



Food and
Agribusiness
Industry
Advisors

2021 Outlook for Food and Agriculture: Reversion to Normal

January 2021

Everything is connected.

We just don't see how.

Connection corollary: Nothing natural moves in a straight line.

There are key questions for dealing with any shock

- The two “yesses”
 - Do you still want to be in this business?
 - Do you have enough “gas in the tank”?
- Being “highly adaptable” beats being “highly adapted”
 - What has changed in the system?
 - What is the system’s state?
 - Where is the problem?
- Are you letting “the perfect” be the enemy of the “good”?

Transitory or Permanent?

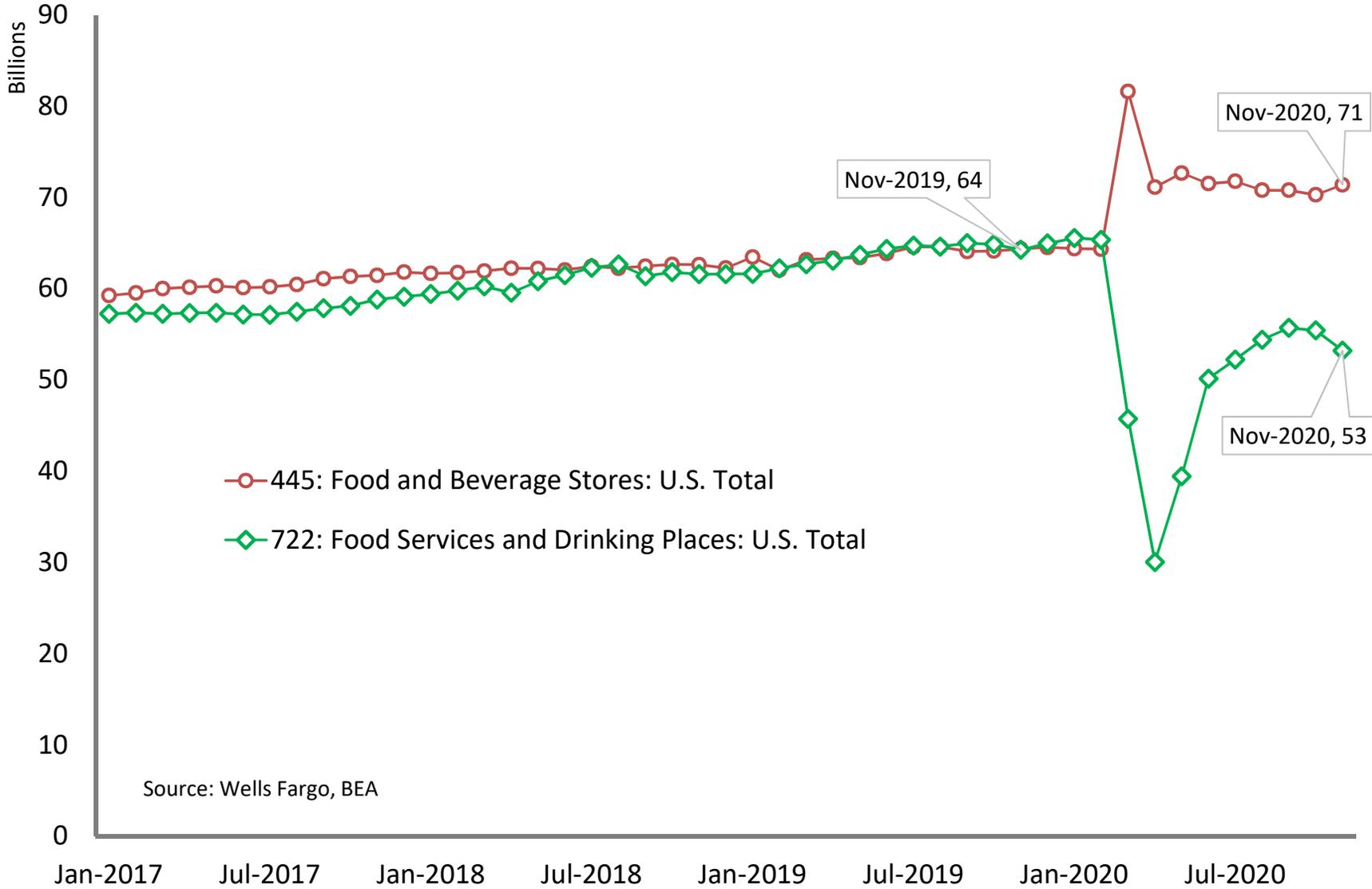
1. Structural change → Permanent
 1. Elimination of demand?
 2. Alternative technology?
 3. Regulatory change?
2. Cyclical change → Transitory
 1. Supply or demand shock
 2. Currency or trade issue
 3. Weather events
 4. Change in interest rates

2021 Issues: Reversion to Normal?

1. Where are we going to eat?
 1. Who is doing the cooking?
 2. What habits will stick around?
 3. Impacts on pricing and labor.
2. The economics of trade.
 1. Relative growth rates
 2. Currency strength
 3. Trade disputes (are there any other kind?)
3. Government support
 1. Unsustainable levels
 2. What mechanisms will be favored
4. Keep track of technology

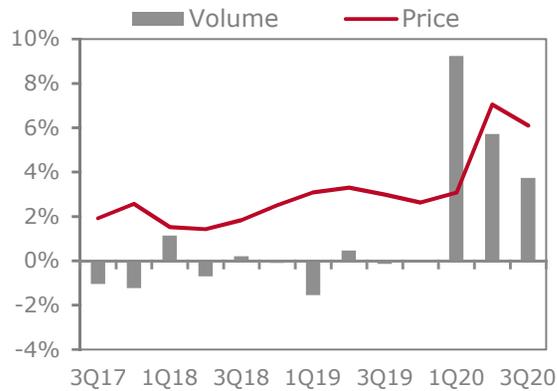
It all depends on your sales channels.

