FARM FINANCES AND FINANCIAL MANAGEMENT: OUTLOOK IN A CHANGING ENVIRONMENT

Janet Perry, Jim Johnson, Mitch Morehart, Jim Ryan, and Bob Hoppe

This time last year, when we reviewed the farm finance situation and outlook, we presented a status-quo scenario. While we expected continued movement toward more market orientation, some believed that commodity programs would still be in place in some form. The effects of NAFTA and GATT were just beginning to be felt. The Internet was just starting to boom. Today, we recognize that people in the agricultural sector face an increased risk of business failure, and increased opportunity for success.

Changing agricultural environment brings important challenges

Farmers, input suppliers, processors, distributors, and consumers are influenced by, and respond to, markets and expectations about the future. Some decisions require long-range planning. As farmers adapt, changes will be made in their production, marketing, and financial arrangements. Continuing research on appropriate responses under different environments could improve the adaptive capability of agriculture. The willingness and ability to take on risk is not just an attitude of the farmer. Farm structure and the operating environment are important dimensions in the decision-making process. Farmers face challenges on many fronts--

- Expanding markets through international trade
- New farm legislation
- Continuing technological changes
- Continuing structural adjustments
- Heightened expectations for environmental protection

Farm management is risk management. Historically, USDA has provided publicly funded research and information activities for farmers. Information is the key link in the farmer's ability to develop plans to evaluate and cope with risk. Responses include:

- Assessing the competitiveness of U. S. agricultural production.
- Monitoring of the interaction among farm production decision makers, their goals, and their use of adaptive management strategies.
- Positioning USDA to provide products that enhance the understanding of structure and the financial performance of U. S. farms and the farm sector and the linkages between farming and other sectors of the economy.

Farm income may be lower

Lower net farm income is forecast for 1997. Lower crop cash receipts are expected to contribute to the $40 billion forecast, which is down from the record $52 billion expected for 1996 and the 1990-95 average of $43 billion. Higher receipts for cattle due to declining herd size will be largely offset by declining dairy receipts. Expenses are expected to increase, but by a smaller percentage than in recent years as declining grain prices lead to lower feed expenses.

As profit margins get squeezed, a premium will be placed on what have traditionally been considered secondary elements of farm management:

(1) **finance,** which includes decisions about what assets are needed, and how will they be acquired, and

(2) **marketing,** which involves decision on when, how and where to sell results of production.

Many farmers will need additional skills to better deal with variation in income that will come with increased reliance on the market.

Commercial farm operations procure capital assets in a variety of ways. Typically, farmers purchase products through some type of debt financing. Many farms can use internal funding from earnings derived from farm and nonfarm income sources, sometimes from multiple owners. For some additional resources come through contractual arrangements, while others gain temporary use of needed assets by renting land and leasing equipment. When farmers bring lenders, landlords, contractors, partners, and off-farm employers into the picture, the coordination of farm decision-making and control becomes more complicated, and may require a new set of managerial skills.

Where are the profits, the losses?

Net cash income is forecast to decrease in 1997 on most farms that specialize in crops. The decline will be largely due to lower receipts rather than higher expenses. Incomes of farms that are heavily dependent on corn or wheat as a source of income will be most affected by lower market prices. Highly specialized wheat farms tend to be in the Plains regions, and in parts of Montana, Washington and Idaho. Cotton and tobacco receipts are also forecast to be lower.

The decrease in net cash income is spread across farms of all sizes, with the largest declines forecast for farms that have annual sales less than $250,000. These farms generally depend more on wheat or corn for income than the largest farms.

Prices depressed by oversupply were the major reasons for lower cattle's receipts in the mid 1990s. Severe drought in 1995-96 caused herd liquidations beyond normal cattle cycle expectations. By the end of 1996 producers had reduced the herd by nearly two million animals, contributing to an improved price outlook for 1997. Further relief is expected from lower feed expenses. Most cattle operations weathered the market downturn because they had relatively strong overall financial position. Many operations with negative incomes had enough working capital to offset the loss, or could borrow the full amount of the shortfall against existing assets.

