



Cornell University
Charles H. Dyson School of
Applied Economics and Management



Economics Characteristics of the New York Agriculture & Food Sectors

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Contributions by Chad Fiechter, Jerzy Jaromczyk, Farnaz Safari

January 17, 2020

#NYAgOutlook



Outline

NY Farm Sector Indicators

- Farm income
 - Revenue and expenses
 - MFP
 - Financial measures
- Crop loss
- 2017 Census of Agriculture

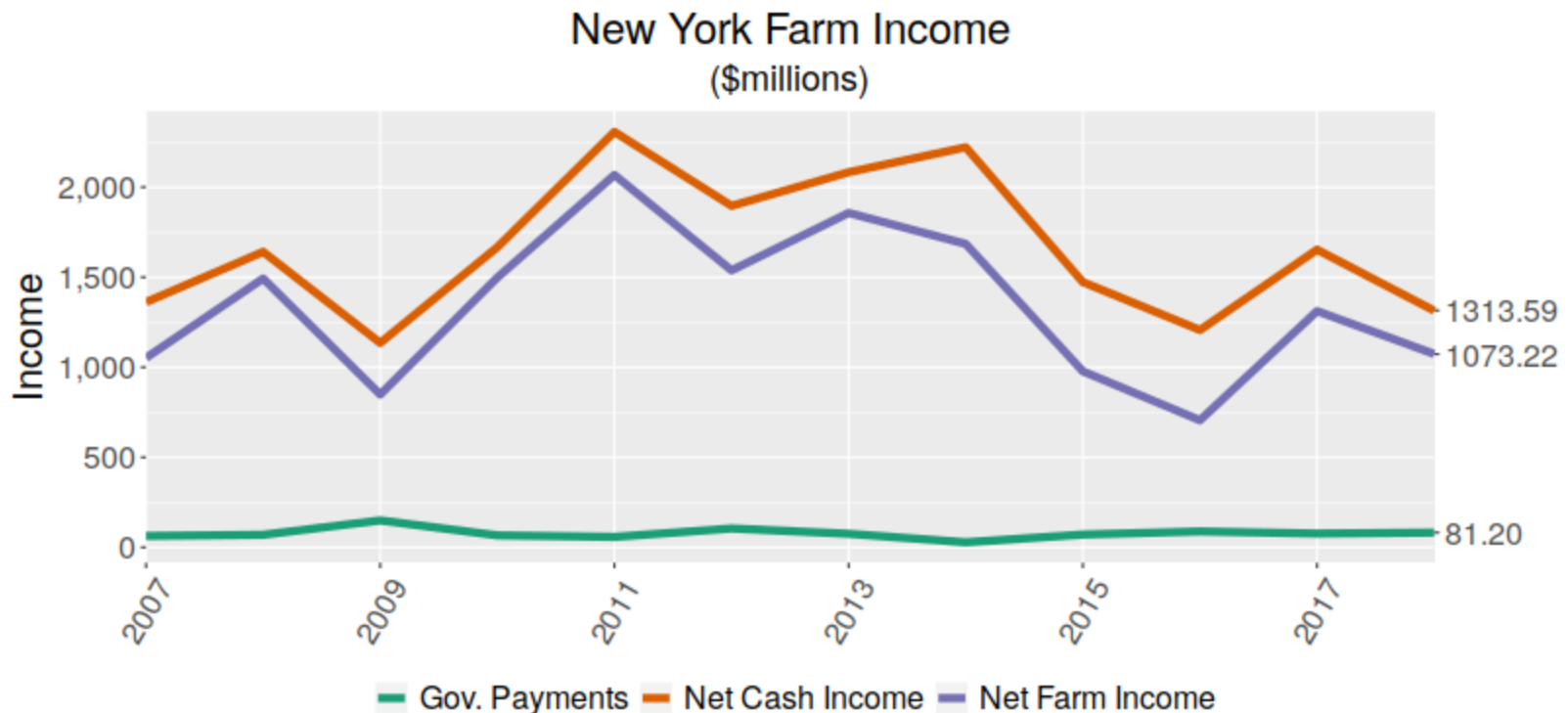
A Closer Look

- Nontraditional finance
- NY Cost of Production

Looking Forward



2018 NY farm income is relatively low, higher than 2009 & 2016



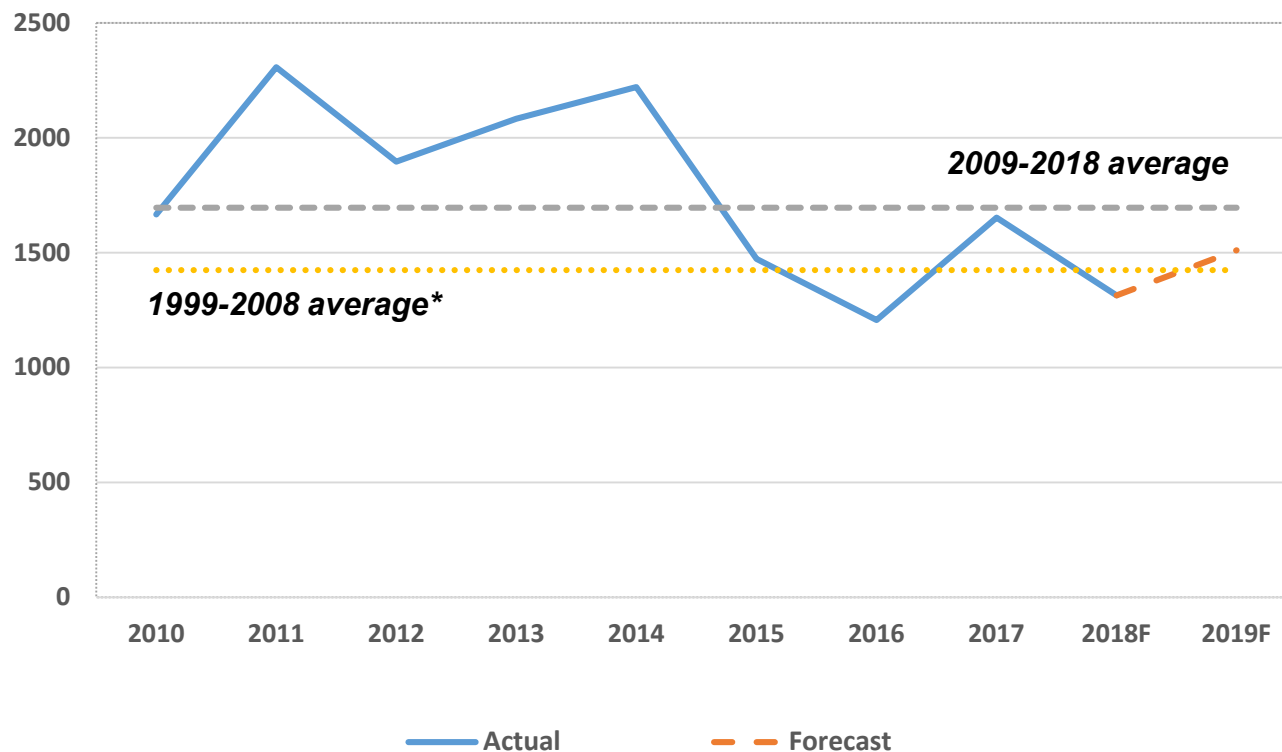
Note: Data as of November 27, 2019
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics

Note: Government payments *includes* commodity programs, conservation payments, disaster payments, dairy payments, etc. and *excludes* Federal crop insurance premium subsidies



Farm income for 2018 below average, 2019 should be higher

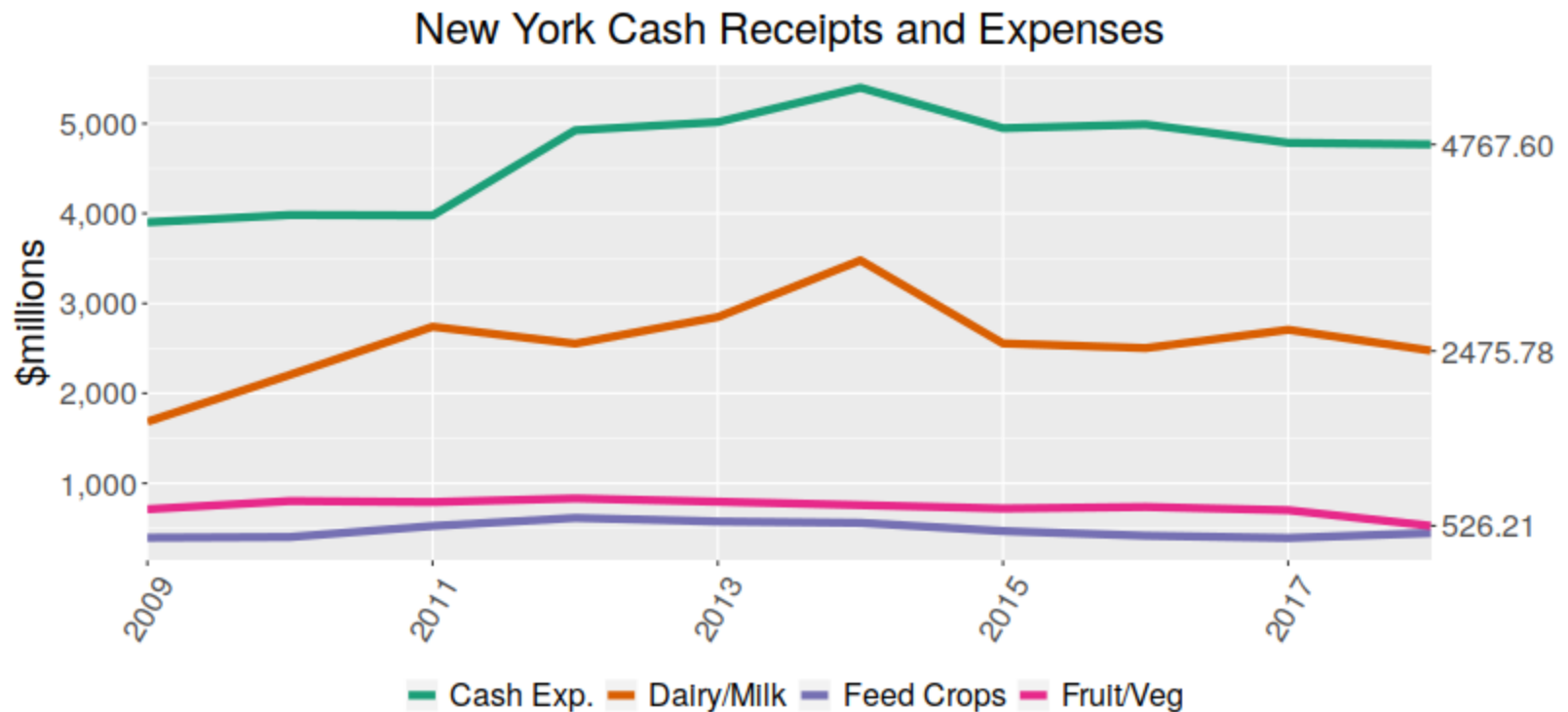
NY Net Cash Farm Income, \$ Million



Note: 1997-2006 average is reported in 2019\$. The 2009-18 average is not inflation-adjusted and would be higher in real terms.
Source: USDA Economic Research Service, forecast based on national trend.



Small revenue declines in 2018



Note: Data as of November 27, 2019
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics



National cash receipts forecasts– up for dairy, generally mixed

	2018-2019F % change	2020 WASDE
Dairy (1)	+11.2%	All milk price up for 2020 (18.6 to 19.25), production up 1.7%
Cattle (3)	-0.1%	Prices up 0.6%, production up 1.1%
Corn (4)	+1.9%	Prices up 6.6%, production down 4.5%
Fruit (5*)	+1.3%	
Chicken Eggs (7)	-31%	Prices up 1.6%, production up 1.4%
Soybeans (8)	-4.9%	Prices up 6.1%, production down 19.6%
Hay (9)	+20%	
Vegetables (11*)	+10%	
Wheat (15)	-9.5%	Prices down 11.8%, production up 1.9%

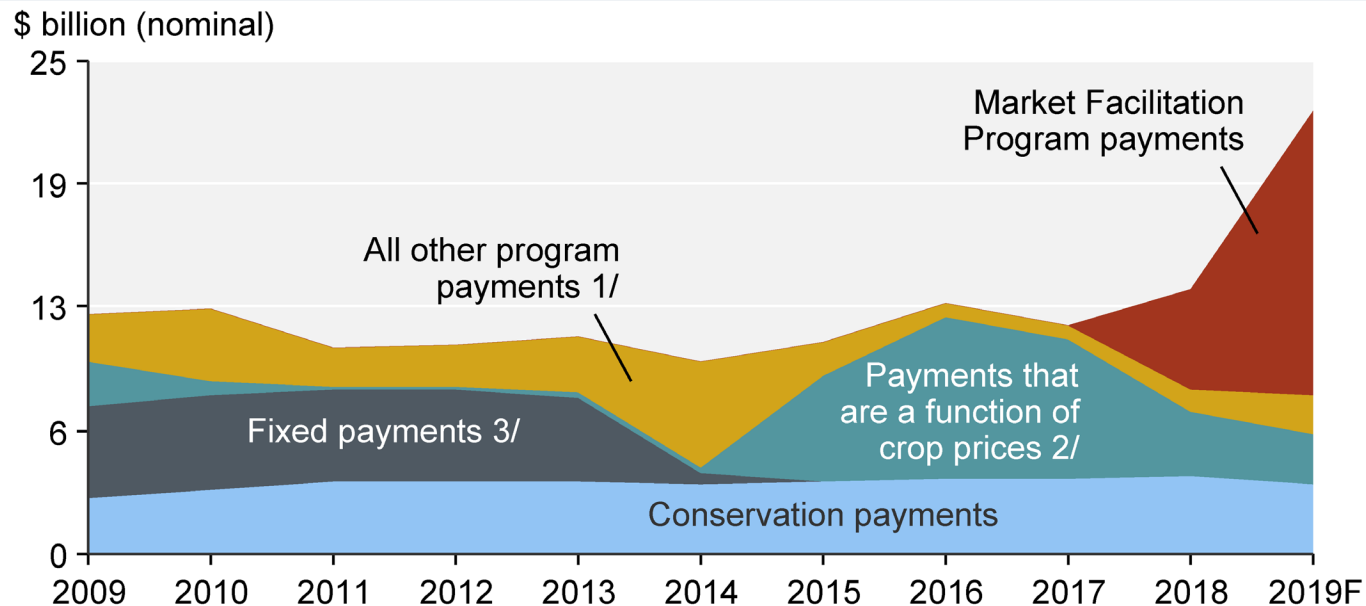
Source: USDA Economic Research Service for national cash receipt forecast changes, Jan 2020 WASDE

Note: NY 2018 ranking in terms of cash receipts in (), apples #5, cabbage #11



New era for government payments?

Government farm program payments to farm producers, 2009-19F



Note: F = forecast.

1/ All other payments include supplemental and ad hoc disaster assistance, tobacco transition, Cotton Ginning Cost Share, dairy, and miscellaneous programs.

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).

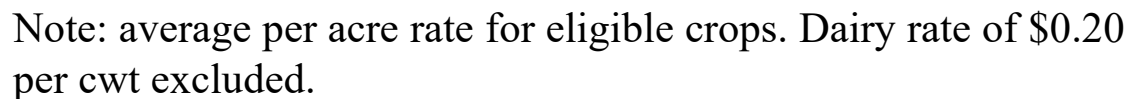
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

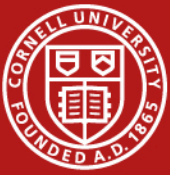
Data as of November 27, 2019.



DMC, Conservation, MFP have highest payouts

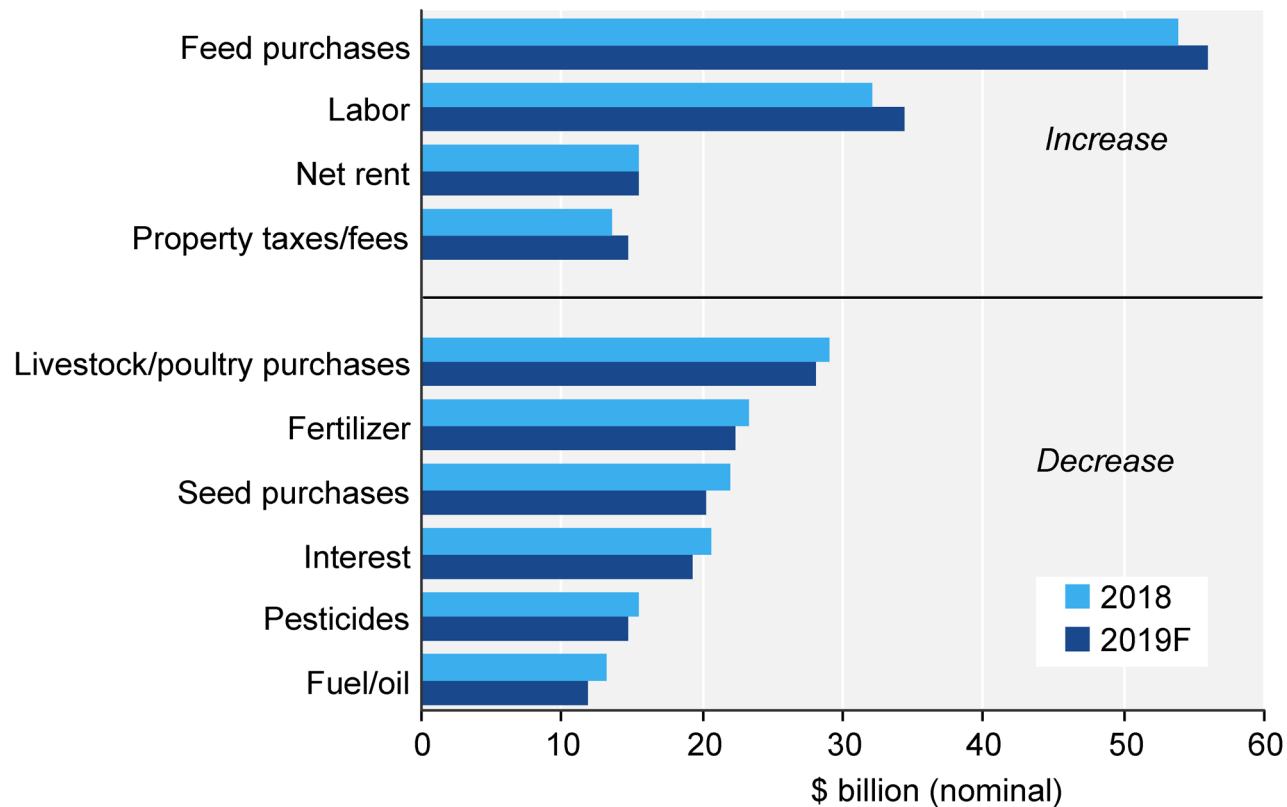
	\$ Million 2018	\$ Million 2019
Selected programs & total		
Price Loss Coverage (PLC)	1.0	?
Supplemental and ad hoc disaster assistance	5.0	?
Agriculture Risk Coverage (ARC)	7.4	?
Conservation	19.7	?
Market Facilitation Program	23.5	48
Dairy Margin Coverage Program	24.6	28?
Total	81.2	?





Labor and feed costs increased nationally in 2019

Selected farm production expenses, 2018-19F



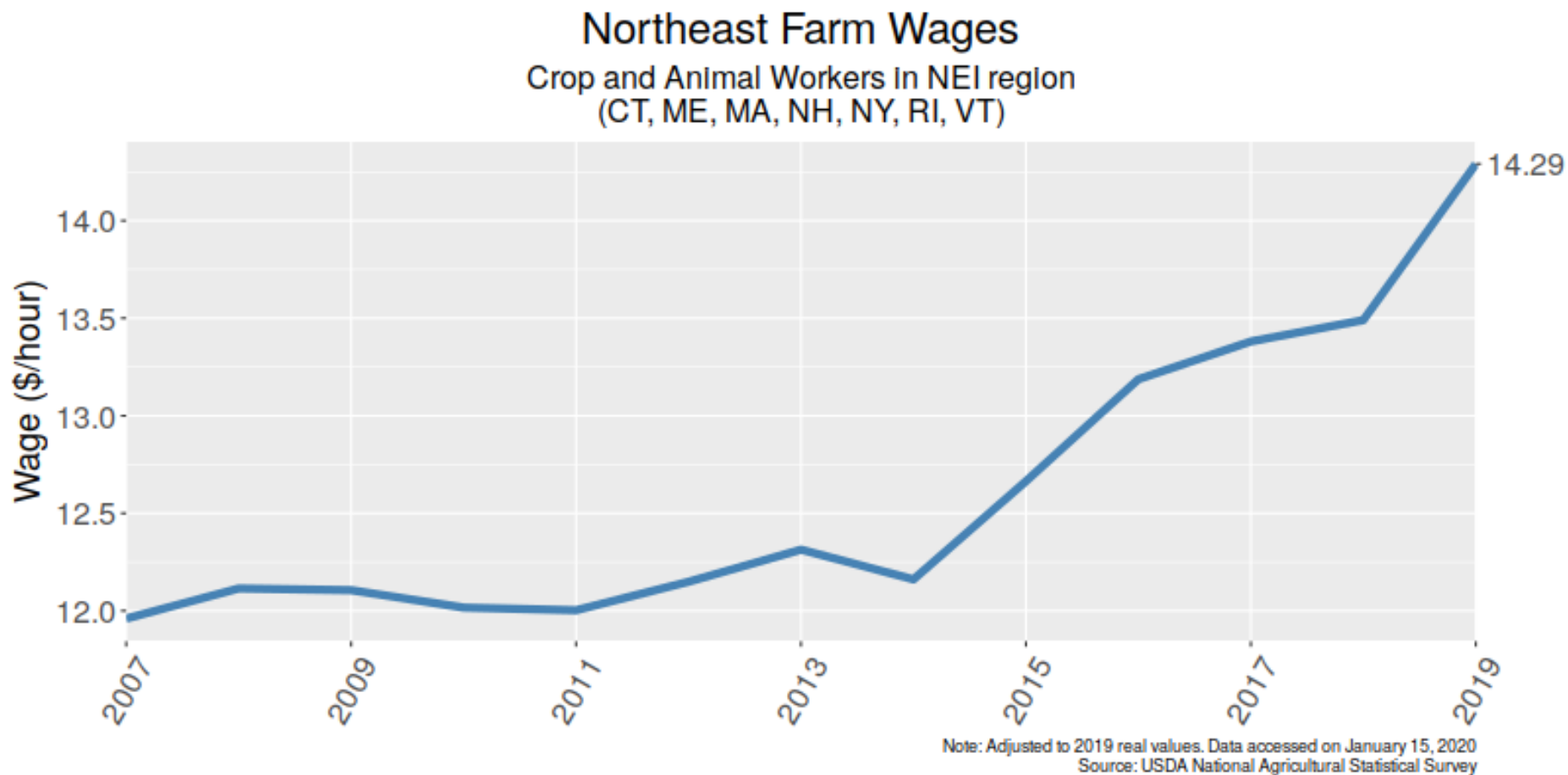
Note: F = forecast.

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

Data as of November 27, 2019.

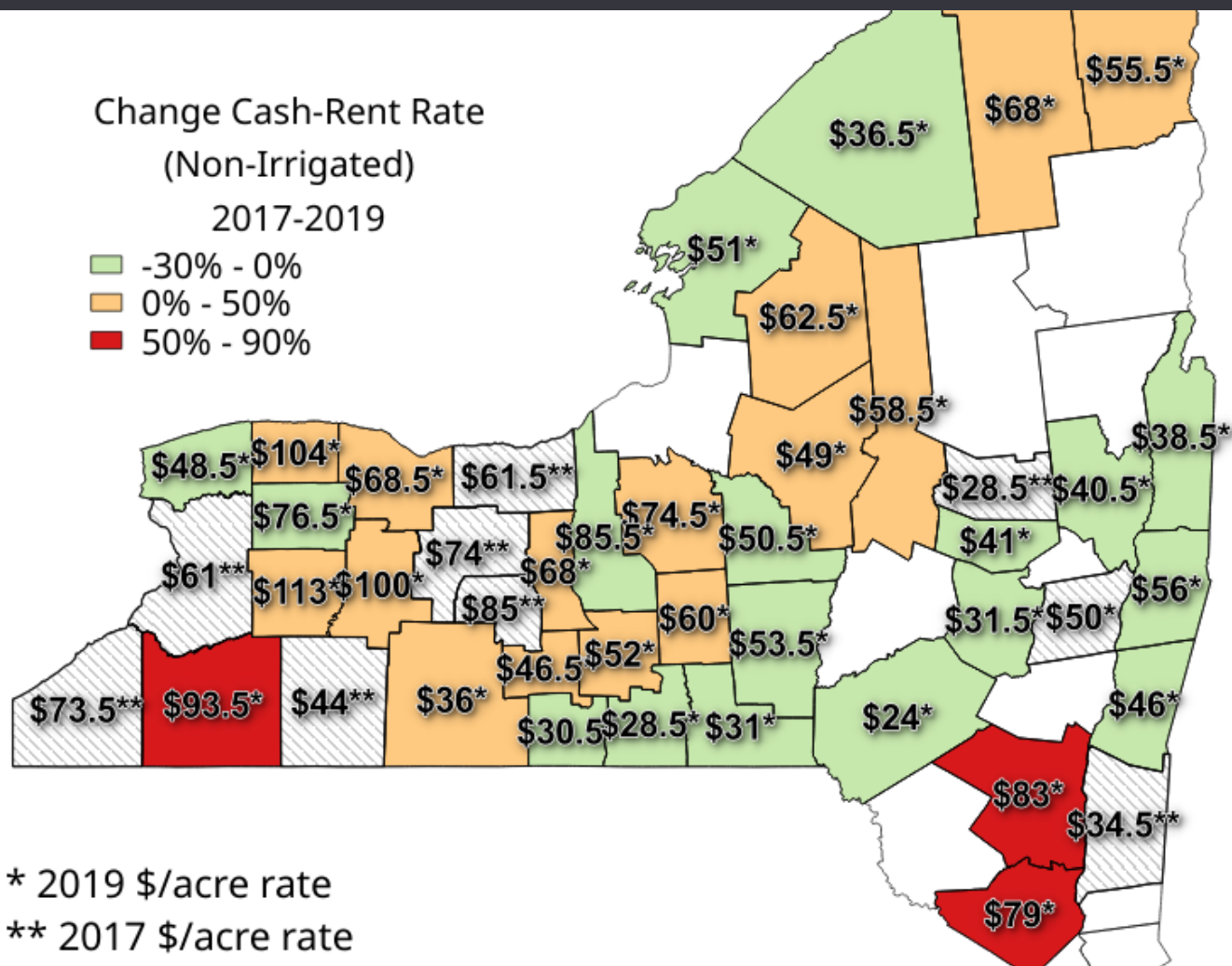


Inflation-adjusted wages up again in 2019





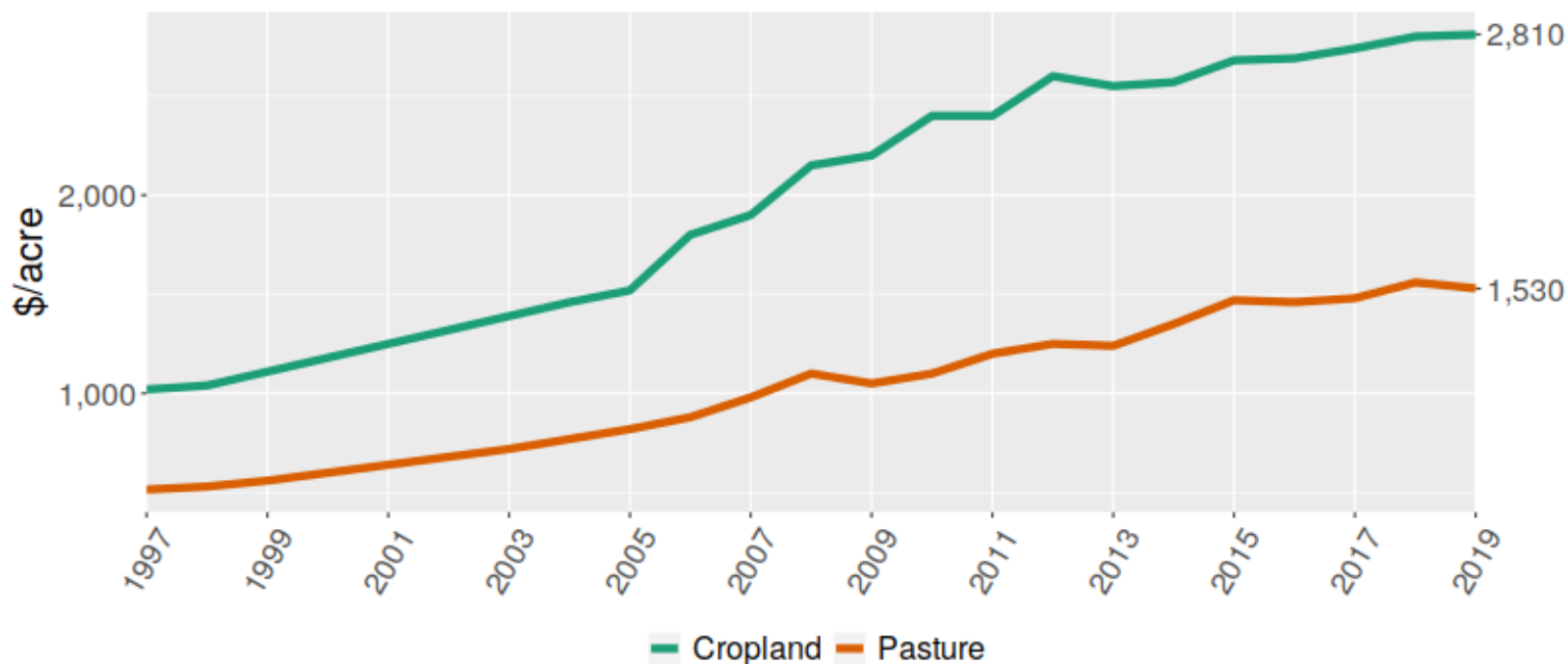
Cash rental rates up in some counties, down in others





