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## **Abstract**

Contracts are an integral part of the production and marketing of selected live-stock commodities, such as broilers, turkeys, eggs, and milk. Such crops as fruit, vegetables, and sugar beets and cane are mostly produced under contracts. In the past, farm receipts were assumed to be distributed across all farm families in proportion to their production. Today, contractors receive a large share of farm receipts, formerly assumed to go to the operator's family. Contractors typically bear a large share of production and price risk, and earn the majority of net income from the commodity's production. Farmers may benefit by being able to expand their operations more rapidly than otherwise possible—perhaps, with less debt and fewer financial risks.

**Keywords:** Marketing contracts, production contracts, net farm income, Farm Costs and Returns Survey, farm financial condition, production specialty, live-stock, region, farm financial characteristics

## **Preface**

This report provides a detailed perspective on the use of marketing and production contracts on U.S. farm businesses, with specific detail on processed vegetables, dairy, and poultry farms. Data come from the Farm Costs and Returns Survey, which USDA has conducted since 1984.

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## Summary

About \$47 billion (32 percent) of the total value of U.S. agricultural production in 1993 was produced under contract arrangements. Although most agricultural products are still produced and marketed in an open market, contracting has been a significant and growing part of U.S. agriculture since at least 1960.

USDA's 1993 Farm Costs and Returns Survey reported that more than 83 percent of the total value of production under contract was accounted for by vegetable, fruit, nursery, cattle, hog, dairy, and poultry products. There are generally two types of contracts—marketing and production. In 1993, more than 185,000 farms reported having at least one marketing contract. Production contracts were used by almost 44,000 farms. Farms can, and do, report having both kinds of contracts.

Contracts are important not only as a source of income, but they also provide for multiple payments that may extend beyond 1 calendar year. In most cases, this is helpful to farmers in managing their cash flow because many of these operations are not diversified. In 1993, 40 percent of marketing contracts were structured so that total compensation carried across calendar years.

The form of a contract, specific provisions, and terms can vary greatly among commodities and among producers of the same commodity. The degree of control that a contract has over a farmer's production decisions varies depending on the type of contract.

Marketing contracts are verbal or written agreements between a contractor and a grower setting a price and an outlet for the commodity before harvest or before the commodity is ready to be marketed. Production contracts specify in detail the production inputs supplied by the contractor, the quality and quantity of a particular commodity, and the type of compensation to the grower for services rendered.

Production contracts are used more on larger farms than are marketing contracts—and are more likely to be for livestock. In most cases, production contracts typically contain provisions for the contractor to reimburse a portion of the farm's operating expenses. In 1993, \$8 billion of all expenses of livestock producers were paid for by contractors, 63 percent of which were for feed expenses. An advantage of production contracts is that the grower and contractor share risks of both production and marketing of the commodity, one reason why the use of contracts has become so popular in the farming industry.

Most studies of contract arrangements or vertical integration have attempted to discover the factors motivating participation of growers and processors. Many of the circumstances leading to the use of contract arrangements are specific to a commodity. However, USDA studies show that some general observations can be made. Evidence suggests that farmers' reasons for entering into contracts include income stability, improved efficiency, market security, and access to capital. Reasons for processors entering into contracts include input control supply, improved response to consumer demand, and expanded and diversified operations. All of these reasons reflect the practice and effort to bring a uniform product to market.

# Farmers' Use of Marketing and Production Contracts

## Introduction

Contracts are an integral part of the production and marketing of selected livestock commodities, such as broilers, turkeys, eggs, and milk. Such crops as fruit, vegetables, and sugar beets and cane are mostly produced under contracts. In the past, farm receipts were assumed to be distributed across all farm families in proportion to their production. Today, production contractors receive a large share of farm receipts. These contractors typically bear a large share of production and price risk, and earn the majority of net income from the commodity's production. Farmers may benefit by being able to expand their operations more rapidly than otherwise possible, perhaps, with less debt and fewer financial risks.

Almost one-third of the total value of production on U.S. farms is produced under contractual arrangements. Most of the value of production under contract was produced to fulfill marketing contracts. Just over one-third of the contracted value was produced in conjunction with a production contract, where the contractor retains ownership of the commodity. Farms can, and do, report having both marketing and production contracts. This report examines the use of contracts on U.S. farms, and provides some specific detail about the nature of contracts using processing vegetables and broilers as examples.

Traditionally, farmers independently produced and then sold animals or crops in an open market to the highest bidder among local marketing or processing companies, or their agents. Agricultural products arriving at an open market vary widely in quantity, size, shape, and quality characteristics. Most agricultural products are still produced and marketed in an open market.

Today, the food system delivers to consumers a far broader range of products with more value added in the

processing and distribution stages (O'Brien).<sup>1</sup> As people buy more processed and prepared foods and eat away from home more than ever before, techniques of food processing, distribution, and marketing have become more specialized. Markets increasingly are requiring a more uniform product supply and standardization in quality. Contracts for the production or marketing of agricultural products are one vehicle through which food processors and marketers can respond to changes in consumer preferences. Contracts provide direct feedback on market preferences and reward processors who respond.

Technological advances in production practices and processing, coupled with consumer preferences for fresh-killed, young chickens, led to the predominance of contract production in the broiler industry. Recent accounts on contracts in agriculture suggest that similar changes are well underway in the hog industry (see Rhodes; Azzam and Wellman; Langemeier; Hyk; and Hurt).

## Background

While contracting has been a significant and growing part of U.S. agriculture since at least 1960, farmers and ranchers have used contracts to produce or market agricultural commodities since the early 1900's. As early as the 1920's, A&P, the chain food retailer, developed a national buying organization to purchase fresh fruits and vegetables for its stores (Manchester). Safeway and Kroger bought milk for their own processing plants from farmers or cooperatives before World War II. In the postwar period, many more chains became large enough to buy directly from farmers, emphasizing that the farmer should provide consistent quality and supply.

Many agricultural economists during the late 1950's and 1960's noticed the successful use of contracts in

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<sup>1</sup>Names in parentheses refer to sources listed in the References at the end of this report.

the poultry industry, as represented in Thompson's *Feedstuffs* article, empirical analyses conducted by Hansing, and studies by USDA (Harris and Massey). The National Institute of Animal Agriculture sponsored a symposium on various aspects of vertical integration in animal agribusiness in 1958 (see Kramer; Butz; Crouse; Mehren; Sadd; and Wilson). Also, during that year a symposium was held by the American Farm Economic Association on "Technical Progress and Vertical Integration of Agriculture" (Luke).

The Bureau of Census began collecting information about contracts in a sample survey following the 1959 Census of Agriculture (U.S. Department of Commerce, 1962). Questions on the timing and terms of the contract, who furnished inputs, payment determination, origin of contract, and contract provisions showed that contracting was well developed as a farm production and management tool as early as the 1960's. The 1977 economics follow-on to the 1974 Census of Agriculture collected detailed data on contracts for feeder cattle, fed cattle, feeder pigs, slaughter hogs, broilers, chicken eggs, tomatoes, and potatoes. Data were collected for specific regions, and the surveys were designed for the commodity to be surveyed.

Contracting has become even more common since. On all sizes of farms, for a variety of commodities, and in all areas of the country, contractual arrangements may now be found.

### **Data Sources**

Data for this report come from USDA's 1993 Farm Costs and Returns Survey (FCRS). The FCRS is composed of several questionnaire versions (for technical documentation, see Morehart, Johnson and Banker). All versions collect the same core group of questions related to farm income, expenses, and operator characteristics. USDA administers the survey each spring in the 48 contiguous States through personal enumeration. The sample size of the FCRS in 1993 was approximately 12,000 farms and ranches.

The target population of the FCRS is operators associated with farm businesses representing agricultural production across the United States. A farm is defined as an establishment that sold or normally would have sold at least \$1,000 of agricultural products during the year. Farms can be legally organized as proprietorships, partnerships, family corporations, nonfamily corporations, or cooperatives.

Data are collected from only one operator per farm, the senior farm operator. A senior farm operator is the operator who makes most of the day-to-day management decisions. This one-farm/one-operator survey design gives us good financial information for the farming business, but limits information about income and equity-sharing when more than one operator is involved. Others, such as contractors and share-rent landlords, provide inputs to the farm and receive income from production. The FCRS does not include information on these entities, except as they relate to the farm business.

The FCRS is a probability survey. Probability surveys are designed on the premise that every unit in the population has a known probability of being selected. An expansion factor, or weight, is established for each reporting unit and allows the FCRS to expand to the USDA official number of farms.

Estimates based on an expanded sample differ from those based on a complete enumeration (as in the Census of Agriculture). Differences in these estimates relate to sampling and nonsampling errors. Sampling errors are usually random and can be measured by a standard error statistic; the larger the standard error, the lower the reliability of the estimate. The relative standard error (RSE) is expressed as a percentage and found by dividing the standard error of the estimate by the mean. For some estimates, the RSE is sufficiently large to make the estimate unreliable; these instances have been marked in the tables. For other items, sample size is not sufficient for statistical reliability and the estimate is not disclosed.