Cattle receipts and hog receipts are diminishing in importance to total livestock receipts. Paralleling that decline is an expansion in receipts from broilers, pointing to a long-term trend of adjustments in the livestock industry that reflect changes in consumer preferences. Dairy and egg revenues have also shown a declining share of livestock receipts over the past decade. These market changes make it imperative for farmers to re-evaluate their positions, then make production and financing decisions to follow.

What are expense items to keep an eye on?

Expenses will be about $184 billion in 1997, up less than half a percent from the 1996 forecast. As expenses continue to rise, some of the components of total expenses bear watching. Feed, petroleum products (fuel, agriculture chemicals) and labor contribute to almost half of the average farm's expenses. Feed expenses are expected to be lower, due to increased supply, but poor yields can change prices quickly. Price of petroleum products is determined outside the farm sector and is a function of U.S. oil stocks and the world market. This winter's stocks have been low, and supply is not expected to increase. Coupled with an increase in acreage, higher prices for fuels and agricultural chemicals may be the result. Labor markets continue to be tight and those farms depending heavily on labor (fruits and vegetables especially) may face rising expenses.

Another area of concern for the sector is rising rental rates. Land rental rates will increase as land prices go up. Forty percent of the acres used in farm production are rented and large farms have a larger share of rented versus owned land. Additional uncertainty is created by a restructuring of the landowner--land operator relationship. If land values are expected to increase rapidly, landowners are reluctant to offer long-term leases. Farmers may find themselves bidding for land that they have traditionally rented without competition.

Inflation, while lower than historical rates, is expected to pick up slightly in 1997. Continued tight labor markets slightly accelerate wage increases. Additional mild upward inflationary pressure is expected from a weakening of the dollar and stronger overall growth in developed countries that reduces excess manufacturing capacity abroad. Increases in farm income have lagged behind inflation over the past decade, and any future increases are expected to continue to lag behind the rate of inflation.

If farmers' profit margins decline, financial management should receive more attention. Input price fluctuation can be effectively managed through contracts with input suppliers. Other expenses may be managed by hiring consultants, contract labor, and custom feeding, planting, and harvesting.

Assets and Debt

Farm assets are expected to top $1 trillion in 1997. The value of farm real estate is expected to grow 6 percent in 1997. Farm business debt is anticipated to approach $160 billion by the end of 1997, its highest level since 1985 and the fifth consecutive year of rising farm debt. Rising farm sector assets and equity values and lower farm income suggests slightly lower rates of return on farm assets and equity.

The expansion in outstanding loan balances in 1997 follows a projected debt increase of almost $5 billion in 1996. Annual changes during 1994 through 1996 reflect the largest annual percentage increases in outstanding loan balances since 1982. The recent rise in loan balances can be at least partially attributed to farmers' positive view of the future of the sector, and relatively low interest rates. Non-real estate debt is expanding and farmers appear willing to borrow to replace capital

stock. Lower incomes available to service debt, coupled with lenders' emphasis on loan approval based on repayment ability rather than collateral values, will probably restrain any major increase in farmers' borrowing activities.

U.S. farm real estate values are expected to rise for the 10th consecutive year in 1996. Even in real terms, land prices will increase about 5 percent and 1997 is expected to be the 6th year of real increases. Upward pressure on land values is likely related to relatively strong crop prices, continued urban land pressures, and provisions of the new Farm Act that eliminated most acreage planting restrictions. Key factors prompting continued strong demand for farm real estate are: long term expectations for robust although variable farm income, an upbeat long-term outlook for exports, and stable interest rates.

