FARE Share

Sharing valuable insights

Premier Issue
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FARE *Talk*

FARE Talk is a series of podcasts available on the FARE website. They are conversations about contemporary topics relevant to food, agricultural, and resource economics.

For instance, in the "Dutch Disease" podcast, FARE Professor, Dr. B. James Deaton, interviews Jeremy Leonard on a recent paper he published, *"Dutch Disease or Failure to Compete? A Diagnosis of Canada's Manufacturing Woes."* Their discussion provides an overview of the empirical approach Jeremy and his colleagues used to examine whether the recent resource boom negatively influenced manufacturing output in Canada. Jeremy concludes that Canada suffers a mild case of Dutch disease and that the Dutch Disease effect does not likely explain Canada's manufacturing woes.

Find FARE *Talk* at http://fare.uoguelph.ca/FARE-talk/index.html

Introducing FARE Share

Message from the Department Chair

By Alan Ker

Welcome to the first issue of *FARE Share*, a newsletter we are quite pleased to be publishing from the Institute for the Advanced Study of Food and Agricultural Policy in the Department of Food, Agricultural and Resource Economics (FARE) at the Ontario Agricultural College (OAC), University of Guelph. Our faculty and students continually address key issues and develop insights in Canadian food and agriculture and we want to communicate these through FARE Share.

For readers who aren't familiar with our newly formed Institute, its mission is to provide independent, credible, and timely policy analysis with respect to socially significant food and agricultural issues. On April 5, 2012, the Institute hosted a conference in Ottawa called "Growing Our Future: Making Sense of National Food strategies" which brought together leading agricultural economists to discuss the strengths and weaknesses of various strategies. In addition, USDA's Chief Economist Dr. Joe Glauber was brought in to discuss the upcoming US farm bill.

The department of FARE is a research-intensive department that emphasizes our undergraduate majors in the Bachelor of Commerce program (Food and Agribusiness) and Bachelor of Arts program (Agricultural Economics). Additionally, our department has an exceptionally strong graduate program at both the Masters and PhD levels. The department is very pleased by the numerous opportunities that await our Bachelors, Masters, and PhD graduates.

In this bi-yearly newsletter, you'll find out facts and trends in Ontario agriculture. You'll also gain a keen understanding of the economic realities that affect Canadian agriculture. In this issue, Professor Getu Hailu discusses food prices and how producers can improve corn and soybean marketing decisions using basis analysis. Occasionally, we'll offer leaders in the industry an opportunity to voice their views. In this issue, Farm Credit Canada has contributed on the growing bioeconomy and related opportunities. In each issue, we'll also highlight some facts and statistics and let you know which of our FARE Talk podcasts are new and relevant.

We hope you enjoy this inaugural issue.

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Food, Agricultural and Resource Economics

University of Guelph

Census numbers mask vibrant agricultural sector

THIS ARTICLE FIRST APPEARED AT WWW.THESTAR.COM

By Alfons Weersink and Kenneth Poon

Alfons Weersink is a professor and **Kenneth Poon** is a research associate in the Department of Food, Agriculture and Resource Economics at the University of Guelph.

Quick Stats

	2001	2011
Number of farms	59,728	51,950
Total area of farms *(million acres)*	13.51	12.67
Total cropped land *(million acres)*	9.04	8.93
Area owned *(million acres)*	9.37	8.95
Area rented *(million acres)*	4.13	3.72
	2006	**2011**
Overall Ontario GDP *(billion $)*	481.23	496.95
Agrifood Sector GDP *(billion $)*	32.87	34.18

Farm numbers in Canada continue to fall according to census data from Statistics Canada. There are around 10 per cent fewer farms in 2011 than were reported in the 2006 census. But does fewer and fewer farms mean the agricultural sector is in trouble?

Absolutely not. And here's why: the number of commercial farms — the ones that produce the volumes of food needed to feed the world — are actually on the rise.

There are now just over 200,000 farms in Canada. These farms are not just the ones we typically associate with the word "farm" — the ones with a barn containing some livestock and a machine shed with tractors, implements and other equipment. Rather, the definition of a farm by the census is much broader than the general view of a typical farm — a census farm is self-identified by the person answering the census.

That means if the respondent feels that their farm operation has the potential to sell agricultural produce, it is classified as a farm by the census. There is no minimum sales threshold — the intention to sell farm produce is all that is necessary to be counted as a farm.

Of the 200,000 self-proclaimed farms in the last census, approximately 40,000 (or 20 per cent of all census farms) do not sell enough agricultural produce to warrant filing income taxes (Revenue Canada defines a farm as one that has more than $10,000 in agricultural revenue).

