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Analysis of USDA Mandatory Hog Price Data

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Department of Agricultural Economics Working Paper No. AEWP 2006-04

May 2006

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(Updated 5/17/06)

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Dept. of Agricultural Economics Working Paper AEW 2006-4

The USDA Mandatory Price Reporting System Price Data Reports started in 2001 as part of the Livestock Reporting Act of 1999. Each weekday USDA releases three reports on negotiated hog prices which are named after their release times. The first report, called the Morning Report, covers hogs purchased by packers between midnight and 9:30 a.m. The second report, called the Afternoon Report, covers hogs purchased between midnight and 1:30 p.m. The third report, called the Prior Day Report, covers hogs purchased by packers between midnight and midnight. These reports cover about 90% of the federally inspected hog slaughter. This analysis summarizes reports for 2002, 2003, 2004, and 2005.

Table 1 shows the average quarterly negotiated price from the Morning Report for the last four years for USDA's four hog price reporting regions: Eastern Corn Belt, Iowa-Minnesota, Western Corn Belt (which includes Iowa-Minnesota hogs) and National. Table 2 reports the average negotiated afternoon prices and Table 3 gives the prior day negotiated purchase price averages since 2002. All prices are dollars per hundred pounds of carcass weight.

Table 4 shows the comparison of afternoon and morning weighted average prices for negotiated hogs in the four geographic areas covered by USDA's Mandatory Price Reporting System Reports. Note that the afternoon minus the morning price differences were positive, with only a few small exceptions. These positive differences existed in quarters when prices were trending downward as well as quarters with uptrending prices. Over the four years 2002-2005, the average afternoon price has been roughly 30 cents higher than the morning average. We believe that the best explanation for the positive difference is that many marketing contracts are currently priced off the Morning Reports, thus creating an incentive for packers to delay aggressive bidding until after the Morning Report data have been submitted to USDA. Afternoon prices are then bid higher.

Table 5 shows the differences between weighted average prices for negotiated hogs on USDA's Prior Day Report (issued at 8:00 a.m. and covering all of the animals purchased the previous day) and the Afternoon Report of that prior day. For the last four years, the Prior Day Report price for the Western Cornbelt averaged 17 cents higher than the afternoon price in the Western Cornbelt. The difference in the Eastern Cornbelt was only 5 cents.

Theoretically, the Prior Day Report prices should be the most stable and hardest to manipulate of all the prices published under Mandatory Price Reporting since it represents all of the hogs purchased on a given day.

Table 6 and Table 7 compare the afternoon prices and the Prior Day Report prices for the Eastern Corn Belt, Western Corn Belt, and the Nation to the Iowa-Minnesota price. Over 2002-2005 period, the Iowa-Minnesota afternoon price averaged 71 cents higher than the Eastern Cornbelt, 32 cents higher than the National average, and 10 cents higher than the Western Corn Belt. A similar relationship exists for the prior day prices (Table 7). These data demonstrate the expected situation of frequently higher prices in the Western Corn Belt and in Iowa-Minnesota where there are more packing plants and some hog-deficit areas.

In general, these data indicate that hog prices tend to move higher from early morning to late afternoon. Thus, pork producers should be better off using the Afternoon or Prior Day Reports from USDA's Agricultural Marketing Service to set their base price for marketing contracts. Not only should these prices be higher, but their inclusion of a larger number of hogs and longer time periods will make price manipulation more difficult. Producers should avoid using the Eastern Corn Belt price as a base for packer contracts. The Iowa-Minnesota and Western Corn Belt prices have been very comparable and marginally higher than the National price.

Table 1
Negotiated Barrow and Gilt Prices
Morning Prices (\$ per cwt.)

Period		Iowa-Minn	Eastern Corn Belt	Western Corn Belt	Nation
2002	First Quarter	50.92	50.26	50.84	50.61
	Second Quarter	45.42	44.66	45.32	45.08
	Third Quarter	44.20	42.22	44.12	43.45
	Fourth Quarter	39.97	39.51	40.00	39.82
	Annual Average	45.10	44.14	45.05	44.72
2003	First Quarter	45.73	45.28	45.75	45.64
	Second Quarter	55.99	55.68	55.93	55.84
	Third Quarter	55.76	56.49	55.78	56.11
	Fourth Quarter	47.99	47.65	48.02	47.87
	Annual Average	51.39	51.30	51.39	51.39
2004	First Quarter	58.52	58.77	58.44	58.60
	Second Quarter	72.14	72.75	72.16	72.48
	Third Quarter	75.13	74.11	75.00	74.58
	Fourth Quarter	72.17	70.09	72.08	71.18
	Annual Average	69.48	68.93	69.41	69.20
2005	First Quarter	69.74	67.24	69.59	68.62
	Second Quarter	69.83	68.53	69.66	69.19
	Third Quarter	67.21	66.68	67.10	66.88
	Fourth Quarter	60.26	59.79	60.15	59.98
	Annual Average	66.77	65.57	66.64	66.18
2002-2005 Average		58.18	57.48	58.11	57.87

Table 2
Negotiated Barrow and Gilt Prices
Afternoon Prices (\$ per cwt.)

