National Oligopoly and Local Oligopsony

in the Meat Packing Industry[*]

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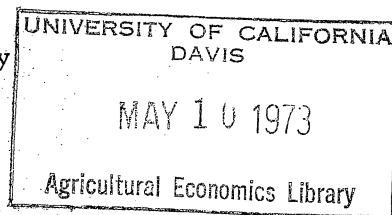
INTRODUCTION AND SUMMARY

In 1920 and for following decades the meat packing industry, which

presently supplies agriculture with about one-third of cash farm income,

was regarded as a substantially concentrated industry. At that time the

four largest meat packers accounted for the slaughter of about half of the

cattle in the country, one-third of the calves, over two-fifths of hogs,

and nearly two-thirds of the sheep, including lambs.

In this national market, which is particularly relevant in the dis-

tribution of fresh meat, concentration thereafter declined. By 1970 four

largest firms in each species[1] accounted for about one-fifth of the cattle,

one-fourth of the calves, one-third of the hogs, and over one-half for sheep.

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[1] Cattle, calves, hogs, and sheep are the categories commonly used for
slaughter animals and for meat, and are referred to as separate species,
although both cattle and calves are bovines.

In the procurement of livestock, effective market areas are usually smaller than a single state. Here markets are more concentrated. Of the ten important livestock states in the North Central region (those other than North Dakota and Michigan), six have four-firm concentration ratios for fed cattle in 1970 above 65 percent. For hogs, eight of the ten states have four-firm ratios above 65 percent. Such procurement markets can be called highly oligopsonistic.

Anticompetitive effects of increasing concentration in local, state, and regional markets have been emphasized in recent successful antimerger cases--most noticeably the IBP-Blue Ribbon case in the meat packing industry, the first to focus on the procurement of agricultural commodities. But antitrust enforcement only prevents further concentration of an industry.

Improvements in competition depend upon improvements in pricing which result in enlarging the effective market area. The most sophisticated demonstration of improved competitive pricing is provided in several Canadian provinces which sell about three-fourths of the hogs in Canada by teletype on the carcass basis.

National Oligopoly

The meat packing industry of 1920, the year of the meat packers consent decree, was moderately oligopolistic within the national market. The "Big Four" meat packers (Armour, Cudahy, Swift, and Wilson) [2] were the ranking slaughter firms in each species. They accounted for about 49 percent of cattle slaughter in the United States, 34 percent of the calves, 44 percent of the hogs, and 62 percent of the sheep and lambs (table 1). Since 1920 the structure of the meat packing industry has become less oligopolistic as concentration ratios have declined considerably at the national level. Increasingly, members of the Big Four have been displaced in the rankings by other firms.

Concentration in cattle slaughter declined—beginning in the 1930's. By 1950 four-firm concentration ratios had dropped for cattle to about 36 percent—but the other three species were about the same in 1950 as in 1920 (table 1). Ratios for all four species declined sharply during the late 1950's as a result of strategic operating policy changes by certain large packers. Decisions were made to scrap or remodel old and outmoded plants, to discontinue slaughter of certain species, to emphasize processing over slaughter in overall operations, and to diversify into other industries. Underlying these developments have been improvements in transportation and communications and shifts in the location of livestock production such as the growth of commercial feedlots in the western half of the country.

The late 1950's marked the end of the dramatic decline of concentration in meat packing. Four-firm concentration ratios did not trend downward during the 1960's. Ratios in 1969 were near 1960 levels except for sheep which increased from 54.7 to 60.4 percent (table 1).

2/ The "Big Five" became the "Big Four" in 1923 when Morris was merged with Armour.

Table 1   Percent of U. S. commercial livestock
           slaughter by the four ranking firms in
           each species, 1920 and 1950 - 1970

Year	Cattle	Calves	Hogs	Sheep
	- - - - - - - - - -Percent- - - - - - - - - - - -			
1920	49.0	34.4	43.8	61.8
1950	36.4	35.4*	40.9	63.6
'51	32.0	34.6*	40.5	62.9
'52	34.3	36.0*	39.3	63.5
'53	34.4	39.0*	37.9	62.4*
'54	32.4	37.5*	38.7	61.4*
1955	30.8	36.6*	40.6*	61.0*
'56	29.8	37.4*	40.2*	61.5*
'57	29.3*	35.4*	38.7*	58.4*
'58	27.4	32.4*	35.9*	56.6*
'59	24.7	29.8*	33.5*	54.4*
1960	23.5*	29.0*	34.9*	54.7*
'61	24.2*	30.1*	33.7*	54.7*
'62	23.7*	28.2*	34.4*	55.4*
'63	22.9*	29.1*	33.8*	54.5*
'64	22.6*	32.1*	34.9*	56.8*
1965	23.0*	32.4*	35.2*	57.8*
'66	22.4*	30.4*	31.7*	59.0*
'67	22.2*	30.2*	29.8*	58.1*
'68	21.5*	29.0*	30.1*	54.2*
'69	23.0*	27.3*	33.5*	60.4*
1970	21.3*	23.8*	31.5*	53.1*