## **Contracting in American Agriculture**

Broadly speaking, a contract is a written or oral agreement between parties involving an enforceable promise to do or refrain from doing something. In agriculture, contracts are agreements between farmers and companies or other farmers that specify conditions of producing and/or marketing an agricultural product. By combining market functions, contracting can reduce participants' exposure to risk. In addition to specifying quality requirements, contracts can also specify price and quantities. The form of the contract, specific provisions, and terms can vary greatly among commodities and among producers of the same commodity (Kelley).

Contractors have varying degrees of control over a farmer's production decisions, depending on the type of contract. There are generally two types of contracts—marketing and production contracts.

Marketing contracts refer to verbal or written agreements between a contractor and a grower that sets a price (or pricing mechanism) and an outlet for the commodity before harvest or before the commodity is ready to be marketed. Most management decisions remain with the growers since ownership is retained while the commodity is being produced. The contractee also assumes all risks of production, but shares price risk with the contractor.

Marketing contracts can take many forms, such as the following:

- Forward sales of a growing crop, where the contract provides for later delivery and establishes a price or contains provisions for setting a price later.
- Price setting after delivery based on a formula that considers grade and yield; or
- Pre-harvest pooling arrangements, where the amount received is determined by the net pool receipts for the quantity sold.

Production contracts specify in detail the production inputs supplied by the contractor (processor, feed mill, other farm operation or business), the quality and quantity of a particular commodity, and the type of compensation to the grower (contractee) for services rendered. Because contractors control the amount produced and the production practices used, they tend to dominate the terms of the contracts. One advantage of production contracts is that the grower and contractor share risks of both production and marketing of the commodity. Another advantage is that financing is available either directly from the contractor or indirectly through other lenders who are more assured of loan repayment.

Farmers, themselves, can be contractors. Often, a farm business will contract for another farmer to complete a stage of production in the raising of livestock. The farmer, as contractor, can then specialize in one of the stages of production, and pay another producer to either provide young animals or finish the production cycle. Contracts between farmers are legally binding, just as they are between a farmer and a processor. This type of contracting will be discussed in more detail in a following section.

## Factors Influencing Use of Contracts

Most studies of contract arrangements or vertical integration have attempted to qualify the factors motivating participation (Leckie; Harris and Massey; Lowenberg-DeBoer, Featherstone and Leatham; Sporleder; Royer and Bhuyan). Many of the circumstances leading to the adoption of contract arrangements are specific to a commodity. Nonetheless, some general observations can be made.

Reasons farmers enter into contracts include the following:

**Income stability.** Because most contract arrangements reduce risks in comparison with traditional production or marketing channels, a contracting farmer's resulting income tends to be more stable over time.

**Improved efficiency.** To the extent that management decisions are transferred to the contractor, producers can benefit from technical advice, managerial expertise, market knowledge, and access to technological advances (such as high-quality animal breeds or seed stock) not otherwise available.

**Market security.** Contracts typically convey signals to the producer regarding grades and standards that best meet consumer demands. By entering into these arrangements, the grower can guarantee that someone will buy the produce if the specifications are met. Also, by varying degrees, some amount of the market-oriented price risk is transferred from the producer to the contractor.

**Access to capital.** Production contracts eliminate much of the need for growers to obtain production credit because the contractor provides most of the inputs. In most instances, the contractor maintains title to the product and such advances are not usually characterized as credit transactions. Contracts also provide a means for a farmer to increase the volume of business with relatively limited capital requirements. Income stability associated with contract arrangements may allow a more favorable credit rating for the borrower, thus enhancing access to credit.

Reasons that processors and other entities enter into contracts include the following:

**Controlling input supply.** Because many agricultural processing facilities involve extensive investments in buildings, equipment, and labor, processors must establish an orderly flow of a large volume of uniform products to control operating costs.

**Improving response to consumer demand.**

By asserting more control over the production process, contractors can better respond to changing market conditions. The market responds to consumer preferences, which may require producers to alter standards or product form.

**Expanding and diversifying operations.**

Processors and other businesses can strengthen their competitive position in the market through contract arrangements by virtue of increased coordination and efficiencies available with larger volumes of business. These companies are large and diversified. Even though the contractor accepts a greater share of the market (price) risk with production contracts, the benefits of having a regular supply of uniform goods probably outweigh the costs. Large, integrated firms may also recapture returns in another phase of production. Their financial strength probably allows them to weather periods of low returns longer than processors who depend on open markets.

Not all aspects of contract arrangements are viewed positively. The loss of entrepreneurial capacity is perhaps the largest disadvantage to the farmer (Hamilton). Under contracts, many of the production practices are specified in order to bring a uniform product to market. Practices specified may include schedules of chemical application or of feeding, and the types of inputs used. Farmers become providers of management services for a fee.

Farmers must judge for themselves whether the trade-off of income stability and a confirmed market is a fair exchange for the loss of independence. Care must be taken to ensure that the contract shares risks between the farmer and contractor, rather than shifts them away from the contractor to the farmer. Contracts should specify who owns the product and holds the risk of loss in the crop or livestock, and when ownership passes

from one party to another, if at all. Since contracts are legal documents, farmers should consult with an attorney before entering into an agreement.

Contract arrangements and the resulting organizational structure in agriculture may pose additional societal issues, such as:

**Environmental concerns.** The trend toward large confined animal feeding facilities presents additional environmental concerns, such as animal waste management and use of chemicals for disease control. Because environmental controls may increase costs to the farmer, he or she may wait to implement environmental practices until the contract specifies and/or compensates for the additional costs. As contractors become more sensitive to environmental issues, contracts may contain language addressing these issues.

**The shrinking numbers of farms and concentration of production.** Contracting may not necessarily lead to fewer farms (our data show that farms of all sizes use contracts), but it does lead to concentration of decision-making and to less diversity in products and production practices. While diversity presents problems of its own, product homogeneity makes agricultural communities more vulnerable to decisions made outside the community.

The number of farms will continue to decline, with or without contracting, and land will be absorbed by other farms. Fewer and larger farms have implications for rural communities in employment, local tax policy, and infrastructure planning.

Food production is becoming more concentrated. For example, in 1990, the four largest broiler processors accounted for 41 percent of total broiler production (Knoeber and Thurman, pg. 487). As fewer companies dominate the industry, education and research tend to reflect the production requirements of those companies, rather than the requirements of independent producers. And, while no hard evidence is available to support their feelings, consumers may see increased concentration as leading to less competition and higher prices.



**The distribution of the benefits of contracting.** Processors use contracts because they desire uniformity and predictability to suit consumers, but they also benefit from lower costs in processing, packing, and grading. The consumer may be able to buy chicken or vegetables at a few cents per pound less. Farmers benefit by having a guaranteed market, price, and access to a wider range of production inputs, and they can concentrate their management efforts on a particular part of the production process. How other benefits and costs, such as consolidation, inputs supplied by contractors rather than local retailers, and marketing channel control distributed away from spot markets, are distributed to the rural community have not been quantified.

### Magnitude of Contract Arrangements

In 1960, the Census Bureau collected the first data on the contracting of agricultural products in a follow-on sample survey to the 1959 Agricultural Census (U.S. Department of Commerce, 1962). Approximately 147,000 farms had contracts for producing or marketing 14 specific commodities. In 1969, the Census Bureau attempted to more comprehensively describe contracting by distinguishing between marketing and production contracts (U.S. Department of Commerce, 1973). More than 156,400 farms, or about 6 percent of all farms, used production and/or marketing contracts. Production contracts were found on 84,000 farms, mostly on dairy, poultry, and vegetables farms.<sup>2</sup> The value of production under contract totaled \$5.4 billion, nearly 12 percent of the total value of commodities sold in 1969. Contractors were reported to have paid almost 5 percent of total operating expenses.

In 1977, the Census Bureau conducted a follow-on survey to the 1974 Census of Agriculture that dealt specifically with contracting (U.S. Department of Commerce, 1979). In 1974, approximately 156,000 farm operators reported the use of production or

marketing contracts. This represented 9.2 percent of farms with sales of \$2,500 and over. The 1977 follow-on survey provided data on the methods used to initiate a contract, the terms of individual contracts, and the provisions for variation in quantity and quality produced. Other data described the type of organization of farm businesses and the farm income of those having contracts (Mighell and Hoofnagle).