Farmland values stable in 2019

New York Farmland Values

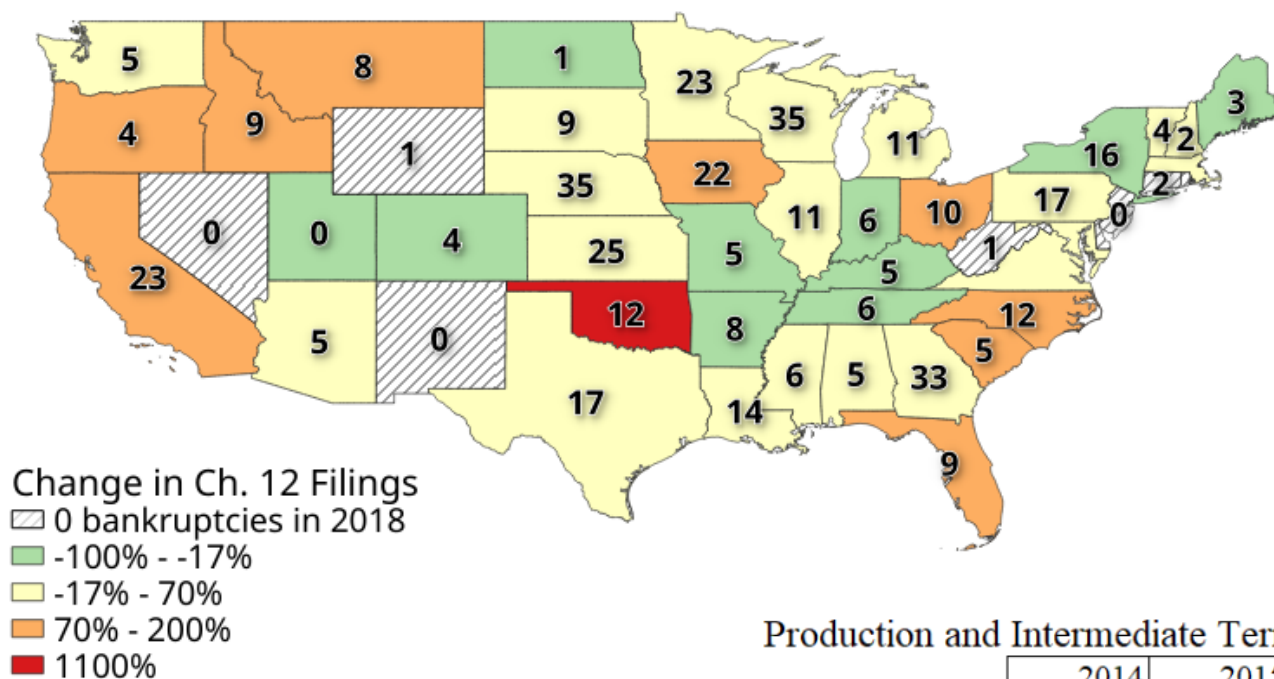


Note: Accessed on January 02, 2020
Source: USDA National Agricultural Statistical Survey



Bankruptcies appear to be down in 2019, delinquencies not increasing

Total Ch. 12 Bankruptcies 2019 (Q1-Q3) and Change from Total 2018 (Q1-Q3) Ch. 12 Bankruptcies



Production and Intermediate Term Loans

Farm Credit East

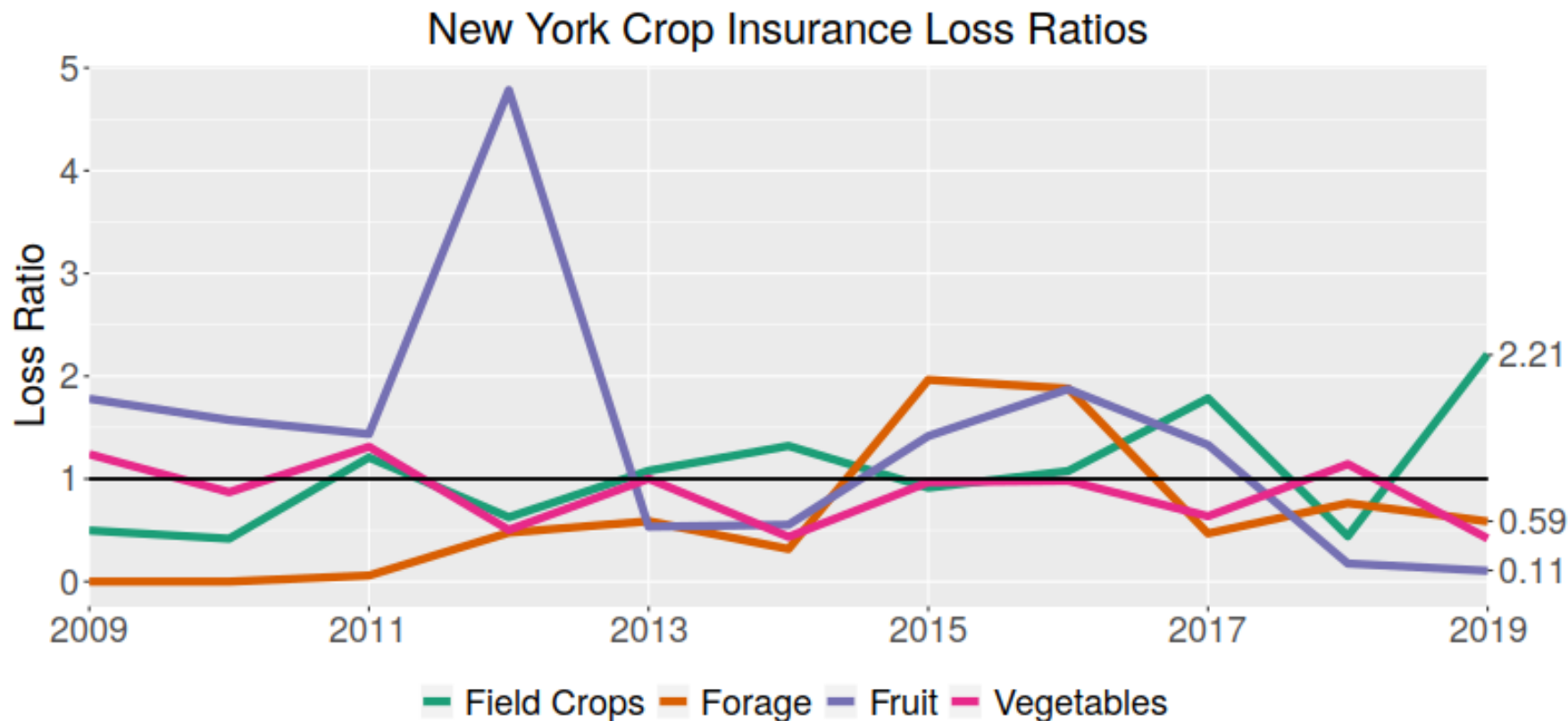
*Greater than 90 Days - Accruing
Charge-Offs*

	2014	2015	2016	2017	2018
	0.911%	0.806%	0.561%	0.624%	0.678%
	0.899%	0.810%	0.565%	0.620%	0.683%
	1.809%	1.616%	1.126%	1.244%	1.361%

Source: Court filings, regulatory reports



2019 insurance payouts (to date) very high for field crop producers



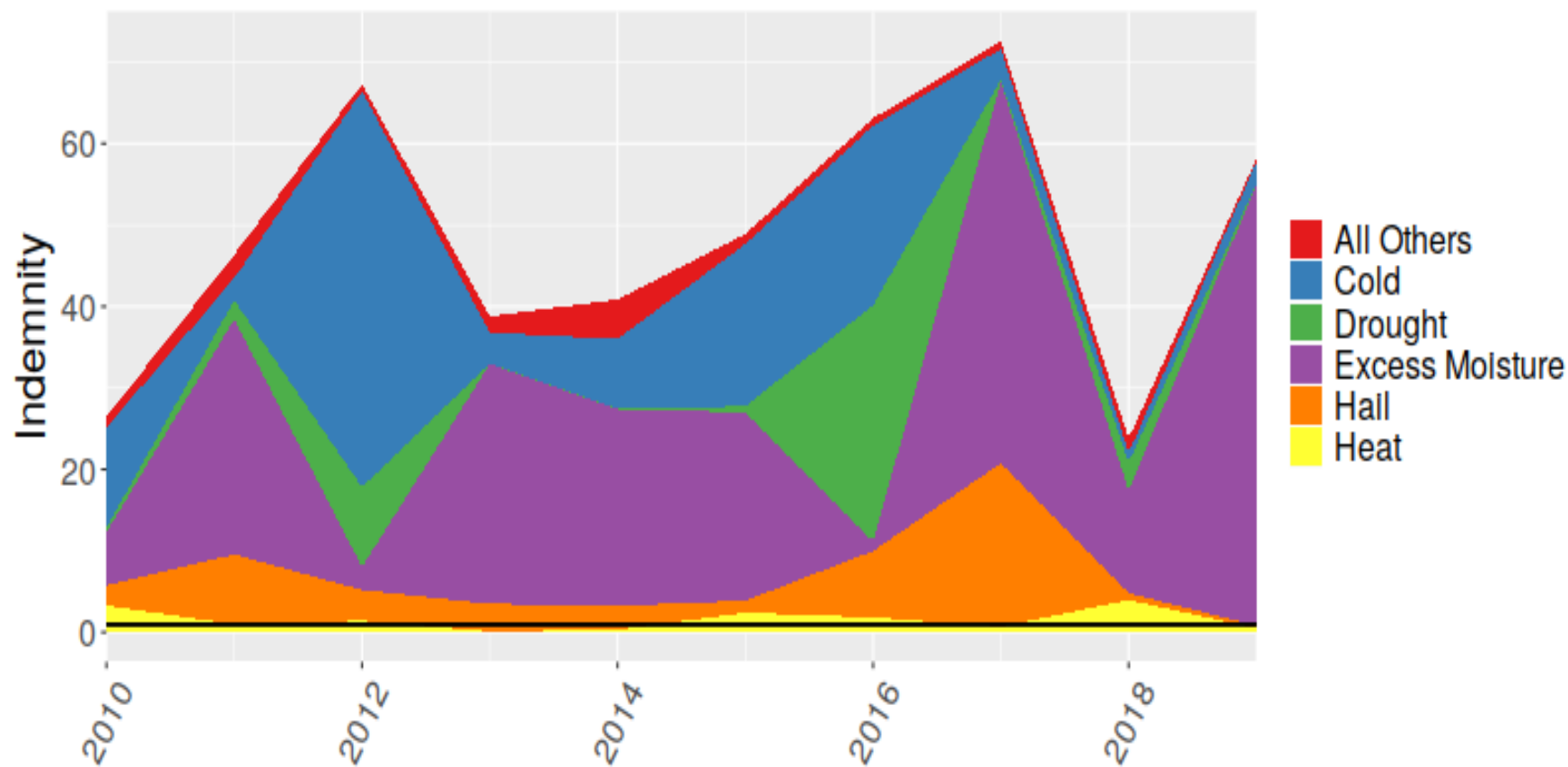
Note: 2019 loss ratio based on indemnities as reported January 15, 2020
Source: USDA Risk Management Agency

Note: Loss ratio = 1 implies total premiums (including premium subsidy) are equivalent to indemnities; typically farm operations pay less than 40 percent of total premiums, with the remainder as premium subsidy



Another wet year in 2019, much higher payouts than 2018

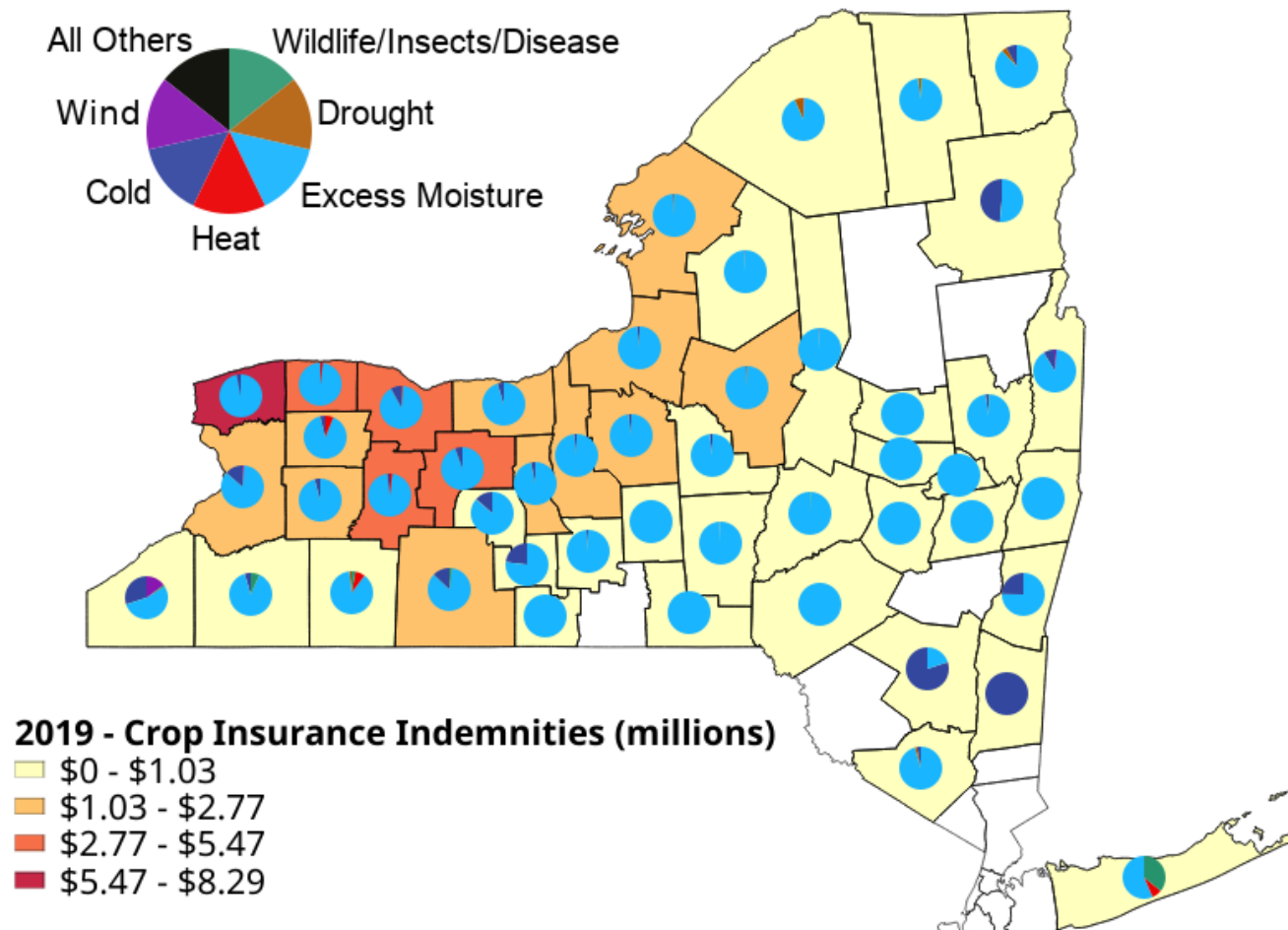
New York Crop Insurance Indemnities by Peril (\$millions)



Note: Based on indemnities as reported January 06, 2020
Source: USDA Risk Management Agency



Similar weather experiences across NY state



Note: Cause of Loss (for crop insurance indemnities), 2019 indemnities as reported on 1/16/20

Source: USDA Risk Management Agency



2019 Prevented Planting Indemnities
(thousands)

Insured Acres Receiving
Prevented Planting Indemnities

- 0% - 20%
- 20% - 40%
- 40% - 60%

"Note: Cause of Loss (for crop insurance indemnities), 2018 indemnities as reported on 1/15/19
Source: USDA Risk Management Agency



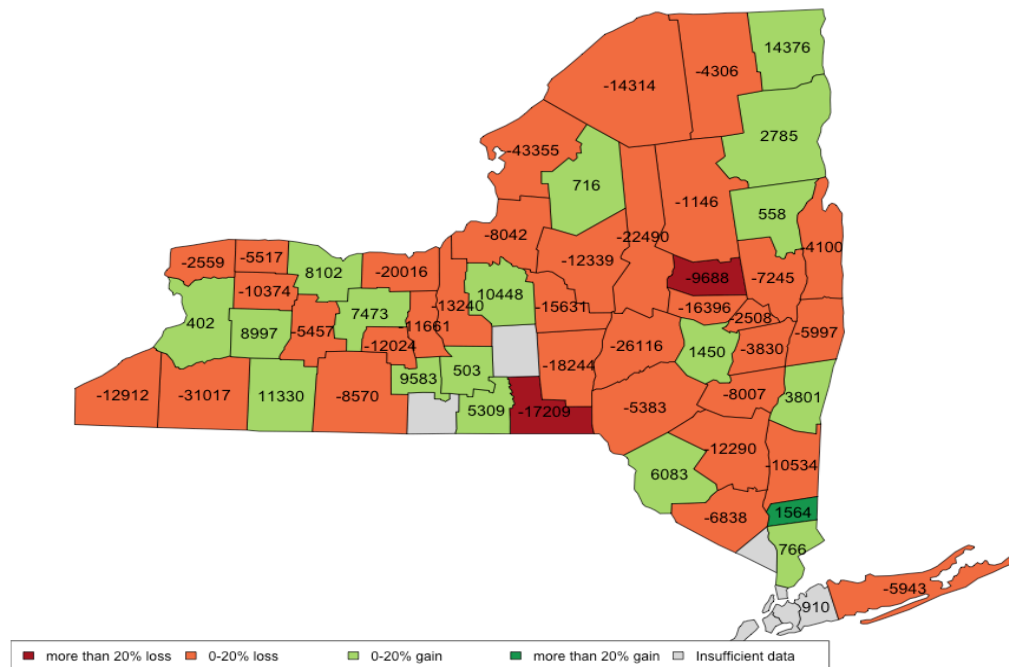
Selected 2017 Census highlights

- About 2,000 less farms than 2012
 - 4% decline in land in farms
 - Increase in farm wealth (asset value)
 - More younger, older producers
- Declining middle
 - More than 700 farms with 1-9 acres added
 - All others declined, other than >2,000 acre farms
- Half of producers have a primary occupation *other* than agriculture
 - Larger number work off farm
- Increase in rental income, forest products, agritourism, maple, mushrooms, greenhouses, organic production
 - Less Christmas trees, short rotation woody crops, floriculture
- 3,300 farms with renewable energy – doubled from 2012
- More hired managers



Mixed trends in land in farms

Absolute and Percentage Change of Total Farm Sizes between 2012 to 2017



Source: USDA NASS Census of Agriculture

Note: Acres farms increase or decrease by county

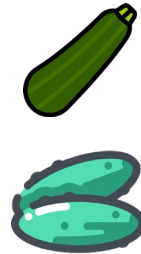


Vegetable production changes: 2017 Census of Agriculture

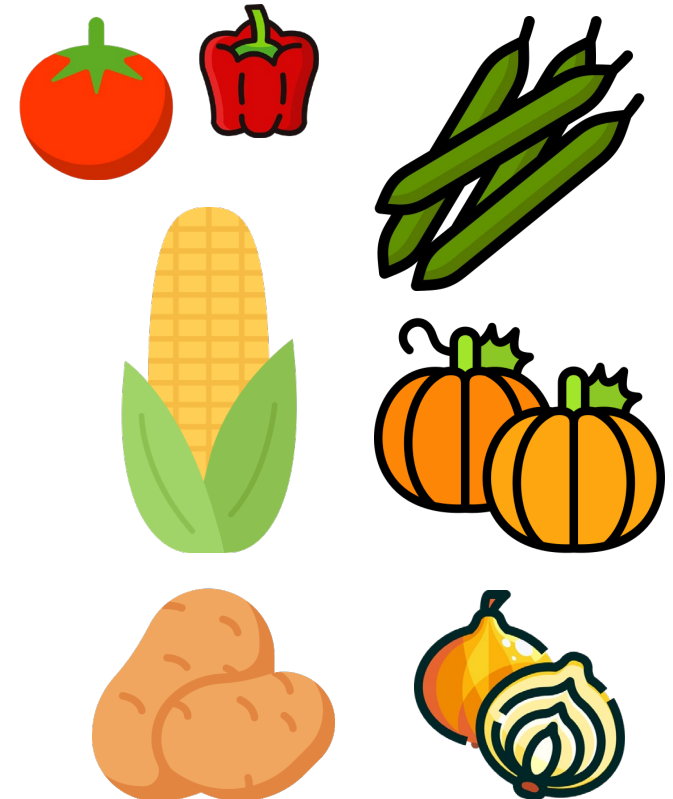
Increase



More farms, Lower acreage



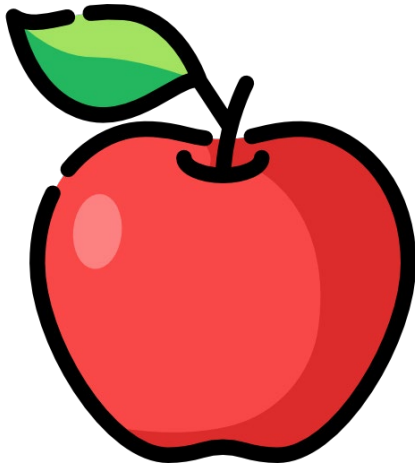
Decrease



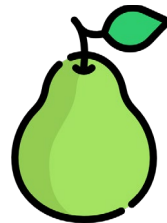
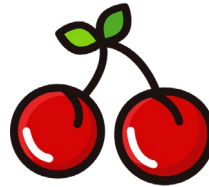


Fruit production changes: 2017 Census of Agriculture

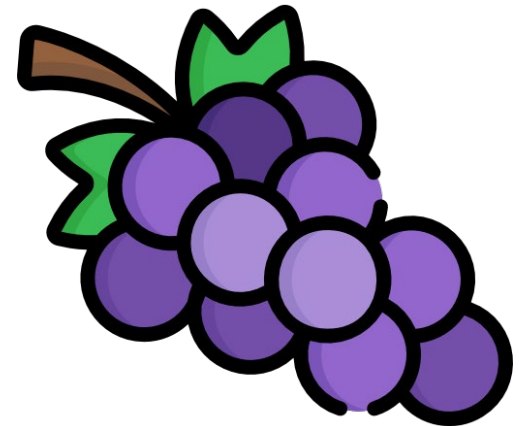
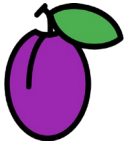
Increase



Mixed



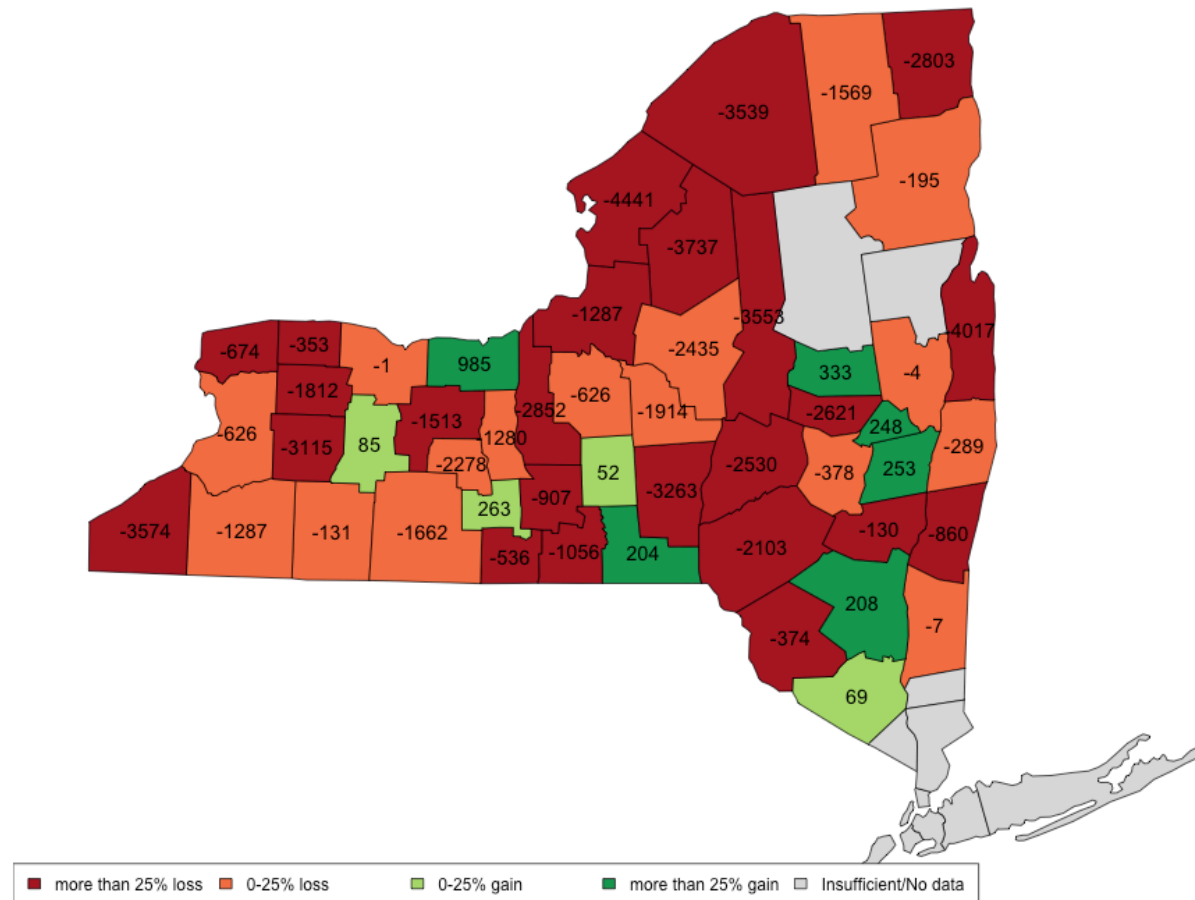
Decrease





Decline in small dairy farms continues in most NY counties

Absolute and Percentage Change of Dairy Cows in 1-199 Head Farms between 2012 to 2017

