

What is basis?

You know that futures and basis form the core components of your price, but what exactly is basis?

Basis can be a complex concept, made more confusing by the fact that it is often used to describe different things.

At its simplest:

Basis = Local cash price – Futures price
Or

Local cash price = Futures price + Basis

Basis is the difference between the price at which grain is sold at any given time at any given location, and the underlying futures price.

Basis varies depending on a few factors:

- Delivery location (freight cost)
- Local supply and demand (competition)
- Quality of grain
- Time of delivery

To understand basis, it is also useful to explore why the cash value of grain differs from one location to the next. The local cash price fluctuates in part due to the futures price, but also due to the other factors listed above. The difference in prices between any two locations, or any two time periods, for a specific quality of grain is reflected in the basis. For example, the cash price of 1 CWRS 13.5 in eastern Saskatchewan may be lower than the cash price for the same quality in central Alberta due to lower freight costs to get it to port, and/or fewer farmers with that quality of grain in central Alberta (low supply and high demand). Since all delivery locations use the same futures price to form part of their farmer cash prices (the Minneapolis Grain Exchange for spring wheat, or MGEX), each delivery location will adjust their basis to reflect the different cash values on offer at that location.

Since basis varies by location, there can be various "basis" values for the same grain; it all depends where along the supply chain you are looking at the basis. There is "export basis", which refers to the difference in value between the grain at export position

and the underlying futures price. Then there is something at your local elevator that is often called "farmer basis", "country basis" or simply "basis". Country basis takes into account export basis, freight costs to get the grain from the country to export position, and local deductions for things like elevation, cleaning, weighing and inspection. Country basis is lower (wider) than the export basis, due to the costs and risks of moving grain from the Prairies to export position. As grain is purchased closer to export position, the basis will increase (narrow).

Let's look at an example:

Grain Company A makes a sale for 1 CWRS 13.5 in store Vancouver (i.e. at port position) for February shipment. At the time of the sale, the cash market for February delivery of 1 CWRS 13.5 is trading at +\$.30/bu over MGEX March futures, so Grain Company A and the buyer agree on a basis sale at +\$.30/bu over the MGEX March futures, in store Vancouver.

Grain Company A now needs to calculate a farmer basis to cover the above sale. From the sale price of +\$.30/bu over MGEX March futures, they need to deduct their costs to get the grain from their elevator to port position, such as rail freight, elevation, cleaning, weighing and inspection, as well as costs for risk and profit margin.

In this example, let's assume these costs total \$1.50/bu.

The farmer basis for this sale is:

	Grain Company A's
+\$.30/bu	sales revenue (export basis)
	Grain Company A's
-\$1.50/bu	costs & profit margin
-\$1.20/bu	Farmer basis

Remember an important factor in determining the price of grain at a specific delivery location is local supply and demand.

Fluctuations in country basis are really nothing more than fluctuations in the cost to get grain from where it was bought from the farmer to where it was sold, together with fluctuations in margins for risk and profit. Changes to country basis can also be thought of as representing grain companies' appetites for certain types of grain and the willingness of farmers to sell at certain prices. These factors, together with the costs and risks associated with getting grain to port can vary throughout the year.

If a grain company wants the particular grade and protein of grain you are selling in a particular time period, they may increase their price to encourage you to sell to them, which results in a narrower (lower) basis. When market conditions for grain companies are highly competitive, they can become very aggressive in finding ways to trim their profit margins all the way down their pipelines to offer you the most competitive price they can.

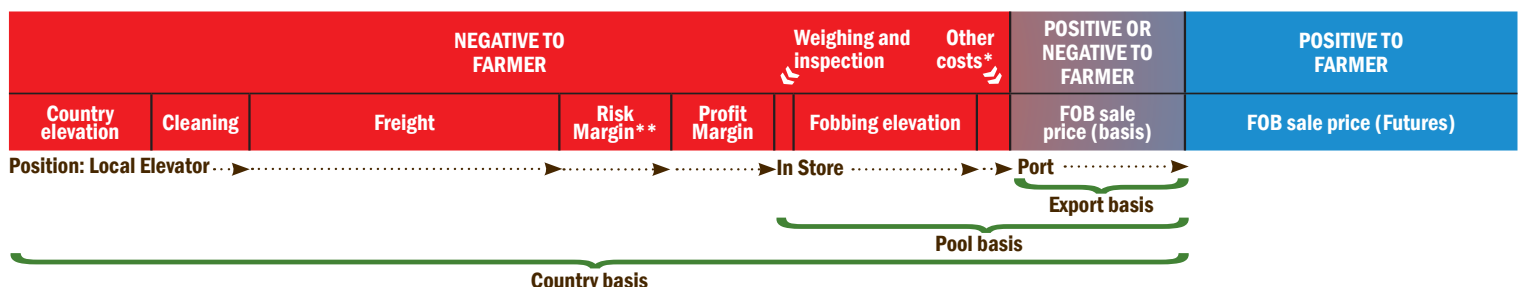
When a grain company does not want the grain you are selling for a particular time period, they may lower their price to discourage deliveries, which results in a wider (higher) basis. When other market factors such as tight logistical capacity are an issue, and grain companies face increased risks in delivering your grain to port in a timely fashion such as demurrage charges, basis will also likely widen.