Rising land values reflect farmers' longer term expectations of profitability in the sector. However, if farmers use their available credit lines more fully in 1997, they expose themselves to additional financial risk. Rented land accounts for about 40 percent of the value of all assets used in farm operations, and large farms have a larger share of rented versus owned land. Sometimes the market changes quickly and large capital items are difficult to acquire or dispose of quickly. Renting rather than buying land is a risk management strategy that allows farmers more flexibility in response to market conditions. It allows the owner to maintain possession and receive a return for idle assets.

While recent increases in farm business debt have not been burdensome, concentration of debt owed by tenant and beginning farmers may be growing. Most rented land has belonged to the same owner for many years and the land is fully paid for. Nonoperator landlords, often retired farmers and their heirs, owe less than 10 percent of all farm business debt. Maintaining ownership allows the retired farmer to create a more valuable estate while receiving a return on his or her investment. Ultimately, this rented land may be sold to other farm operators, current tenants, neighboring farmers wanting to expand their operations, or beginning farmers. As farmers borrow money to finance land purchases, we would expect a gradual shift of debt from nonoperator landlords to farm operators.

Although some operators may have trouble generating sufficient farm income to meet their debt service requirements, there are no signs of widespread financial stress. Farmers are comfortable making production decisions, but typically are less pro-active in the marketing of their products and financing of the business. Thus, it becomes important that farmers make effective decisions about the planning, organization, and financial control of their operations to generate the cash needed to pay any extra debt obligations.

Expanding markets

Markets for agricultural products are expanding across national borders. Trade is expected to reach a record $60 billion to $80 billion by 2005. In 1996, exports of beef were expected to increase 17%, with additional purchases from Japan, Korea, Canada, Mexico. One-quarter of the U.S. corn crop is exported; on-third of the soybean crop and one-half of the wheat crop. Corn exports reached 2.2 million bushels (3rd highest year), and wheat reached 32.5 million tons, a

33% increase. NAFTA and GATT, plus 20 other recently negotiated international agreements are opening new markets. To compete for these new customers, skills in marketing, currency exchange, and perhaps even knowledge of language and international law will be required. A change in the climate or yield in one country can have impacts on U.S. exports markets, expanding or contracting competition. And, the political nature of trade agreements and the reliance on international markets introduce new risks for the farmer.

FAIR Act brings increased market orientation, greater market risk

The Federal Agriculture Improvement and Reform Act severed the link between income support payments and farm prices by providing annual fixed, but declining payments for the next 7 years to participating farmers. Payments are based on historical production and yields, but are not linked to current production, prices, or factor use. Marketing loans are still in effect, but they do not protect against crop loss, and are set low enough that the loan has limited price protection value. Since loan rates are capped, the low safety net could be further eroded by inflation.

Constraints on individual farm decision-making imposed by previous legislation are greatly reduced, giving farmers greater flexibility to make changes in their business plans. However, farmers cannot adjust supply in response to price as quickly as other sectors. If farmers respond to high prices at harvest by planting more the next year, excess supply and lower prices may be the result. If supplies are tight and feed prices high, the only option for supply control is early release of CRP lands, which are commonly marginal lands. These lands would not add much to production, and certainly not quickly enough for financially vulnerable livestock operators to benefit from lower prices.

The Act focuses on market development and expansion through export enhancement, and on pilot projects to help farmers adjust to the new market environment. The Act establishes a commission to conduct a comprehensive review of changes to production agriculture and the appropriate role of the Federal government in it. One role USDA has chosen is to underwrite crop insurance. While purchase of crop insurance is no longer required to be eligible for farm program benefits, producers must waive all emergency crop loss assistance. Several pilot programs for revenue assurance have begun. These programs would indemnify the producer if gross income is less than a predetermined amount and is available for certain producers who elect to receive insurance against loss of revenue. The Secretary has recently approved expansion of Crop Revenue Coverage (CRC) for corn and soybeans, new CRC programs for cotton, grain sorghum and spring wheat, and expansion of Income Protection (IP) for grain sorghum and soybeans. Both insurance plans are designed as alternatives for a standard multiple peril crop insurance policy.

