract. The Farmer will be required to pay an Initial Margin, as collateral for their obligations under the contract. The Initial Margin will be periodically recalculated and will typically reduce over time. The Farmer will also generally pay a fee to the Broker, which is not part of the Initial Margin.
9. Due to the movement in the daily Closing Price over the term of an MKP Futures Contract, the parties to an MKP Futures Contract may be required to pay, or may receive, Variation Margin.
- The NZX clearing house, CHO, at the close of each business day during the term of an MKP Futures Contract calculates the Daily Settlement Price for the contract.
 - CHO uses the Daily Settlement Price to calculate the daily Variation Margin for the contract. The Variation Margin is the difference between the Daily Settlement Price of a Lot at the close of the day of calculation and the Daily Settlement Price of a Lot at the close of the business day immediately prior to the day of calculation.
 - Upon the calculation of the Variation Margin, CHO attributes the daily profit and loss amounts, with any profit an amount payable by CHO to a Clearing Participant and with any loss an amount payable by a Clearing Participant to CHO.
 - The daily profit and loss amounts for all derivatives contracts in respect of which a Clearing Participant has an open position are netted between CHO and the Clearing Participant and a nett amount is settled between CHO and the Clearing Participant.
 - Due to the complex of interrelated contracts relevant to an MKP Futures Contract any daily profit is an amount payable to the Farmer by their Broker and any daily loss is an amount payable by the Farmer to their Broker.
10. Farmers do not have direct access to CHO. They are required to place their trades with an NZX approved participant – a Broker. Where the Broker is a Clearing Participant the Broker clears the trades with CHO otherwise the Broker uses a Clearing Participant to clear the trades. A Broker may charge a Farmer an amount additional to the amount of Initial Margin or Variation Margin calculated by CHO.

11. The specific terms and administrative procedures that apply to and regulate MKP Futures Contracts are set out in the Contract Terms.
12. The rights and obligations relevant to an MKP Futures Contract are set out in a complex of interrelated contracts that create back-to back rights and obligations in relation to Initial Margin and Variation Margin such that a Farmer, as principal, has:
 - an obligation to pay Initial Margin at the commencement of an MKP Futures contract; and
 - an obligation to pay and the right to receive Variation Margin during the term of an MKP Futures Contract.

Expected value approach

13. This determination applies an expected value approach to calculate the income derived or expenditure incurred by a Farmer under an MKP Futures Contract over the term of the contract. The income or expenditure over the term of an MKP Futures Contract is the total of the expected component and the unexpected component.
14. The expected component is calculated at the date the Farmer enters into an MKP Futures Contract and the amount is spread over the term of the contract. However, because the Trade Price will match the Forward Rate, and the Initial Margin will be offset by a matching amount at Maturity, there will be no expected component to spread.
15. The Initial Margin and any changes in that Initial Margin are not recognised until the income year of Maturity under a base price adjustment calculation.
16. The unexpected component is updated at the end of each income year, other than the income year the base price adjustment is calculated, to reflect the profit or loss realised through payment of the Variation Margin. This change in the unexpected component, through the receipt or payment of Variation Margin since the previous income year is income or expenditure in the income year it is calculated.
17. The final unexpected component is recognised when a base price adjustment is required to be calculated on the Maturity of the MKP Futures Contract.
18. The base price adjustment is income for the Farmer if it is a positive amount and is expenditure for the Farmer if it is a negative amount. The amount is allocated to the Farmer's income year in which the calculation is required to be made.

2 Reference

This determination is made under section 90AC(1)(d) of the Tax Administration Act 1994.

3 Scope

1. This determination applies to the tax treatment of an MKP Futures Contract that is entered into by a Farmer, on or after 1 April 2020, for the sole purpose of Hedging if the Farmer does not use IFRSs to prepare financial statements and to report for financial arrangements under the financial arrangements rules in the Act.
2. Under section 90AC(3) of the Tax Administration Act 1994, this determination is binding on a Farmer described in clause 3.1 who is subject to the financial arrangements rules in the Act and is required, under section EW 12 of the Act, to use a spreading method or is a cash basis person who has chosen, under section EW 61 of the Act, to apply a spreading method. This determination does not apply to a Farmer who is a cash basis person under section EW 13(3) of the Act unless they have elected to apply a spreading method under section EW 61 of the Act.
3. This determination applies only to a Farmer who is a person resident in New Zealand under section YD 2 or YD 3 of the Act.
4. This determination does not apply to an MKP Futures Contract that is part of a wider financial arrangement.
5. This determination applies only to an MKP Futures Contract if the period between the first Trading Day and the Last Trading Day for the contract is 5 years or less.
6. For the avoidance of doubt, this determination does not apply to any other derivative products trading on the NZX Derivatives Market or another market. In respect of the NZX dairy derivatives market as at the date of this determination, these other derivative contracts are entitled WMP Futures, WMP Options, SMP Futures, SMP Options, AMF Futures, BTR Futures and MKP Options.