BEA Retail Sales
in billions of USD monthly seasonally adjusted



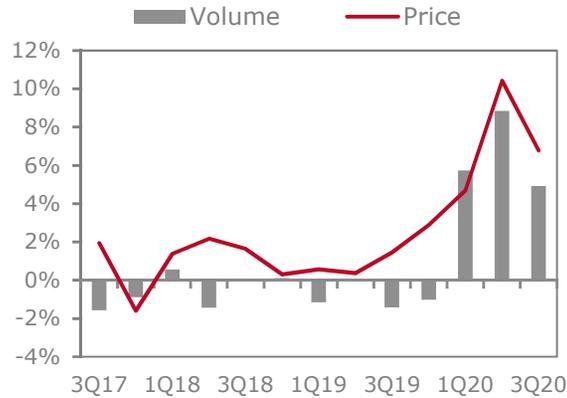
Nielsen grocery store department sales

Dry Grocery



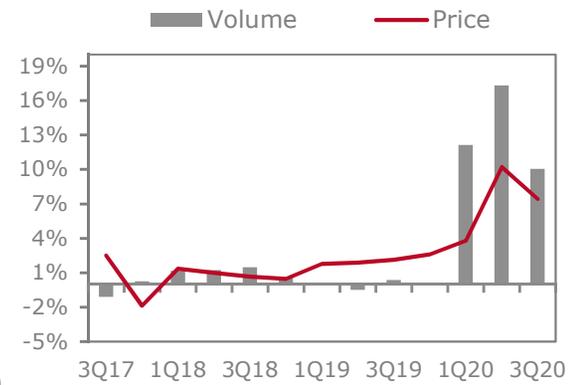
Source: Nielsen AOC+C

Dairy



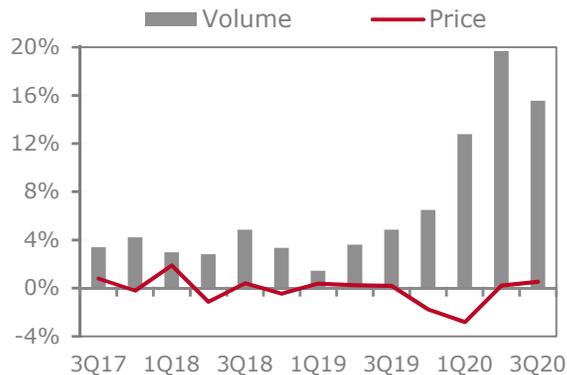
Source: Nielsen AOC+C

Frozen Foods



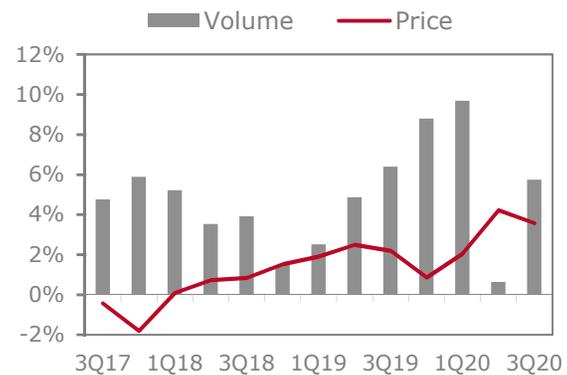
Source: Nielsen AOC+C

Fresh Produce



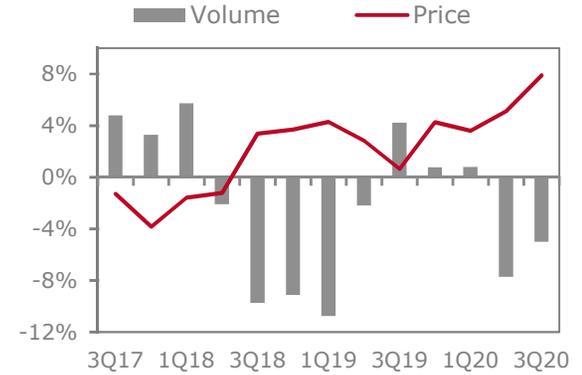
Source: Nielsen AOC+C

Deli



Source: Nielsen AOC+C

Bakery



Source: Nielsen AOC+C

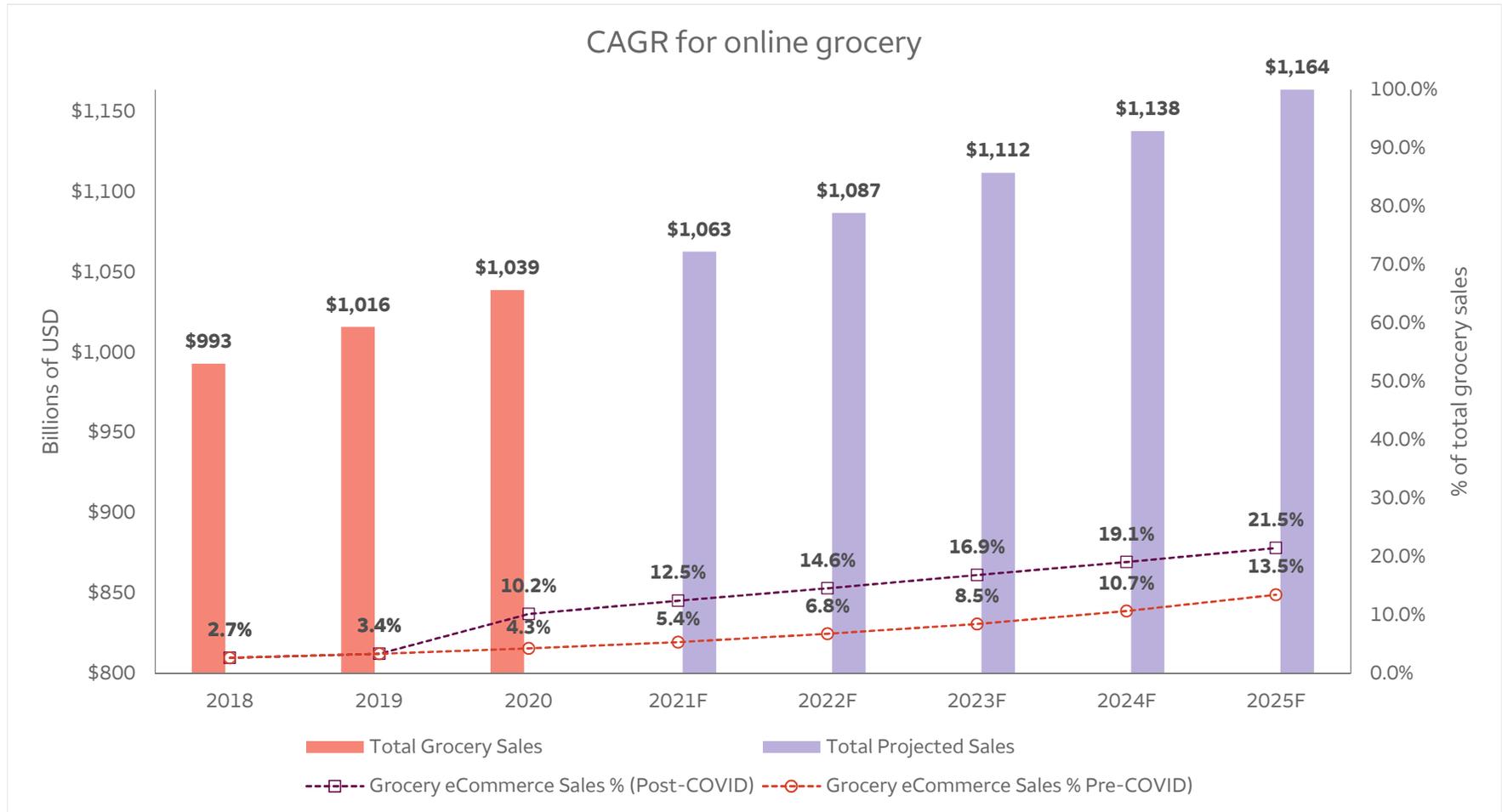
Online grocery sales during the pandemic

Performance Metrics	Aug 2019	March 2020	April 2020	May 2020	June 2020	Aug 2020	Nov 2020
Sales (30-day periods)	\$1.2 B	\$4.0 B	\$5.3 B	\$6.6 B	\$7.2 B	\$5.7 B	\$5.9B
Average Order Value	\$72	\$85	\$85	\$90	\$84	\$95	\$94
Total Orders	16.1 MM	46.9 MM	62.5 MM	73.5 MM	85.0 MM	59.5 MM	62.7 MM
Customers (Active during past 30 days)	16.1 MM	39.5 MM	40.0 MM	43.0 MM	45.6 MM	37.5 MM	38.7 MM
Frequency	1.0	1.2	1.6	1.7	1.9	1.6	1.6

* Excludes online orders shipped to home via common or contract parcel carriers

Sources: Bricks Meet Click/Mercatus Grocery Survey, November 2020; Bricks Meet Click/Mercatus Grocery Survey, August 2020; Bricks Meet Click/Mercatus Grocery Survey, June 2020; Bricks Meet Click/Mercatus Grocery Survey, May 2020; Bricks Meet Click/Mercatus Grocery Survey, April 2020; Bricks Meet Click/Mercatus Grocery Survey, March 2020; Bricks Meet Click/Mercatus Grocery Survey, Aug 2019;

Growth of online grocery sales



Source: Supermarketnews.com, Mercatus/Incisiv's new "eGrocery's New Reality" study

Demographics of online grocery adoption

	Ages 25-44	Ages 45-64	Ages 65+
Adoption of online grocery shopping	50%	39%	36%
Online shopping from preferred grocer	30%	21%	21%
Average Order Value (AOV)	\$123.10	\$106.20	\$93.90

- Younger consumers have preferences of promotions and expansion of features
- Older consumers have demand for safety and customer service
- As with any technology, expectations for seamless experiences will continue to rise and retailers must address consumer needs to ensure future growth

Source: Supermarketnews.com, Mercatus/Incisiv's new "eGrocery's New Reality" study