Risk management becomes more important

As farm income becomes more variable, risk management becomes more important. The income any one farmer earns may become more variable as agriculture becomes more markets oriented. As supply or prices of products change, new technology is adopted, or environmental constraints appear, farmers could experience higher income, or cash flow difficulties, changing expenses, and

more debt. While aggregate income for the sector, or the average net income per farm, could remain stable, variability in income for individual farmers could increase, The probability of extremes in receipts, both high and low, require farmers to plan more carefully their finances, and production and marketing of goods.

Basic Strategies Farmers Can Use

Approximately 1/3 of all farmers, but more likely commercial farmers, used government commodity programs as a risk management tool in 1995. The 6 percent of farms that had sales over $250,000 received 28 percent of payments and produced 46 percent of program commodity sales. These farmers are the most directly affected by changes in the law, but the whole sector must adjust. Payments are set by law. Farmers can choose to receive the first half of each fiscal year payment in either December or January, implying attention to tax strategies and cash flow management.

Payments are independent of price. However, farmers will no longer have the countervailing protection of supply control and will be exposed to market prices. Other than the decision of how much to plant, marketing strategies such as spreading sales over the year, use of futures, hedging, forward-contracting, or options contracts can help farmers enhance their receipts. Even smaller farms can use marketing strategies. One such strategy is direct sales— at roadside stands, farmers' markets, through mail-order, or by subscription. Elevators can combine the production of several smaller farms into a contract, and livestock producers can contract feed in relatively small quantities. Just by timing the sale of products to take advantage of higher late-cycle prices instead of selling all at harvest can substantially add to the farmer's bottom line.

Technological advances--don't underestimate their effect

Technological advances, especially biological and computer technology, continue to affect farming. These new technologies may revolutionize agriculture much like tractors did in mid-century. Just as farmers replaced horses and people with power equipment, so, farmers will need to use other technologies to their benefit. Producers that apply these new technologies to create products and services to meet society's changing needs and preferences will capture a larger share of the market. The market is driven by consumers and the successful farmer will tailor farm products to meet consumers' demand, and will provide those products to the next step in the production process in a timely manner.

Farmers' willingness to take a risk, and risk-bearing ability given their equity and cash flow positions, affect the structure and organization of their farms. Farmers' attitudes also affect strategies that they may employ to reduce or manage risk. Some farmers are willing and able to take high risks; others may wish to reduce risk. Adoption of new technology is risky. At first, an innovation is conceived and only a few will even examine its possibilities. Then gradually, the early adopters--those will to try new things although no one else does--will begin to use or apply the concept. As these early adopters show positive results, ever more people will apply the concept. Finally, those that wait to try new things until they are proven by others will adopt the practice or be left behind.

From survey results, we find evidence of each stage of adoption. 38 percent of farmers said they used the same technology as other farmers in their county. 21 percent said that they tried new technologies although only a few other farmers used them, and 3 percent said that they were usually the first to try new technologies. Early adopters were more likely to have larger farms (almost 10 percent of farmers with gross sales more than $250,000 were in this category) and to generate higher returns. Even more telling, 1/4 of operators with small farms--sales less than $50,000--said that they had no particular strategy of technology-use at all!

How do farmers use technology to improve their returns? Farmers can take advantage of a variety of technologies to better target and market to customers who buy agricultural products. New processing and packaging bring the opportunity to provide products to consumers in a variety of forms. Applications of biotechnology can produce products with specific characteristics, such as tomatoes that are ripe and juicy, but still package and travel well. Computer technology allows the processing of vast amounts of data so that farmers can track production expenses, identify emerging markets, and plan a shift in their efforts toward those new consumer preferences. To meet these challenges, farmers may need to change their procurement strategies, production and processing methods, or marketing approaches. These changes will alter the structure of farms and of rural communities.

