

2021 Dairy Market Situation and Outlook

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Outline for Today

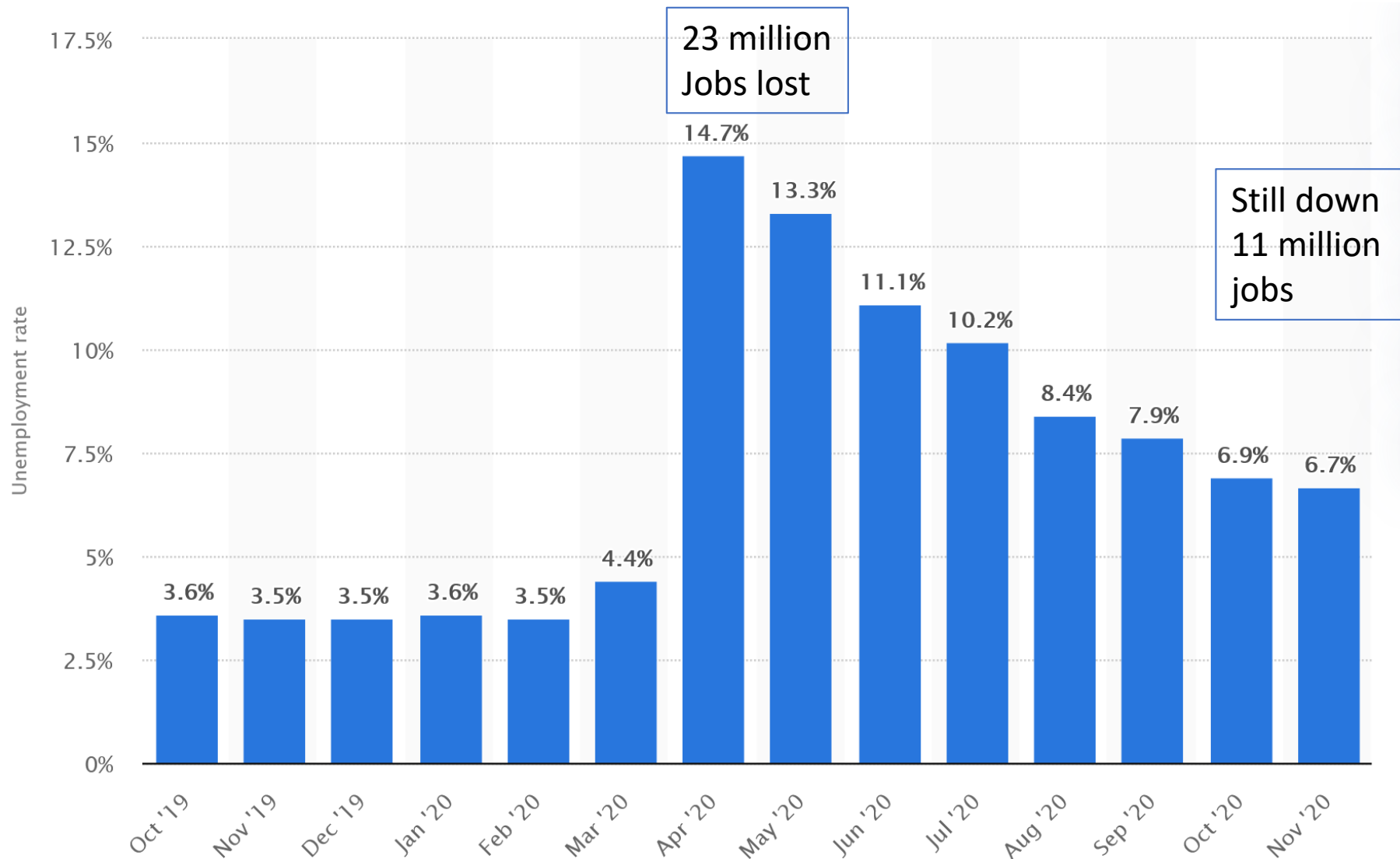
- Review 2020
 - COVID-19 demand impacts
 - Supply chain responses
 - Policy responses

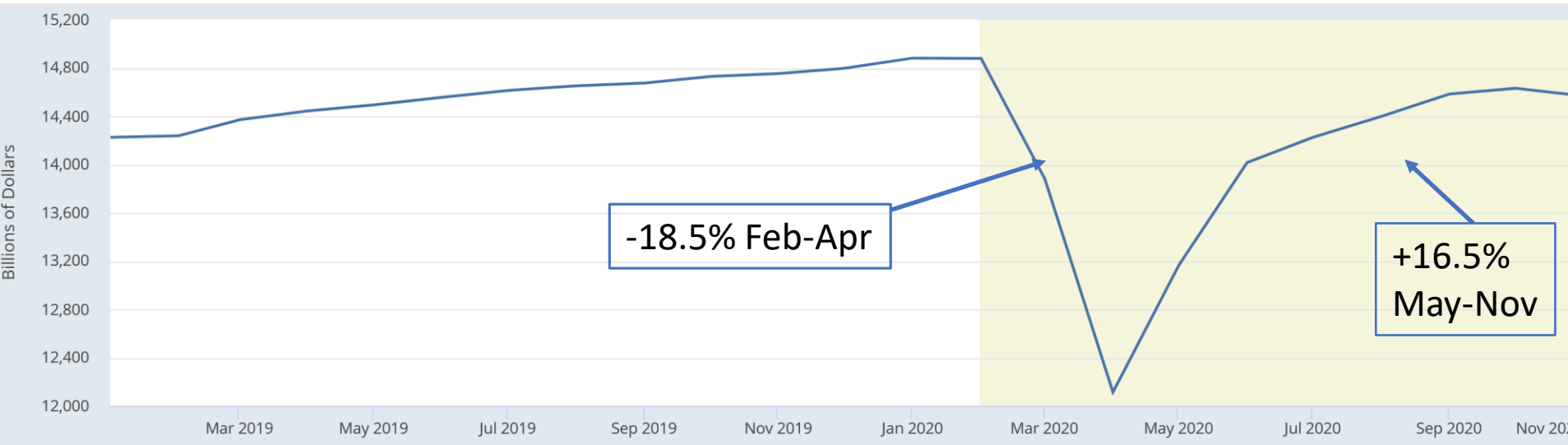
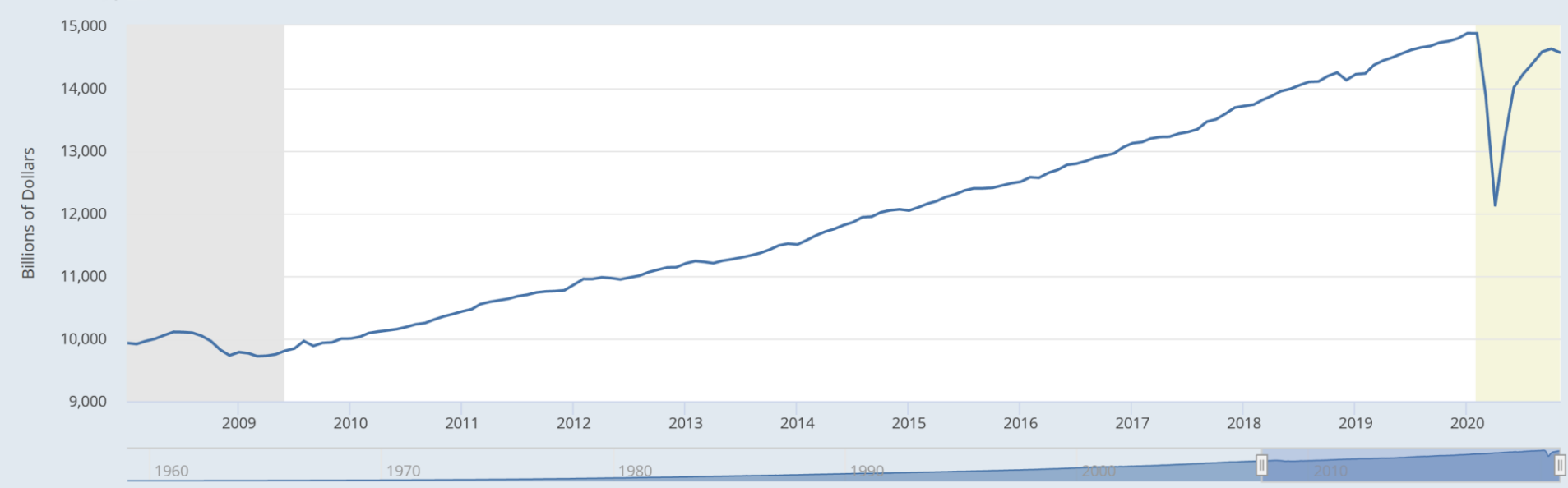
- 2021 Outlook
 - Government purchases
 - Milk Production response

COVID Effects Spring 2020

- Came into the year looking for the highest farm milk prices since 2014
- COVID-19 necessitated large and very fast short-term adjustments in the dairy supply chain as FAFH effectively shut down, at least temporarily, in many locations

Monthly US Unemployment Rate



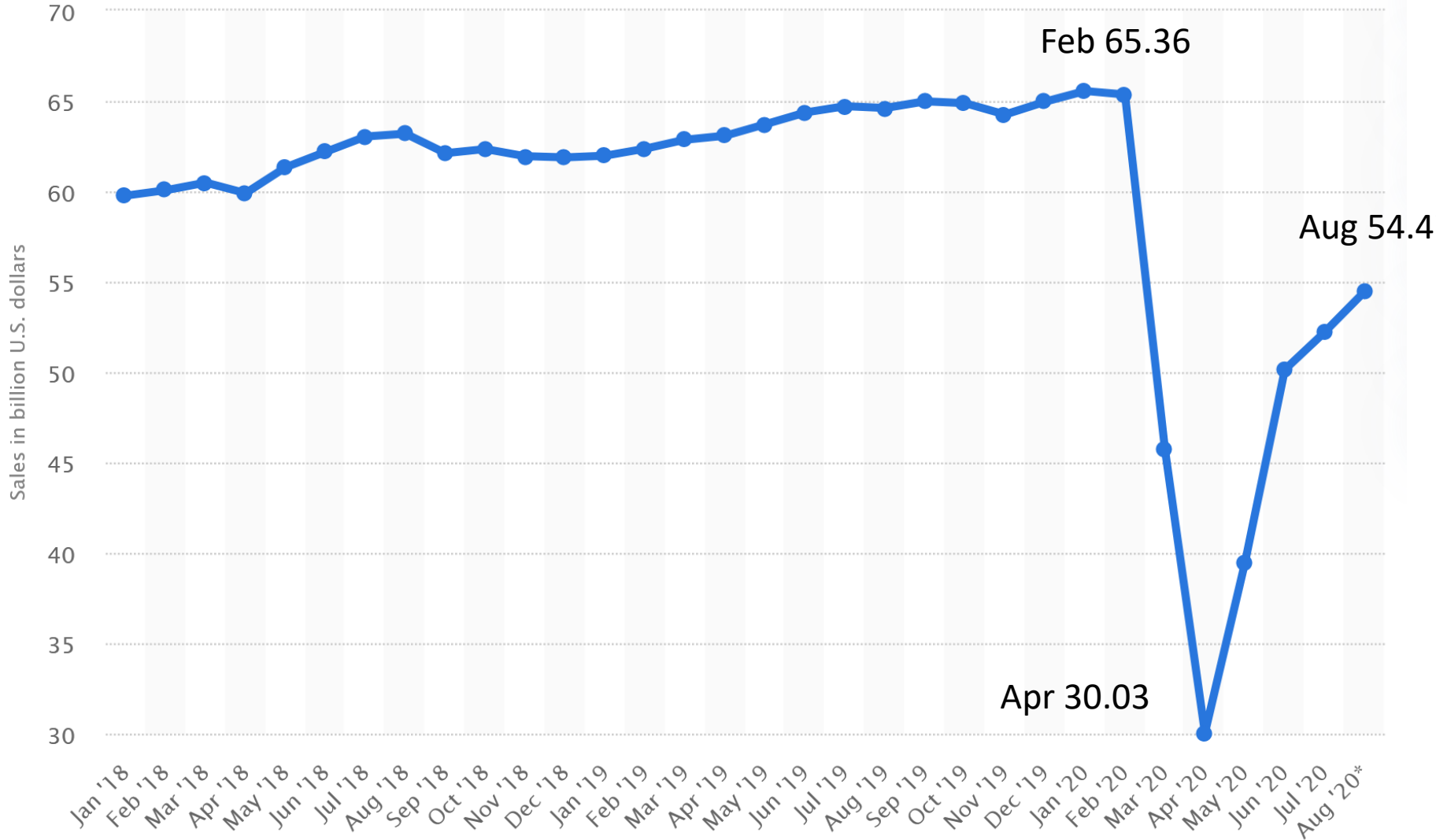


2020 Monthly Food Expenditures

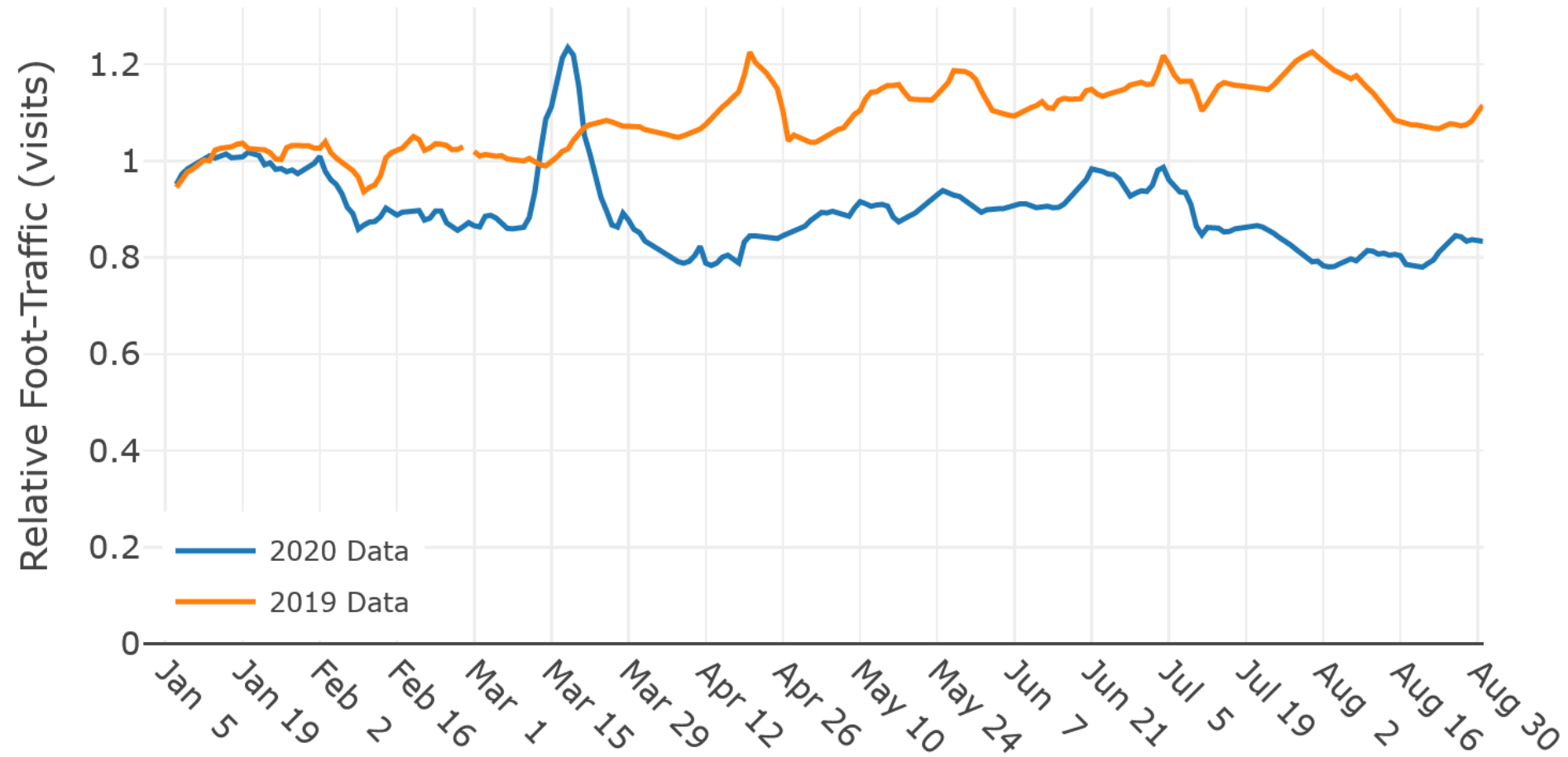
Month	Food at Home	Food Away from Home	Total Food Sales
	(% change from 2019)		
January	2.5	4.5	3.5
February	3.9	2.6	3.2
March	20.6	-26.2	-4.0
April	7.3	-49.4	-22.4
May	9.0	-35.6	-14.3
June	7.0	-22.2	-8.4

—Source: USDA-ERS “Food Expenditures”; Nominal \$, leap year adjusted, includes taxes and tips

Sales of Foodservice and Drinking Places in US (billion \$)