Trade Partners – The Big 3 really matter

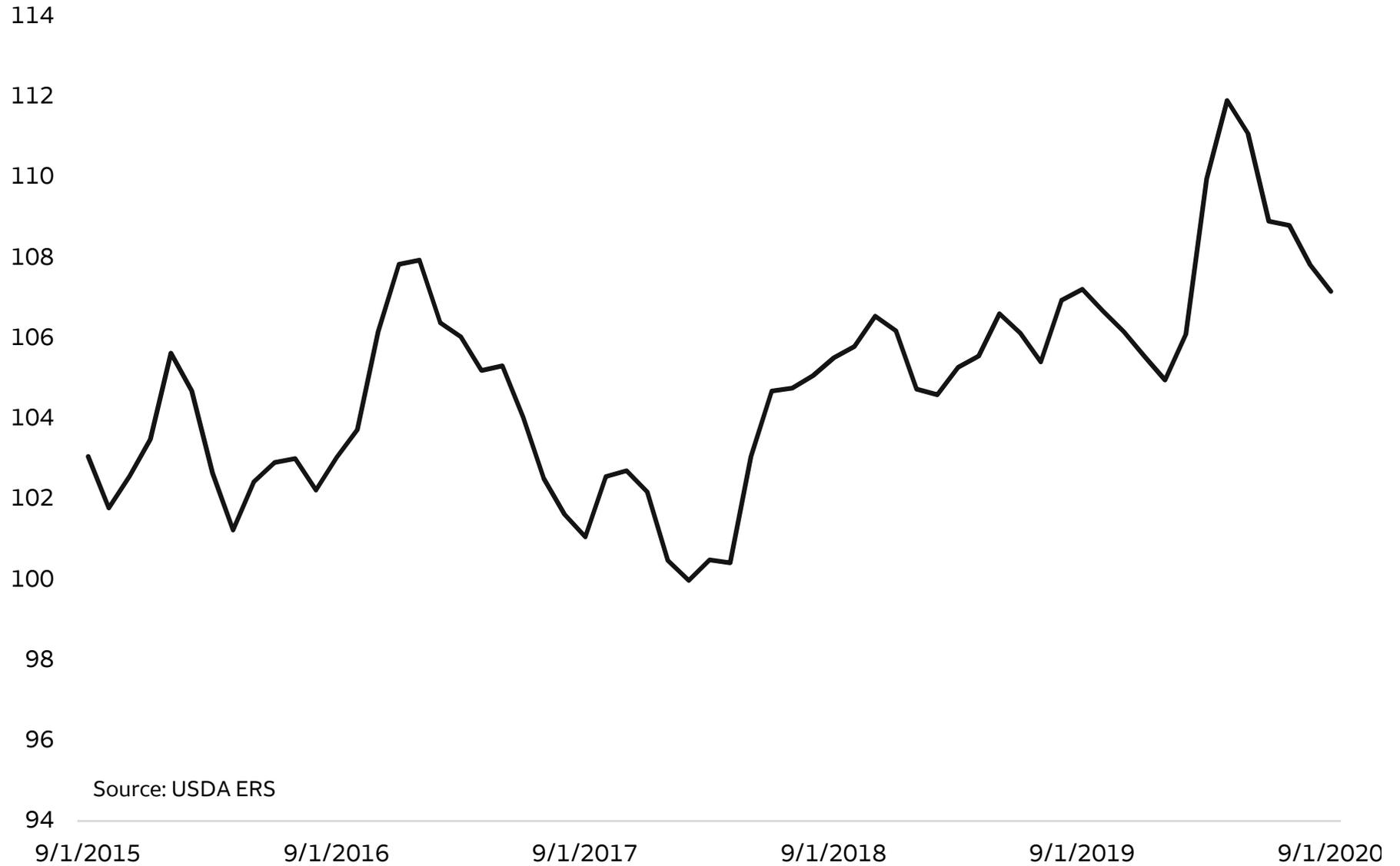
Exports in Millions of dollars				
Partner	Product	2019	Jan - Oct 2019	Jan - Oct 2020
World Total	Agricultural Products	136,650	112,127	114,290
Canada	Agricultural Products	20,886	17,515	17,499
Mexico	Agricultural Products	19,179	15,885	14,571
China	Agricultural Products	13,860	9,991	16,834
Japan	Agricultural Products	11,740	9,989	9,616
Korea, South	Agricultural Products	7,524	6,349	6,370

Imports in Millions of dollars				
Partner	Product	2019	Jan - Oct 2019	Jan - Oct 2020
World Tot	Ag, Fish & Forest Prods	170,276	142,831	147,048
Canada	Ag, Fish & Forest Prods	35,369	29,725	31,437
Mexico	Ag, Fish & Forest Prods	29,369	24,597	26,019
China	Ag, Fish & Forest Prods	8,069	6,777	6,198
Chile	Ag, Fish & Forest Prods	5,755	5,044	4,970
Indonesia	Ag, Fish & Forest Prods	5,315	4,372	4,544

Source: USDA

A weaker dollar always helps

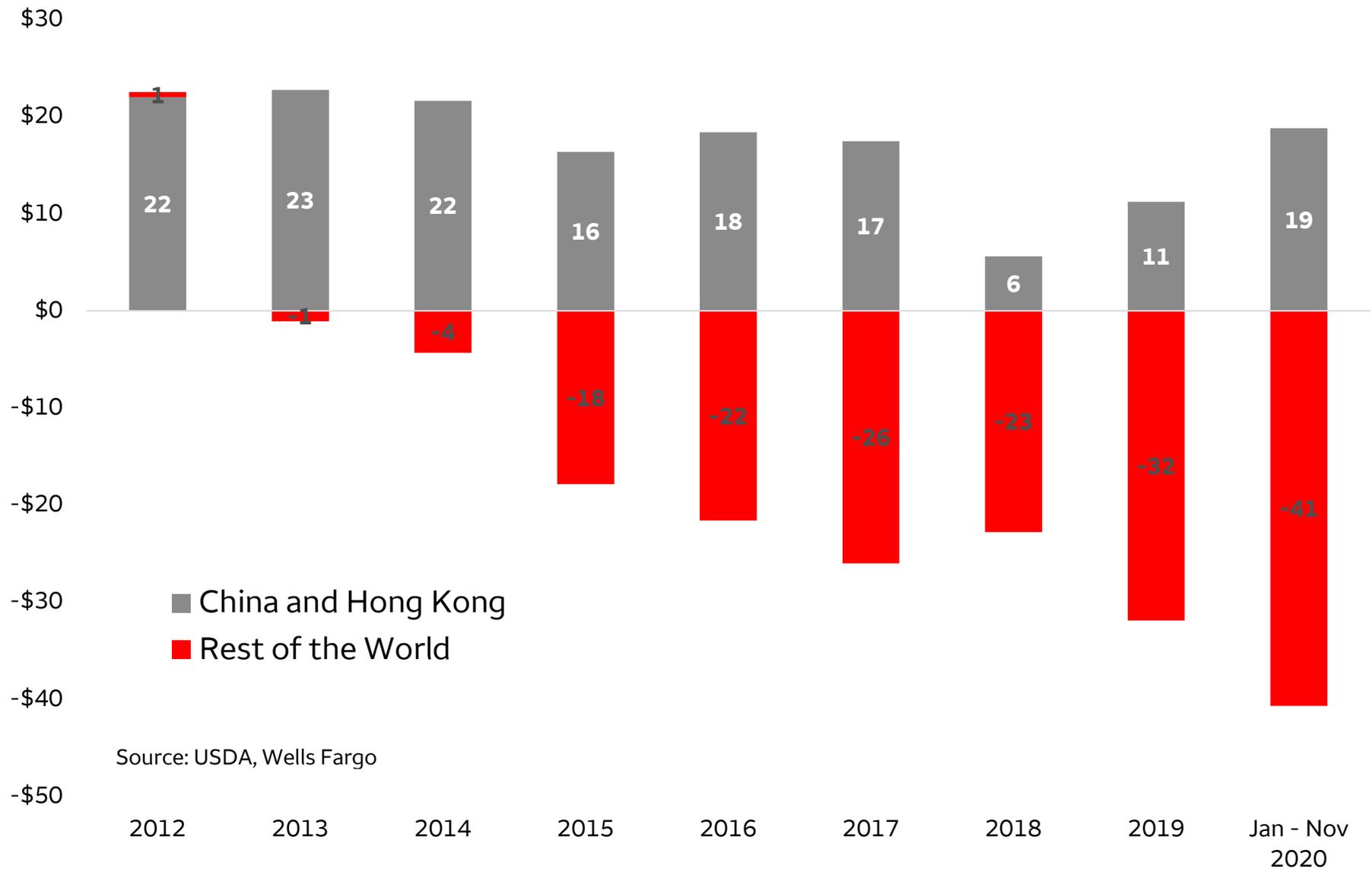
Real Weighted U.S. Dollar Index for Ag Exports



