The Trade Conflict and Trade Aid

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Presentation to the Risk and Profit Conference
Manhattan, KS
August 22-23, 2019

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January 2018: Initial tariffs → Mar 2018: China IP, Steel tariff → June 2018 Soybean retaliation → Dec 2018: China "truce" → May-Aug 2019: Tariff escalation

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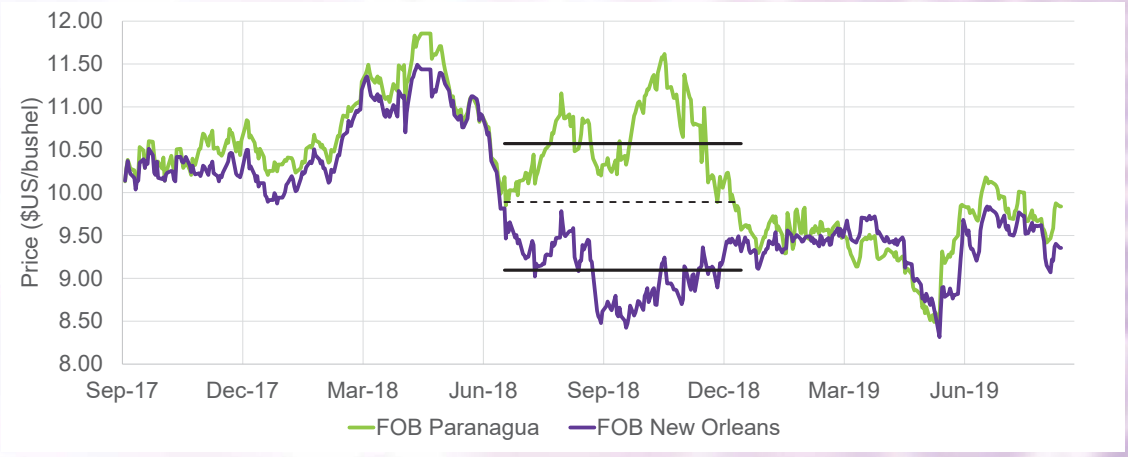
	MY 18/19 Export Sales (in mmT)			MY 17/18
Country	Accumulated	Outstanding	Total	Total
China	10.6	3.9	14.5	27.9
Mexico	4.6	0.3	4.9	4.5
Japan	2.2	0.3	2.5	2.3
EU-27	7.6	0.1	7.7	5.0
Other	16.9	2.2	19.1	18.7
Total	**42.0**	**6.9**	**48.9**	**58.5**

US Soybeans Have Found New Destinations

Source: USDA AMS Grain Transportation Report, August 15, 2019

How much did tariffs move US soybean prices?

Method	Study	Date	Estimated US soybean price decline
Global Trade Model	Zheng, et al	April 2018	3.9%
	Taheripour and Tyner	April 2018	3.7 to 4.9%
	Sabala and Devadoss	May 2019	12%
	Westhoff, Davids, and Soon	July 2019	5.0 to 8.9%
Relative Price	Adjemian, Smith, and He	July 2019	7.1%



