SPECIAL REPORT

TD Economics

November 3, 2011

UNPRECENTED VOLATILITY A HALLMARK OF AGRICULTURE'S NEW AGE

Highlights

- The Canadian agricultural sector is headed for another respectable year in 2011, with both crop and livestock prices on track to record significant gains, on average, relative to 2010.
- The long-term prospects for the sector are still quite bright, opening the door for unprecedented opportunities for farmers.
- However, the unpredictability and volatility that has characterized the farming sector in recent months is likely to continue challenging producers in the near term.
- Uncertainty surrounding the global economy, unpredictable weather patterns and investor interest in commodities are among the factors that will contribute to volatility in agricultural markets.
- Farmers can cope with these gyrations through a number of smart strategies, including hedging, ensuring credit is in place before it is needed and using reasonable interest rate assumptions when assessing investments.

Canada's agriculture sector has been enjoying a revival since 2006, underpinned by booming emerging market growth, strong overall global food demand and relatively high prices. With many of these positive longer-term factors expected to remain in place, this period of unprecedented opportunity for the nation's crop and livestock farmers is likely to stretch out over the foreseeable future.

Still, farming will continue to be characterized by its fair share of challenges. One in particular is unpredictability. Indeed, the brightening in longer-term prospects has appeared to be accompanied by an era of elevated shorter-term volatility in virtually all aspects of farming. Such volatility is characterized by larger-than-historical swings in market prices for agricultural products, as well as most other commodities, foreign exchange rates and input prices. Increased investor participation in commodity markets tells part of the story. Other key drivers of the violent swings in conditions include unpredictable weather patterns and big fluctuations in year-end crop estimates by organizations such as the U.S. Department of Agriculture (USDA). In many respects, it is the best of times and the worst of times for Canadian agriculture producers.

Farming businesses cannot escape from the impact of volatility but can mitigate the impacts through a number of strategies. While far from an exhaustive list, some of the more popular ways of tackling volatility head on are presented on page 5. Chief among them include embarking on hedging strategies, using reasonable interest-rate assumptions in assessing investment opportunities and ensuring that financing is in place earlier than it is actually required.

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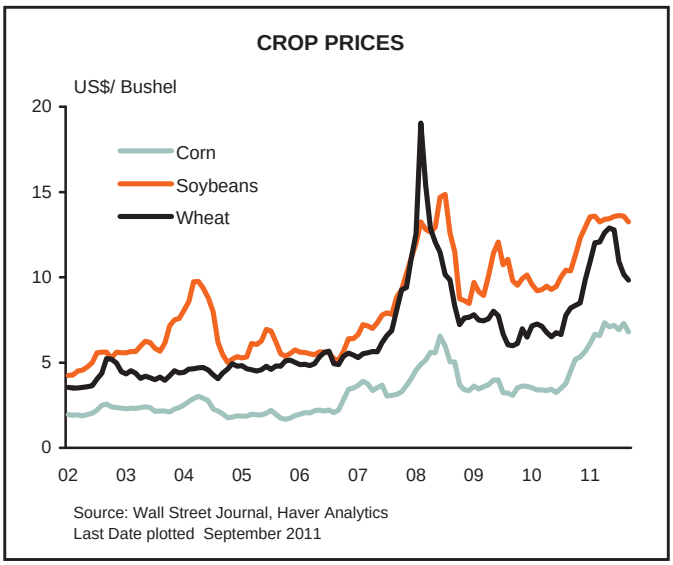
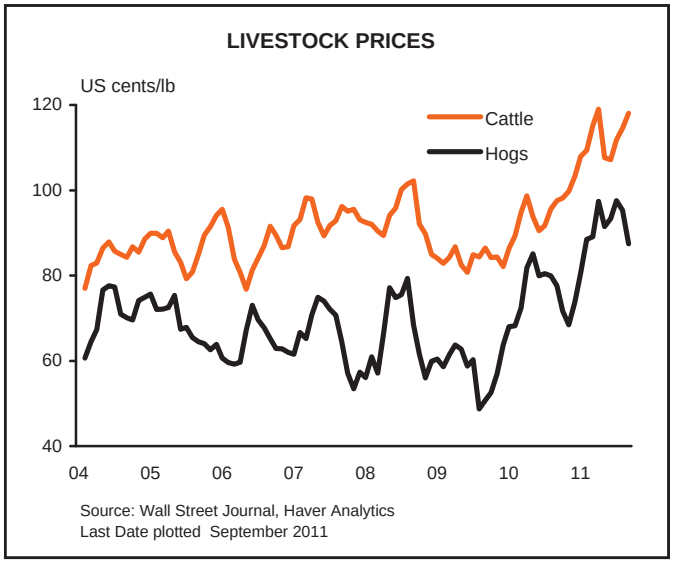
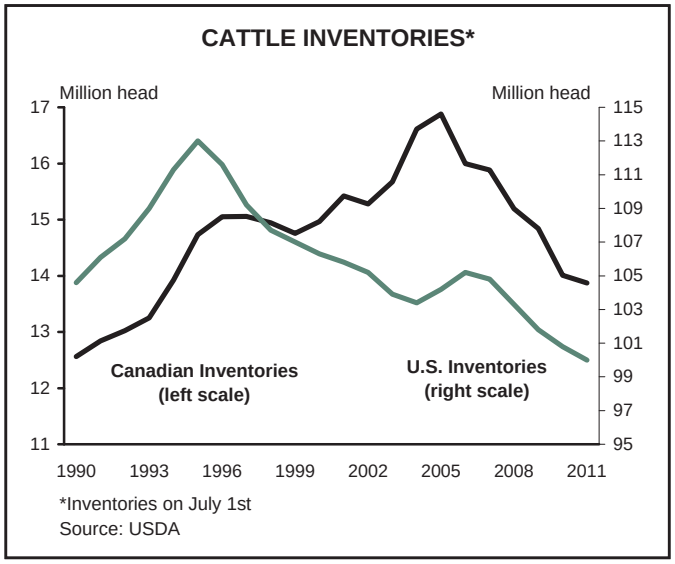
Favourable long-term story still in place