Source: USDA ERS

Trade is never static

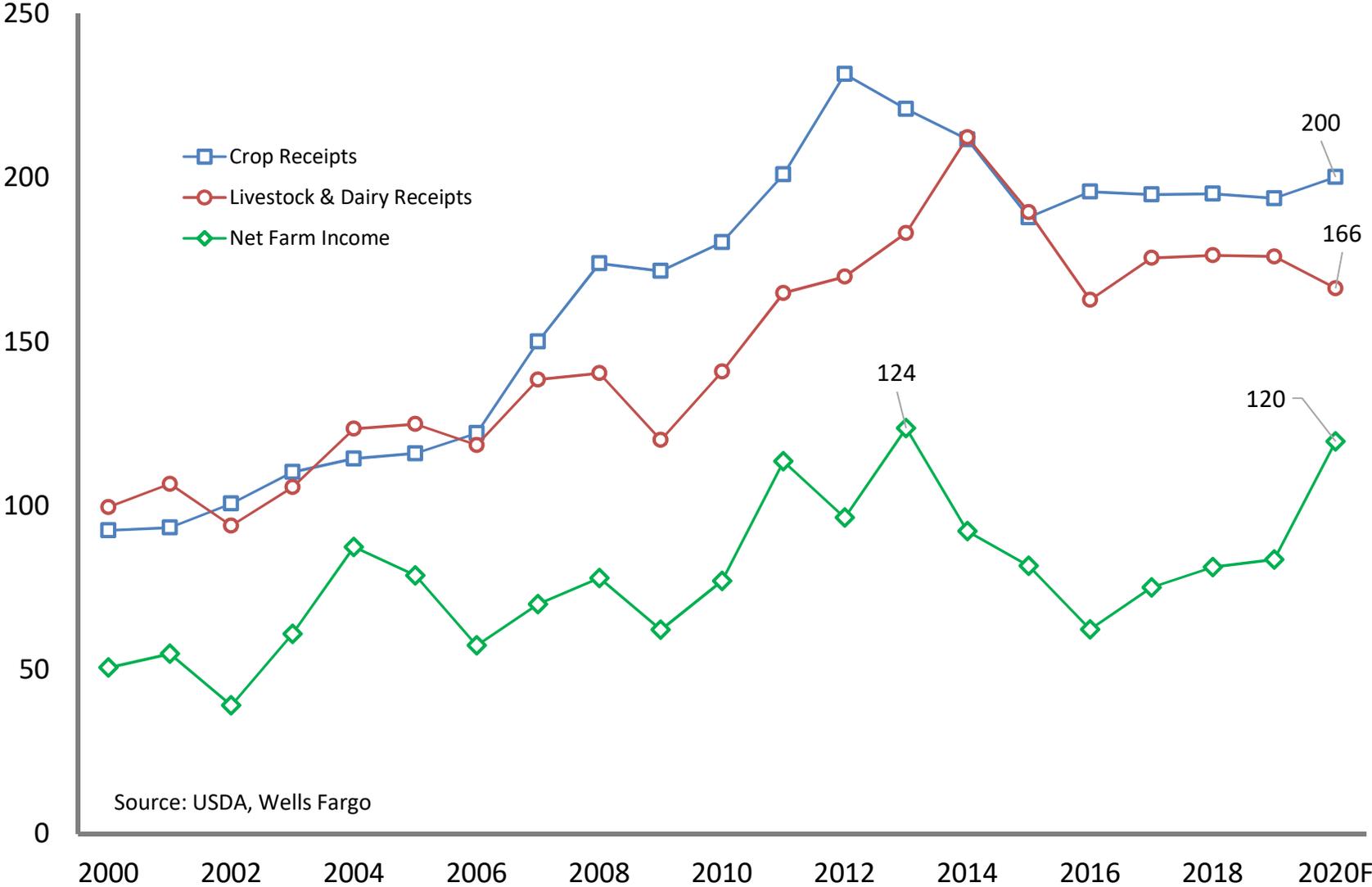
U.S. Net Trade in Agricultural Products: Billions of dollars



Source: USDA, Wells Fargo

All said and done, 2020 was profitable.

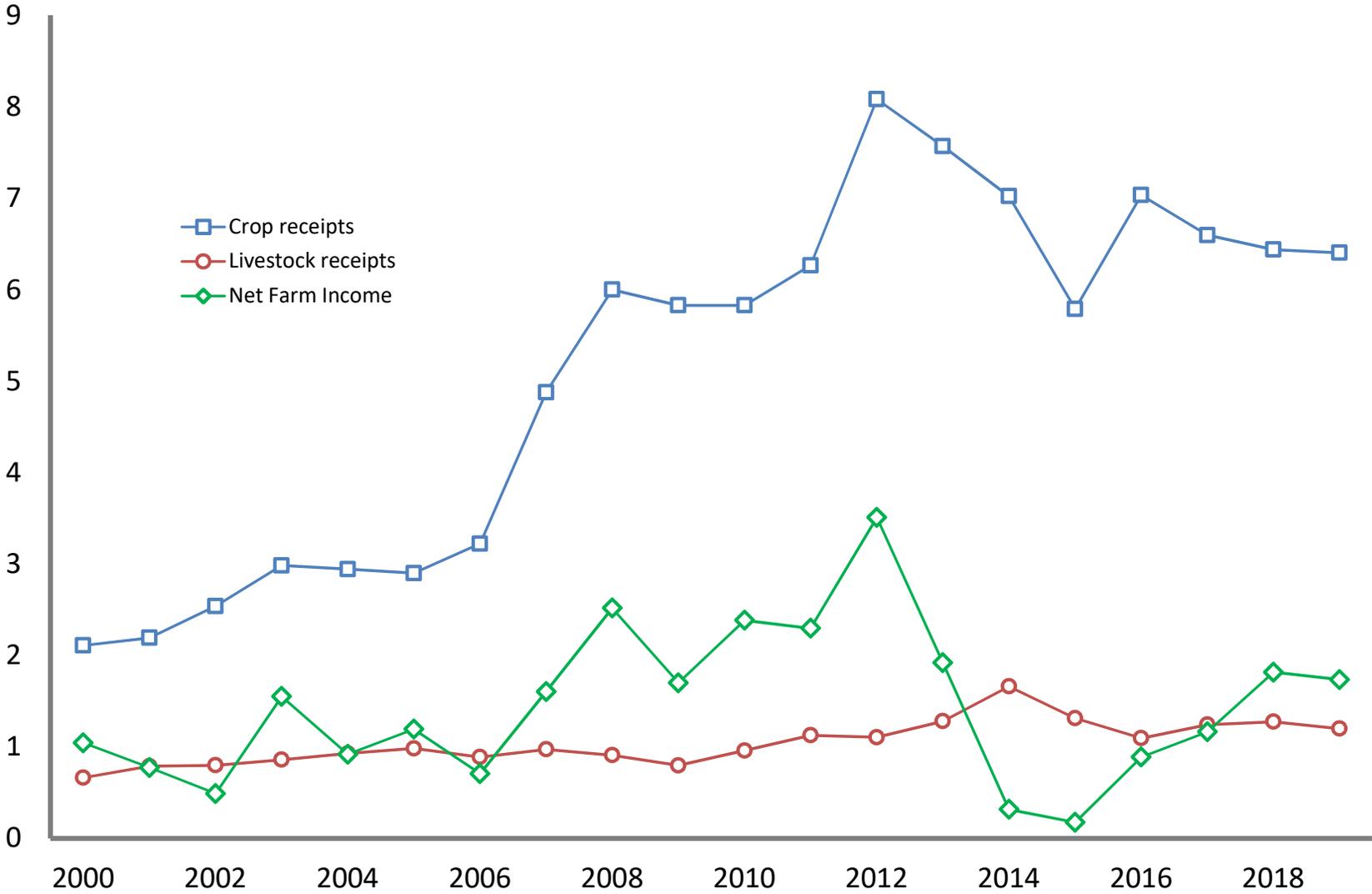
Farm and Ranch Financials in billions of USD