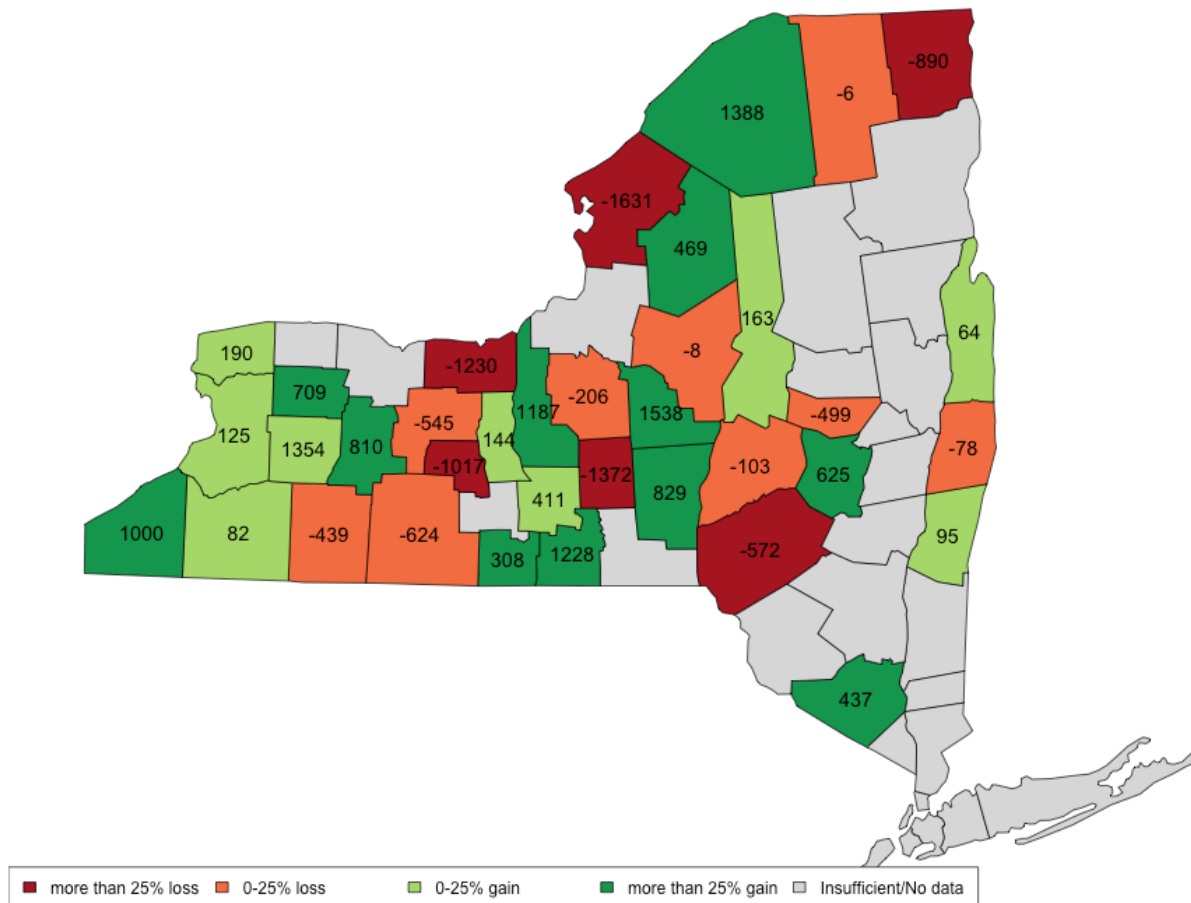


Source: USDA NASS Census of Agriculture



Medium size dairy farm numbers largely stable from 2012-17

Absolute and Percentage Change of Dairy Cows in 200-499 Head Farms between 2012 to 2017

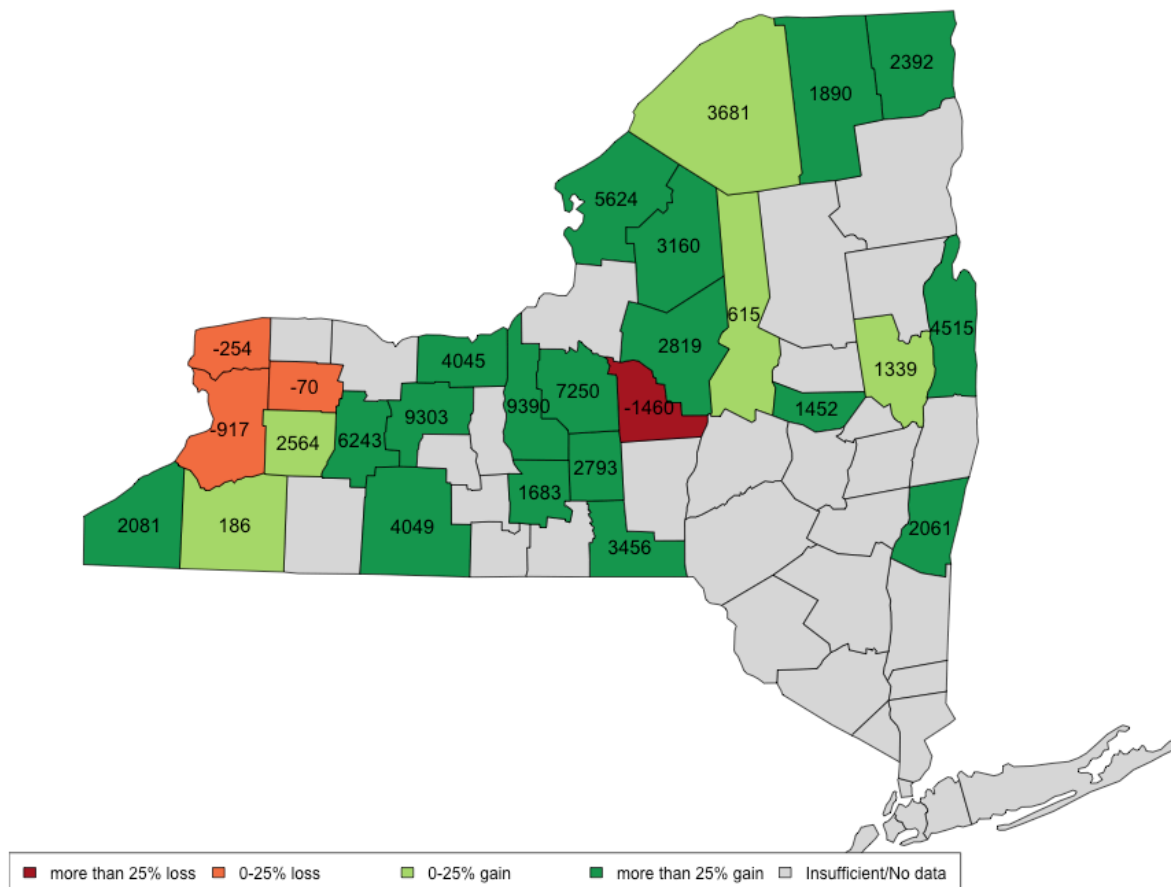


Source: USDA NASS Census of Agriculture



Larger dairy farm numbers grew in most counties from 2012-17

Absolute and Percentage Change of Dairy Cows in 500+ Head Farms between 2012 to 2017

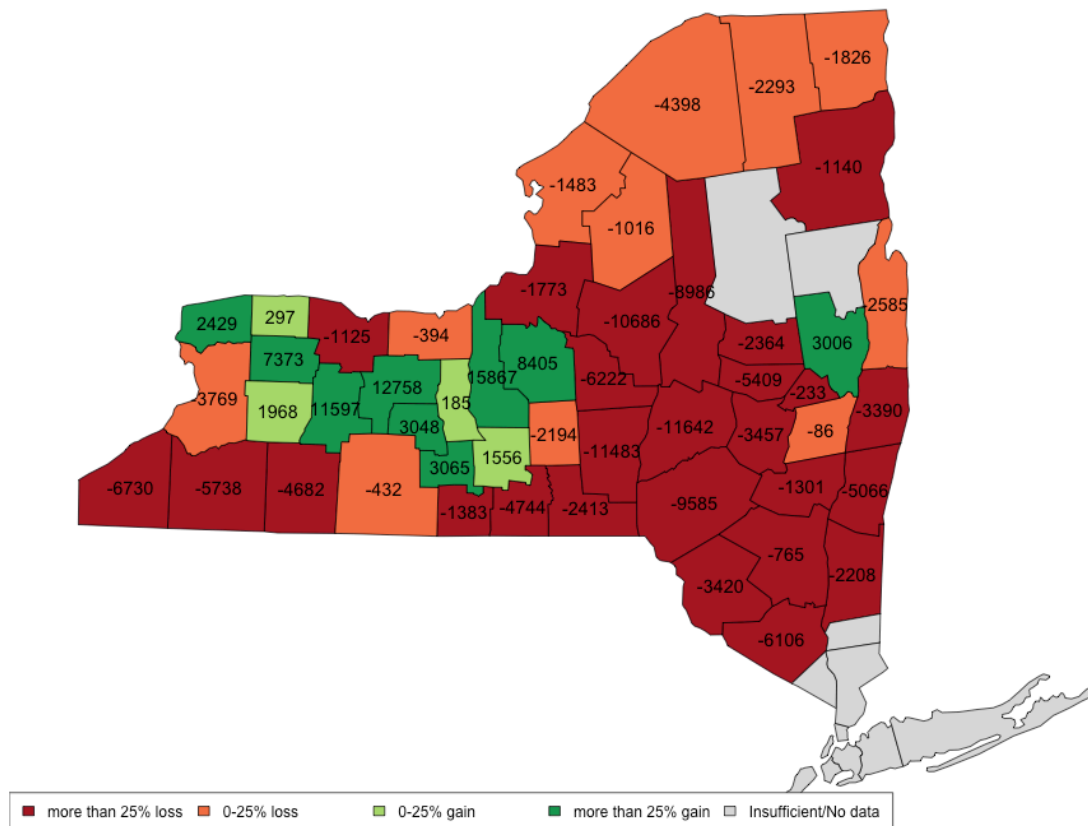


Source: USDA NASS Census of Agriculture



Long term trend – dairy concentrated in Western NY

Absolute and Percentage Change of Dairy Cows between 1997 to 2017

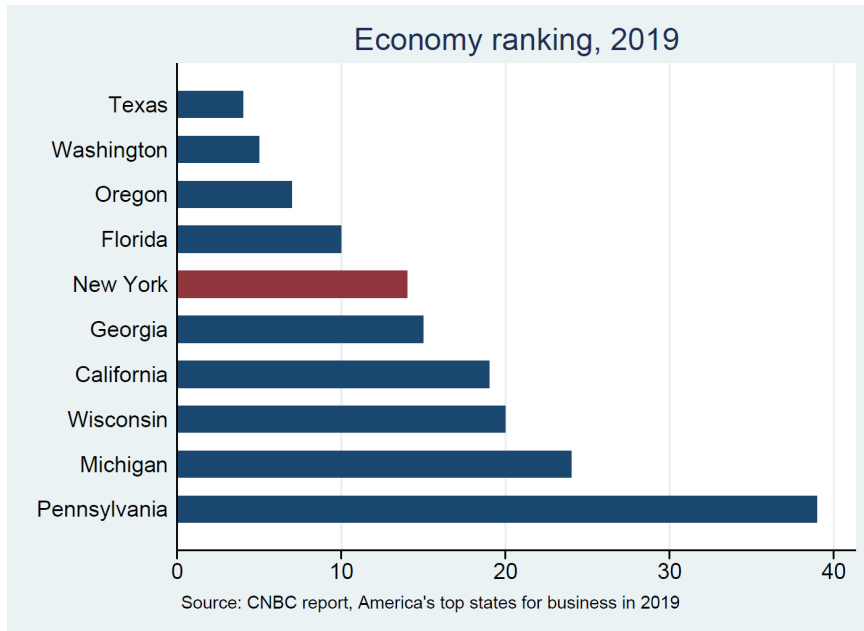


Source: USDA NASS Census of Agriculture

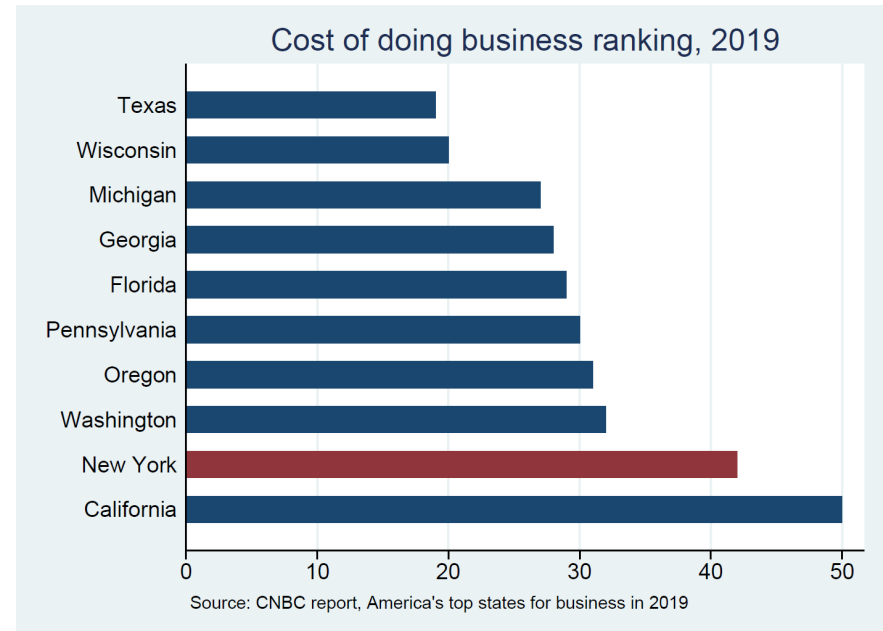


Cost of production study

Strong economy...



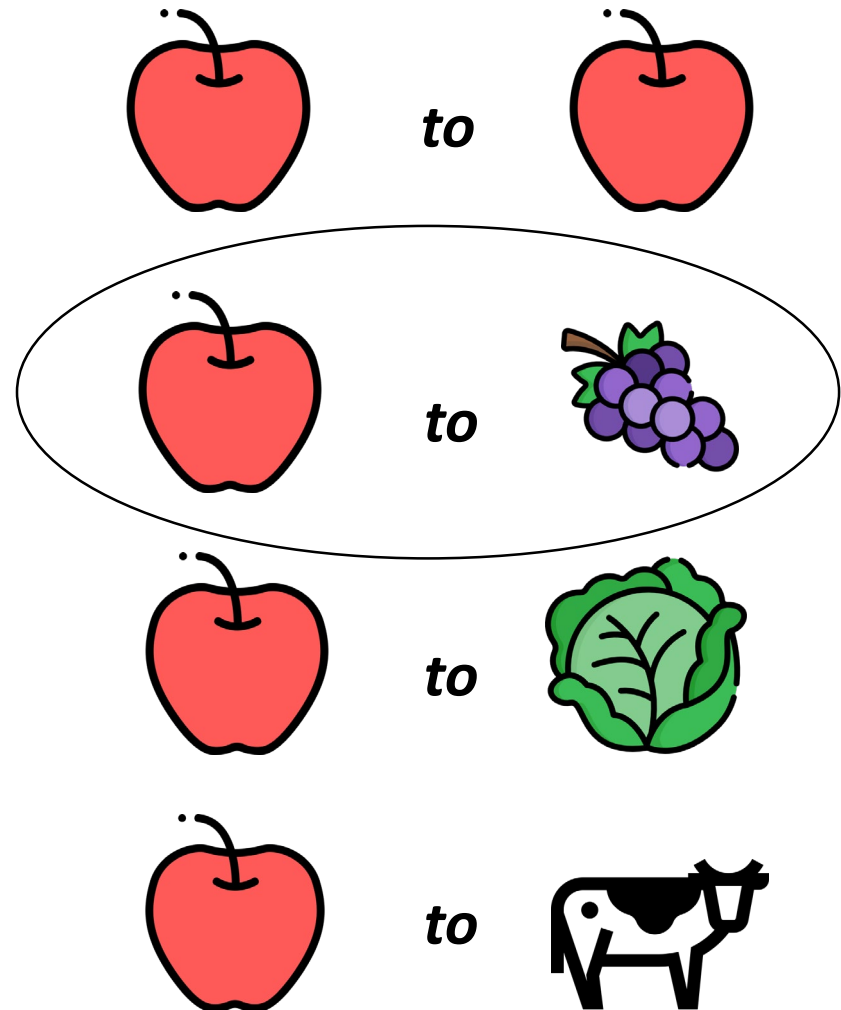
High costs





Cost of production study

- Approach
 - Comparison with “competitor states” for dairy and specialty crop production
 - Apples-to-apples, would be ideal but prohibitive
 - Major categories for many farm inputs and capital expenses





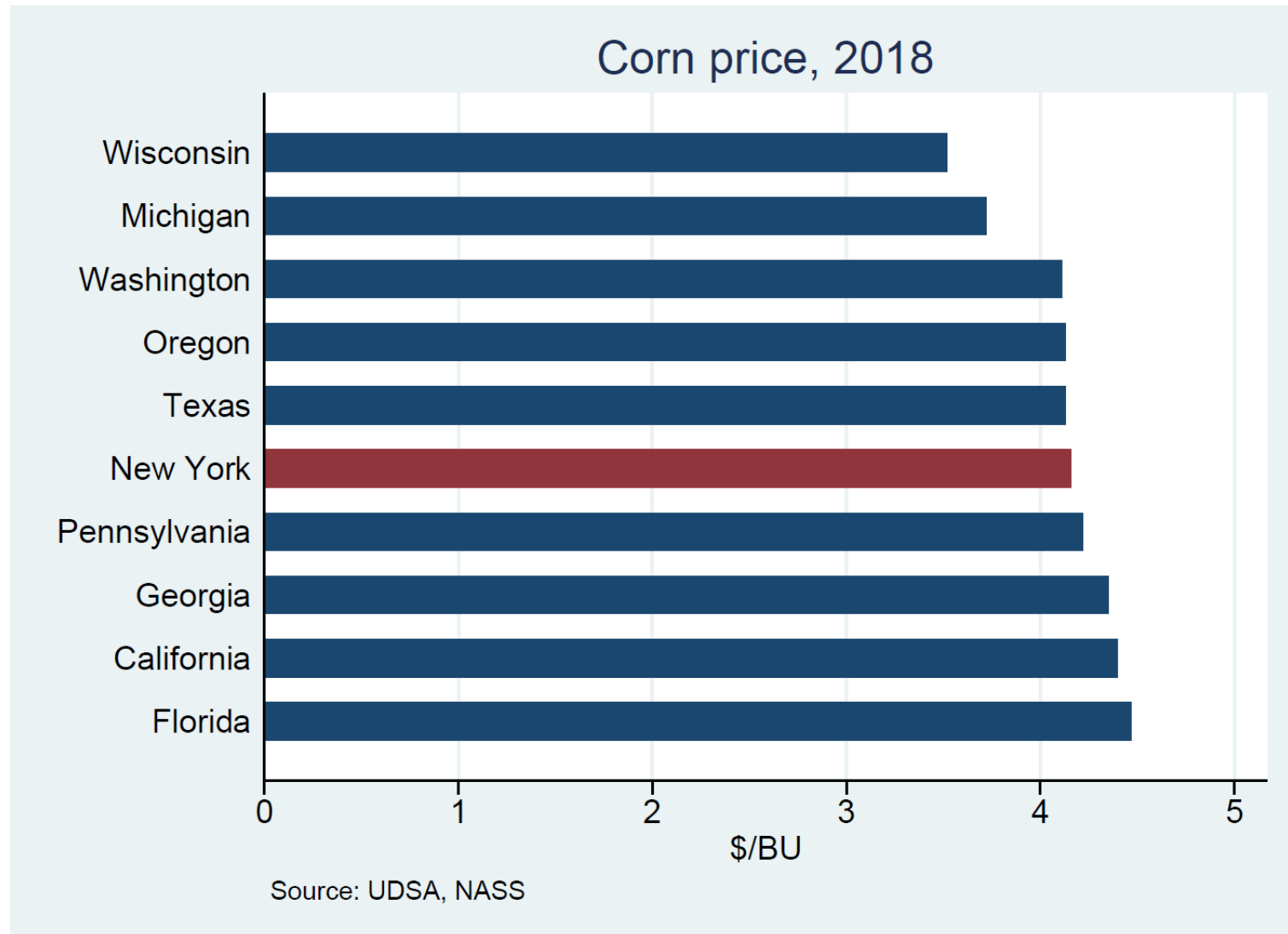
Cost of production study: categories

	Low	Medium	High
Feed (1)		X	
Labor (2)			X
Construction (3-4)		?	?
Property taxes (6)			X
Fuel (7)		X	
Electricity (12)		X	
Land		X	
Irrigation	?	?	
General cost of business			X

Note: approximate NY ranking for expenses levels in () based on USDA Economic Research Service data



