

Overview of MCOOL Impact on KSU Domestic Beef and Pork Demand Indices

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The topic of re-introducing Mandatory Country of Origin Labeling (MCOOL) has gained expanded interest recently.² One of the most debated aspects of MCOOL has been the extent to which MCOOL impacted consumer demand for covered meat products. To provide additional research-based insight, this fact sheet summarizes a new assessment focused on aggregate, consumer demand impacts.

Monthly domestic meat demand indices are maintained in the Department of Agricultural Economics at Kansas State University providing a measure of how demand has changed over time.³ These indices now provide 43 months of post-MCOOL meat demand estimates (January 2016 – July 2019), following the 82 months where MCOOL was active (March 2009 – December 2015). Coupled with observations from the pre-MCOOL time period, this enables a direct assessment of how domestic demand differed during the MCOOL period. Figures 1 and 2 present rolling 12-month averages of the All-Fresh Beef and Pork demand indices, respectively. Each figure indicates when the U.S. was in recession (in red), the MCOOL period (in yellow), and the overlapping period when both MCOOL was active and the U.S. was in recession (in orange).

Table 1 provides a summary of four separate regression models estimated to identify how beef (All-Fresh Beef Demand Index) demand differed during the pre-MCOOL, MCOOL, and post-MCOOL time periods within the January 1998-July 2019 and January 1998-July 2019 periods. Models are estimated for both periods to examine if MCOOL demand impact conclusions are sensitive to the duration of pre-MCOOL data that are included. The

¹ A special thank you is extended to Drs. Jayson Lusk and Ted Schroeder for comments on an earlier version. All errors are my own.

² Interested readers are encouraged to reference this 2015 USDA report to Congress for background detail on the history of MCOOL in the U.S. and associated economic research findings:

https://www.usda.gov/oce/economics/reports/COOL_ReportToCongress.pdf

³ These monthly demand indices and related information are available here: <https://www.agmanager.info/livestock-meat/meat-demand>.

initial and most simplistic model for each time period only controls for MCOOL and fails to control for other demand determinants. Hence these initial models may confound MCOOL effects with important other demand determinants. Accordingly, the simplistic model was expanded to control for monthly seasonality (base of December), consumer disposable income, and the price of competing meat prices. Table 2 provides a similar summary of models examining impacts on pork (Retail Pork Demand Index) demand.

The primary finding is both beef and pork demand were lower, both economically and statistically, when MCOOL was in-place than for the pre-MCOOL (base timespan) period. This finding is consistent with the research summarized in the 2015 USDA report to Congress (see footnote #2). To guide interpretation, note the -6.495 MCOOL coefficient estimate (Table 1, second model covering January 1998 – July 2019) indicates that domestic beef demand was 6.5% lower during the period MCOOL was in effect than in the pre-MCOOL period. Similarly, the -2.696 coefficient estimate (significant at the 5%, but not 1% statistical level) on “Post-MCOOL” in this model indicates that domestic beef demand was 2.7% lower during the post-MCOOL than in the pre-MCOOL period. Combined this suggests that beef demand has improved 3.8% since MCOOL ceased. Similarly, Table 2 indicates that domestic pork demand was 7.7% lower during the period MCOOL was in effect than in the pre-MCOOL period and was not statistically different during the post-MCOOL and pre-MCOOL periods.

It is important to note that a wide array of factors influence the status of domestic meat demand and other studies have examined these determinants. The point of this assessment is not to provide an exhaustive assessment of demand determinants. For instance, there is no clear reason to suspect repeal of MCOOL itself enhanced domestic demand – this regression result most likely reflects other demand supporting developments in recent years. That said, the results presented here do clearly indicate that MCOOL did not result in higher beef or pork demand.⁴ Hopefully these updated and reaffirmed findings will help guide a more productive dialogue on the role of MCOOL going forward.