Canada's overall farm sector appears to be headed for another respectable year in 2011. Worries about another global recession have come back into the forefront in recent months, pulling commodity prices down across the board. The cattle market was one exception, as prices remained resilient and are hovering near record territory. Still, both crop and livestock prices, on average, are on track to record significant growth this year compared to last. What's more, early estimates on this year's crop production point to higher volumes in most parts of the country. Indeed, western provinces are expecting increased production of wheat, canola and barley, largely due to a rise in harvested area, and in the case of barley, higher yields. Manitoba is the outlier of the West, as adverse weather conditions earlier this year will result in a drop in output compared to 2010. In central Canada, while Ontario farmers are anticipating a lower corn and soybean harvest, Quebec farmers are expecting a second consecutive year of record soybean production.

On balance, the key drivers of agricultural prices remain positive. Demand for agricultural products is quite healthy. World population has risen to 7 billion people and half the global economy is experiencing rapid economic growth. The majority of these growing economies are emerging markets, where food consumption is highly correlated with incomes. Indeed, agriculture exports to Asia – China in particular – have been on the rise. This year alone, Canadian animal production exports to China are up by a whopping 44%. Overall, foreign demand for agricultural products has been a source of strength for the Canadian economy, with the sector one of the only two (energy the other) to see a rise in real exports over the past decade.







The supply-side story is also encouraging. Global stockpiles of crops have become much tighter due to production issues – namely unfavourable weather conditions – and higher demand. Global corn stocks are expected to end the growing year at a 5-year low, while world oilseed stocks will likely drop by nearly 7% from last year's record level. Wheat is perhaps the exception, as year-ending stocks are forecast to be well above the average seen during the last decade. In the livestock sector, Canadian cattle inventories are at the lowest level since 1994, and U.S. inventories are at the lowest level since the series began nearly 40 years ago. Hog inventories in Canada are also on the tight side – about 16% below the average seen during the past decade.

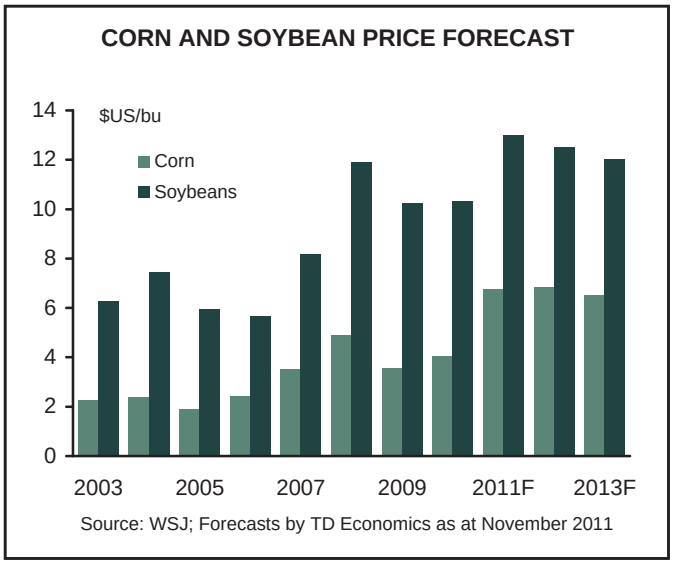
The supply-demand balance in agricultural markets is

