

Understanding Hog Marketing Contracts

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Introduction

Over two-thirds of hogs produced in the United States are either owned by packers or sold to packers via a pre-arranged marketing contract. Packer ownership in mid-1999 is approximately 15 percent of production and an additional 50 percent of hogs are priced on one of a variety of contractual agreements. The “price” in marketing contracts is typically tied to or have as a reference point the spot market that is trading fewer and fewer hogs. As recently as 1993 only 11 percent of hogs were packer owned or contracted with 89 percent in the spot market. Producers rapidly signed contracts to assure shackle space, reduce risk, or form a vertical alliance, but many are now concerned about issues of price discovery and market power. They wish there was still a viable cash market that was used to set the price for their contract. In addition, following the lowest prices in 50 years producers are learning about the difference between risk management and cash-flow assistance and fine print.

This paper will briefly review the increased use of marketing contracts and the motivation for contracting and describe a few alternative marketing contracts that have been offered to producers. Next, a comparison of eight different marketing contracts over 10 years of weekly data will be used to discuss the differences in the contracts. Finally, I discuss some of the concerns about contracts and will offer some speculation on what the next generation of marketing contracts and or risk management agreements may entail.

Evolution of Marketing Contracts

In the 1980s, there were very limited arrangements for contract production and long-term marketing in the pork sector, and large-scale production was beginning to grow rapidly in the Southeast¹. In the 1980s and 1990s, the smaller number of hog producers and their increasing size and growth rates have been well documented by the USDA and others. In addition, Grimes and Rhodes² documented the changing size distribution of producers, and the extent and kind of production contracting in pork production, primarily producer-to-producer contracts. In the mid-1990s, Grimes and Rhodes and a closely related study by Hayenga, Rhodes, Grimes, and Lawrence^{3,4} documented the growing importance of long-term marketing links between producers and packers, and the rationale for that growth for both producers and packers. Large-scale producer-integrators were rapidly increasing their share of U.S. pork production, extensively using long-term production contracts with other producers to expand their scale with less capital required. Vertical integration of packers into hog production was relatively small, but growing, while long-term marketing contracts were expected to rapidly expand in the mid-90s.

In February through May 1998 two separate, but nearly identical surveys were used to collect information from more than 8,300 pork producers. This information provides a quantitative snapshot of their economic structure in 1997, and likely future changes in the size, ownership structure, and long-term contractual marketing linkages of pork production enterprises⁵.

The Vance Publishing mailing list of pork producers, compiled by *Pork* magazine was used to identify producers according to their volume of annual marketings. Approximately 145

operations marketing 50,000 or more hogs a year were contacted by telephone. If they confirmed that they marketed over 50,000 hogs annually, they were faxed a survey and returned it by fax. All 18 operations marketing 500,000 hogs a year or more participated in the study, as did 88 of the 127 operations marketing between 50,000 and 499,999 head annually. A random sample of operations marketing between 1,000 and 50,000 hogs annually by size category was mailed a survey and asked to complete it and return it in a self-addressed, stamped envelope. Approximately 25% of the mail surveys were returned.

The use of marketing contracts between producers and packers has increased sharply in recent years. Nearly 57% of the 1997 marketings were under some type of prearranged agreement with the packer (Table 1). This compares with 37% in 1994 and 11% in 1993. The above 50,000 size classes and those operations outside the Corn Belt (not shown in tabular form) had 75% or more of their hogs under contract with a packer. Because market access is a big issue for large-scale operations and those not in areas with many competing packers, this should not be surprising.

The dominant type of agreement is a formula price contract, especially for the largest producers and other producers outside the Corn Belt. These contracts are ongoing agreements between the packer and producer in which the selling price is based on an observable market (i.e., Iowa Southern Minnesota, or Western Corn Belt Lean Value). Although 39% of all hogs were formula priced, the largest producers marketed 75% of their production using the formula price system. Relatively few hogs (3%) were priced based on the futures market.