4 Principle

1. An MKP Futures Contract is a financial arrangement under section EW 3(2) of the Act.

2. This determination applies an expected value approach to calculate the income derived or expenditure incurred by a Farmer under an MKP Futures Contract.
3. Under this approach:
 - The gross income derived or expenditure incurred by a Farmer under an MKP Futures Contract, over the term of the contract, is the total of the expected component and the unexpected component.
 - The amount of the expected component:
 - Is determined at the date a Farmer enters into an MKP Futures Contract and spread with an amount allocated to each income year over the term of the contract except for the income year in which the Farmer is required to calculate a base price adjustment.
 - Will, however, be zero. The Trade Price for the contract is the same as the Forward Rate for the contract, and the Initial Margin will be offset by a matching amount over the term of the contract.
 - The unexpected component at the end of each income year is the total amount paid to, or received by, the Farmer as a Variation Margin for an MKP Futures Contract at the end of the last day of the current income year minus any amount paid or received in all previous income years.
 - The final unexpected component is the difference between the Trade Price of the MKP Futures Contract and the Final Farmgate Milk Price for the Farmgate Milk Price Season minus any Variation Margins paid or received and returned in all previous income years and is recognised by performing a base price adjustment, under section EW 31 of the Act, on the Maturity of the MKP Futures Contract or when a base price adjustment is otherwise required to be calculated under section EW 29 of the Act. If the result of the base price adjustment is:
 - Positive it is, under section EW 31(3) of the Act, income of the Farmer derived in the income year for which the calculation is made.
 - Negative it is, under section EW 31(4) of the Act, expenditure of the Farmer incurred in the income year for which the calculation is made.

5 Interpretation

In this determination (and in the explanation to this determination) –

Act means the Income Tax Act 2007.

Broker means a CHO approved participant who has entered into a client agreement (that is, a written agreement containing provisions describing the relationship between a participant and a client) with a Farmer.

Closed Out means a Contract that is terminated before the Expiry Day.

Closeout Price means the price at which a Farmer's hedge i.e. short MKP Futures Contract, is Closed Out through the NZX Trading System by the Farmer entering into a long MKP Futures Contract.

Closing Price means the last price quoted on the Trading System at the end of each trading day.

CHO means New Zealand Clearing Limited, the operator of the central counterparty clearing house which forms part of the facilities and systems to effect clearing and settlement of transactions including derivatives traded on the NZX Derivatives Market.

Clearing Participant means a person whom CHO has allowed to be a participant in the central counterparty clearing house operated by CHO.

Contract Month means the contract specified for an MKP Futures Contract as recorded in the Individual Contract Specification and or the Contract Terms.

Contract Rate means the Trade Price obtained at the time an MKP Futures Contract is entered into, where it is either bought (a long contract) or sold (a short contract).

Contract Terms means contract specifications listed on the NZX website (NZX.com) and the legal terms and conditions specified in the document NZX Derivatives Market Contract No.8 Milk Price (MKP) Futures – Contract Terms and Administrative Procedures for the Contract Months September 2017 onwards as may be amended or replaced provided that any amended or replaced terms and conditions do not materially alter the outcome of applying the Principle and Method as set out in this determination.

Daily Settlement Price means the settlement price calculated in respect of an MKP Futures Contract in accordance with the rules set out in the NZX's operative derivative market procedures.

Expiry Calendar means the Expiry Calendar as specified by the NZX from time to time.

Expiry Day means, in respect of an MKP Futures Contract, the expiry date specified in the Expiry Calendar.

Farmer means a person resident in New Zealand under section YD 1 or YD 2 of the Act who derives an income from the farming of dairy cows in New Zealand whose milk is supplied for processing in New Zealand (including sharemilkers).