US and Brazil export prices have diverged hugely and modestly

FOB port prices (in USD) for major Brazil and US soybean export points

Source: Bloomberg

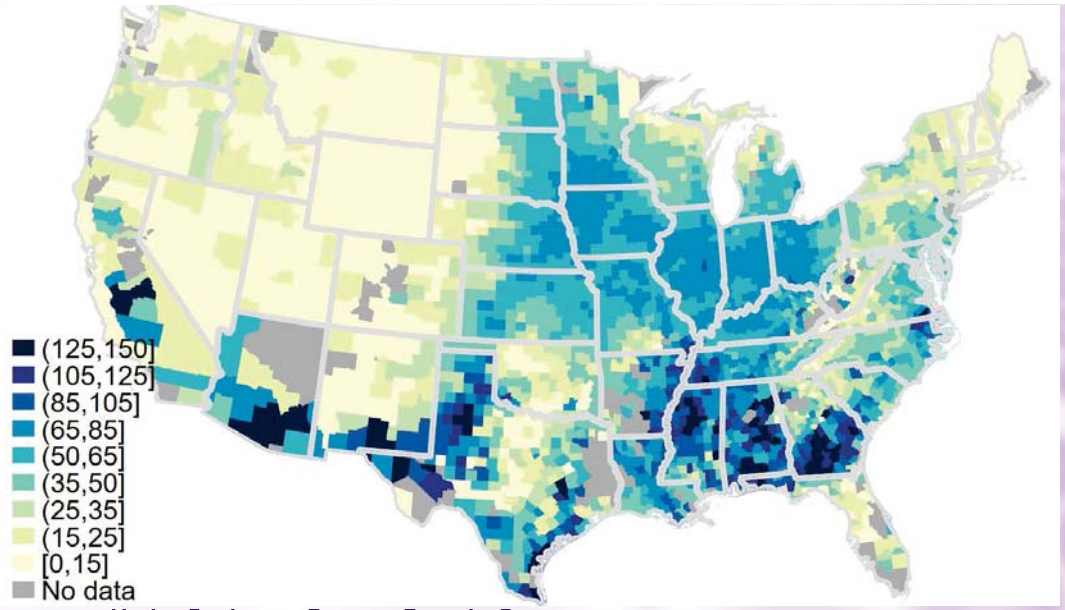
Trade Aid: The Market Facilitation Program

MFP1 (2018)

MFP2 (2019)

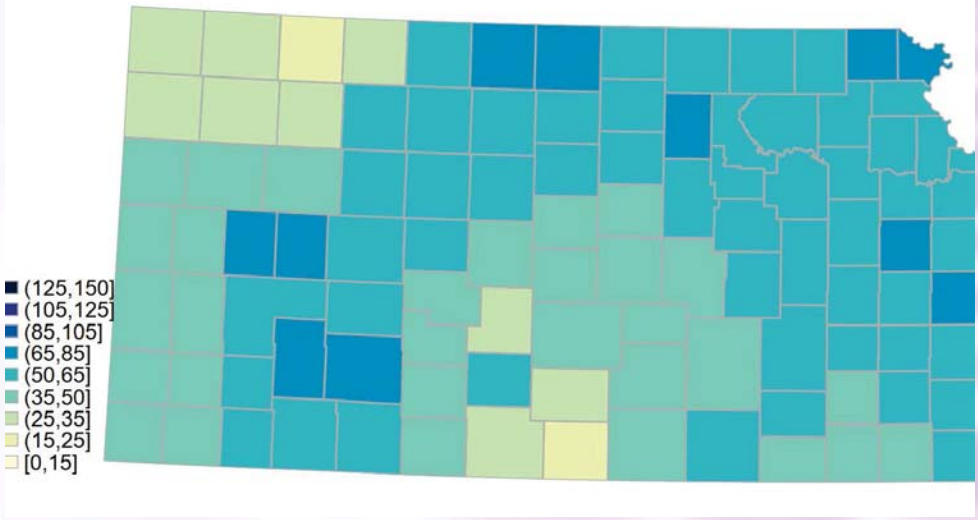
MFP authorized under CCC

- Commodity Credit Corporation can borrow to fund operations
- CCC payments must be linked to production of the commodities with loss of export markets:
  - Based on "…aiding in the development of new and additional markets, marketing facilities, and uses…"
  - MFP1 paid for production with export loss, MFP2 paid to planted acres with export loss
  - Likely: Future programs (2020+) will be linked to production in some way



Market Facilitation Payment Rates by County

Source: USDA Farm Service Agency



MFP2 Payment Rates in Kansas

Source: USDA Farm Service Agency

Estimating Commodity-level MFP Rates

County MFP rate	=	Commodity payment rate	x	County Yield	x	Acreage Share	
($/ac)		$/bu		bu/ac		(%)	

Estimating Commodity-level MFP Rates

Example Calculations for Scott County, KS

County MFP rate	=	Commodity payment rate	x	County Yield	x	Acreage Share	
($/ac)		$/bu		bu/ac		(%)	
66		??	x	140	x	33	(Corn)
	+	??	x	104	x	29	(Sorghum)
	+	??	x	45	x	38	(Wheat)

Estimating Commodity-level MFP Rates

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($/ac)		$/bu		bu/ac		(%)	
66		0.23	x	140	x	33	(Corn)
	+	1.56	x	104	x	29	(Sorghum)
	+	0.47	x	45	x	38	(Wheat)