The ability to expand the 1977 data to represent all contracting farms was limited because the survey only collected data for eight commodities and in limited regions. A brief review of survey results indicated that about one-third of the respondents to the 1974 census either misreported their use of contracting or were not contracting in 1977. Entry and exit from contract usage were more pronounced with fed cattle than with the other seven commodities (fattened cattle, feeder pigs, slaughter hogs, broilers, chicken eggs, tomatoes for processing, and potatoes). Other highlights from this survey include the following:

- For production contracts, the compensation received by the contractee was less than the full market value of the commodity, likely reflecting the reduced risk borne by the producer.
- In marketing contracts, the primary responsibility of the contractor was to provide a market for the commodity. The contractee or producer was free to employ a high degree of entrepreneurship in the production of the commodity and was compensated by a payment more reflective of the market value of the product.
- Contracts tended to be long-term relationships, with 44 percent of the respondents growing their products under contract for more than 10 years, with a range of 11 percent of slaughter hog producers to 70 percent of tomato growers.
- Most respondents expressed general satisfaction with contract terms. This was reinforced by the majority of respondents reporting plans to continue contract usage.
- No apparent differences were found, due to the size of the operation, in the contract characteristics such as payment determination, availability of other contractors, involvement of bargaining associations, or satisfaction with contract terms.

In 1978, the Bureau of the Census conducted a third survey, the Farm Finance Survey, to measure the use of production contracts on U.S. farms in 1978 (U.S.

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<sup>2</sup>Because contracting data were newly collected in the Census' taken in the 1960's, some respondents probably did not make the distinction that this report does between production and marketing contracts. Almost all fluid milk is sold under marketing orders, but there is neither a quantity nor a final price determined before the sale. Dairies may also have production contracts for the raising of replacement heifers.

Department of Commerce, 1982). Results indicated that 43,665 farms, about 1.9 percent of all farms, used production contracts. The value of commodities produced under this type of contract in 1978 was \$12.8 billion or just more than 10 percent of the total value of commodities sold in that year. In 1989, the use of production contracts on U.S. farms was measured by the 1988 Agricultural Economics & Land Ownership Survey (AELOS) conducted by the Census Bureau. The results were similar to the previous survey (U.S. Department of Commerce, 1990). About 1.8 percent of all farms used production contracts. The value of commodities produced under production contracts totaled about \$17.9 billion, or about 13 percent of the total value of commodities sold in that year.

USDA continues to monitor contracting (USDA, 1961; 1966; 1972; 1978). Results from more recent farm level surveys are similar to those from the 1979 Farm Finance Survey and AELOS, with 43,609 farms, or about 2.1 percent of all farms, indicating the use of production contracts and nearly 12 percent of the total value of production produced under production contracts. About 11 percent of all farms in 1993 used production and/or marketing contracts, with the share of commodities produced under contract approaching 32 percent. These results suggest that marketing contracts have accounted for most of the growth in contract use since 1969.

## **Farms With Contracts**

The 1993 FCRS data indicate that about \$47 billion (32 percent) of the total value of production was produced under contract arrangements, with nearly 63 percent of the total value of production under contract occurring under marketing contracts. The remaining 37 percent were production contracts. Farms can, and do, report having both marketing and production contracts.

Nearly three-quarters of the farms with production contracts were producing livestock commodities. These farms accounted for 91 percent of the total value of production under production contracts. Marketing contracts for livestock commodities were much less common, accounting for 20 percent of farms and for 42 percent of the total value of production under marketing contracts. In contrast, about 80 percent of the farms with marketing contracts were for crop commodities

and they accounted for about 58 percent of the value of production under marketing contracts.

## **Use of Contracts by Size of Farm in 1993**

Farms of all sizes are involved in contracting (table 1). The gross sales value for the largest share of farms with contracts ranged between \$50,000 to \$249,999 in 1993. These farms represented 49 percent of farms with contracts and produced about 24 percent of the total value of all production under contract. The largest farms, those with gross sales of \$500,000 or more, represented 11 percent of farms with contracts, but accounted for 58 percent of the value of production under contract.

The proportion of farms using contracts and the share of the total value of production produced under contract increased as farm size increased. For example, 22 percent of farms with sales valued at \$50,000 to \$249,999 used contracts and 22 percent of the value of their production was produced under contract. In comparison, 54 percent of the farms with sales valued at \$500,000 or more used contracts and 44 percent of the value of their production was produced under contract.

## **Use of Contracts by Type of Farm in 1993**

Contracting was more prevalent on farms specializing in certain commodities. Nearly 89 percent of poultry farms reported using contracts and about 86 percent of the total value of production on poultry farms was produced under contract in 1993 (table 2). In comparison, less than 2 percent of cattle producers used contracts, while the value of production under contract comprised about 23 percent of the total value of production on these farms. Dairy farmers have long had verbal contracts with their processors or cooperatives and most milk is produced under marketing orders. In the FCRS, dairy farmers report that about 43 percent of their total value of production was produced under contract, with 28 percent of farms reporting the use of contracts.

Thirty-six percent of farms specializing in the production of fruits or vegetables used contracts in 1993. These farms produced more than half of the total value of production in their class. About 30 percent of the total value of cotton production was produced under contract. In contrast, 13 percent of the total value of corn production occurred under contract.

**Table 1—Distribution of farms and value of production by gross value of sales in 1993**

Item	Value of sales				All farms
	\$500,000 or more	\$250,000-\$499,999	\$50,000-\$249,999	\$49,999 or less	
			<i>Number</i>		
Number of farms	45,400	70,300	433,124	1,514,476	2,063,300
Farms with contracts	24,608	28,356	110,106	62,238	225,308
Farms with production contracts	9,199	7,568	19,570	*7,271	43,609
Crop contracts	1,245	*2,033	*4,998	*3,421	11,697
Livestock contracts	8,020	5,662	14,672	S	32,205
Farms with marketing contracts	16,985	21,110	92,599	55,043	185,736
Crop contracts	11,848	16,860	68,697	51,241	148,646
Livestock contracts	5,512	4,371	24,068	3,801	37,752
			<i>Million dollars</i>		
Total value of production	61,628	24,044	49,952	14,870	150,493
Crops	25,103	13,175	25,172	6,399	69,848
Livestock	36,525	10,869	24,780	8,471	80,645
Value of production under contract	27,323	7,264	11,170	1,697	47,454
Crops	8,391	*3,821	5,285	1,410	18,907
Livestock	18,932	3,444	5,885	*286	28,547
Value under production contract	12,187	2,502	2,826	*190	17,706
Crop contracts	*856	S	*382	S	*1,644
Livestock contracts	*11,331	2,135	*2,444	*153	16,062
Value under marketing contracts	15,135	4,762	8,344	1,507	29,748
Crops contracts	7,535	*3,453	4,903	1,373	17,263
Livestock contracts	7,601	1,309	3,441	134	12,485

\* = Relative standard error of the estimate is between 25 and 50 percent.

S = Suppressed because the relative standard error of the estimate is above 50 percent.

Source: Farm Costs and Returns Survey, 1993, all versions.

**Table 2—Distribution of farms and value of production by selected farm type in 1993<sup>1</sup>**

Item	Corn <sup>2</sup>	Cotton	Fruit and vegetables	Cattle	Hogs	Poultry	Dairy <sup>3</sup>
				<i>Number</i>			
Number of farms	80,094	21,570	108,027	740,138	82,132	27,589	125,408
Farms with contracts	20,720	6,471	39,252	13,278	9,232	24,500	34,903
Farms with production contracts	S	d	*1,836	*2,827	*4,701	23,379	*2,661
Crop contracts	S	d	S	d	d	S	S
Livestock contracts	0	d	d	*2,668	*4,259	23,379	*795
Farms with marketing contracts	19,627	6,471	37,957	10,625	*4,749	*2,081	32,441
Crop contracts	19,627	6,464	37,957	6,346	*4,235	*1,050	S
Livestock contracts	0	d	d	4,408	d	S	29,680
				<i>Million dollars</i>			
Total value of production	8,519	3,717	16,308	33,870	8,436	11,237	23,833
Crops	8,271	3,677	16,253	3,403	1,211	*302	817
Livestock	248	*40	*56	30,467	7,226	10,935	23,016
Value of production under contract	1,141	1,102	8,627	*7,787	1,155	9,642	10,185
Crops	1,141	1,101	8,618	216	*148	S	*113
Livestock	0	d	S	*7,571	*1,007	9,546	10,072
Value under production contract	S	d	*889	*6,038	*958	8,845	*178
Crop contracts	S	d	d	d	d	d	S
Livestock contracts	0	d	d	*6,023	*935	8,845	S
Value under marketing contracts	1,090	1,102	7,738	*1,749	*197	*796	10,007
Crops contracts	1,090	1,100	7,736	201	*125	S	*78
Livestock contracts	0	d	d	*1,548	d	*701	9,929

\* = Relative standard error of the estimate is between 25 and 50 percent.

S = Suppressed because the relative standard error of the estimate is above 50 percent.

d = Insufficient data for disclosure.