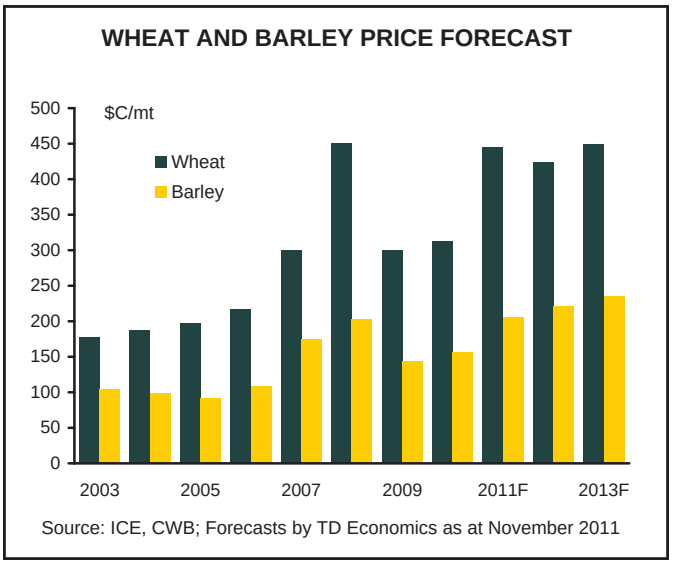
likely to keep prices propped up in the near term. And looking further out, there are several factors that will help to keep prices on this higher plateau. Population and income growth in emerging markets is expected to remain strong, leading to ongoing consumption growth for agricultural commodities – animal products in particular. As well, recent trade agreements, such as the free trade agreement between the U.S. and Panama, Colombia and South Korea will give U.S. demand – and North American prices – an added boost in the coming years. Furthermore, the share of crops being consumed by the biofuel industry has been rising steadily over the past few years – a trend that is likely to remain intact going forward, helping to keep demand for grains well supported.

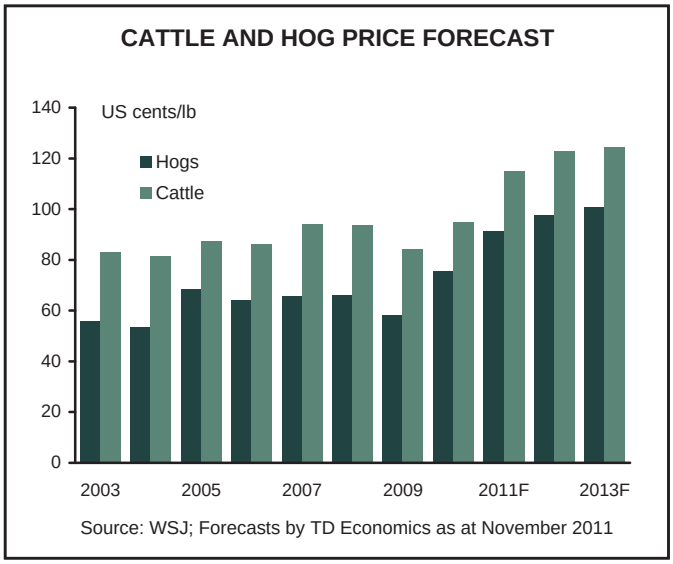
While demand continues to grow, supply may not be able to keep pace. According to the OECD, yield growth has decelerated over the past ten years and is expected to slow even further in the upcoming decade. In all likelihood, Mother Nature will continue to limit supply growth, not just through adverse weather conditions, but through water shortages as already experienced by some countries, such as Australia. As a result, the global stocks-to-use ratio for several agricultural commodities is likely to decline. This, coupled with rising demand, will underpin a higher price level across the board. Medium-term price forecasts for a number of key food commodities are presented in the accompanying charts.

Even with the expected longer-term upward trend in prices for most key agricultural commodities, we are not predicting an income boom in the overall farm sector. Input costs are likely to grow in line with farm prices, limiting growth in net incomes. In particular, energy prices are also expected to remain elevated, driving up both costs on farm as well as transportation costs. Likewise, a strong Canadian dollar appears here to stay. We expect the loonie to average close to parity through 2013, limiting demand and prices for Canadian-grown products. As such, it is crucial for Canadian producers to expand their export markets beyond the U.S. as well as into niche markets that offer opportunities to charge premium prices.