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Commodity	Units	MFP1 Payment Rate ($/unit)	Implied MFP2 Payment Rate	Implied MFP2 Rate as % of 2018 Price
Corn	bushels	0.01	0.23	6.6
Cotton	pounds	0.06	0.16	22.6
Hay, Alfalfa	tons	-	5.55	3.1
Peanuts	pounds	-	0.02	10.5
Rice	pounds	-	0.01	5.4
Sorghum	bushels	0.86	1.56	47.1
Soybeans	bushels	1.65	1.73	20.1
Wheat	bushels	0.14	0.47	9.2

Estimated Commodity-specific Payment Rates Under MFP1/MFP2

Estimates generated by Janzen (2019) using acreage and yield data from USDA-NASS

Explaining MFP2 Payment Rates

- Counties with low MFP2 rates:
  - Grow the 'wrong' crops
  - Have relatively low yields
- County-wide single payment rate:
  - Benefits minor crops and below average yield
  - Pays regardless of 2019 crop condition (assuming no PP)

COMPARING MFP1 AND MFP2

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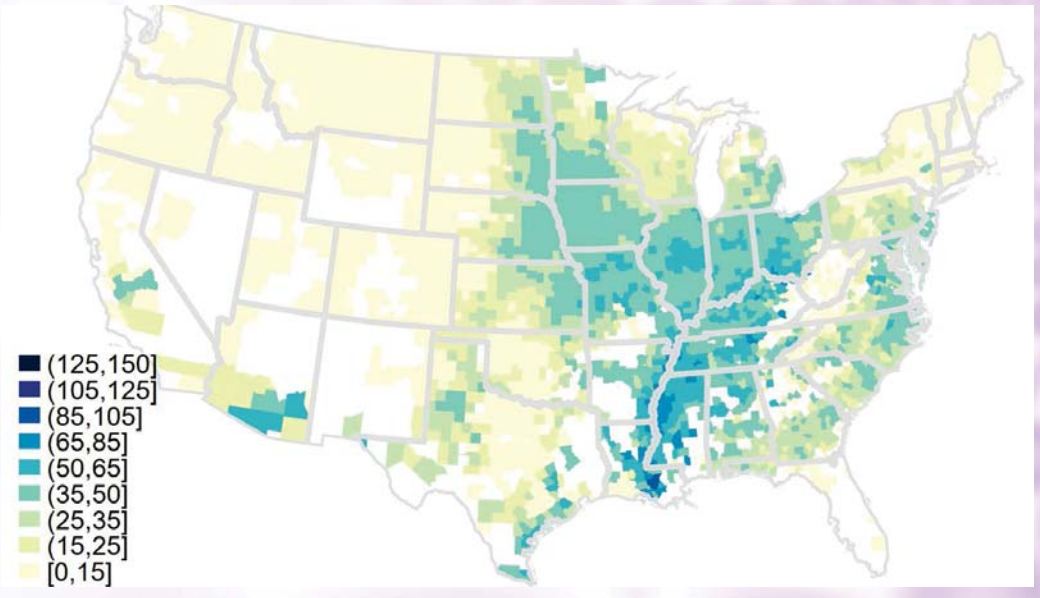

Implied MFP1 Payment Rates Based on Historical Yield

Source: Commodity payment rates and 2018 planted acreage from USDA Farm Service Agency. Yield is from Census of Agriculture or ARC-CO yields.

