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

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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

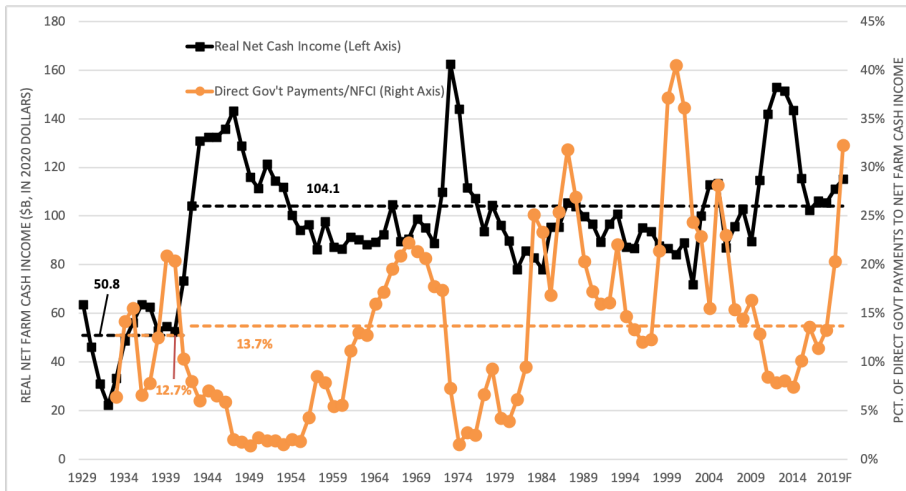
- Like many other farm support programs, both MFP programs are extremely concentrated.
- Farm payments increase, on a per acre basis, for larger farms.
- Using production (as opposed to acreage) results in more concentration in payments.
 - Individual recipient data on CFAP confirms this finding.

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- 2 Data and Empirical Strategy
- 3 Results
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NCFI and Direct Gov't Payments, 1929-2020

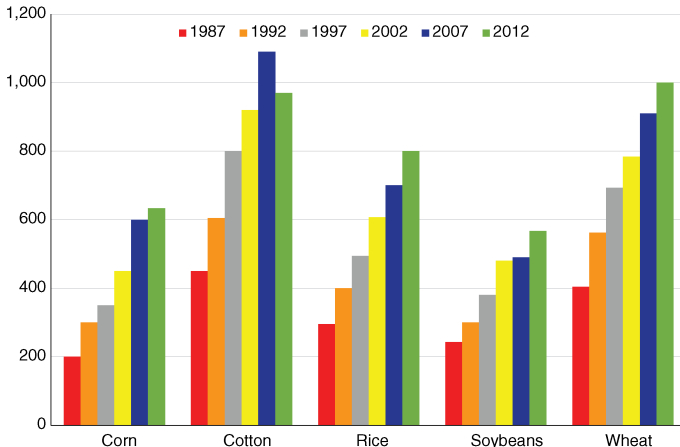


Source: USDA/ERS Farm and Income Statistics (September, 2020)

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.

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- 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

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Payments increase with farm size (not surprising)

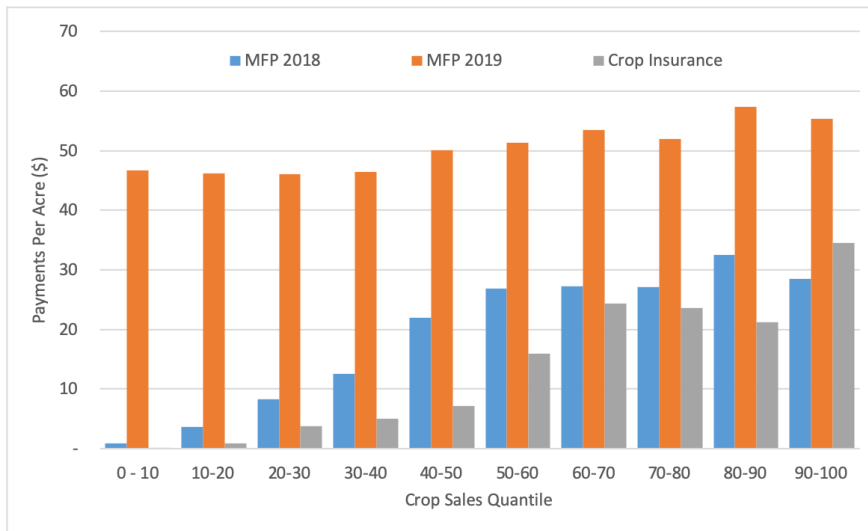
Quantile	Average Payments Per Farm (\$1,000)		
	2018 MFP	2019 MFP	Crop Insurance
0-10	0.0	1.1	0.0
10-20	0.1	2.0	0.1
...		...	
50-60	4.6	10.7	2.7
...		...	
80-90	29.1	51.1	15.5
90-100	67.4	121.1	42.2
Mean	12.7	24.4	7.6
Only farmers Receiving over \$50k in all 3 programs	134.4	219.7	107.0