* Includes one or more firms other than the original "Big Four"
(Armour, Cudahy, Swift, and Wilson).

Sources: (1) 1920 and 1950-1956: Record of Civil Action No. 58 C 613,
United States vs. Swift & Company, et al, Government Exhibits 5A, 5B,
5C, 5D; and (2) 1957-1970: annual reports of meat packers filed with
the Packers and Stockyards Administration (P&SA-125).   Statistics
compiled from annual reports of meat packers usually were livestock
purchases for slaughter which are comparable to slaughter statistics
differing primarily as a result of inventory changes in packer feeding
and holding activities.   Most major packers report on a fiscal year
ending about October 30.

In 1970 concentration declined in all four slaughter species due largely to major slaughter capacity cutbacks by one of the leading packers. Then, four-firm ratios were at relatively unconcentrated levels of 21 percent for cattle, 24 percent for calves, 32 percent for hogs, but at a still concentrated level of 53 percent for sheep.

Some concentration is present among the firms ranking 5 through 30 in the individual species. As of 1970, the top 8 firms (by species) accounted for about one-third of the cattle and calf slaughter, half of the hog slaughter, and two-thirds of the sheep slaughter in the United States. Concentration ratios for 4, 8, 12, 20, and 30 firm levels for 1970 were as follows:

	Percent of commercial slaughter by firms ranking: [3]				
Species	1-4	1-8	1-12	1-20	1-30
Cattle	21	31	37	44	50
Calves	24	37	46	57	66
Hogs	32	47	54	63	72
Sheep	53	67	76	85	88

The ranking 30, by species, account for half the cattle, two-thirds of the calves, three-fourths of the hogs, and nearly nine-tenths of the sheep slaughtered commercially in the United States.

At the national level, concentration in the livestock slaughter industry does not give the industry an oligopolistic structure in all

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3/ Annual reports of meat packers filed with the Packers and Stockyards Administration, U. S. Department of Agriculture.

sectors. Cattle and calf slaughter--with the four-firm level at less than

one-fourth and the eight-firm level at around one-third--are relatively

unconcentrated.<u>4/</u>   Hog slaughter was borderline at the "low-grade" oligopoly

level. But sheep slaughter was moderately concentrated with the four

largest firms above the 50 percent level.

In the meat packing industry at the national level, competitive rivalry

is intense--resulting in what may be termed "workable or effective compe-

tition." Market power of major packers is held quite effectively in check

by ease of entry by horizontal competitors dealing in "public franchise"

commodities, such as USDA Choice beef and lamb, and by the mass purchasing

power of the retail food chains. Profit margins in meat packing are not

evidence of excessive market power, as a general rule.<u>5/</u>

4/   Joe S. Bain, <u>Industrial Organization</u>, John Wiley & Sons, Inc., 1959,
     pp. 124-133. Bain classifies oligopolies according to the following
     concentration ratios:

		Concentration ratios	
<u>Industry concentration type</u>		<u>4-firms</u>	<u>8-firms</u>
I.	Very highly concentrated oligopolies	75	90
II.	Highly concentrated oligopolies	65	85
III.	Moderately concentrated oligopolies	50	75
IV.	"Low-grade" oligopolies	35	45
V.	Unconcentrated industries	Less than 35	Less than 45

5/   National Commission on Food Marketing, <u>Organization and Competition
     in the Livestock and Meat Industry</u>, June 1966, pp. 59-69.

State and Regional Concentration--
Oligopsony/Oligopoly

National concentration ratios do not reflect the market power of
the packers in the procurement market for slaughter livestock from live-
stock producers. Nor do such data necessarily reflect the market
positions of ranking meat packers as sellers of meat products in relevant
local or regional markets.