In addition to the squeeze from these rising variable input costs, farmers mulling over expansion plans will continue to face higher land costs. Canadian farmland values have been rising since the start of the decade; however, the pace of growth has slowed to 2-3% over the past 2 years, from a peak of 7.7% during the first half of 2008. On the plus side, the low interest rate environment will carry on for







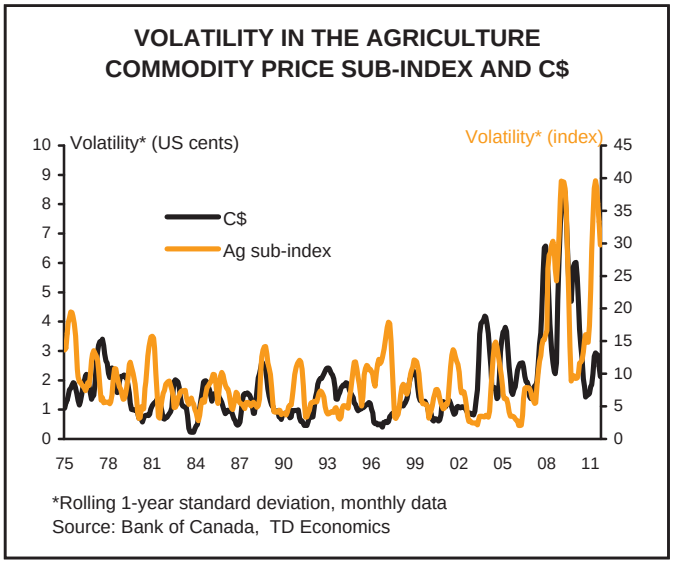
some time. The Bank of Canada is projected to keep its overnight target rate steady at an ultra-low 1.00% until early 2013, keeping a lid on retail and commercial borrowing rates. Canadian agricultural producers can take advantage of these favourable borrowing conditions to invest in R&D and productivity-enhancing machinery and equipment.

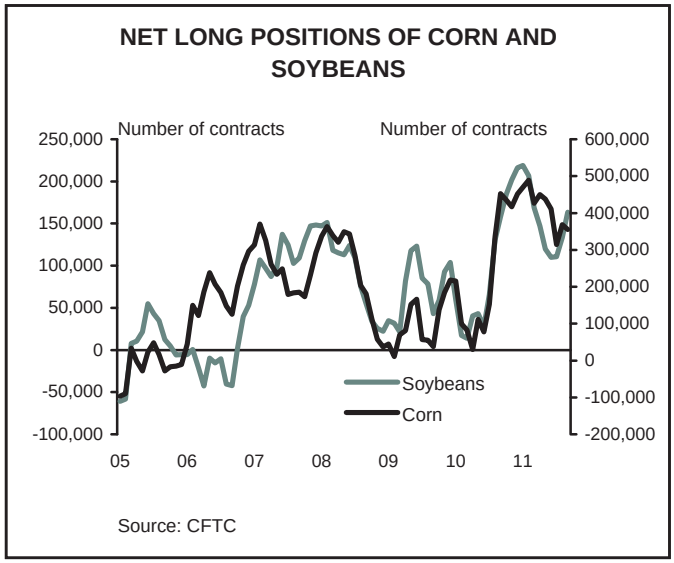
Volatility the watchword

While longer-term opportunities for growth are aplenty, arguably the sector's biggest challenge – and one that has grown in recent years – is unpredictability. This is especially true on a month-to-month or quarter-to-quarter basis. Weather conditions have become more variable, while the number of natural disasters globally has been on the rise. These events can have a dramatic impact on prices, immediately surging as markets tend to fear the worst, then recovering somewhat when a clearer picture of the extent of the damage is received.

The USDA crop estimates also have a large influence on the market, both in terms of what farmers decide to plant, and whether investors buy or sell. This year, there have been huge swings in USDA estimates, and prices have followed suit. The organization has been criticized for these significant revisions, but market participants still rely on these estimates to aid in their decision-making process since there aren't many alternatives.

On top of weather-related volatility lie several other variables that add an element of uncertainty, and thus volatility, to the market. The world economy has been dealing with an economic and financial crisis since 2007. Europe is still battling a serious debt problem and economic growth in the U.S. has been anemic. In fact, it could be 3-4 years before advanced economies get back on track.