Farmers' willingness to sell is also a key factor impacting local prices, and in turn, the basis. When supply is large and farmers are competing for elevator space, prices may decrease resulting in a wider basis, because companies do not need to take aggressive measures to procure grain to meet their sales commitments.

2013-14 was a perfect example of large supplies, logistical constraints and demurrage charges impacting local prices, with country basis widening out for all delivery periods.

Basis Breakdown

Note: This diagram is not to scale



* Other costs: May include costs such as documentation for phytosanitary certificates or special sampling
 ** Risk Margin: May include costs related to risks such as demurrage or foreign exchange

Managing Basis Risk: G3's Futures Choice pools

G3 offers Futures Choice pools as companion pools to all of G3's existing pools.

Futures Choice pools enable farmers to manage their export basis risk, while retaining the freedom to price their own futures.

When G3 makes sales at port for pool or cash grain, each sale has a futures and export basis component. For G3's conventional pools, futures are priced against basis sales throughout the pool period achieving an "average futures" price. At the end of the pooling period, the average value of all basis and futures sales is calculated, determining the final pool return (in store Vancouver or St. Lawrence).

A simplified example of a final Annual Pool return is found in Figure 1 (right).

In conventional pools, the final pool return for this example is the pool basis (or export basis plus fobbing and documentation costs paid at port) of \$0.38 plus the average futures value of \$7.10 for a final pool return of \$7.48 at an in store position. The final value a farmer receives is equivalent to the final pool return minus freight and local elevation costs, which vary by location.

For Futures Choice pools, the final value a farmer receives is a combination of the pool basis (\$0.38 in this example) and the futures value achieved by the farmer, minus freight costs and local elevator deductions.

Figure 1: Example of a final Annual Pool return

Basis Month	Futures Lock in Month	Futures Hedging Month	Avg Instore Pool Basis (\$/bu)	Avg Futures (\$/bu)	Instore Price (\$/bu)	Tonnes Sold	% of Pool sold	Running total
August		Dec-13	\$0.30	\$7.75	\$8.05	200,000	8.3%	8%
September		Dec-13	\$0.30	\$7.75	\$8.05	200,000	8.3%	17%
October	Dec	Dec-13	\$0.30	\$7.50	\$7.80	200,000	8.3%	25%
November		Dec-13	\$0.35	\$7.50	\$7.85	200,000	8.3%	33%
December		Dec-13	\$0.35	\$7.25	\$7.60	200,000	8.3%	42%
January		Mar-14	\$0.35	\$7.00	\$7.35	200,000	8.3%	50%
February	March	Mar-14	\$0.40	\$7.00	\$7.40	200,000	8.3%	58%
March		Mar-14	\$0.40	\$7.00	\$7.40	200,000	8.3%	67%
April		May-14	\$0.40	\$6.75	\$7.15	200,000	8.3%	75%
May	May	May-14	\$0.40	\$6.75	\$7.15	200,000	8.3%	83%
June		Jul-14	\$0.50	\$6.50	\$7.00	200,000	8.3%	92%
July	July	Jul-14	\$0.50	\$6.50	\$7.00	200,000	8.3%	100%

Final Pool: **\$0.38** **\$7.10** **\$7.48** **2,400,000** **100%**

POOL BASIS **FINAL POOL RETURN**

Comparing Annual Pool and Futures Choice Annual Pool contracts

Here's an example comparing the final pool return for the Annual Pool (based on the example numbers above), versus two farmers using Futures Choice Annual Pool contracts who lock in their own futures values:

Annual Pool (in store Vancouver/St. Lawrence)

Average futures lock-in price: \$7.10/bu
 Average in store basis price: + \$0.38/bu
Final pool return: \$7.48 /bu

Farmer A with a Futures Choice Annual Pool contract who prices his/her futures in **August** (in store Vancouver/St. Lawrence)

August 20th futures lock-in price: \$7.75/bu
 Average in store basis price: +0.38/bu
Farmer A's pool return: \$8.13/bu

Farmer B with a Futures Choice contract who prices his/her futures in **June** (in store Vancouver/St. Lawrence)

June 20th futures lock-in price: \$6.50/bu
 Average in store basis price: + \$0.38/bu
Farmer B's pool return: \$6.88/bu

Advantages to Futures Choice pools

Futures Choice pools enable you to manage key risks while still controlling the majority of your price, as pool basis is generally a small part of your overall price. Futures can dictate upwards of 95% of your final (in store) pool return.

As an example, with 1 CWRS 13.5 in store Vancouver/St. Lawrence:

Futures: \$7.25/bu (95% of overall price)
 Pool basis: \$0.35/bu (5% of overall price)
In store price: \$7.60/bu

Other benefits

- Pooled grade spread risk
- Opportunity to deliver prior to futures lock-in
- Opportunity to receive initial payment prior to futures lock-in
- Opportunity to target a specific futures value
- No exposure to wide country basis levels used to deter deliveries
- No brokerage fee, foreign exchange or margin account
- Intra-day and target pricing available