Source: USDA, Wells Fargo

Corn, soybeans and sugar beets drive the show

North Dakota Farm Financials in Billions of Dollars

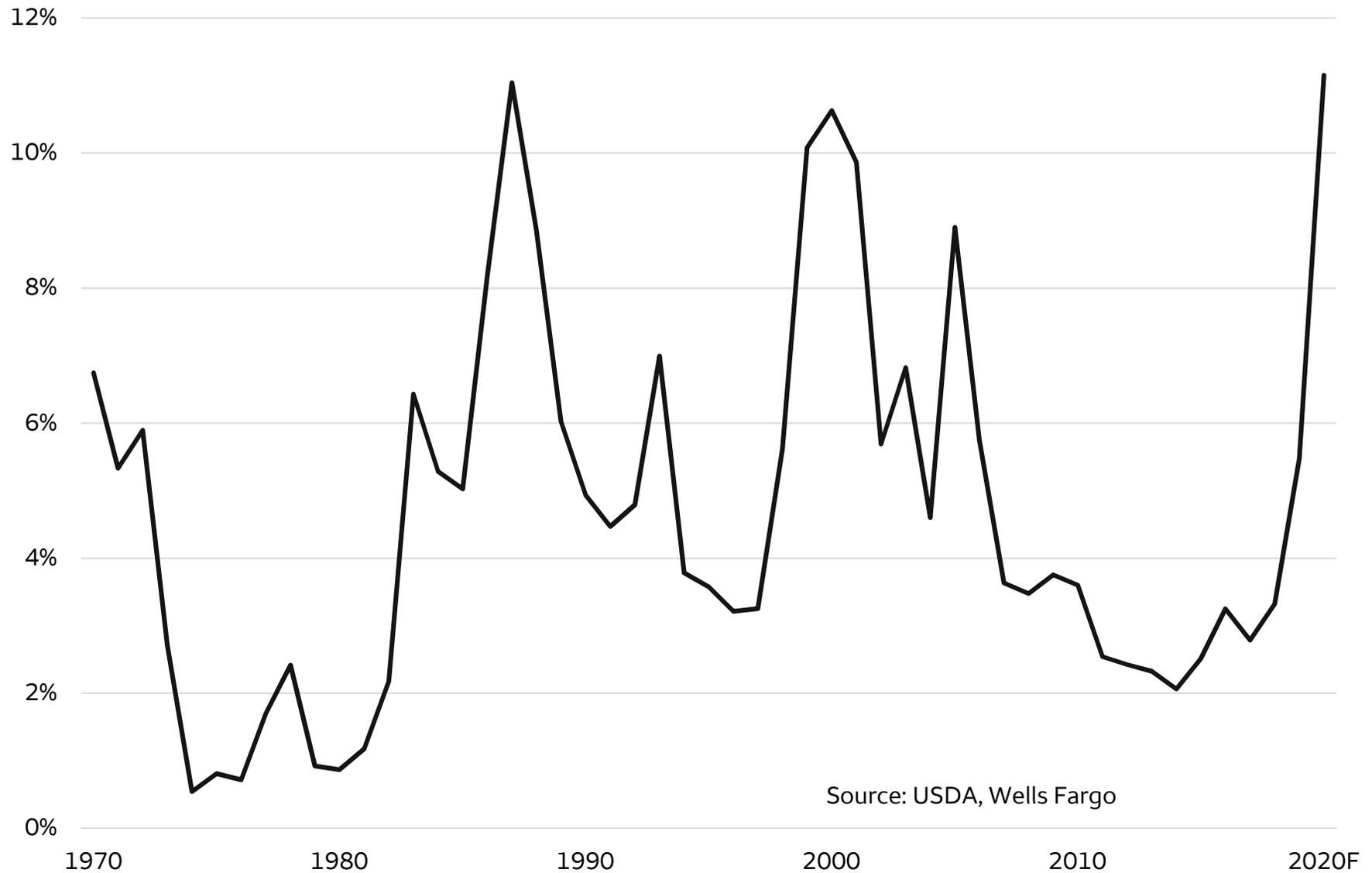


Source: USDA, Wells Fargo

Source: Wells Fargo, USDA

This will not last.

Direct Government Payments as a Percent of Value Added



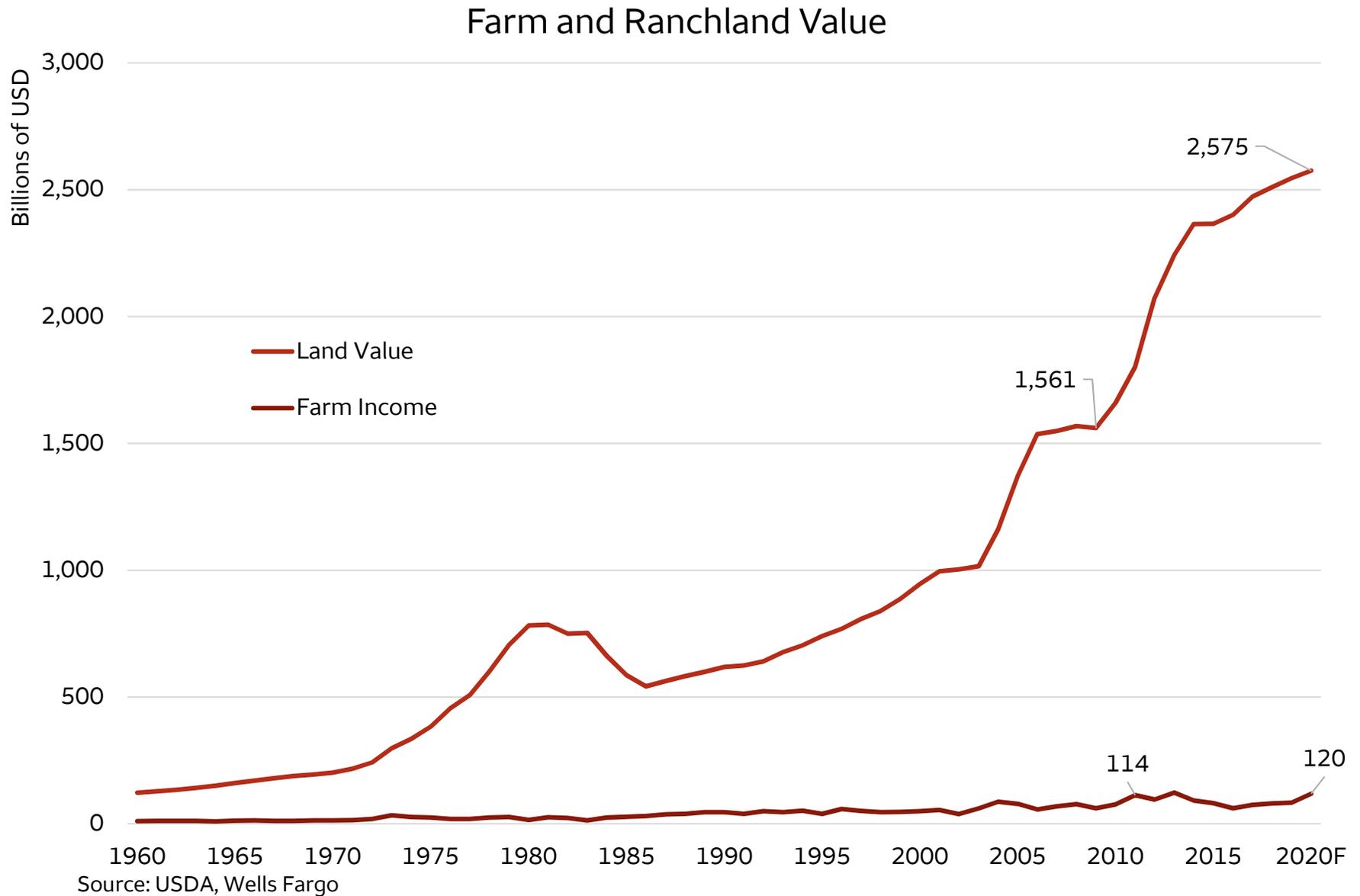
Source: USDA, Wells Fargo

Source: Wells Fargo, USDA

What about land values?

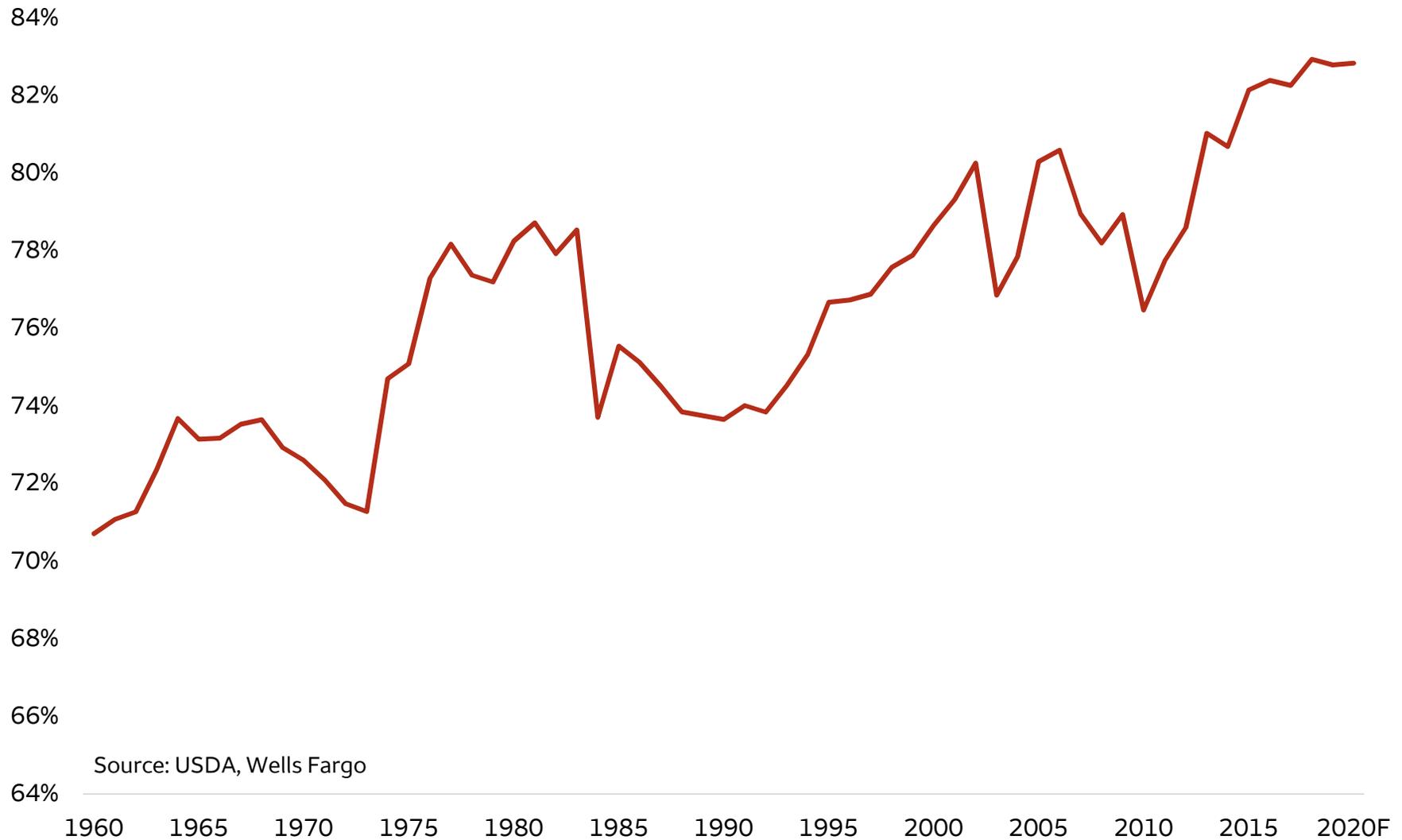
1. They didn't make sense before
2. They are going higher
3. Cheap money distorts the price of all assets and that includes land
4. Buying multigenerational assets based on today's prices

Income versus the cost of financing.