Farmgate Milk Price means the average price for a Season for each kilogram of milk solids (kg MS) supplied under Fonterra's standard terms of supply, and calculated in accordance with Fonterra's prevailing Farmgate Milk Price Manual.

Farmgate Milk Price Season means the Season ending in the year on which the Contract Month falls. For example: for the September 2020 Contract Month the Farmgate Milk Price Season is the Season ending on 31 May 2020.

Final Farmgate Milk Price means the Farmgate Milk Price, for a Farmgate Milk Price Season, announced by Fonterra on an annual basis with Fonterra's annual results on or before 30 September.

Forecast Farmgate Milk Price means the prevailing Farmgate Milk Price forecast by Fonterra for a Farmgate Milk Price Season. Where the Forecast Farmgate Milk Price for a Season is expressed as a range, the Forecast Farmgate Milk Price is the mid-point of the range.

Fonterra means Fonterra Co-operative Group Limited.

Final Settlement Amount means the amount payable or receivable (if any) on the Settlement Day to settle and discharge all obligations under an MKP Futures Contract.

Forward Rate is the MKP Futures Contract Rate available to be traded on the NZX Trading System at any point in time.

Hedging means a Farmer entering into an MKP Futures Contract for the sole purpose of managing the price risk in relation to the Farmer's future supply of milk to a dairy processor.

Individual Contract Specification means the terms of a class of contract notified by the NZX to the NZX Derivatives Market.

Initial Margin means that amount that a party must pay to the Broker as collateral before an MKP Futures Contract can be executed and subsequent increases or decreases, if any.

Last Trading Day means the last Trading Day on which an MKP Futures Contract may be Traded as specified in the Individual Contract Specification.

Lot means 6,000 kilograms of milk solids (kg MS).

Maturity means the Settlement Day for an MKP Futures Contract.

MKP Futures Contract means a contract that:

- (a) is made expressly or impliedly on the Contract Terms and the applicable Individual Contract Specification; and
- (b) has as its underlying asset the price for one Lot as set by reference to the Farmgate Milk Price.

NZX means NZX Limited.

NZX Derivatives Market means the derivatives market operated by the NZX.

Season means a period of 12 months ending on 31 May in each year.

Settlement Day means the business day on which the settlement of all obligations in respect of an MKP Futures Contract occurs.

Settlement Amount means the amount in money when an MKP Futures Contract is held to its Expiry Day or is Closed Out prior to its Expiry Day being the gross difference between the Contract Rate and the Closeout Price or the gross difference between the Contract Rate and the Final Farmgate Milk Price.

Trade Price means the actual price (expressed in NZ dollars on a per Lot basis) at which an MKP Futures Contract is Traded in the Trading System. The Trade Price will be the Forward Rate prevailing at the time an MKP Futures Contract is entered into.

Traded means any resulting transaction or a linked series of transactions where an order to buy (long) or sell (short) MKP Futures Contracts is matched in the Trading System with an order to sell (short) or buy (long) MKP Futures Contracts respectively.

Trading Day means a business day on which an MKP Futures Contract may be Traded on the NZX Derivatives Market.

Trading System means the systems, facilities and services provided by NZX for lodging quotations and orders for trading and reporting trades of MKP Futures Contracts.

Variation Margin means:

- (a) an amount equal to the difference between the Daily Settlement Price of a Lot at the close of the day of calculation and the Daily Settlement Price of a Lot at the close of the business day immediately prior to the day of calculation (the NZX prescribed amount); and

- (b) any amount charged by a Broker to a Farmer additional to the NZX prescribed amount.

6 Method

1. The gross income derived or expenditure incurred by a Farmer under an MKP Futures Contract over the term of the contract is the total of the expected component and the unexpected component.

Determination of expected component

2. The amount of the expected component is determined and must be calculated as at the date in the income year a Farmer enters into an MKP Futures Contract.
3. The expected component is the difference between the Forward Rate and the Contract Rate.
4. There will be no expected component. The Trade Price and the Forward Rate are the same and the Initial Margin will be offset by a matching amount at Maturity.

Spreading of expected component

5. As there is no expected component under an MKP Futures Contract there will be no amount to spread in the income years during the term of the contract.