Changes are already occurring. One change is the introduction of the Internet to agriculture. For example, just searching the Internet for the word "agriculture" brought up an index of 113 entries about pest control, 80 on machinery, 156 on livestock and 62 organizations. ERS has a homepage that allows electronic access to hundreds of publications, tables, and briefings. The Farm Business Economics Briefing Room has documents on farm income, farm costs and returns, farm structure, farm households, and current farm financial performance.

Structure of agriculture affects distribution of farm income

The number of farms has declined for decades, and we have no reason to expect this trend to reverse. In fact, because almost a quarter of farm operators were at least 65 years old and another 22 percent between 55 and 64 years old in 1992, many farms will soon change ownership. To some extent, adjustments have already occurred. Most of these elderly operators have already scaled back their operations, and the 17 percent of all U.S. farms had operators who reported that they were retired, but continued to farm. These farms accounted for only 2 percent of agricultural production in 1993.

Despite declining numbers of farms, data from the census of agriculture show that family-owned farms (individual operations, partnerships, and family corporations) are not losing their share of U.S. agriculture to non-family corporations. Family corporations, however, increased their share of both farms and sales during the 1978-92 period.

Changing structure encourages new ownership, operating and financing arrangements, and the flow of assets to the production process. For example, growth of contracting arrangements could change rates of entry or exits and the need for capital by the farmer. Another change in

operations is the hiring of professional managers and consultants. The dynamic nature of farm businesses often requires special talents for a short time. These services augment the farmer's production, marketing, and financial arrangements. Farmers can purchase services such as advice and consultation on conservation practices, regulatory compliance, investment analysis, bookkeeping for business planning, and marketing services, as well as production practices such as tillage, pesticide use, animal waste disposal, and harvesting. When farmers decide to purchase services rather than do those jobs themselves, they can shift their attention to other aspects to the business.

Commercial farms today may require resources than can be provided by a single household. According to the traditional view of farming, each farm is associated with a single operator household that receives all the farm's net income. By 1993, however, 26 percent of farms had multiple suppliers of assets and receivers of net income. Single-household farms are still the norm. These farms are closely held (legally controlled) by a single household, and the household shares net income from the farm with no other household. However, more and more, farms also have share landlords or production contractors with which it shares output. And, as farms get larger, production by family farms has been shifting from proprietorships to arrangements that include other family members, allowing farm families to pool resources.

Farmers are using contracts to manage risk

Some important structural changes have occurred in the way farm production and marketing are conducted. Industrialization has led to farms specializing in a particular commodity or stage of production. In the production process, decision-making is divided and people tend to specialize in ownership of assets, management, and farm work. For example, in a vertically integrated operation, the same firm typically owns several farm-related businesses, such as hatcheries, feed mills, processing plants, and packing facilities. An integrator may also own farms or, more typically, contract with farmers to produce commodities.

Another aspect of industrialization is the increase in reliance on production and marketing contracts as farmers have become less dependent on terminal markets and spot pricing to market their goods. Most farms (89 percent) had only cash sales in 1993. But contracting or vertical integration had become dominant modes of production and marketing in the broiler, turkey, egg, milk, and specialty crop markets, and is becoming increasingly common in hog farming. The remaining 11 percent of U.S. farms had at least one marketing or production contract, but these farms accounted for about 40 percent of production, as measured by gross sales.

The increasing use of contracting is commonly identified with the industrialization of agriculture. In part, industrialization arose as consumers began to buy food products rather than food commodities. Processors need a steady supply of farm products of known quality and specifications to process. Contracting and vertical integration help provide these farm products, and so reduce processor risk.

Contracting can also reduce marketing and production risks for producers. Because marketing contracts set a price in advance for output, they reduce marketing risk. Since production

contractors own the commodity produced, make most of the production decisions, and supply most inputs, they assume a substantial part of the risk associated with production and marketing of the product. The actual distribution of risk, of course, depends on the terms and conditions of the contract and the bargaining strength of the farmer and the contractor. In exchange for reduction in risk, the decision of what to produce (contract for) and at what price is moved away from farmers into the realm of the contractor or processor. Many contracts specify the production practices and supply the inputs, but farmers still have room to exercise their management skills. Contractors expect production management and reward good managers with bonuses. Farmers will still make financial decisions, and build equity in the business.