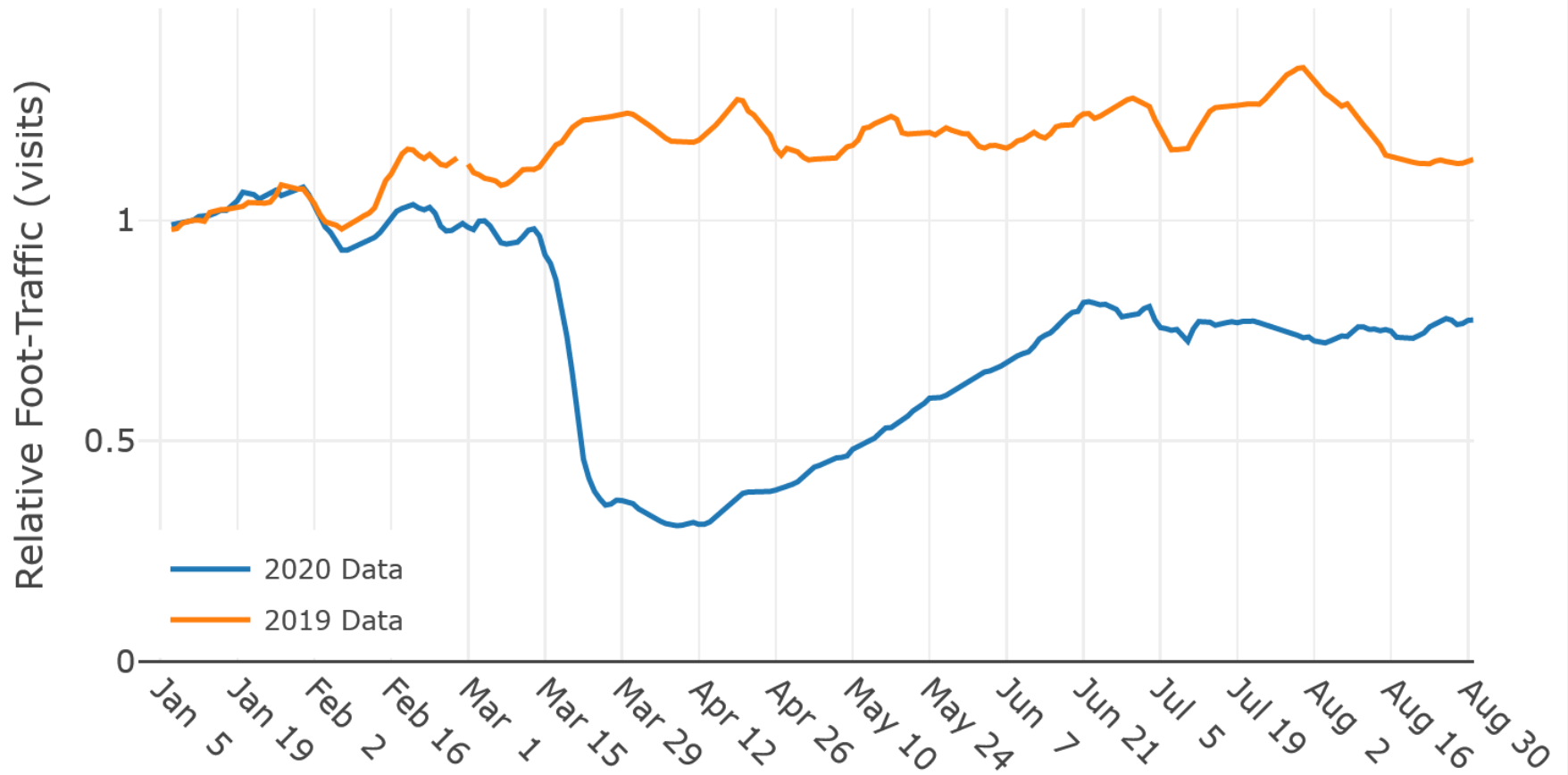


Supermarket Foot Traffic



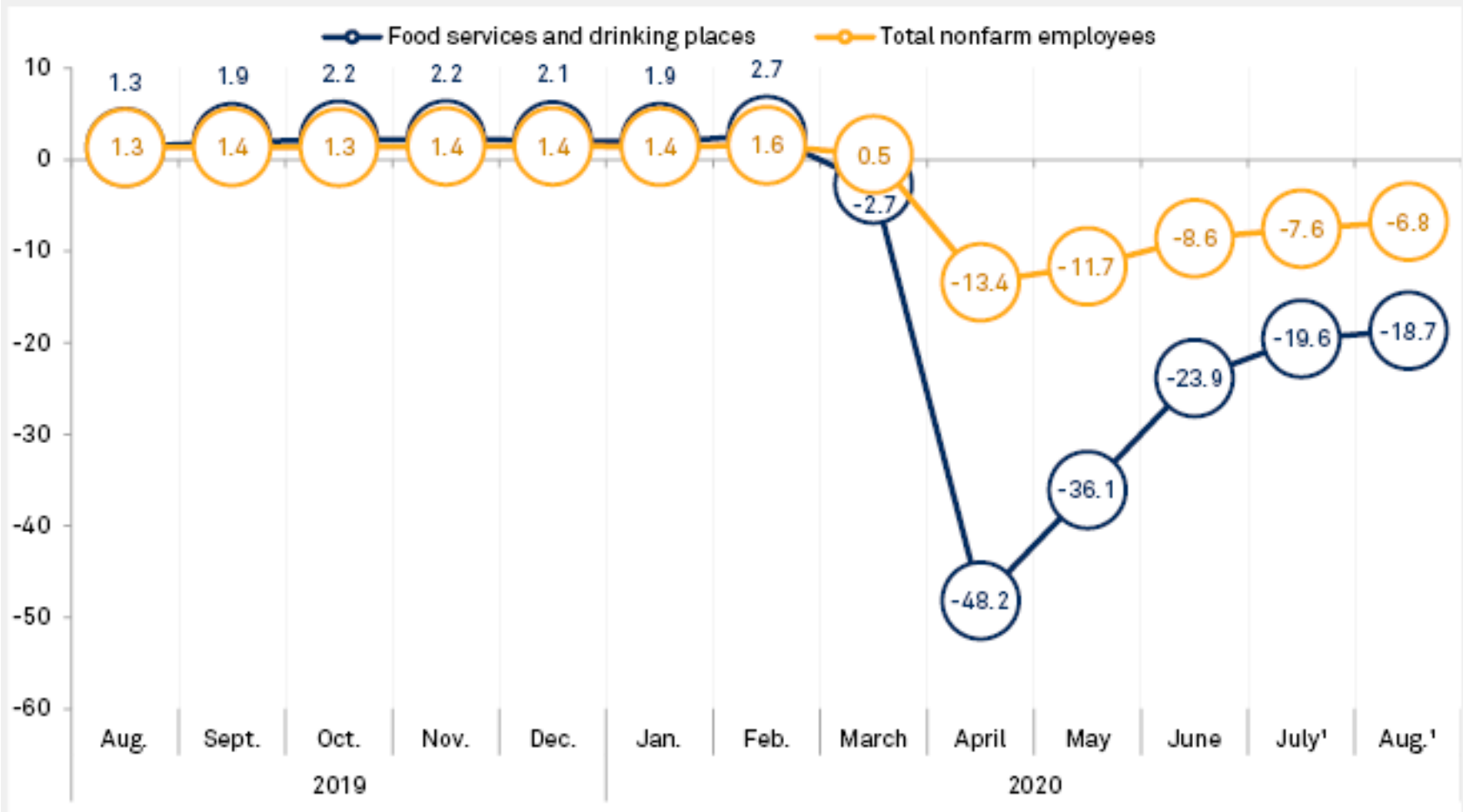
Source: <https://www.safegraph.com/data-examples/covid19-commerce-patterns>

Sit-Down Restaurant Foot Traffic



Source: <https://www.safegraph.com/data-examples/covid19-commerce-patterns>

YOY change in number of employees for food services, drinking places (%)



Data compiled Sept. 16, 2020.

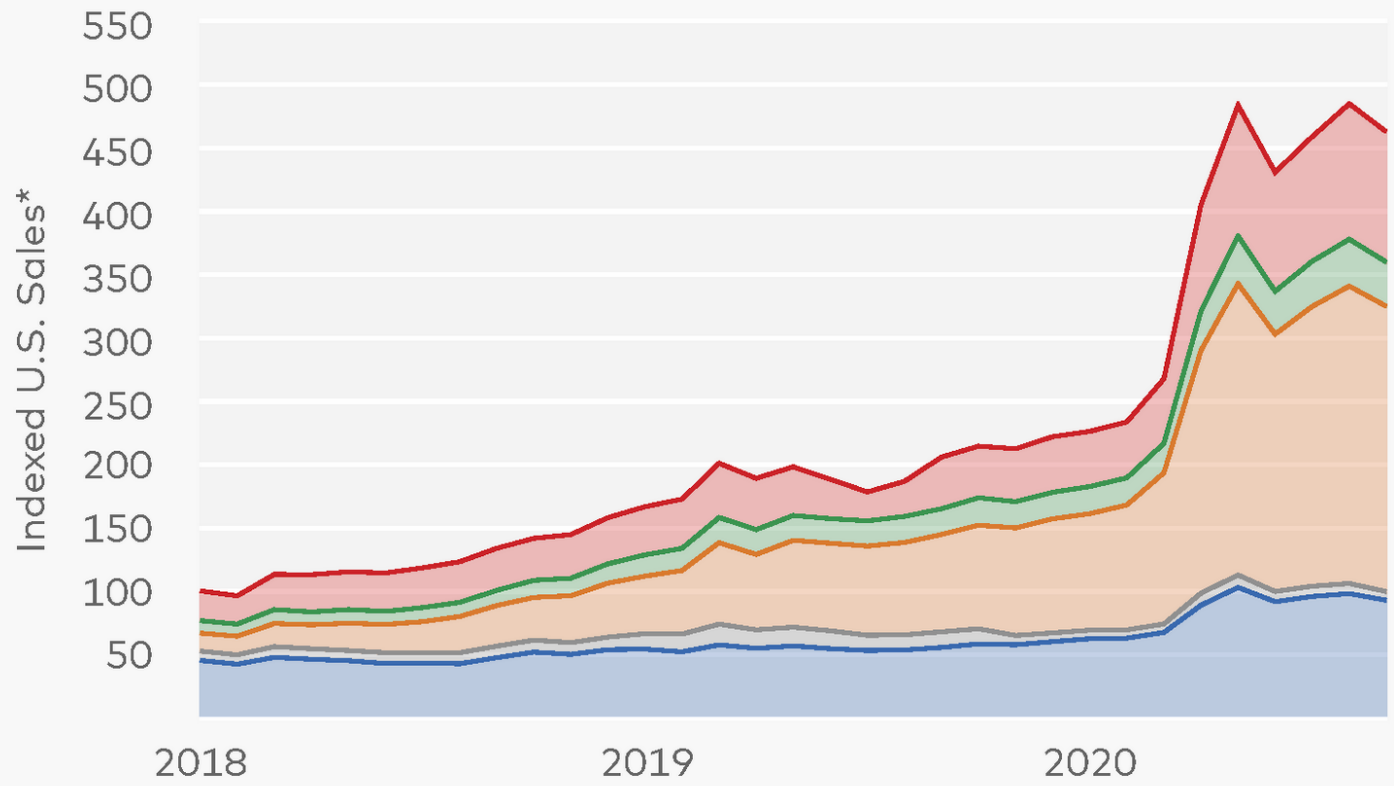
Based on U.S. government data released Sept. 4, 2020.

Data includes seasonally adjusted number of employees.

¹ Represents preliminary data based on survey conducted by the U.S. Bureau of Labor Statistics the week of Aug. 9 and released Sept. 4, 2020.

Source: U.S. Bureau of Labor Statistics

Meal Delivery - Monthly Sales



September 2020 Share of Sales

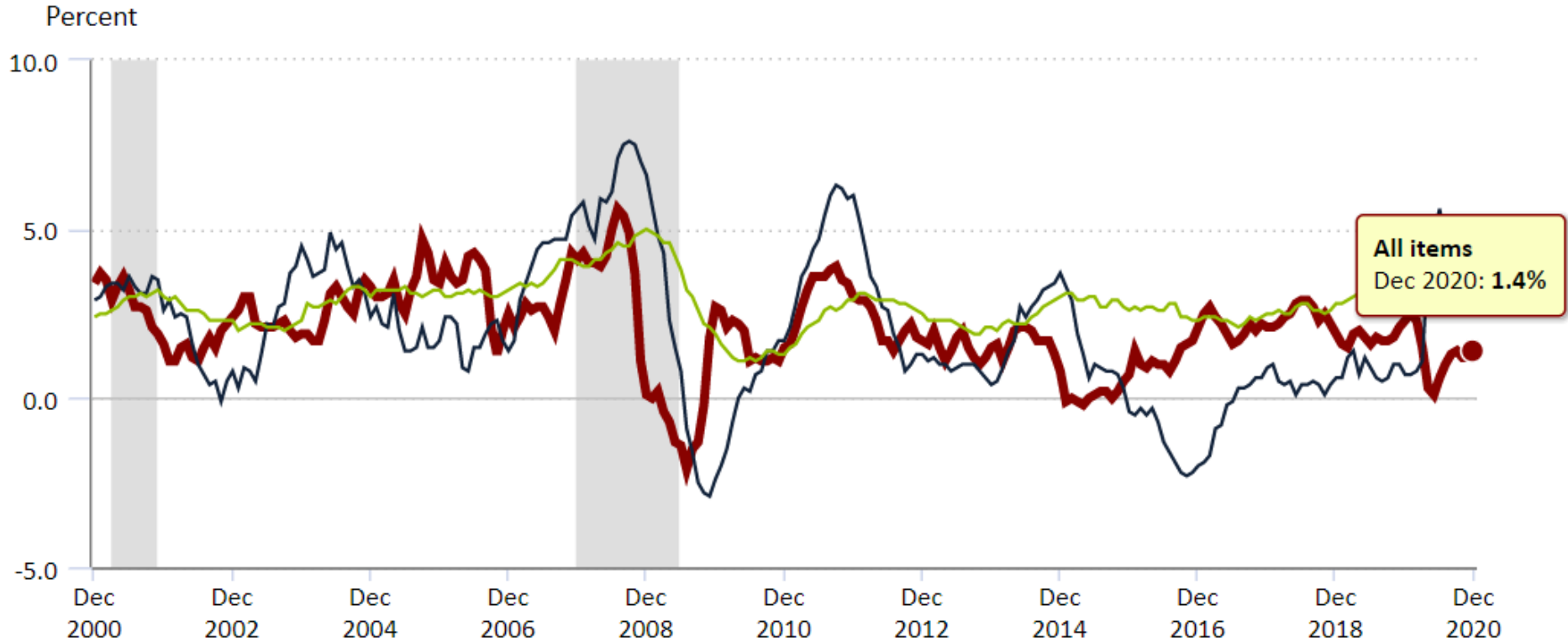
- Uber Eats 22%**
Does not include purchases made with Uber Cash. Some sales indistinguishable from Uber rides, especially in May-August 2019.
- Postmates 8%**
- DoorDash 49%**
- Other 1%**
Amazon Restaurants (prior to Jun '19 closure)
Caviar (prior to Oct '19 acquisition)
Waitr
- Grubhub 20%**

* Indexed to meal delivery Jan. 2018 sales (=100)
Percentages may not add to 100 due to rounding.



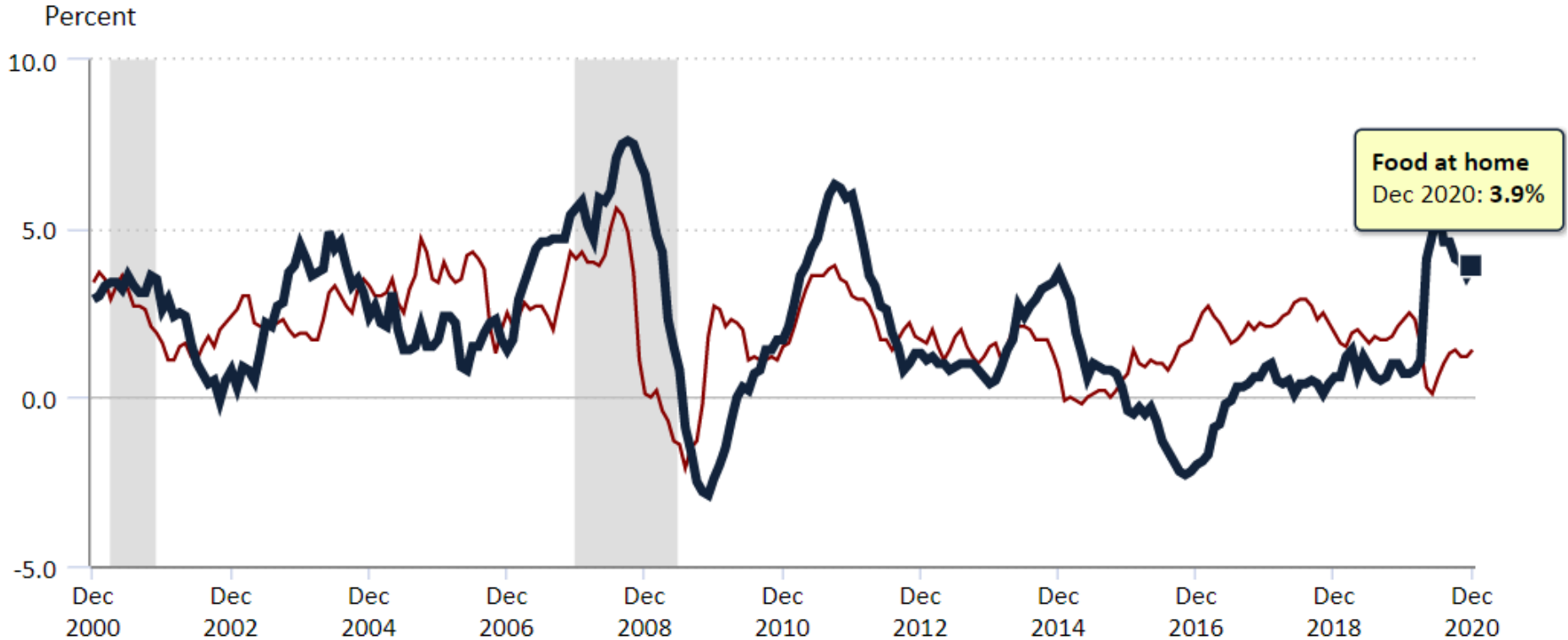
Source: <https://secondmeasure.com/datapoints/food-delivery-services-grubhub-uber-eats-doordash-postmates/>