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

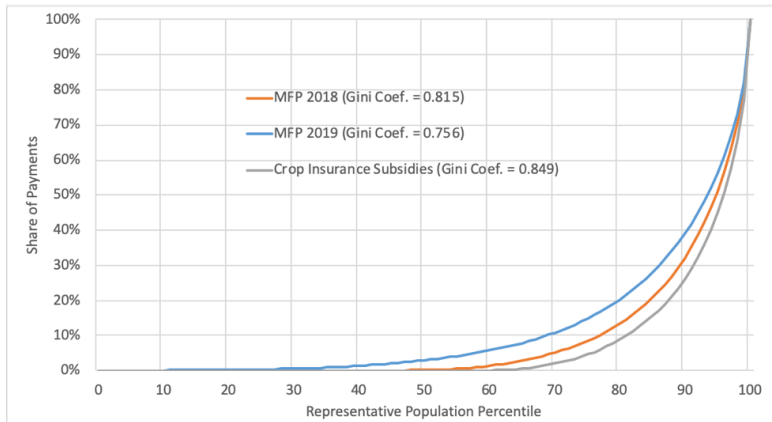
Proportion of total payments, for top crop sales quantiles

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

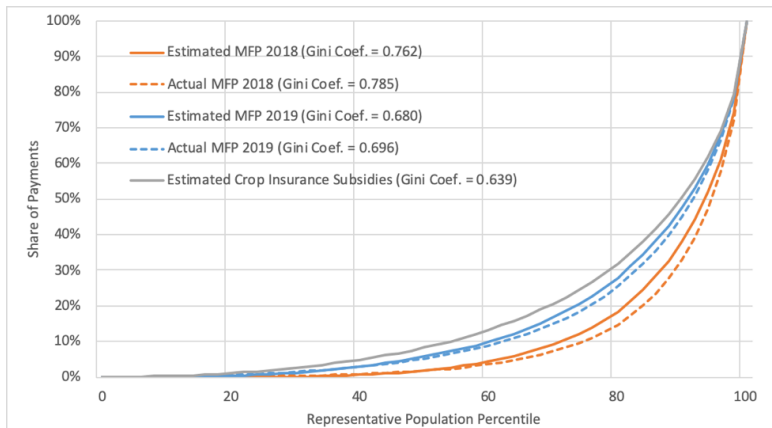
Estimated payments per Acre, by crop sales quantile



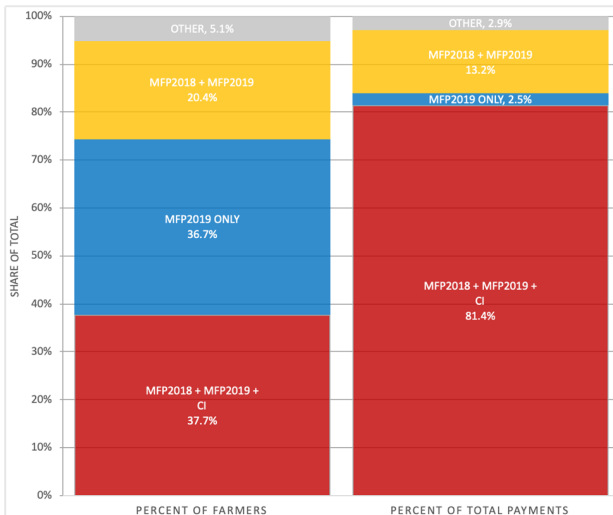
Payment concentration across representative population



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)

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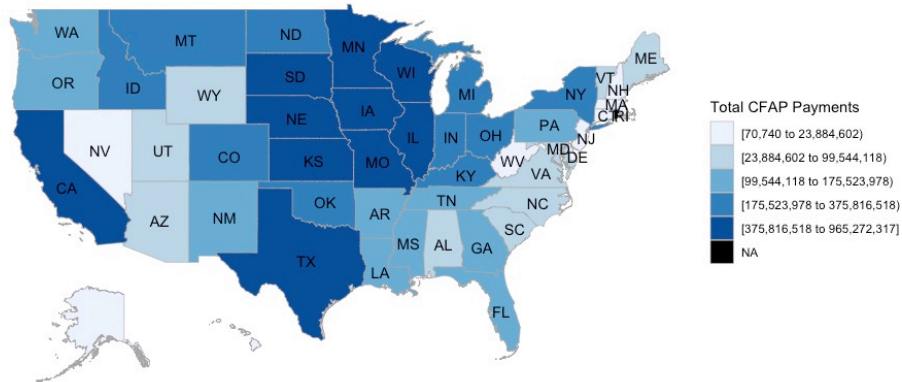
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Lessons from MFP and crop insurance