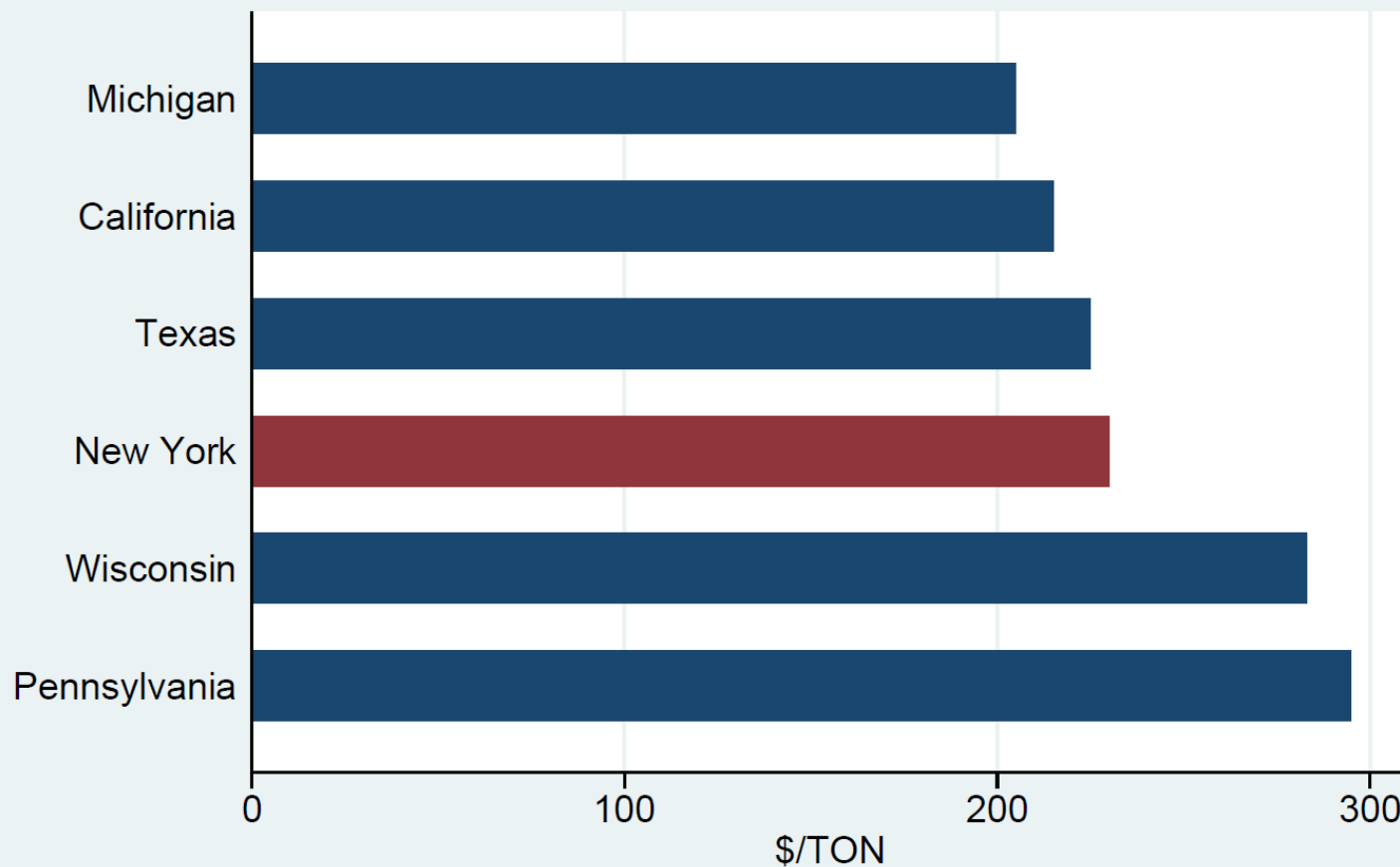
Moderate corn price





Moderate alfalfa price

Premium alfalfa price October, 2019

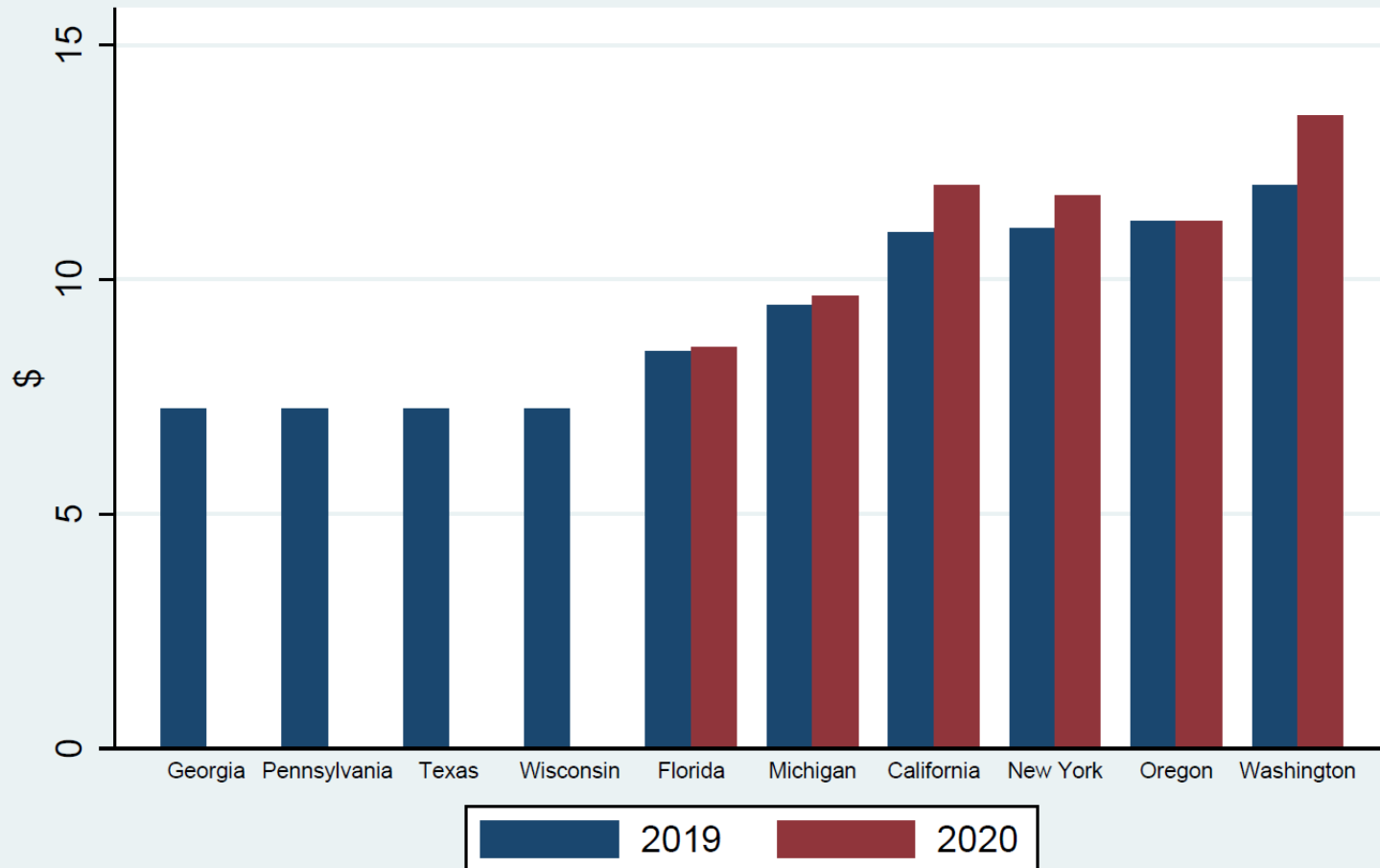


Source: UDSA, NASS
Hay, alfalfa, premium, price received



Near-highest minimum wage

Minimum wage applicable to farm workers

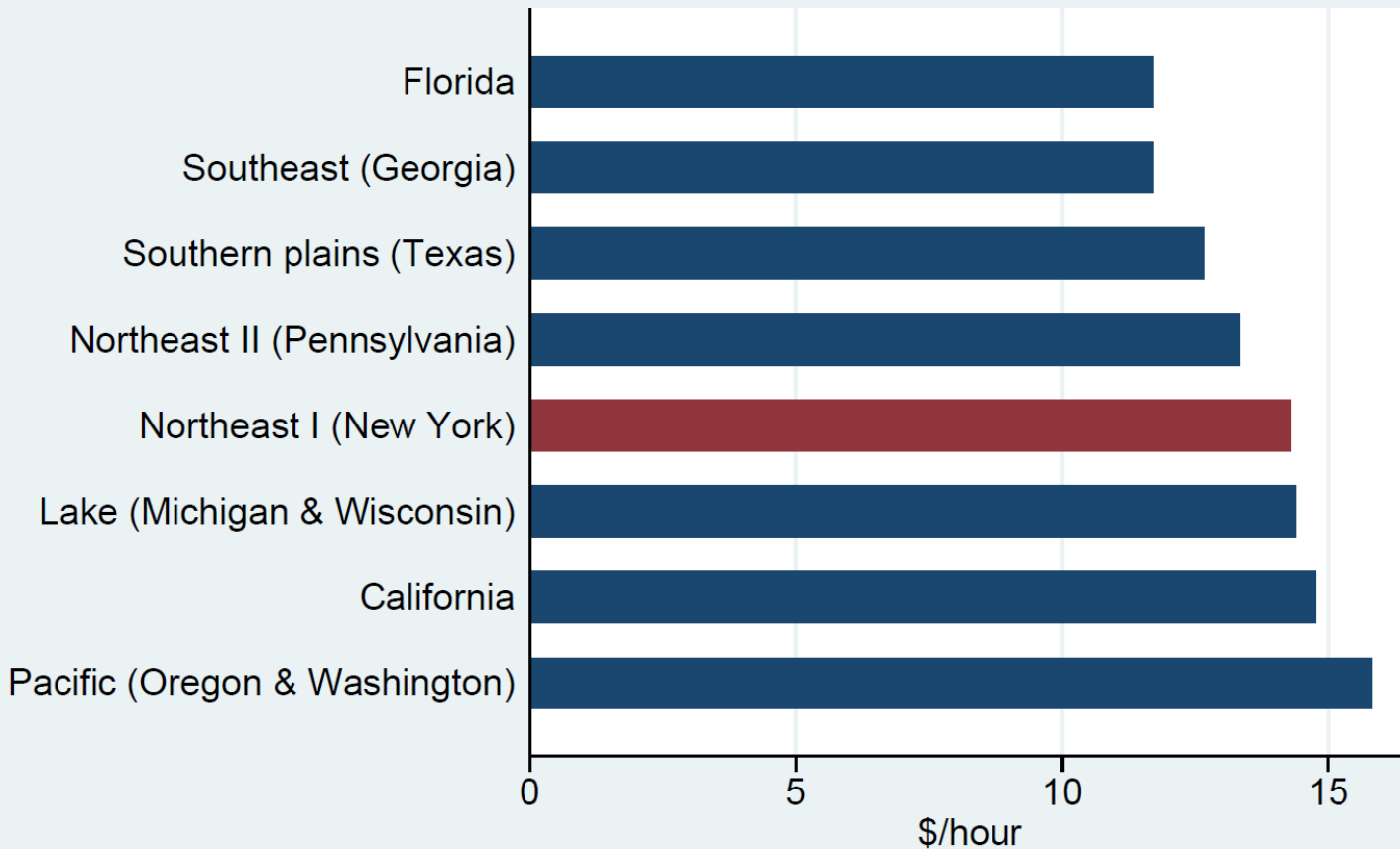


Source: www.dol.gov

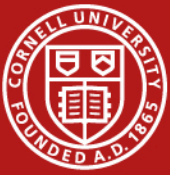


Wages are increasing in general

Crop & animal workers wage rate, 2019



Source: USDA, NASS
Labor, hired, crop & animal workers-wage rate



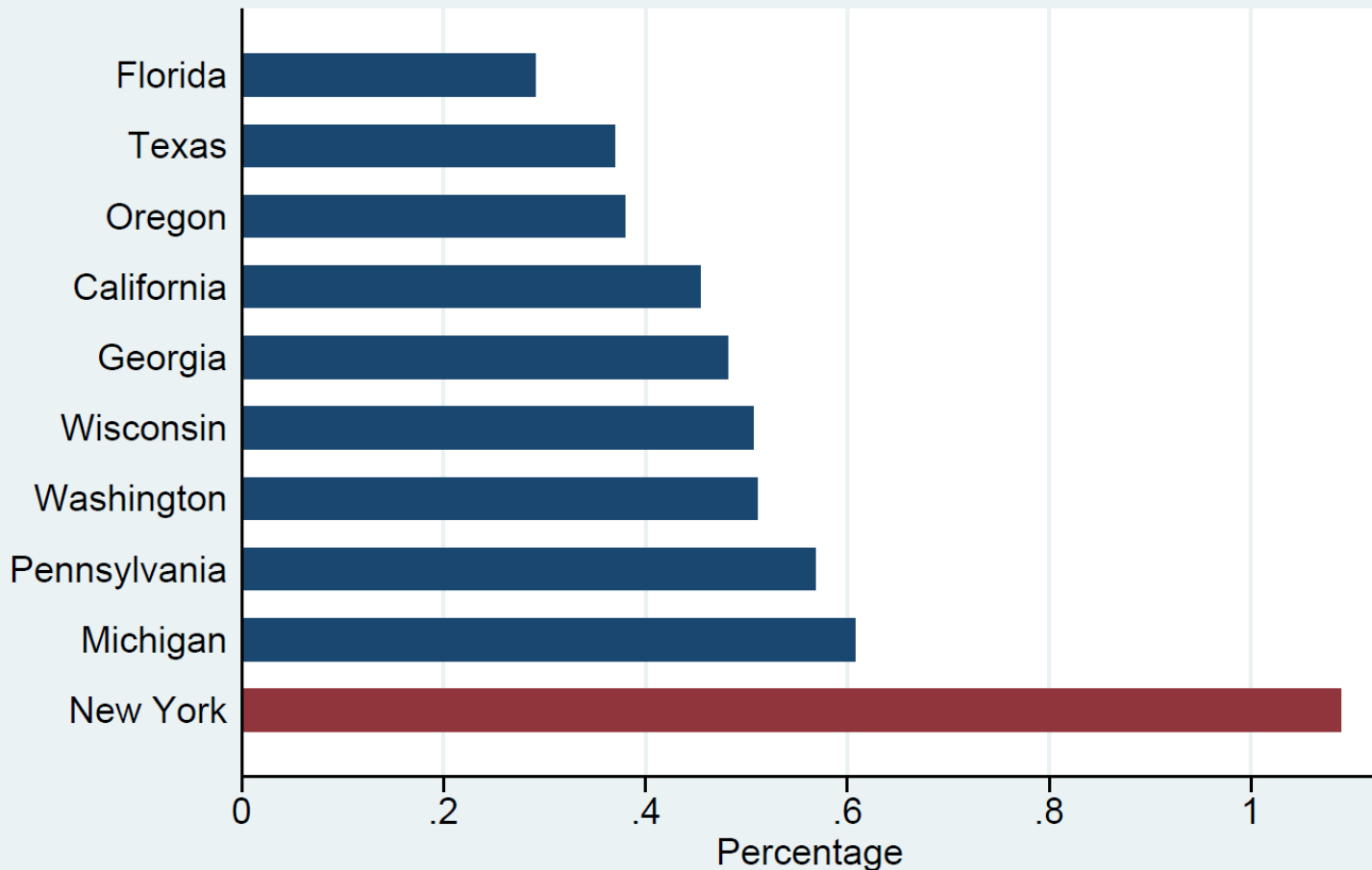
Moderate construction costs





High property tax rate

Property tax as a % of farm real estate value, 2018

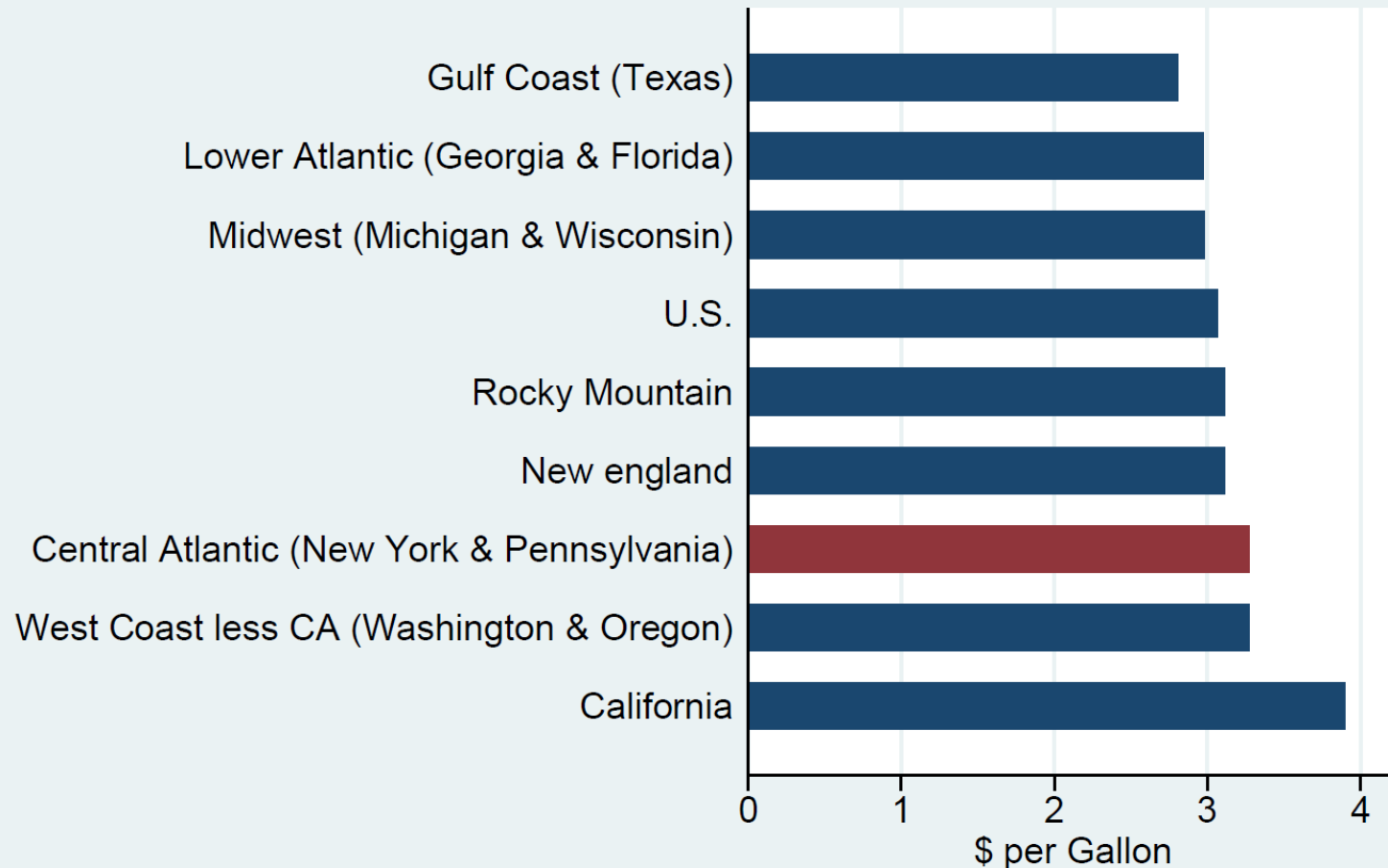


Source: ERS



Moderate fuel costs

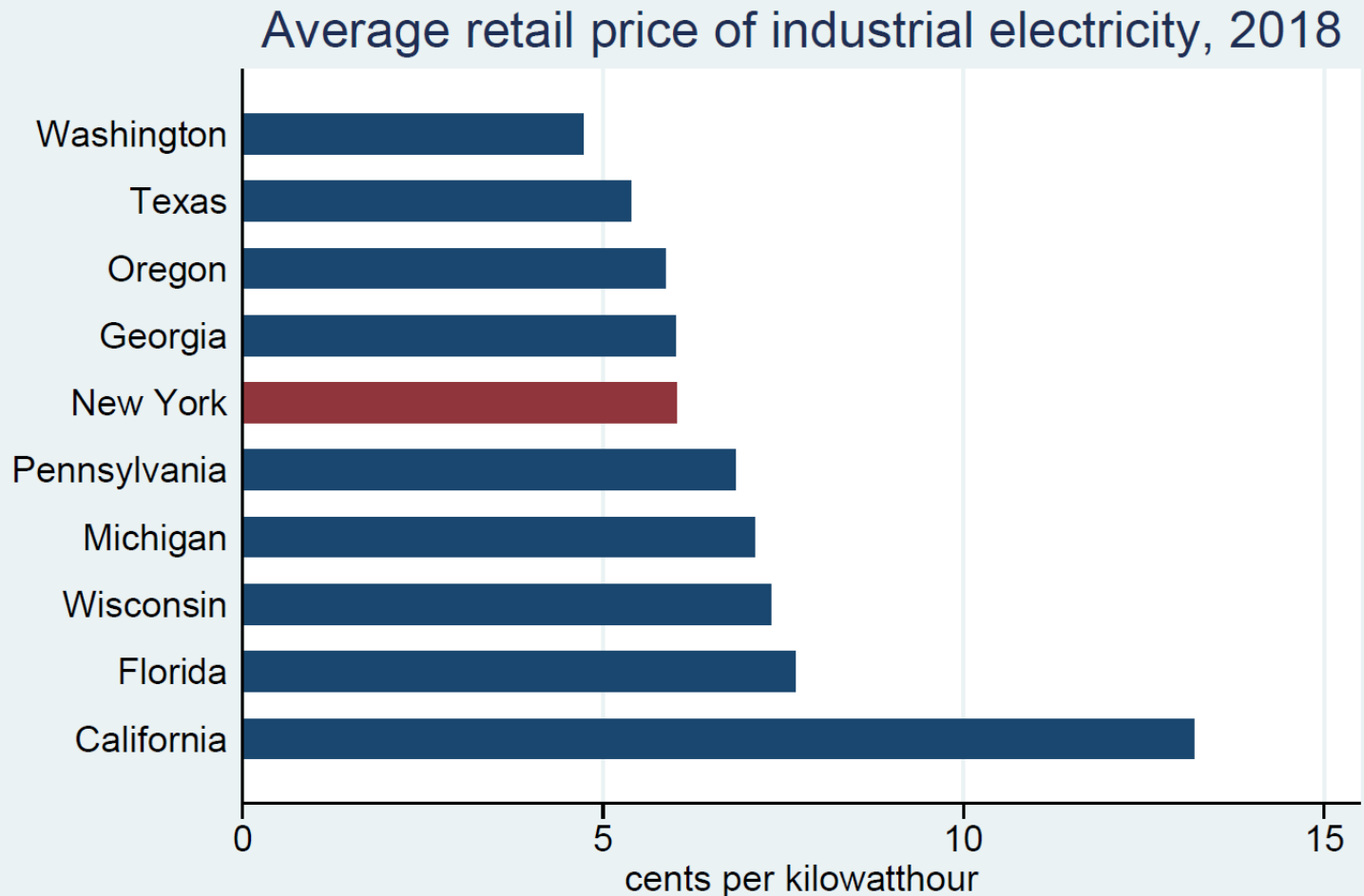
Diesel price December, 2019



Source: EIA



Average electricity costs

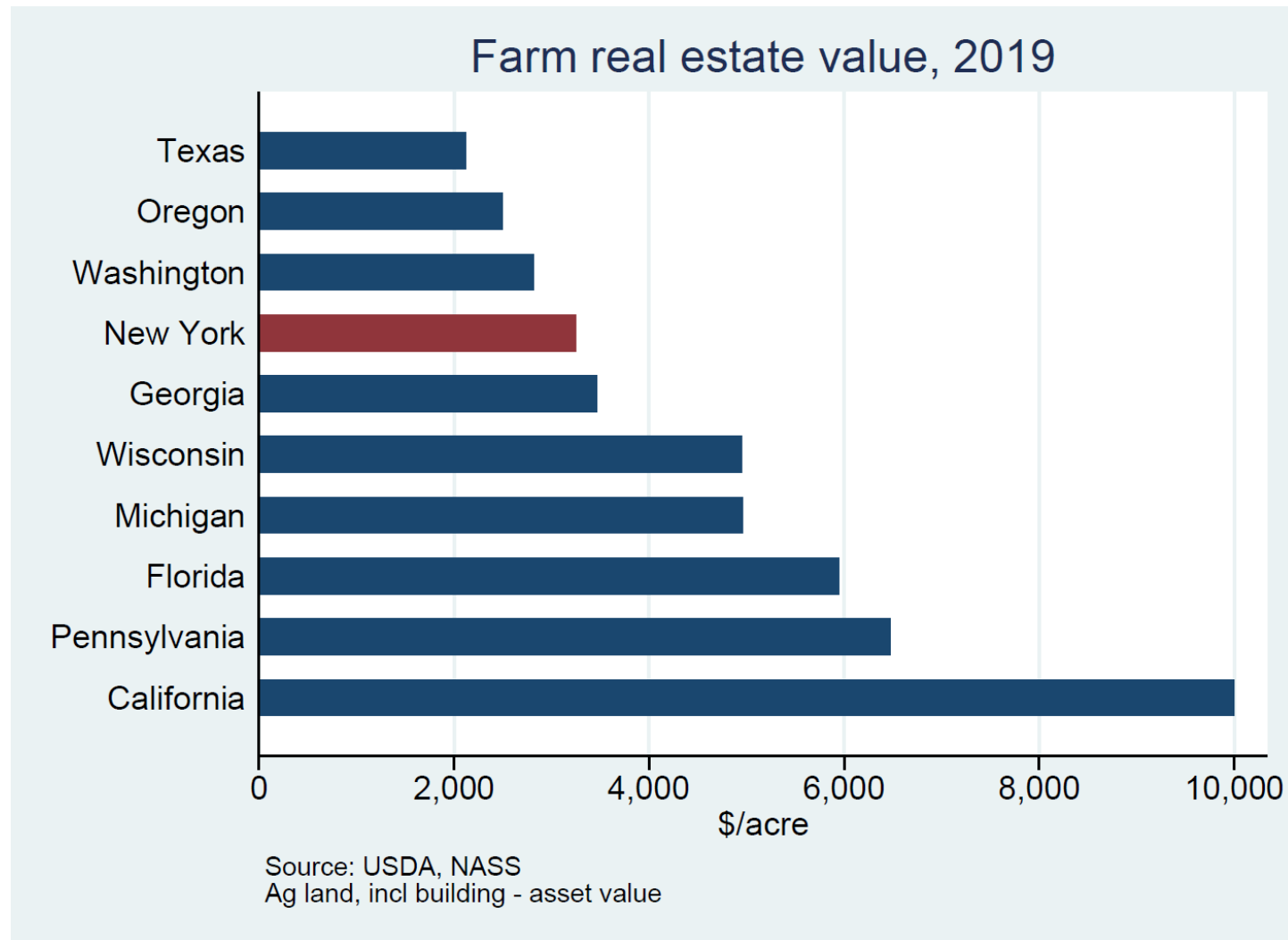


Source: EIA

Agricultural and irrigation prices are included in the industrial sector.