Period		Iowa-Minn	Eastern Corn Belt	Western Corn Belt	Nation
2002	First Quarter	50.97	50.48	50.99	50.78
	Second Quarter	45.62	45.02	45.65	45.40
	Third Quarter	44.44	42.59	44.42	43.69
	Fourth Quarter	40.23	40.29	40.31	40.33
	Annual Average	45.30	44.57	45.32	45.03
2003	First Quarter	46.13	46.14	46.18	46.17
	Second Quarter	56.46	55.94	56.34	56.22
	Third Quarter	56.31	56.40	56.21	56.24
	Fourth Quarter	48.53	47.63	48.49	48.11
	Annual Average	51.84	51.55	51.79	51.71
2004	First Quarter	58.88	59.01	58.67	58.82
	Second Quarter	72.81	73.16	72.59	72.82
	Third Quarter	75.52	74.36	75.35	75.01
	Fourth Quarter	72.38	70.36	72.20	71.52
	Annual Average	69.89	69.22	69.69	69.54
2005	First Quarter	69.74	67.84	69.53	68.97
	Second Quarter	69.96	68.59	69.76	69.40
	Third Quarter	67.61	66.89	67.38	67.21
	Fourth Quarter	60.24	59.75	60.14	60.01
	Annual Average	66.90	65.78	66.72	66.41
2002-2005 Average		58.49	57.77	58.39	58.16

Table 3
Negotiated Barrow and Gilt Prices
Prior Day Purchase Price (\$ per cwt.)

Period		Iowa-Minn	Eastern Corn Belt	Western Corn Belt	Nation
2002	First Quarter	50.85	50.57	50.82	50.73
	Second Quarter	45.57	45.09	45.61	45.40
	Third Quarter	44.51	42.53	44.59	43.75
	Fourth Quarter	40.32	40.27	40.40	40.36
	Annual Average	45.29	44.59	45.34	45.04
2003	First Quarter	46.20	46.11	46.28	46.22
	Second Quarter	56.48	55.82	56.57	56.35
	Third Quarter	55.95	56.45	56.10	56.20
	Fourth Quarter	48.67	47.69	48.76	48.40
	Annual Average	51.85	51.54	51.95	51.82
2004	First Quarter	58.85	59.06	58.88	58.97
	Second Quarter	72.88	73.29	72.80	72.98
	Third Quarter	75.81	74.48	75.75	75.39
	Fourth Quarter	72.67	70.21	72.64	71.94
	Annual Average	70.04	69.26	70.01	69.81
2005	First Quarter	69.79	67.93	69.80	69.29
	Second Quarter	70.21	68.62	70.19	69.77
	Third Quarter	67.50	66.99	67.56	67.39
	Fourth Quarter	60.22	59.97	60.14	60.10
	Annual Average	66.96	65.90	66.95	66.66
2002-2005 Average		58.53	57.82	58.56	58.33

Table 4
Negotiated Barrow and Gilt Prices
Difference of Afternoon over Morning Prices (\$ per cwt.)

Period		Iowa-Minn	Eastern Corn Belt	Western Corn Belt	Nation
2002	First Quarter	0.05	0.22	0.15	0.17
	Second Quarter	0.20	0.35	0.33	0.32
	Third Quarter	0.24	0.37	0.30	0.24
	Fourth Quarter	0.26	0.79	0.32	0.51
	Annual Average	0.19	0.43	0.27	0.31
2003	First Quarter	0.40	0.86	0.43	0.53
	Second Quarter	0.47	0.26	0.42	0.38
	Third Quarter	0.55	- 0.09	0.44	0.12
	Fourth Quarter	0.54	- 0.02	0.47	0.24
	Annual Average	0.45	0.25	0.40	0.32
2004	First Quarter	0.36	0.23	0.23	0.21
	Second Quarter	0.66	0.41	0.43	0.35
	Third Quarter	0.39	0.25	0.35	0.43
	Fourth Quarter	0.21	0.27	0.13	0.34
	Annual Average	0.40	0.29	0.28	0.33
2005	First Quarter	0.00	0.60	- 0.06	0.34
	Second Quarter	0.13	0.07	0.09	0.21
	Third Quarter	0.39	0.21	0.28	0.34
	Fourth Quarter	- 0.02	- 0.04	- 0.01	0.03
	Annual Average	0.13	0.21	0.08	0.23
2002-2005 Average		0.31	0.30	0.27	0.30

Table 5
Negotiated Barrow and Gilt Prices
Prior Day Report Price Minus Afternoon Price of Same Day (\$ per cwt.)