<sup>1</sup>Fifty percent or more of the value of production on the farm is from the indicated commodity(s). <sup>2</sup>While it is certainly possible that some operators who specialize in raising corn could also have a livestock contract (especially for hogs), the FCRS data did not show any contracts in the sample in 1993. <sup>3</sup>Most milk is produced under marketing orders. Milk producers usually have a verbal agreement with their buyer or cooperative, but because a quantity and a final price are not specified before the sale, producers do not consider this a "contract." Dairy farmers may have production contracts with other operators to produce a stream of replacement heifers.

Source: Farm Costs and Returns Survey, 1993, all versions.

Vegetable, fruit, nursery, cattle, hog, sheep, dairy, and poultry products accounted for more than 83 percent of the total value of production under contract (table 3). Nearly 90 percent of all poultry products and 65 percent of all peanuts were produced under contract in 1993.

### Distribution of Cash Operating Expenses in 1993

Many contracts are written so that the contractor either directly pays for inputs, supplies the inputs, or reimburses the producer for expenses required to produce the commodity under contract. Survey data suggest that overall, 6 percent of total cash operating expenses were paid by contractors in 1993, but this varies by commodity and size of farm. Expenses paid by contractors were most common on poultry farms, where, on average, 69 percent of operating expenses were paid by contractors (table 4). Seven percent of total expenses, on average, were paid by contractors on farms specializing in other commodities. Large farms received most of the contractor-paid expenses—60 percent went to farms with gross sales of \$500,000 or more (table 5). Almost three times the share of the cash expenses on the average large farms were paid by contractors, 11 percent compared with 4 percent on farms with sales valued at \$50,000 to \$249,999.

Seventy-six percent of the farms with contractor-paid expenses in 1993 were classified as livestock (including poultry) farms (table 6). These farms received 97 percent of all contractor-paid expenses. Feed and livestock purchases accounted for 93 percent of all contractor-paid operating expenses on livestock farms.

**Table 3—The value of production under contract by commodity in 1993**

Commodity	Share of total contract production	Share produced under contract
	<i>Percent</i>	
Corn	2.9	12.3
Soybeans	2.8	12.4
Wheat	1.0	6.8
Cotton	3.0	32.7
Peanuts	1.8	64.6
Rice	*0.4	*19.6
Vegetables/fruit/nursery	23.0	47.4
Cattle, hogs, sheep	*18.4	*18.5
Dairy	21.4	47.9
Poultry	20.3	89.4
All other commodities	5.0	18.6
All commodities	100.0	31.5

\* = Relative standard error of the estimate is between 25 and 50 percent.

Source: Farm Costs and Returns Survey, 1993, all versions.

Seed, fertilizer, and chemicals accounted for 72 percent of all expenses paid by those contractors.

### Farms with Marketing Contracts

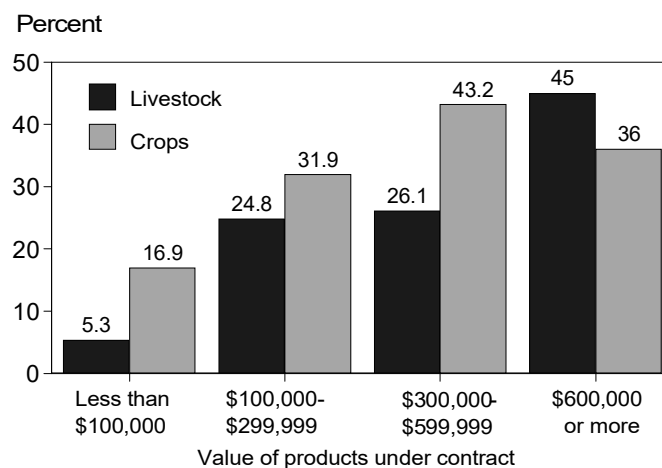
More than 185,000 farms had at least one marketing contract during 1993. Eighty percent of these farms had gross sales of less than \$250,000, and they accounted for 33 percent of the total value of production under marketing contracts. Even though all farm sizes used marketing contracts, almost half of total marketings were reported by the largest farms (gross sales more than \$500,000).

Quantities marketed varied widely across farms. More than three-quarters of the farms received \$100,000 or less during calendar year 1993 for products sold under contracts (fig. 1). Roughly 17 percent of farms had contracts for products valued between \$100,000 and \$299,999, while another 4 percent of farms had contracts for products ranging in value from \$300,000 to \$599,999. About 3 percent of farms had marketing contracts for products valued at \$600,000 or more. Farms with the largest contracts accounted for more than 40 percent of the value of commodities under marketing contracts in 1993.

Seventy percent of the farms using marketing contracts in 1993 were classified as crop farms (other crops—36 percent, fruit and vegetables—20 percent, corn—11 percent, cotton—3 percent). These farms accounted for 56 percent of the total value of commodities produced under marketing contracts. Even though dairy farmers usually have a verbal agreement with buyers, our data show that dairy farms comprised 17 percent of farms

Figure 1

### Marketing contracts as a share of gross cash income



Source: 1993 Costs and Returns Survey.

**Table 4—Distribution of farm operation cash expenses by selected farm type in 1993<sup>1</sup>**

Item	Corn	Cotton	Fruit and vegetables	Cattle	Hogs	Poultry	Dairy
<i>Million dollars</i>							
Cash operating expenses	7,346	3,394	12,858	30,630	7,663	8,263	17,874
Amounts paid by:							
Farm operation	6,552	3,255	12,532	28,397	6,861	2,515	17,491
Contractors	*6	S	S	S	*561	5,728	*58
Landlords	789	139	155	632	241	*21	325

\* = Relative standard error of the estimate is between 25 and 50 percent.

S = Suppressed because the relative standard error of the estimate is above 50 percent.

<sup>1</sup>Fifty percent or more of the value of production on the farm is from the indicated commodity(s).

Source: Farm Costs and Returns Survey, 1993, all versions.

**Table 5—Distribution of farm operation cash expenses by gross value of sales in 1993**

Table 6. Distribution of farm operation cash expenses by gross value of sales in 1999					
Item	Value of sales				All farms
	\$500,000 or more	\$250,000-\$499,999	\$50,000-\$249,999	\$49,999 or less	
Million dollars					
Cash operating expenses	46,874	19,831	43,469	20,339	130,514
Amounts paid by:					
Farm operation	41,276	17,632	39,797	19,279	117,984
Contractors	4,922	1,364	*1,529	S	8,320
Landlords	676	835	2,144	556	4,210

\* = Relative standard error of the estimate is between 25 and 50 percent.

S = Suppressed because the relative standard error of the estimate is above 50 percent.

Source: Farm Costs and Returns Survey, 1993, all versions.

**Table 6—Farms with contractor-paid expenses in 1993**

Item	Crop farms	Livestock farms	All farms
<i>Number</i>			
Farms	11,609	37,524	49,133
<i>Million dollars</i>			
Contractor-paid expenses	*287	8,033	8,320
Feed	**28	5,068	5,096
Livestock purchases	**4	*2,373	*2,378
Seed, fertilizer, chemicals	**208	*61	*269
Custom hauling	*11	*192	*204
Other contractor-paid expenses	*35	339	375

\* = Relative standard error of the estimate is between 25 and 50 percent.

\*\* = Relative standard error of the estimate is greater than 50 percent but less than or equal to 75 percent.

Source: Farm Costs and Returns Survey, 1993, all versions.

using formal marketing contracts and accounted for an additional 34 percent of the total value of commodities produced under marketing contracts.

The mix of crop commodities, comprising the majority of the value of crop contracts for farms with less than \$100,000 marketed, included field corn, soybeans, peanuts, almonds, and wheat. Milk, cattle, and turkeys were the most often reported livestock commodities for a similar contract size. These contrast with the mix of commodities marketed under the largest contracts.

Cotton, potatoes, strawberries, walnuts, grapes, onions, and tomatoes represented more than 95 percent of the value of crop commodities. Livestock commodities, which were nearly double the value of crops marketed under large contracts, were predominantly milk, eggs, and cattle.

The importance of marketing contracts as a source of income varied by farm size ranging from 10 percent of gross cash income for farms in the smallest economic class to 58 percent of gross cash income for farms with sales of \$500,000 or more. Average income from crop or livestock commodities marketed under contract was similar at \$55,000. Despite this commodity parity, commodity value for crops was much higher than for livestock across economic size groups, except for the largest sized farms where livestock value exceeded crop value by \$100,000 in 1993.

In addition to their importance as a source of income, marketing contracts usually provide for multiple payments, which may extend beyond 1 calendar year. In most cases, this is helpful to farm operators in managing their cash flow because many of these operations are not diversified, and have only one commodity enterprise. In 1993, 40 percent of marketing contracts were structured such that total compensation carried across calendar years.