The wholesale market for fed beef carcasses is a national market. Beef
carcasses are federally graded and sold by description over the wire. The
Denver area tends to be a "divide" with carcasses moving both eastward and
westward from that area. Wholesale prices on the East and West Coasts do
not differ by more than transportation costs. The wholesale market for
fresh and frozen pork is a national market with carload movement both
eastward and westward from Omaha plants and others in the Missouri River area.

Processed meats are privately branded and advertised. Here, the
relevant markets for some products may be as small as a single metropolitan
area. For other products, markets may be regional, or even national in scope.

The relevant market for slaughter livestock is generally much more
localized than for meat. The market for livestock is quite circumscribed
inasmuch as most slaughter livestock is sold out of first hands by the
producer to a packer or other buyer located within 50 or 100 miles.
Shipping live animals out of the local market area in search of higher
prices is costly because of the trucking costs involved, as well as shrink,
and injury and bruises losses. Effective market areas for live animals
tend to be smaller than most single states.

Tables 2 and 3 show concentration data in livestock slaughter, by species, at the four-firm level--by state and region for the year 1970. The tables also show the percentages of the U. S. total slaughter accounted for by state or region and the number of major slaughter plant outlets in the state or region.

Major slaughter plant outlets for individual species for purposes of this analysis have minimum annual slaughter purchases of 20,000 head of steers and heifers, 5,000 cows and bulls, 20,000 cattle, 10,000 calves, 100,000 hogs, or 100,000 sheep and lambs. In 1970 numbers of major and minor slaughter plants reporting to the Packers and Stockyards Administration were:

| | No. of slaughter plant outlets | | |
	Major	Minor	Total
Cattle	345	769	1,114
Calves	79	437	516
Hogs	135	584	719
Sheep & lambs	31	251	282

This analysis emphasizes major slaughter plant outlets because they account for the bulk of livestock slaughter and because they are the dominant influence in the purchase of livestock. In 1970 major plants accounted for 92.7 percent of the cattle, 92.4 percent of the calves, 94.1 percent of the hogs, and 91.6 percent of the sheep and lambs (based upon slaughter purchases reported to P&SA).

The meat packing industry tends to be highly oligopsonistic (oligopolistic) at the state level--much more so than it is nationally. Four ranking firms account for 65 percent or more of slaughter for different species at the

state level in most of the cases presented in tables 2 and 3. Of the con-
centration ratios shown for the 40 individual states, only in 12 cases did
the four-firm ratio drop below 65 percent in steers and heifers, 11 states
for cows and bulls, 21 states for all cattle, 5 states for calves, 4 states
for hogs, and sheep and lambs - no states. These levels of concentration
describe highly oligopsonistic markets in most states.

Of the ten most important livestock producing states in the North
Central region (those other than Michigan and North Dakota), two had four-
firm ratios for fed cattle over 75 percent - four more had over 65 percent.
Seven states had four-firm ratios for hogs over 75 percent - one additional
state had a ratio of 71 percent.

Regional four-firm concentration ratios were also sufficient for moderate
oligopsony in many species - region combinations. Of the nine regions, the
following numbers had four-firm ratios of 50 percent or more in 1970: three
for steers and heifers, six for calves, six for hogs, and nine for sheep
(tables 2 and 3). These ratios are in the moderatively concentrated
oligopsony range.

State and regional market definitions used in this study are only one
of many possible sets. However, we believe these market definitions are
representative of relevant actual state and regional sized market areas.
The high levels of concentration at the state and regional levels in the
meat packing industry limit the number of livestock slaughter outlets avail-
able to individual producers located in any particular state or region.

Even producers located in some of the leading slaughter states have
relatively few major slaughter plant outlets available to them in their
own state. This is particularly true of the minor slaughter species of
calves and sheep and lambs.

Table 2

Distribution of U.S. livestock slaughter by state and region, number of major slaughter plant outlets and percent of slaughter by the four ranking firms in state, region, and U.S., by species, 1970