Period		Iowa-Minn	Eastern Corn Belt	Western Corn Belt	Nation
2002	First Quarter	- 0.12	0.08	- 0.16	- 0.06
	Second Quarter	- 0.05	0.08	- 0.05	0.00
	Third Quarter	0.07	- 0.06	0.17	0.06
	Fourth Quarter	0.08	- 0.02	0.09	0.03
	Annual Average	0.00	0.02	0.01	0.01
2003	First Quarter	0.07	- 0.03	0.10	0.06
	Second Quarter	0.02	- 0.12	0.23	0.13
	Third Quarter	- 0.36	0.05	- 0.11	- 0.04
	Fourth Quarter	0.14	0.06	0.27	0.29
	Annual Average	0.00	- 0.01	0.16	0.11
2004	First Quarter	- 0.03	0.05	0.21	0.15
	Second Quarter	0.07	0.13	0.21	0.16
	Third Quarter	0.28	0.12	0.40	0.38
	Fourth Quarter	0.29	- 0.15	0.43	0.42
	Annual Average	0.15	0.04	0.31	0.28
2005	First Quarter	0.05	0.09	0.27	0.32
	Second Quarter	0.24	0.02	0.43	0.37
	Third Quarter	- 0.11	0.10	0.18	0.17
	Fourth Quarter	- 0.02	0.22	0.00	0.08
	Annual Average	0.05	0.12	0.23	0.25
2002-2005 Average		0.04	0.05	0.17	0.17

Table 6
Negotiated Barrow and Gilt Prices
Afternoon Price Comparison (\$ per cwt.)

Period		IA-MN Minus ECB	IA-MN Minus WCB	IA-MN Minus Nation
2002	First Quarter	0.49	- 0.01	0.19
	Second Quarter	0.60	- 0.03	0.22
	Third Quarter	1.85	0.02	0.75
	Fourth Quarter	- 0.06	- 0.08	- 0.10
	Annual Average	0.72	- 0.03	0.27
2003	First Quarter	- 0.01	- 0.05	- 0.04
	Second Quarter	0.51	0.11	0.24
	Third Quarter	- 0.09	0.10	0.08
	Fourth Quarter	0.90	0.04	0.42
	Annual Average	0.30	0.05	0.14
2004	First Quarter	- 0.13	0.20	0.06
	Second Quarter	- 0.35	0.22	- 0.02
	Third Quarter	1.16	0.17	0.51
	Fourth Quarter	2.02	0.18	0.86
	Annual Average	0.67	0.19	0.35
2005	First Quarter	1.90	0.21	0.77
	Second Quarter	1.37	0.21	0.56
	Third Quarter	0.72	0.22	0.40
	Fourth Quarter	0.49	0.10	0.23
	Annual Average	1.12	0.19	0.49
2002-2005 Average		0.71	0.10	0.32

Table 7
Negotiated Barrow and Gilt Prices
Prior Day Price Comparison (\$ per cwt.)

Period		IA-MN Minus ECB	IA-MN Minus WCB	IA-MN Minus Nation
2002	First Quarter	0.28	0.03	0.12
	Second Quarter	0.48	- 0.03	0.18
	Third Quarter	1.98	- 0.09	0.76
	Fourth Quarter	0.04	- 0.09	- 0.04
	Annual Average	0.70	- 0.04	0.25
2003	First Quarter	0.10	- 0.08	- 0.02
	Second Quarter	0.66	- 0.09	0.13
	Third Quarter	- 0.50	- 0.15	- 0.25
	Fourth Quarter	0.98	- 0.09	0.26
	Annual Average	0.31	- 0.10	0.03
2004	First Quarter	- 0.21	- 0.03	- 0.11
	Second Quarter	- 0.41	0.07	- 0.11
	Third Quarter	1.33	0.06	0.42
	Fourth Quarter	2.45	0.03	0.73
	Annual Average	0.78	0.03	0.23
2005	First Quarter	1.86	- 0.01	0.50
	Second Quarter	1.59	0.02	0.44
	Third Quarter	0.50	- 0.07	0.11
	Fourth Quarter	0.25	0.09	0.13
	Annual Average	1.05	0.01	0.30
2002-2005 Average		0.71	- 0.03	0.20

This study was funded by the National Pork Board and the University of Missouri-Columbia.