Unexpected component

6. The payment or receipt of a Variation Margin by or to the Farmer is an unexpected component. The total Variation Margin, less any amount returned in previous income years, is required to be returned as income or allowed to be deducted as expenditure at the end of each income year, or other period that the Farmer is required to file an income tax return.
7. The final unexpected component is recognised by performing a base price adjustment, under section EW 31 of the Act, on the Maturity of the MKP Futures Contract or when a base price adjustment is otherwise required to be calculated under section EW 29 of the Act.
 - A positive base price adjustment is, under section EW 31(3) of the Act, income of the Farmer derived in the income year for which the calculation is made.

- A negative base price adjustment is, under section EW 31(4) of the Act, expenditure of the Farmer incurred in the income year for which the calculation is made.
8. Where an MKP Futures Contract is held to the Expiry Day and settled on its Settlement Day, the unexpected component will be the difference between the Contract Rate and the Final Farmgate Milk Price, on a per Lot basis minus any Variation Margin required to be returned as an unexpected component in previous income years.
- Any difference between the Contract Rate and the Final Farmgate Milk Price will be the Settlement Amount.
 - The unexpected component will be the Settlement Amount minus any Variation Margin required to be returned as an unexpected component in previous income years, on a per Lot basis. This will be the amount of the base price adjustment calculation.
9. Where an MKP Futures Contract is Closed Out prior to the last Trading Day for the contract, the unexpected component will be the difference between the Contract Rate and the Closeout Price minus any Variation Margin required to be returned as an unexpected component in previous income years, on a per Lot basis. This will be the amount of the base price adjustment calculation.
- Any difference between the Contract Rate and the Closeout Price will be the Settlement Amount.
 - The unexpected component will be Settlement Amount minus any Variation Margin required to be returned as an unexpected component and will be the amount of the base price adjustment calculation.
10. The base price adjustment formula from section EW 31(5) of the Act is as follows:

$$\text{consideration} - \text{income} + \text{expenditure} + \text{amount remitted}$$

Where, for each MKP Futures Contract:

- consideration includes:
 - the Closeout Price minus the Contract Rate multiplied by 6,000 kg MS; and
 - the total of all Initial Margin paid or received
- income includes Variation Margin returned as an unexpected component in previous years
- expenditure includes Variation Margin deducted as an expected component in previous years

7 Examples

In the following examples:

- a short contract refers to a futures contract under which the Settlement Amount received increases when the Final Farmgate Milk Price decreases, and decreases when the Final Farmgate Milk Price increases; and
- a long contract refers to a futures contract under which the Settlement Amount received increases when the Final Farmgate Milk Price increases, and decreases when the Final Farmgate Milk Price decreases.

A farmer wanting to hedge the milk price risk of their anticipated production would enter into a short contract.

Example A: Entering into an MKP futures contract for hedging

On 1 June 2020, a farmer enters into 10 MKP Futures Contracts (that is, contracts hedging the prices of 10 Lots), each with a Contract Month of September 2021. As the farmer wants to hedge the milk price risk of their anticipated production, they enter into short contracts at a Contract Rate of \$7.00 (that is, contracts for 60,000 kilograms of milk solids (kg MS) at \$7.00 per kilogram).

On the date on which the contracts are entered into, the Forecast Farmgate Milk Price for the 2021 Farmgate Milk Price Season is \$6.75 per kg MS.

The farmer must calculate the expected component for each contract at the date on which the contract is entered into. There is no difference between the prices because the Contract Rate (which is also known as the Trade Price) of \$7.00 per kg MS is the same as the Forward Price of the contracts. The expected component is therefore zero and there is nothing to spread over the term of the contract.

At the end of the farmer's 2020–21 income year, September 2021 MKP Futures Contracts have a Forward Rate of \$7.45 and the farmer has paid a total Variation Margin of \$2,700 per MKP Futures Contract. The farmer's unexpected component is calculated as follows:

- Variation Margin per contract = $(\$7.00 \times 6,000) - (\$7.45 \times 6,000) = (\$2,700)$
- Total unexpected component = $-\$2,700 \times 10 = (\$27,000)$

The farmer is allowed a deduction for income tax purposes of \$27,000 in their 2020–21 income year.

Example B: Settlement price lower than final farmgate milk price

The same farmer in Example A holds the 10 short contracts until they mature in September 2021. The Final Farmgate Milk Price announced by Fonterra for the Farmgate Milk Price Season ending 31 May 2021 (falling in the 2021–22 income year) is \$7.50 per kg MS.