STATE AND REGION	Steers and heifers			Cows and bulls			Cattle		
	Percent of U.S.	No. of major plants	Percent by four firms	Percent of U.S.	No. of major plants	Percent by four firms	Percent of U.S.	No. of major plants	Percent by four firms
NEW ENGLAND	(0.1)	--	71.4	2.0	5	81.6	0.4	4	79.5
New York	0.4	2	84.6	3.0	12	44.4	1.0	4	42.3
New Jersey	1.0	3	100.0	0.7	2	100.0	0.9	3	99.3
Pennsylvania	1.5	4	75.8	3.8	14	41.0	2.0	6	57.6
Del. & Md.	0.2	--	66.7	0.4	3	92.0	0.2	0	76.1
MID ATLANTIC	3.1	9	56.2	7.9	31	25.5	4.1	13	42.8
Virginia	0.4	2	88.0	0.7	4	80.0	0.4	3	84.2
W. Virginia	0.1	--	86.7	0.1	--	80.0	0.1	0	76.9
N. Carolina	0.2	1	89.1	1.0	4	58.9	0.4	2	70.4
S. Carolina	0.1	--	90.0	0.2	1	93.3	0.1	1	82.9
Georgia	0.5	1	53.0	2.4	7	68.0	0.9	6	48.6
Florida	0.6	4	62.3	2.6	6	81.4	1.0	9	53.6
S. ATLANTIC	1.9	8	40.1	7.0	22	37.8	2.9	21	29.5
Kentucky	0.5	3	89.0	1.4	4	85.4	0.7	5	72.1
Alabama	0.5	2	94.0	0.8	6	80.4	0.6	3	86.1
Tennessee	1.4	6	73.4	3.2	11	53.8	1.7	9	55.5
Mississippi	0.5	3	88.1	3.1	7	88.8	1.0	6	79.8
S. EAST	2.9	14	50.5	8.5	28	38.6	4.0	23	38.9
Michigan	1.5	6	47.5	2.6	6	70.7	1.7	7	44.9
Ohio	2.9	10	42.8	2.6	11	41.1	2.9	14	36.7
Indiana	1.6	7	66.3	1.0	3	67.7	1.5	7	64.4
Wisconsin	1.8	5	85.6	7.6	10	63.9	2.9	10	63.6
Illinois	4.0	9	58.1	1.3	5	69.2	3.4	10	55.1
E.N. CENTRAL	11.8	37	27.0	15.1	35	32.1	12.4	48	22.6
Minnesota	4.4	9	71.5	6.6	9	83.3	4.9	11	59.2
N. Dakota	0.5	1	100.0*	0.8	2	100.0	0.5	2	100.0
S. Dakota	2.0	4	93.5	1.7	6	93.3	1.9	7	88.8
Iowa	13.9	20	47.1	5.5	10	77.4	12.3	21	45.2
Missouri	5.5	10	65.9	2.5	7	71.8	4.9	11	62.9
Kansas	5.6	14	69.5	3.0	8	75.8	5.1	18	67.2
Nebraska	15.1	27	49.2	4.9	13	76.4	13.1	31	46.3
W.N. CENTRAL	47.0	85	38.1	25.0	55	28.7	42.7	101	35.3
Arkansas	0.3	1	77.6	1.4	3	77.4	0.5	2	66.0
Louisiana	0.2	--	70.0	0.9	4	69.1	0.3	--	57.4
Oklahoma	1.7	3	72.6	2.3	6	58.0	1.9	5	63.8
Texas	7.5	26	39.1	13.3	28	40.9	8.6	36	32.4
S. CENTRAL	9.7	30	42.3	17.9	41	34.4	11.3	43	33.5
Montana	0.4	1	91.1	1.1	2	98.5	0.5	2	94.0
Wyoming	0.1	--	100.0*	(0.1)	--	100.0*	(0.1)	--	100.0*
Colorado	7.4	9	63.9	1.4	6	70.1	6.3	11	61.4
New Mexico	1.0	3	96.7	1.3	4	97.3	1.1	4	96.8
Idaho	1.0	3	69.5	1.8	5	80.9	1.2	7	65.7
Utah	0.6	2	70.9	1.2	2	88.4	0.7	3	74.5
Arizona	1.7	5	84.8	0.4	1	58.3	1.4	5	82.9
Nevada	0.1	1	100.0*	--	--	--	0.1	1	100.0*
MOUNTAIN	12.3	24	45.3	7.2	20	38.4	11.3	33	41.1
Washington	1.6	7	61.3	1.5	6	48.4	1.6	8	56.5
Oregon	0.8	4	60.3	1.2	4	73.0	0.9	5	61.0
California	8.9	39	19.0	6.7	23	37.9	8.4	46	16.7
WEST COAST	11.3	50	17.1	9.4	33	27.0	10.9	59	15.6
Alaska									
Hawaii									
FAR WEST									
UNITED STATES	100.0	257	26.1	100.0	270	14.7	100.0	345	23.2

* Less than 4 firms included in percentage. (0.1) denotes value less than 0.05 percent.