The window contract is a contract of fixed length in which the packer and producer share the pain and gain above or below predetermined upper and lower price boundaries. While the 500,000+ operations sold no hogs on this contract, 13% of the 50-500 thousand head hogs were marketed on such a contract. The cost-based contract establishes a price floor based on a standardized cost of production and changing corn and soybean meal prices. Producers and packers either split the price above the floor price; or at times of higher hog prices, the producer must pay back any previously received prices above the market price. Medium sized producers are more heavily involved in these contracts than other size classes of producers.

Table 1. U.S. hog marketings under a prearranged packer marketing agreement, 1997 (%)

Size Class (1,000 Head)	Percent		Tied to			
	Contracted	Formula	Futures	Window	Cost-based	Other
1-2	23.9	16.1	2.6	0.3	0.0	4.9
2-3	32.2	19.3	1.6	1.3	7.8	2.1
3-5	36.0	20.5	4.2	3.6	5.1	2.5
5-10	44.5	26.8	2.6	3.6	6.2	5.2
10-50	54.2	27.5	6.7	3.1	16.5	0.5
50-500	81.5	56.9	3.1	13.2	3.3	5.0
500+	91.8	75.0	0.5	0.0	1.2	15.1
All Hogs	56.6	39.1	2.9	3.1	5.3	6.1

The trend toward long-term marketing contracts has been accelerating dramatically in the last few years, moving another ten points higher in the below 50,000 size class in 1998 (Table 2).

Remaining hog producers without a contract show a substantial interest in contracting in the future. Of the producers who did not have a contract in 1997, 22% indicated they were interested in considering a contract.

Table 2. Marketings contracted, 1997 and 1998 and potential interest by size group (%).

Size Class (1,000 Head)	Contract percentage		Not currently, but interested
	1997	1998	
1-2	24	34	21
2-3	32	38	28
3-5	36	48	25
5-10	44	59	24
10-50	54	62	13
1-50	39	49	22

Producers report that the primary advantage of marketing contracts is increase in prices received. Access to capital, allowed to be in the hog business, or allowed for expansion were moderately important advantages across all size classes below 50,000 head (Table 3). In prior studies, access to shackle space was considered particularly important to large producers, especially in the Southeast. Disadvantages were less important than advantages, with none being outstanding.

Table 3. Advantages and disadvantages of marketing contracts reported by producers with marketing contracts (6=very important, 1= not important at all).

Size class 1,000 Hd.	Advantages				Disadvantages		
	Access to capital	Increased price	Allowed for more expansion	Allow to be in hog business	Reduced Price risk	Locked out of higher prices	Not Treated fairly by packer
1-2	2.72	3.98	2.40	3.20	3.17	2.04	1.84
2-3	2.79	3.88	2.83	2.94	3.26	2.97	2.46
3-5	2.96	4.27	2.63	2.87	3.67	2.40	1.80
5-10	2.99	4.07	2.81	2.90	3.65	2.41	1.89
10-50	3.49	4.29	3.06	3.00	3.93	2.59	2.06
1-50	3.05	4.13	2.79	2.96	3.60	2.50	2.00

In contrast, producers without marketing contracts rate their disadvantages relatively higher (Table 4). Their perceptions were that the performance of the marketing system deteriorated in many respects—reduced number of buyers, reduced market access, more expansion, and lower open market prices. In their views, the advantages associated with contracting were slightly less

important—better product quality, more efficiency in marketing system, better communication, and better consumer service.

Table 4. Advantages and disadvantages of marketing contracts reported by producers who do not have marketing contracts (6=very important, 1= not important at all).

