



Assurance in uncertain times

- Dairy futures contracts are growing in popularity.
- The GlobalDairyTrade platform is building a stronger base of sellers and attracting more buyers.
- The trend is towards a deeper global dairy market.

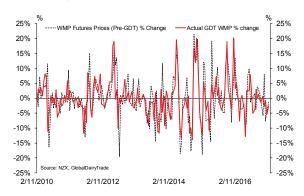
GlobalDairyTrade Auction Results, 22 November 2017

	Change since last auction	Price index USD/Tonne
Anhydrous Milk Fat (AMF)	0.0%	\$6,887
Butter	-5.9%	\$5,144
Butter Milk Power (BMP)	n.a	n.a
Cheddar	-4.2%	\$3,831
Lactose	n.a	n.a
Rennet Casein	-12.6%	\$4,644
Skim Milk Powder (SMP)	-6.4%	\$1,701
Whole Milk Powder (WMP)	-2.6%	\$2,778
GDT Price Index	-3.4%	-

Farmgate milk price forecasts

	2017/18		2018/19
	Westpac	Fonterra	Westpac
Milk Price	\$6.20	\$6.75	\$6.50

Predictive power of NZX WMP Futures



In this update, we explore the usefulness of dairy futures as a tool for New Zealand farmers to manage price volatility and risk, and how the dairy futures market has evolved since its inception.

Dairy farmers face a great deal of risks that can both increase or decrease their costs and revenue. Locally, one of the major risks of late has been extreme weather conditions, leading to wet pastures that increase the costs to produce and more importantly the ability to produce. In terms of the global economy, commodity prices, exchange rates and interest rates can all have a bearing on the returns to farmers for selling their milk to processors like Fonterra.

Around 95% of milk collected in New Zealand is exported, meaning that our farmers are exposed to the temperament of the global markets. Although global dairy demand

has picked up over the past year, it can be subject to unforeseen swings, which affect the prices paid to farmers by local processors. These swings in turn can affect New Zealand dairy farms' ability to manage cash flows and debt servicing. As such, there's a role in the market for products that provide more certainty around commodity prices.

The NZX defines a futures contract as an agreement to deliver/collect a specific quantity and quality of a given asset/commodity, at a specified date in the future, at an agreed price today. Trading on the futures market enables both farmers and processors to lock in prices and manage their degree of exposure to unfavourable movements in world prices.

In part, the role of futures contracts has grown naturally because of an improved platform for risk management. But outside of this trend, there is also a growing awareness among newer-generation farmers about managing risk better. Still, New Zealand farming methods have been rooted in traditional practices for many years, and ingrained culture appears to be a one of the major reasons why the uptake of dairy futures contracts still has a long way to go.

One of the key considerations in using futures contracts is whether the contract price accurately reflects the price of the underlying product (whole milk powder, anhydrous milkfat, and so on). As the futures market has attracted greater interest, we have observed an improvement

over time in the predictive power of futures prices. That makes these prices particularly useful as a real-time gauge of what's going on in the global dairy market, outside of the twice-monthly snapshots provided by the GlobalDairyTrade auction.

However, the fit is still far from perfect. We note that, on average, the NZX dairy futures predict the direction of change in GDT auction results within an acceptable margin of error when dairy product prices are under downward pressure, but less so when prices are rising.

Pricing tends to be a reflection of the sentiment of participants following preceding auctions. This has led to hit and miss outcomes at times, such as the recent tendency for futures prices to over-estimate the GDT auction results. But as the chart shows, this does not detract from the relative improvement in the predictive power of futures prices over time.

As the global market for dairy matures, the value and role of a fully functional futures market will be invaluable to New Zealand dairy farmers. Futures and other derivatives provide farmers with ways to manage cash flow, smooth revenue and manage debt servicing in the face of market uncertainty.