### **Use of Marketing Contracts by Fruit and Tree Nut Farms**

Most marketing contracts for fruit and tree nut commodities are offered by cooperatives and processors. In addition to establishing the quantity to be delivered, the contract terms involve specifying a price or pricing formula for a specific commodity grade or quality and the timing of payments. In many instances the contractor provides for any marketing charges and transportation.

In 1993, two out of three commercial-sized farms (gross sales of \$50,000 or more) that specialized in the production of fruit and tree nuts had at least one marketing contract (table 7). The amount received by those with contracts averaged \$248,000, which represented nearly 85 percent of gross farm income. In terms of gross income, farms that had marketing contracts (\$292,407) were smaller than those that did not (\$463,820). Despite the disparity in volume of business, they had similar levels of average net cash income at \$49,000.

Total farm business assets were over two times higher for commercial fruit and tree nut farms that did not use marketing contracts when compared with those that did. Most of the difference was in the value of land and buildings (table 8). Farms that had contracts owned less acreage and were not concentrated near rural areas with high real estate values. Farm business liabilities represented 27 percent of total assets for farms with contracts compared with 9 percent for farms that did not have marketing contracts in 1993.

### **Farms With Production Contracts**

Larger farms use production contracts more intensively than they do marketing contracts. For example, the FCRS shows 21 percent of farms with production contracts had sales of \$500,000 or more. In comparison, 9 percent of the farms with marketing contracts had sales valued at \$500,000 or more. Farms with large production contracts accounted for 69 percent of the total value of commodities under production contracts. In contrast, 62 percent of farms with production contracts had sales valued at \$249,999 or less. These farms accounted for 17 percent of the total value of commodities under production contracts.

Seventy-two percent of farms using production contracts were classified as poultry (54 percent), hogs (11 percent), or cattle (7 percent) producers. Taken together these farms accounted for 89 percent (poultry—50 percent, cattle—34 percent, hogs—5 percent) of the total value of commodities produced under production contracts.

Past reporting by the Census of Agriculture has shown that production contracts typically contained provisions for the contractor to reimburse a portion of the farm's operating expense. For survey purposes, when we make the distinction between production contracts and marketing contracts, the ownership of the commodity

**Table 7—Farm business income statement for commercial fruit and tree nut farms, 1993**

Item	No marketing contracts	With marketing contracts	All fruit/nut farms
Number of farms	6,185	12,382	18,567
<i>Average dollars</i>			
<b>Gross cash income</b>	<b>463,820</b>	<b>292,407</b>	<b>349,507</b>
Livestock sales	3,251	49	1,116
Crop sales (including net CCC loans)	386,722	257,274	300,395
Marketing contracts	0	247,934	165,343
Government payments	8,222	993	3,401
Other farm-related income <sup>1</sup>	65,624	34,092	44,596
<b>Less: Cash expenses</b>	<b>414,386</b>	<b>243,925</b>	<b>300,708</b>
Variable expenses	354,287	190,867	245,304
Livestock purchases	1,248	52	451
Feed	215	62	113
Other livestock-related <sup>2</sup>	1,586	379	781
Seed and plants	7,525	3,947	5,139
Fertilizer and chemicals	50,362	29,007	36,121
Labor	189,534	83,393	118,750
Fuels and oils	10,158	7,838	8,611
Repairs and maintenance	18,362	22,346	21,019
Machine-hire and custom work	14,552	14,434	14,474
Utilities	21,813	17,618	19,015
Other variable expenses <sup>3</sup>	38,931	11,790	20,831
Fixed expenses	60,098	53,059	55,404
Real estate and property taxes	16,368	6,365	9,697
Interest	19,393	27,349	24,698
Insurance premiums	8,525	6,560	7,215
Rent and lease payments	15,812	12,785	13,793
<b>Equals: Net cash farm income</b>	<b>49,435</b>	<b>48,482</b>	<b>48,799</b>
Less:			
Depreciation	23,522	10,631	14,925
Labor, noncash benefits	3,209	1,087	1,794
Plus:			
Value of inventory change	-8,681	42,966	25,762
Nonmoney income <sup>4</sup>	7,298	8,482	8,087
<b>Equals: Net farm income</b>	<b>21,321</b>	<b>88,211</b>	<b>65,929</b>

Note: CCC is Commodity Credit Corporation.

<sup>1</sup>Includes income from machine hire, custom work, livestock grazing, land rental, contract production fees, outdoor recreation, and any other farm-related sources.

<sup>2</sup>Includes livestock leasing, custom feed processing, bedding, and grazing. <sup>3</sup>Includes supplies, registration fees, transportation, storage, and general business expenses. <sup>4</sup>Defined as the value of home consumption and imputed rental value of farm dwellings owned by the farm operation.

Source: 1993 Farm Costs and Returns Survey.

determines the type of contract. In production contracts, the contractor is the owner of the commodity and, as such, carries the expense for the purchase of the commodity and some of the inputs. In the case of livestock, the contractor supplies the birds, the cattle, or the hogs, which are to be fed and cared for at the next stage of production by the grower. In 1993, \$8 billion of all expenses of livestock producers were paid for by contractors, 63 percent of which was for feed expenses. And another 30 percent, or \$2.4 billion, was for livestock purchases.

## Characteristics of Production Contracts

We examined the financial structure and other characteristics of farms that reported production contracts to better understand farm operations that contract to raise or produce agricultural commodities for other farms or businesses. Specifically, broilers and processing vegetables were investigated as representing the opposite extremes of the type of arrangements found for production contracts. Operations that had multiple contracts

**Table 8—Farm operation balance sheet for commercial fruit and tree nut farms, 1993**

Item	No marketing contracts	With marketing contracts	All fruit/nut farms
Number of farms (expanded)	6,185	12,382	18,567
<i>Average dollars</i>			
<b>Farm assets</b>	<b>2,806,841</b>	<b>1,205,601</b>	<b>1,738,999</b>
Current assets	244,595	141,767	176,021
Livestock inventory	2,481	43	855
Crop inventory	44,047	17,930	26,630
Purchased inputs	4,403	2,141	2,895
Cash invested in growing crops	27,130	5,477	12,690
Commodity receivables	55,809	60,402	58,872
Prepaid insurance	2,131	1,640	1,804
Other assets <sup>1</sup>	164,403	114,536	131,147
Noncurrent assets	2,562,246	1,063,834	1,562,978
Investment in cooperatives	14,034	5,526	8,360
Land and buildings	2,422,686	969,129	1,453,331
Operators dwelling <sup>2</sup>	100,499	99,347	99,731
Farm equipment	123,492	89,122	100,571
Breeding animals	2,033	57	715
<b>Farm liabilities</b>	<b>242,133</b>	<b>321,985</b>	<b>295,385</b>
Current liabilities	109,110	68,543	82,057
Notes payable within 1 year	76,660	31,884	46,799
Current portion of term debt	15,126	21,694	19,506
Accrued interest	6,744	9,211	8,389
Accounts payable	10,580	5,755	7,362
Noncurrent liabilities	133,023	253,442	213,329
Nonreal estate	17,211	3,487	8,058
Real estate	115,813	249,956	205,270
<b>Farm equity<sup>3</sup></b>	<b>2,564,708</b>	<b>883,615</b>	<b>1,443,613</b>

Note: CCC is Commodity Credit Corporation.

<sup>1</sup>Includes accounts receivable, certificates of deposit, checking and savings balances, and any other financial assets of the farm business. <sup>2</sup>The value of the operators' dwelling and any associated liabilities was included if the dwelling was owned by the farm. <sup>3</sup>Commodity Credit Corporation crop loans were excluded from both assets and liabilities.

Source: 1993 Farm Costs and Returns Survey.

were excluded so that expenses paid by the contractor could be specifically tied to the commodity of interest.

### Broiler Contracts

Broiler contracts are the most widely publicized livestock production contracts, even though cattle and hogs have been fed on contract for many years. Of the more than 32,000 farms with livestock production contracts, the FCRS reports that more than 14,500 farms had broiler contracts in 1993 (table 9). On 3.5 percent of these farms, there were production contracts for more than one commodity, or broiler contracts with more than one contractor during the year, leaving about 14,000 farms with just one broiler contract arrangement. Broiler production was the primary activity of nearly all of these farm businesses, with 40 percent

having no additional farm enterprises. The total value of broilers raised among these single-contract farms varied considerably. Nearly one-third of the farms had contracts for birds valued at \$300,000 or less during 1993, while 20 percent had contracts valued at \$600,000 or more.

