



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

The Impact of Policy Design on Payment Concentration in Ad-hoc Disaster Relief: Lessons from the Market Facilitation Program

Eric Belasco
Associate Professor
Montana State University

NC-1177 2020 Virtual Annual Meeting
October 2020

Preliminaries

- Ad-hoc disaster programs have become great again (e.g., MFP, CFAP,...).
- The ad-hoc nature is true of policy design and payments (unlike standing programs, such as crop insurance, livestock disaster programs, etc.)
- Different policy designs have varying impacts on the distribution of payments by:
 - Commodity
 - Region
 - Farm Size

- Paulson, Featherstone, and Hadrich (2020)
 - 2018 MFP accounted for 40-60% of average net farm income.
 - 20-45% of farms would have had negative net farm income if not for payments.
 - Payments improved liquidity, solvency, and debt repayment positions.
- Janzen and Henricks (2020)
 - MFP payments exceeded short-run impacts of lower prices.
 - Largest overpayments occurred in regions producing cotton and sorghum.

- **How have recent policy designs impacted the concentration of farm payments?**
- We focus on the Market Facilitation Program iterations in 2018 and 2019.
- Make use of ARMS to estimate distribution of payments with individual FSA data to validate

Main Findings

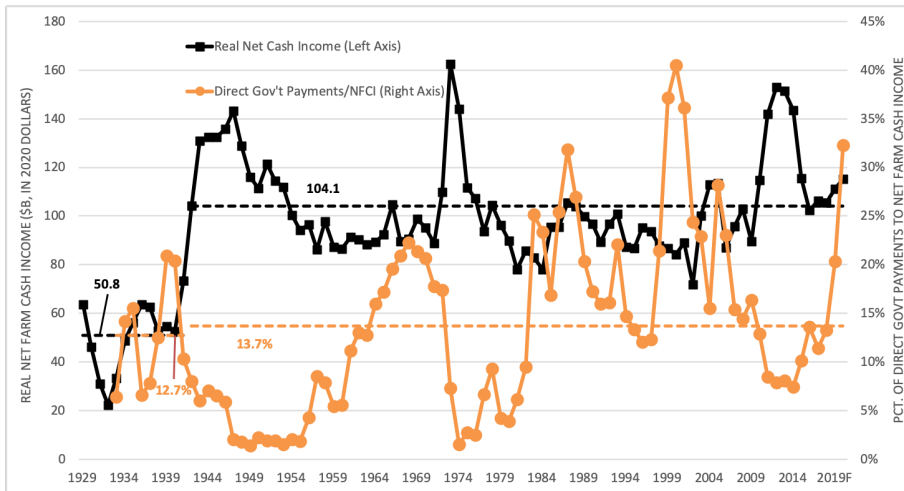
- Like many other farm support programs, both MFP programs are extremely concentrated.
- Farm payments increase, on a per acre basis, for larger farms.
- Using production (as opposed to acreage) results in more concentration in payments.
 - Individual recipient data on CFAP confirms this finding.

- 1 Preliminaries
- 2 Data and Empirical Strategy
- 3 Results
- 4 Implications and Discussion

Table of contents

- 1 Preliminaries
- 2 Data and Empirical Strategy
- 3 Results
- 4 Implications and Discussion

NCFI and Direct Gov't Payments, 1929-2020

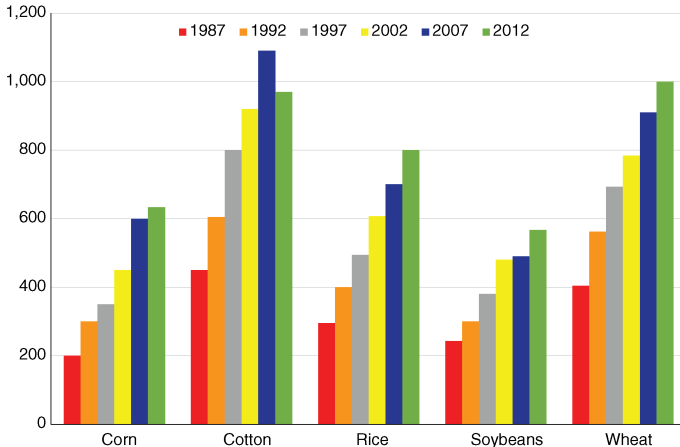


Source: USDA/ERS Farm and Income Statistics (September, 2020)

More farm consolidation

Midpoint acreage increased consistently across major field crops

Harvested acres



Note: Half of all harvested acres are on farms that harvest more than the midpoint, and half are on farms that harvest less.