Shyamal Maharaj **Economist**

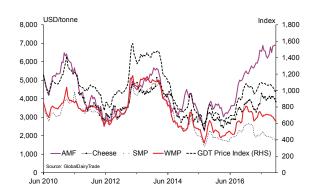
Beyond the farm gate

Dairy

	Current price level compared to 10 year average	Next 6 months
Trend	Below Average	7

Last night the GlobalDairyTrade platform had its 200th auction, which saw a 3.4% decline in the overall dairy price index. Prices fell despite dairy futures pricing in a slight rise. Whole milk powder prices fell by 2.7% to US\$2,778/t, while butter prices fell by 5.9% to US\$5,114/t. The decline in dairy product prices since the middle of this year, despite milk production forecasts being cut back in that time, suggests ongoing softness in demand.

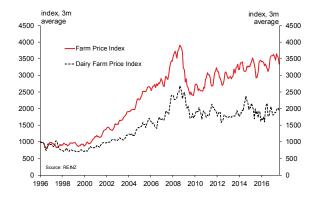
Factors continue to reinforce our farmgate milk price forecast for this season at \$6.20/KgMs. With our view that China's economic growth will slow next year, we see downward pressure mounting on dairy commodity prices. A lower exchange rate will soften the impact to some extent, but this will matter more for next season's farmgate milk price, which we forecast at \$6.50/KgMs.



Land prices

	Current price level compared to 10 year average	Next 6 months
Trend	Average	→

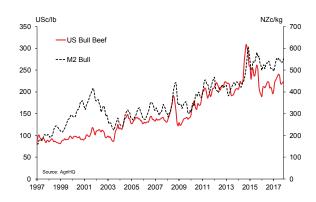
Farm sale prices saw their usual seasonal decline in October. Compared to a year ago, the REINZ All Farms Price Index is up 7% and the Dairy Farm Price Index is up 9%. Turnover remains subdued, with the number of farm sales in the three months to October down 26% on the same time last year. Uncertainty around the impact of the new Government's policies are likely to weigh on decisions about land use over the coming year. Policy priorities include reducing net carbon emissions to zero by 2050 (which will likely mean including agriculture in the Emissions Trading Scheme), improving water quality, and restricting foreign purchases of land and other assets that are deemed sensitive.



Beef

	Current price level compared to 10 year average	Next 6 months
Trend	Above Average	ä

Prices for beef schedules are showing temporary strength as we enter a period of heightened demand and constrained supply. In particular, US imported beef prices firmed further, beyond the expectations of many exporters. Prices remain firm because of the continued shortage in schedules available on the spot market. However, manufacturing beef is expected to come back on stream going into 2018 as the US boosts supply. We are already seeing a ramping up of production of manufacturing beef from Brazil, driven by their view of growing Chinese demand. Prices are likely to stay firm through the New Year, but going into 2018, prices will ease following this seasonal uptick.



Note: Trend arrows indicate direction of change in world prices.

Contact the Westpac economics team

Dominick Stephens, Chief Economist +64 9 336 5671 Michael Gordon, Senior Economist +64 9 336 5670 Satish Ranchhod, Senior Economist +64 9 336 5668 Shyamal Maharaj, Economist +64 9 336 5669 Paul Clark, Industry Economist +64 9 336 5656 Any questions email: economics@westpac.co.nz

Past performance is not a reliable indicator of future performance. The forecasts given in this document are predictive in character. Whilst every effort has been taken to ensure that the assumptions on which the forecasts are based are reasonable, the forecasts may be affected by incorrect assumptions or by known or unknown risks and uncertainties. The ultimate outcomes may differ substantially from these forecasts.

Disclaimer

Things you should know

Westpac Institutional Bank is a division of Westpac Banking Corporation ABN 33 007 457 141 ('Westpac').