⁴ It is noteworthy these points corroborate a September 17, 2019 article written by Nevil Speer for BEEF magazine: <https://www.beefmagazine.com/beef-quality/did-cool-impact-pricedemand-relationship-beef>

Figure 1. All-Fresh Beef Demand Index, 12-Month Rolling Average (Jan. 1989-July 2019)

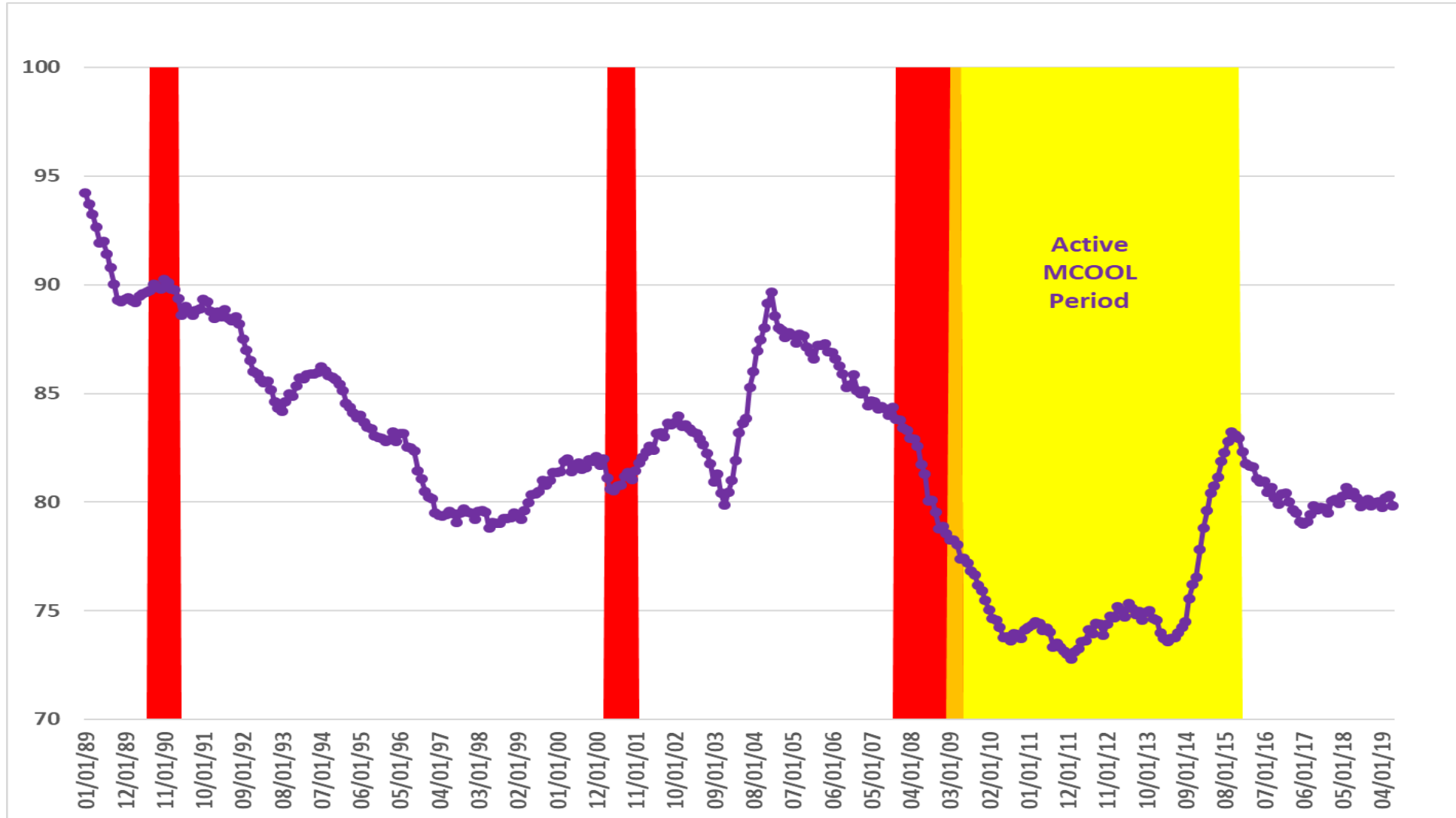


Figure 2. Pork Demand Index, 12-Month Rolling Average (Jan. 1989-July 2019)