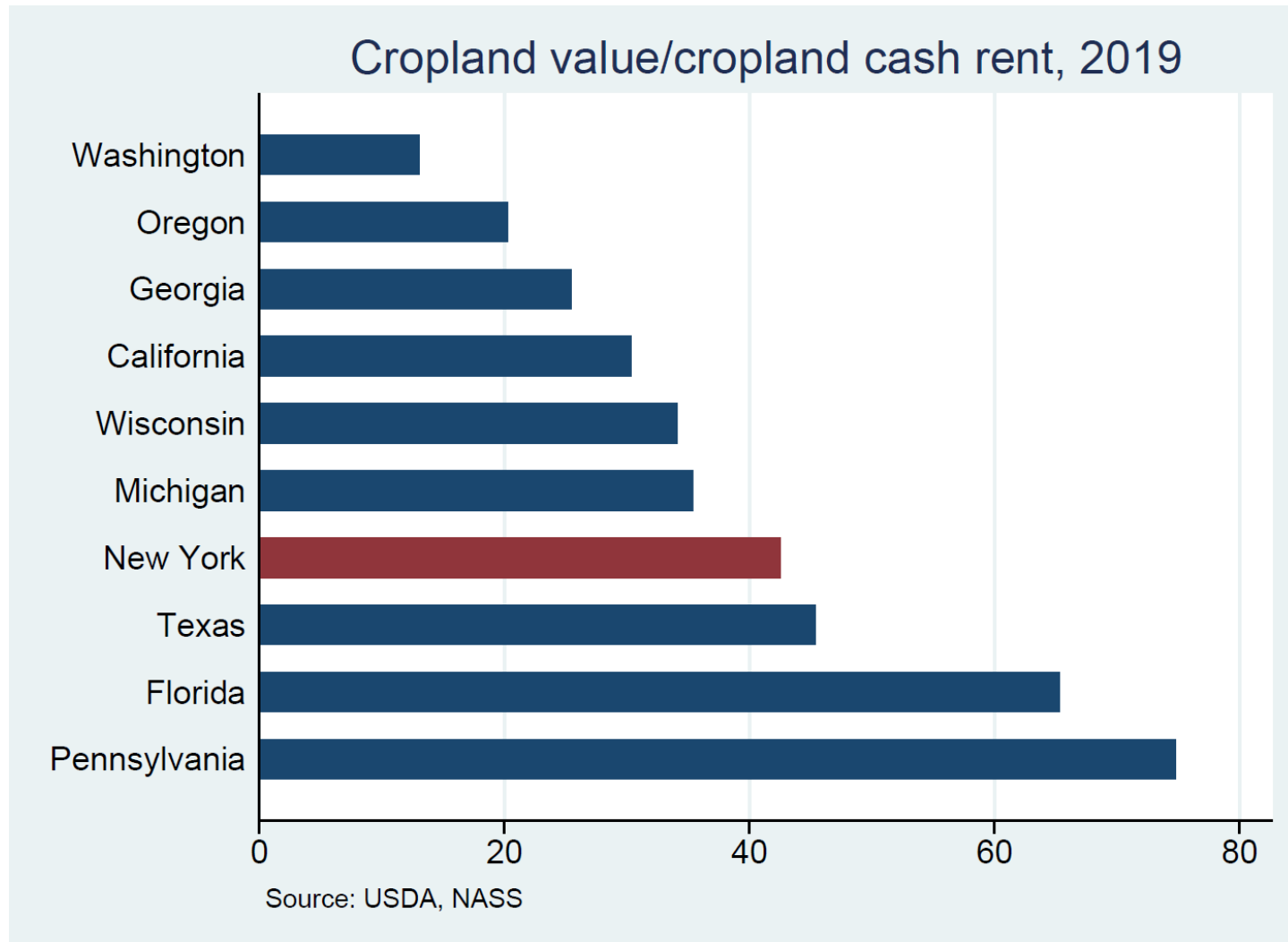


Relatively low real estate costs



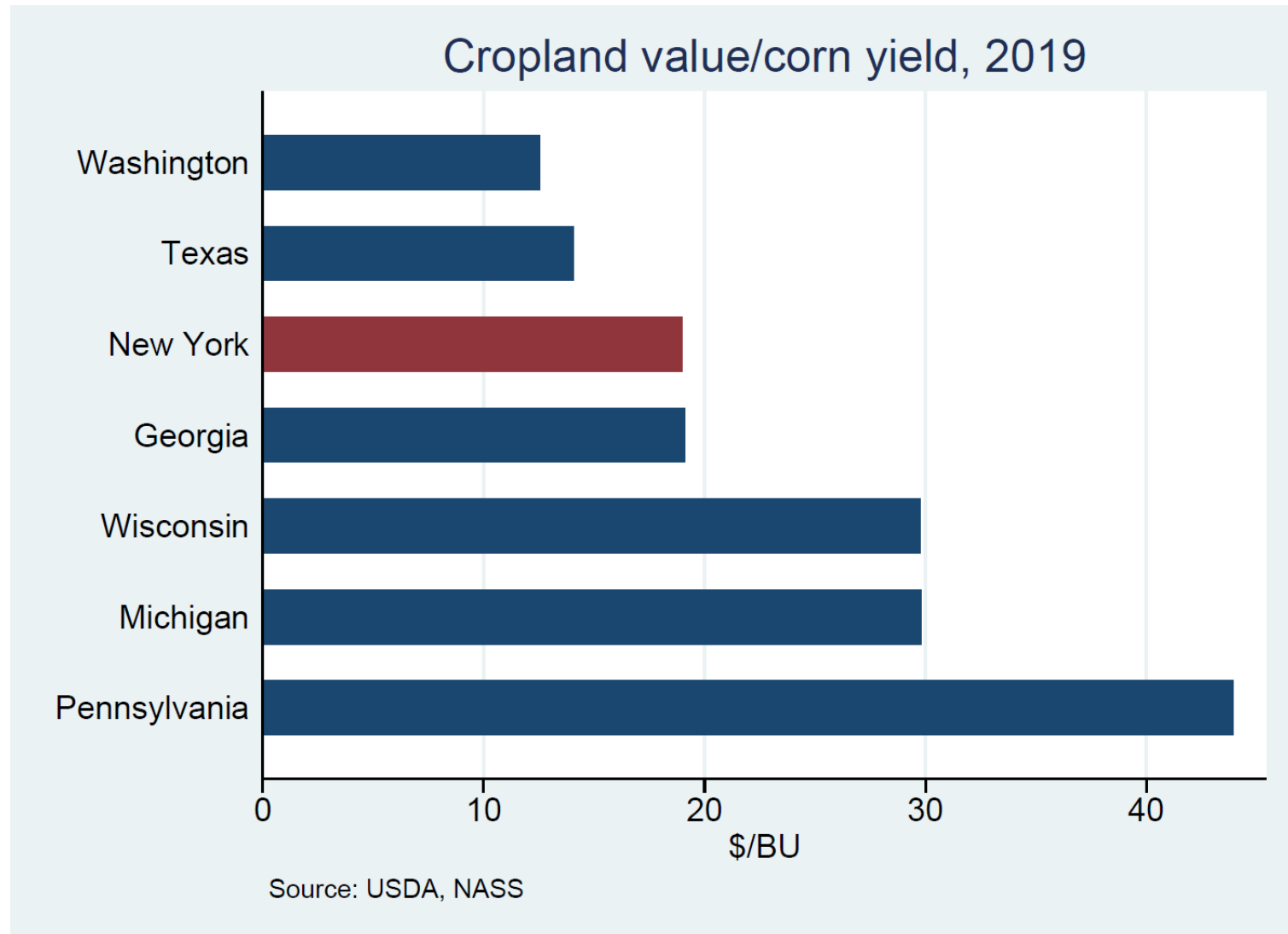


Moderate farmland affordability





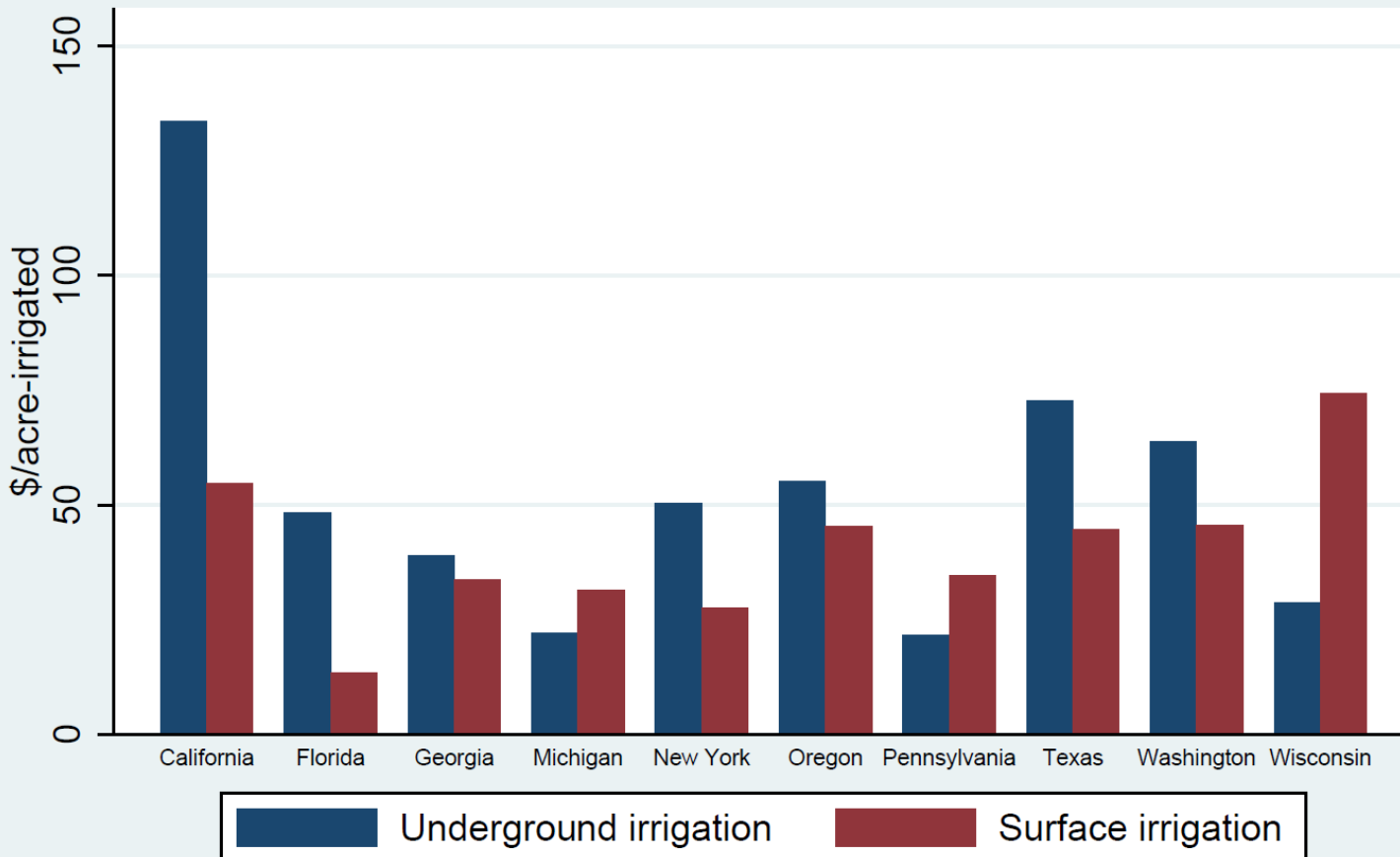
Moderate farmland affordability





Irrigation costs relatively affordable

On farm irrigation energy expenses, 2018



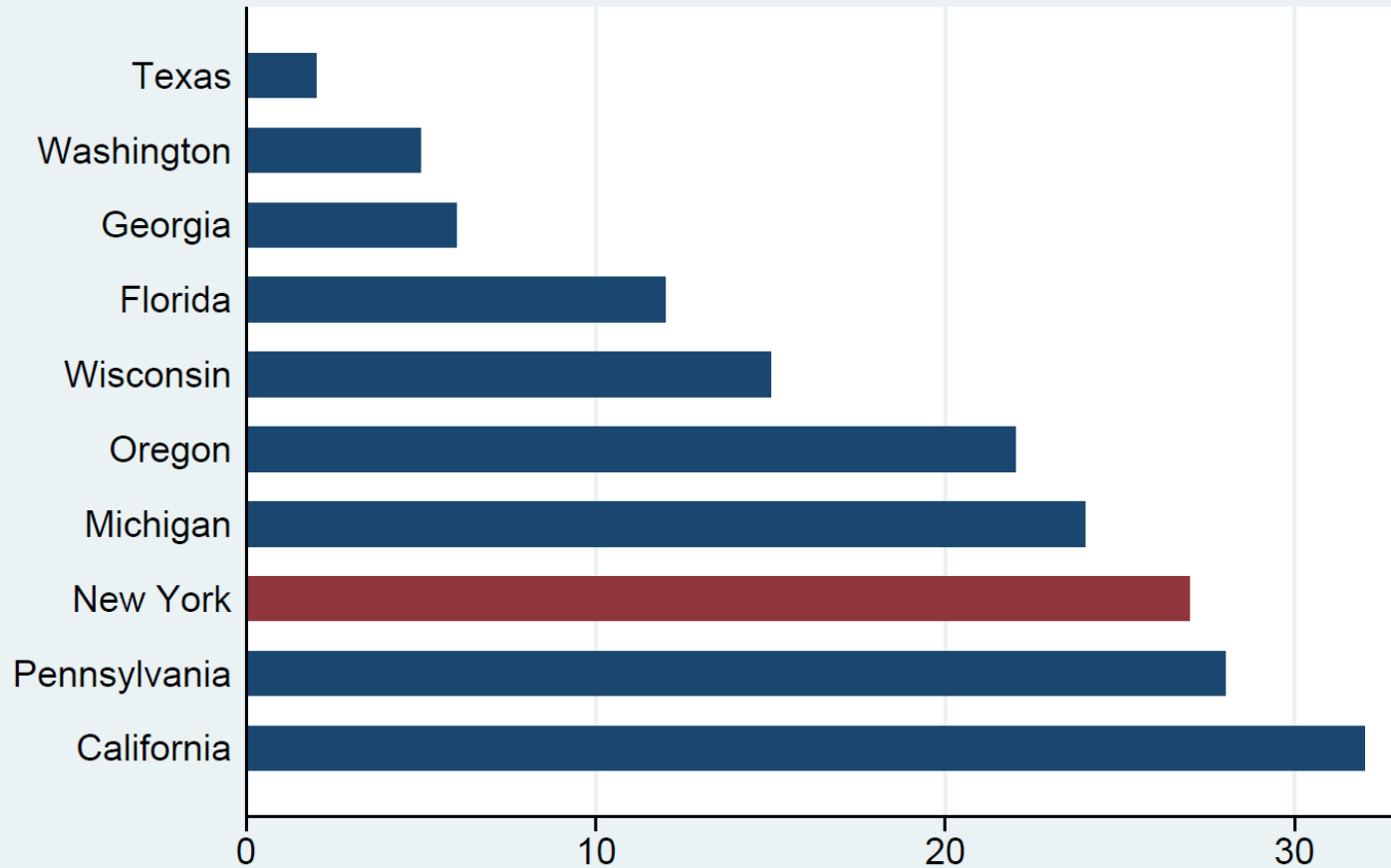
Source: USDA, NASS

Energy, Irrigation, On farm pumping, In the open only-Expense



Overall business climate is right in the middle

America's top states for business overall ranking, 2019

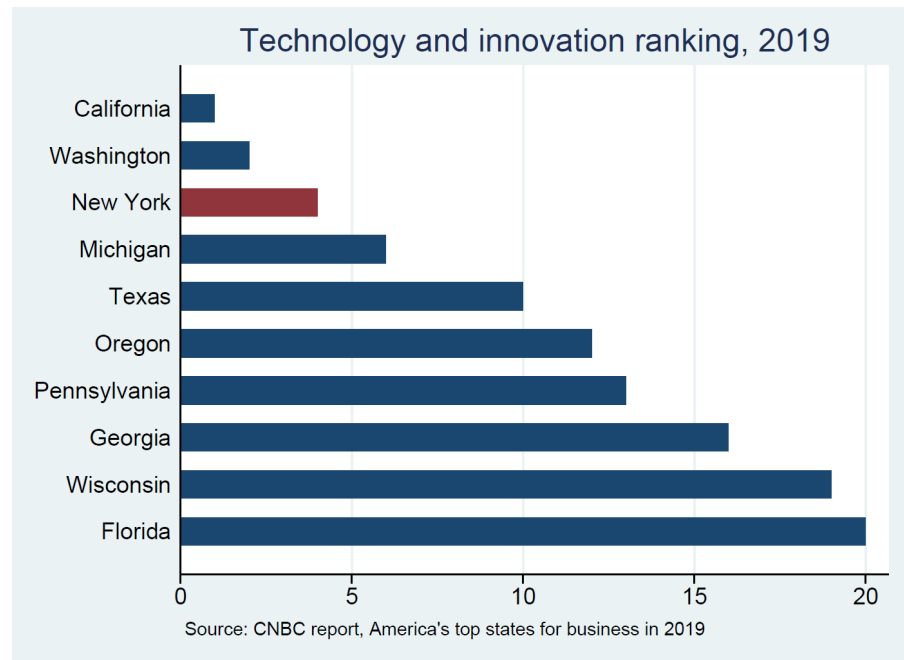


Source: CNBC report, America's top states for business in 2019



Summary – cost of production

- NY doesn't have a cost advantage in general, tends to be on the high cost side
 - But usually not the worst
 - Similar to many competitors
- Implications
 - Competitive edge not based on *underlying costs*
 - NY advantage lies elsewhere
 - Innovation
 - Marketing and market access
 - Human capital





Nontraditional finance - introduction

Traditional finance



**USDA
FSA**



FARM CREDIT EAST

Nontraditional finance



Farmland Partners Announces Loan Agreement with Rabo
AgriFinance

Company Release - 12/18/2017 4:05 PM ET

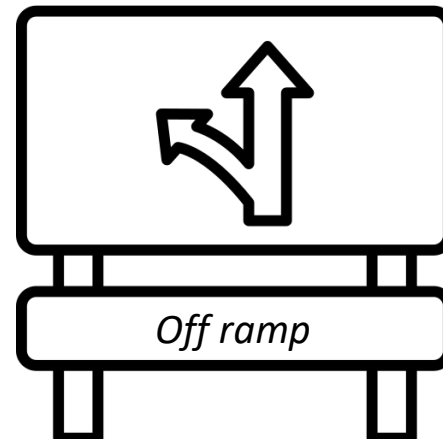


Nontraditional finance: why does it matter?

- Farm management
 - Maturing agricultural credit market with increasingly complex alternatives
 - Influences cost of production
- Important during periods of farm stress



OR



?



Nontraditional finance: what do we know?

- Nontraditional finance is growing
 - Less or “differently” regulated
 - Data is not always available
- May lead to higher input costs
 - <https://www.progressiveforage.com/forage-production/management/managing-seed-discounts-and-financing>
- Research finding: (implicit) feed supplier financing has been important for NY dairy industry

The largest single beneficiary of Trump’s tariff payments? An alternative farm lender.

By Sky Chadde/Gannett Ag Data Fellow and Lucille Sherman/Gannett Data and Investigations Reporter
December 26, 2019

<https://investigatamidwest.org/2019/12/26/the-largest-single-beneficiary-of-trumps-tariff-payments-an-alternative-farm-lender/>

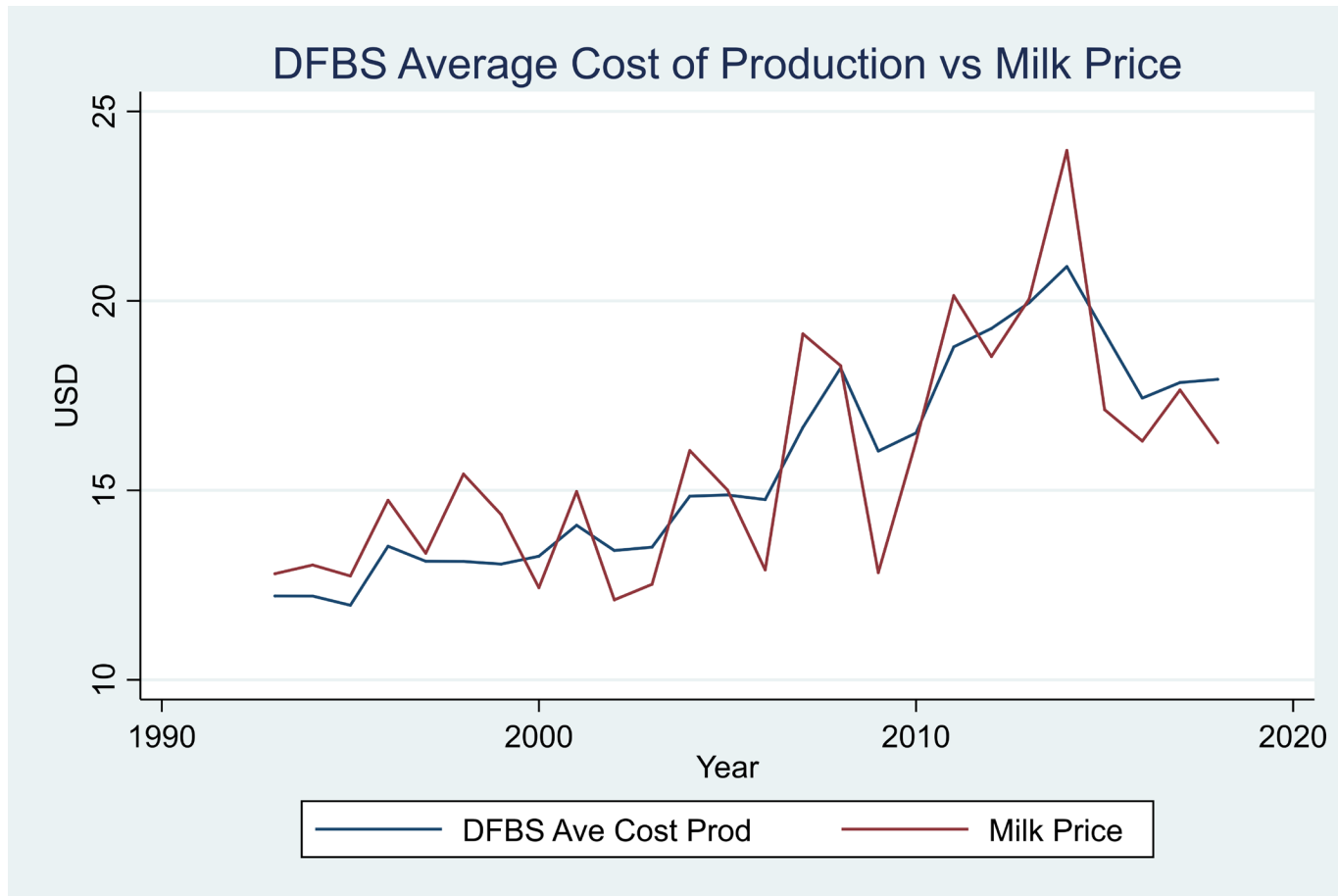


Nontraditional finance: research NE feed supplier credit

- MS thesis project – Chad Fiechter
- Partnership with NEAFA
 - Survey of feed manufacturers, representing > 70% of NE feed industry
- Goals: establish industry norms, estimate feed supplier credit volume, compare to lenders
- Trade credit terms & financial metrics, 2014-18
 - Sales, volume for dairy feed & ingredients
 - Value of sales past due
 - Value of sales >90 days past due
 - Current terms
- Project report in progress

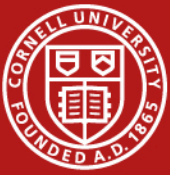


Demand for financing driven by milk prices

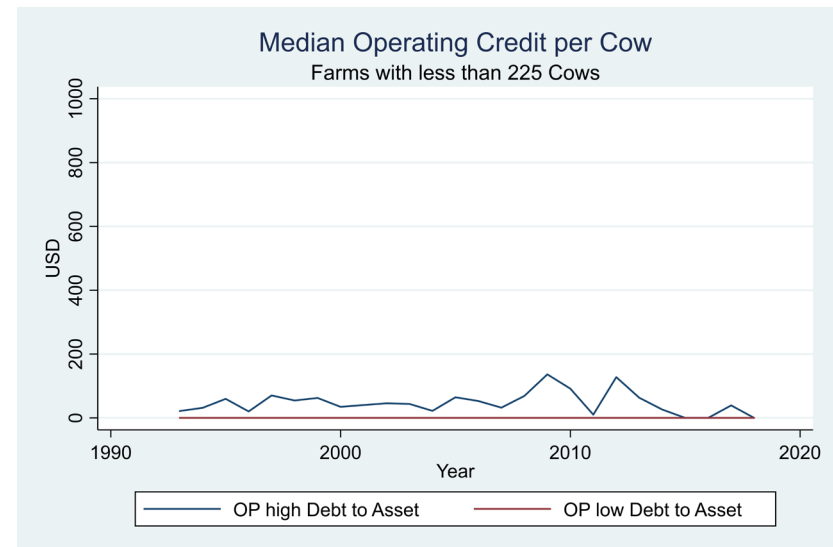
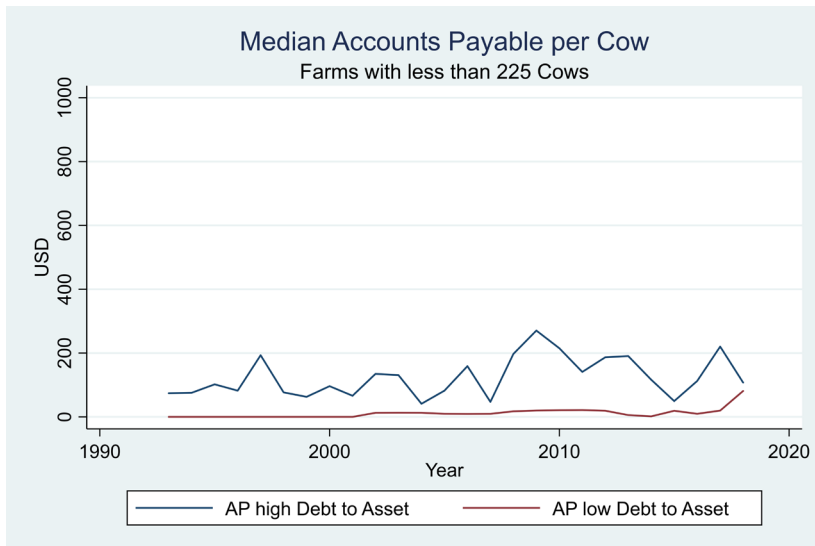


Source: Fiechter and Ifft, 2019

Data: Cornell Dairy Farm Business Summary



Smaller farms use countercyclical supplier credit

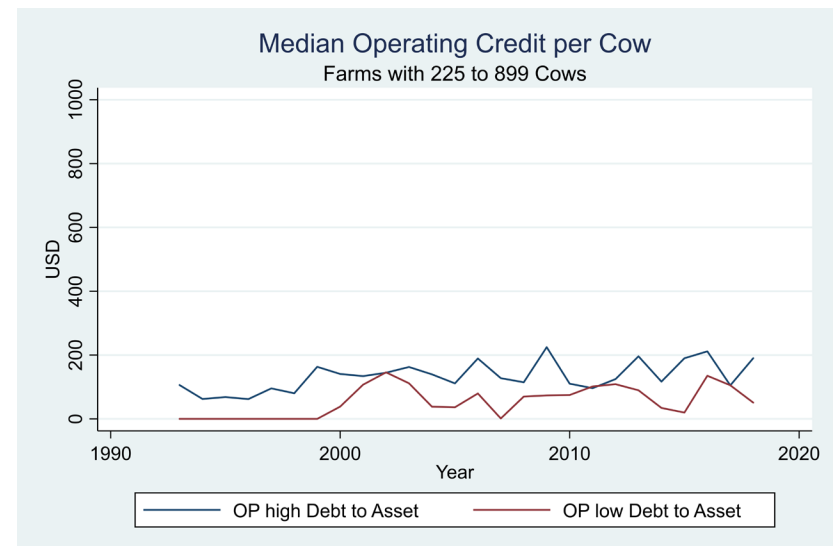
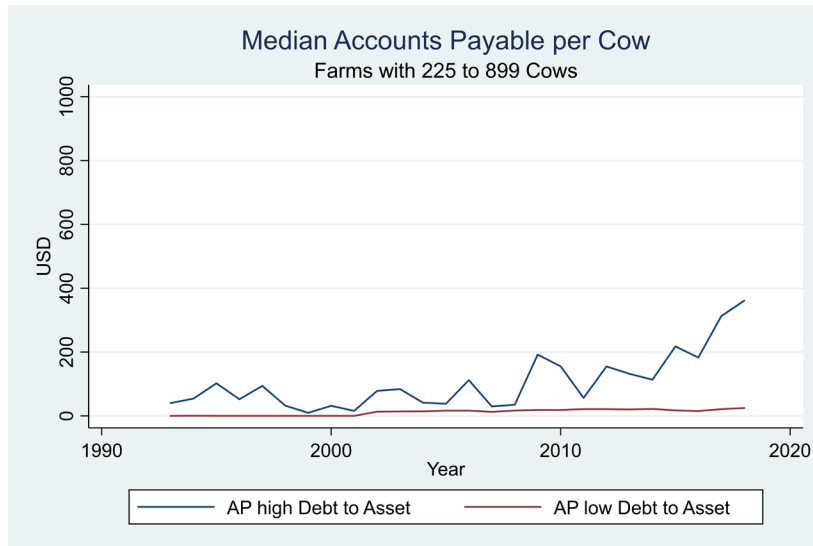


Source: Fiechter and Ifft, 2019

Data: Cornell Dairy Farm Business Summary



Midsized farms have higher AP than OC balance recently

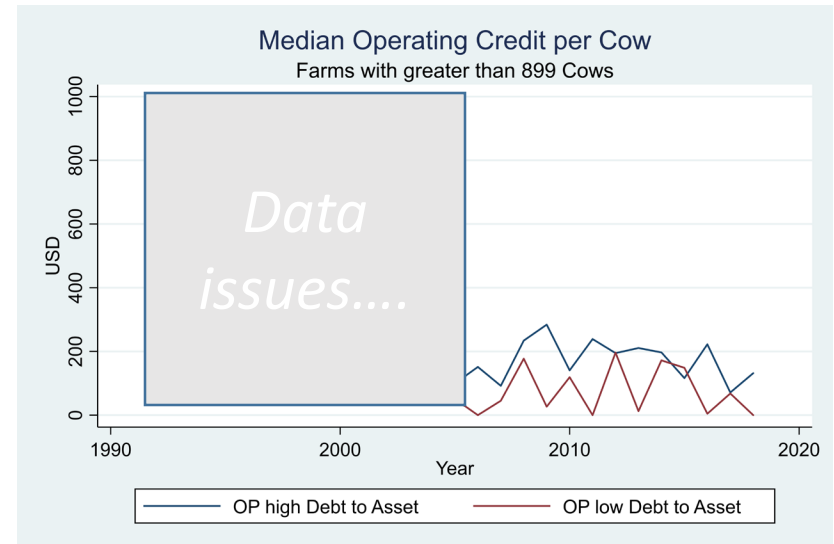
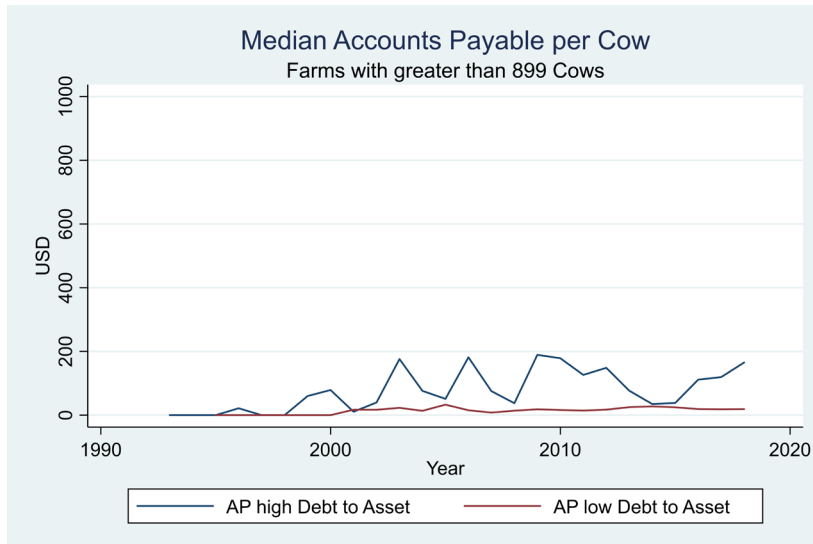


Source: Fiechter and Ifft, 2019

Data: Cornell Dairy Farm Business Summary



Supplier credit less important for large than midsize farms



Source: Fiechter and Ifft, 2019

Data: Cornell Dairy Farm Business Summary



Looking forward

- The current 2020 outlook is stable to “cautiously optimistic”, as usual a lot could go wrong
- Politics continue to be a source of volatility
 - TRADE is a continued source of uncertainty but may be stabilizing with new trade deals
 - Government programs (\$) have supported positive incomes for grain farms, might create longer-term uncertainty
- Labor supply and cost will continue to be an issue
- Many NY farms are struggling in the current farm economy, lots of signposts for a (continued) “shrinking middle”
- There are many opportunities for NY agriculture, competitive advantages lies in innovation and market access, not cost



Cornell University
Charles H. Dyson School of
Applied Economics and Management

The logo for the Dyson School Agricultural and Food Business Outlook. It features a large orange circle on the left containing a white stylized leaf. To the right of the circle, the text "DYSON SCHOOL AGRICULTURAL AND FOOD BUSINESS" is written in a smaller, black, sans-serif font. Below this, the word "OUTLOOK" is written in a very large, bold, orange, sans-serif font.

DYSON SCHOOL AGRICULTURAL AND FOOD BUSINESS **OUTLOOK**

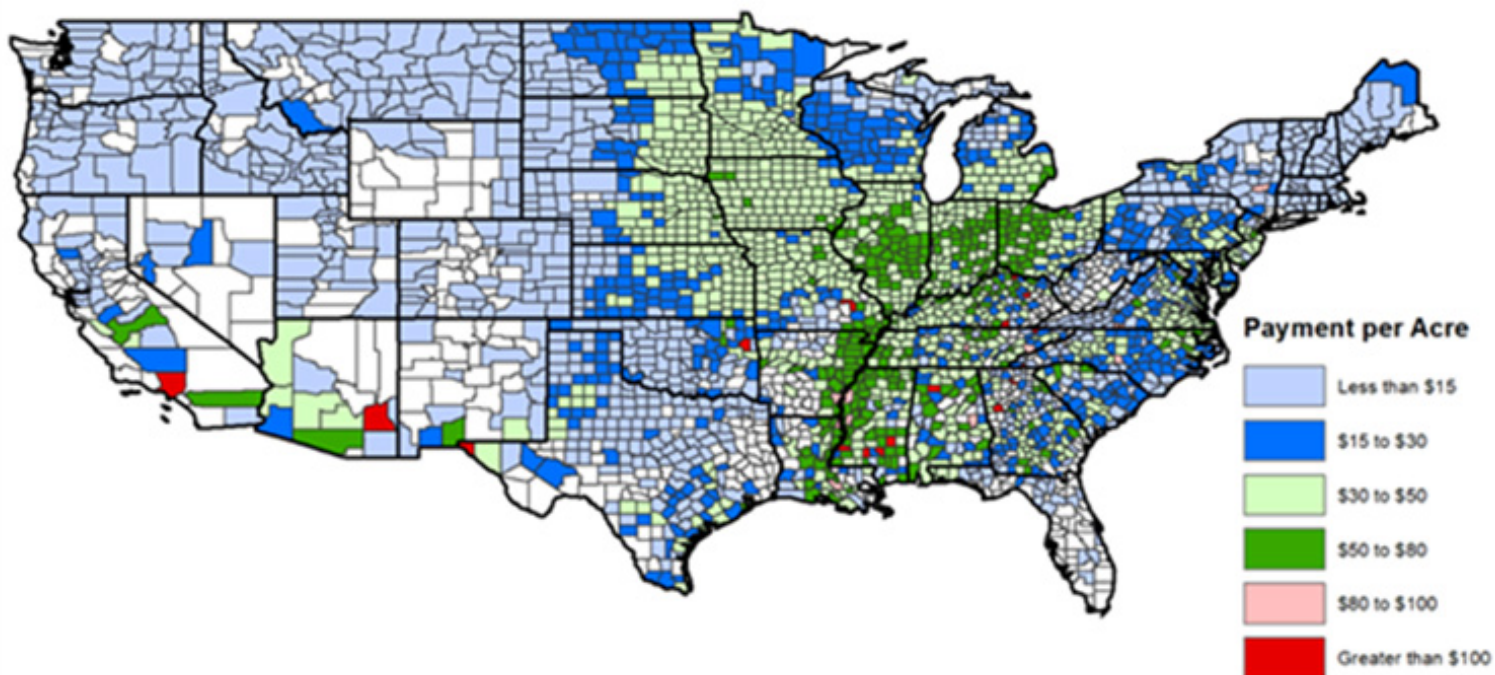
Jennifer Ifft
Assistant Professor
Mueller Family Sesquicentennial Faculty Fellow in Agribusiness and Farm Management
Phone: (607) 255-4769
Email: jiff@cornell.edu
Webpage: <http://dyson.cornell.edu/people/profiles/iff.php>