NOTE: Percentages based upon livestock purchases for slaughter, by state where slaughtered, excluding firms reporting less than 500 head of species. Slaughter plants were considered major outlets if minimum purchases for slaughter were 20,000 cattle, 10,000 calves, 100,000 hogs, or 100,000 sheep and lambs.

Source: Annual reports of meat packers (P&SA-125) filed with the Packers and Stockyards Administration, USDA.

Table 3 — Distribution of U.S. livestock slaughter by state and region, number of major slaughter plant outlets and percent of slaughter by the four ranking firms in state, region, and U.S., by species, 1970

STATE AND REGION	Calves			Hogs			Sheep & lambs		
	Percent of U.S.	No. of major plants	Percent by four firms	Percent of U.S.	No. of major plants	Percent by four firms	Percent of U.S.	No. of major plants	Percent by four firms
NEW ENGLAND	4.4	5	84.5	0.1	--	100.0	0.1	--	100.0
New York	18.8	15	60.1	1.2	3	99.4	0.6	--	100.0
New Jersey	8.9	6	88.3	0.4	1	100.0*	7.5	2	100.0
Pennsylvania	9.0	6	62.9	4.5	6	77.0	1.1	--	74.0
Del. & Md.	0.6	--	100.0	0.6	1	97.5	0.4	--	100.0
MID ATLANTIC	37.3	27	40.0	6.7	11	59.9	9.6	2	80.5
Virginia	3.5	2	99.3	3.6	7	82.5	(0.1)	--	--
W. Virginia	(0.1)	--	100.0*	0.1	--	96.4	(0.1)	--	100.0*
N. Carolina	0.2	--	100.0*	2.2	4	82.4	(0.1)	--	100.0*
S. Carolina	3.2	1	100.0*	0.3	1	82.1	--	--	--
Georgia	0.4	1	100.0	2.0	3	66.3	--	--	--
Florida	4.6	4	100.0	0.7	1	83.3	--	--	--
S. ATLANTIC	11.9	8	85.2	8.9	16	42.9	(0.1)	--	100.0*
Kentucky	0.1	--	100.0	2.0	3	97.5	1.8	1	100.0*
Alabama	0.5	1	100.0*	1.1	3	70.5	--	--	--
Tennessee	2.7	2	100.0	3.5	8	62.5	0.2	--	100.0*
Mississippi	1.3	2	94.1	1.3	3	90.1	--	--	--
S. EAST	4.6	5	88.8	7.9	17	45.7	2.0	1	100.0*
Michigan	3.1	4	100.0	3.1	4	87.2	3.6	2	100.0
Ohio	1.2	--	45.2	4.2	10	49.8	0.5	--	78.0
Indiana	1.0	1	100.0	4.7	6	83.8	0.1	--	92.3
Wisconsin	7.8	4	97.4	3.8	4	97.5	0.1	--	100.0*
Illinois	4.6	3	100.0	6.7	10	71.1	6.9	2	99.5
E.N. CENTRAL	17.7	12	55.6	22.5	34	38.7	11.2	4	83.9
Minnesota	3.4	2	98.5	6.6	4	98.4	4.2	2	100.0*
N. Dakota	--	--	--	(0.1)	--	100.0*	--	--	--
S. Dakota	--	--	--	3.1	4	100.0	2.8	1	100.0*
Iowa	5.4	1	100.0*	26.9	22	45.6	4.8	2	100.0*
Missouri	0.4	1	100.0*	2.8	3	93.7	2.6	1	100.0
Kansas	--	--	--	2.3	3	94.1	--	--	--
Nebraska	0.2	--	100.0*	3.1	3	99.5	9.3	3	100.0*
W.N. CENTRAL	9.4	4	95.1	44.9	39	54.0	23.7	9	81.9
Arkansas	0.1	--	100.0*	0.4	1	73.5	--	--	--
Louisiana	2.8	4	74.8	0.2	1	90.6	(0.1)	--	--
Oklahoma	0.5	--	89.5	1.1	1	83.6	(0.1)	--	--
Texas	6.6	9	52.9	2.3	6	65.9	13.2	3	97.3
S. CENTRAL	10.0	13	36.8	4.0	9	54.0	13.2	3	97.3
Montana	--	--	--	0.4	1	98.3	--	--	--
Wyoming	--	--	--	(0.1)	--	100.0*	--	--	--
Colorado	--	--	--	1.1	2	97.3	12.0	3	99.8
New Mexico	--	--	--	0.1	--	95.7	0.5	--	100.0*
Idaho	--	--	--	0.1	--	64.3	0.1	--	66.7
Utah	0.1	--	100.0*	0.1	--	97.1	7.8	2	98.8
Arizona	0.1	--	100.0*	0.2	1	100.0*	--	--	--
Nevada	--	--	--	--	--	--	--	--	--
MOUNTAIN	0.2	--	100.0*	2.0	4	78.6	20.4	5	89.6
Washington	0.2	--	100.0	0.9	3	88.2	1.9	1	100.0*
Oregon	0.3	--	91.7	0.2	--	79.3	1.3	--	100.0
California	4.0	5	44.4	1.9	2	99.9	16.5	6	72.7
WEST COAST	4.5	5	40.0	3.0	5	83.1	19.7	7	66.1
Alaska									
Hawaii									
FAR WEST									
UNITED STATES	100.0	79	24.7	100.0	135	33.4	100.0	31	58.1