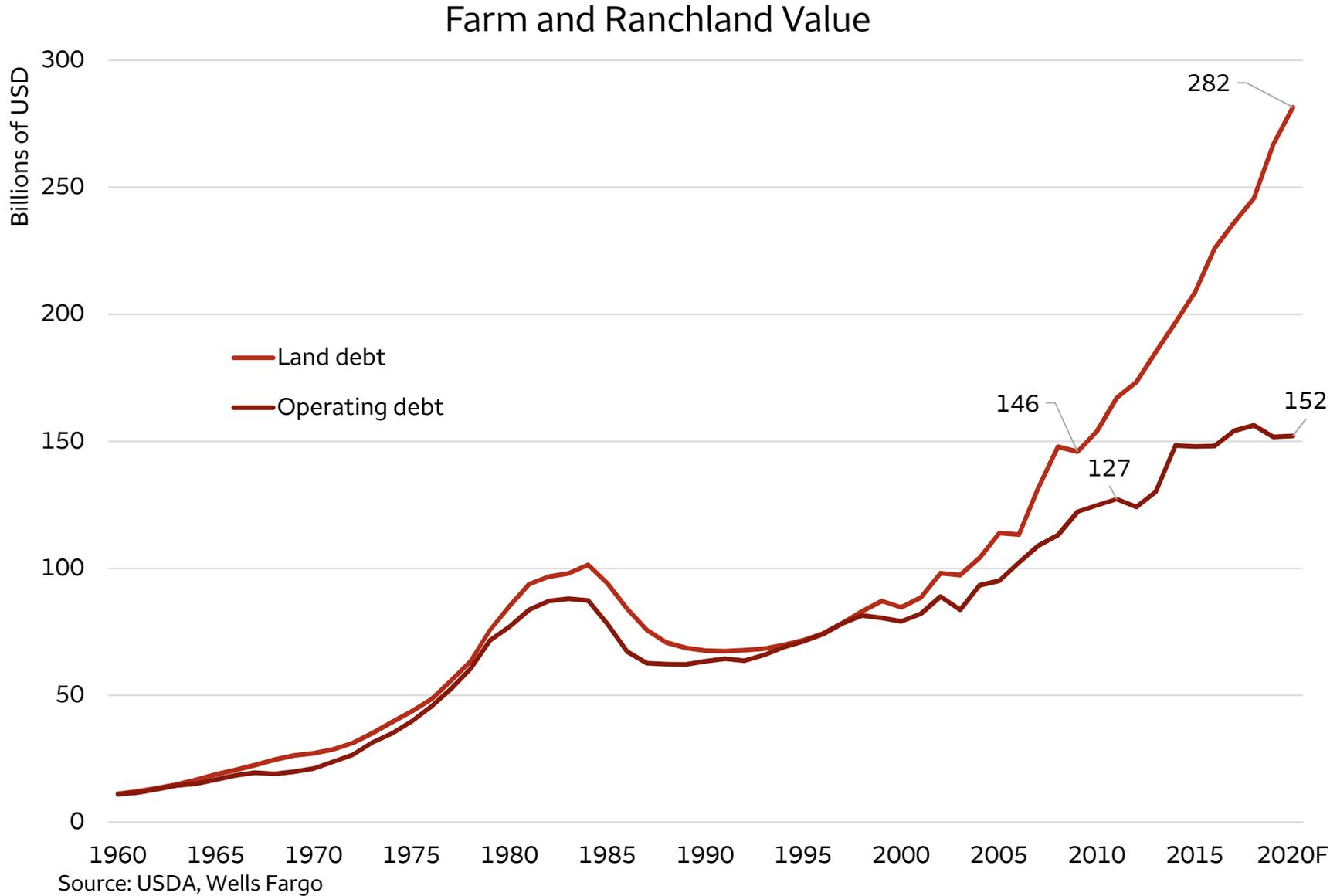


Equipment is the next 9%.

Real Estate's Share of the Agricultural Balance Sheet

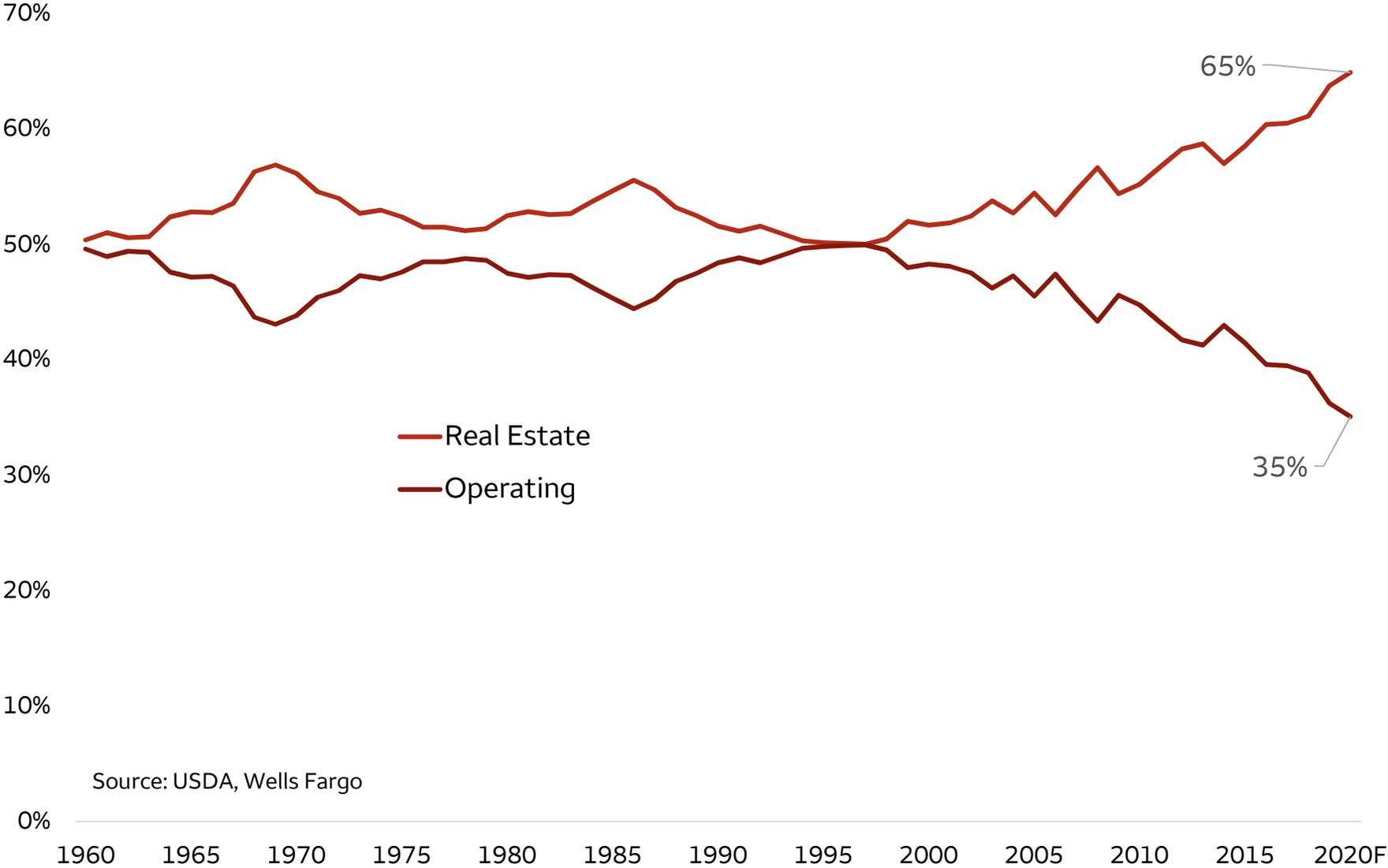


This has become unbalanced.