1,000 Head Marketed	1-2	2-3	3-5	5-10	10-50	1-50
Consumer better served	2.87	2.93	2.92	3.21	3.43	3.04
More expansion	4.76	4.69	4.59	4.66	4.76	4.69
Better product quality	3.33	3.53	3.43	3.82	4.01	3.59
Lower open market prices	4.64	4.50	4.34	4.26	4.26	4.42
Better consumer to producer communication	2.90	2.99	2.90	3.18	3.24	3.02
More efficient marketing system	2.97	3.12	3.03	3.34	3.41	3.15
Unfair advantage over those without contract	4.45	4.26	4.11	3.67	3.67	4.07
Reduces number of buyers	4.82	4.67	4.84	4.51	4.43	4.68
Reduce market access	4.92	4.69	4.99	4.41	4.26	4.70

Producers interested in a marketing contract were asked to rate the importance of potential contract features (Table 5). The most important by far was the ability to receive higher prices if they occur, followed by improved prices without risk protection. Minimum price features were considered somewhat important, but price risk avoidance was not high on the priority list for these producers. This is consistent with the dominant contracting methods already used in the industry, as formula pricing has the least price risk protection of all the contract types in use.

Table 5. Importance of features in a long-term packer contract.

1,000 Head Marketed	1-2	2-3	3-5	5-10	10-50	1-50
Minimum prices tied to feed cost, but give up higher hog prices	3.69	3.60	3.75	3.66	3.75	3.69
Minimum prices tied to feed cost, but pay back difference at higher hog prices	3.95	3.80	3.72	3.70	3.75	3.79
Higher than spot market price, no risk protection	3.92	3.91	3.95	3.85	4.01	3.92
Ability to receive higher prices if they occur	5.05	4.80	5.08	5.10	4.97	5.00

Vertical Integration

Although there is a great deal of concern about the pork industry becoming vertically integrated, a relatively small percentage of total hog production is partially or completely owned by a vertically related firm in the pork chain. Fewer than 10% of the hogs marketed in 1997 were involved with packer ownership (Table 6). Only 5% were involved with ownership by a feed company. Slightly more than 1% were involved with another vertically related firm such as a genetics company.

Table 6. U.S. hogs partially or completely owned by a packer, feed company, or other vertically related firm (%).

Size Class (1,000 Head)	Percent of U.S. Slaughter, 1997		
	Packer	Feed Company	Other
500+	8.0	2.2	0.0
50 – 500	0.7	1.5	0.9
1 – 50	0.7	1.5	0.3
Total	9.4	5.1	1.1

Based on the projected change in contract marketings between 1997 and 1998 we estimated that 65 percent of the 1998 marketings would be outside the spot market. In January, 1999 Grimes survey 12 packers processing 91 percent of slaughter to determine their procurement methods. Nine of the packers cooperated and estimates were made for the remaining three based on previous information. Table 7 summarizes the procurement practices for 91 percent of the hogs processed in January, 1999. Note that approximately 36 percent of the hogs were traded in the spot market and another 44 percent were on a formula tied to the spot market. Contracts with ledgers accounted for less than eight percent of the hogs although these are concentrated regionally near packers that offered them and lenders that encouraged them.

Table 7. Hog Procurement Methods by 12 largest Packers, January 1999

Pricing Method	% of Hogs
Formula (reported price + some amount)	44.2
Fixed tied to futures (i.e. cash contract)	3.4
Fixed tied to feed price, no ledger	2.9
Fixed tied to feed price, ledger maintained	6.9
Window risk sharing, no ledger	3.6
Window risk sharing, ledger maintained	1.0
Other (packer-owned, internal transfer)	2.3
Total Non-Spot Purchases	64.2
Spot Purchases	<u>35.8</u>
Total	100%

Source: Glenn Grimes, University of Missouri

The packer ownership number is smaller than previously estimated. However, at least a one vertically integrated packer is not in the 12 largest. This estimate also does not include the purchase of Carroll's Foods, the second largest hog producer by Smithfield, the largest packer. It is now estimated that packer ownership is approaching 15 percent of hogs produced.