* Less than 4 firms included in percentage. (0.1) denotes value less than 0.05 percent.
NOTE: Percentages based upon livestock purchases for slaughter, by state where slaughtered, excluding firms reporting less than 500 head of species. Slaughter plants were considered major outlets if minimum purchases for slaughter were 20,000 cattle, 10,000 calves, 100,000 hogs, or 100,000 sheep and lambs.
Source: Annual reports of meat packers (P&SA-125) filed with the Packers and Stockyards Administration, USDA.

For example, even a major livestock producing state such as Minnesota has only eleven major slaughter plants buying cattle, two buying calves, four buying hogs, and two buying sheep and lambs (tables 2 and 3). Indiana has only seven major cattle slaughter plants, one plant for calves, six plants for hogs, and none for sheep and lambs. Many other examples of relatively few outlets could be cited in relation to the high levels of concentration in the meat packing industry with emphasis upon livestock slaughter procurement by meat packers.

The significance of concentration in livestock concentration may also be growing due to increasing geographic dispersion among plants. The old Chicago stockyards of the 1920's had a primary trade territory encompassing substantial portions of several states. A specialized beef slaughter plant in Iowa may have a primary procurement area with a radius of 50 to 75 miles. Rational decision making on plant location calls for construction of new plants away from established plants and closer to livestock production areas. This has been the general pattern of decentralization for more than 20 years.

Concentration at State and Regional
Levels Affects Prices Paid

According to received economic theory it is axiomatic that the behavior of leading individual firms or groups of firms can influence prices in oligopolistic (oligopsonistic) markets. Whereas the theory seems quite clear on the subject, and economists seem to agree on the theory of competition in concentrated markets, relatively few studies show that prices are actually and systematically affected in the real world in concentrated markets (without invoking the work of Nicholls decades ago).

It is commonly observed in the livestock industry that prices in individual markets can vary measurably from their "normal" relationship with prices elsewhere. This happens even though market prices are widely reported and market participants are "free" to make corrective actions. Such deviations from equilibrium price relationships can be due to the normal supply and demand forces in a highly competitive atomistic market.

However, they also may be due to the actions of oligopsonistic buyers (or, possibly less often, oligopolistic sellers).

For example, a study of hog pricing at a major terminal public market by Love and Shuffett demonstrated that a local market price can be depressed relative to other markets for considerable periods of time by as much as $.25 per hundredweight.[6] This study showed that the market price for 200-220 pound mixed U. S. grade 1, 2, and 3 hogs at the Louisville market declined about $.25 per hundredweight compared to other markets as one of the two large buyers left the market. Price differentials/for the 69 weeks before the structural change in the concentrated market were compared with prices for the 87 weeks after. These results indicate that there was a significant degree of market isolation and immobility in market supplies so that price relationships were significantly affected for an extended period of time.

Another study of livestock pricing at major terminal public markets indicated that the market activities of individual firms can significantly affect prices paid farmers for fed slaughter cattle under oligopsony.[7] In this case, the four primary buyers accounted for more than three-fourths of the market. The analysis indicated that cattle feeding activities of one of the four packers buying at the market had significant depressive effects upon weekly average prices compared to other terminals. Price depressive effects from increasing packer-fed shipments (which substitute for market purchases, thus tending to reduce current demand) were within a

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[6] Love, Harold G., and Milton Shuffett, "Short-Run Price Effects of a Structural Change in a Terminal Market for Hogs," Journal of Farm Economics, August 1965, pp. 803-812.