Asset based lending is an unique approach.

Source of Debt Funding in Agricultural Production



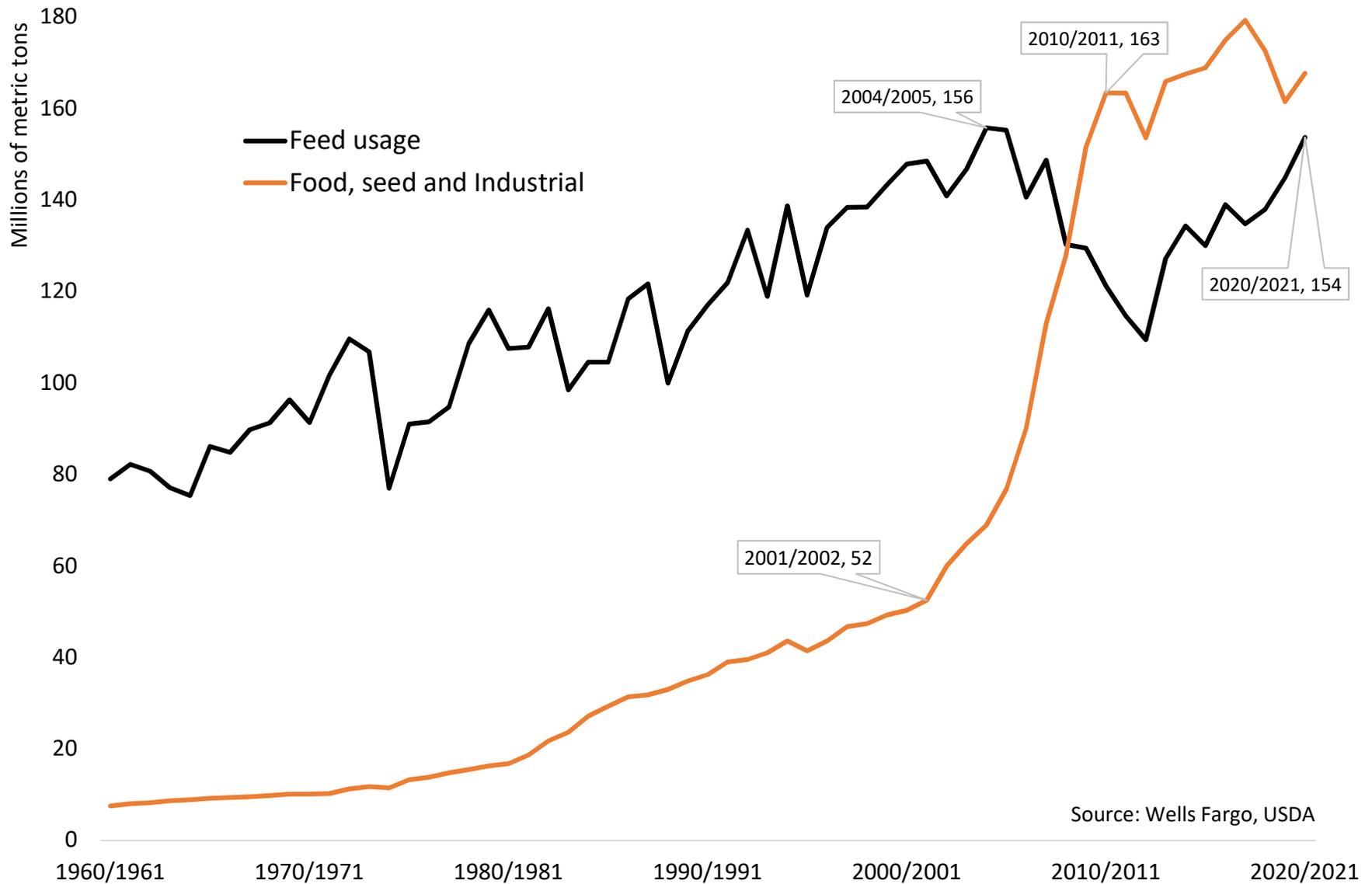
Source: USDA, Wells Fargo

Ultimately, biofuels disappear

- 34% of U.S. corn goes to ethanol
 - Gasoline down 12% year over year due to COVID
 - Poor profits pushing a shake-out
- Battery technology will dominate
 - 7 to 9 percent improvement annually
 - Cost of manufacturing
 - Absolute performance
 - Network of availability and faster charging
 - Thousands of R&D initiatives

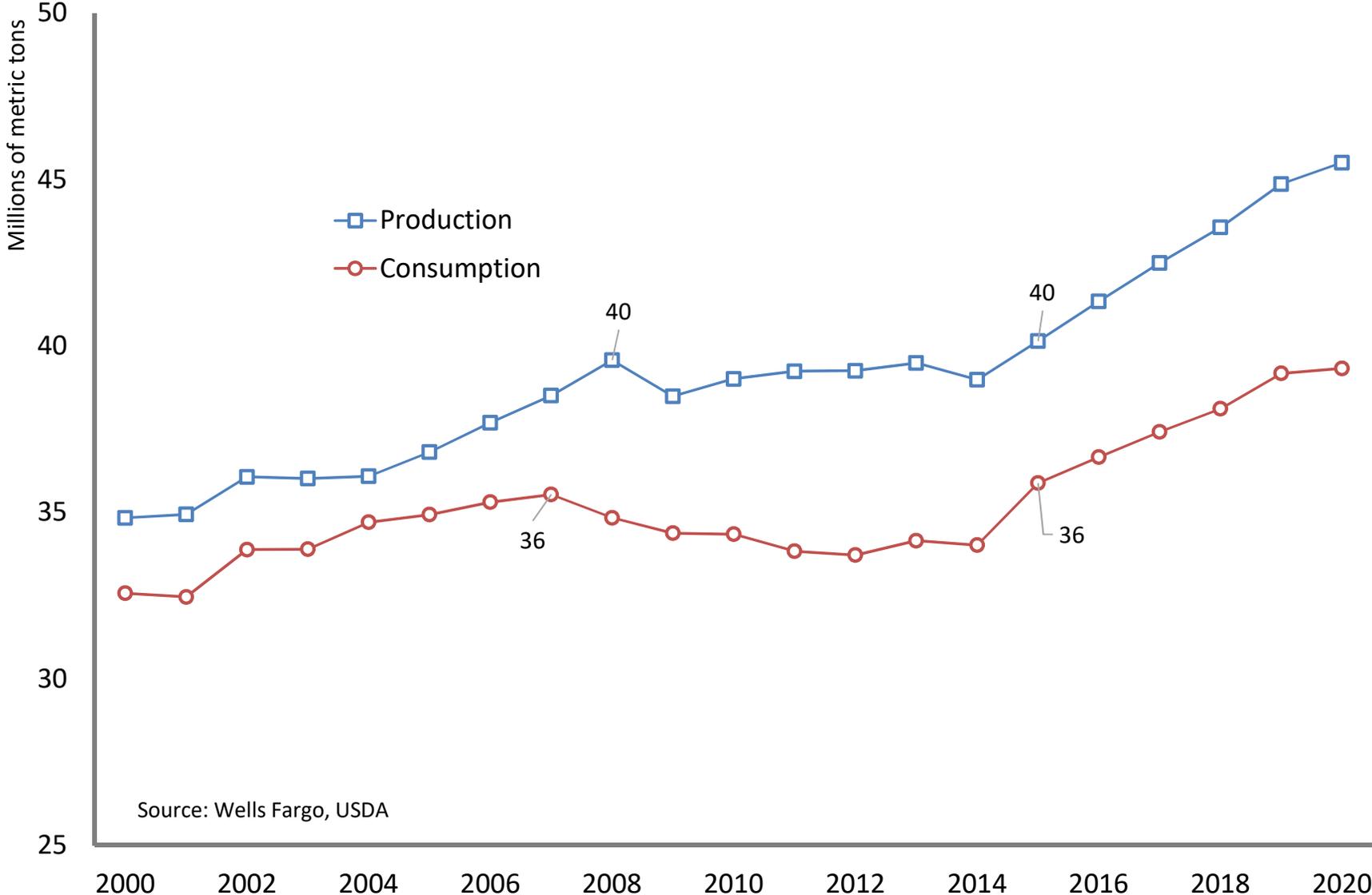
The two biggest factors

U.S. Corn Usage



U.S. meat production is back on track.