The story thus far — the number of farms is falling and a significant portion are so small as to not even be considered a farm for tax purposes — seems to support the belief that agriculture is a dying profession. But let's look deeper behind the numbers and use an alternative definition of a farm, which is more aligned with the general perception of a farm.

Commercial farms are those with sales large enough to support a family household. Assuming expenses make up 80 per cent of sales, a farm with $250,000 in revenue would provide an income of $50,000. The number of census farms that meet this rough definition of a commercial farm is just over 46,000 or 22 per cent of all farms.

And although commercial farms make up a small component of all census farms, the absolute number of these farms has increased since the last census. It has grown by 2.5 per cent. That's partially due to the increase in prices for most agricultural commodities, which pushes up sales with the same amount of production. The higher prices may have also encouraged the growth of smaller units and reduced the number of exits.

The census numbers don't lie; the total number of farms continues to fall at a steady rate. But scratch the surface and you'll find a healthy and vibrant agricultural sector, as the growing number of commercial farms show.

Growing the bioeconomy

In today's world, consumers, producers, industry and government all grapple with tough questions about food security, energy consumption, economic volatility and resource use.

While it may not provide all the answers, the bioeconomy does offer some viable solutions.

A number of complex macroeconomic drivers impact the pace at which the bioeconomy grows, including global population growth,

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To sell or store?

Improving Corn and Soybean Marketing Decisions using Basis Analysis

By Professor Getu Hailu

Producers make complicated financial, production and marketing decisions every year. The success of these decisions directly depends on many economic factors, especially commodity prices.

The prices of commodities are determined by the interaction of demand and supply forces at both the global and local market levels. For many agricultural commodities, world prices — the futures contract prices — are established in key markets such as the Chicago Mercantile Exchange Group (CMEG). The futures contract prices are used by local grain producers, grain traders and processors as a benchmark in determining the price of grain at the local level.

The actual local cash price received for a commodity traded on these markets takes the world price and adjusts it for local factors such as storage availability and costs, transportation availability and costs, interest rates, and exchange rates. The adjustment, or local basis, is the difference between the local cash price and a corresponding price of futures contract after adjusting for exchange rate.

Basically, the basis localizes the world price. Local basis varies over time, over space, by quality and by agents. The basis provide signals to farmers whether to sell now or later; and whether to accept a supplier's offers or a buyer's bid; which buyer or seller to use; when to purchase, sell, or store a crop; when to close a hedge; whether, when, in what delivery month to hedge. Thus, knowing the historical distribution of local basis and factors affecting local basis is valuable in evaluating current cash prices offers and local price discovery, and ultimately is a key to improving profitability.

While there are many private and public assessments of current and predicted movements in global markets such as the CMEG, there are ongoing questions surrounding what causes fluctuations in crop basis in Ontario, and there has been very limited analysis to explain changes in the basis.

Some of factors causing basis to fluctuate are: local supply and demand, transportation availability and cost, storage availability and cost, seasonality of harvest and quality. In economic theory, the basis is assumed to depend on the interest cost of capital tied up in inventory, the costs of storage, and a convenience yield to holders of the physical commodity. An econometric study conducted by Hailu, Maynard and Weersink (2012) provides some insights into the causes of variations in the basis for corn and soybeans in Ontario.

In recent years, fluctuations in economic variables such as exchange rates and commodity prices have had destabilizing effects on the net income of many farms. After years of decline in real prices,

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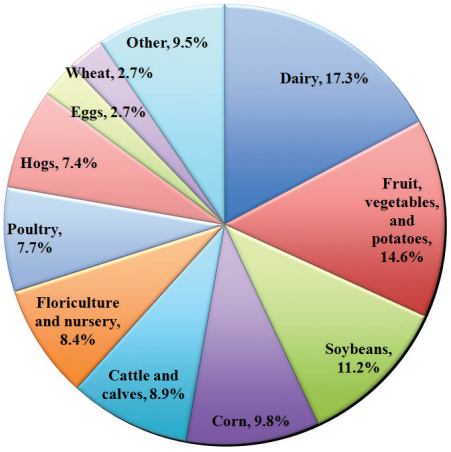
The distribution of Ontario farm cash receipts by commodity, 2010



rising oil prices and climate change. At the same time, several variables may limit the bioeconomy's growth, such as new standards, the cost of new infrastructure and differences between consumers' willingness to pay and the production costs of innovation.