Contract performance

During the period of rapid sign up for marketing agreements producers were asking which contract was "best." To their disappointment, but not surprise, there is not a clear-cut best contract. Each packer contract has its strengths and weaknesses depending on the needs of the producer. If the objective of the producer was to receive the highest long run price, then the cash market or a formula tied to the cash market is "best." If protection from low prices is more important than high prices another contract may be "best." The financial rule of lower risk and

lower return holds for hog markets. Packers were not willing to pay a producer above the market price and give the producer insurance from low prices. However, given the recent extremely low prices packers have paid over the market price for hogs, but the ledger accounts are growing.

Tables 8, 9, and 10 summarize the results of an economic model that simulates the cash market and eight different packer contracts over a 10-year period, July 1989 – June 1999. The cost of production for a hypothetical producer was also modeled to examine the impact on profits as well as prices. Table 8 uses actual prices (100 percent level) for the ten-year period, Table 9 uses prices five percent lower and Table 10 uses prices ten percent lower than actual prices during the ten-year period to evaluate the contracts at lower prices.

The actual average price for hogs was \$45.40/cwt during this period with \$2.38/bu corn and \$186/ton soybean meal. The hypothetical producer's total cost averaged \$42.86/cwt with a whole herd feed efficiency of 3.0, 80percent of the diet is corn, \$20/ton feed cost over corn and SBM, and \$24/cwt non-feed cost. Six of the contracts paid an average price higher than the cash market and five of the six had a ledger balance that must be paid back because the producer received a higher than market price at the time of sale. While contracts somewhat limited the percent of time the price was below \$40 compared to the cash market, the contracts greatly reduced the percent of time the producer experienced red ink on a week-to-week basis.

The reduction of losses is more pronounced at lower average prices. For example, at 10 percent lower prices the producer lost money 60 percent of the time in the cash market. Under contracts 1, 4 and 5 the period of losses was reduced to 5 percent or less and contract 5 does not have a ledger account. However, at prices equal to the last ten years contract 5 had the lowest prices and lowest returns. Thus, when evaluating contract producers must consider their financial needs and form an opinion about future price scenarios.

Contract Concerns

Harl and Lawrence⁶ considered the legal aspects of marketing contracts. The exact provision in the contract differs across packers and even across contracts from the same packer depending on when the contract was signed as the nature and terms of these contracts have evolved over time.

There has been particular interest in “cost-plus” contracts that establish a minimum floor price that the producer receives for hogs. The floor is based on corn and soybean meal prices plus other cost of production and is designed to help the producer's cash flow but the producer is not necessarily guaranteed a profit. There are several variations on the theme, but in general these contracts *loan* producers the difference between the market price and floor price when prices are low and the producer pays back the loan when the open market price is high. The contract may also require that the producer pay into an account that the packer holds when prices are high to build a reserve for the next downturn in the market.

Most of these contracts are 4 – 10 years in length. The traditional hog cycle has given us highs and lows that are expected to cause fluctuation in the balance in the reserve account. However, there is concern that an extended down turn in hog prices could result in large sustained negative balances in the reserve account. Although the contracts typically stipulate that the contract must continue until the account balance is zero or for some predetermined period of time, there are questions about the negative balance. Some of these questions include: what is the packer's position relative to the producer's lender, how is the reserve account balance handled on the producer's balance sheet, what if the packer or producer declares bankruptcy, terminates

business, or is sold. Some contracts place limits on the size of the negative balance. One sets the maximum negative balance at \$250,000. Others don't impose such a limit.

At the end of the contract term, the program expires. Positive balances are usually paid to the producer without interest. Negative balances are to be paid by the producer in cash, usually without interest, and usually within 30 days. Some contracts provide for continuation of the marketing contract beyond its stated term to work off negative balances.

Some of the contracts—but not all—specify that the producer is to execute and deliver to the packer upon request security agreements and financing statements under the Uniform Commercial Code. The security agreement contains the details of the amount owed—and identifies the collateral to back it up. The financing statement is filed publicly—usually at the state level—to put everyone on notice this may be a credit obligation against the collateral.