[7] Aspelin, Arnold L., and Gerald Engelman, "Packer Feeding of Cattle: Its Volume and Significance," Marketing Research Report 776, U. S. Dept. of Agriculture, November 1966.

range of 25-50 cents per hundredweight on Choice steers (1.0 to 2.0 percent).
The study indicated highly significant price effects at the particular
market on the basis of one-week, two-week, and four-week data during a
several year period giving due consideration to the problems of inter-
correlation among independent variables and serial correlation in residuals,
which often complicate time series analysis.

Recent Antimerger Cases Emphasize Local Markets

In a recent merger, the acquisition of Blue Ribbon Beef Packing, Inc.,
by Iowa Beef Packers, Inc., in 1969 was successfully challenged by the
Antitrust Division of the Department of Justice under Section 7 of the
Clayton Act. [8/]   Blue Ribbon was a previously independent cattle slaughterer
with two plants in northern Iowa. The Department of Justice alleged that
the merger would have significant anticompetitive effects on relevant local,
state, and regional markets for fed beef animals. The case was settled
February 18, 1970, by consent order, whereby IBP agreed to divest itself
of Blue Ribbon plants and not to engage in a merger involving a cattle
slaughtering plant in a four-state area for ten years. This case serves to
point out the economic importance of concentration and its effects in compe-
tition on local and regional markets in the meat packing industry.

This particular merger case is instructive in demonstrating the increased
market concentration as one moves from the national market to the local trade
territory where competition in livestock procurement actually takes place.
At the national level the merged firms accounted for only 8 percent of the fed

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8/ U. S. vs. Iowa Beef Packers, Inc., and Blue Ribbon Beef Pkg., Inc.,
    Civil Case No. 69-C-3008-W. See Engelman affidavit. For a more extended
    discussion of this case, see Schneidau, Robert E., and Lawrence A.
    Duewar, Symposium: Vertical Coordination in the Pork Industry, Avi
    Publishing Company, Inc., Westport, Connecticut, 1972, pp. 248-251.

beef market. The resulting firm accounted for 17 percent of fed cattle purchased in the four-state area, Iowa, Minnesota, Nebraska, and South Dakota, 21 percent of the fed cattle purchased in the State of Iowa, and 32 percent of those purchased in a ten-county area of Iowa which was the primary trade territory of one of the acquired plants. The Government argued that the merger of IBP and Blue Ribbon would affect both actual and potential competition for fed slaughter cattle in the local procurement market.

This case illustrates the extending reach of antimerger law since the 1950 Celler-Kefauver Amendment to the Clayton Act extended the "lessening of competition" test for illegal mergers to "any line of commerce in any section of the country."

In the Philadelphia National Bank case (U. S. vs. Philadelphia Nat'l. Bank, 37 U. S. 321, 357 (1964)), the Supreme Court held that a four-county metropolitan area in which the merging banks were located was the relevant geographical market. (Id., 374 U. S. at 335, 359). In this case the Court rejected the defense argument for a market consisting of the northeastern United States. Also rejected was the argument that the acquisition was made in order to compete more effectively against outside New York firms in supplying credit in the Philadelphia area. Nor was the national market for credit, the obvious national influence of Federal Reserve rediscount rates on local finance markets, a deciding factor in the case. In this decision the Court held that a merger of two firms which produces a combined market share of 30 percent is presumptively illegal (at pp. 363, 364).

In two later decisions involving horizontal mergers, the Supreme Court struck down (1) a merger which produced a firm with a 23.9 percent

market share of the beer sold in Wisconsin (U. S. vs. Pabst Brewing Co., 384 U. S. 546, 551 (1966)) and (2) a merger of two grocery chains which produced a market share of 7.5 percent in the Los Angeles metropolitan area (U. S. vs. Von's Grocery Co., 384 U. S. 270, 275 (1966)).

The unique aspect of the IBP case was the first application of the extended reach of antimerger law to an important area of agricultural procurement. Other Justice Department action against horizontal mergers had all been directed toward areas of product or service distribution.

Recent antimerger history is significant for the procurement of agricultural commodities because of its focus on local markets. Antimerger actions may be important as a restraint against tendencies to further concentrate an industry. But they have little effect on dominant buying positions of present firms in many livestock procurement areas. Antimerger law may be useful to save competition, but not to improve it.

More Sophisticated Pricing Enlarges Market Area and Increases Competition

How can competition in the procurement of livestock be improved without changing the structure of the meat packing industry? The answer must lie in improvements in the pricing system which effectively enlarge the market area.