A 2011 FCC national survey on the bioeconomy showed that producers from coast to coast report the same challenges to getting involved in the bioeconomy: lack of awareness about opportunities and available resources, and cost to change existing infrastructure. Producers also cited a lack of knowledge or acceptance by consumers, high production costs and a lack of appropriate market resources as key challenges the bioeconomy in general needed to overcome.

For more discussion of Canada's bioeconomy, look for the current issue of Knowledge Insider, FCC's semi-annual publication that offers insights on agri-business (http://www.fcc.ca/insider).

Corn and Soybeans

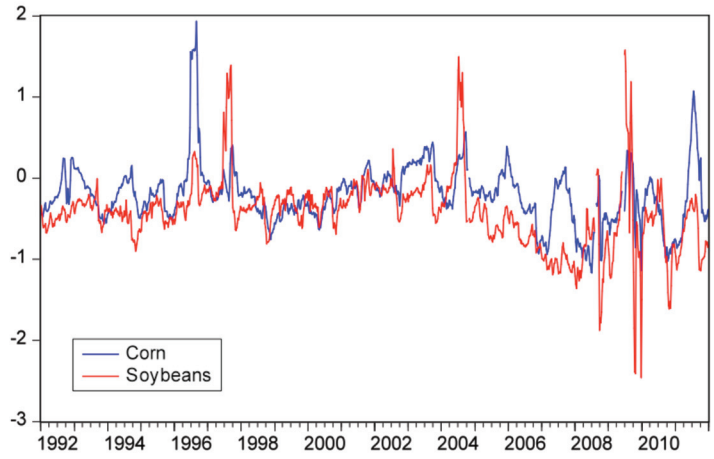
- The provincial average corn yield in 2011 was 161 bu/ac, higher than the past five-year average
- Recent soybean yields were 45bu/ac, the second highest yields ever recorded in the province

CMEG prices jumped considerably in the fall of 2006. Average prices are now double their values earlier in the decade and this increase has been accompanied by a significant increase in volatility. The empirical methods used to explain basis must account for structural changes in the market that may have occurred over the last several years, such as corn being used for ethanol production. In much of the previous decade's relatively constant basis, there wasn't a need to examine the factors affecting the basis. Since 2007, however, the basis has dropped and become more variable since the general commodity price rise.

For example, an Ontario farmer wishing to sell soybeans harvested in the fall of 2010 would have received a basis price of approximately -$2.50 in mid-November, which when added to the nearby CME Group of approximately US$11.00, would have resulted in an offer price of CDN$8.50. If the 2010 crop was stored until mid-April 2011, the basis rose to -$0.50 and the nearby futures price also increased to US$13.50 resulting in a cash price offer of CDN$13.00. The basis quoted to farmers reflects a conversion in currency so one of the reasons for the decline in the Ontario basis for corn and soybeans is the appreciation of the Canadian dollar. However, a decline is evident even after adjusting the basis for the exchange rate *(see Figure 1)*.

Hailu, Maynard and Weersink (2012) conducted an empirical analysis for the basis of corn and soybeans in Ontario. The purpose of their paper is to examine the factors affecting the basis for Canadian corn and soybeans with time-series econometric techniques that accommodate potential structural breaks. Hailu, Maynard and Weersink considered a number of econometric specifications to examine whether and to what extent the interest rate, inventory levels and transportation costs have influenced the basis for corn and soybeans in Ontario.

Figure 1: Weekly adjusted basis in C$/bushel for corn and soybeans in Chatham, Ontario (1992-2011)



Here are some of their results:

- Strong evidence of an interest rate effect for both corn and soybean, higher interest rates increase the opportunity cost of storage and thus decreases the basis.
- Transportation cost has a negative effect but only for soybeans, which is more likely to be imported to or exported from Ontario than corn that tends to stay within local regions of Ontario. Rise in transportation rates, weakens basis for producers in the local market.
- Inventory levels have a negative effect but only for corn basis, which is more likely to be affected by local supply issues given its greater use within production regions.
- Supplies within a season had the expected effect, as the basis for both corn and soybeans was lowest at harvest time.

The study concludes that higher interest rates – forgone benefits that could be earned on the stored grain or interest paid on working capital tied up in grain storage – weakens basis and discourages grain storage and encourages grain sales on the local market. For local farmers, a shortage of transportation and an increase in transportation cost from, for example, higher fuel costs, may weaken the basis. Storage, transportation, and local supply and demand situations are all key variables to consider when forecasting local basis movements and deciding whether to sell or store.

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