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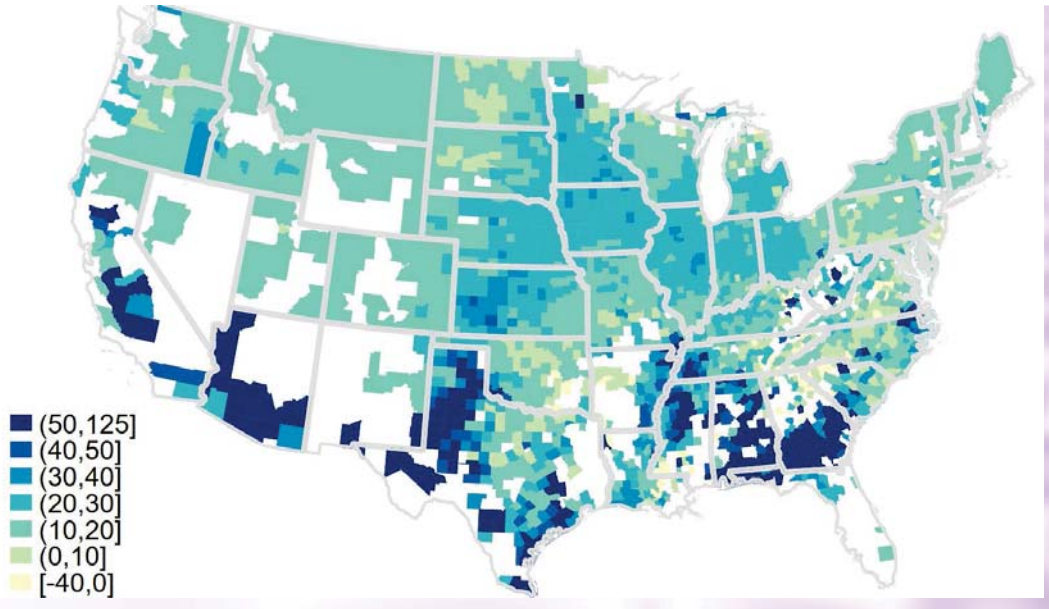

Change in MFP Implied Payment Rates from 2018 to 2019

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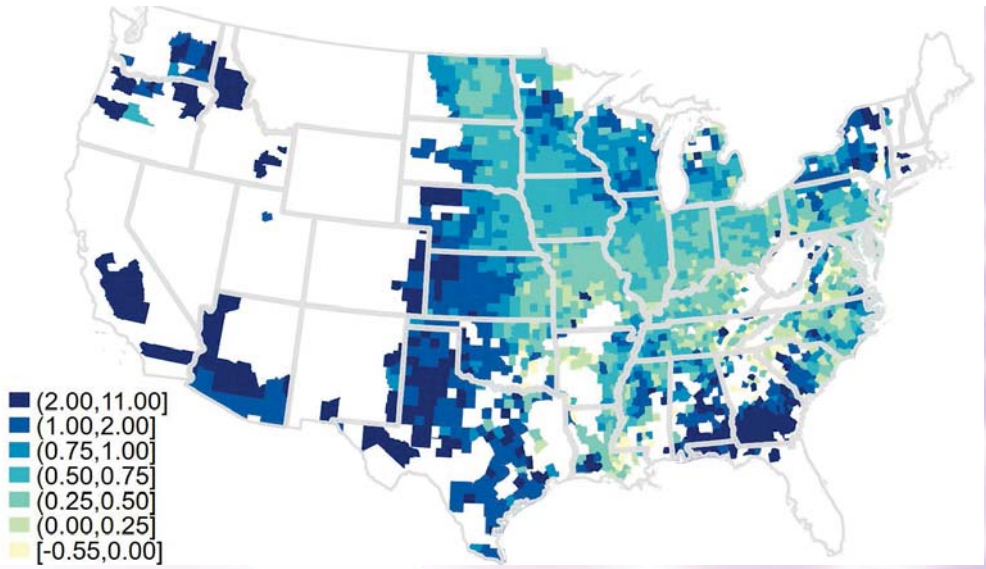

Relative Change in MFP Implied Payment Rates from 2018 to 2019

Note: Only mapped for counties with 2018 payment rate greater than $5/acre.

