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Fonterra's Farm Gate Milk Price Forecasting – Worth the Effort?

Summary

In May 2013, Fonterra announced a forecast farm gate milk price (FGMP) for the 2013/14 season of \$7.00. The actual FGMP for that season was \$8.40. In May 2014, Fonterra announced a forecast FGMP of \$7.00 for the 2014/15 season. The actual FGMP for the season is probably going to be around \$4.40.

This article is not about Fonterra getting its opening forecast wrong. This article is about whether or not Fonterra should even try to forecast the season's FGMP.

The first point is whether or not it is possible to forecast. We would argue that (reasonably) efficient commodity markets mean it is not possible. That doesn't mean that Fonterra won't get it right from time to time but it does mean that if it does it will be a fluke. The second point is the danger of the forecast being relied upon. With the benefit of hindsight, we expect there would be many farmers who made farming decisions based on a forecast FGMP of \$7.00 that they wouldn't have made at \$4.40. And the multiplier effects mean that the consequences of getting it wrong extend a long way beyond the farm gate.

Farm gate milk price forecasting – worth the effort?

In May 2013, Fonterra announced a forecast farm gate milk price (FGMP) for the 2013/14 season of \$7.00. The actual FGMP for that season should have been \$8.65 but Fonterra marked it down to \$8.40 on the back of an extraordinary year. In May 2014, Fonterra announced a forecast FGMP of \$7.00 for the 2014/15 season. The actual FGMP for the season is probably going to be \$4.40. These examples are extreme but real. Table 1 below shows a four-year history.

Table 1 Forecast versus actual FGMP 2012-2015

	2012	2013	2014	2015	2016
Opening Forecast FGMP	6.75	5.50	7.00	7.00	5.25
Actual FGMP	6.08	5.84	8.40	4.40	??
Variance	-10%	6%	20%	-37%	??

Source: www.fonterra.com

This article, however, is not about Fonterra getting its opening forecast wrong. This article is about whether or not Fonterra should even try to forecast the season's FGMP.

The first discussion point is whether or not it is possible to forecast. We would argue that it is not possible. That doesn't mean that Fonterra won't get it right from time to time but it does mean that if it does it will be a fluke. The second discussion point is the danger of the forecast being relied upon.

In May this year, Fonterra announced a forecast FGMP for the 2015/16 season of \$5.25¹.

At the time Fonterra released this forecast, the May GDT™ wholemilk powder (WMP) price was approximately US\$2,400 per tonne, the three-month forward price was US\$2,425 and the six-month forward price was US\$2,440. The three-month (August 2015) futures price was US\$2,580 and the six-month (November 2015) futures price was US\$2,650.

According to our calculations, the May WMP price translates into a FGMP-equivalent of approximately \$3.60, the six-month forward price translates into a FGMP-equivalent of approximately \$4.20, and the November 2015 futures price translates into a FGMP-equivalent of approximately \$4.50².

By the end of November, Fonterra will have sold more than 50% of the season's production.

Fonterra disclosed that its forecast assumed that the WMP price would get to US\$3,500 by the beginning of 2016. US\$3,500 is the average WMP price since the beginning of GDT™ and (in some quarters) is thought to be the equilibrium price. If WMP does get to US\$3,500 by the beginning of 2016 then, we agree, the FGMP for the season could be \$5.25.

However, WMP is a commodity product. Commodities by definition are mass produced and indistinguishable from competing products on any basis other than price. Mass production implies mass consumption so we have a market that has many buyers and many sellers all of whom are trying to figure out how to optimise value.

Such a market is by definition highly competitive and therefore must have some level of efficiency. An efficient market is one where, at any point in time, actual prices reflect all available information.

The efficient market hypothesis discusses different levels of efficiency and if we accept that there is some level of efficiency in dairy commodity markets, the question is: on what basis could Fonterra forecast \$5.25?

We can understand Fonterra assuming that the price of WMP will trend back towards the equilibrium but we can't understand the assumed timing. If we look at the information that was available in May 2015 we can see that WMP buyers were purchasing WMP for shipment in November for US\$2,440. If the market consensus was for WMP prices to be US\$3,500 by January (ie. two months later), it was certainly not obvious in the data that could be observed at the time.

In January this year Charles Gave of Gavekal Research published an excellent article³ entitled *Beware the correction of false prices*, which is an article about the future being unknowable, about central

¹ Interestingly, this forecast was the consensus forecast of market commentators.

² Current market prices are now significantly lower than what they were in May 2015. Market commentators are now divided on a forecast FGMP. Fonterra has not yet changed its opening forecast, there is a growing chorus from some that the forecast should be revised down to \$4.50, while others think \$5.40 is still a reasonable number.

³ GavekalDragonomics Global Research, *Beware the correction of false prices*, Monday, January 26, 2015

bankers around the globe acting as if it is knowable, about the existence of an approximate equilibrium, and about the consequences of misguided behaviour.

The article argues that a central banker should not give forward guidance because the future is unknowable. The danger is that market participants use the official forward guidance to make business decisions, which, if the forward guidance turns out to be wrong, moves the market away from its equilibrium with the inevitable market disruption that occurs as a consequence. The further away from the equilibrium the market moves, the more significant the market disruption – think GFC.

The argument applied to central bankers in the article could equally be applied to Fonterra. We know what happens to the cost of farms and the cost of farming when the FGMP is high, and the multiplier effects mean that the consequences extend far beyond the farm gate. There would be many farmers who made decisions in the 2014/15 season based on the forecast FGMP of \$7.00 who would have made different decisions in light of an actual FGMP of \$4.40.

It is reasonable for Fonterra to give its farmer suppliers a FGMP number at the start of the season but what is wrong with making that number the current value of their milk and not calling it a forecast?