

FARM CREDIT SERVICES
OF NORTH CENTRAL WISCONSIN, ACA

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January 9, 1995

The Honorable Al Ott
Wisconsin State Assembly
Room 318N
State Capital
Madison, WI 53702

Dear Rep. Ott,

Recently we visited at the annual meeting of the Wisconsin Agribusiness Council about the "renewal" of Wisconsin's dairy industry.

From our perspective, efforts at renewal should attempt to be "inclusive" and result in improved profitability and efficiency for the producers.

FCS-North Central Wisconsin is the largest commercial ag lender in north central Wisconsin. Our customer base includes more than 3,000 producers in the 12 counties from Waushara, Portage, Wood north to the Mich. border. (including Marathon and Clark counties). Current loan volume is \$160 million.

Since our primary business is the financing of agriculture we have ample experience (debt crisis of the 80's) and interest in an inclusive and profitable renewal for dairying. I'd like to offer thoughts for your consideration.

I'll start at my look at the past by saying, "Those who do not learn from the mistakes of history are doomed to repeat them." Two questions seem evident...

1. Are the 1990's just the 1970's and 1980's revisited?
2. Is it "Taps or Revelry" for the dairy producers of Wisconsin?

Certainly, there are some similarities to 20 years ago. First of all, we have willing lenders, willing borrowers and aggressive vendors of products and services, just like in the 70's. Additionally, producers still lack sufficient business planning and financial skills needed for successful renewal. Most troublesome is what's different about today vs. 1970's. During the 1970's equity capital was replaced with debt capital, increasing debt from \$100,000 to \$400,000. Today equity capital is replaced at 10-14 times the current debts. Many of the "expansion" plans include debt increasing from \$100,000 to more than \$1,000,000--while at the same time showing lower profit per cow, higher operating expenses per cow, and break-even/cwt up to \$13.50.

The current frenzy often heard is "expansion" vs. "renewal." Thus, seemingly advancing some model for producers; specifically, new free stall and parlor facilities ranging in size from 150 to 450 cows. The problem with these notions remain in the advertising and excitement of the moment rather than the economic feasibility of such limited types of expansion.

Today it seems some farmers, some lenders, some educators, and some of the equipment and building vendors are again pushing strategies that only increase farmers debt burden without improving profitability, efficiency, or quality of life for the producer. Many of the current strategies promoted leave the producer without improved profitability, higher operating expenses, greater family stress and the potential loss of this generations "best and brightest" dairy producers.

During the past 3 years, we at this FCS have financed the transition of more than 160 different farm families. More than 90% of these family farm transitions were to related members of the family and continued a viable farm business. We know much of what is needed in family business transition. We also are keenly aware of those strategies which spell disaster.

As we discussed, many of us share your concern and interest in Wisconsin agriculture. I'd welcome the opportunity to share with you additional information about renewal of dairy. Specifically, I'd be happy to discuss the following:

1. Results of dairy study of 243 successful dairy units, measuring cost of production, breakeven/cwt, income and debt per cow relationships.
2. Profile the needs of successful producers of the future.
3. Identify inclusive strategies which can be used by the majority of the states producers.
4. Identify actions and/or activities which government can assist in.

Please let me know if you'd prefer a breakfast meeting.

Best Regards,

Possible Testimony


Michael R. Krutza

Pres and CEO of NorthCentral Wisconsin Farm Credit Services

P.S. I am a recent appointee to the Governors Dairy 2020 Council.



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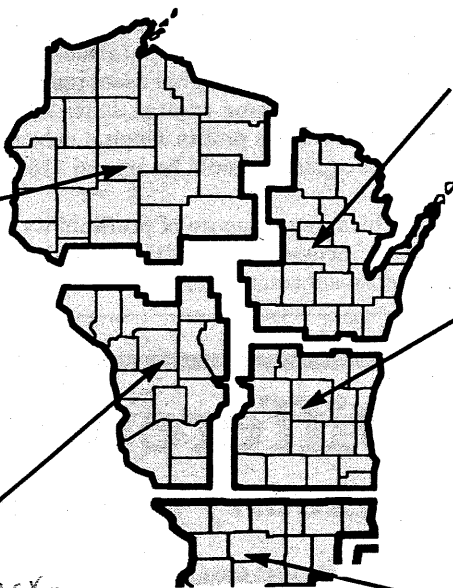
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STATUS OF WISCONSIN FARMING, 1995

Farm Financial Status

Current Situation and Outlook

Overview of the National Economy in 1995

Dairy Outlook

Livestock and Poultry Outlook

Corn, Soybeans, and Wheat Outlook

Farm Credit Situation and Outlook

Farm Inputs and Farmland Price Situation

Special Feature

*The Contribution of Agriculture to the Wisconsin
Economy*

Department of Agricultural Economics
College of Agricultural and Life Sciences
University of Wisconsin-Madison

Cooperative Extension
University of Wisconsin-Extension

Agricultural Technology and Family Farm Institute

STATUS OF WISCONSIN FARMING, 1995

An Annual Report by:

Department of Agricultural Economics
College of Agricultural and Life Sciences
University of Wisconsin-Madison