Insights into possibilities for improving livestock pricing are provided by some of the swine marketing procedures in Canada. The Canadian livestock industry is approximately one-tenth the size of that of this country. Relative to its size, however, it is geographically dispersed much more widely than ours. It extends from the maritime provinces East of Maine to the westernmost prairie province, Alberta, which lies North of the

western half of Montana. With such wide industry dispersion and sparse
livestock production, the problem of concentration in local procurement
markets was more acute in many areas than in this country.

During the last ten years, most of the Canadian provinces, the
Maritimes, Ontario, Manitoba, and Alberta, have instituted teletype systems
which now sell about three-fourths of the hogs in Canada. Under this
system the simultaneous presence of buyer, seller, and hogs being sold, is
not required since selling is by wire on a base weight and grade of
carcass. Other weights and grades are priced at a previously agreed-to system
of premiums and discounts.

Sellers list the number of hogs and location. The selling agency for
the province relays this to all packers in the province and in some cases
to others. Prices are started a little higher than the expected sale and
decline at 5-cent intervals until some packer buyer, sitting at a machine
in his own headquarters, stops the movement by pressing his bidding key
indicating his acceptance of the lot at that price. Details of the trans-
action are confirmed and the sale is consummated. The buying packer then
arranges with the seller to take delivery of the consignment.

Improvements in the level of competition under teletype pricing stem
from these different sources: (1) the enlarged market area and improved
buyer access to available supplies, (2) buyer anonymity during trading,
and (3) organized producer control of the terms of trading.

In Canada each farmer's hogs are displayed before every packer in the
province and also others, many more than was possible before teletype
pricing. Any packer, large or small, can get enough hogs to satisfy his
kill schedule if he is willing to pay the price. A small packer can get

hogs from anywhere in the province without stationing buyers in every

community. A small packer buying 5 percent of the market has no more

difficulty getting his necessary supplies than the large packer getting

50 percent. Hog-for-hog, in teletype pricing the small packer has the same

influence on the price making process as the large buyer.

The identity of the buyer of a particular lot only becomes known when

he arranges with the seller for the delivery of the livestock. Under tele-

type pricing the trading process becomes depersonalized. This dilutes the

power of the dominant firm to influence price, to exercise market retaliation

against weak firms, or to discipline other buyers who "encroach" in his

competitive area. With buyer anonymity it would be difficult for parties

with tacit understandings as to price, market shares, or allocation of trade

territories to police such arrangements.

Organized producer control of selling in Canada has enabled the use of

available Federal grade standards. The selling agency negotiates schedules

of premiums and discounts between adjacent grades to reflect value differences

in the wholesale market. In the United States both quality grades and

yield grades (related to quantity of saleable retail meats) are available

for fed cattle and lambs. Except for beef quality grades, however, they are

little used in live animal trading. Quantitative yield grades for hogs

have been available for about 20 years and are used to some degree in live

animal trading. But their effectiveness is clouded because present use is

limited to private grade standards of individual packers which all differ

from each other.

Under such a system, a maximum of competition could be combined with

a maximum of incentive pricing to producers. Efforts to measure the pricing

advantage attributed to the competitive aspects of teletype pricing of hogs in Manitoba have differed. One analysis reports a price improvement of $0.50 per 100 pounds carcass weight,[9] another $1.55 per 100 pounds.[10]

Product improvement potentials of pricing incentives can be illustrated by the value differences between adjacent beef yield grades at the retail level--$4.00 per 100 pounds of carcass, $25.00 per carcass, equivalent to a half billion dollars for 20 million steers and heifers. These value differences are largely ignored in present fed cattle trading. An improvement of one yield grade in the average consist would provide 6.3 percent more beef in the retail market.[11]

This more sophisticated electronic method of pricing livestock is possible. The technology is here. Additional statutory authority would be required and new selling institutions would have to be established.

9/ Lu, Wen-Fong, Effect on Regional Price Levels of Selling Hogs by by Teletype, a Masters' thesis at the University of Alberta, September 1958, pp. 75-86.

10/ Manitoba Department of Agriculture, "Hog Marketing by Teletype," Publication No. 471, October 1958, pp. 26-33. This was developed from a Masters' thesis at the University of Wisconsin by J. C. Lowe.

11/ A single national teletype system has been hypothesized in "An Economic Evaluation of Alternative Marketing Methods for Fed Cattle," by Ralph D. Johnson, SB 520, University of Nebraska, June 1972.