The direct impact on Canadian agriculture producers from the U.S. and European economic challenges is not particularly large, since food demand is relatively resilient during hard times. Nonetheless, in this newer era of agriculture, shifts in global investor appetite can have a dramatic effect on trends in commodity prices. By some counts, as much as US$300 billion is currently invested in commodities through vehicles such as exchange traded funds.

As the chart shows, non-commercial net long positions on the Chicago Board of Trade remain quite elevated for crops, and the picture in the livestock sector is similar. These flows add to liquidity and can serve a useful purpose. But while there is no evidence that financial-market speculation has led to higher sustained prices in commodities, a good case can be made that these flows lead to more violent short-term price movements. Indeed, when investors get nervous, they pull out of investments that they perceive to be riskier, including commodities. There is much debate about how recent efforts by central banks to support their economies through the creation of money could be exacerbating these inflows and outflows, since at least some of the funds are undoubtedly being channeled into commodities.

In aggregate, all of these developments have conspired to drive up volatility in many aspects of farming operations. Looking back to the 1970s, annual swings in the agricultural commodity price sub-index have been growing. (See the accompanying chart). This trend is not only true for output prices, but for input prices and exchange rates as well. For example, swings in the Canadian dollar on an annual

average basis were about double (12 U.S. cents) during the last decade, compared to the three decades prior. While supply-managed businesses in Canada enjoy protection on output prices, they get affected by changes in both input prices and exchange rates.

There have been some actions taken at the international level aimed at curbing the price volatility in agricultural commodity markets. At the upcoming summit in November, G-20 agricultural ministers will present an action plan. Considerations include the creation of the Agricultural Market Information System which would gather accurate and timely data on global stocks and production. However, there is some skepticism that some key growing countries such as China and India, and large firms will be reluctant to share data that would be necessary for this program to be fully effective. Other topics that will be tabled at the summit include initiatives to control speculative activities, and studies regarding the relationship between bio-fuel production and food availability.

Some helpful reminders on coping with volatility

With the volatile environment likely to persist over the next few years, smart strategies can be put in place to help protect against these swings. While not an exhaustive list, some popular actions taken include:

- *Have a plan for the future* – perhaps a surprise to some, but many farmers don't have a plan in place that paints a vision for where they want to take their operation over the next 2, 5 and 10 years. It's not only important to design a plan, but communicating this plan with lenders can be helpful for successful implementation. Lenders can suggest appropriate ways to approach certain strategies based on their past experience.

- *Have credit in place before it is actually required* – it is human nature to leave things to the last minute. However, given the significant volatility seen in financial markets and the risk of another global credit crisis, it is critical to have a credit facility in place before it is actually needed, since credit conditions can suddenly take a turn for the worse. This pro-active approach is good for both borrowers and lenders.

- *Implement a sound hedging strategy* – in addition to the system of crop insurance in place in this country, there are many ways that Canadian farmers can take actions to manage their risk. Diversifying into new businesses is one example. Another relatively new area for lowering risk due to market volatility is engaging in futures contracts on commodities or foreign exchange. Keep in mind, however, that speculating in futures markets can be extremely risky. Producers should have a sound hedging strategy in place, and take profits where appropriate.

- *Well-managed risk can pay off* – at the same time, taking on some risk that is prudent and fits the risk profile of the farming operation can pay off handsomely for farmers. In such a volatile and fast paced environment, there are bound to be some buying and selling opportunities that open up. Knowing when to take advantage of them can separate successful farms with those that muddle along.

- *Know your costs* – many producers have a good sense of how their top line is performing. But it is just as important to have a good understanding of the cost side of the equation. As we argued earlier, input costs can gyrate as much as output prices, offering the potential to "lock in" costs and, hence, book profits. This doesn't necessarily mean jumping at the first sign of an attractive deal, but waiting around for a more favourable contract to reer its head could result in missed opportunities.

- *Maintain adequate liquidity and reasonable leverage* – in order to mitigate the risks associated with increasing asset prices, it would be prudent for farmers to ensure that they have sufficient liquidity and manageable leverage if they are expanding. This will also enable them to withstand tighter profit margins, should revenue generating commodities begin to slide while input costs remain flat or perhaps even increase.

- *Use reasonable interest rate assumptions in assessing investment opportunities* – even though borrowing costs are unusually low, farmers must be mindful of the fact that this low-rate environment won't last forever. Certain financing deals may be affordable and make sense currently, but that may not be the case once interest rates rise. We would advise calculating the cost of borrowing applying rates of 5%-7%, which is where interest rates are likely to gravitate toward over the medium term.

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