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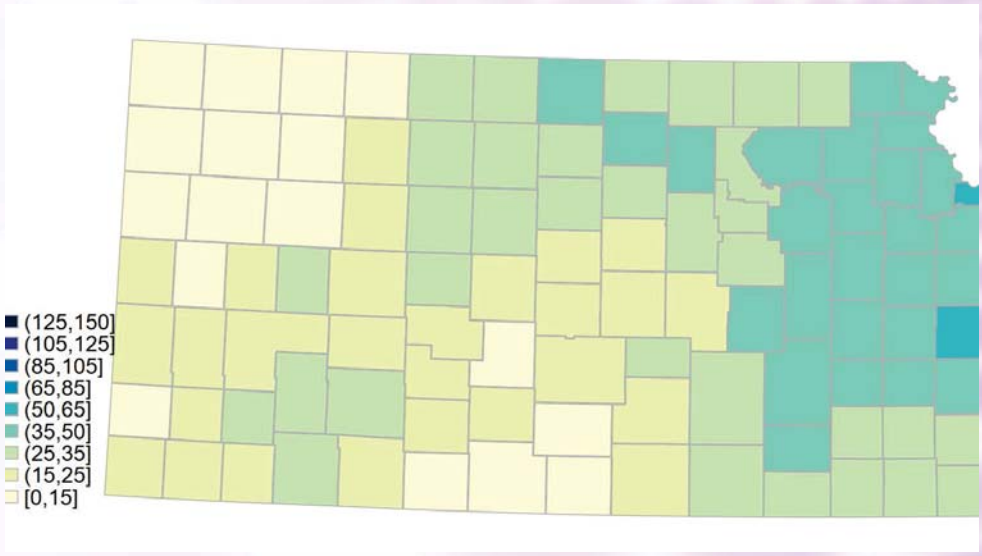

Kansas Implied MFPI Payment Rates Based on Historical Yield

Source: Commodity payment rates and 2018 planted acreage from USDA Farm Service Agency. Yield is from Census of Agriculture or ARC-CO yields.

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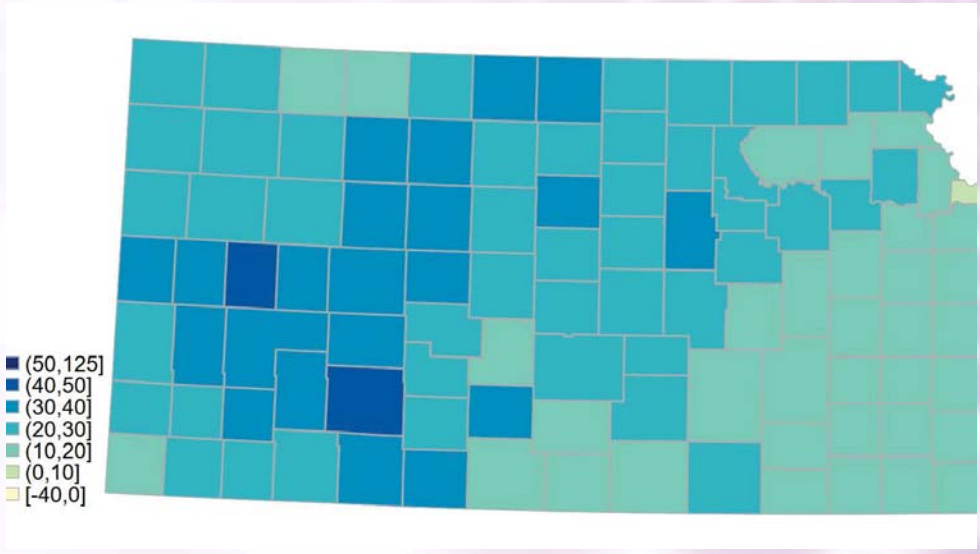

Kansas Change in MFP Implied Payment Rates from 2018 to 2019

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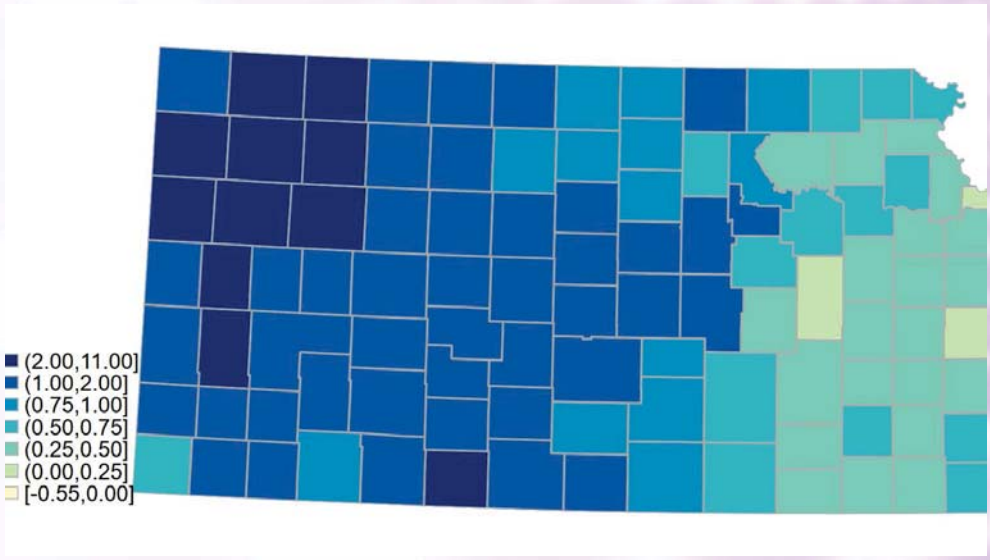