The farmer has incurred a total loss of \$0.50 for each kilogram of milk solids for which the price is hedged under the 10 contracts.

The total loss under the 10 contracts is \$30,000:

- Total gain/(loss) = $((\$7.00 - \$7.50) \times (10 \times 6,000)) = (\$30,000)$
- The financial loss incurred under the 10 contracts is offset by the \$7.50 per kg MS paid to the farmer for the actual amount of milk solids supplied that is hedged by the 10 contracts.
- The net effect of the contracts is that the farmer derives total revenue of \$420,000 in relation to 60,000 kg MS supplied. The farmer can be confident, that on 1 June 2020 when the contracts were entered into the farming operation will earn exactly¹ \$420,000 in relation to 60,000 kilograms of the farm's milk production.

The farmer must calculate a base price adjustment for each contract because the contracts have matured and have been settled. The base price adjustment corresponds to the final unexpected component minus the unexpected component already required to be returned for each contract.

- Unexpected component per contract = $((\$7.00 \times 6,000) - (\$7.50 \times 6,000)) - (-\$2,700) = (\$300)$
- Total unexpected components = $(-\$300 \times 10) = (\$3,000)$
 - (\$27,000) of unexpected components relating to the Variation Margins on the 10 contracts were paid and returned in the 2020–2021 income year
- Base price adjustment = consideration – income + expenditure + amount remitted
 - $BPA = -\$30,000 - 0 + \$27,000 + 0 = (\$3,000)$
- As the base price adjustment for the 10 contracts is negative, this amount is expenditure and is allowed as a deduction allocated to the farmer's 2021–22 tax year.

¹ The average farmer in this situation supplying to Fonterra would earn exactly this amount but any individual farmer may earn slightly more or less depending on other factors such as when in the season the milk was supplied or whether they were supplying to another milk producer. For simplicity the examples ignore these factors.

The farmer's \$30,000 loss on the 10 contracts is offset by the additional \$30,000 of income that the farmer receives for supplying 60,000 of kg MS at the Final Farmgate Milk Price of \$7.50 per kg MS.

Example C: Multi-year contracts

On 1 June 2020, a farmer enters into 10 MKP Futures Contracts (that is, contracts hedging the prices of 10 Lots), each with a Contract Month of September 2022. As the farmer wants to hedge the milk price risk of their anticipated production, they enter into short contracts at a Contract Rate of \$7.00 (that is, contracts for 60,000 kilograms of milk solids (kg MS) at \$7.00 per kilogram).

On the date on which the contract is entered into, the Forecast Farmgate Milk Price for the 2022 Farmgate Milk Price Season is \$6.75 per kg MS.

The farmer must calculate the expected component for each contract at the date on which the contract is entered into. There is no difference between the prices because the Contract Rate (which is also known as the Trade Price) of \$7.00 per kg MS is the same as the Forward Price of the contracts. The expected component is therefore zero and there is nothing to spread over the term of the contract.

At the end of the farmer's 2020–21 income year September 2022 MKP Futures Contracts have a Forward Rate of \$7.45 and the farmer has paid a total Variation Margin of \$2,700 per MKP Futures Contract. The farmer's unexpected component for the year is calculated as follows:

- Variation Margin per contract = $(\$7.00 \times 6,000) - (\$7.45 \times 6,000) = (\$2,700)$
- Total unexpected component = $-\$2,700 \times 10 = (\$27,000)$

The farmer is allowed a deduction for income tax purposes of \$27,000 in their 2020–21 income year.

At the end of the farmer's 2021–22 income year, September 2022 MKP Futures Contracts have a Forward Rate of \$7.30 and the farmer has paid a total net Variation Margin of \$1,800 per MKP Futures Contract over the two income years (including the \$2,700 paid in the 2020–21 income year). The farmer's unexpected component is calculated as follows:

- Variation Margin per contract = $(\$7.00 \times 6,000) - (\$7.30 \times 6,000) = (\$1,800)$
- Total net unexpected component = $-\$1,800 \times 10 = (\$18,000)$

- Total unexpected component (Variation Margins) paid and returned in the 2020–2021 income year was (\$27,000)
- 2021–22 tax effect of unexpected component = $-\$18,000 - (-\$27,000) = \$9,000$

The farmer is required to return \$9,000 of income in their 2021–22 income year.