But few contracts say those documents are to be prepared—and filed. If the packer files a financing statement and has obtained adequate documentation for the obligation, the packer would have a security interest in the property described as collateral. But that security interest—which is similar in effect to a lien—would be subject to perfected security interests already in place held by the producer's regular lenders. That could involve a perfected security interest or purchase money security interest in the pigs involved, for example. That means when push comes to shove, and someone moves to grab the collateral, the packer would fall in behind the producer's other creditors with a prior perfected security interest. Of course, if the producer had no creditors—or no creditors with perfected security interests—the packer could be in a first position.

If the packer did not file a financing statement under the UCC, or a security agreement as a financing statement, *the packer is an unsecured creditor*. That would be the case whether or not the producer had other creditors. If the regular lender has a security interest in the feed (or in the crop used as feed), which is fed to pigs, and the packer has a security interest in the pigs, the courts have generally favored the holder of the security interest in the animals.

What if the ledger account shows a positive balance and the packer files for bankruptcy? It would appear that the producer would be viewed as an unsecured creditor unless UCC filings had been made by the producer.

Since 1921, purchases of livestock have been governed by the Packers and Stockyards Act passed that year. It has been well established for many years that "unfair" and "deceptive" practices are a violation of P&SA. Many cases have involved failure to make payment. Early cases often stemmed from insufficient funds checks or refusal to honor drafts drawn for the purchase price of livestock. Since 1976, prompt next day payment has been assured unless waived by the producer.

The long-term contracts discussed here seem to involve payment—even though in some cases payment may be a credit against prior negative balances. The more difficult question is whether this type of arrangement, which guarantees a price, violates the Packers and Stockyards Act by restricting access to packers. That would be a particular concern only if larger producers have contracts. Also, the question has not been litigated as to whether these contracts could be construed, in some instances, as credit sales under the prompt next-day payment provision of P&SA or as a loan to the packer.

From a lender's perspective—and the lender's regulator's perspective—is the ledger balance is it a current liability or an intermediate term liability? If it's a current liability, it could cause loan classification problems. Because the liability arose out of the sale of current assets, it's

likely to be treated as a current liability unless it's secured by other than current assets. As a result a producer may have sufficient working capital due to the contract, but a poor current ratio. This could be upsetting to bank examiners.

Many of the contracts do not place a limit on negative balances and do not contain a procedure for early termination of the contract if balances balloon to levels exceeding the producer's net worth. Clearly, the contracts were not drafted with the thought that negative balances would pose a serious financial problem for the parties. Some contracts call for negative balances to be paid to the packer within 30 days after termination of the contract, as noted. That will be difficult for some producers and next to impossible for a few.

The contracts were designed as a risk management tool and a way to even out cash flow. In normal circumstances, the contracts work well as price fluctuates around the price floor with the price floor close to the long-term average price. However, continued low prices cause negative ledger balances to increase. In those instances, it's a time bomb with the potential for causing some financial—and legal—turmoil.

Next Generation

The next generation of packer contracts and risk management will likely look different from the current agreements. Packers, for the most part, are uncomfortable being a lender to producers, but the ledger contract has made them an unsecured lender. Corporate offices, lenders to packers, stockholders, and stock market regulators are asking questions about the collectability of some of the large ledgers. Contracts that were designed to function as if history will repeat itself may have to be re-evaluated as we move into a new lower price world. Existing contracts may be revised and/or written down, but will require agreement on both sides, and will be handled on a case-by-case basis.

There will continue to be a producer to packer contracts to facilitate better communication through the marketing channel, but the risk management may be separated from the marketing agreement. New agreements may involve a third party that understands risk. The focus will also shift away from price risk and move to margin risk. Insurance companies are developing tools that protect against a minimum hog:corn ratio. The government is encouraging private sector insurance companies to develop products that assure revenue to a farmer. They have found it is cheaper to assure a minimum revenue to a crop-hog farm than it is to a specialized crop farm. Finally, the futures and options market may become viable risk management tools if used in a margin protection program with specific hog and feed price spreads as objectives. Regardless, both functions, pork chain communication and risk management, must be accomplished.

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