Appendix: MFP

Figure 1. Average per Acre Payments by County, 2018 MFP

fdd



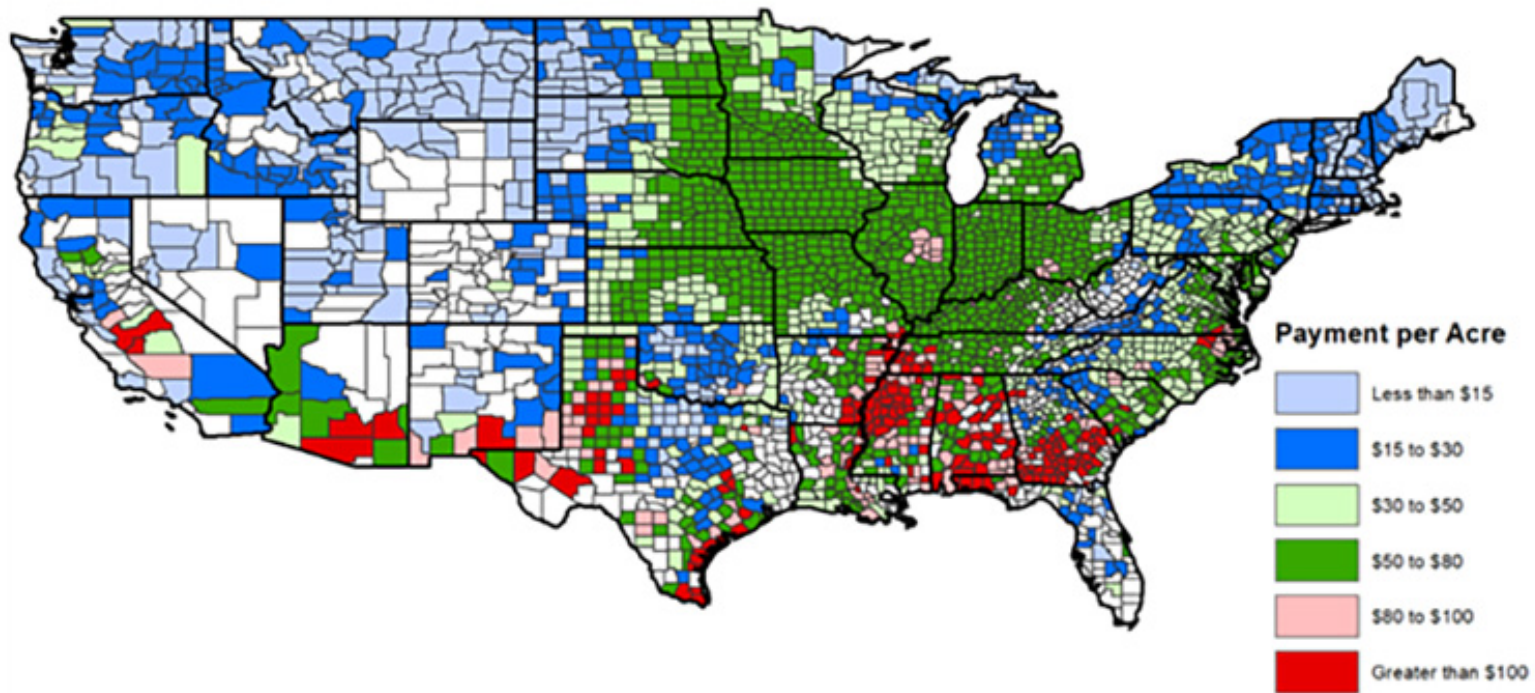
Source: Farm Service Agency, USDA



Appendix: MFP

Figure 2. County Payment Rates, 2019 MFP

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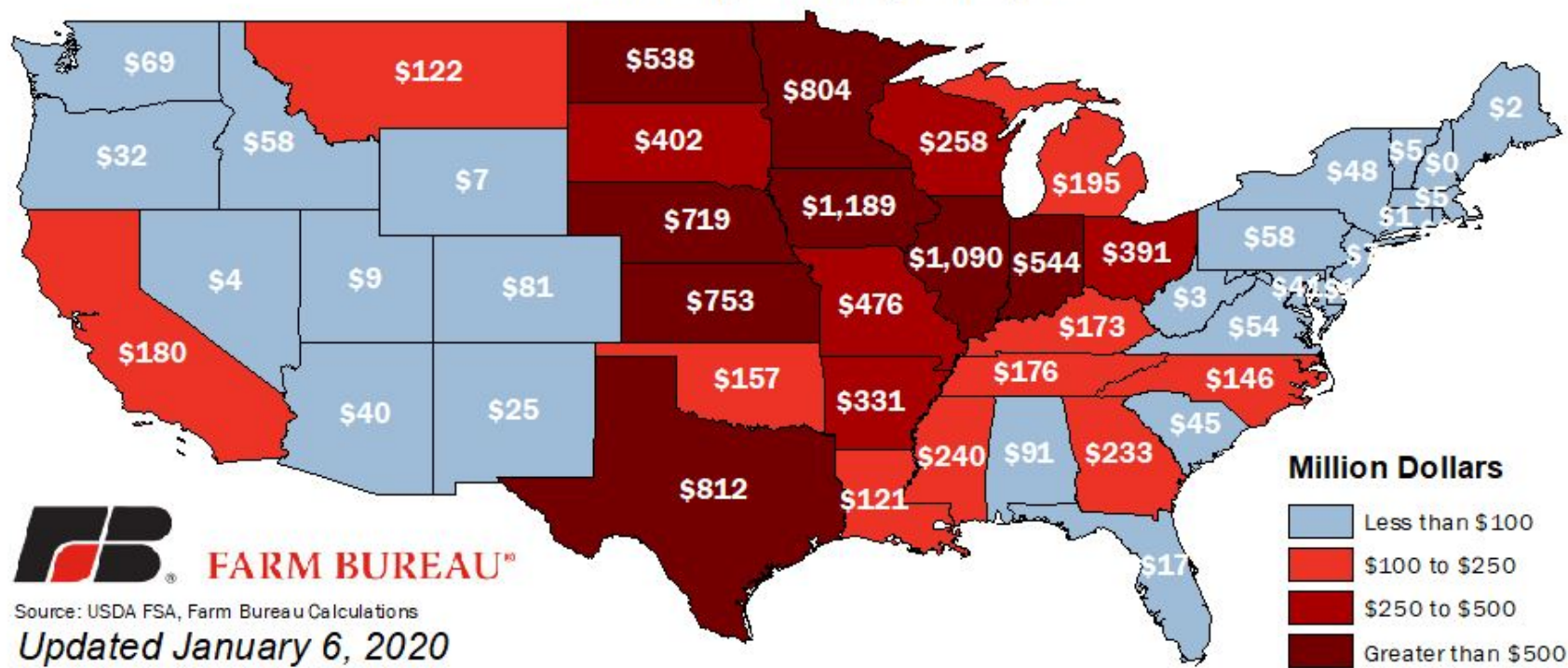


Source: Farm Service Agency, USDA



Appendix: MFP

Figure 1. 2019 MFP Payments for Livestock, Non-Specialty Crops and Specialty Crops



FARM BUREAU[®]

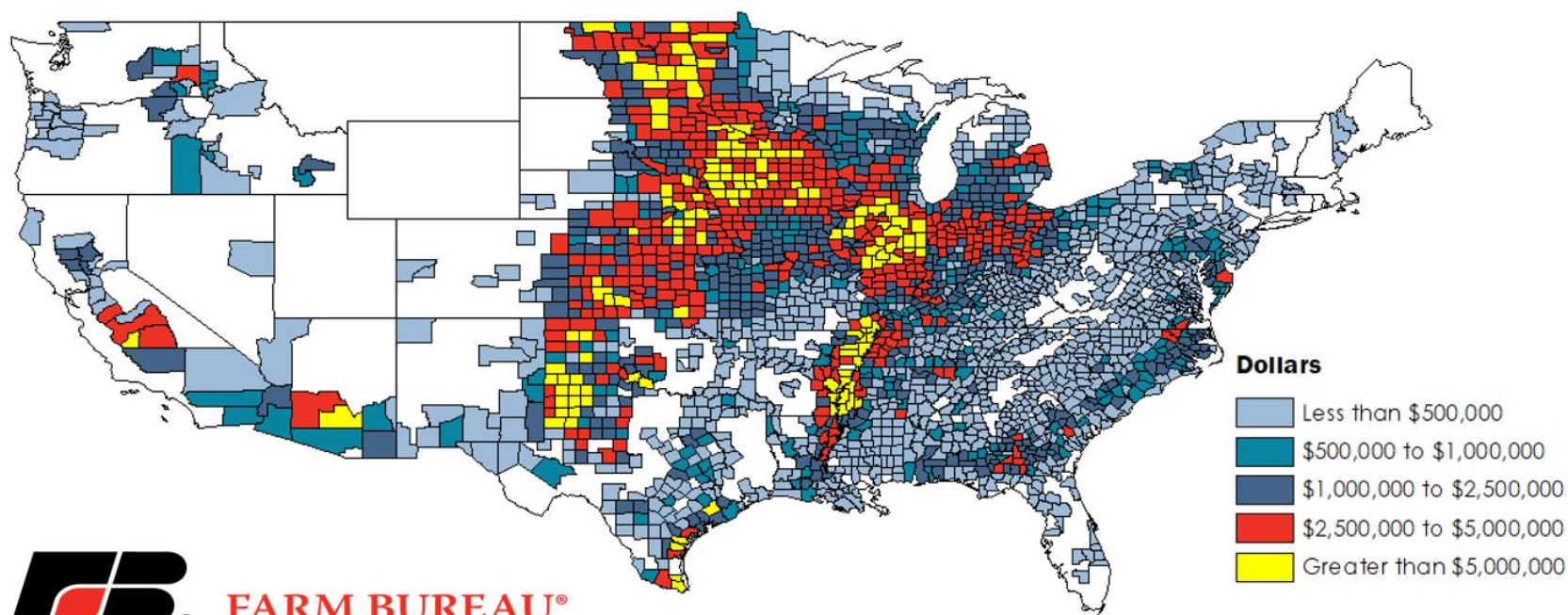
Source: USDA FSA, Farm Bureau Calculations

Updated January 6, 2020



Appendix: MFP

Figure 3. Estimated County-Level Payments for the Last Tranche of the Market Facilitation Program

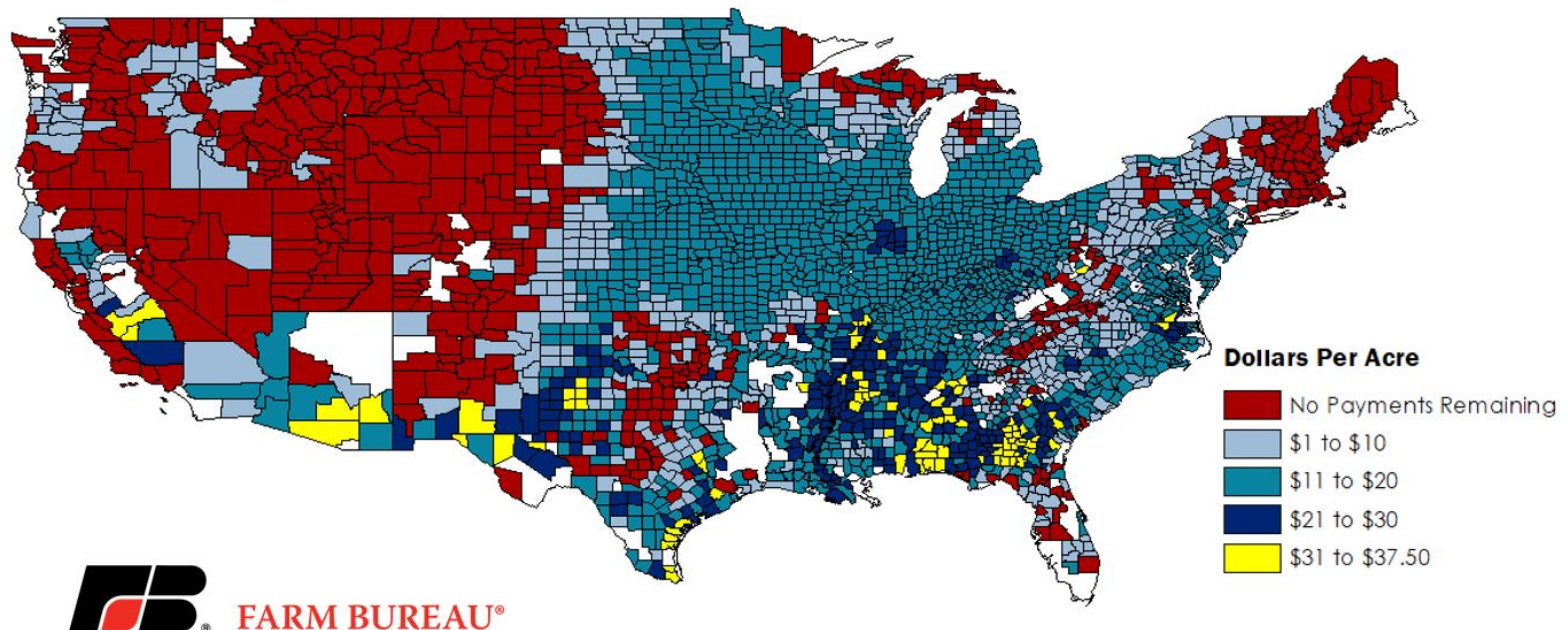


Source: USDA FSA, Farm Bureau Calculations and Projections



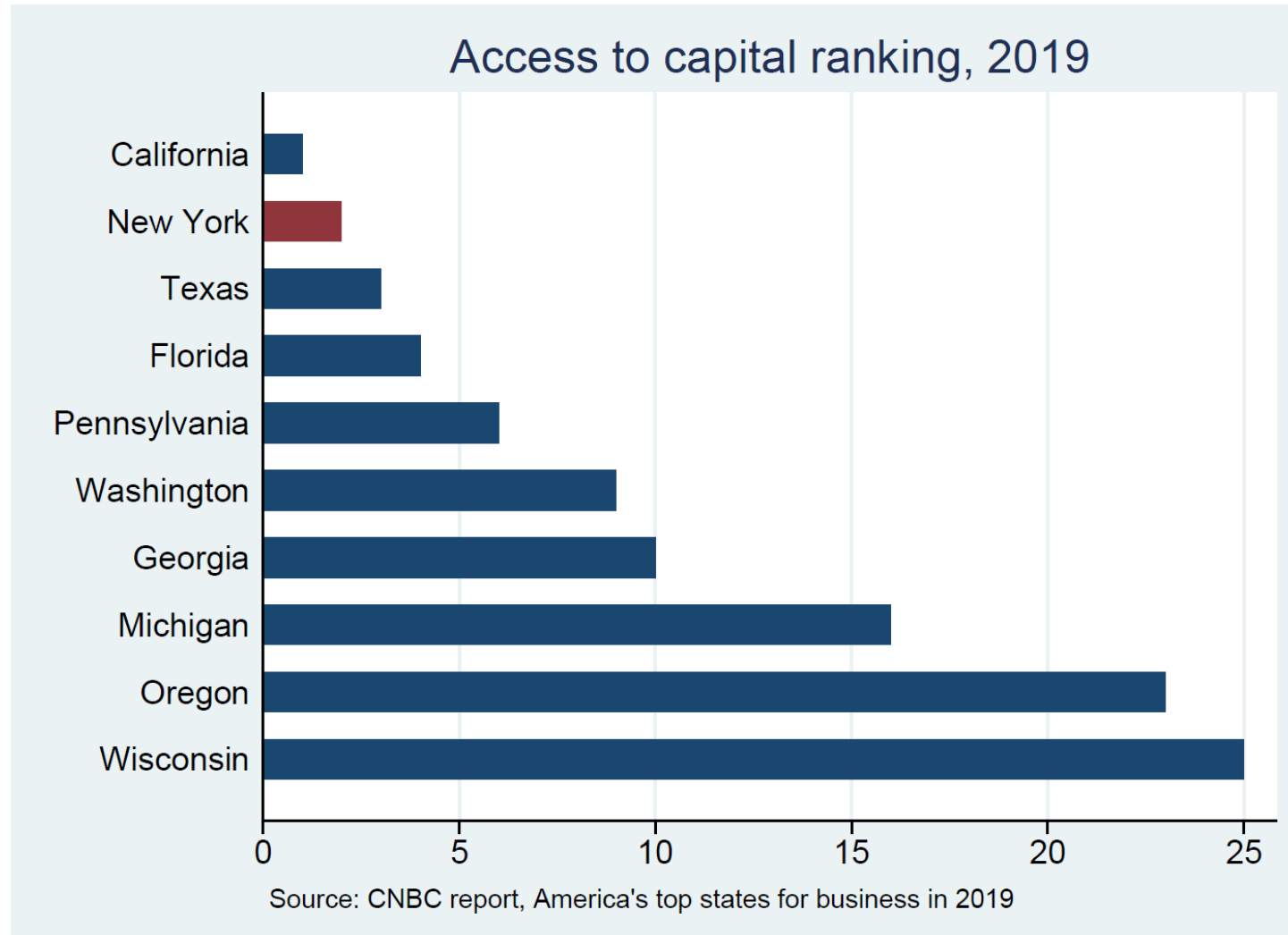
Appendix: MFP

Figure 4. Estimated County-Level Payment Rates for the Last Tranche of the Market Facilitation Program



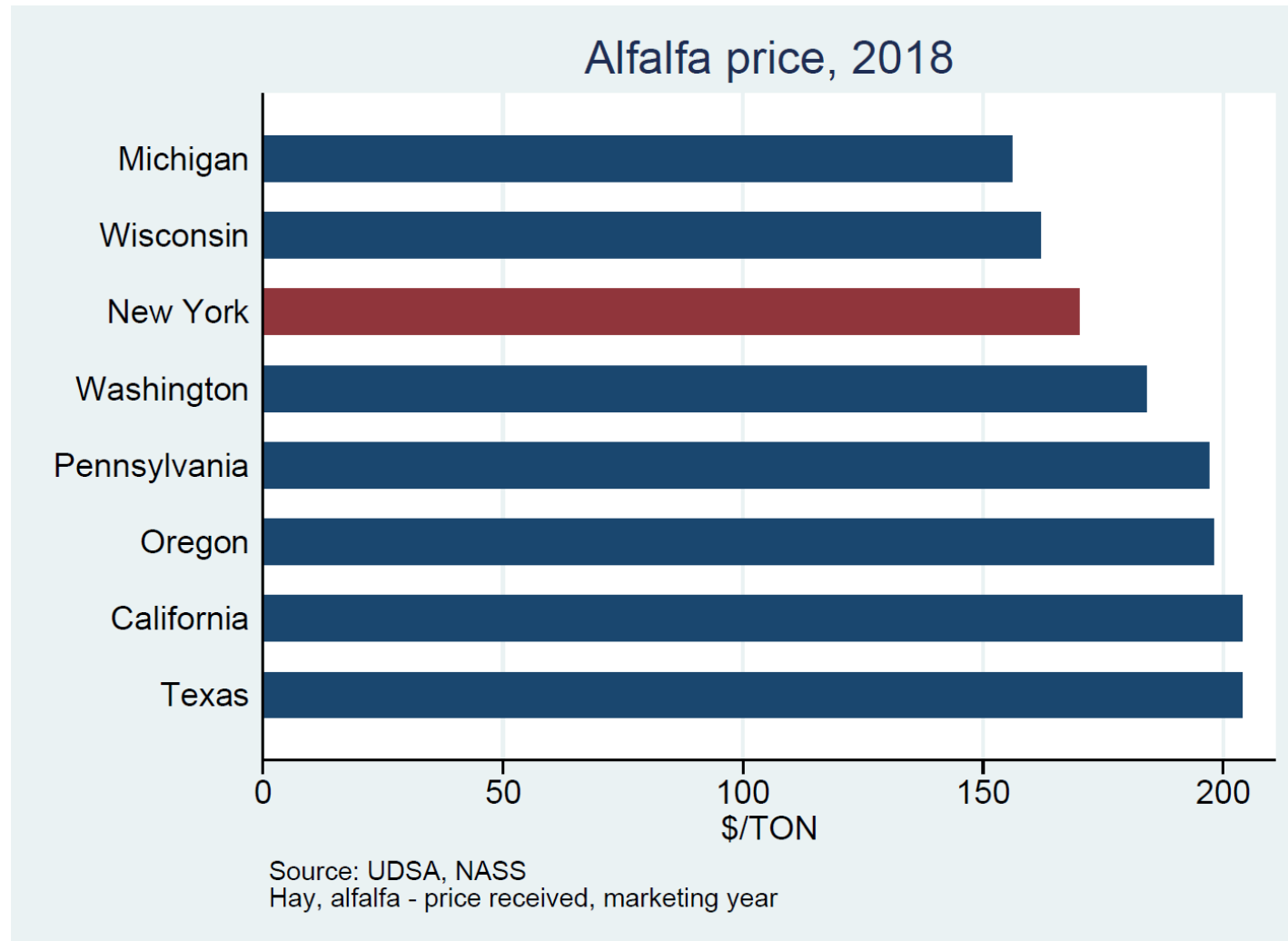


Appendix: cost of production information



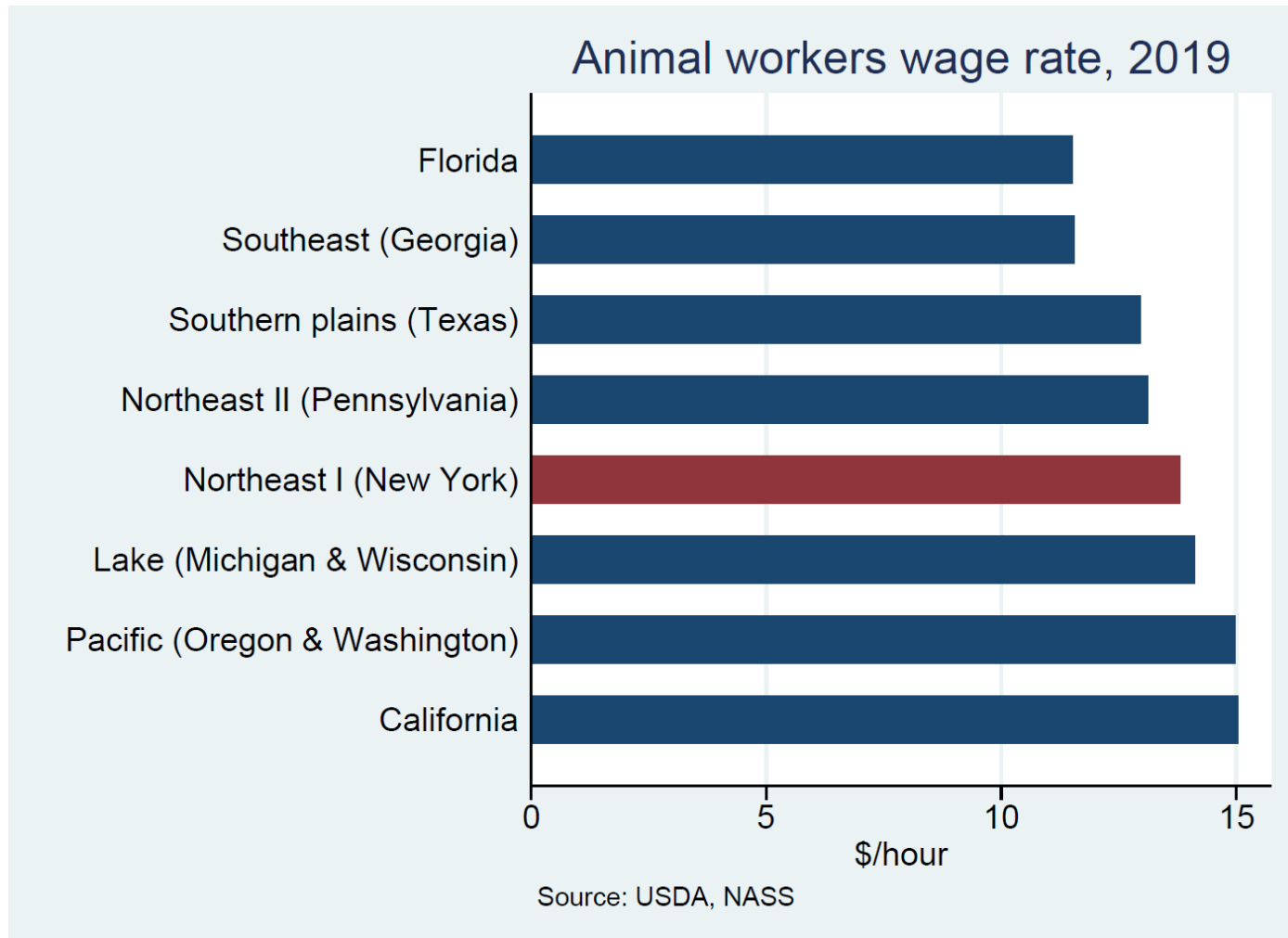


Appendix: cost of production information





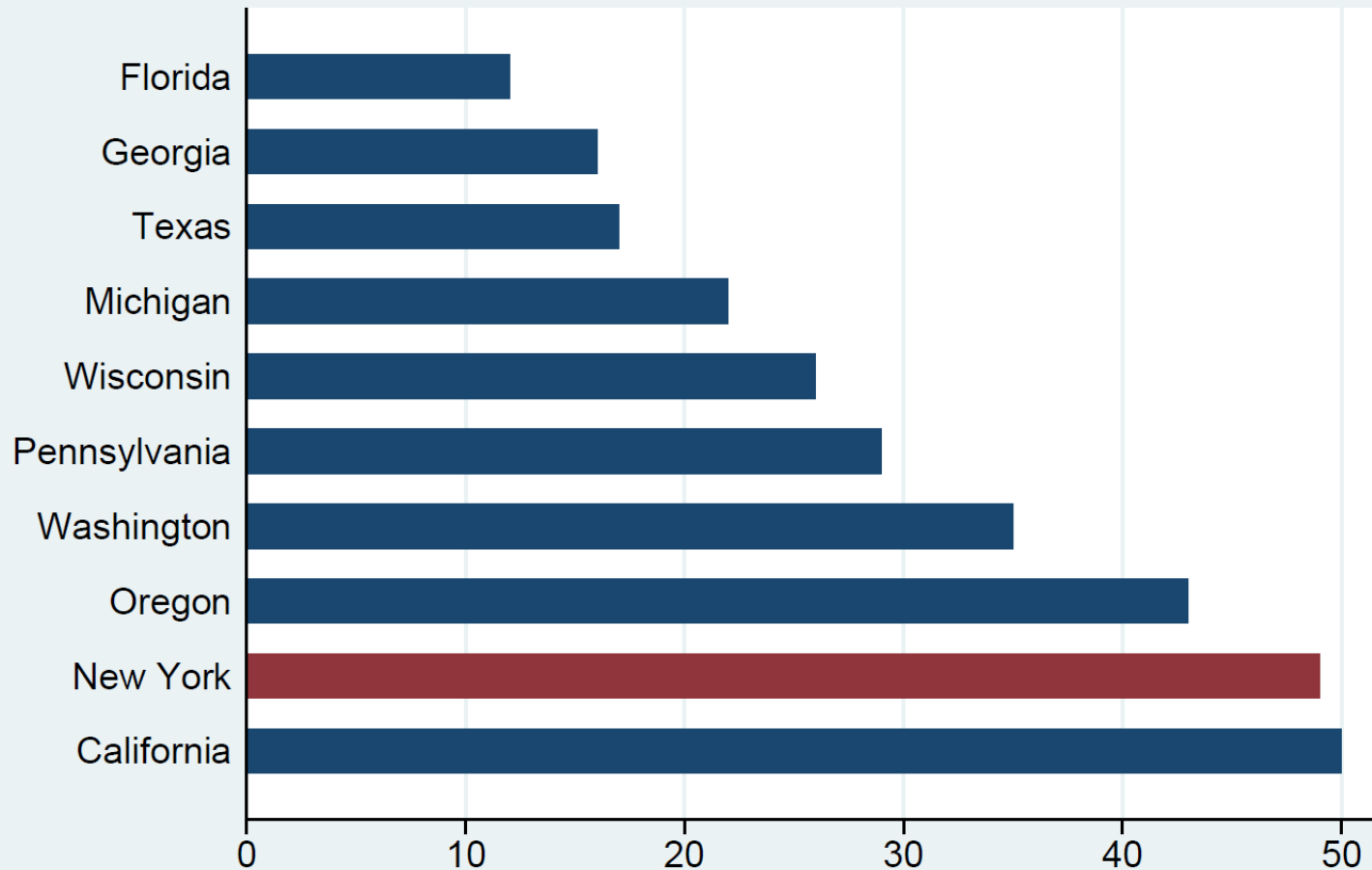
Appendix: cost of production information