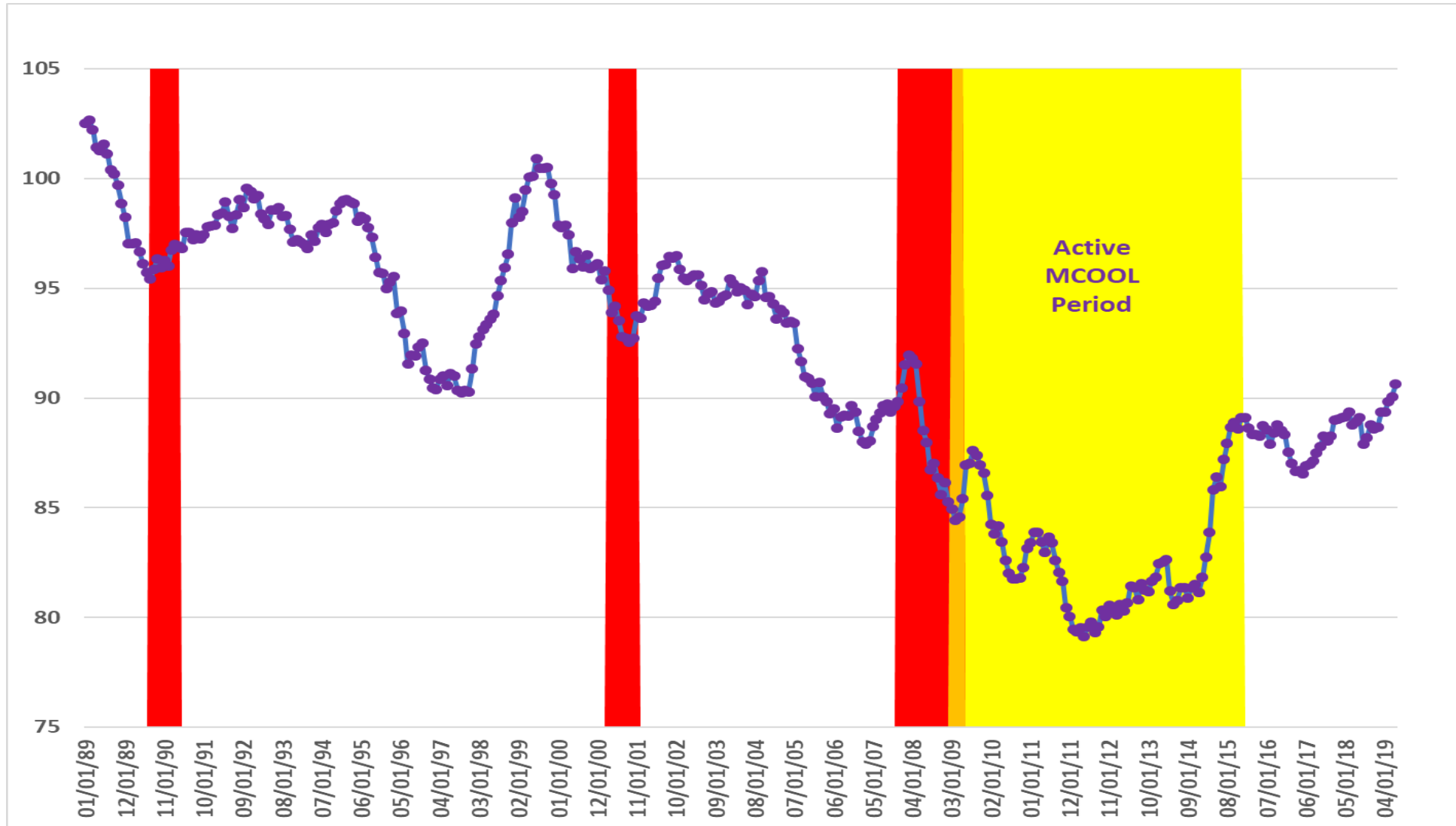


Table 1. Impact of MCOOL on Domestic All-Fresh Beef Demand Index, Regression Summary