Source: USDA, Economic Research Service using data compiled from USDA, Census of Agriculture.

Disaster programs: The U.S./China Trade Dispute

- In retaliation for tariffs on steel and aluminum imports, China imposes 25% tariffs on soybeans and other products.
- Tariffs increase over the next year.
- USDA provides two disaster relief programs:
 - 2018 MFP - Paid farmers a per-unit amount for a group of impacted commodities. Based on production.
 - 2019 MFP - Paid farmers a per-unit amount for a larger group of impacted commodities. Based on county-level rate and amount of planted acres.

Table 1. Market Facilitation Program Payments Rates and Totals, by Commodity.

Commodity	Payment Rate			Estimated Total Payments (in \$M)		
	2018 MFP#	2019 MFP@	Unit	2018 MFP#	2018 MFP@	2019 MFP@
Cotton	0.06	0.12	\$ Per Pound	553.8	486.4	987.08
Corn	0.01	0.35	\$ Per Bushel	192.0	143.4	4,967.4
Soybeans	1.65	1.25	\$ Per Bushel	7,259.4	7,233.8	5,484.7
Sorghum	0.86	1.01	\$ Per Bushel	313.6	297.6	350.2
Wheat	0.14	0.69	\$ Per Bushel	238.4	272.9	1,336.1

Figures are based on announcement made on 12/17/2018 in press release from the USDA titled ‘USDA Launches Second Round of Trade Mitigation Payments.’

Note: 2018 MFP estimates do not include payments for shelled Almonds (\$63.3M), Dairy (\$254.8M), Pork (\$580.6M), and Sweet Cherries (\$111.5M). The inclusion of these products implies a total estimate of \$9.567 B for the 2018 MFP.

@ Figures are estimated using data from the Agricultural and Resource Management Survey by simulating the program parameters.

Table of contents

- 1 Preliminaries
- 2 Data and Empirical Strategy
- 3 Results
- 4 Implications and Discussion

- Data from the 2018 Agricultural Resource Management Survey.
 - Production, financial, and cost information on a weighted 651,607 observations.
 - Includes producers of corn, soybean, wheat, cotton, sorghum.
 - 2018 MFP: Commodity rates multiplied by production of eligible commodities (see table 1).
 - 2019 MFP: County rates multiplied by planted acres of eligible crops.
- Individual recipient data from USDA FSA FOIA (data through July 24, 2020)
- Risk Management Agency - County-level subsidy rates by commodity (Subsidies/[Subsidies+Premium-Paid])

ARMS Summary of Key Variables, by Crop Sales Quantile (N = 651,607)

Quantile	Crop Sales (\$1,000)	Crop Acres	Net Worth (\$M)	Gross Farm Farm Income (\$1,000)
0-10	1.5	1.0	0.5	18.1
10-20	3.2	4.3	0.7	28.2
...			...	
50-60	58.3	135.2	1.3	153.7
...			...	
80-90	419.0	768.7	2.9	604.5
90-100	1,715.7	1,715.2	6.7	2,140.0
Mean	254.3	339.1	1.9	377.6

Table of contents

- 1 Preliminaries
- 2 Data and Empirical Strategy
- 3 Results
- 4 Implications and Discussion

Payments increase with farm size (not surprising)

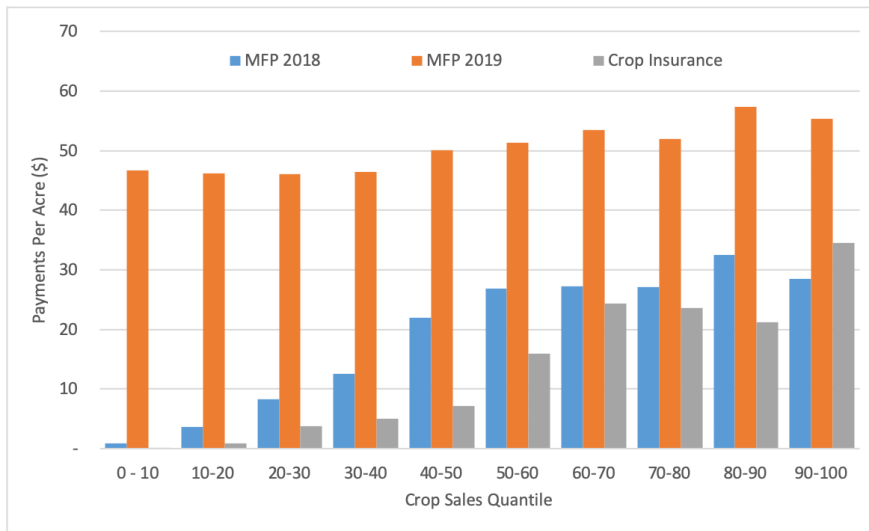
Quantile	Average Payments Per Farm (\$1,000)		
	2018 MFP	2019 MFP	Crop Insurance
0-10	0.0	1.1	0.0
10-20	0.1	2.0	0.1
...		...	
50-60	4.6	10.7	2.7
...		...	
80-90	29.1	51.1	15.5
90-100	67.4	121.1	42.2
Mean	12.7	24.4	7.6
Only farmers Receiving over \$50k in all 3 programs	134.4	219.7	107.0