Appendix: cost of production information

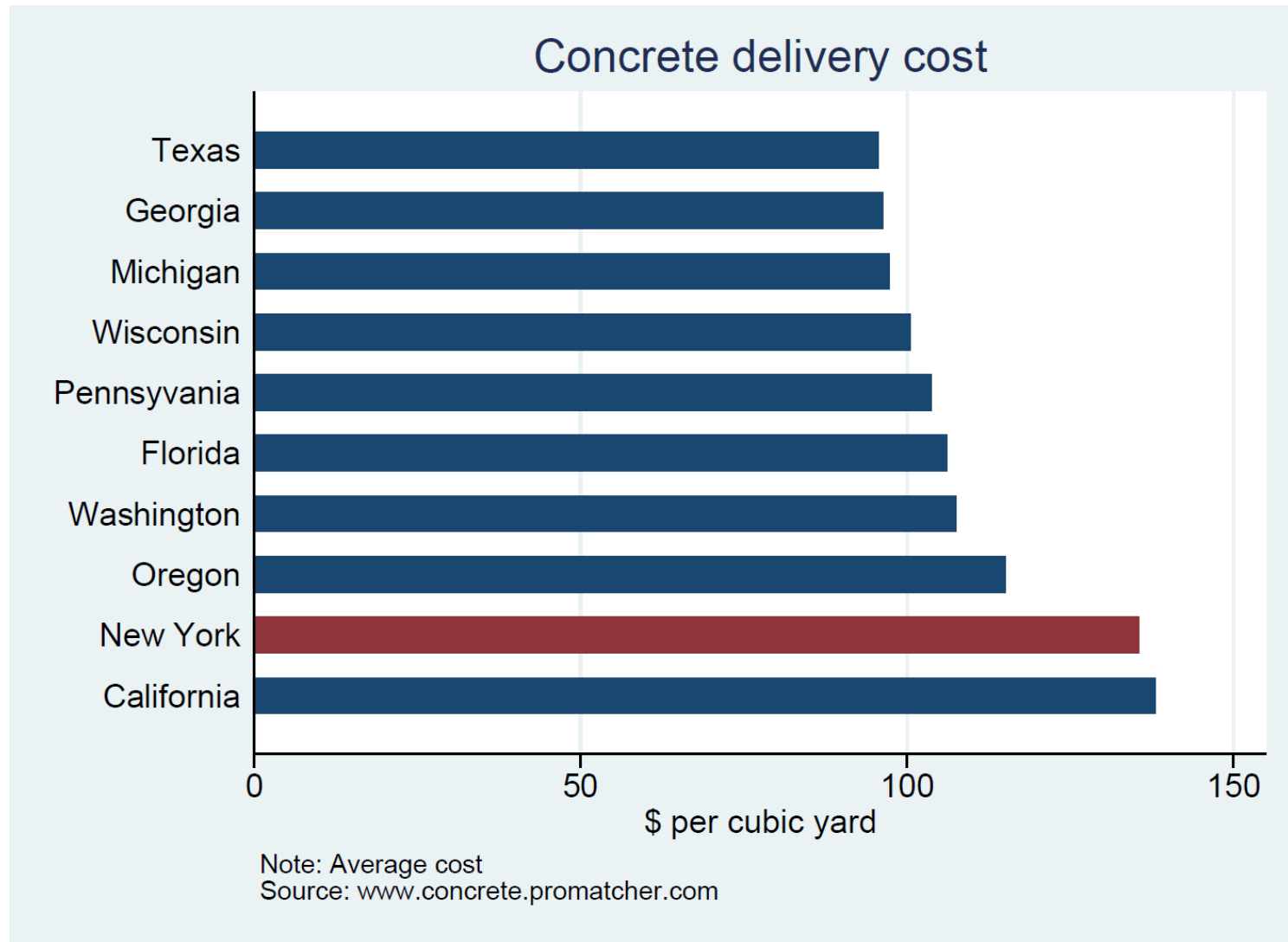
Business Friendliness ranking, 2019



Source: CNBC report, America's top states for business in 2019

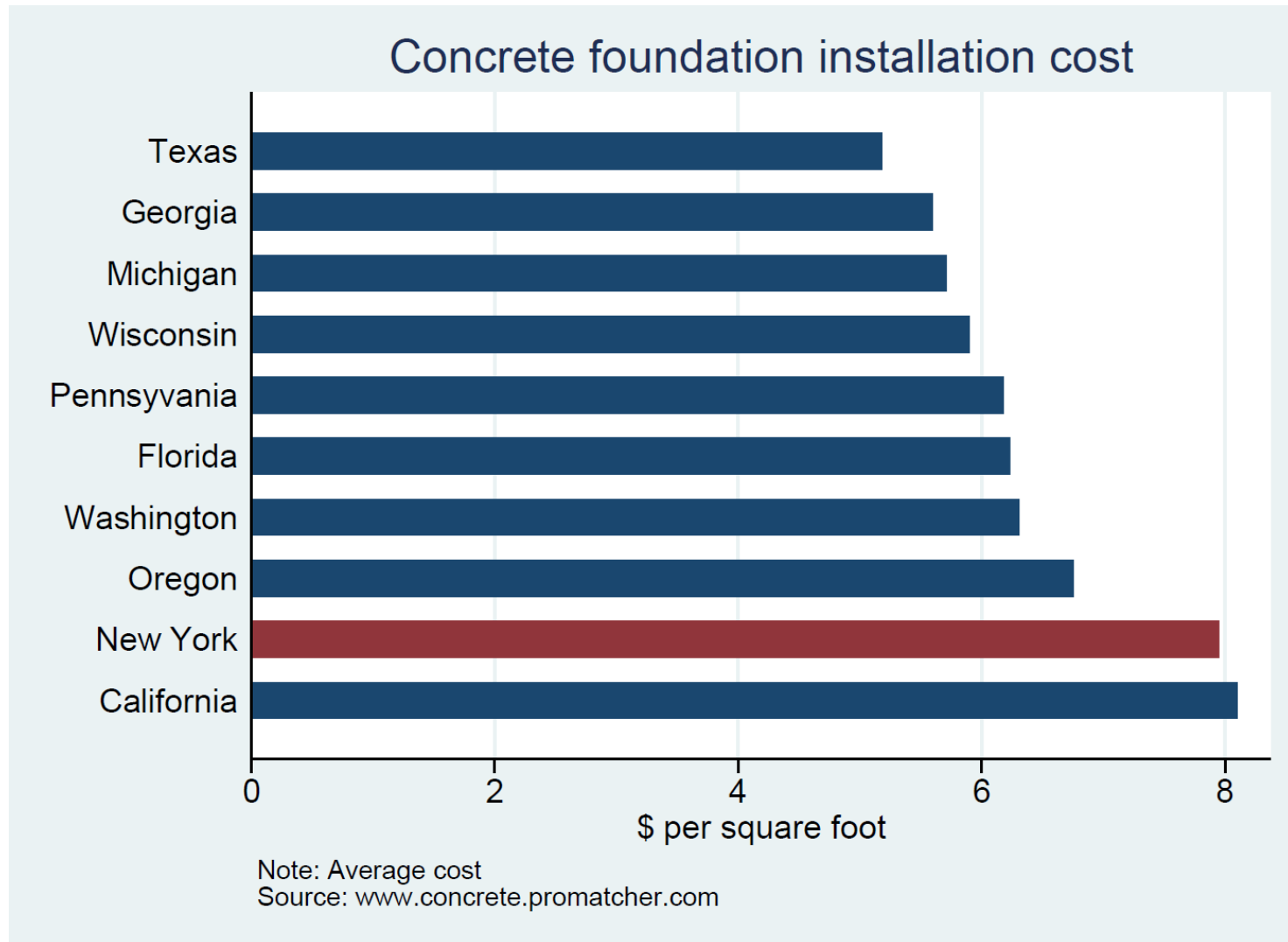


Appendix: cost of production information



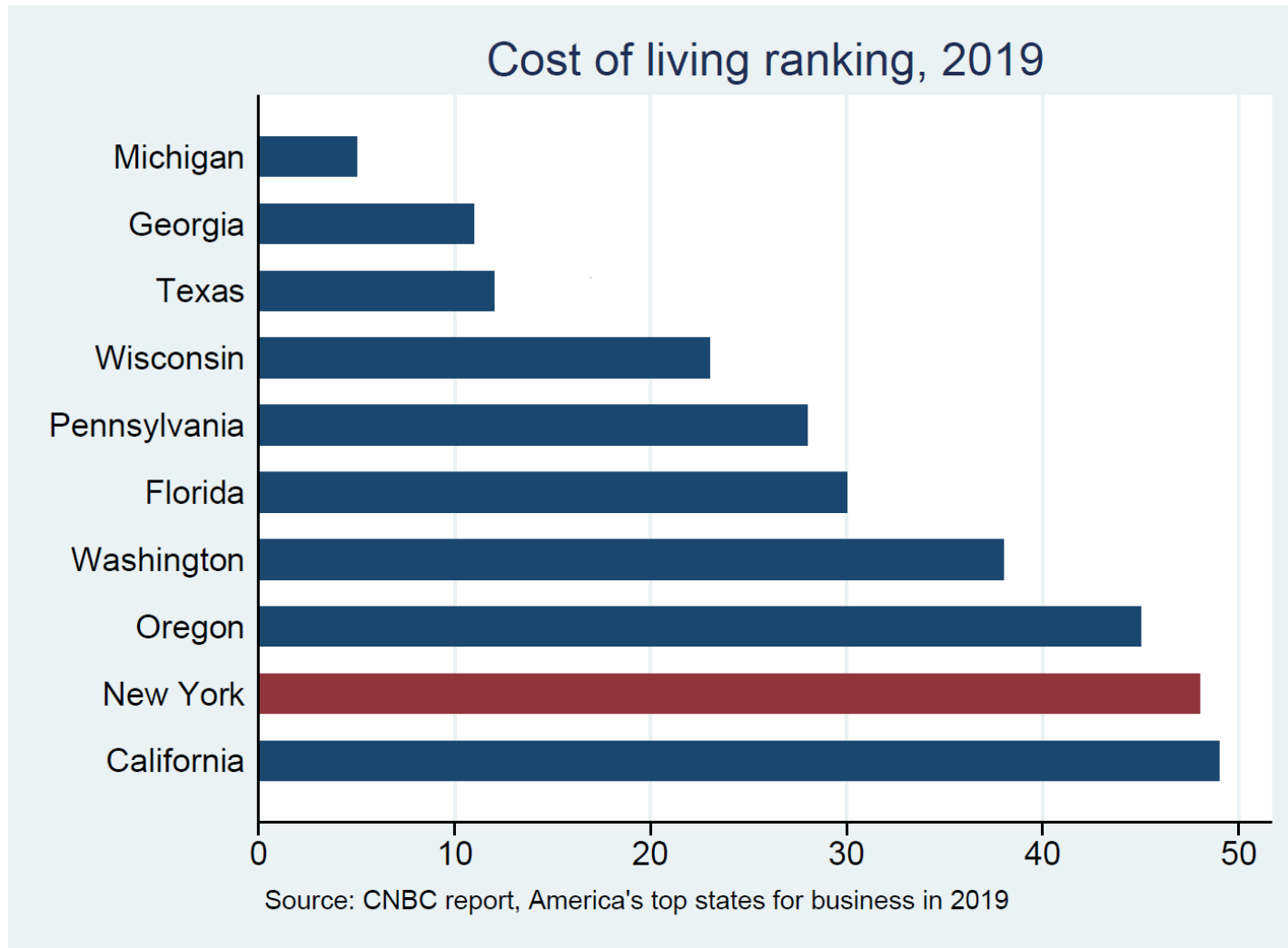


Appendix: cost of production information



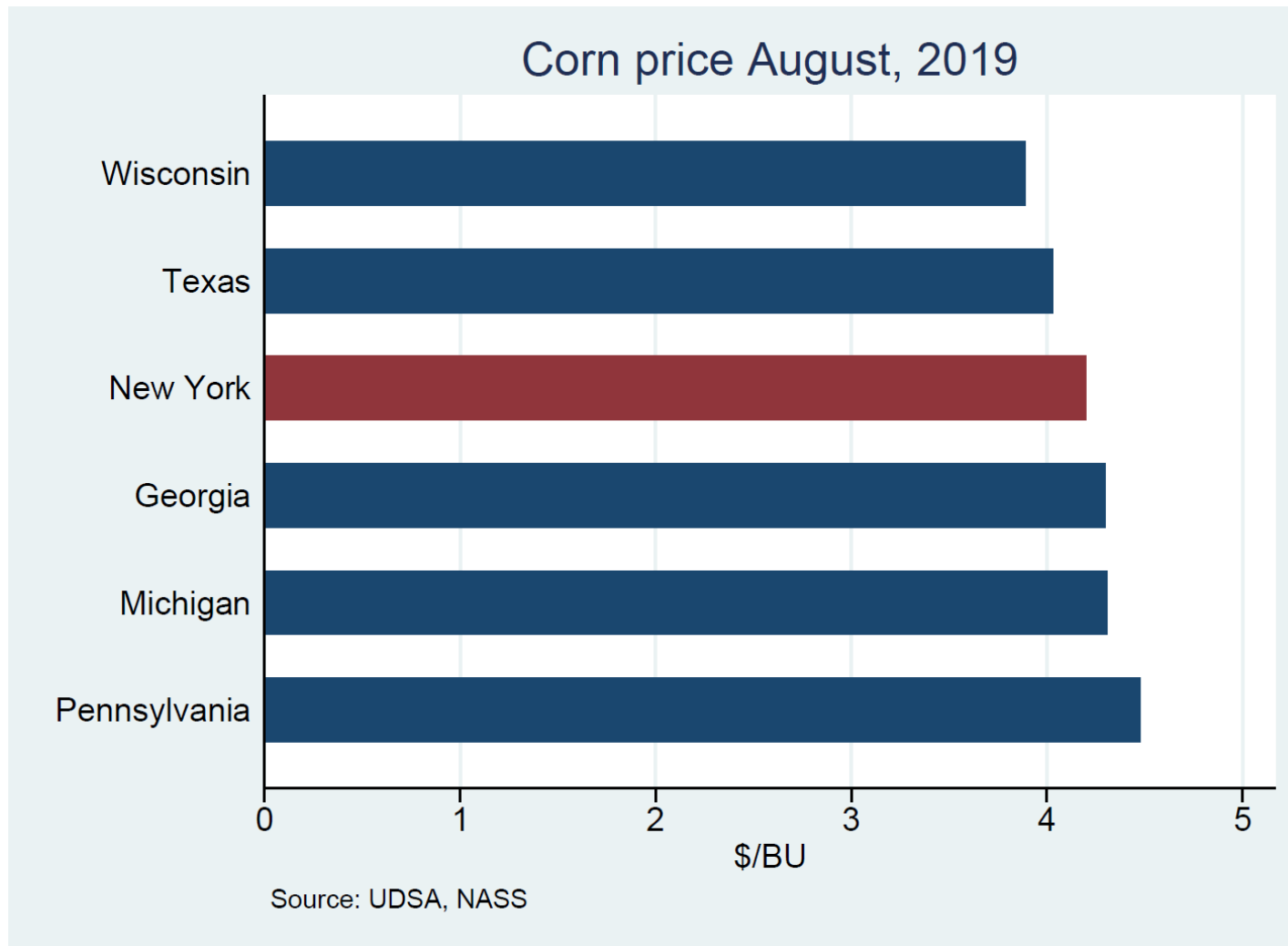


Appendix: cost of production information



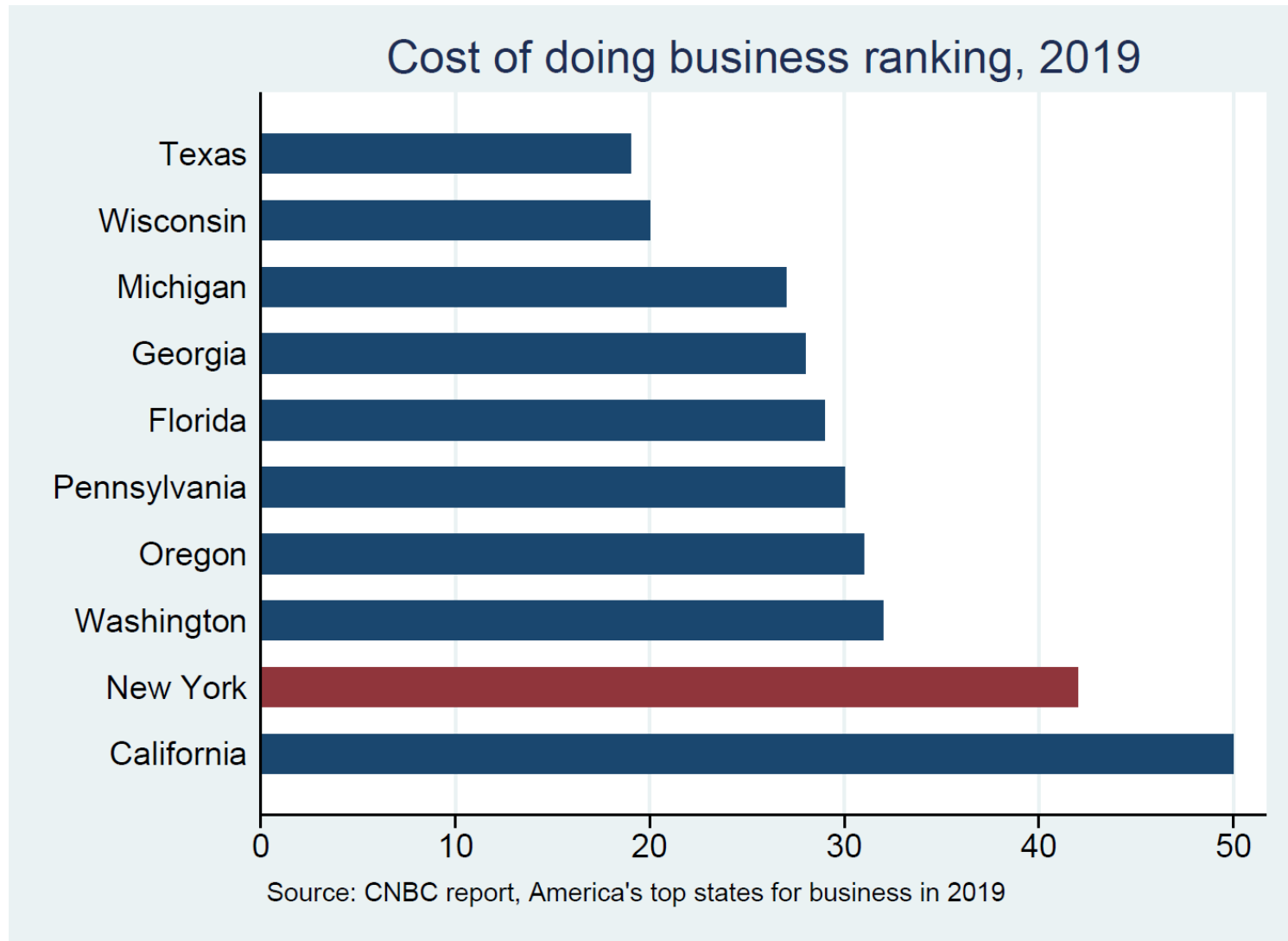


Appendix: cost of production information



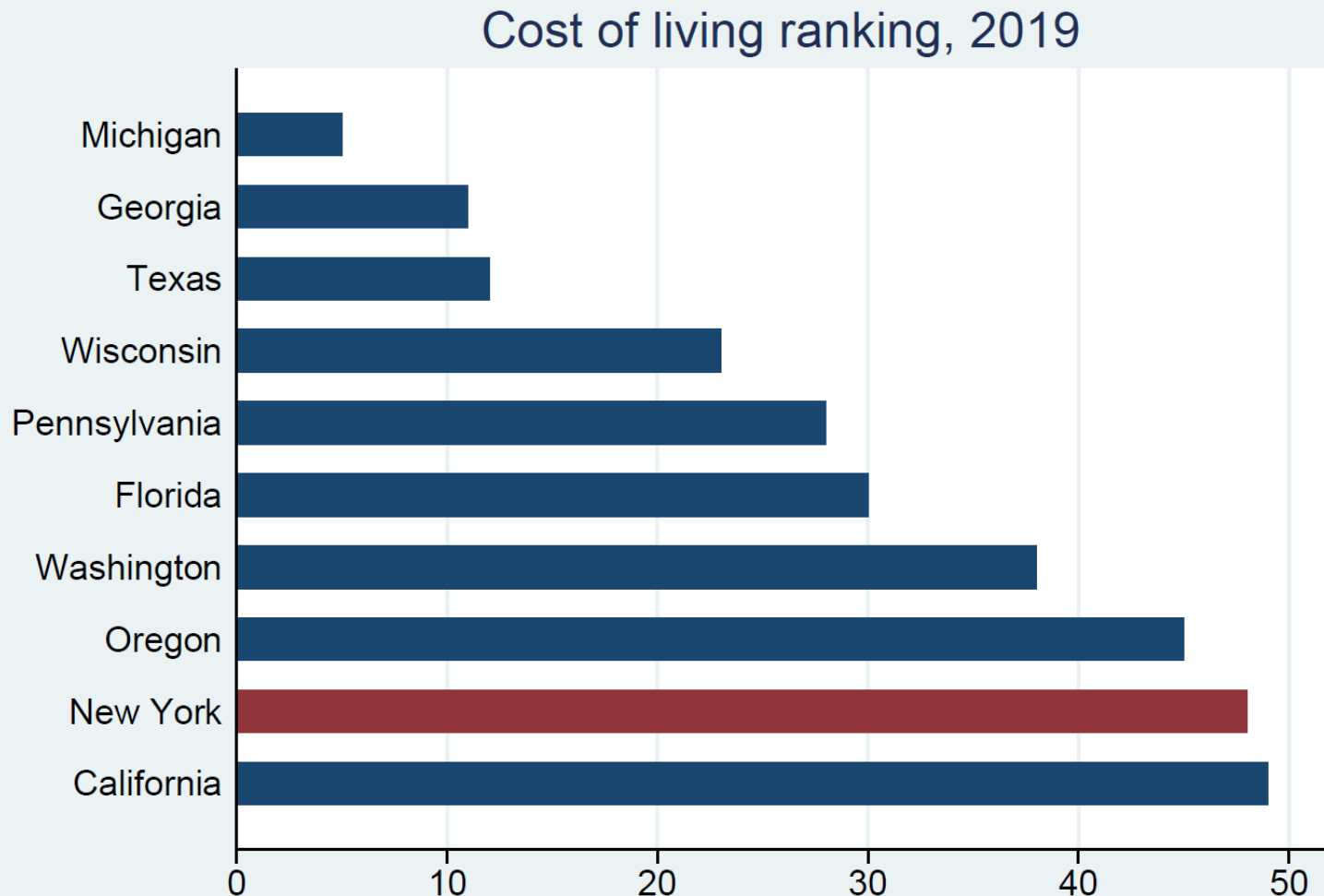


Appendix: cost of production information





Appendix: cost of production information

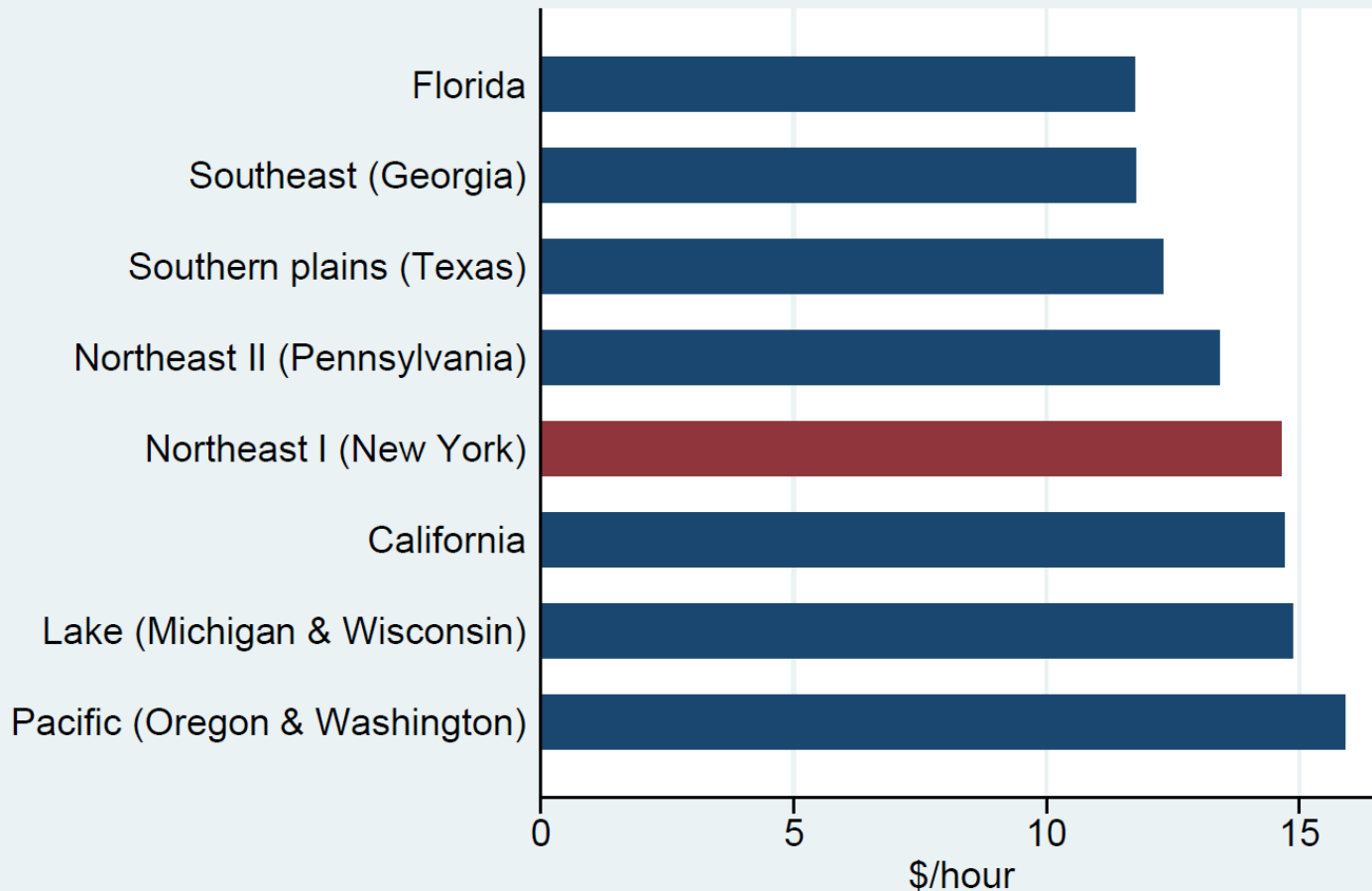


Source: CNBC report, America's top states for business in 2019



Appendix: cost of production information

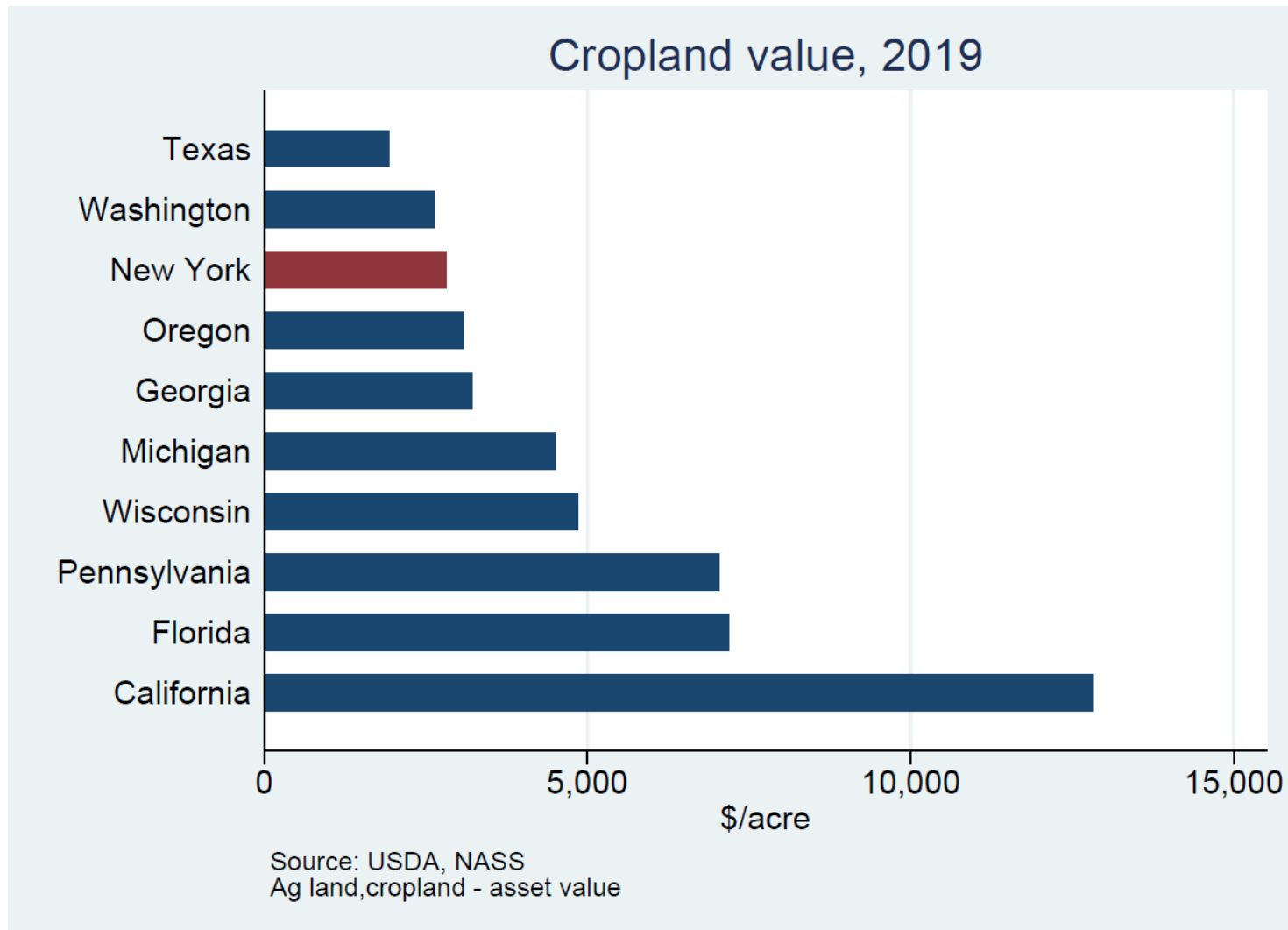
Crop workers wage rate, 2019



Source: USDA, NASS

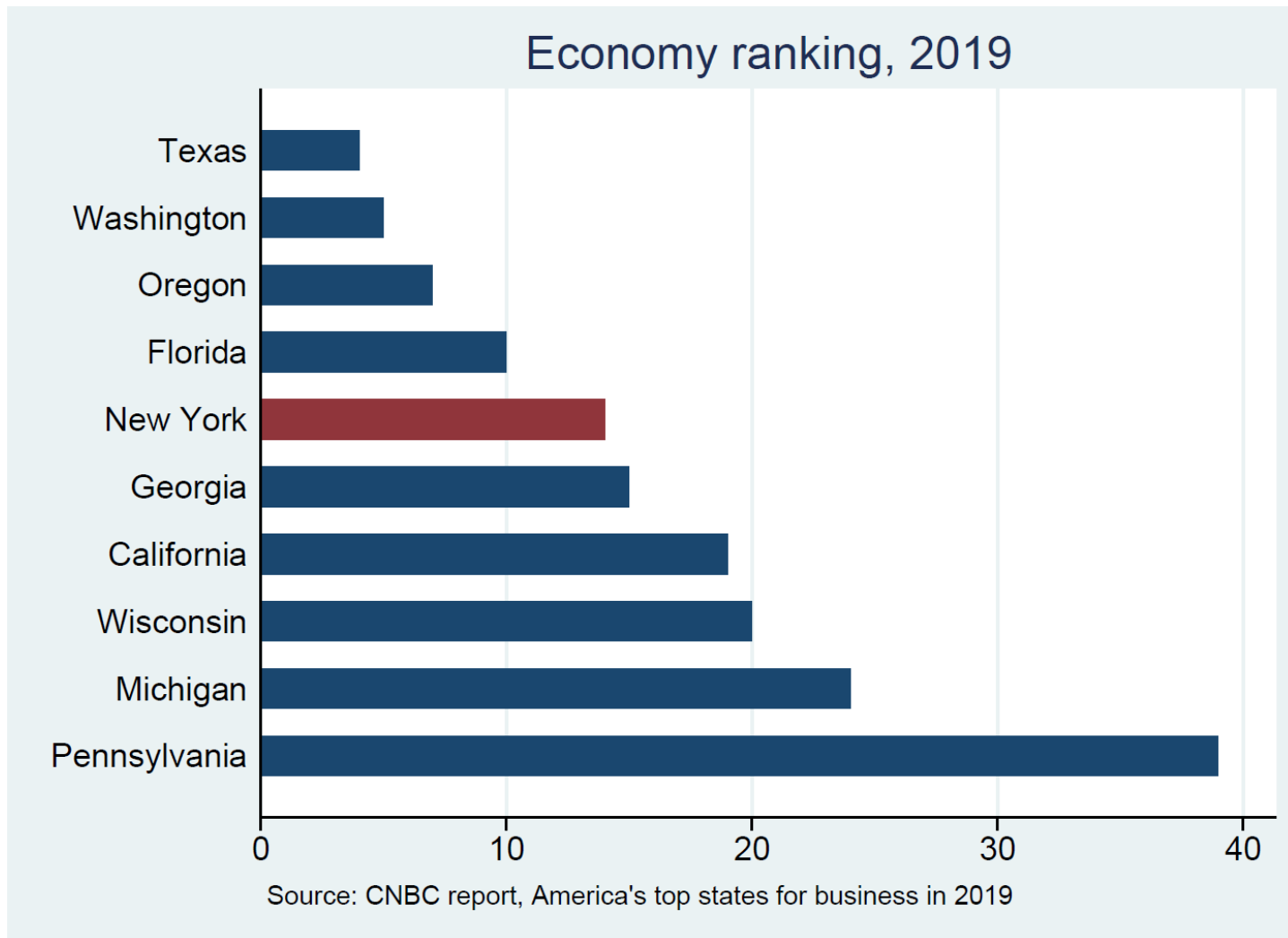


Appendix: cost of production information