Environmental impacts becoming more important

Agriculture in the 21st century will be constrained by environmental concerns--

- *in local law* that zone the location of animal confinement yards,
- *in federal laws* that govern use of chemicals and soil erosion, and
- *in international laws* that regulate greenhouse gas emissions or sanitary and phytosanitary conditions.

Rather than defend themselves against charges of degradation of the environment, and risking fines and/or legislation requiring environmentally friendly practices, some farmers are choosing to adopt sustainable farming practices.

Many of these practices-- erosion control, animal waste treatment, or setting aside land for wildlife or wetlands--could result in additional costs for which the 1996 legislation has provisions for some cost-sharing. The interest in natural resource conservation brings opportunities for farmers to tighten the link between their products and the consumer, but also costs for implementation and/or legislative fines. Besides several smaller programs the following programs are authorized:

- Conservation Reserve Program continues
- The Environmental Quality Incentives Program (EQIP)
- Wetlands Reserve Program

CRP continues under the FAIR Act, with enrollment up to 36.4 million acres. Early-outs are permitted for land enrolled for at least 5 years and is less environmentally sensitive. New enrollment of environmentally sensitive land is permitted to replace the early-outs and contracts that expire. Three priority areas were established for CRP--Great Lakes region, Long Island Sound Region, and the Chesapeake Bay Region. The program includes $50 million for 1996-2002 to be funded for cost-sharing of the Wildlife Habitat Incentives Program.

EQIP is authorized at $1.3 billion over 7 years to provide technical, educational, and cost-share assistance and incentive payments to producers in carrying out structural and management practices to protect soil and water resources. At least half the fund is allocated to environmental concerns associated with livestock practices. All but the largest operations are eligible for cost-sharing. They are eligible for technical assistance, educational assistance, and incentive

payments for animal waste facilities, plus cost sharing for other approved practices.

The Wetlands Reserve Program allows farmers to restore up to 975,000 acres of wetlands and enroll those acres into paid easements. In addition, restoration of the Everglades is funded up to $200 million from the Treasury. An additional $100 million is authorized through the sale or swap of other federally owned land in Florida. Purchase of private land by the Fed in the Everglades Agricultural Area is permitted.

Farming activity will be governed by other laws like the Comprehensive Environmental Response, Compensation and Liability Act, (CERCL) amended in 1996. This law requires that farms meet certain EPA standards for point-source pollution. International trade accords contain environmental agreements. One that will affect agriculture is the Montreal Protocol on Substances that Deplete the Ozone, which restricts the import and export of chemicals such as methyl bromide--a broad-spectrum pesticide. It will be up to farmers to publicize their efforts. Farmers will pay the costs of carrying out environmentally friendly practices, or pay the costs of fines, strict legislation, and adverse publicity

Implications in a Changing Environment

Tried and true management strategies to respond to tighter margins such as controlling costs or increasing efficiency and productivity are still important. However, the current environment demands more. Successfully management requires planning and control of the marketing and financial aspects of the business as well. In the short term farmers will find that:

- Increased globalization of agricultural trade will open new markets for farmers, but also increase competition.
- Increased reliance on market transactions will signal farmers what to produce, how to produce and at what price they can afford to produce. It will also expose farmers to the risk of extremes in income.
- Technology will expand opportunities to target markets, but increased expense and entrepreneurial skill will be needed to implement it.
- Pressure on commercial farms to manage resources through innovative organization, production, and marketing arrangements will continue.
- Agriculture will be under pressure to respond to enhanced awareness of environmental impacts of agriculture.

Increased emphasis on returns to management rather than returns to capital assets will generate the needed higher returns. Successful managers will combine financial and marketing skills with the production management skills that have dominated in the past.