While the specific contract terms vary from company to company, most broiler contracts indicate the division of responsibility for providing inputs and compensating growers (Gallimore and Vertrees). The grower usually provides land and housing facilities, utilities, labor, and other operating expenses, such as repairs and maintenance, manure disposal, and chicken house cleaning. The contractor provides chicks, feed, veterinary supplies and services, management services or field personnel, and transportation. Expenses for fuel and



**Table 9—Single-contact farms and value of broilers under contract, 1993**

Item	Farm with one broiler contract	Farms with contract value of:		
		Under \$300,000	\$300,000-\$599,999	\$600,000 or more
Number of farms	14,198	4,331	6,934	2,933
Broiler value of production (Average dollars)	446,184	180,774	428,309	880,397
Value of broilers removed (Average dollars)	445,365	179,198	428,139	879,163

Source: Farm Costs and Returns Survey, 1993, all versions.

litter can be shared or paid by either party, depending on the nature of the contract. Contractors usually own and operate hatcheries, feed mills, and/or processing facilities. In some cases, the contractor may pay some fixed costs, such as insurance, or provide financing for capital purchases. The contractor makes the most significant production decisions, such as the size and rotation of flocks, genetic characteristics of the birds, specific feed ingredients, and the capacity of the chicken house.

The 1993 FCRS confirmed these general relationships (table 10). Farms with broiler contracts averaged \$5,400 for utilities, \$6,700 for labor, and \$5,100 for repairs and maintenance. These items, almost all of which were paid by the operator, accounted for a third of the average single-contract broiler farm cash expenses. Operators paid fixed expenses for interest, insurance, taxes, and lease payments that accounted for another third of cash expenses on these farms. Expenses for production inputs provided by the contractor, including fees paid to the grower, averaged \$276,300. All farms with broiler contracts reported that the contractor provided chicks and feed. Veterinary expenses were paid by the contractor for almost all farms reporting broiler contracts.

Broiler contracts usually provide three types of compensation for grower services: (1) the base payment, (2) an incentive or performance payment, and (3) the disaster payment. The base payment represents a fixed fee per pound of live meat produced. The incentive payment is determined as a percentage of the difference between average settlement costs of all contractor flocks during a specific period and costs associated with the individual grower. When an individual grower's cost per pound of live meat produced is above the average cost per pound for the pool of growers, that grower is penalized. Extreme costs per pound of live animal produced are typically removed from the average costs per pound calculation so that when one grower performs poorly, thereby lowering the

average, all other growers are not rewarded.

Contractors use several variations to calculate incentive payments. However, the overriding concern is to provide growers with incentives to manage the poultry enterprise in a fashion that maximizes net returns to contractors. Finally, there are often provisions to compensate the grower in cases of natural disaster, such as a flood or fire, for the amount of potential production that was damaged or lost.

The total value of birds removed from the 14,000 farms that had only one contract arrangement for broilers during 1993 averaged \$445,400. The average annual fee received was \$53,500, or about 12 percent of the value of birds removed. This represents the amount received by growers during the 1993 calendar year for all types of compensation stipulated in their particular contract. Growers that are under contract for more than 1 calendar year could also receive payments from flocks removed during the previous calendar year and similarly be owed payments for flocks delivered during the present calendar year.

Farms with only one broiler production contract in 1993 had average farm assets of \$446,600, which was slightly higher than the value of birds removed (table 11). The largest component of their assets was land, buildings, and equipment, which averaged \$412,000. At the end of 1993, these operations had average farm liabilities of \$122,300, resulting in an average debt/asset ratio of 0.27. All farms with any broiler production contract averaged assets of \$767,500 and liabilities of \$121,607, for a debt/asset ratio of 0.16.

For those farms where contract broiler production was the only enterprise, land and buildings represented almost 90 percent of total assets. This group also had higher debt, on average, than multiple-enterprise farms with broiler contracts.

**Table 10—Income statement for single-contract farms with broilers, 1993**

Item	Farm with one broiler contract		Farms with contract value of:					
			Under \$300,000		\$300,000- \$599,999		\$600,000 or more	
	Operator	Contractor	Operator	Contractor	Operator	Contractor	Operator	Contractor
<i>Average dollars</i>								
<b>Gross cash income</b>	<b>77,452</b>	<b>391,813</b>	<b>33,625</b>	<b>158,362</b>	<b>73,957</b>	<b>374,999</b>	<b>150,438</b>	<b>776,323</b>
Production fees	53,552	na	20,836	na	53,140	na	102,840	na
<b>Cash expenses</b>	<b>52,111</b>	<b>na</b>	<b>25,119</b>	<b>na</b>	<b>47,510</b>	<b>na</b>	<b>102,848</b>	<b>na</b>
Variable expenses	34,682	276,302	19,802	111,752	30,741	278,434	65,972	574,267
Livestock purchase	S	48,816	S	20,346	S	50,369	S	87,192
Feed purchase	2,063	206,117	1,393	79,621	1,404	205,314	4,607	394,826
Livestock related	11,495	8,072	914	3,290	1,839	10,465	1,539	9,478
Seed and plants	1,082	0	215	0	959	0	2,652	0
Fertilizer and chemicals	2,916	371	591	224	2,907	157	6,470	1,094
Labor	6,716	0	4,034	0	5,199	0	14,262	0
Fuels and oils	5,476	490	3,018	33	5,249	551	9,882	1,025
Repairs and maintenance	5,071	S	3,460	0	4,657	0	8,426	S
Machine work/custom hire	865	5,463	334	3,507	643	8,000	2,175	3,828
Utilities	5,417	0	3,734	0	4,917	0	9,083	0
Other variable expenses	2,963	6,969	2,109	5,732	2,714	3,578	4,813	16,812
Fixed expenses	17,429	na	5,317	na	16,769	na	36,876	na
Real estate/property taxes	1,756	na	838	na	1,901	na	2,769	na
Interest and insurance	14,503	na	4,065	na	13,535	na	32,208	na
Rent/lease payments	1,170	na	414	na	1,333	na	1,899	na
<b>Net cash income</b>	<b>25,341</b>	<b>na</b>	<b>8,506</b>	<b>na</b>	<b>26,447</b>	<b>na</b>	<b>47,590</b>	<b>na</b>
Noncash adjustments to income <sup>1</sup>	(14,544)	na	(2,212)	na	(15,286)	na	(31,000)	na
<b>Net farm income</b>	<b>10,798</b>	<b>na</b>	<b>6,294</b>	<b>na</b>	<b>11,161</b>	<b>na</b>	<b>16,590</b>	<b>na</b>

S = suppressed because relative standard error exceeds 50 percent.

na = Not applicable to this example.

<sup>1</sup>Includes depreciation expense, expenses for noncash labor benefits, adjustments for value of changes in inventory, and imputed rental value of farm dwellings.

Source: Farm Costs and Returns Survey, 1993, all versions.

**Table 11—Balance sheet for single-contract farms with broiler production contracts, 1993**

Table 11. Balance sheet for single contract farms with broiler production contracts, 1999				
Item	Farm with one broiler contract	Farms with contract value of:		
		Under \$300,000	\$300,000- \$599,999	\$600,000 or more
Average dollars				
<b>Farm assets</b>	<b>446,579</b>	<b>252,876</b>	<b>408,533</b>	<b>822,578</b>
Current assets	22,483	15,881	20,234	37,546
Livestock	3,532	1,808	2,624	8,227
Crops	1,803	801 <sup>1</sup>	2,290	2,134
Receivables	1,100	125 <sup>1</sup>	777	3,304
Other current assets	16,048	13,147	15,320	23,881
Noncurrent assets	424,097	236,995	388,299	785,031
Land, building and equipment	412,081	226,999	378,107	765,723
Other noncurrent assets	12,016	9,996	10,192	19,308
<b>Farm liabilities</b>	<b>122,312</b>	<b>21,420</b>	<b>109,805</b>	<b>300,875</b>
Current liabilities	37,157	3,660	28,262	107,655
Noncurrent liabilities	85,155	17,760	81,543	193,220
Nonreal estate	12,675	1,033	17,700	17,989
Real estate	72,480	16,727	63,843	175,231
<b>Farm equity</b>	<b>324,267</b>	<b>231,455</b>	<b>298,729</b>	<b>521,703</b>

<sup>1</sup>Relative standard error is between 25 and 50 percent.

Source: Farm Costs and Returns Survey, 1993, all versions.

## Processed Vegetable Contracts

Production contracts are more common for livestock commodities, but in 1993, 11,700 farms reported at least one crop production contract. Nearly half of these farms had contracts that involved processed vegetables (table 12). Processed vegetables classified in the FCRS include snap beans, cabbage, sweet corn, cucumbers, lima beans, sweet peas, spinach, and tomatoes. To be considered a processed vegetable, these vegetables must be produced with the intention of being canned, frozen, heated, or dried during processing. While many farms contract with more than one processor, focusing on the 4,000 farms that just had one production contract for processing vegetables during 1993 allows a more detailed analysis of the financial arrangements.

There are several common components of production contracts for processed vegetables. The contract indicates which inputs will be provided by the contractor, limited in most cases to seed and custom services such as harvesting or hauling. The amount to be produced is specified, with detailed requirements regarding production practices, such as chemical and fertilizer applications. The contractor usually stipulates grading standards along with terms for compensating the grower. More commonly, particularly in California and Washington, the amount paid to the grower is negotiated through a bargaining association that represents several producers. In most cases, the association does not assume title to the vegetables.