Inflation rates



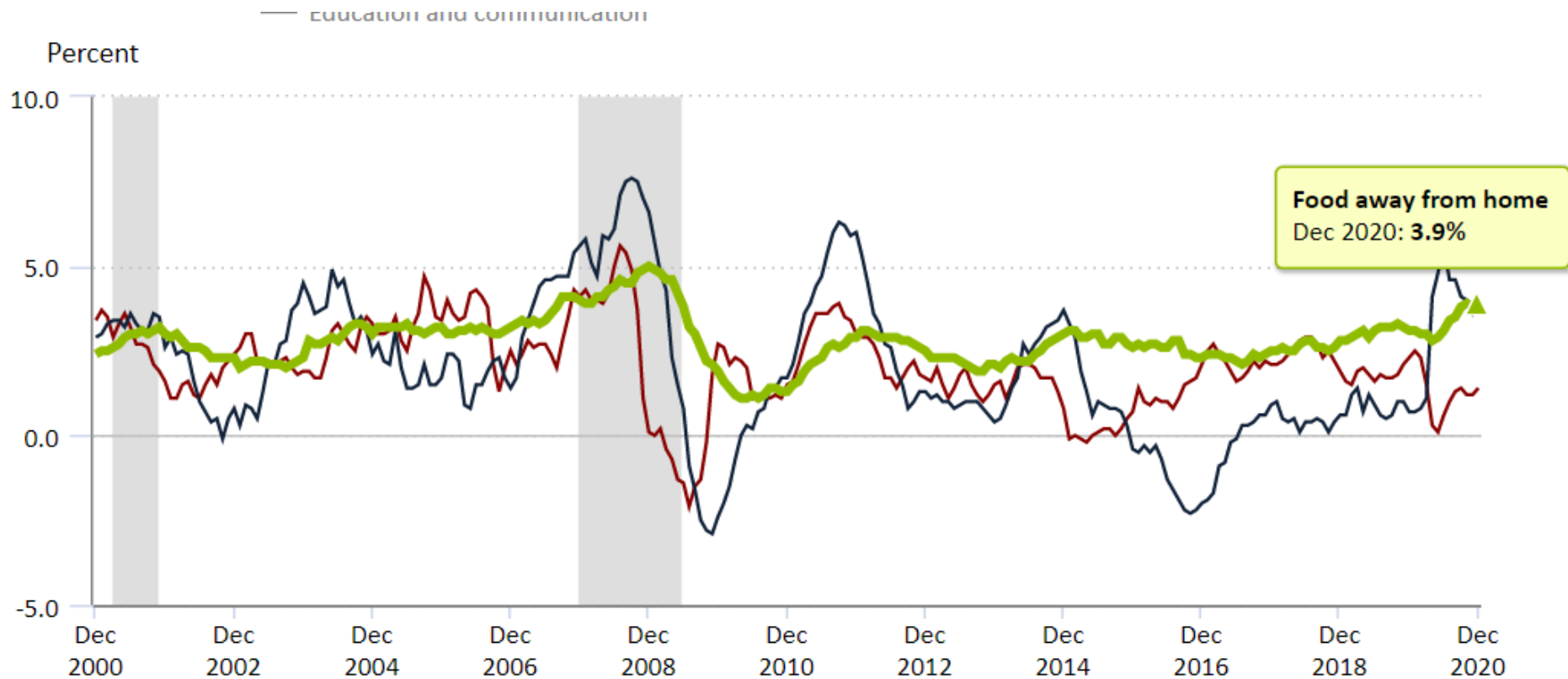
Source: US Bureau of Labor Statistics

Inflation rates



Source: US Bureau of Labor Statistics

Inflation rates



Source: US Bureau of Labor Statistics

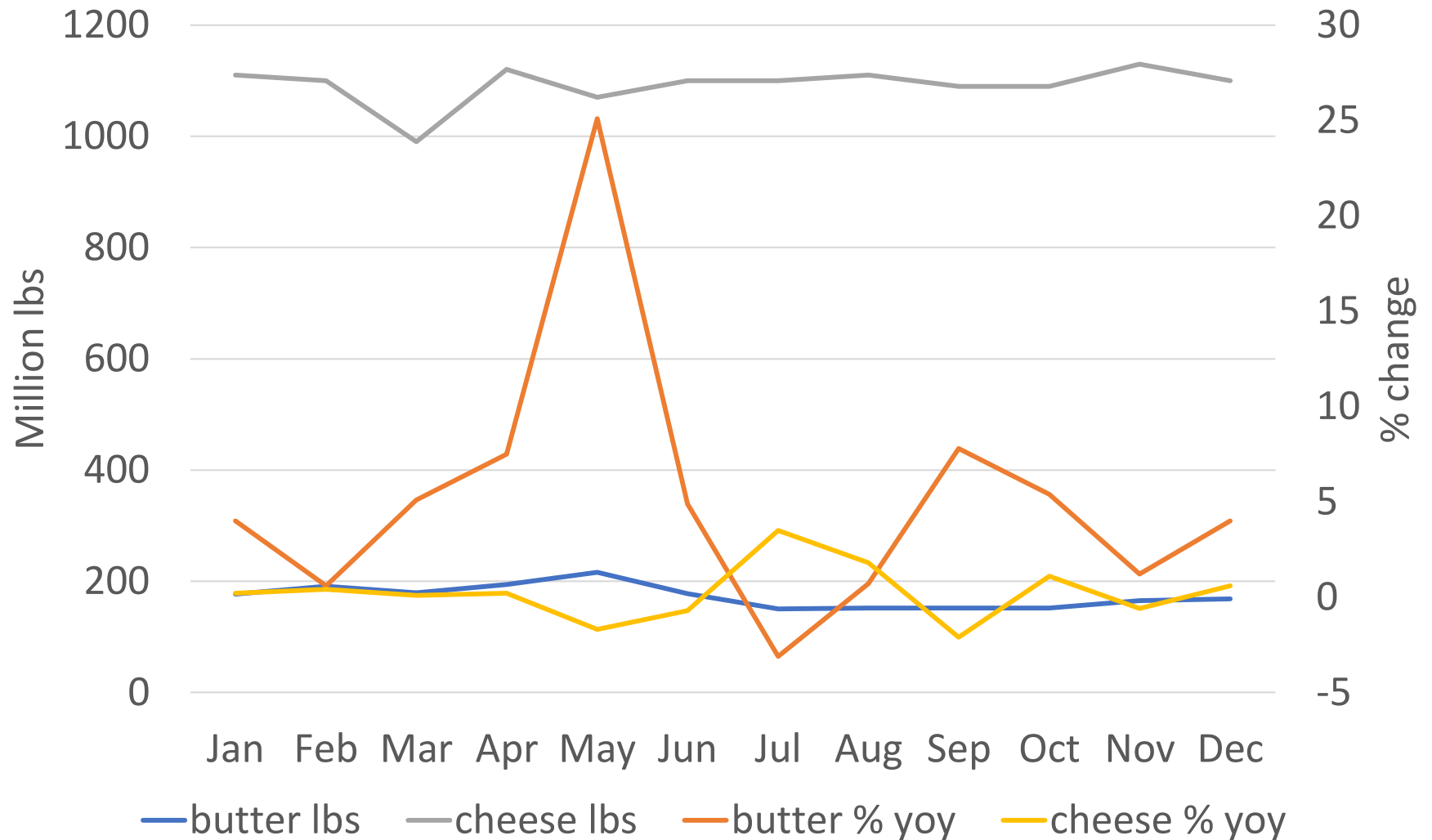
Dairy Market COVID Demand Impacts

- Package size up for many products
- Butter and cream consumption down (Food away from Home vs Food at Home)
- Processed cheese consumption up
- Yogurt flat to down: large container sales up/small six pack sales down
- Fluid growth in ESL and organic

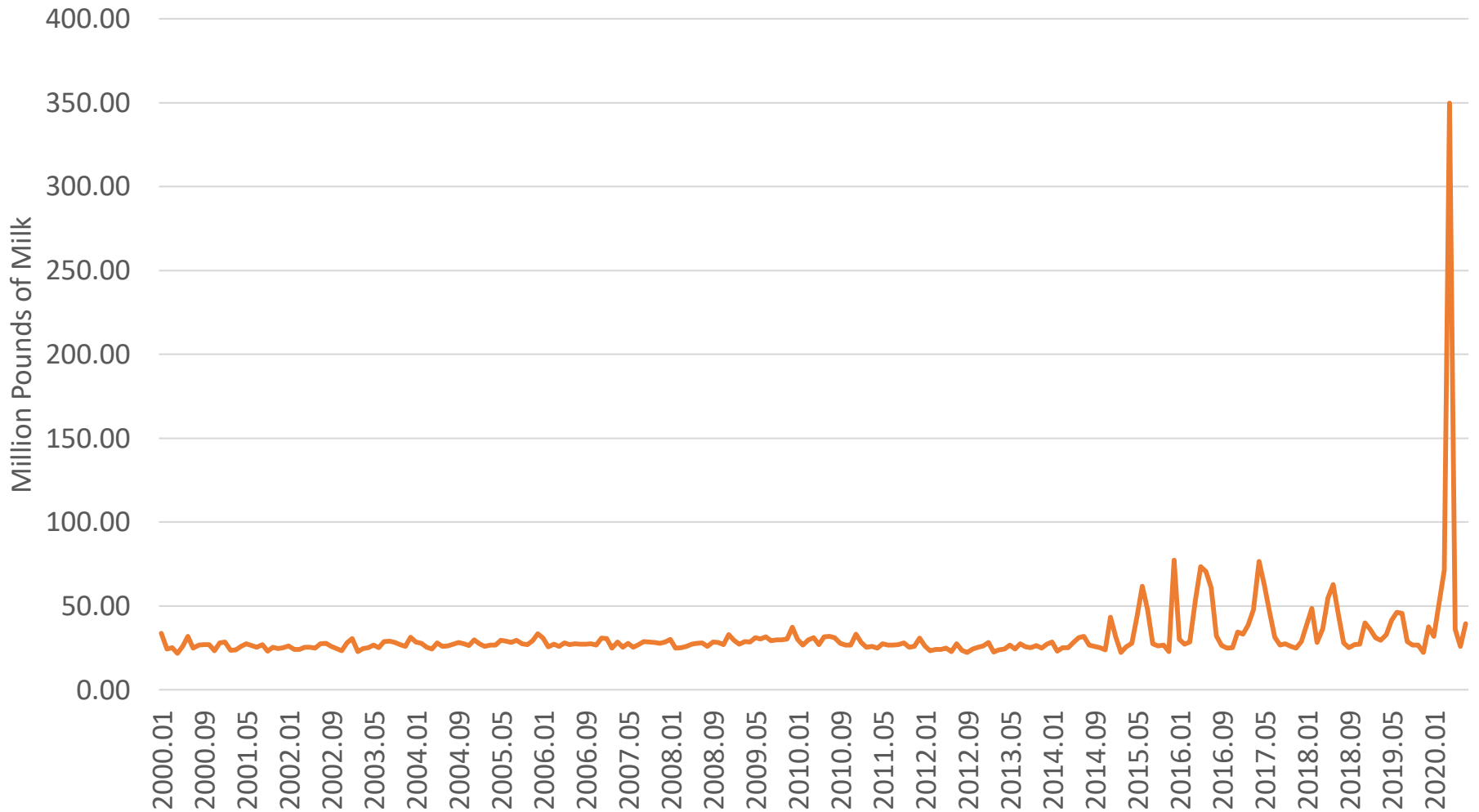
Milk Supply Response

- Sudden loss of food service outlets necessitated large response in product mix
- Some milk was dumped other milk was transported long distances and sold at distressed prices

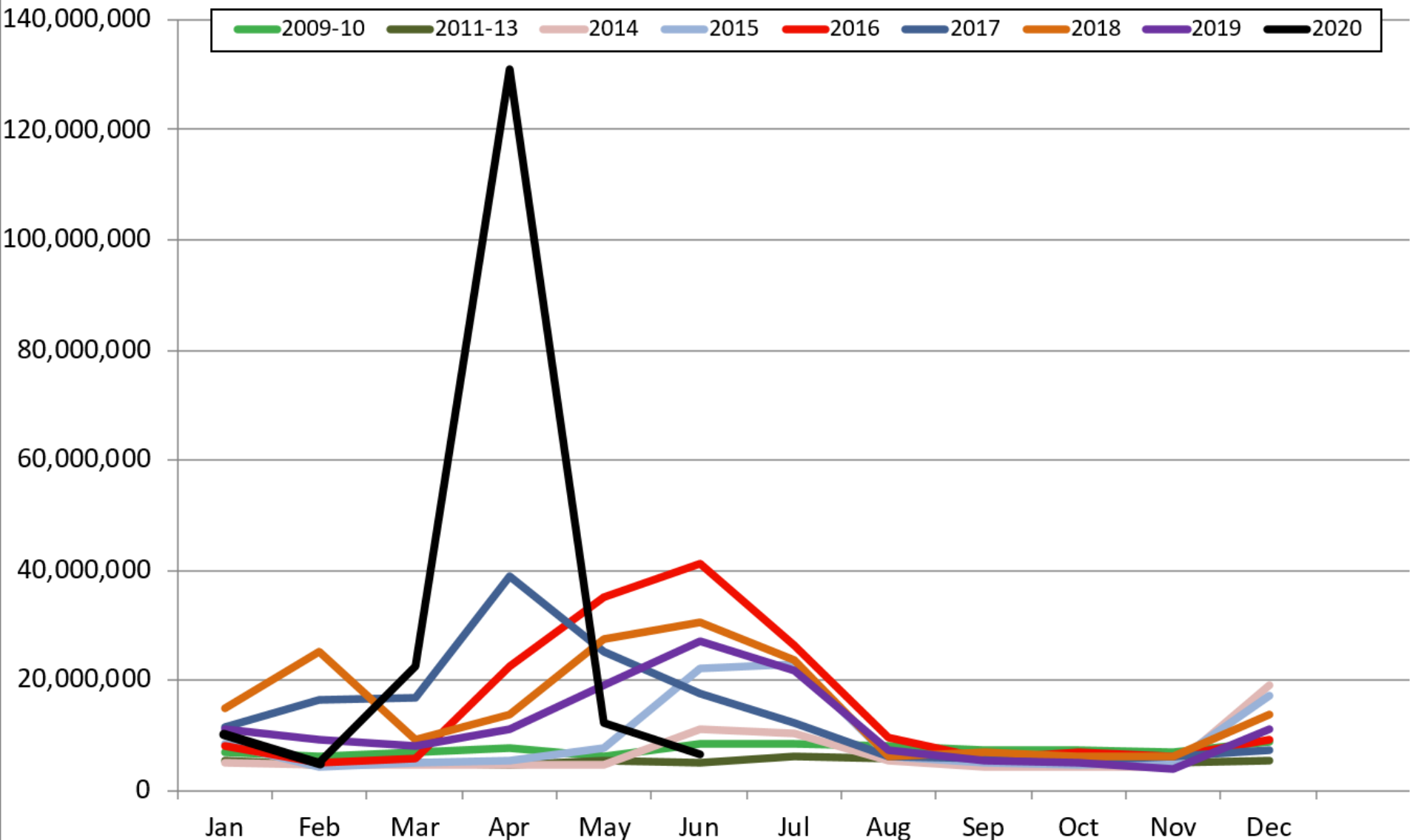
Butter and Cheese Production, 2020



Milk Dumping in all Orders



Pounds of Producer Milk Used for Animal Feed or Dumped, Northeast Federal Order, 2009-2020



Milk Dumping by Month

Data Source: USDA AMS

Order	January	February	March	April	May	June	July	
	% milk dumped							
Northeast	0.40	0.21	0.87	5.14	0.48	0.31	0.25	
Appalach.	0.65	0.65	0.56	1.47	0.50	0.67	0.57	
Florida	0.53	0.57	0.51	14.31	0.52	0.49	0.53	
Southeast	0.83	1.73	0.81	4.24	0.76	0.78	0.70	
UpMid	0.07	0.07	0.07	1.42	0.11	0.20	0.16	
Central	0.28	0.30	0.25	1.45	0.16	0.34	0.36	
Mideast	0.12	0.09	0.07	1.37	0.11	0.14	0.37	
California	0.10	0.13	0.13	0.80	0.30	0.10	0.73	
Pac NW	0.04	0.02	0.02	0.10	0.03	0.01	0.02	
SW	0.30	2.83	2.75	3.82	0.40	0.44	0.42	
Arizona	0.01	0.02	0.80	4.01	0.03	0.06	0.09	
All Orders	0.23	0.41	0.52	2.51	0.27	0.26	0.38	

Cooperative Base Programs

- Coops looking to right-size milk production implemented “base” programs based on some historic level of production (i.e., 94% of March 2020)
- Any milk in excess of that would be responsible for excessive market adjustment costs
- Farmers made decisions on how to respond based on farm situation, outlook and options

2020 Dairy Farm Income

Varied greatly by farm but seemed to depend on three factors:

1. Government payments (CFAP and DMC)
2. Risk management activities (Dairy RP)
3. Where milk was shipped:
coop/processor/regional situation

Government Programs

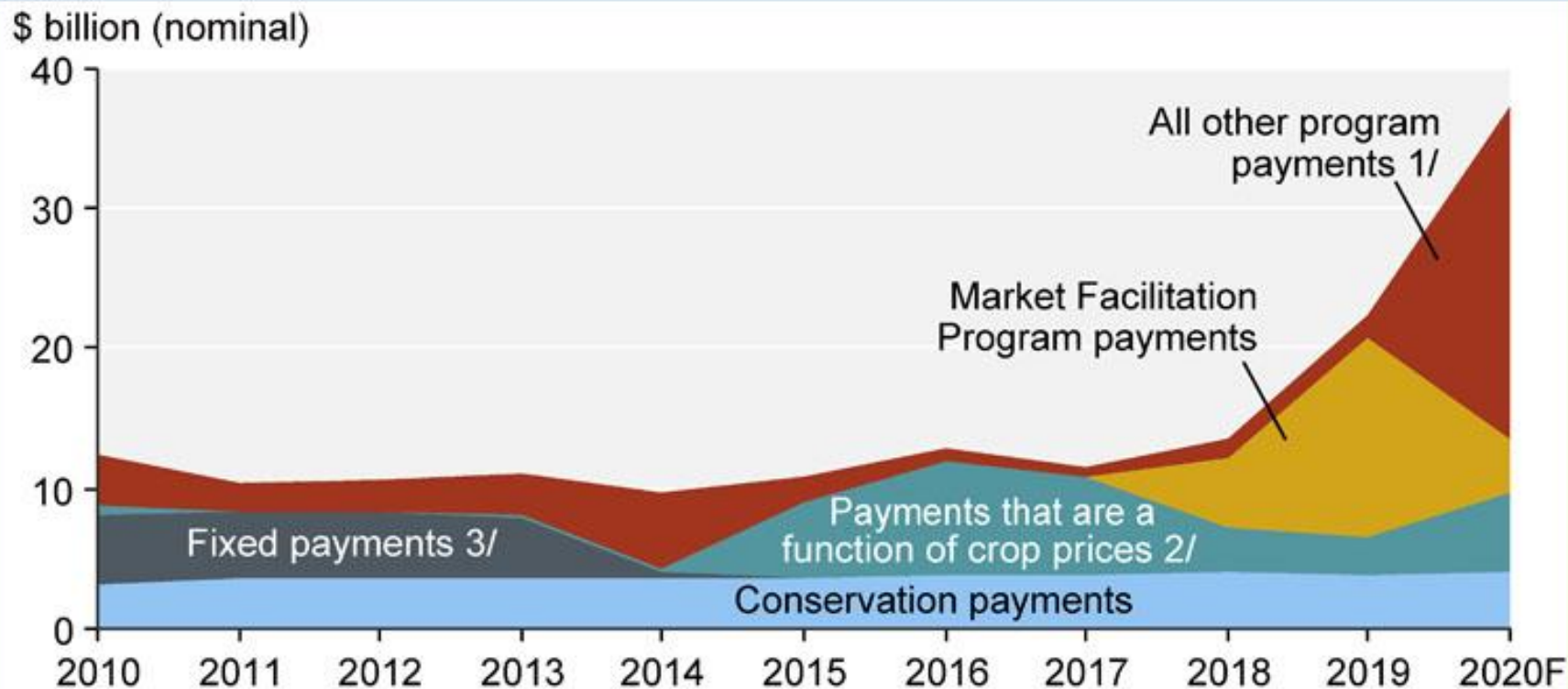
- Dairy Margin Coverage Program
- Dairy Revenue Protection
- Coronavirus Food Assistance Program
 - Payments to Farmers
 - Farmers to Families Food Box Program

All Milk Price, DMC and CFAP payments

Quarter	All Milk	Net DMC	CFAP	Total
	\$/cwt			
Q1	18.83	-0.03	6.20	25.00
Q2	15.37	2.38	1.20	18.95
Q3	19.07	-0.12	1.20	20.15
Q4	19.95	-0.15	1.20	21.00

Author calculations from USDA data

Government farm program payments to farm producers, 2010–20F



Note: F = forecast.

