

Flow of the data???

Input Cost (we will want to lag the data appropriately)

Production of Grain Data (Time-Scale)

Price of Grain Data

- How much does input cost affect the price of grain
- How much does exporting affect the price of grain???
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Austria - Oct->March

- How much do they produce of the global amount
- How does grain prices fluctuate depending on the amount of global production in harvest
- What was the cost of oil on average during the planting months and during the harvesting months of this country?

### **Things that we need to decide**

1. Where is the focus of our data?
- 2.

The use of the West Texas Intermediate as a pricing benchmark for crude oil prices allows us to (infer) the difference in oil pricing, not in an absolute value, but as a relative difference in prices across years

Monthly average retail prices of food products

- <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000201>
  - ^from Jan 1995 to Feb 2022
- <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810024501>
  - ^from Jan 2017 to Dec 2023

Estimated areas, yield, production, **average farm price** and total farm value of principal field crops, in metric and imperial units

- <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210035901>
- data is annual, from early 1900s to 2023

Farm product price index (FPPI), monthly

- <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210009801>
- data is monthly, from 1935 to 2023

USDA Global wheat production

<https://ipad.fas.usda.gov/cropexplorer/cropview/commodityView.aspx?cropid=0410000>

<https://fred.stlouisfed.org/series/A010131WA393NNBR>

'Global Wheat Prices

<https://fred.stlouisfed.org/series/PWHEAMTUSDM>

Average Retail Food and Energy Prices, U.S. and Midwest Region

[https://www.bls.gov/regions/mid-atlantic/data/averageretailfoodandenergyprices\\_usandmidwest\\_table.htm](https://www.bls.gov/regions/mid-atlantic/data/averageretailfoodandenergyprices_usandmidwest_table.htm)

**Crude Oil Prices - West Texas Intermediate**

<https://fred.stlouisfed.org/series/DCOILWTICO>

**Spot Crude Oil Price - West Texas Intermediate**

<https://fred.stlouisfed.org/series/WTISPLC>

**Fertilizer Info/Data:**

<https://extension.sdstate.edu/sites/default/files/2020-03/S-0005-10-Wheat.pdf>

<https://brownfieldagnews.com/news/oil-and-natural-gas-prices-could-push-fertilizer-costs-higher/PCU325311325311>

[Export-value-fertilizers-worldwide-by-country](#)

<https://fred.stlouisfed.org/series/PCU325311325311A>

<https://www.statista.com/statistics/1290786/global-fertilizer-production-by-nutrient/#:~:text=In%20the%20early%202000%27s%2C%20the,million%20metric%20tons%20in%202021.>

Agricultural machinery

Based on 2024 Tractors & Agricultural Machinery Manufacturing in

the US: industry report by IBISWorld:

- Read again: "Agricultural price index" ?? Like what do they mean by this
- "The largest expense for tractor and agricultural machinery manufacturers is raw materials like **steel, rubber and plastic**. Fluctuations in global commodity prices can significantly impact the cost structure of this industry."
  - No mention of oil prices affecting machinery sales
  - Raw materials and national policy (e.g., environmental, financial aid to farmers) play larger role in machinery sales

- Overall, this is a mature industry, with next 5 year growth projected to be increasing slowly (1% per year), whereas the last 5 years had observed a lower average annual earnings (-5%)
  - A combination of Covid (supply chain issues, plus lower crop prices) had dampened sales. The recent interest rate hikes made these machinery less accessible and therefore reduced demand
- Relatively large spike in earnings in around 2015-2016 ish (around 15% IIRC)
- High market concentration