Time Period <i>Independent Variable</i>	January 1988 - July 2019				January 1998 - July 2019			
	<i>Coefficient</i>	<i>p-value</i>	<i>Coefficient</i>	<i>p-value</i>	<i>Coefficient</i>	<i>p-value</i>	<i>Coefficient</i>	<i>p-value</i>
Intercept	84.378	<.0001	9.838	0.273	82.823	<.0001	-15.771	0.255
MCOOL	-8.314	<.0001	-6.495	<.0001	-6.759	<.0001	-9.147	<.0001
Post-MCOOL	-4.456	<.0001	-2.696	0.014	-2.901	0.0072	-8.643	<.0001
Jan			6.498	<.0001			4.726	0.000
Feb			-4.505	<.0001			-5.295	<.0001
Mar			4.339	<.0001			4.347	0.001
Apr			1.961	0.074			2.396	0.058
May			6.066	<.0001			6.018	<.0001
Jun			9.214	<.0001			9.224	<.0001
Jul			6.739	<.0001			6.879	<.0001
Aug			9.378	<.0001			9.162	<.0001
Sep			3.738	0.001			3.834	0.003
Oct			7.144	<.0001			7.100	<.0001
Nov			0.001	1.000			0.257	0.840
Real Disposable Personal Income (Thousands \$ Per Capita)			0.562	<.0001			1.391	<.0001
Real Retail Pork Price			0.100	0.001			0.059	0.149
Real Retail Chicken Price			0.388	<.0001			0.412	<.0001
Observations	379		379		259		259	
Adjusted R-Square	0.217		0.651		0.190		0.633	

Table 2. Impact of MCOOL on Domestic Pork Demand Index, Regression Summary

Time Period <i>Independent Variable</i>	January 1988 - July 2019				January 1998 - July 2019			
	<i>Coefficient</i>	<i>p-value</i>	<i>Coefficient</i>	<i>p-value</i>	<i>Coefficient</i>	<i>p-value</i>	<i>Coefficient</i>	<i>p-value</i>
Intercept	94.896	<.0001	86.810	<.0001	93.305	<.0001	77.955	0.000
MCOOL	-11.928	<.0001	-7.732	<.0001	-10.337	<.0001	-5.640	<.0001
Post-MCOOL	-6.441	<.0001	-0.200	0.900	-4.850	0.0013	4.369	0.016
Jan			2.536	0.069			3.333	0.044
Feb			-9.659	<.0001			-9.633	<.0001
Mar			-2.090	0.134			-3.522	0.034
Apr			-5.612	<.0001			-7.453	<.0001
May			-12.260	<.0001			-13.888	<.0001
Jun			-13.776	<.0001			-14.161	<.0001
Jul			-14.286	<.0001			-13.855	<.0001
Aug			-5.362	0.000			-4.430	0.008
Sep			-2.917	0.038			-2.678	0.108
Oct			5.052	0.000			4.570	0.006
Nov			-1.621	0.247			-3.283	0.049
Real Disposable Personal Income (Thousands \$ Per Capita)			-0.265	0.134			-0.742	0.077
Real Retail All-Fresh Beef Price			0.024	0.242			0.062	0.072
Real Retail Chicken Price			0.178	0.018			0.404	0.003
Observations	379		379		259		259	
Adjusted R-Square	0.252		0.684		0.222		0.690	

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