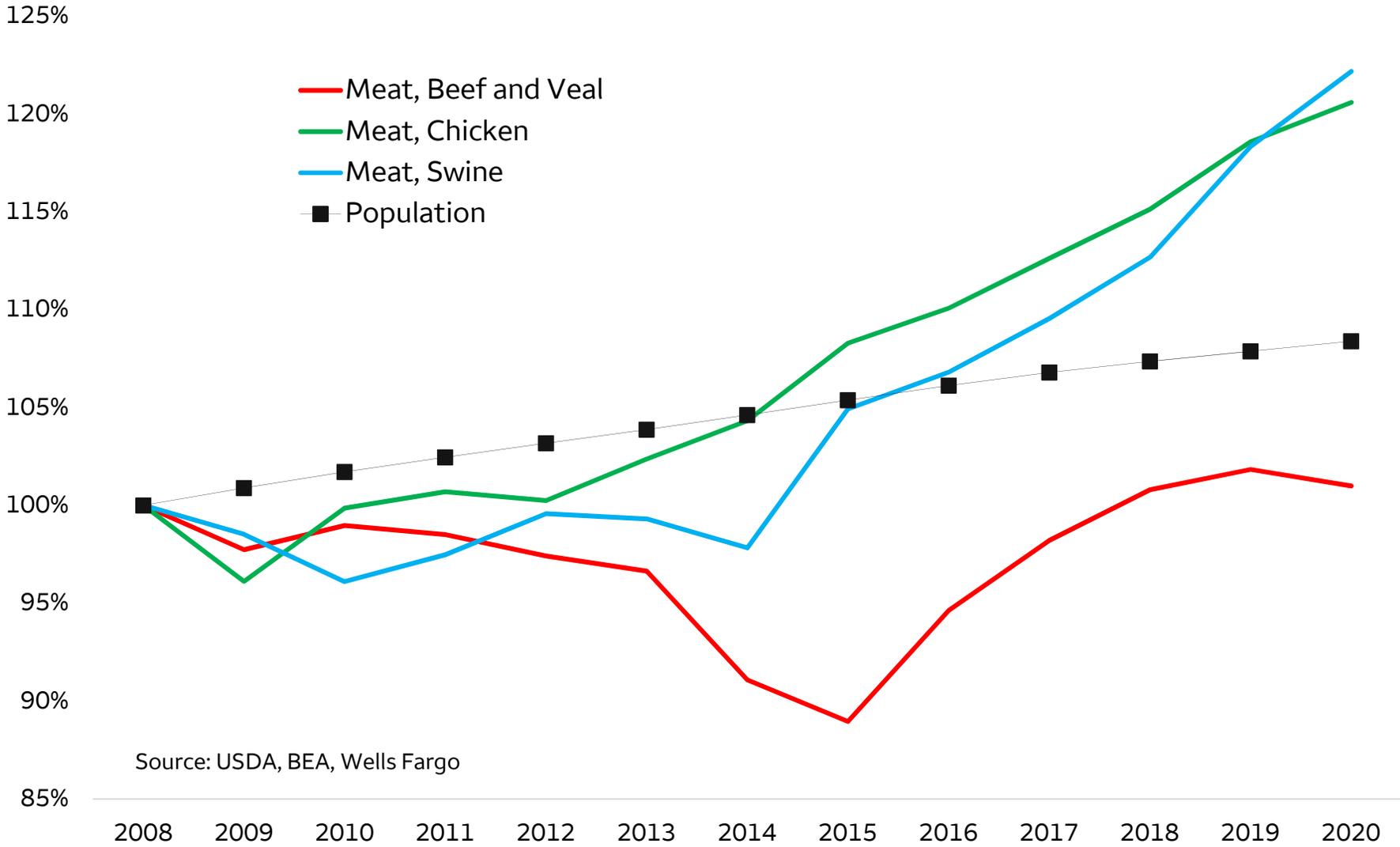
U.S. Meat Production and Consumption



Source: Wells Fargo, USDA

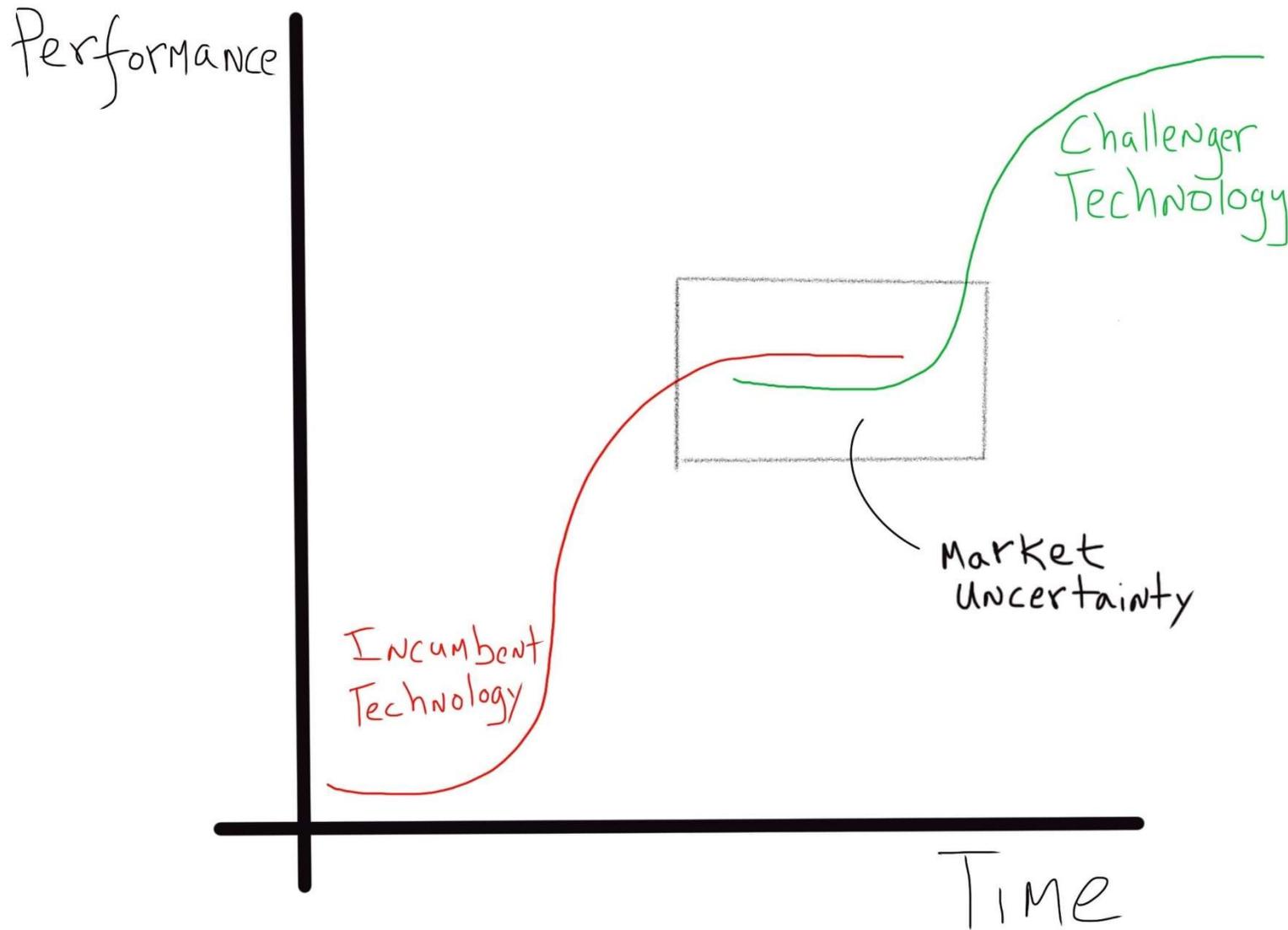
However, North Dakota will be left behind.

Meat Production versus Population
Indexed to 2008



Source: USDA, BEA, Wells Fargo

When 2 technologies collide. How fast? How certain?



What's the right metric?

Lithium-ion battery price survey results: volume-weighted average

Battery pack price (real 2018 \$/kWh)



Source: BloombergNEF

Source: Bloomberg

Updated with a different base year.

Figure 1: Volume-weighted average pack and cell price split

real 2020 \$/kWh



Source: BloombergNEF

Source: Bloomberg

Rate of improvement for declines can be misleading.

Quoted in \$ per Kilowatt Hour in 2020 dollars					
Year	Pack Cost	Cell Cost	Pct Pack	Improvement Pack	Improvement Cell
2013	\$ 210	\$ 458	31%		
2014	\$ 190	\$ 403	32%	-10%	-12%
2015	\$ 127	\$ 257	33%	-33%	-36%
2016	\$ 80	\$ 215	27%	-37%	-16%
2017	\$ 65	\$ 155	30%	-19%	-28%
2018	\$ 50	\$ 130	28%	-23%	-16%
2019	\$ 47	\$ 110	30%	-6%	-15%
2020	\$ 35	\$ 102	26%	-26%	-7%
Source: BloombergNEF					

Source: BloombergNEF

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