Example D: Held to maturity

The farmer holds the 10 short contracts until they mature in September 2022. The Final Farmgate Milk Price announced by Fonterra for the Farmgate Milk Price Season ending 31 May 2022 (falling in the 2022–23 income year) is \$7.35 per kg MS.

The farmer has incurred a loss of \$0.35 for each kilogram of milk solids for which the price is hedged under the 10 contracts.

The total loss under the 10 contracts is \$21,000:

- Total gain/(loss) = $((\$7.00 - \$7.35) \times (10 \times 6,000)) = (\$21,000)$
- The financial loss incurred under the 10 contracts is offset by the \$7.35 per kg MS paid to the farmer for the actual amount of milk solids supplied that is hedged by the 10 contracts.
- The net effect of the contracts is that the farmer derives total revenue of \$420,000 in relation to 60,000 kg MS supplied. The farmer could be confident, that on 1 June 2020 when the contracts were entered into, that the farming operation will earn exactly \$420,000 in relation to 60,000 kilograms of the farm's milk production.

The farmer must calculate a base price adjustment for each contract because the contracts have matured and have been settled. The base price adjustment corresponds to the final unexpected component minus the unexpected component already required to have been returned for each contract in the previous two income years.

- Unexpected component per contract = $((\$7.00 \times 6,000) - (\$7.35 \times 6,000)) - -\$2,700 - \$900 = (\$300)$
- Total unexpected components = $(-\$300 \times 10) = (\$3,000)$
- Base price adjustment = consideration – income + expenditure + amount remitted
 - BPA = $-\$21,000 - \$9,000 + \$27,000 + 0 = (\$3,000)$
- As the base price adjustment is negative, this amount is expenditure and is allowed as a deduction allocated to the farmer's 2022–23 tax year.

The farmer's \$21,000 total loss on the 10 contracts is offset by the additional \$21,000 of income that the farmer receives for supplying 60,000 of kg MS at the Final Farmgate Milk Price of \$7.35 per kg MS.

Example E: Partial closeout

On 1 October 2020 a farmer enters into 35 MKP Futures Contracts, each with a Contract Month of September 2021, at a Contract Rate of \$7.25 per kg MS. On 5 January 2021, the farmer reduces the hedged position by 10 contracts because they expect that production will be lower than initially expected when the hedge contracts were made.

The 10 contracts are Closed Out at a price of \$7.20 resulting in a gain of \$0.05 per kg MS hedged under the contracts.

- The total gain from the 10 contracts Closed Out on 5 January 2021 is \$3,000
 - Total gain/(loss) = $((\$7.25 - \$7.20) \times (10 \times 6,000)) = \$3,000$

The farmer must calculate a base price adjustment for each of the 10 contracts that have been Closed Out and settled early. The base price adjustment will correspond to the final unexpected component minus the unexpected component already required to be returned (which in this case is zero) for each contract.

- Unexpected component = $((\$7.25 \times 6,000) - (\$7.20 \times 6,000)) - \$0 = \300 per contract
- Total unexpected components = $(\$300 \times 10) = \$3,000$
- Base price adjustment = consideration – income + expenditure + amount remitted
 - BPA = $\$3,000 - 0 + 0 + 0 = \$3,000$
- As the base price adjustment is positive, this amount is financial arrangement income allocated to the farmer's 2020–21 tax year.

The farmer will calculate the expected component for their remaining 25 MKP Futures Contracts at the end of their 2020–21 year and the unexpected component and base price adjustment for their 2021–22 year.

Example F: Long term hedge

On 15 July 2021, a farmer enters into 20 short MKP Futures Contracts, each with a Contract Month of September 2024, at a Contract Rate of \$8.00 per Lot (that is, 6,000 kg MS at \$8.00 per kilogram).

On the date on which the contracts are entered into, there is no Forecast Farmgate Milk Price for the 2024 production season. Fonterra had published a Forecast Farmgate Milk Price of \$7.75 per kg MS for the 2022–23 season only.

The expected component for each contract is zero because the Trade Price of \$8.00 per kg MS is the same as the Forward Price. The farmer is required to calculate the unexpected component for each of the 2021–22 to 2023–24 years using the same method as example C.

The final unexpected component will not be known until the contracts mature in 2024 or are Closed Out early when a base price adjustment must be performed.

This determination is signed by me on the 10th day of March 2020.

Chris Gillion
Policy Lead, Policy and Strategy