1/ All other payments includes supplemental and ad hoc disaster assistance which in 2020 includes payments from the Coronavirus Food Assistance Program and Paycheck Protection Program loans. It also includes tobacco transition, Cotton Ginning Cost Share, and dairy payments.

2/ Includes Price Loss Coverage (PLC), Agriculture Risk Coverage (ARC), counter-cyclical payments (CCP), Average Crop Revenue Election (ACRE) payments, loan deficiency payments (excluding grazeout payments), marketing loan gains, and certificate exchange gains. CCP and ACRE were not continued in the 2014 Farm Bill. PLC and ARC payments began in 2015.

3/ Includes direct fixed payments portion of Direct and Counter-Cyclical Program (DCP) and Cotton Transition Assistance Program (CTAP) payments (in 2014/15).

Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

Data as of September 2, 2020.

Food Assistance Programs

- Existing programs:
 - SNAP benefits increased 73% in April YOY
 - The Emergency Food Assistance Program (TEFAP) was up 34%
- Coronavirus Food Assistance Program (CFAP)
Farmers to Food Box

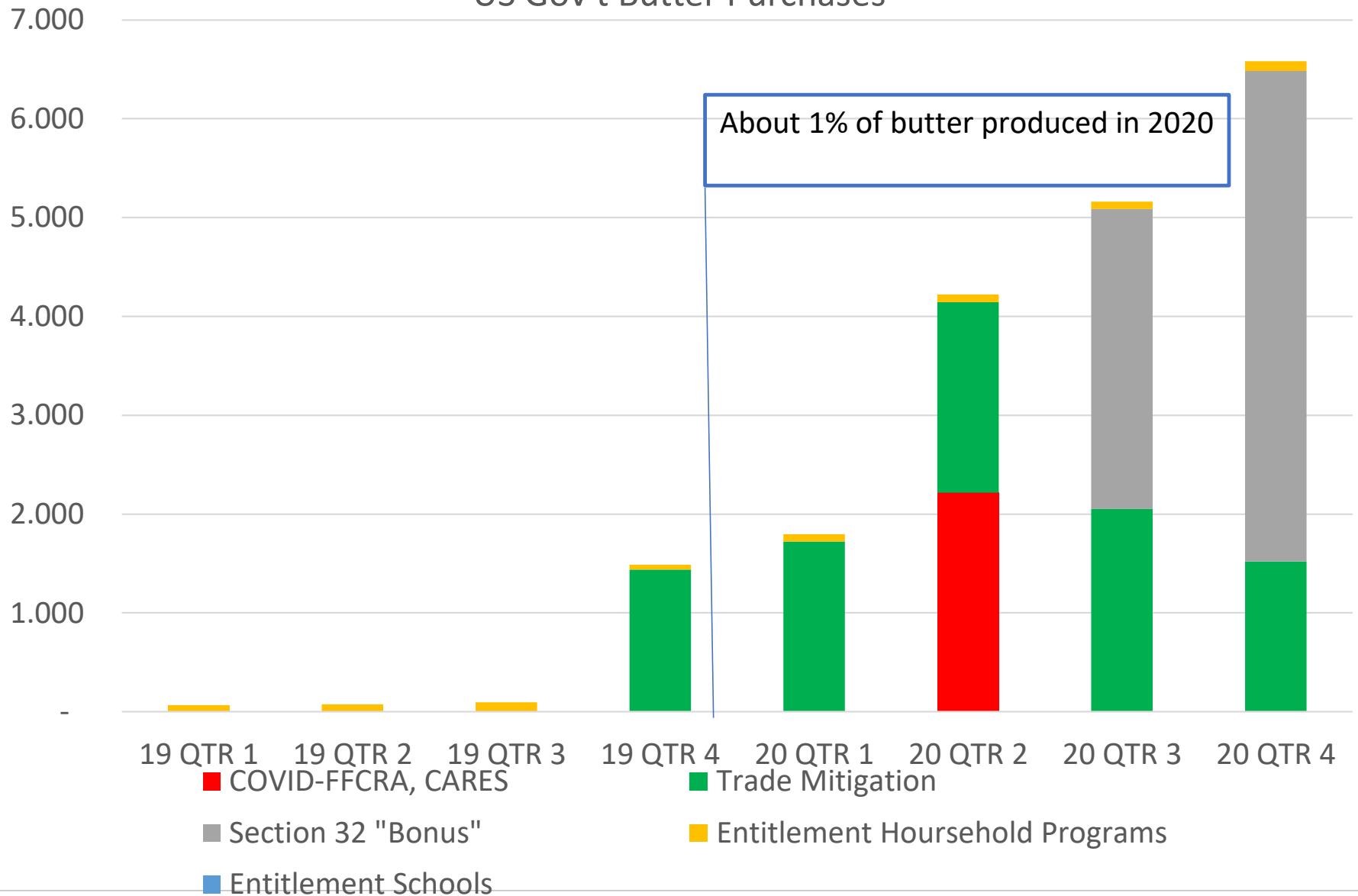
Farmers to Families Food Box Program

- USDA finances purchase of food items for direct distribution to needy Americans through local food pantries, kitchens and other non-profit organizations.
- Four rounds through 2020
 - Round 1 purchased \$1.2 billion of products between May 15 and June 30.
 - Round 2 \$1.47 billion between July 1 and August 31.
 - Round 3 an additional \$1 billion made available for deliveries through Oct. 31, 2020.
 - Round 4 between Nov 1 and Dec 31 an additional \$500 million
 - Round 5 for \$1.5 billion in 2021
- Total exceeds \$5 billion: ~20% spent on dairy

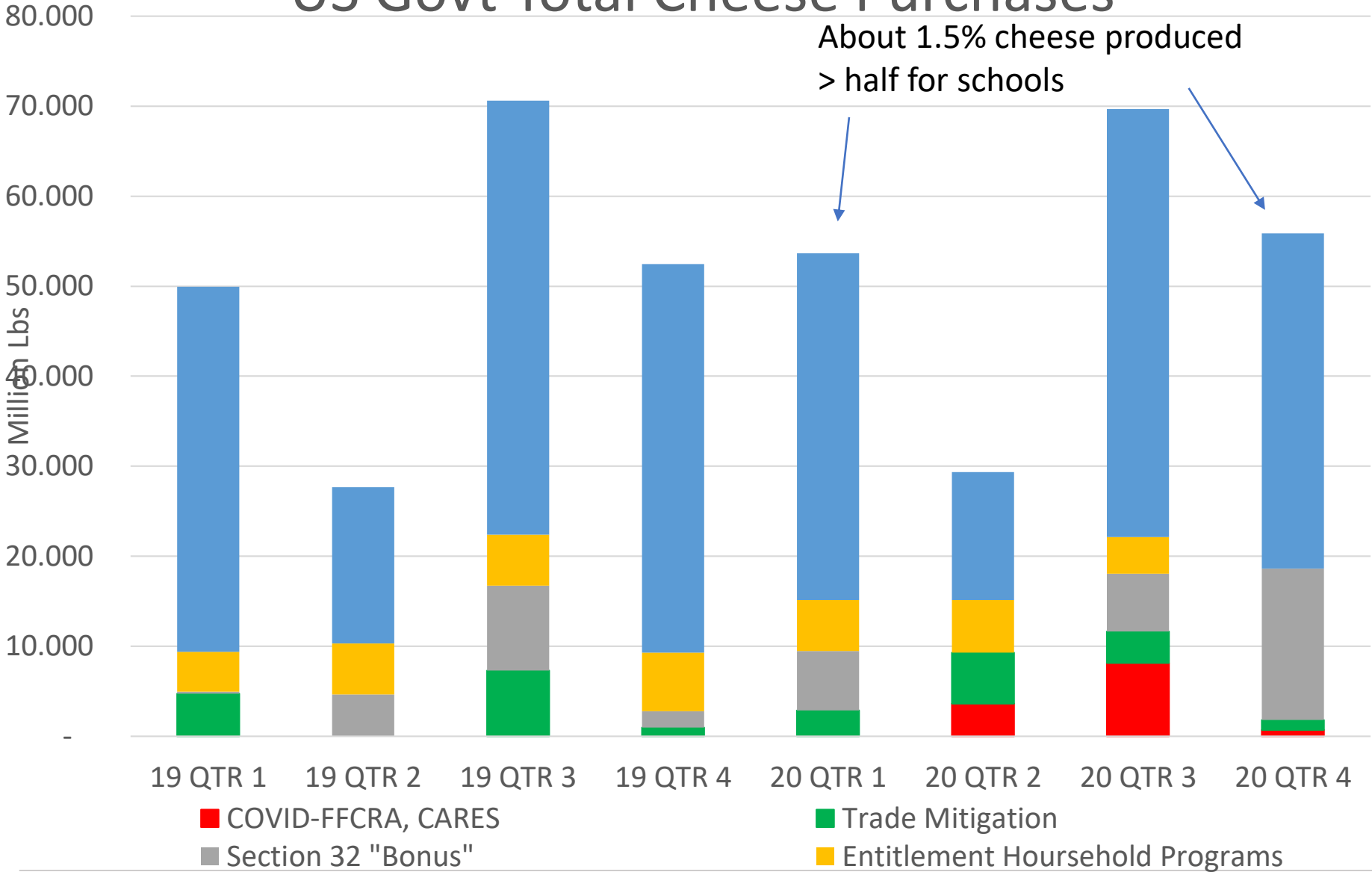
Food Box Dairy Purchases

	ME Fat Basis	ME SNF Basis
	%	%
Share US Q2	0.8	0.5
Share US Q3	1.5	0.8
Share US Q4	1.4	0.6
Share US 2020 Milk Prod.	0.9	0.5