Kansas Relative Change in MFP Implied Payment Rates from 2018 to 2019

Note: Only mapped for counties with 2018 payment rate greater than $5/acre.

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KFMA Comparison

MFP1

- Average/farm: $37,492
- Greater than $100k: 7.8%

MFP2 Forecasted□

- Average/farm: $58,158
- Greater than $100k: 15.7%

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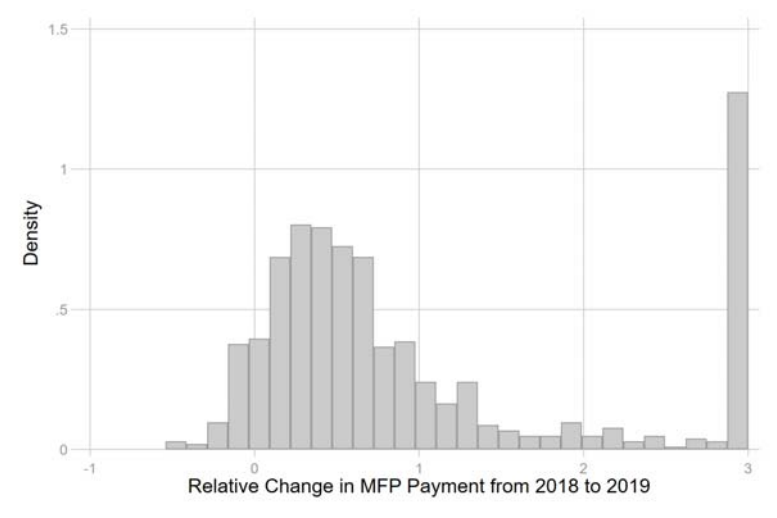
*MFP2 estimates assume 2019 planted acreage of eligible crops equal to 2018 planted acreage and ignores prevent plant.

Distribution of Relative Change Across KFMA Farms



Some Examples

- Farm A increases MFP by 35 times

Percent Corn	Percent Soybeans	Percent Sorghum	Percent Wheat	Percent Alfalfa
94%			6%	

Some Examples

- Farm B received $0 in MFP1

Percent Corn	Percent Soybeans	Percent Sorghum	Percent Wheat	Percent Alfalfa
				100%

Some Examples

- Farm C receives a 14% *smaller* MFP in 2019

Percent Corn	Percent Soybeans	Percent Sorghum	Percent Wheat	Percent Alfalfa
	70%		30%	

- Farm D (in same county) receives a 30% *larger* MFP in 2019

Percent Corn	Percent Soybeans	Percent Sorghum	Percent Wheat	Percent Alfalfa
33%	33%		33%	

Some Examples

- Farm E receives a 33% larger MFP in 2019

Percent Irrigated	Percent Corn	Percent Soybeans	Percent Sorghum	Percent Wheat	Percent Alfalfa
86%	39%	37%	2%	22%	

- Farm F (in same county) receives a 450% larger MFP in 2019

Percent Irrigated	Percent Corn	Percent Soybeans	Percent Sorghum	Percent Wheat	Percent Alfalfa
0%			20%	80%	

Summary of MFP1 and MFP2 Comparison

- Most farms will get higher payment under MFP2
- Increase in Western Kansas tends to be relatively larger
- But some farms get smaller payments in MFP2
- Single county payment rate favors those with less irrigation and those growing crops less affected by trade disruption

New policy paradigm creates tradeoffs

- Trade war plus compensation:
  - Has ambiguous effect on short-run farm profit
  - Hurt export sales, unclear effect in long-run
  - Generally poor optics for farm sector
  - Profits across farms depend on program rules
  - Invites response from others (WTO challenge?)
  - Affects incentives for planting and storage

QUESTIONS?

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