Note: Farmers within the subgroup that received over \$50,000 in all 3 programs represents 14,821 farms (2.3% of the full sample).

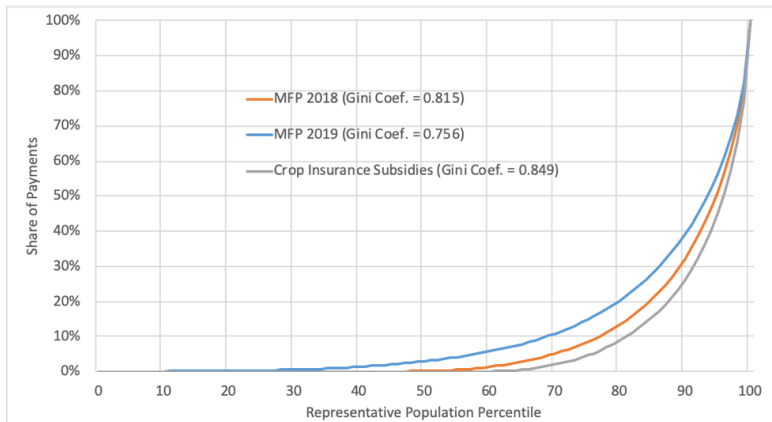
Proportion of total payments, for top crop sales quantiles

Quantile	Proportion of Total Payments (%)		
	2018 MFP	2019 MFP	Crop Insurance
20	75.9	75.8	70.3
15	66.2	65.8	61.0
10	55.3	52.7	49.2
5	35.4	34.3	32.0
2	19.0	17.1	16.2
1	10.9	8.8	8.9

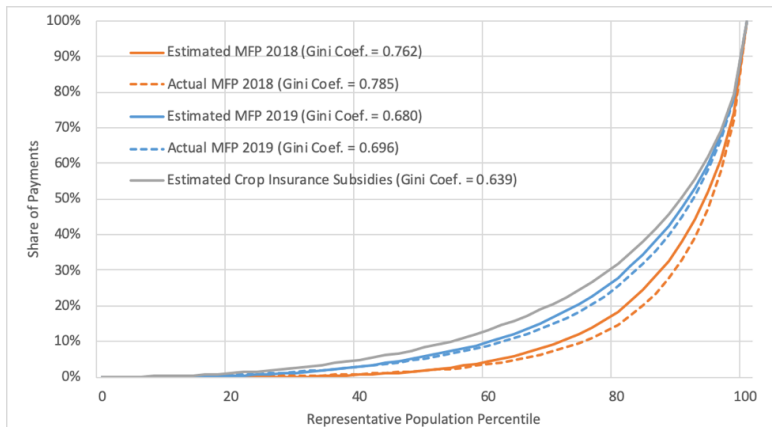
Estimated payments per Acre, by crop sales quantile



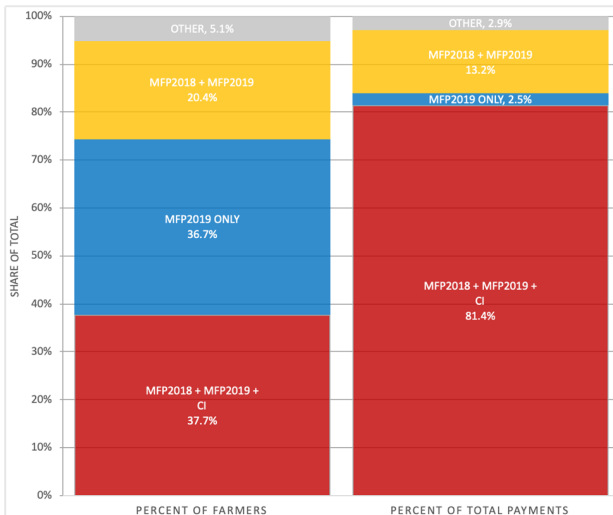
Payment concentration across representative population



Payment concentration across recipients



Note: Estimated figures use data from the ARMS, while Actual data are from FOIA request 2020-FPAC-FSA-05508-F (data ending July 24, 2020)



Note: MFP denotes the Market Facilitation Programs from 2018 and 2019, while CI denotes crop insurance. Other includes MFP 2019 + CI, MFP 2018 + CI, MFP 2018 Only, and CI Only.