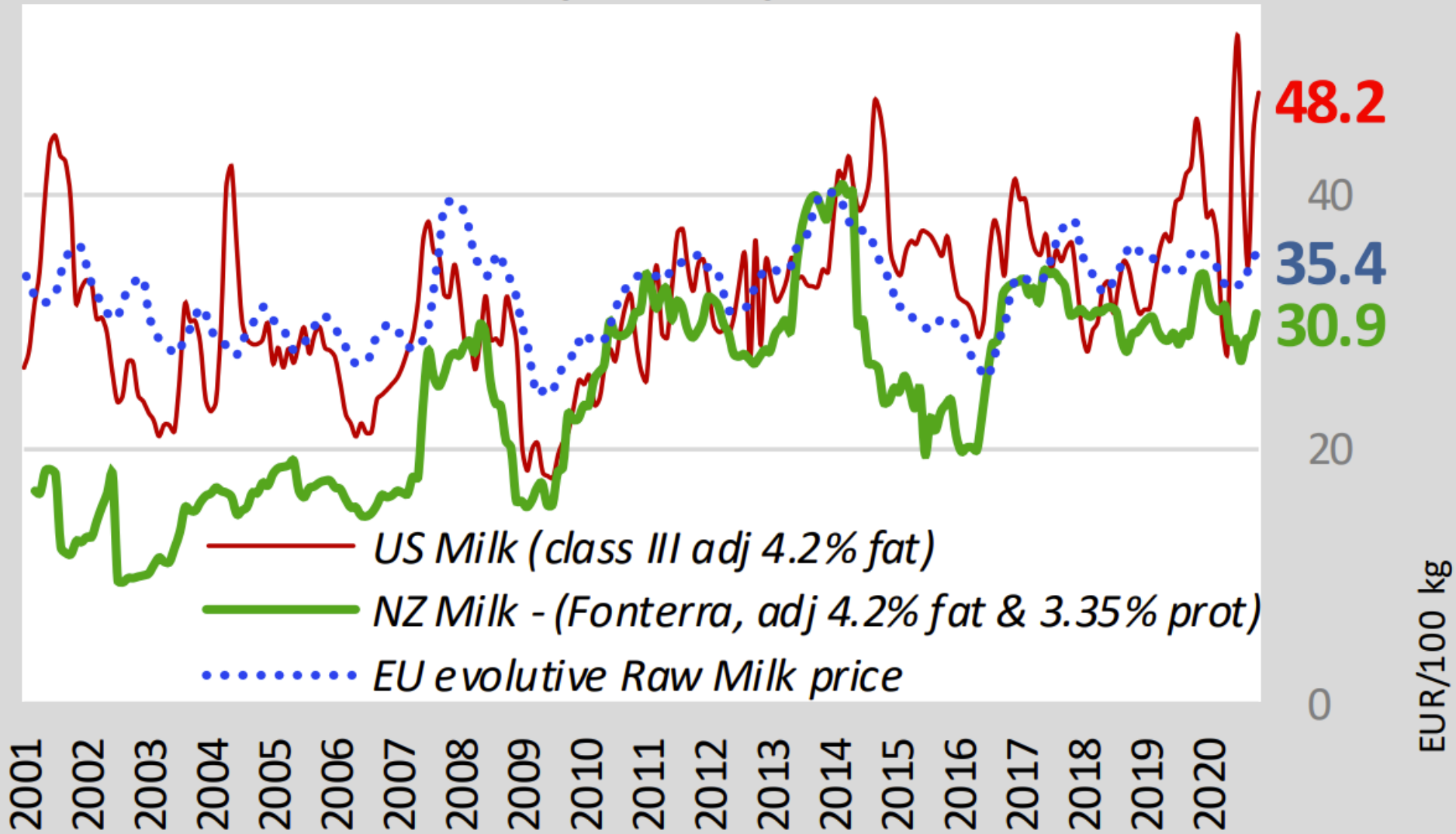
US Gov't Butter Purchases



US Govt Total Cheese Purchases

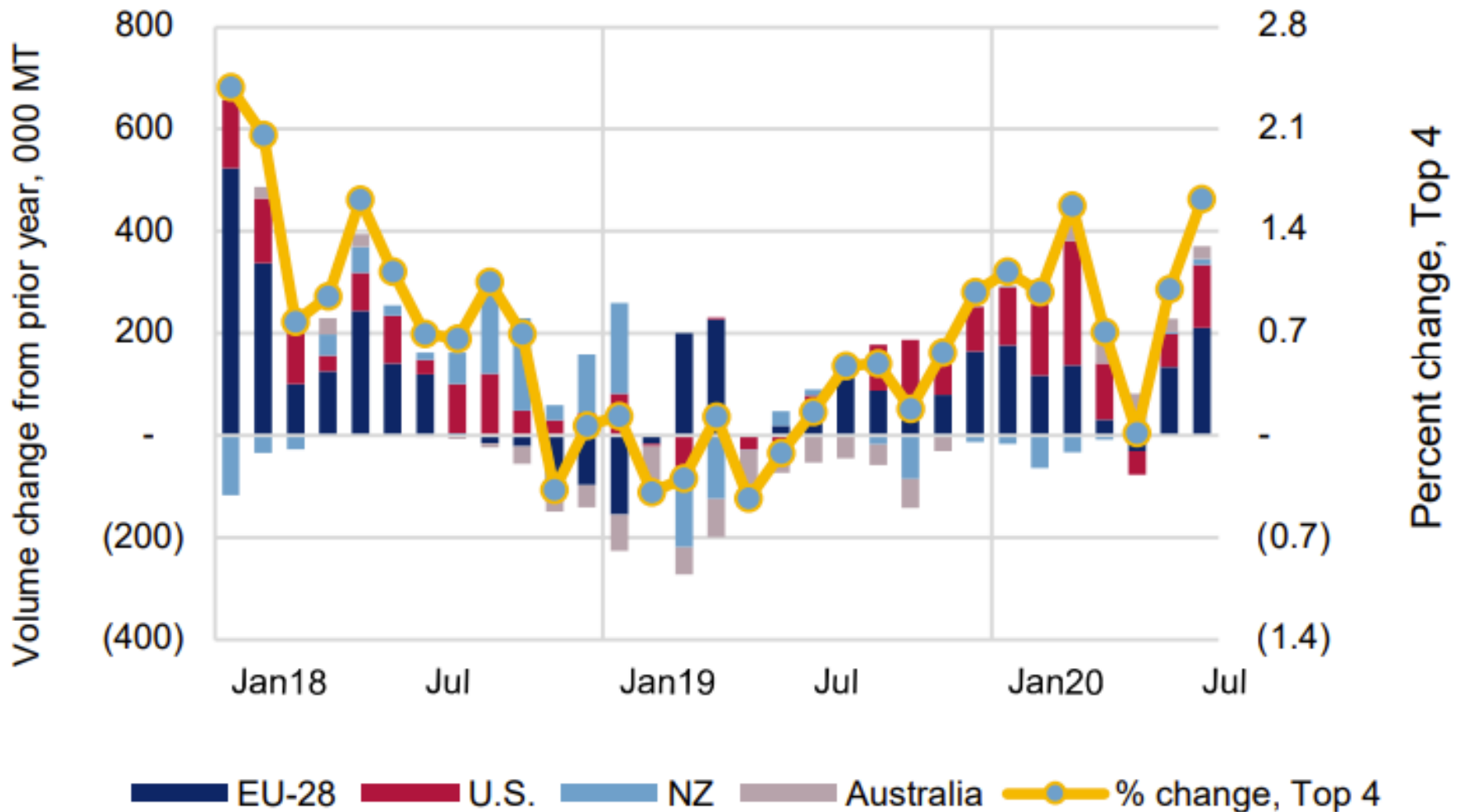


US, NZ and EU* milk prices up to November 2020



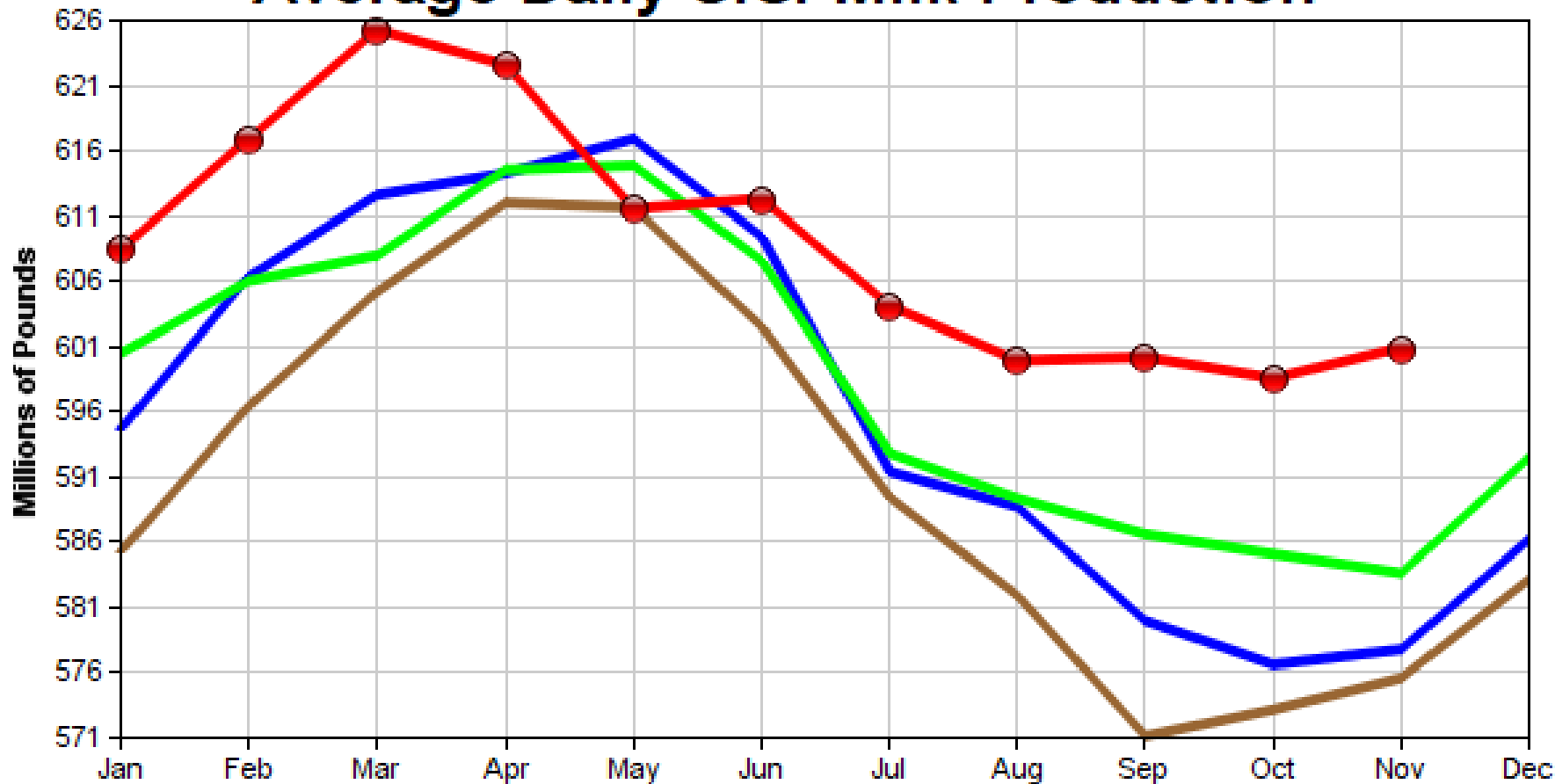
Source : DG AGRI, LTO Nederland

Milk Production Change from Prior Year, Top 4 Global Suppliers



Feb 20 adjusted for leap day. Latest month may include USDEC estimate.

Average Daily U.S. Milk Production



— 2017

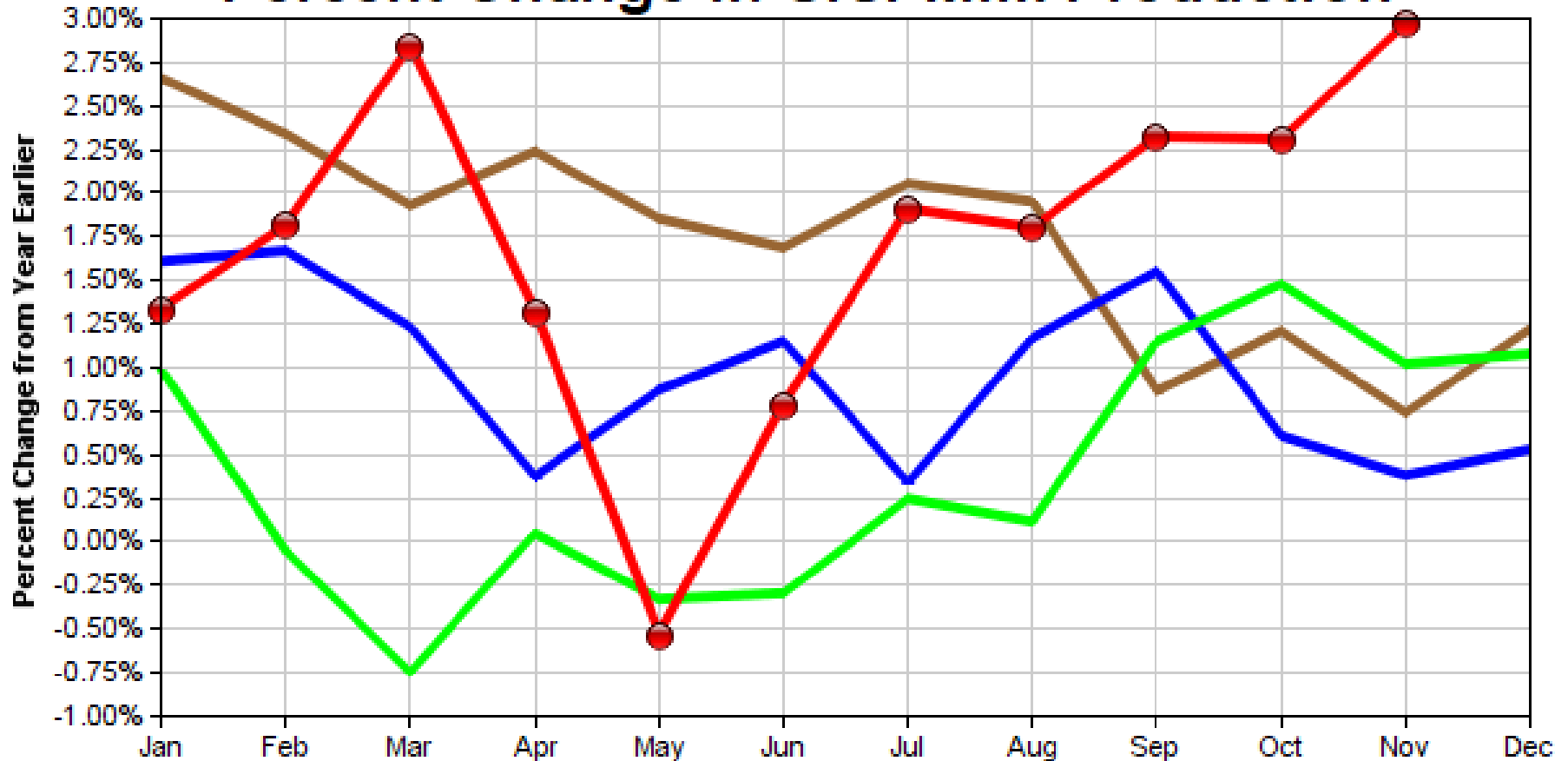
— 2018

— 2019

● 2020

Updated 12/17/20

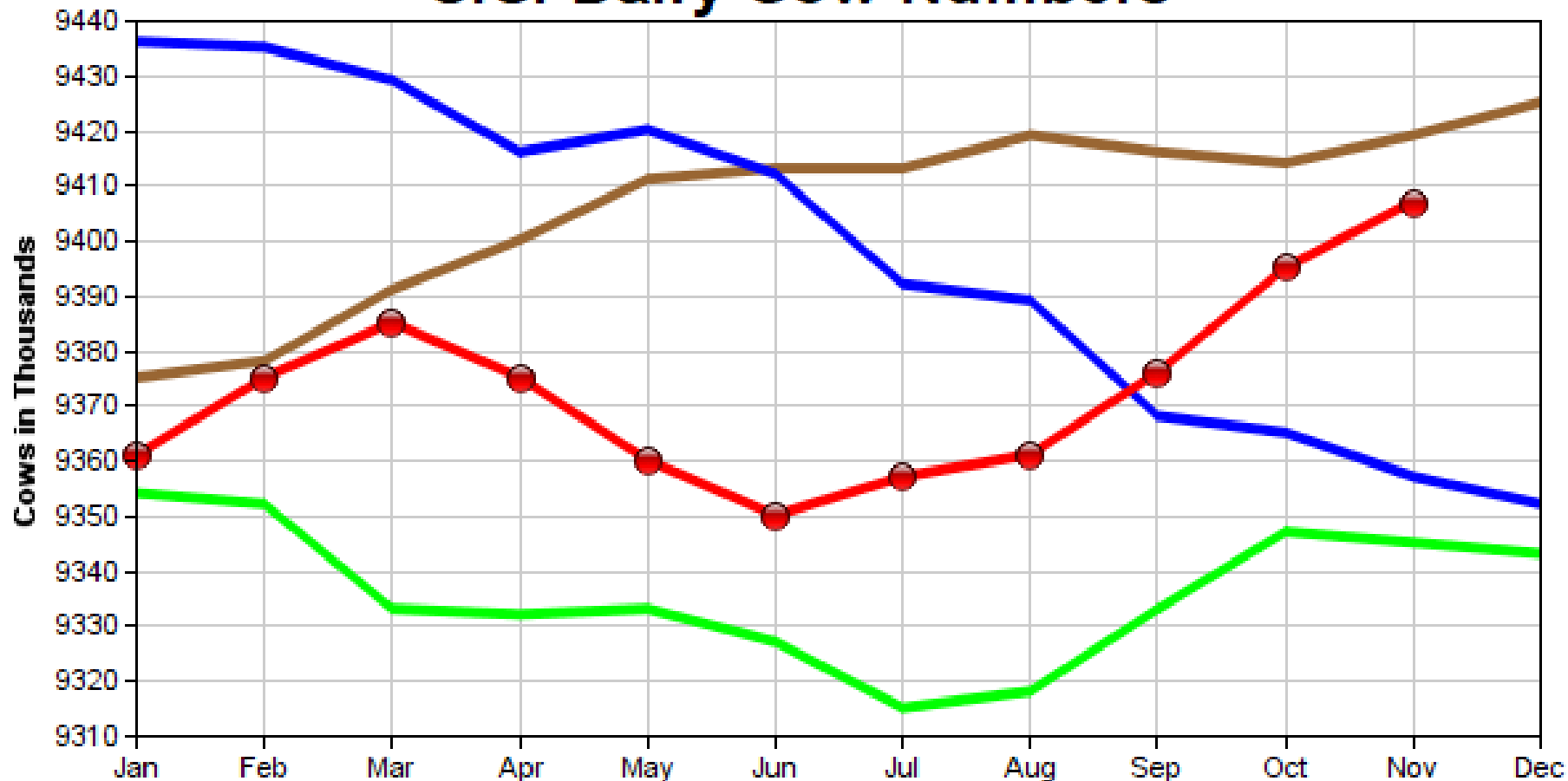
Percent Change in U.S. Milk Production



— 2017 — 2018 — 2019 —●— 2020

Updated 12/17/20

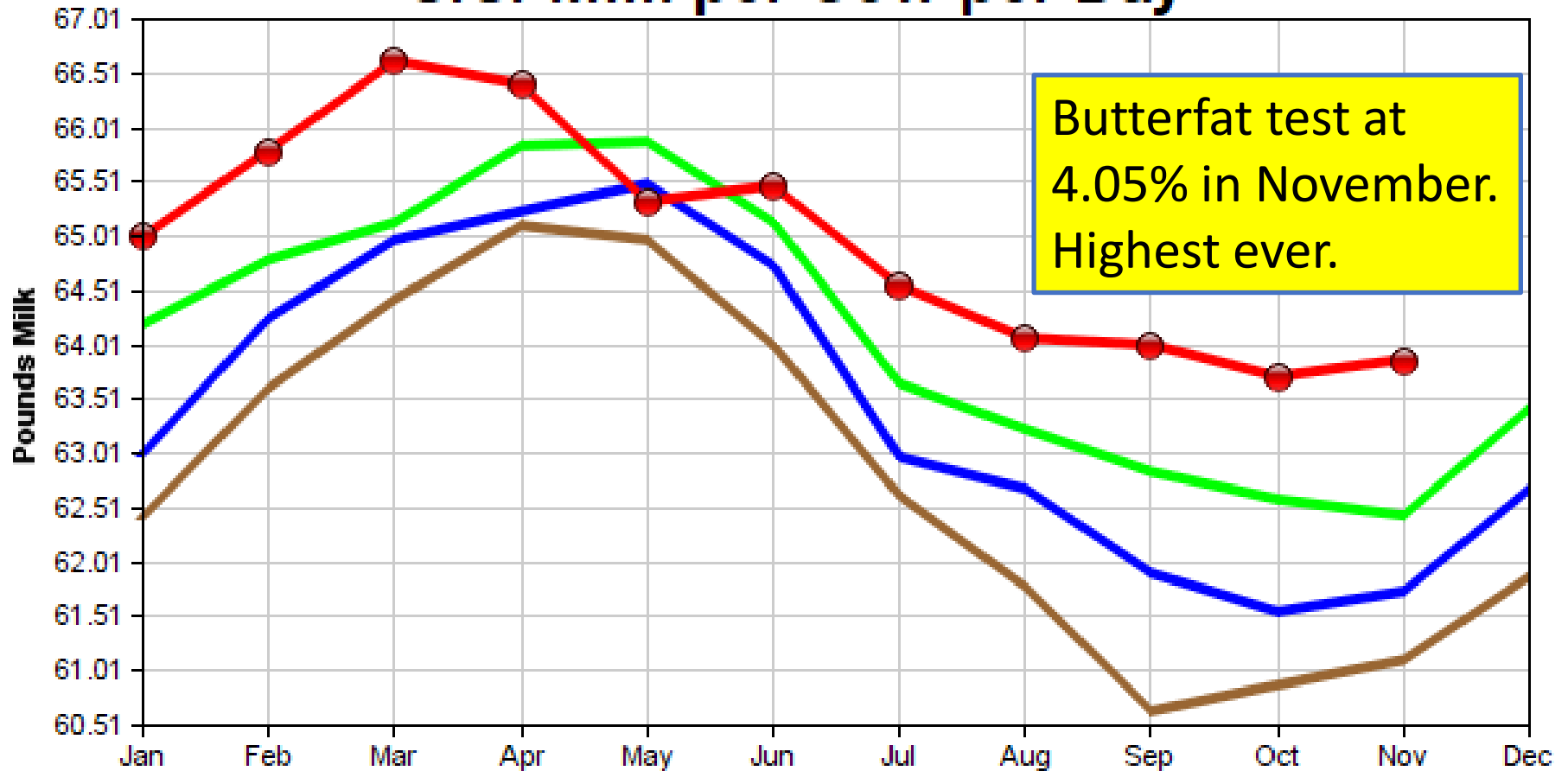
U.S. Dairy Cow Numbers



— 2017 — 2018 — 2019 ● 2020

Updated 12/17/20

U.S. Milk per Cow per Day



— 2017

— 2018

— 2019

—● 2020

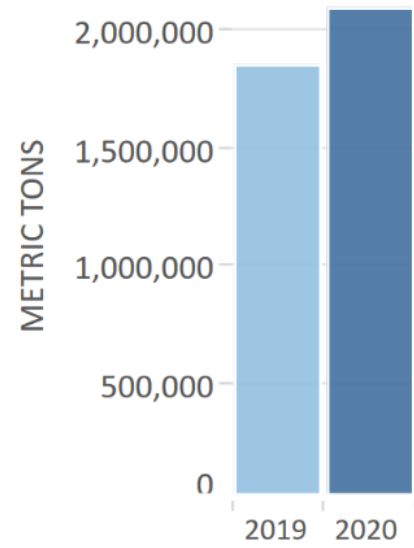
Updated 12/17/20

U.S. Exports (Volume, MT)