Data from the 1993 FCRS revealed that the contractor provided seed to nearly 80 percent of the farms with a single processing vegetable production contract (table 13). Some operations were provided custom planting services, which included seed. Custom hauling and fertilizer and chemical applications were the other most commonly supplied inputs reported by 70 percent and 60 percent of contract producers, respectively. Most of the farms had other crop and/or livestock enterprises, making it difficult to partition operator expenses to vegetable production. The total value of processing

vegetables removed under contract was estimated at \$103,000. The average fee received by producers during 1993 was \$72,400, which represented about 70 percent of the total value removed. The expenses provided by contractors averaged \$13,000.

Farms with processing vegetable marketing contracts are, on average, the same size as broiler operations, with over three-quarters of a million dollars in assets (table 14). These farms, on average, were in low leverage positions, with liabilities less than 16 percent of assets. As with most crop farms, land is the major holding.

## Farmers as Contractors

For many of the reasons cited earlier, farmers may choose to establish contracts where they provide capital and a fee to another farm operation for a specific service. Principal motivation for this practice includes economic advantages of specialization in one or more production stages, facility limitations, or other types of capital constraints. These motivators are most relevant in the production of livestock commodities, which, unlike crops, are portable between farm operations and can have longer and more clearly delineated stages of production. Farmers producing crops do contract for services, but this relationship had traditionally been captured as “custom machine-hire” or custom work.

## Livestock Production Contracted Out

The practice of establishing a contract with another farm operation to raise livestock broadens the scope of managerial input and capital ownership associated with production. One of the most common situations is for a farm operation to establish a contract relationship to participate in only one of the production stages of raising livestock. A farmer could contract another to “finish” his or her hogs, for example, by having the second operator feed weaner pigs raised by the first farmer until time to sell them to a processor. This allows both farm operators to increase business volume with limited facilities, while specializing in one stage of livestock production.

Under this type of arrangement the farmer, acting as the contractor, delivers young animals to the contractee’s operation. In most situations, the contractee is operating a confinement facility or feedlot where animals from several operations may be commingled. Depending on the specific terms of the

**Table 12—Farms and value of production for farms with processed vegetable contracts, 1993**

Number of farms	4,040
Processed vegetable value of production (Average dollars)	265,726
Value of products removed (Average dollars)	102,861

Source: Farm Costs and Returns Survey, 1993, all versions.

**Table 13—Income statement for farms with processed vegetable contracts, 1993**

Item	Operator	Contractor
	<i>Average dollar</i>	
<b>Gross cash income</b>	<b>288,491</b>	<b>na</b>
Current year production contract fees	72,442	na
<b>Cash expenses</b>	<b>230,135</b>	<b>na</b>
Variable expenses	182,276	12,789
Livestock purchase	4,035	0
Feed purchase	13,156	0
Livestock related	3,806	0
Seed and plants	10,959	7,437
Fertilizer and chemicals	41,490	2,211
Labor	57,298	0
Fuels and oils	10,564	0
Repairs and maintenance	15,872	0
Machine work and custom hire	4,002	2,738
Utilities	6,435	na
Other variable expenses	14,660	403
Fixed expenses	47,859	na
Real estate and property taxes	4,708	na
Interest and insurance	17,115	na
Rent/lease payments	26,035	na
<b>Net cash income to farm business</b>	<b>58,356</b>	<b>na</b>
Noncash adjustments to income <sup>1</sup>	(14,596)	na
<b>Net farm income to farm business</b>	<b>43,759</b>	<b>na</b>

na = Not applicable to this example.

<sup>1</sup>Includes depreciation expense, expenses for noncash labor benefits, adjustments for value of changes in inventory, and imputed rental value of farm dwellings.

Source: Farm Costs and Returns Survey, 1993, all versions.

**Table 14—Balance sheet for farms with processed vegetable contracts, 1993**

Item	Average dollars
<b>Farm assets</b>	<b>767,522</b>
Current assets	71,422
Livestock	10,260
Crops	17,513
Receivables	7,832
Other current assets	35,817
Noncurrent assets	696,099
Land, building and equipment	460,902
Other noncurrent assets	235,197
<b>Farm liabilities</b>	<b>121,607</b>
Current liabilities	48,662
Noncurrent liabilities	72,945
Nonreal estate	23,299
Real estate	49,646
<b>Farm equity</b>	<b>645,915</b>

Source: Farm Costs and Returns Survey, 1993, all versions.

contract, the contractor may supply other inputs in addition to the animals. The contractor retains title to the animals until they are removed from the contractee's operation or sold. The fee paid to the contractee is usually a flat fee based on beginning weight and the ultimate amount of weight gain. The fee amount relative to market value depends on the contribution of inputs by the contract parties. At the one extreme, the fee may reflect 80 percent of the animals' market value. In this case, the contractee is assuming most of the production risk and providing all of the inputs except the animals. The opposite extreme would be when the contractor pays for the majority of inputs and pays a small fee relative to the value of the finished animal for labor, management, and use of facilities.

Nearly 3,500 farms reported beef or hog production contracted out during 1993. These farms were specialized livestock operations, where 85 percent of the \$623,000 average gross cash farm income came from livestock sales. Almost half of livestock sales were from animals placed on other operations and raised under contract. Fees and expenses paid by the farms acting as the contractor averaged \$55,000.

In another situation, farmers act as contractors to obtain inputs for a separate production process. The "vertical coordination" between different farm operations has benefits for each of the parties. As with other contract arrangements, the allocation of capital and returns from investment vary, depending on the specific terms of the contract. In some cases, the fee paid takes the form of livestock retained by the contractee.

More than 40 percent of the 6,000 farms reporting livestock contracted out in 1993 had replacement breeding stock raised by another farm operation. Dairy operations were one of the most common examples. Since cows become less productive with age, a stream of replacement cows is needed to maintain an established milking herd size. This continuous process requires that the dairy farm operator either purchase replacements from other farms, raise them on the operation, contract to have calves from the herd raised on another operation, or some combination of these alternatives. Regardless of the number of replacements required throughout the year, contracting for them to be raised on another operation minimizes cash-flow requirements relative to the other alternatives for attaining replacements.

In 1993, operations contracting for replacements heifers had herds that ranged in size from 50 cows to over 5,000 cows. During the calendar year, each farm had contracts for heifers at various points of completion. At the beginning of 1993, these dairy operations had animals placed on other operations that were valued at an average of \$21,300. During the year, an additional \$40,900 worth of animals was placed on their farms to be raised. Fees paid to other operations averaged just over \$3,000.

There are many other examples where this practice may be attractive to livestock operations, which represent variations of the two previous examples. Egg producers may contract with other farms that raise layers. Turkey operations may contract to have poult raised by another farm business.

## Implications for Financial Measurement

In the past, farm families were assumed to receive all the receipts from the sale of farm production. Farm income was also the dominant source of income for farm families, and it accrued mainly to one family per farm. For years, it has been recognized that as farm size increases, the senior farm operators keep a declining portion of the business' gross receipts. Many farm businesses split income among two or more households. In addition to hired laborers receiving wages and salaries from the farm or ranch, landlords, contractors, and partners are increasingly sharing in the operation's earnings.

Focusing on measurement of farm income and other indicators of farm financial performance requires us to answer several questions about today's farms:

- How do farms get access to assets being used in production?
- What assets are supplied by the farmer?
  - By partners or other farm-related households?
  - By investors who receive net income in exchange for risk sharing?
- What assets are available to farmers through leasing or contracting?
- Who owns the products produced by farms?
- What share of income is earned by suppliers of equity capital?

Answers to these questions affect conclusions about the level and distribution of income among farm families and other stakeholders in agricultural production.

Someone owns the assets used to produce crop or live-stock commodities and to generate income from a farm's operation. The claim on a farm's net income by a farmer is based on the ways that the business secures its assets. Farmers use equity capital from a variety of sources. For example, they may use savings to buy land, equipment, or other inputs. Here, farmers would claim all the income earned from the use of the assets. Single-family farms still dominate farm numbers. The farm operator provides the farm's assets and retains the farm's net income. Single-family farms accounted for almost three-quarters of farms in 1993. However, these farms accounted for less than one-quarter of the value of production.