Main Findings

- Top 20% of farms receive over 70% of payments in all 3 programs.
- Programs based on production (2019 MFP and crop insurance) result in steeper per acre payments across crop size quantiles.
- 37.7% of farms received payments from all 3 programs (81.4% of all payments)
- Subgroup (More than \$50k in all programs)
 - 2.3% of farms (14,821)
 - Received 23.0% of all payments: 31.5% crop insurance, 23.5% 2018 MFP, 20.1% 2019 MFP.
 - Payments were 9-14 times larger than mean payments and 1.8 times larger than highest quantile.
 - Average Per farm: 134.4k (2018 MFP), 219.7 (2019 MFP), 107.0 (crop insurance)
 - Average Per Acre: 41.1 (2018 MFP), 64.0 (2019 MFP), 33.9 (crop insurance)

Table of contents

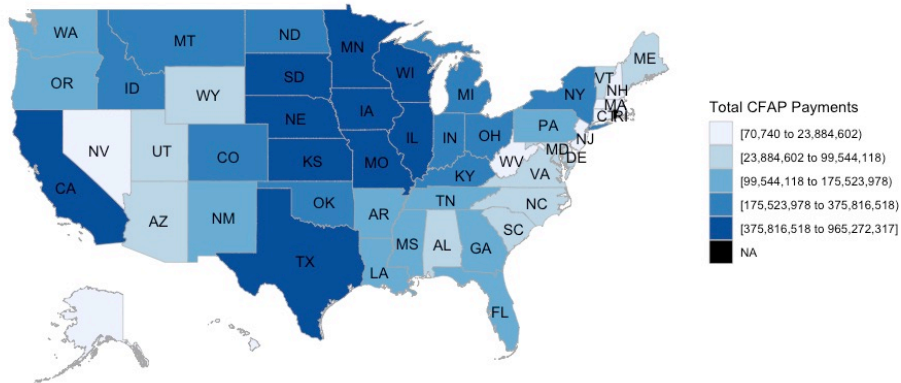
- 1 Preliminaries
- 2 Data and Empirical Strategy
- 3 Results
- 4 Implications and Discussion

Lessons from MFP and crop insurance

- Program design importantly defines the concentration in benefits.
 - Crop Insurance / MFP 2018 vs. MFP 2019
 - CARES Act looks more like MFP 2018, but more inclusive
- Caps can be an effective means of limiting concentration.
 - Legislation and lawyers help create loopholes and limit enforceability
- Would agricultural programs be more effective if means-tested?

Preliminary look at CFAP payments

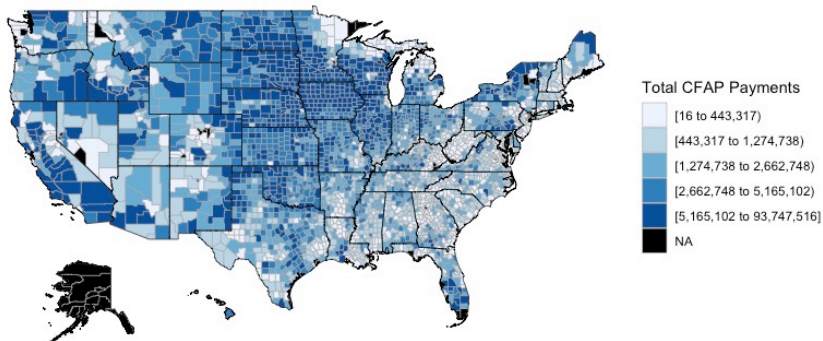
2020 CFAP Payment Amounts by State



Note: CFAP data from USDA FSA FOIA Request through September 23.