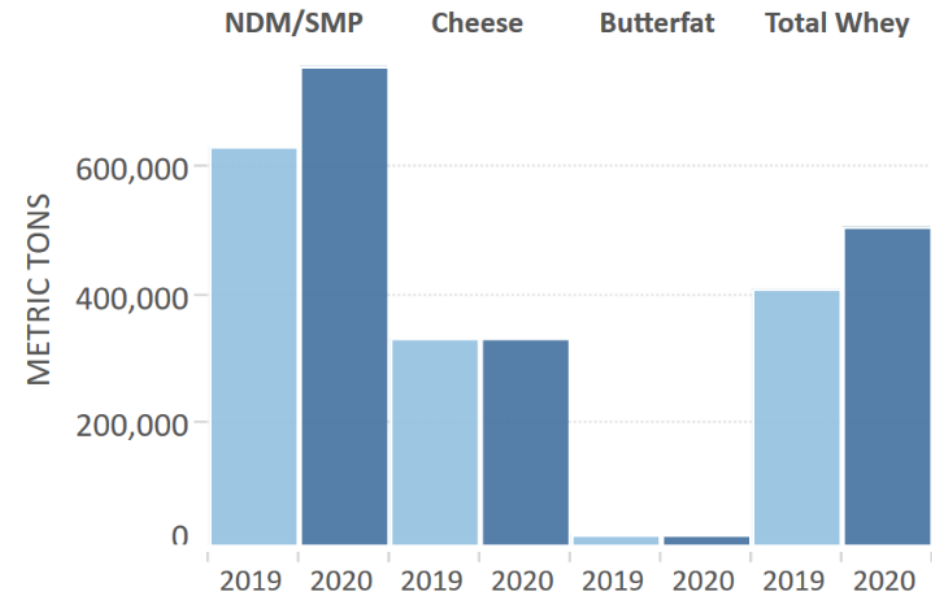
Data updated to Nov. 2020

Show

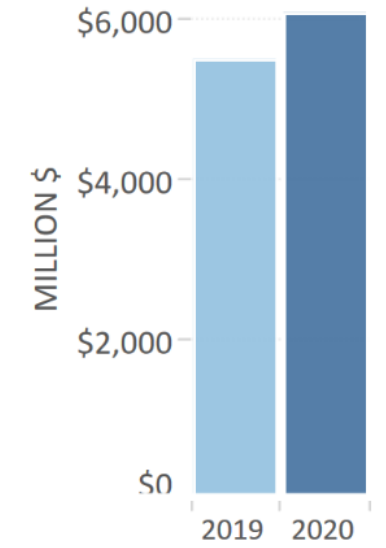
U.S. Exports Aggregate Volume* - YTD



U.S. Exports Volume - YTD

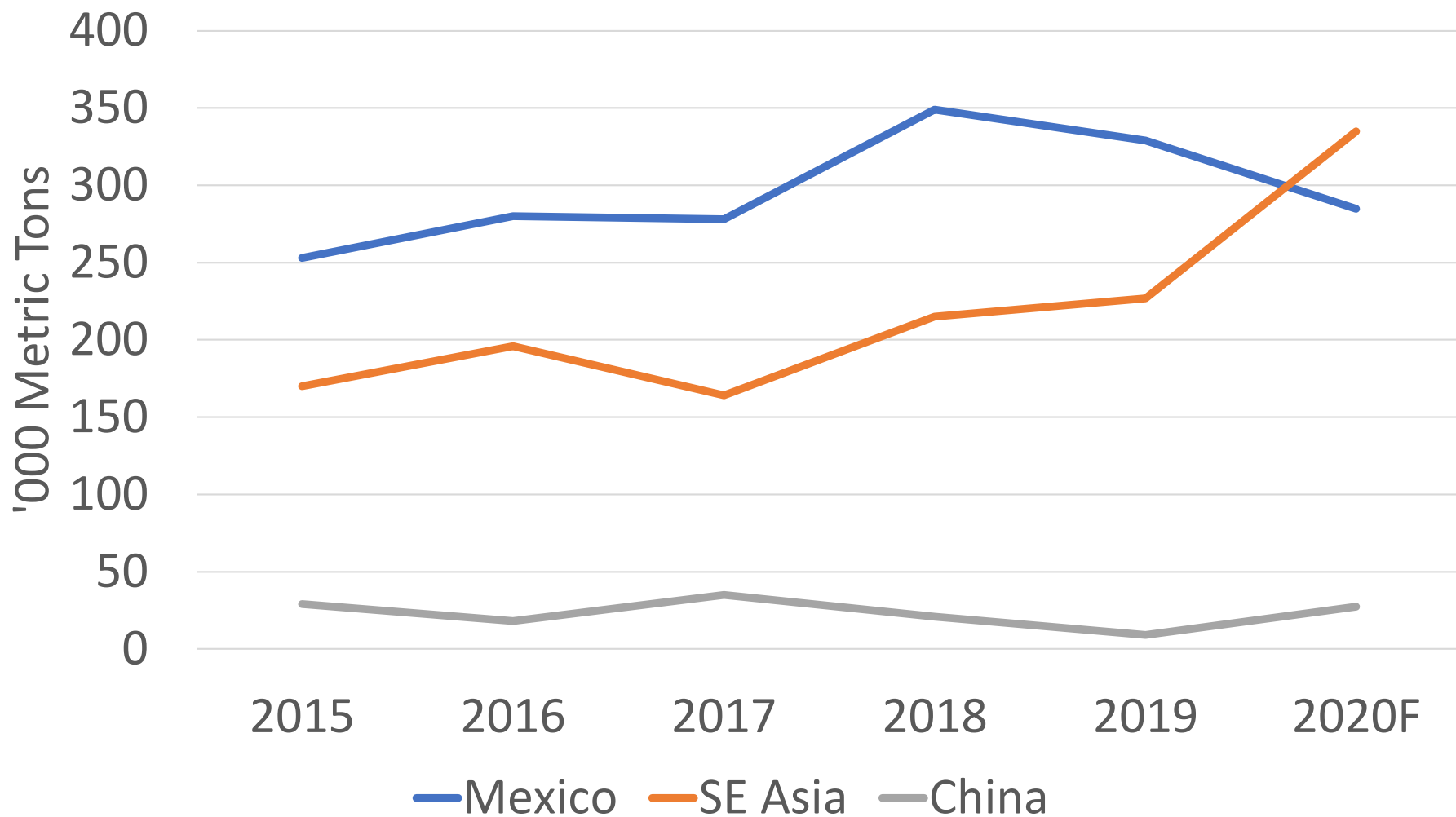


U.S. Exports Value - YTD

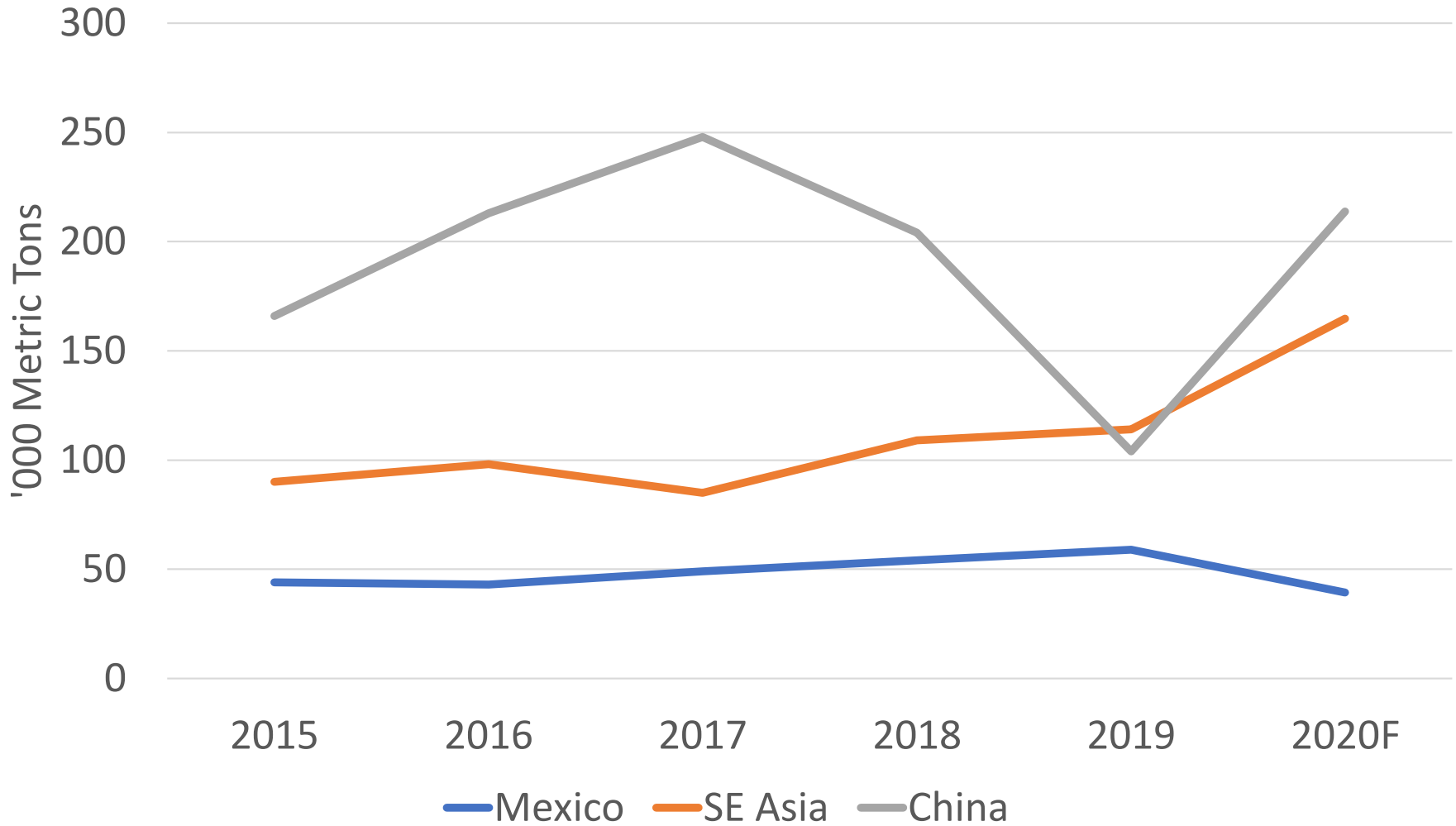


Exports to Asia UP
Exports to Mexico DOWN

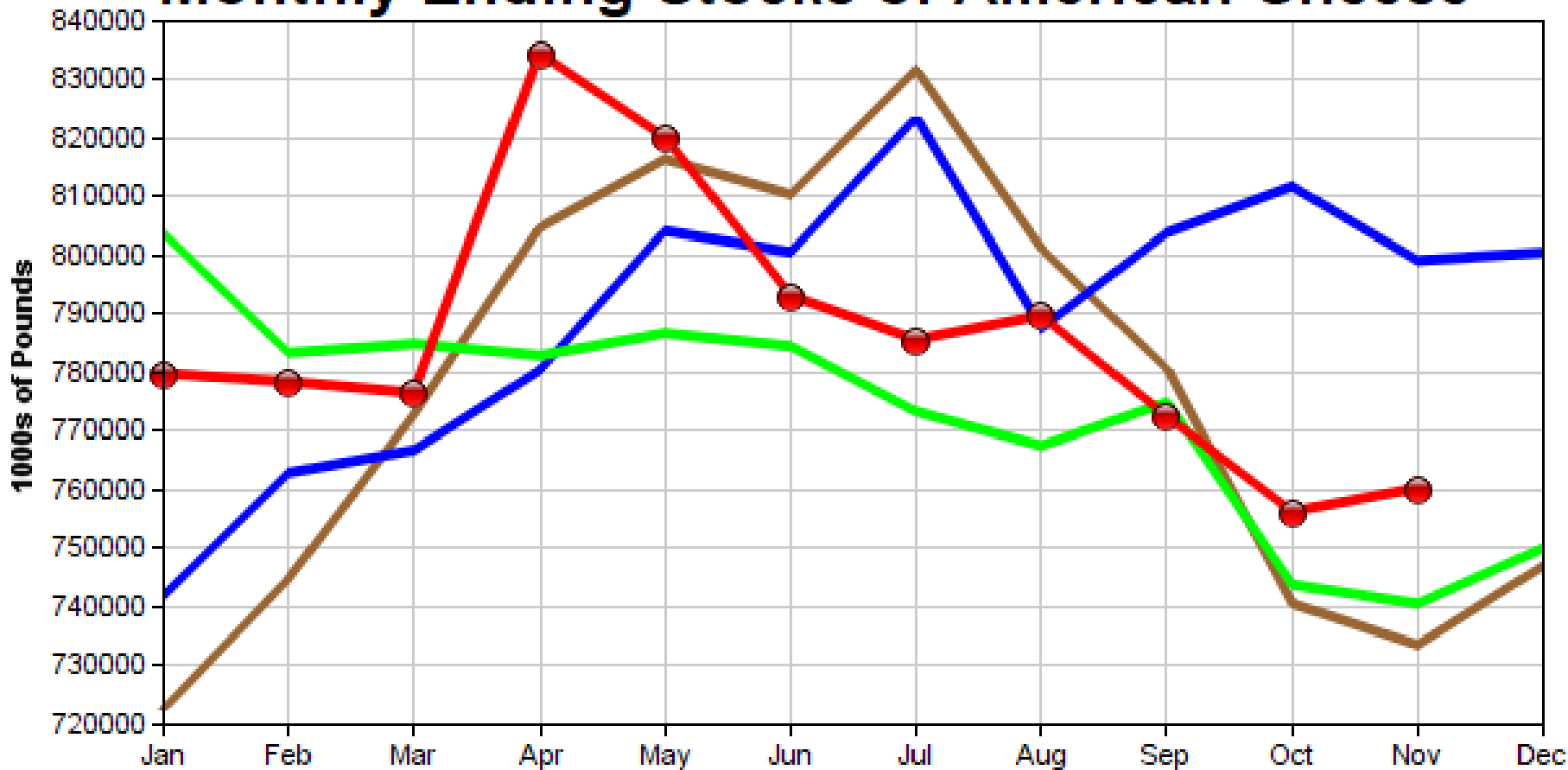
NDM/SMP



Whey Products



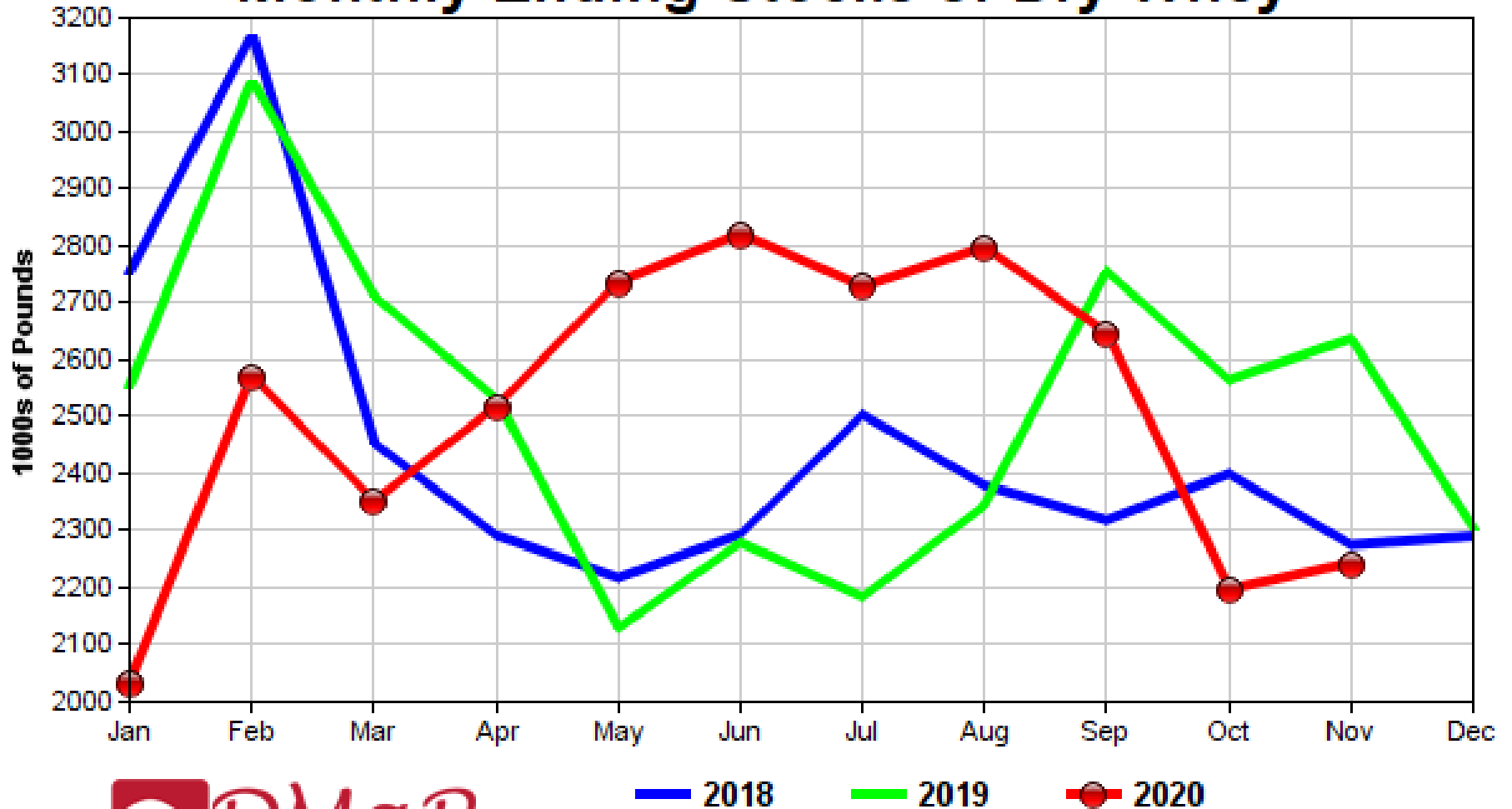
Monthly Ending Stocks of American Cheese