More and more, a farmer's funds are combined with capital from outside the immediate family (fig. 2). Farmers get equity from a variety of arrangements,

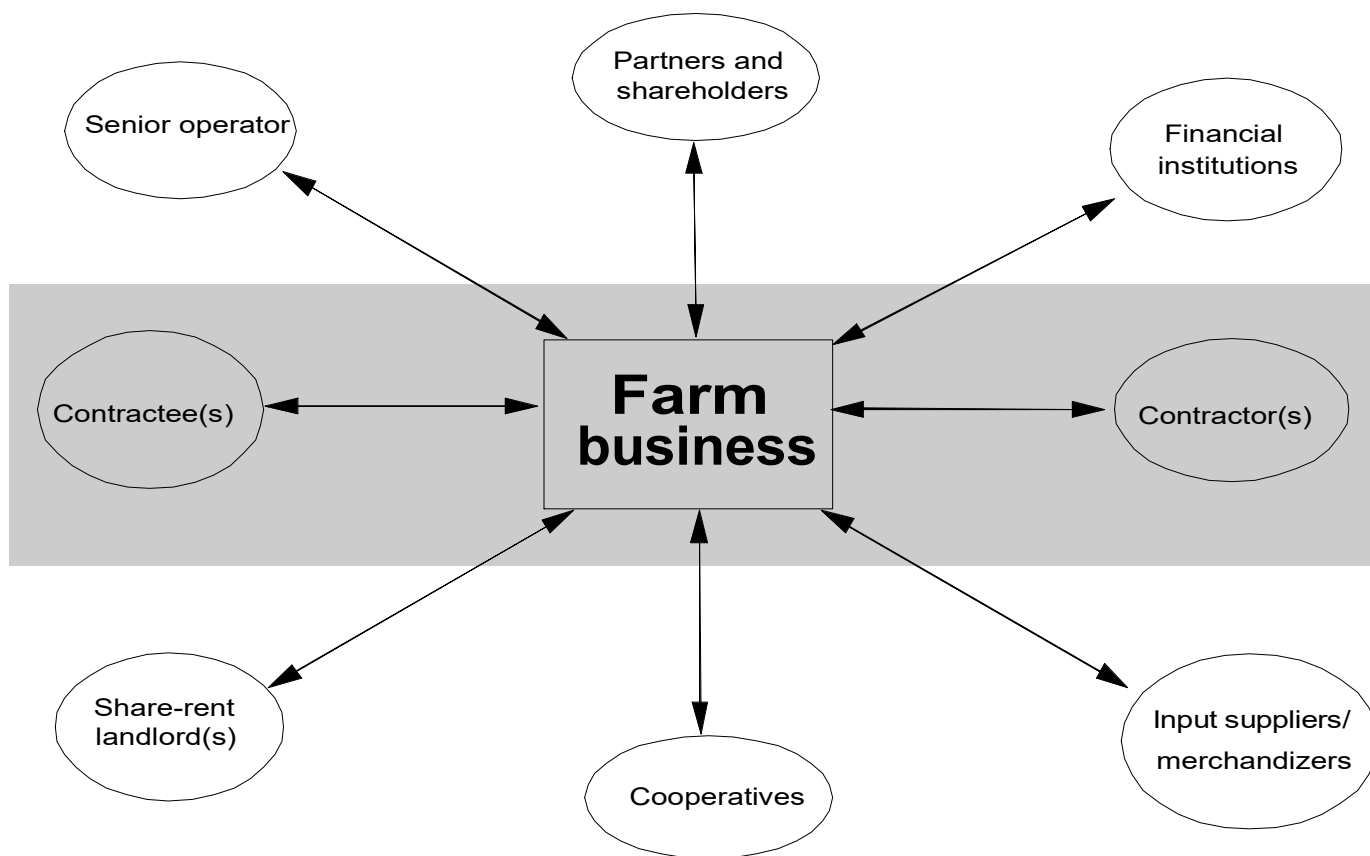
including partnerships and corporations, pooled funds, joint ventures, or co-ownership (including contracting) of either assets or commodities. In addition to family members, farm input suppliers, merchandisers, processors, distributors, and others furnish resources to production agriculture. Those who share in net income also bear some of the farm's production risk. In 25 percent of farms, farms received equity capital for use in production from multiple persons, households, or businesses. Farms with these complex organizations produced more than 75 percent of farm output.

Contractors are providing a larger share of input used in farm production of certain commodities. In return, contractors pay the farm operator a fee for the labor, management, facilities, and other inputs that the farmer supplies. Contractors typically bear a large share of production and price risk and earn the majority of net income from the commodity's production. In exchange, farmers may be able to expand their operations more rapidly than otherwise possible, perhaps with less debt and fewer financial risks.

Figure 2

### Farm businesses link with multiple suppliers of inputs

*In return for inputs, equity providers receive a share of the value of production*



Source: USDA, Economic Research Service.

This trend is part of a general shift in the entrepreneurial functions within agriculture. Concern centers on resource control in agriculture and the impact of those that control resources on producers, suppliers, prices, and income at the various stages of the production and marketing process. At issue are the nature and extent of integration from the farm to the retail shelf.

### **Costs and Returns Sharing**

Farmers and their contractors, which may include other farm businesses, negotiate arrangements to share the costs and returns of producing agricultural commodities. How costs and returns are shared varies by type of contract. Typically, there is little, if any, sharing of production costs and commodity returns with marketing contracts. However, both costs and returns tend to be shared in production contracts. The proportions in which costs and revenues are shared between farmers, ranchers, and their contractors vary among commodities and generally depend on the amount of input and managerial oversight the contractor provides.

Farmers generally enter into marketing agreements or contracts to secure a price, an outlet, or both, for the commodities produced on their farms and ranches. By securing markets for products, farmers are managing the risk that either prices may change and hurt a farm's profitability or that cash or spot markets may not be available for a farm's products. Farmers retain ownership and remain responsible for the contracted commodity until the production cycle has been completed and the commodity has been delivered. Since farms incur the costs of production, they retain the income generated from sale of the commodity.

Farmers' use of marketing contracts may affect the level of receipts reported by farmers. However, they typically would not affect either the incidence of costs incurred in production or the distribution of receipts to the farm family generated by the commodity's sale. Marketing contracts may affect the timing of receipts due to multiple payments and payments that extend across calendar years. Thus, other than spreading receipts over time, marketing contracts have little or no impact on the development of farm sector financial statements. Income statements for farm businesses include all costs and all revenues. From the perspective of the aggregate farm sector, farm operations retain all net income. No income is shared with persons, businesses, or other entities outside the farm's owners. The business's net farm income, including any net returns

earned from marketing contracts or agreements as well as cash or open market sales, would, however, be shared among partners, corporate shareholders, or others who own equity in the farm.

In contrast, production contracts have direct effects on the distribution of costs and returns. Contracts for the production of livestock, poultry, or crop commodities are either oral or written agreements that require a farmer or rancher to perform certain tasks in return for payment. The contracting party tends to own the commodity being produced under contract. The contractual agreement spells out the production inputs to be provided by each party and the amount of payment to be received by the contract grower for services provided.

### **Contracting and USDA's Farm Sector Information System**

A consolidated income statement for a farm operation would account for the inputs provided by participants in the farm's production activities. Further, all receipts from the sale or disposition of commodities would be reported regardless of ownership. This consolidated statement accounts for all costs and revenues of a business regardless of ownership of the commodity. The Census of Agriculture is one example of data collected and reported for the entire farm operation. USDA's aggregate farm sector income accounts do not recognize parties to the farm production process, except for nonoperator landlords whose net return is treated as an expense to farm operations. All net income is reported for the entire farm operation. The portion of income that may accrue to the farm operator or to other families that participate in the farm is not determined.

USDA's aggregate farm sector income accounts are developed to refer to the income generated by farm operations. In these accounts, the focus is on the total amount of income generated in farming and in the total amount of expenses incurred to produce agricultural products. If the interest is in the income of farmers or ranchers, then it is necessary to recognize that a portion of the income generated by U.S. agriculture does not accrue to farms but to persons or businesses who contract with farms to produce agricultural commodities.

As illustrated in the previous sections, contractors provide production inputs and remove a large share of the farm's value of production for processing or disposition by the contractor. An income statement prepared

for a farm business that has entered into production contracts would misconstrue a farm's performance unless an explicit accounting was taken of expenses borne by the contractor and the income or product that did not belong to the farm.

Previous sections that outline the characteristics of production contracts reported as broiler and processed vegetables make this point. Farms with broilers, for example, retain 17 percent of the gross cash income generated by production from the farm, while providing 11 percent of the cash expenses. Rates of return would rise from 7 or 8 percent to nearly 50 percent if contract arrangements are not correctly excluded from income statements to these operations. Cattle feeding and hog production operations would also have similar

allocations of income. The farm's net income and returns to assets and owner-supplied equity would be misrepresented unless explicit account is taken of the contractor-contractee business arrangements.

USDA's data collection activities have been organized to explicitly recognize contract arrangements among farms and a variety of persons and other firms. While nonoperators hold a share of the income and pay some of the expenses at the farm sector level, they do not receive net income from the farm business. Income statements and balance sheets prepared for farm businesses exclude expenses, revenues, assets, and liabilities of persons or firms that do not share in the farm's net income or hold a share of farm equity.



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