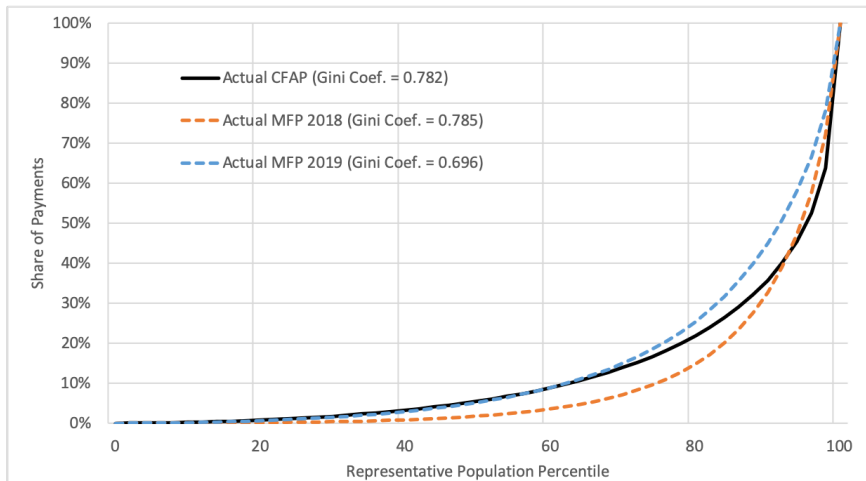
Preliminary look at CFAP payments

2020 CFAP Payment Amounts by County



Note: CFAP data from USDA FSA FOIA Request through September 23.

Preliminary look at CFAP payments (Sorted by Payment Amounts)



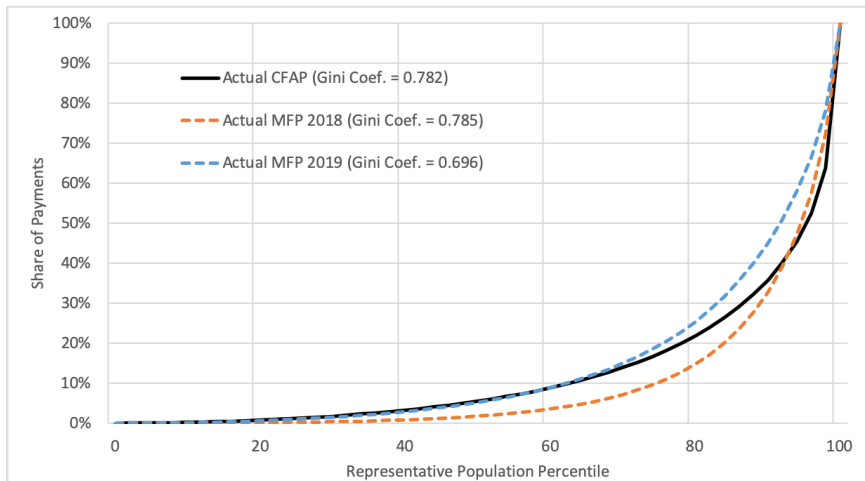
Preliminary look at CFAP payments (Sorted by Payment Amounts)

Quantile	<u>Average Farm Payment</u>			<u>Percent of all Payments</u>		
	CFAP	2018 MFP	2019 MFP	CFAP	2018 MFP	2019 MFP
Top 20	35,376	36,073	79,328	78.2%	85.2%	74.6%
Top 15	43,634	44,188	94,207	72.3%	78.3%	66.4%
Top 10	58,097	56,892	117,052	64.2%	67.2%	55.0%
Top 5	92,878	81,249	161,340	51.3%	48.0%	37.9%
Top 2	163,701	117,598	232,060	36.2%	27.8%	21.8%
Top 1	234,519	146,765	295,735	25.9%	17.3%	13.9%

Thank you for your time.

Questions?

Preliminary look at CFAP payments (Sorted by Payment Amounts)



Preliminary look at CFAP payments (Sorted by Payment Amounts)

Quantile	<u>Average Farm Payment</u>			<u>Percent of all Payments</u>		
	CFAP	2018 MFP	2019 MFP	CFAP	2018 MFP	2019 MFP
Top 20	35,376	36,073	79,328	78.2%	85.2%	74.6%
Top 15	43,634	44,188	94,207	72.3%	78.3%	66.4%
Top 10	58,097	56,892	117,052	64.2%	67.2%	55.0%
Top 5	92,878	81,249	161,340	51.3%	48.0%	37.9%
Top 2	163,701	117,598	232,060	36.2%	27.8%	21.8%
Top 1	234,519	146,765	295,735	25.9%	17.3%	13.9%

Thank you for your time.

Questions?