— 2017 — 2018 — 2019 ● 2020

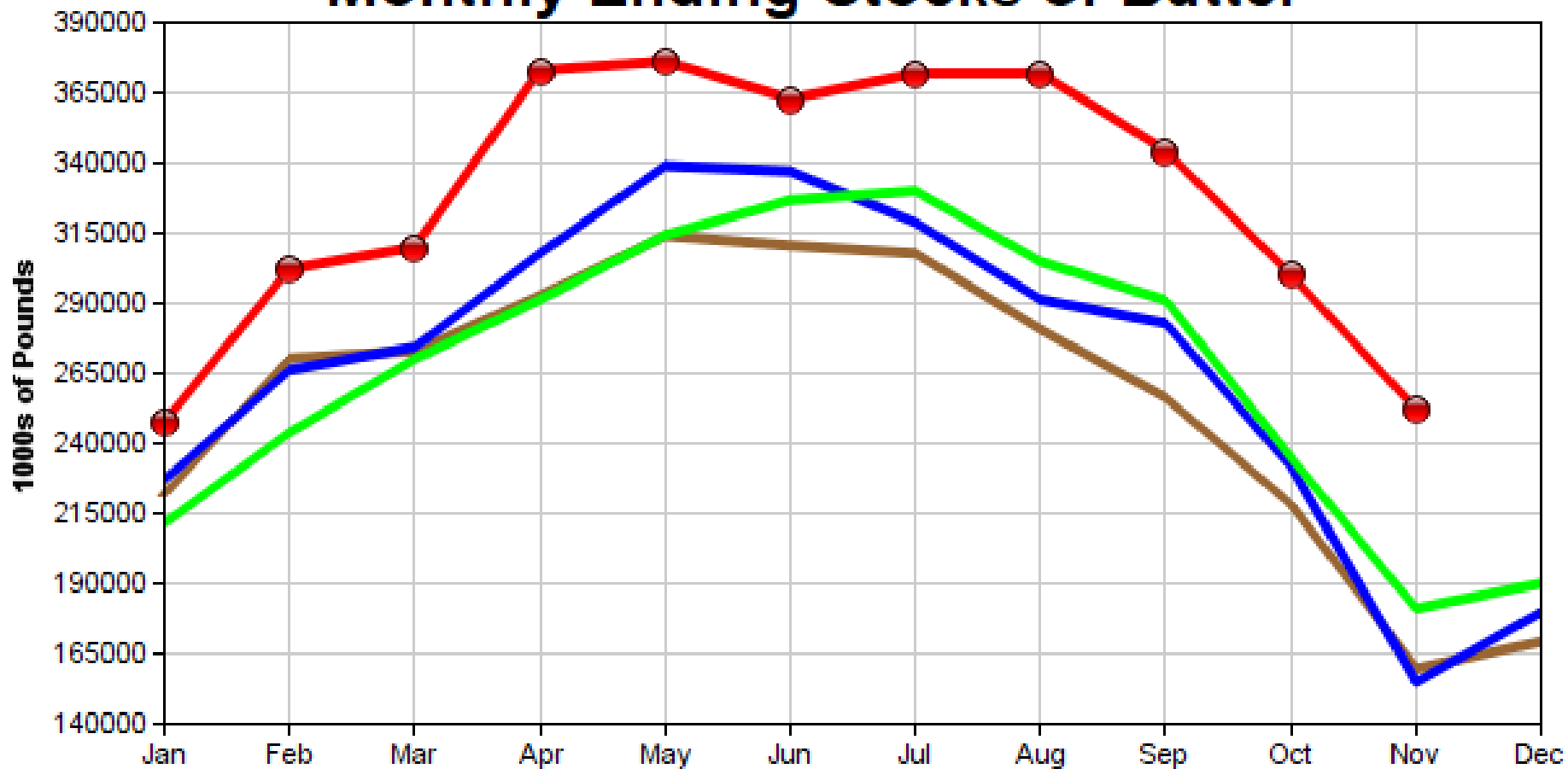
Updated 12/22/20

Monthly Ending Stocks of Dry Whey



Updated 1/6/21

Monthly Ending Stocks of Butter

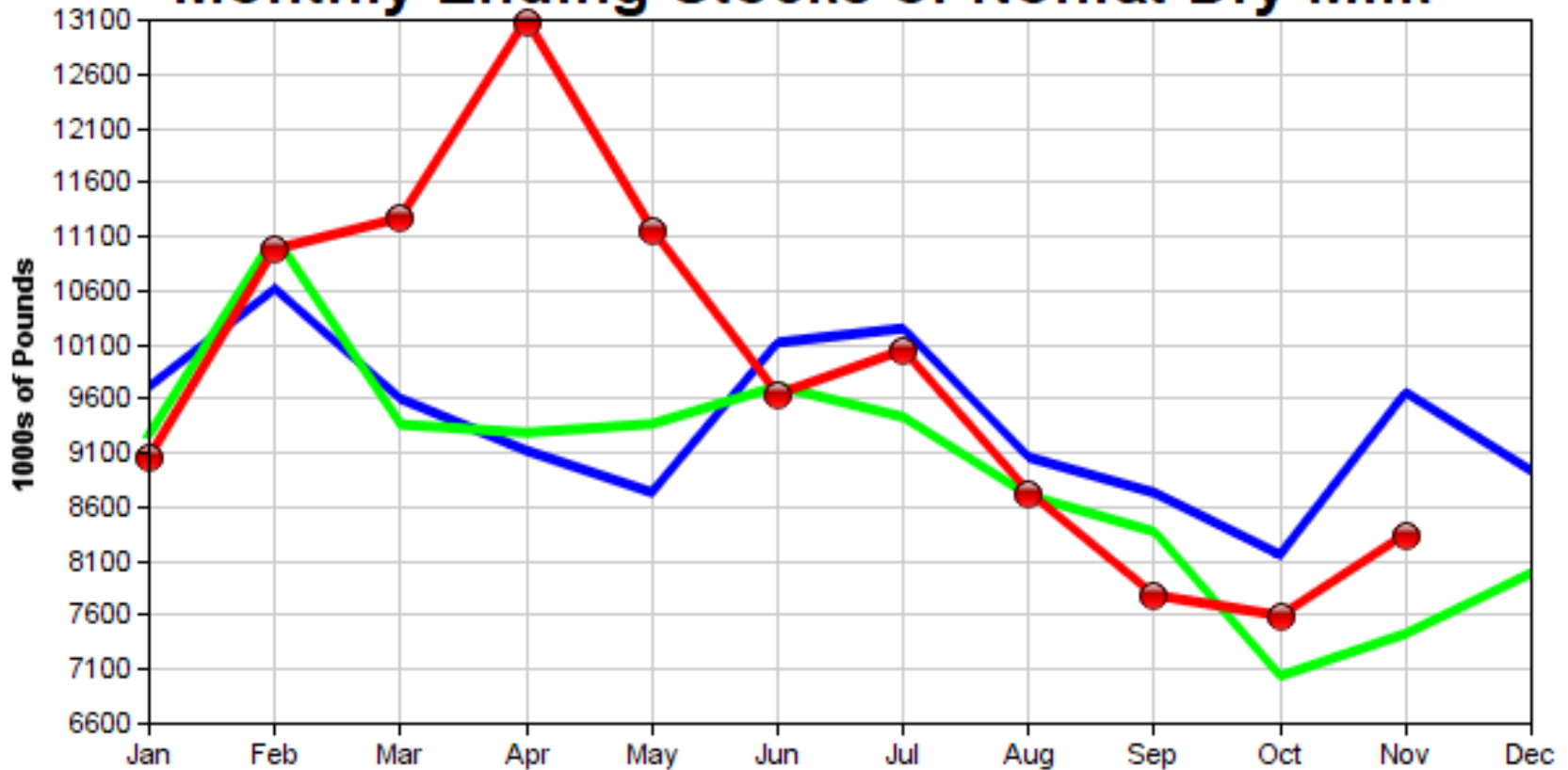


— 2017 — 2018 — 2019 ● 2020

Updated 12/22/20

Currently largest amount of butter in cold storage since 1993

Monthly Ending Stocks of Nonfat Dry Milk



— 2018

— 2019

● 2020

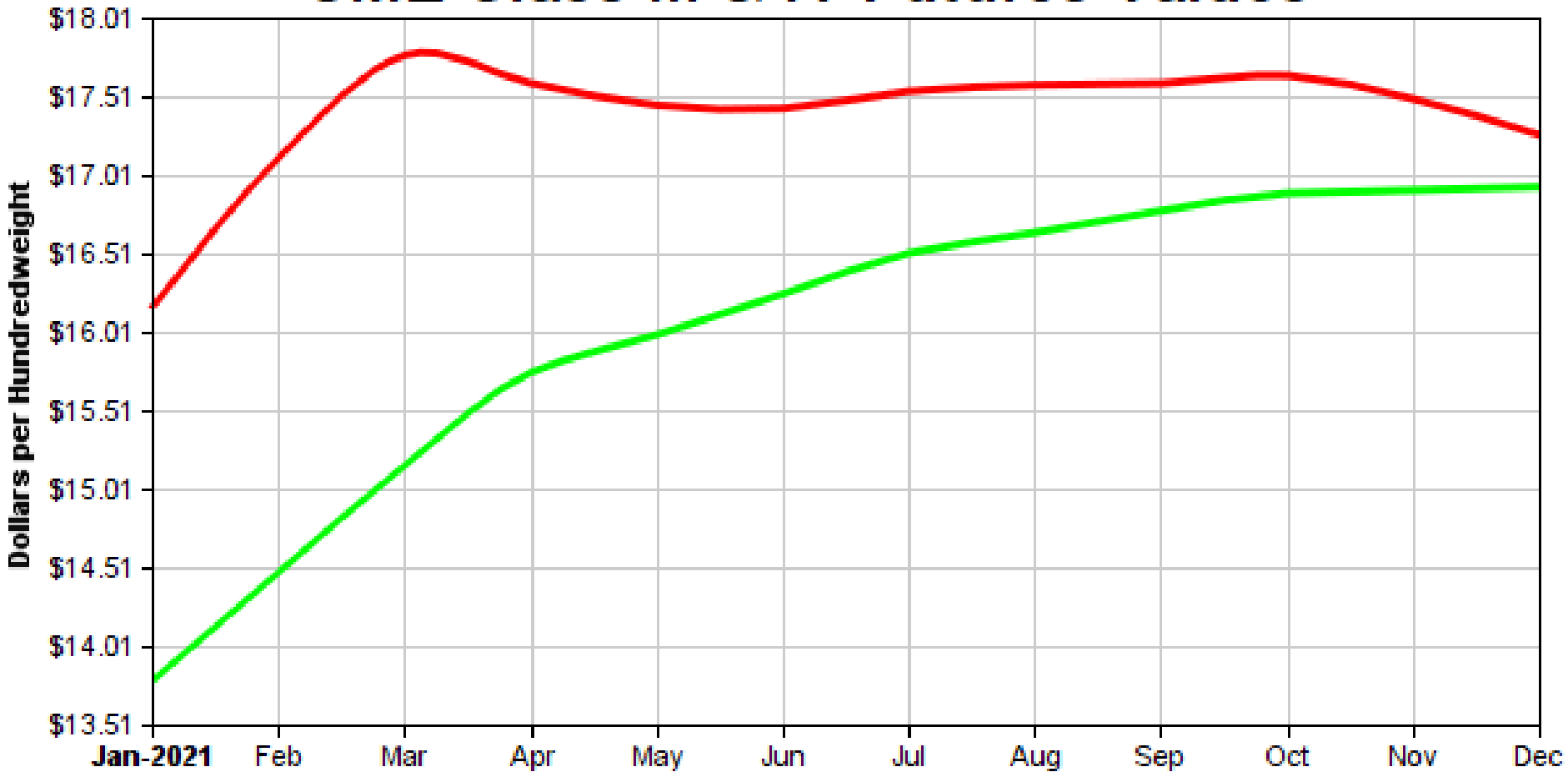
Updated 1/6/21

Source: USDA January WASDE	2018	2019	2020 Est.	2021 Proj.	change '21
Milk			Pounds		%
Production	217.6	218.4	222.9	226.7	1.70
Farm Use	1	1	1	1	
Fat Basis Supply					
Beg. Commercial Stocks	13.4	13.8	13.6	15.2	
Marketings	216.6	217.4	221.9	225.7	
Imports	6.3	6.9	6.8	6.6	
Total Cml. Supply	236.2	238.1	242.3	247.5	
Fat Basis Use					
Commercial Exports	10.4	9.1	9.2	9.7	5.43
Ending Commercial Stocks	13.8	13.6	15.2	15.2	
CCC Donations	0	0.2	0.3	0	
Domestic Commercial Use	212.1	215.2	217.7	222.6	2.25
Skim-solid Basis Supply					
Beg. Commercial Stocks	11.8	10.7	10.2	10.3	
Marketings	216.6	217.4	221.9	225.7	
Imports	5.5	5.8	5.6	5.5	
Total Cml. Supply	233.8	233.9	237.6	241.5	
Skim-solid Basis Use					
Commercial Exports	44.6	41.5	47.3	48.7	2.96
Ending Commercial Stocks	10.7	10.2	10.3	10.3	
CCC Donations	0	0.2	0.1	0	
Domestic Commercial Use	178.5	181.9	179.9	182.4	1.39

USDA Outlook Jan '21

Source: USDA January WASDE	2018	2019	2020 Proj. Dec	2020 Est. Jan	2021 Proj. Dec	2021 Proj. Jan
Product Prices 1/			Dollars Per Pound			
Cheese	1.5377	1.7586	1.925	1.9236	1.635	1.74
Butter	2.2572	2.2431	1.58	1.5808	1.57	1.605
Nonfat Dry Milk	0.7945	1.0419	1.04	1.0417	1.065	1.1
Dry Whey	0.3422	0.3799	0.36	0.3621	0.405	0.45
Filler			Dollars Per Cwt			
Milk Prices 2/						
Class III	14.61	16.96	18.2	18.16	15.6	16.9
Class IV	14.23	16.3	13.45	13.49	13.6	14.1
All Milk 3/	16.27	18.63	18.25	18.3	16.6	17.65