Disclaimer

This material contains general commentary, and market colour. The material does not constitute investment advice. Certain types of transactions, including those involving futures, options and high yield securities give rise to substantial risk and are not suitable for all investors. We recommend that you seek your own independent legal or financial advice before proceeding with any investment decision. This information has been prepared without taking account of your objectives, financial situation or needs. This material may contain material provided by third parties. While such material is published with the necessary permission none of Westpac or its related entities accepts any responsibility for the accuracy or completeness of any such material. Although we have made every effort to ensure the information is free from error, none of Westpac or its related entities warrants the accuracy, adequacy or completeness of the information, or otherwise endorses it in any way. Except where contrary to law, Westpac and its related entities intend by this notice to exclude liability for the information. The information is subject to change without notice and none of Westpac or its related entities is under any obligation to update the information or correct any inaccuracy which may become apparent at a later date. The information contained in this material does not constitute an offer, a solicitation of an offer, or an inducement to subscribe for, purchase or sell any financial instrument or to enter a legally binding contract. Past performance is not a reliable indicator of future performance. Whilst every effort has been taken to ensure that the assumptions on which the forecasts are based are reasonable, the forecasts may be affected by incorrect assumptions or by known or unknown risks and uncertainties. The ultimate outcomes may differ substantially from these forecasts

Country disclosures

Australia: Westpac holds an Australian Financial Services Licence (No. 233714). This material is provided to you solely for your own use and in your capacity as a wholesale client of Westpac.

New Zealand: In New Zealand, Westpac Institutional Bank refers to the brand under which products and services are provided by either Westpac or Westpac New Zealand Limited ("WNZL"). Any

product or service made available by WNZL does not represent an offer from Westpac or any of its subsidiaries (other than WNZL). Neither Westpac nor its other subsidiaries guarantee or otherwise support the performance of WNZL in respect of any such product. The current disclosure statements for the New Zealand branch of Westpac and WNZL can be obtained at the internet address www. westpac.co.nz. For further information please refer to the Product Disclosure Statement (available from your Relationship Manager) for any product for which a Product Disclosure Statement is required, or applicable customer agreement. Download the Westpac NZ QFE Group Financial Advisers Act 2008 Disclosure Statement at www.westpac.co.nz.

China, Hong Kong, Singapore and India: This material has been prepared and issued for distribution in Singapore to institutional investors, accredited investors and expert investors (as defined in the applicable Singapore laws and regulations) only. Recipients in Singapore of this material should contact Westpac Singapore Branch in respect of any matters arising from, or in connection with, this material. Westpac Singapore Branch holds a wholesale banking licence and is subject to supervision by the Monetary Authority of Singapore. Westpac Hong Kong Branch holds a banking license and is subject to supervision by the Hong Kong Monetary Authority. Westpac Hong Kong branch also holds a license issued by the Hong Kong Securities and Futures Commission (SFC) for Type 1 and Type 4 regulated activities. This material is intended only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance. Westpac Shanghai and Beijing Branches hold banking licenses and are subject to supervision by the China Banking Regulatory Commission (CBRC). Westpac Mumbai Branch holds a banking license from Reserve Bank of India (RBI) and subject to regulation and supervision by the RBI.

UK: The contents of this communication, which have been prepared by and are the sole responsibility of Westpac Banking Corporation London and Westpac Europe Limited. Westpac (a) has its principal place of business in the United Kingdom at Camomile Court, 23 Camomile Street, London EC3A 7LL, and is registered at Cardiff in the UK (as Branch No. BR00106), and (b) authorised and regulated by the Australian Prudential Regulation Authority in Australia. Westpac is authorised in the United Kingdom by the Prudential Regulation Authority. Westpac is subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential

Disclaimer continued

Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. Westpac Europe Limited is a company registered in England (number 05660023) and is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority.

This communication is being made only to and is directed at (a) persons who have professional experience in matters relating to investments who fall within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order") or (b) high net worth entities, and other persons to whom it may otherwise lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). Any person who is not a relevant person should not act or rely on this communication or any of its contents. The investments to which this communication relates are only available to and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such investments will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely upon this communication or any of its contents. In the same way, the information contained in this communication is intended for "eligible counterparties" and "professional clients" as defined by the rules of the Financial Conduct Authority and is not intended for "retail clients". With this in mind, Westpac expressly prohibits you from passing on the information in this communication to any third party. In particular this communication and, in each case, any copies thereof may not be taken, transmitted or distributed, directly or indirectly into any restricted jurisdiction. This communication is made in compliance with the Market Abuse Regulation (Regulation(EU) 596/2014).