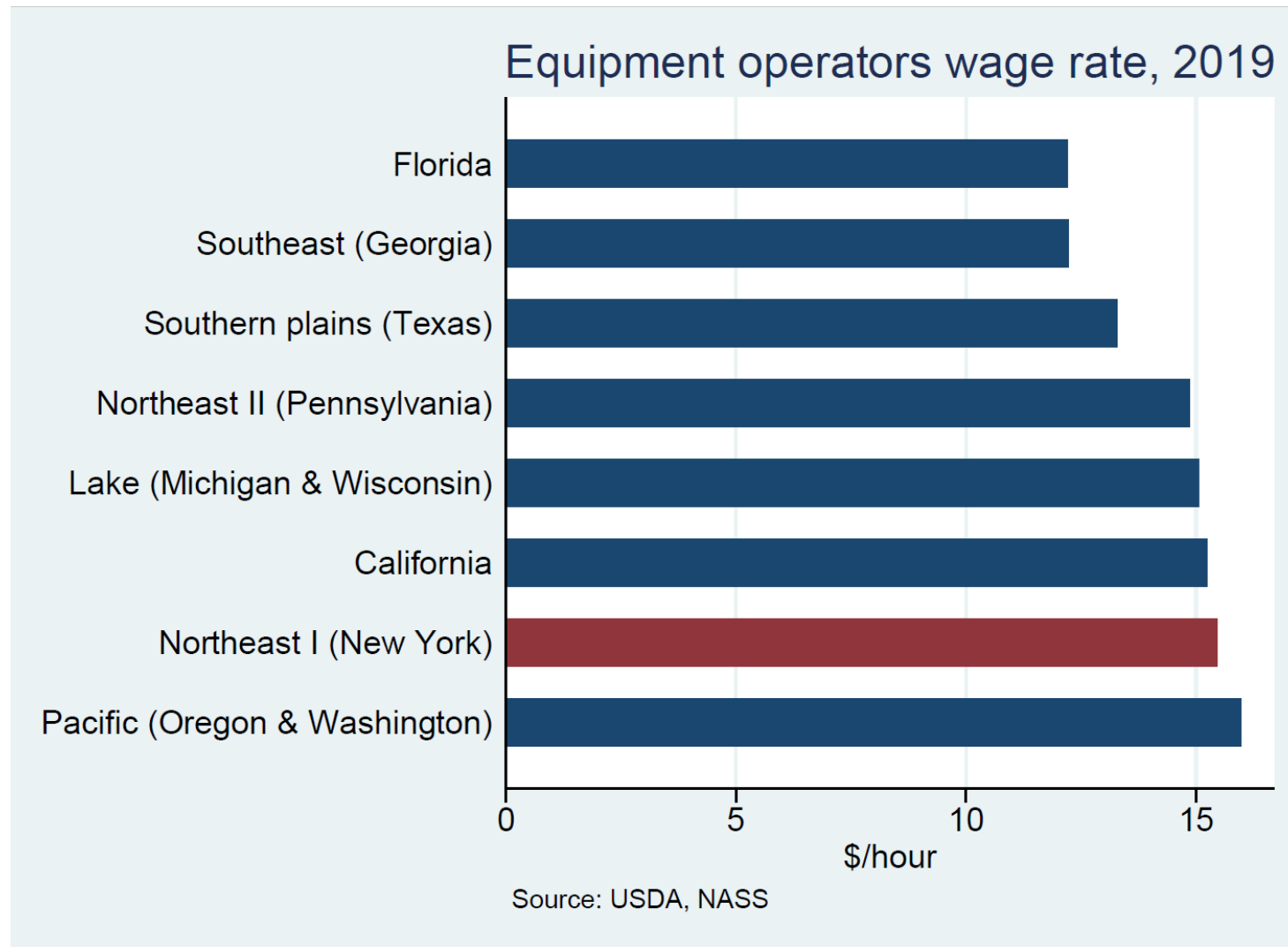


Appendix: cost of production information





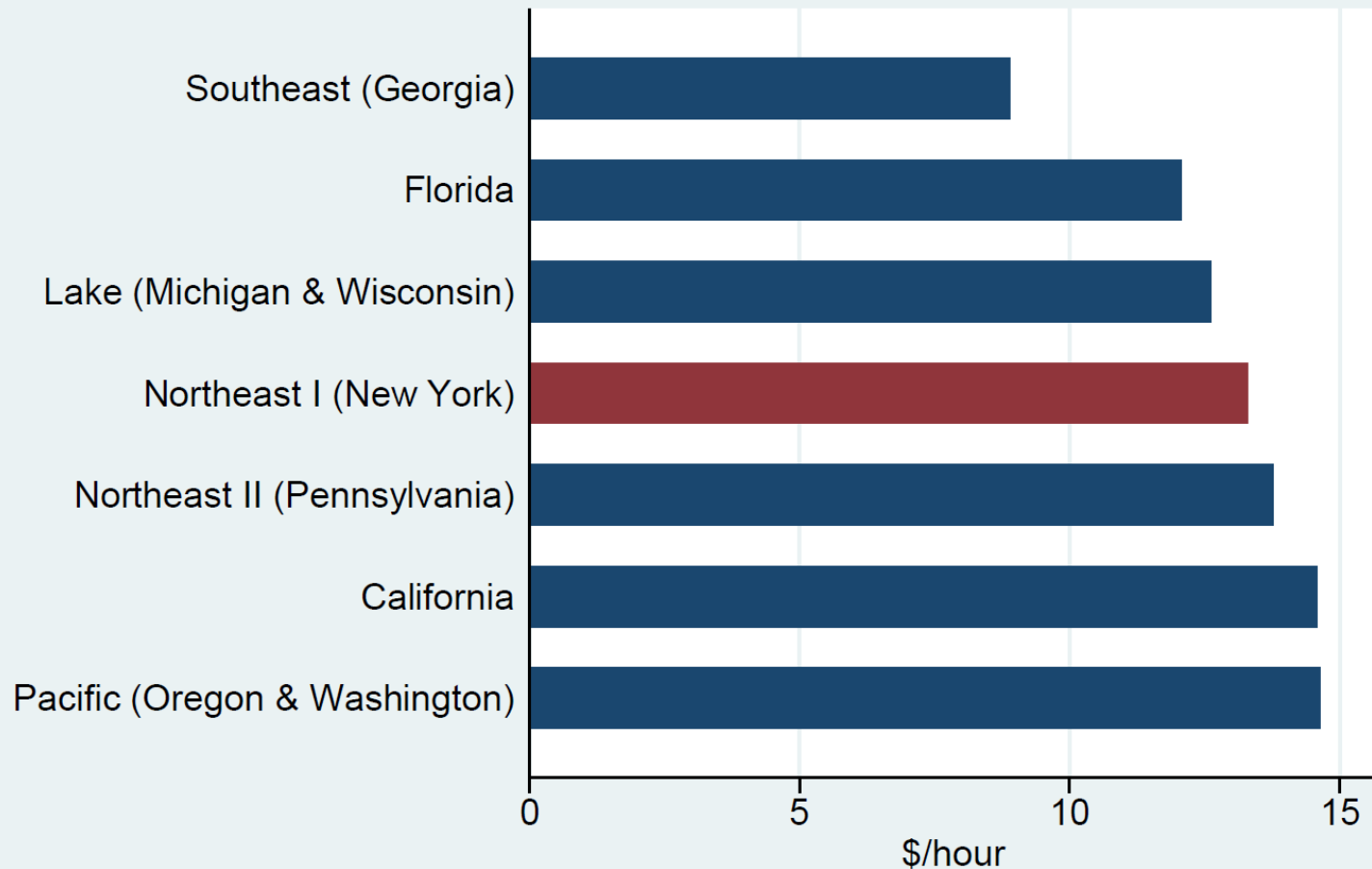
Appendix: cost of production information





Appendix: cost of production information

Graders and sorters wage rate, 2019



Source: USDA, NASS

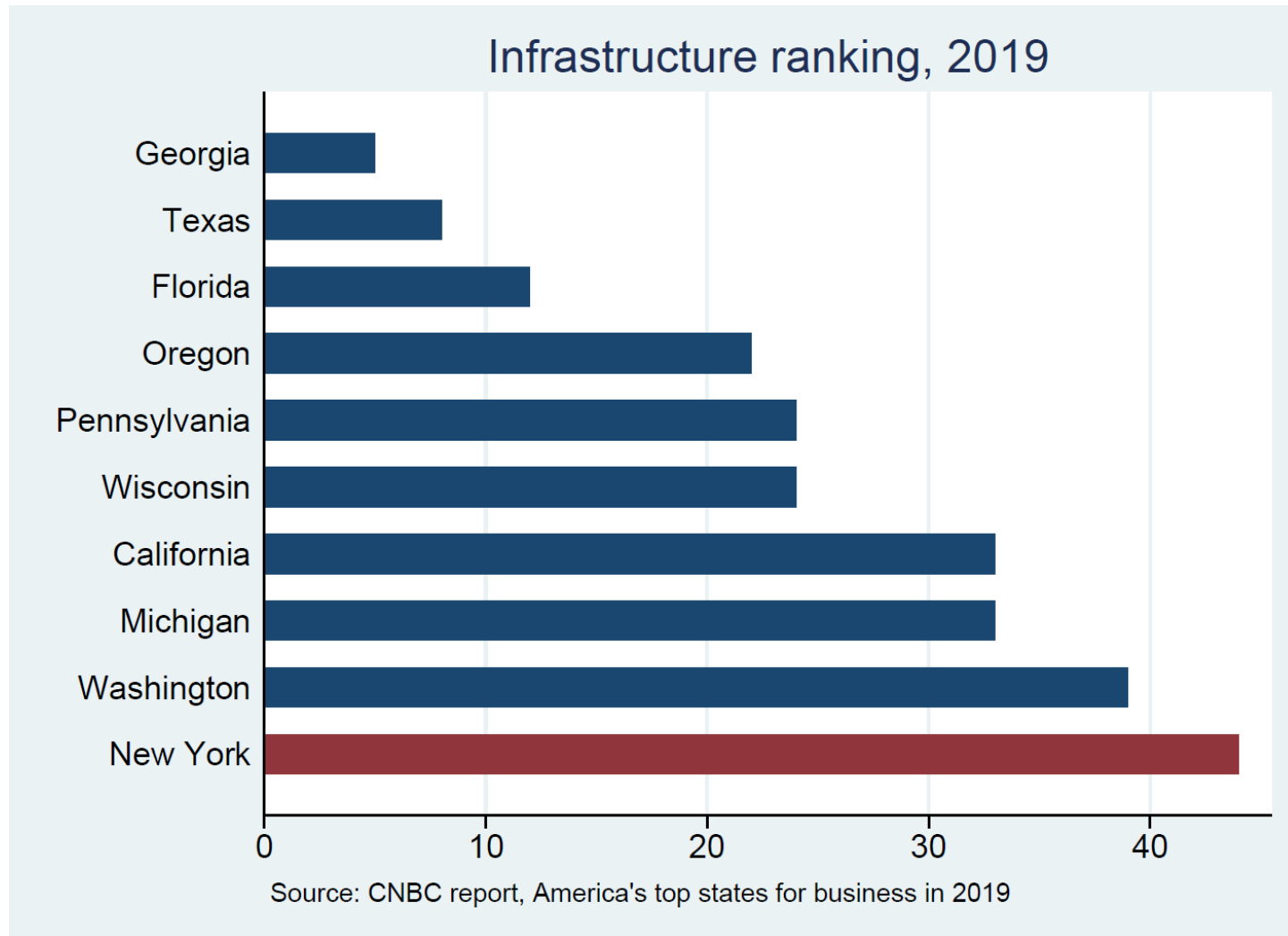


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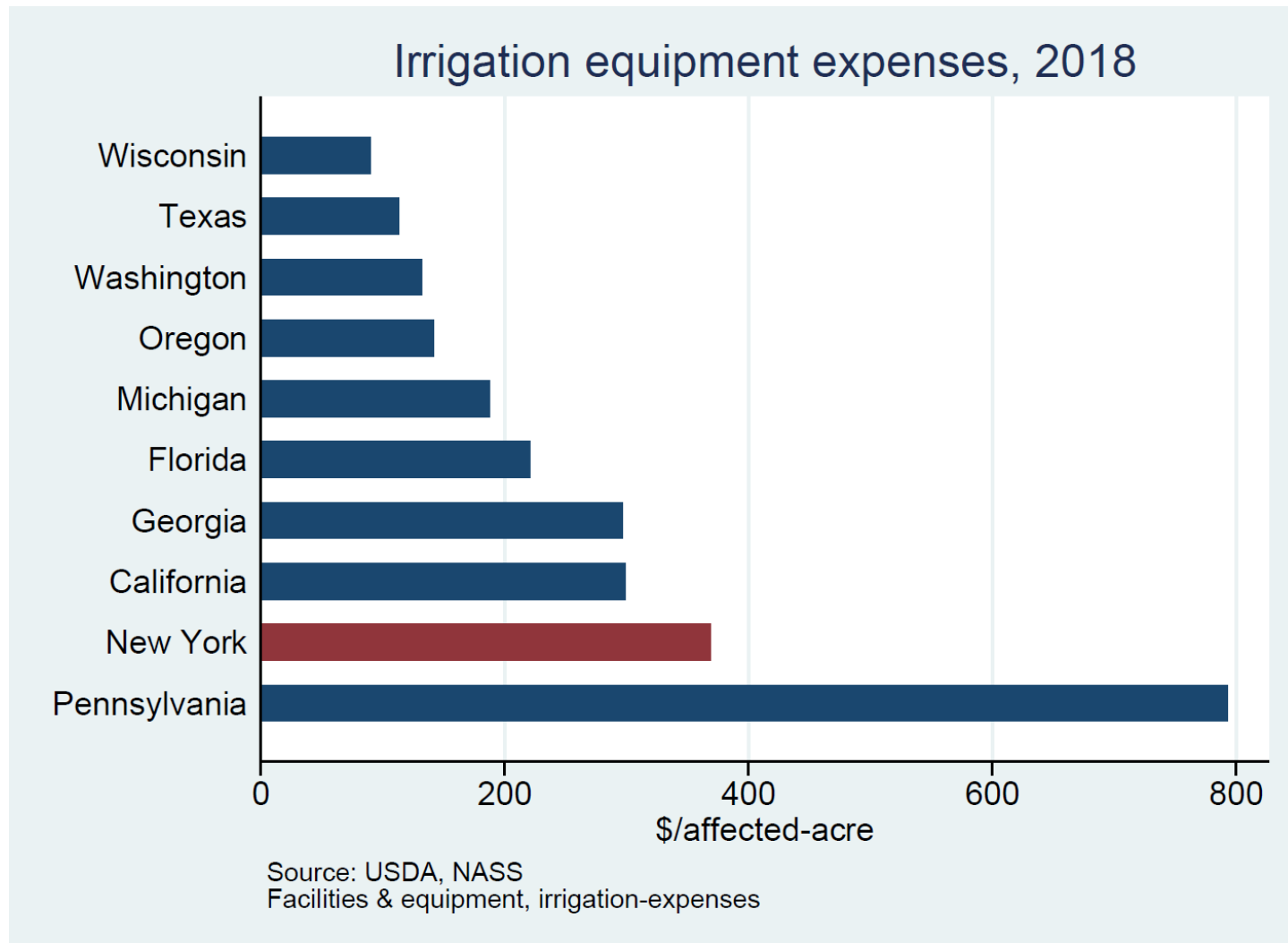


Appendix: cost of production information





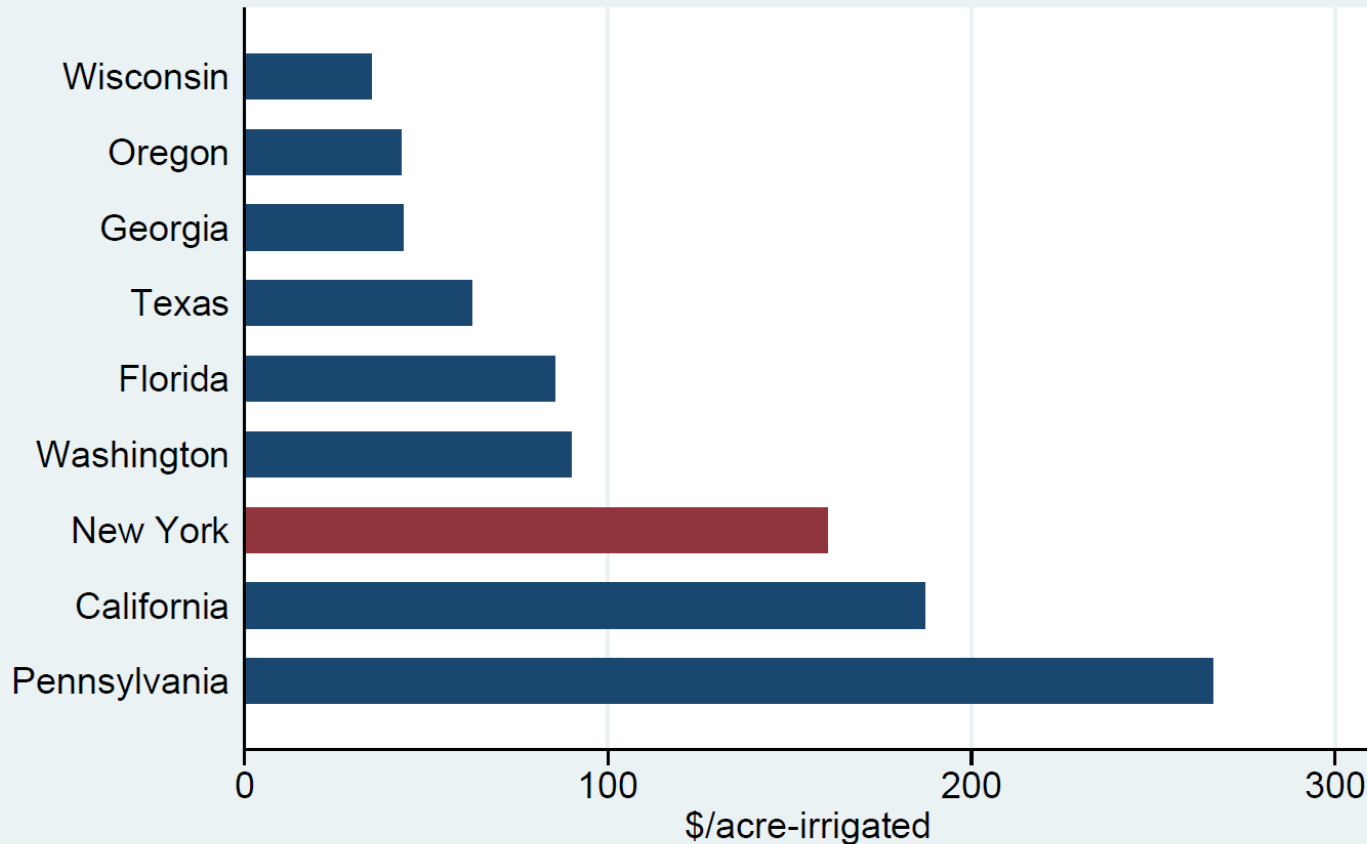
Appendix: cost of production information





Appendix: cost of production information

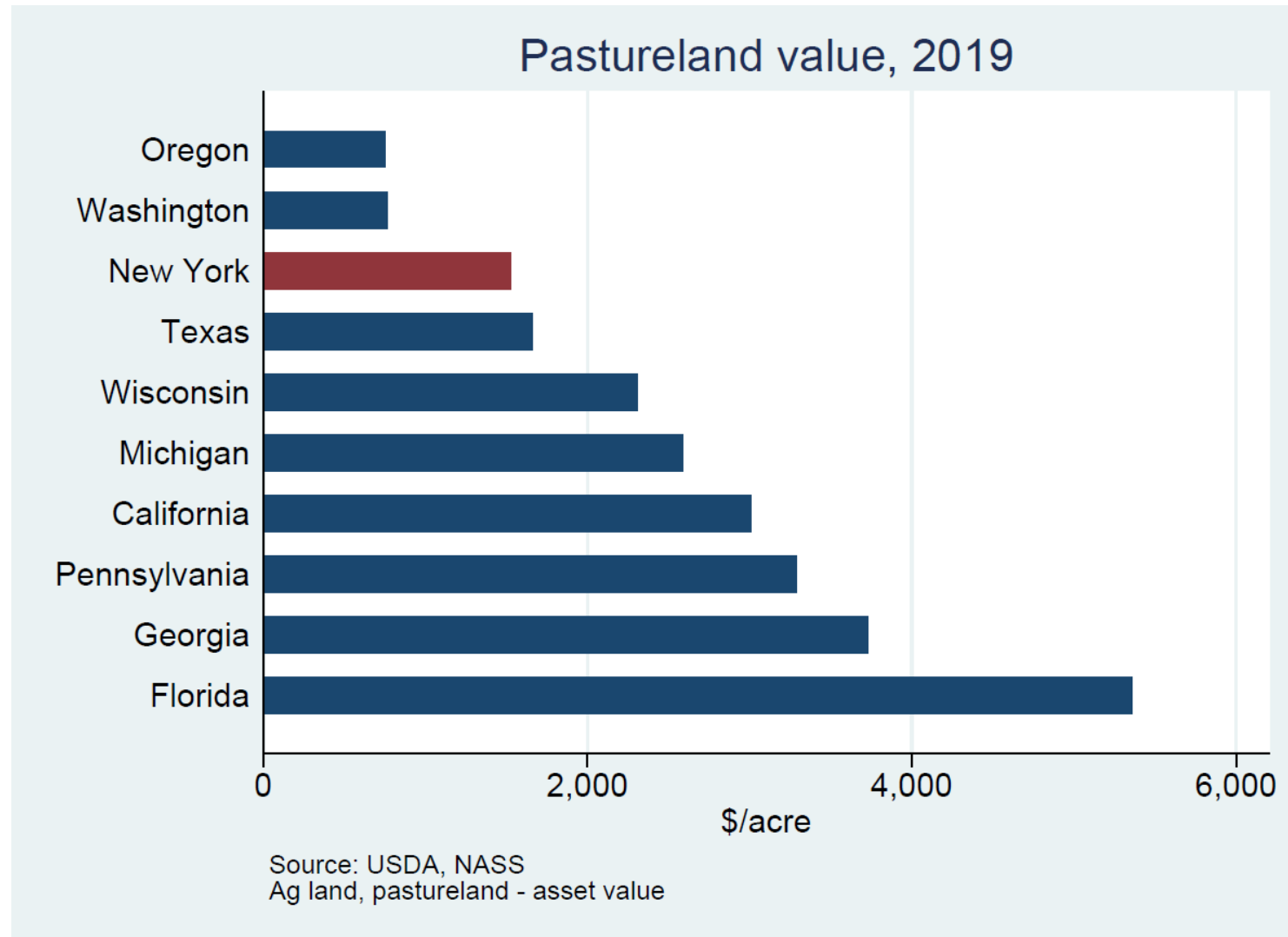
Off farm irrigation water expenses, 2018



Source: USDA, NASS
Water, irrigation, source= off farm-expenses



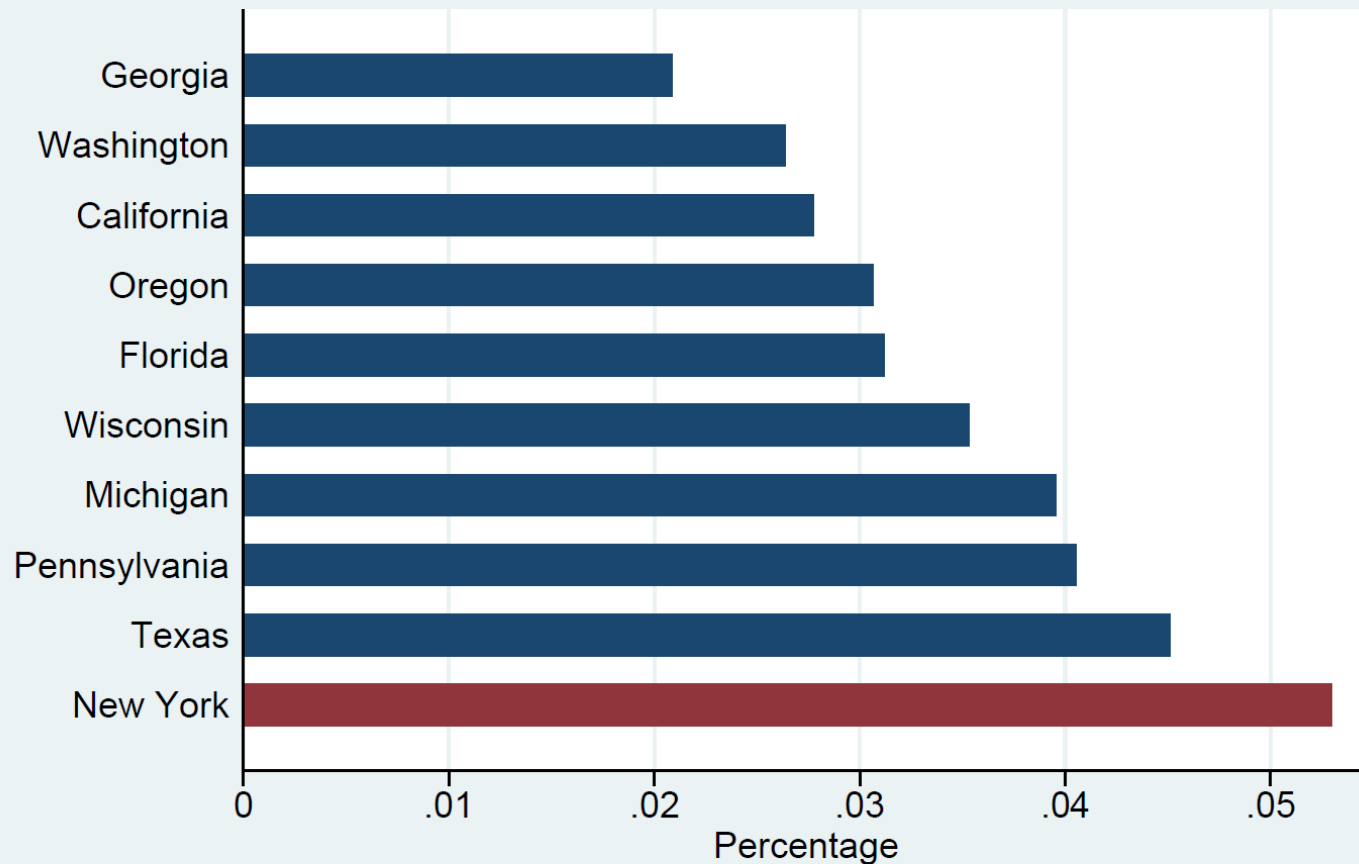
Appendix: cost of production information





Appendix: cost of production information

Property tax as a % of operational expenses, 2018



Source: ERS



Appendix: cost of production information