CME Class III & IV Futures Values

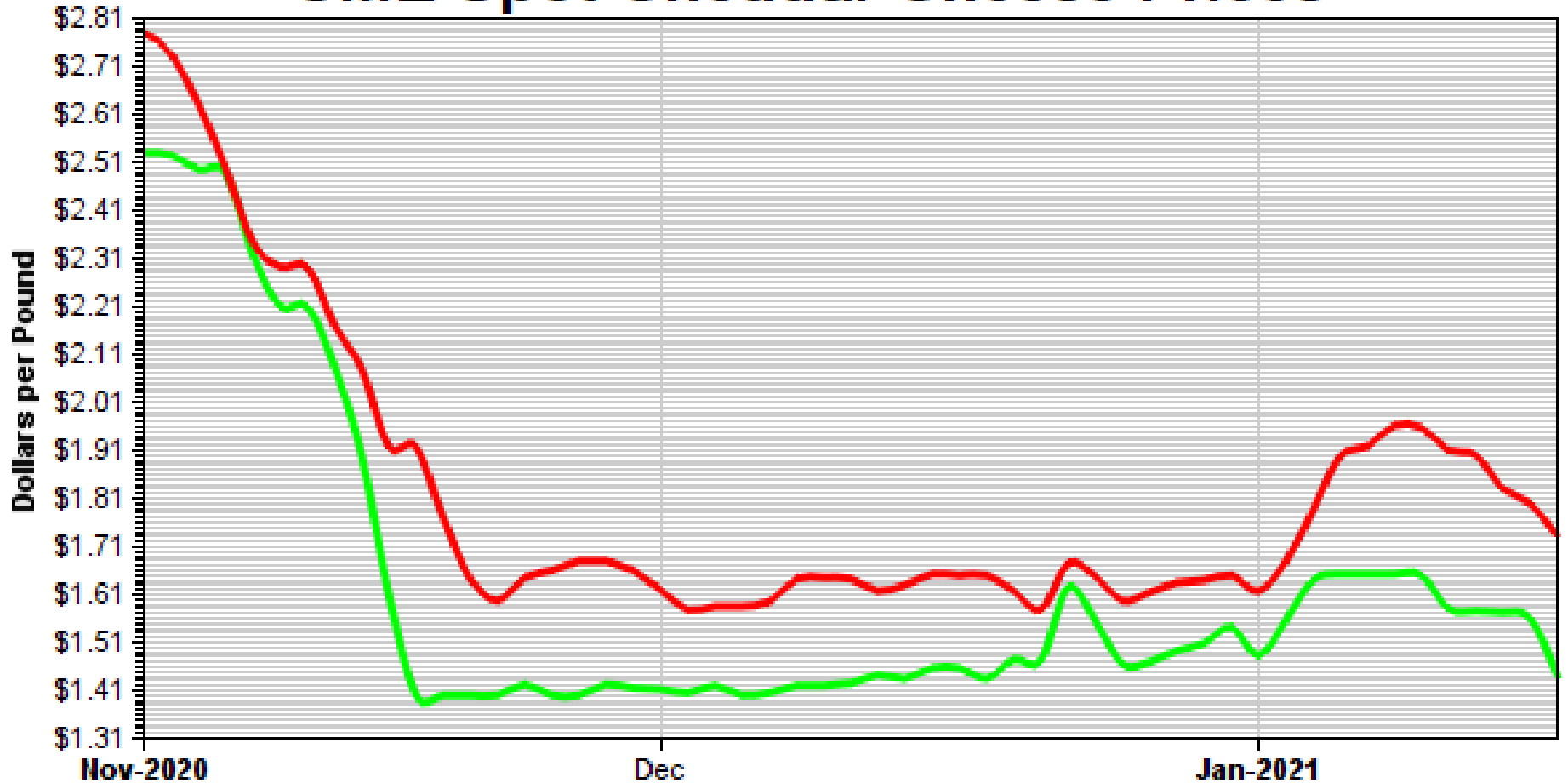


■ Class III Futures

■ Class IV Futures

Updated 1/20/21

CME Spot Cheddar Cheese Prices

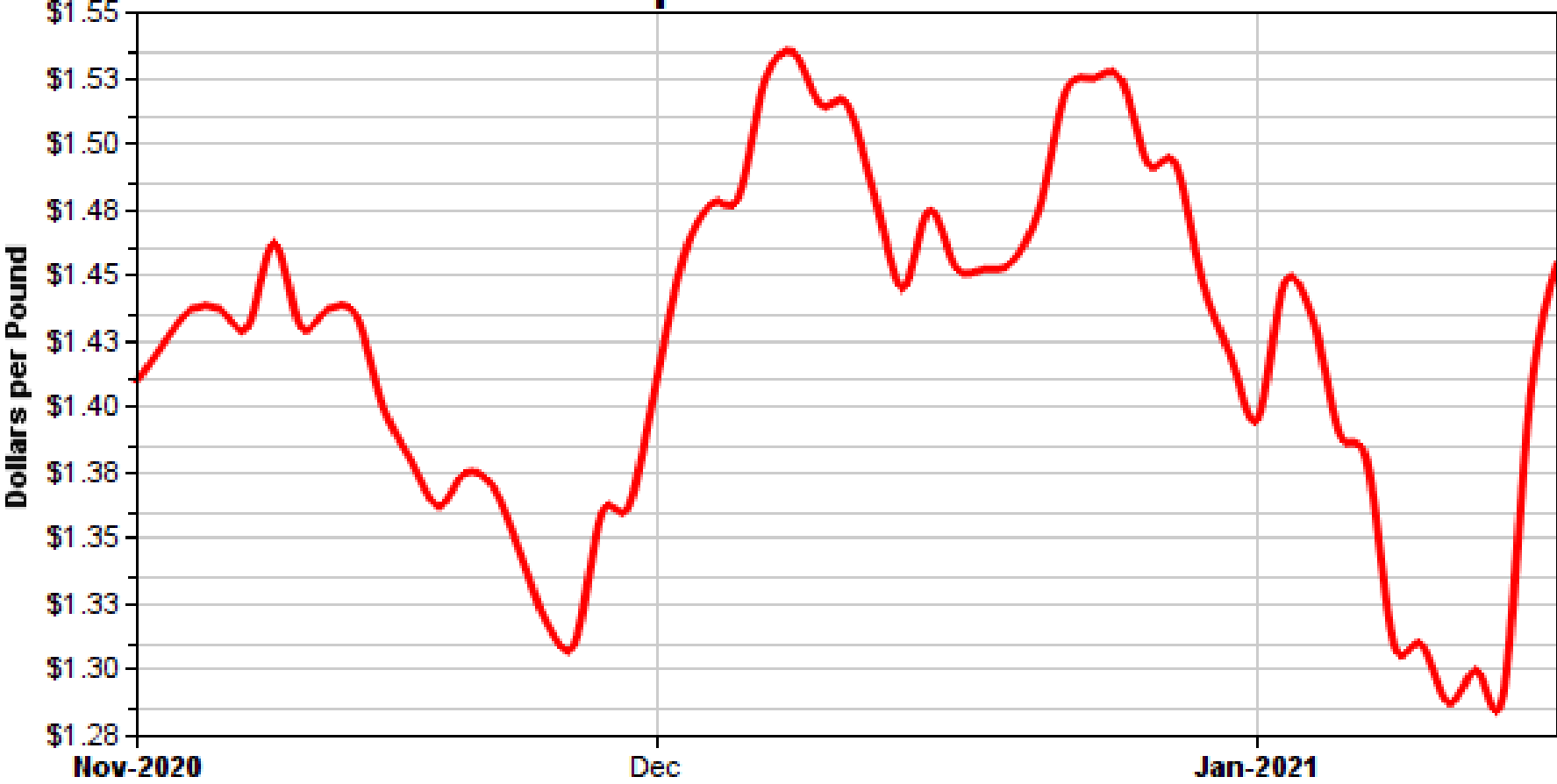


■ 40 lb Blocks

■ 500 lb Barrels

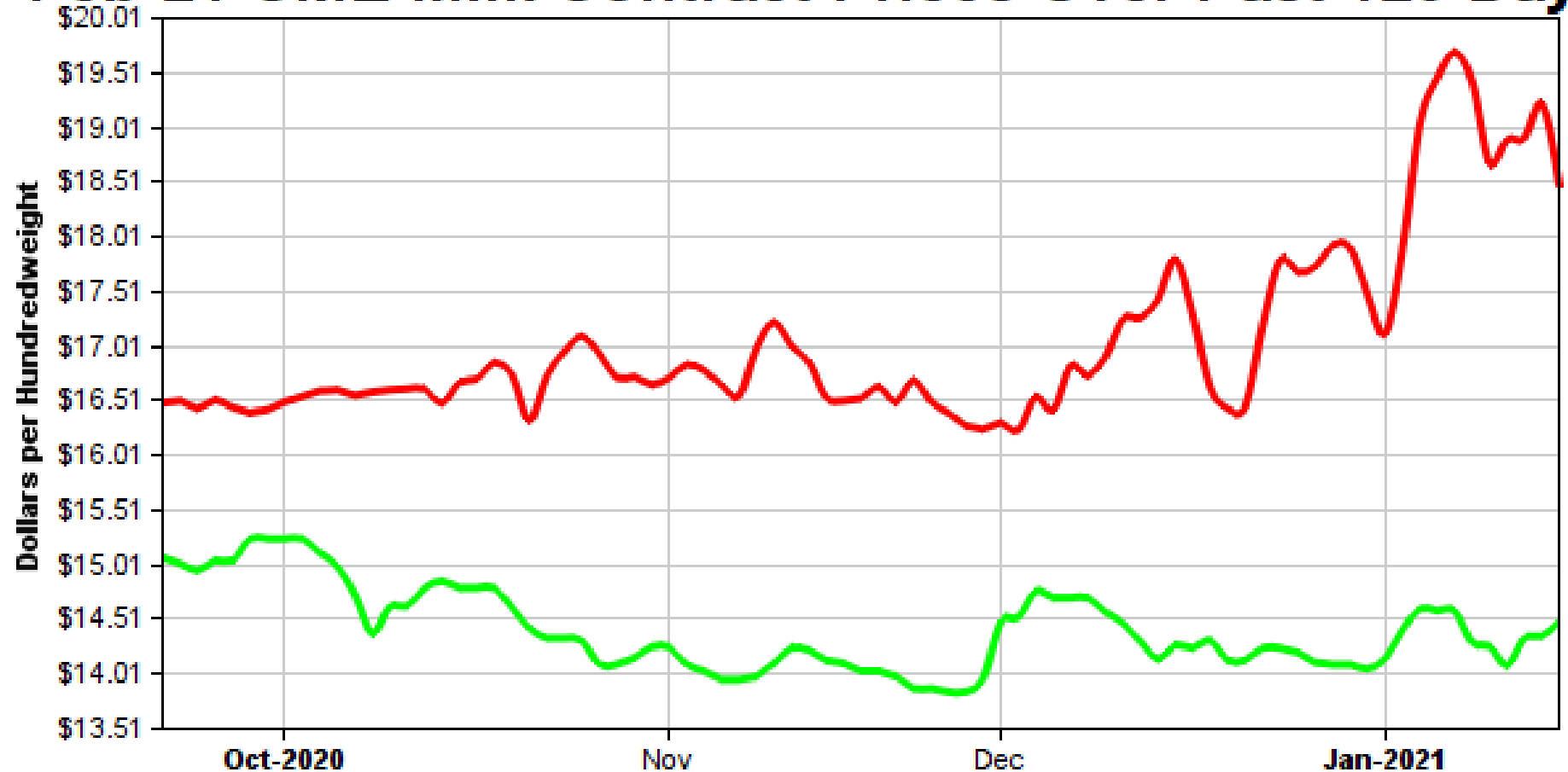
Updated 1/20/21

CME Spot Butter Prices



Updated 1/20/21

Feb-21 CME Milk Contract Prices Over Past 120 Days

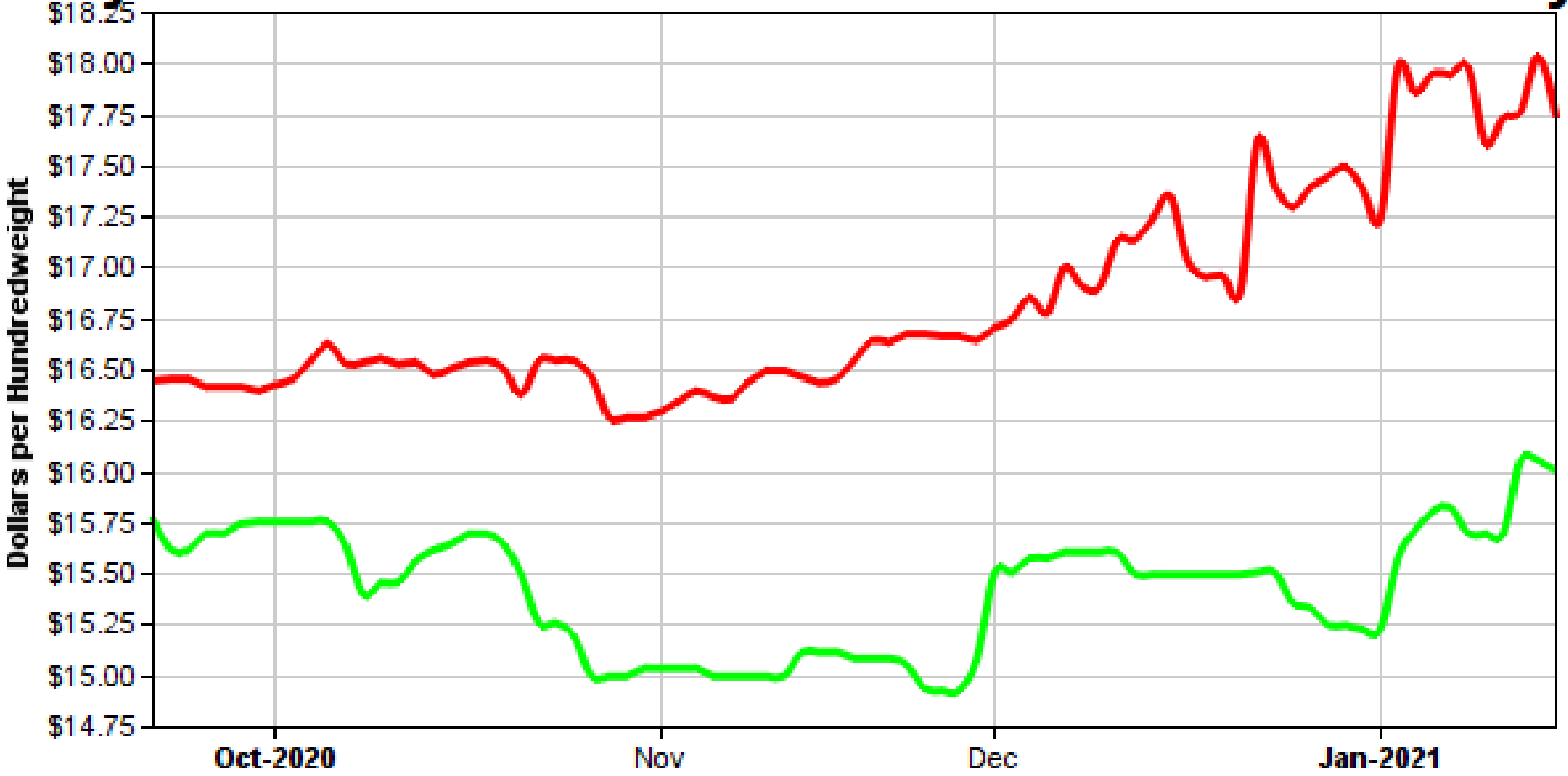


■ Class III Futures

■ Class IV Futures

Updated 1/19/21

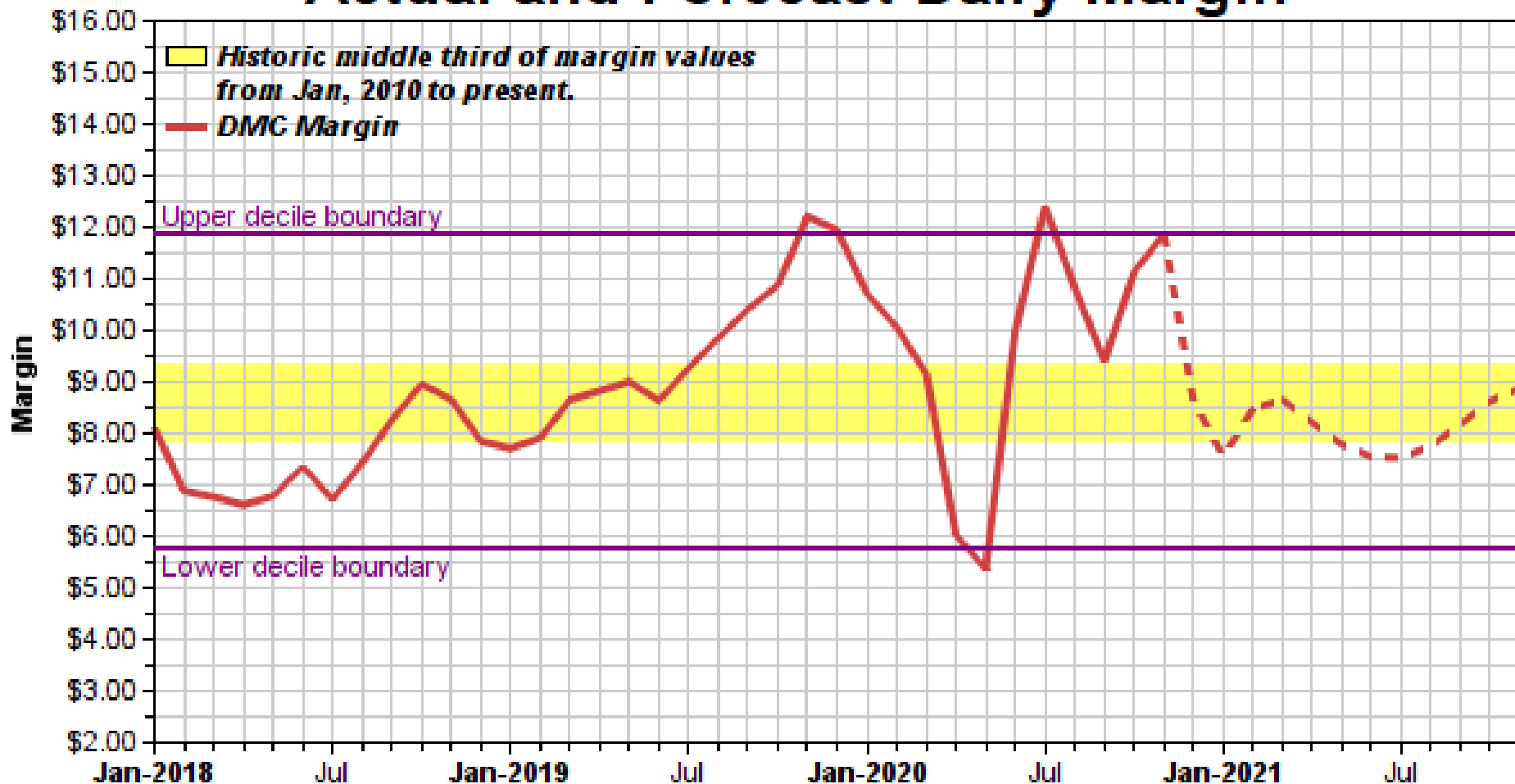
May-21 CME Milk Contract Prices Over Past 120 Days



■ Class III Futures ■ Class IV Futures

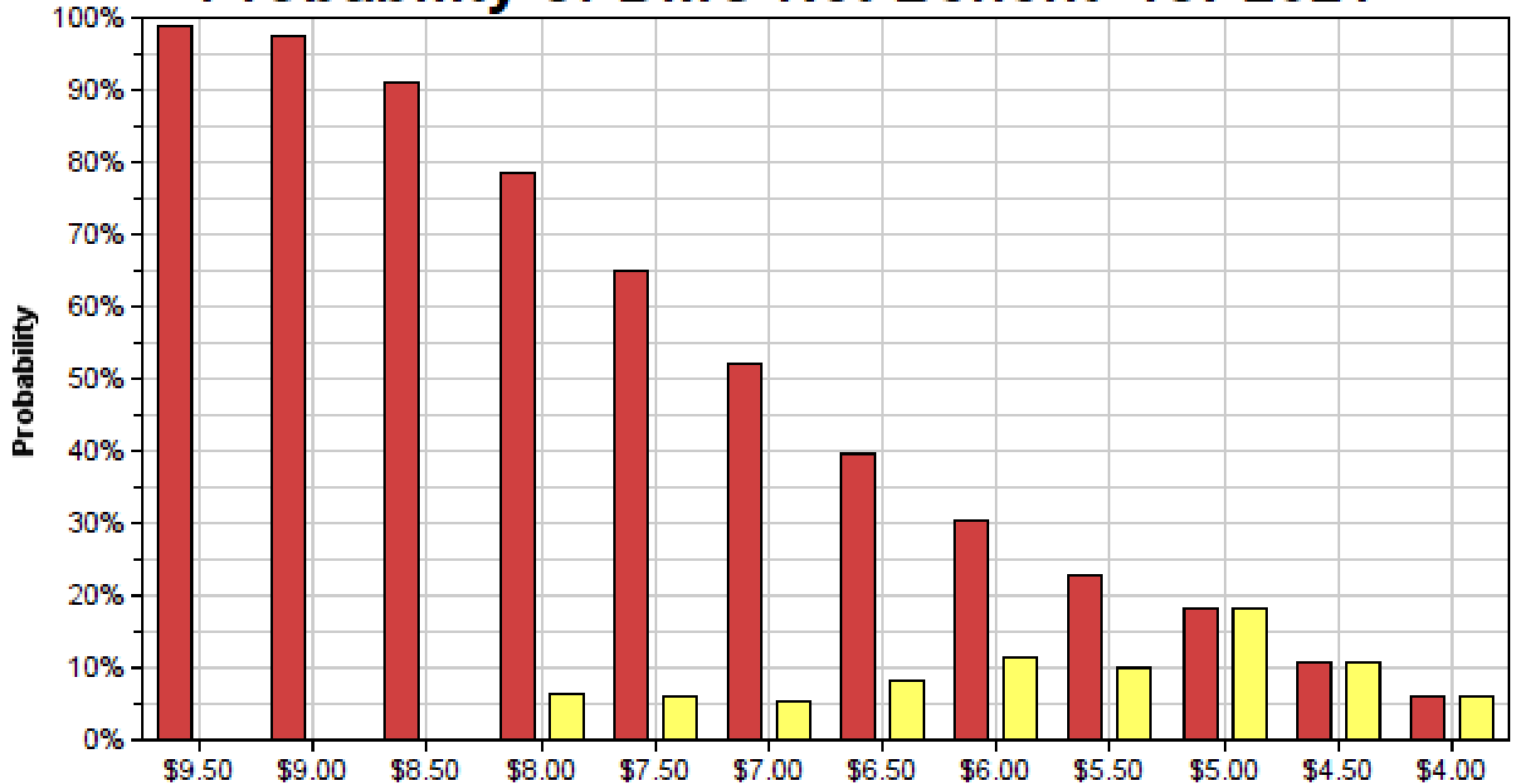
Updated 1/19/21

Actual and Forecast Dairy Margin



Updated 1/12/21

Probability of DMC Net Benefit* for 2021



■ New Tier 1 ■ Tier 2

* Indemnity payments minus premiums.

Updated 1/12/21

Milk Price Outlook Factors

Bullish

- Feed costs at multi-year high
- China and SE Asia demand
- Continued Food Box expenditures

Bearish

- Butter stocks
- US consumer income
- Food Box vs SNAP
- Mexico import demand
- EU and NZ farm prices

Thank You

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