- 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

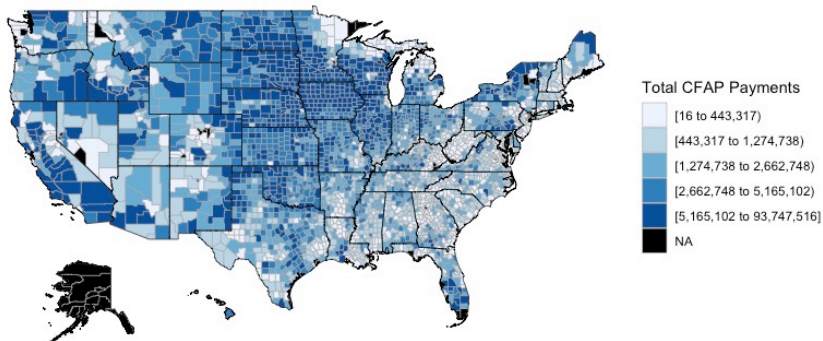
2020 CFAP Payment Amounts by State



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

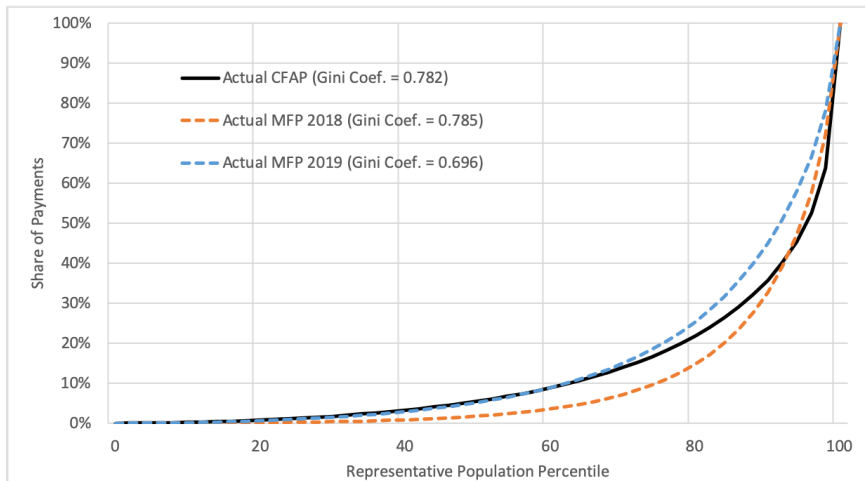
Preliminary look at CFAP payments

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)



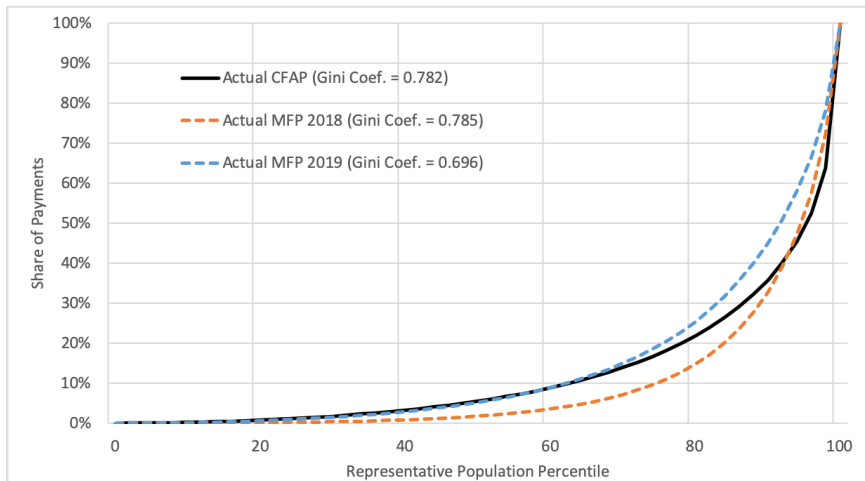
Preliminary look at CFAP payments (Sorted by Payment Amounts)

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)



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