Investment Recommendations Disclosure

The material may contain investment recommendations, including information recommending an investment strategy. Reasonable steps have been taken to ensure that the material is presented in a clear, accurate and objective manner. Investment Recommendations for Financial Instruments covered by MAR are made in compliance with Article 20 MAR. Westpac does not apply MAR Investment Recommendation requirements to Spot Foreign Exchange which is out of scope for MAR.

Unless otherwise indicated, there are no planned updates to this Investment Recommendation at the time of publication. Westpac has no obligation to update, modify or amend this Investment Recommendation or to notify the recipients of this Investment Recommendation should any information, including opinion, forecast or estimate set out in this Investment Recommendation change or subsequently become inaccurate.

Westpac will from time to time dispose of and acquire financial instruments of companies covered in this Investment Recommendation as principal and act as a market maker or liquidity provider in such financial instruments.

Westpac does not have any proprietary positions in equity shares of issuers that are the subject of an investment recommendation.

Westpac may have provided investment banking services to the issuer in the course of the past 12 months.

Westpac does not permit any issuer to see or comment on any investment recommendation prior to its completion and distribution.

Individuals who produce investment recommendations are not permitted to undertake any transactions in any financial instruments or derivatives in relation to the issuers covered by the investment recommendations they produce.

Westpac has implemented policies and procedures, which are designed to ensure conflicts of interests are managed consistently and appropriately, and to treat clients fairly.

The following arrangements have been adopted for the avoidance and prevention of conflicts in interests associated with the provision of investment recommendations.

- (i) Chinese Wall/Cell arrangements;
- (ii) physical separation of various Business/Support Units;
- (iii) and well defined wall/cell crossing procedures;
- (iv) a "need to know" policy;
- (v) documented and well defined procedures for dealing with conflicts of interest:
- (vi) steps by Compliance to ensure that the Chinese Wall/Cell arrangements remain effective and that such arrangements are adequately monitored.

U.S.: Westpac operates in the United States of America as a federally licensed branch, regulated by the Office of the Comptroller of the Currency. Westpac is also registered with the US Commodity Futures Trading Commission ("CFTC") as a Swap Dealer, but is neither registered as, or affiliated with, a Futures Commission Merchant registered with the US CFTC. Westpac Capital Markets, LLC ('WCM'), a wholly-owned subsidiary of Westpac, is a broker-dealer registered under the U.S. Securities Exchange Act of 1934 ('the Exchange Act') and member of the Financial Industry Regulatory Authority ('FINRA'). This communication is provided for distribution to U.S. institutional investors in reliance on the exemption from registration provided by Rule 15a-6 under the Exchange Act and is not subject to all of the independence and disclosure standards applicable to debt research reports prepared for retail investors in the United States. WCM is the U.S. distributor of this communication and accepts responsibility for the contents of this communication. All disclaimers set out with respect to Westpac apply equally to WCM. If you would like to speak to someone regarding any security mentioned herein, please contact WCM on +1 212 389 1269. All disclaimers set out with respect to Westpac apply equally to WCM.

Investing in any non-U.S. securities or related financial instruments mentioned in this communication may present certain risks. The securities of non-U.S. issuers may not be registered with, or be subject to the regulations of, the SEC in the United States. Information on such non-U.S. securities or related financial instruments may be limited. Non-U.S. companies may not subject to audit and reporting standards and regulatory requirements comparable to those in effect in the United States. The value of any investment or income from any securities or related derivative instruments denominated in a currency other than U.S. dollars is subject to exchange rate fluctuations that may have a positive or adverse effect on the value of or income from such securities or related derivative instruments.

The author of this communication is employed by Westpac and is not registered or qualified as a research analyst, representative, or associated person under the rules of FINRA, any other U.S. selfregulatory organisation, or the laws, rules or regulations of any State. Unless otherwise specifically stated, the views expressed herein are solely those of the author and may differ from the information, views or analysis expressed by Westpac and/or its affiliates.