Cooperative Extension
University of Wisconsin-Extension

Agricultural Technology and Family Farm Institute

Acknowledgements

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T. Randall Fortenbery and William E. Saupe, Editors
Department of Agricultural Economics
Henry Taylor Hall
University of Wisconsin-Madison
Madison, WI 53706

January, 1995

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PREFACE

WORKING TO IMPROVE THE FUTURE FOR WISCONSIN'S FAMILY FARMS

Bradford L. Barham (608) 265-3090
Agricultural Economist
Agricultural Technology and Family Farm Institute
Assistant Professor
Department of Agricultural Economics

Frederick H. Buttel (608) 265-3490
Director
Agricultural Technology and Family Farm Institute
Professor
Department of Rural Sociology

This marks the fourth edition of the *Status of Wisconsin Farming* that the Agricultural Technology and Family Farm Institute (ATFFI) has co-sponsored with the Department of Agricultural Economics and Cooperative Extension. One of ATFFI's principal mandates from the Legislature has been to monitor the status and prospects of family farming in Wisconsin. In this light, we believe that it is important that the citizens of the state, and especially those involved in private and public policy arenas, have the opportunity on an annual basis to review timely information and up-to-date analyses of the recent performance and the future outlook for agriculture in Wisconsin. Only with a clear sense of the current situation and the future outlook can effective initiatives to improve the viability and profitability of family farms be developed and implemented. *Status of Wisconsin Farming* has long been an excellent source of information and policy analyses, and ATFFI is pleased to be among the co-sponsors of this publication.

The analyses in this volume show that the downward trends in real commodity prices and farm incomes which began for Wisconsin farmers in the 1980s have continued well into the 1990s. Given domestic production and consumption trends, the likely cutbacks in federal spending on-farm programs, and the small role still played by exports in U.S. dairy industry receipts, no quick relief is in sight for commodity prices, and hence for farm incomes, here in Wisconsin. Indeed, it seems likely that, barring major shocks to production elsewhere in the United States, Wisconsin farmers will experience further price deterioration and pressure on-farm incomes. Efforts to maintain a healthy and vibrant agricultural sector will thus require a wide range of innovations at the farm, industry, and policy levels which can lower costs and, where possible, establish market niches or new profitable activities.

To many in the Wisconsin farming community, the refrain of innovation and efficiency has become a tired one. Given the economic conditions facing Wisconsin's farm families, however, the theme seems likely to be replayed into the foreseeable future. In this context, ATFFI will strive to provide a strong voice in support of diverse approaches to agricultural innovation, ones that include social and policy initiatives as well as production technologies and offer a range of choices that are appropriate for Wisconsin's farming families.

Research and Education: Entry and Exit Issues, Property Tax Reform As Examples

Work at the Agricultural Technology and Family Farm attempts to contribute to the task of social and policy innovation in both private and public arenas. Two examples of ATFFI's recent contributions are illustrative. One is the institute's work on the theme of farm transitions, or entry and exit patterns in Wisconsin farming. Another is a forthcoming report to Wisconsin citizens and legislators, entitled "Property Taxes and Wisconsin Farmers in an Era of Property Tax Reform."

A recent series of ATFFI Research Reports on the entry-exit theme reveals that farm numbers in Wisconsin declined in the early 1990s at rates surpassed only in the late 1960s, and that this decline is due mainly to a sharp drop in the rate of entry into Wisconsin agriculture. There is also evidence that the problem could increase because there is a large group of older farmers who are likely to retire over the next several years and because entering farmers are beginning their farming careers at older ages. Focus group discussions convened in 1994 with recent entrants, exiters, and agricultural professionals who work with farm families revealed many of the fundamental challenges facing smooth farm transfers in this era. Armed with the knowledge acquired by research and listening to our constituents, ATFFI has worked hard to catalyze the Wisconsin Farm Entry-Exit Coalition, an amalgam of nearly three dozen private and public organizations and individuals that are cooperating to help implement new programs to help young people get into farming in a smart way and to ease the transition out of farming for older farmers.

The property tax study, mentioned above, will be released in early February, and will be timely in its contribution to the ongoing legislative deliberations regarding how to structure property tax relief. By examining the relative property tax costs on Wisconsin farming compared to other states and the property tax loads faced by other sectors in the Wisconsin economy, the report provides legislators and others involved in forging property tax reform a clearer sense of the property tax situation of Wisconsin farmers. It also explains some of the complex and impending social choices which will eventually determine whether the tax reform process delivers relief to Wisconsin's farm families, while maintaining the high level of public services that Wisconsin citizens expect.

Recombinant Bovine Somatotropin and Other Emerging Agricultural Technologies

Another important component of ATFFI's work is to evaluate the social and economic effects of emerging agricultural technologies, so that farmers, industry leaders, policymakers, and concerned citizens can make informed decisions about the likely outcomes associated with these new technologies. ATFFI has focused on three themes in this arena. One is the adoption patterns of recombinant bovine somatotropin (rbST) by Wisconsin's dairy farmers. A second is the broader technology use patterns of Wisconsin's farmers, primarily in the areas of grain and livestock production, with some special emphasis on the role of intensive rotational grazing among dairy farmers. A third theme has been environmental practices and technologies, with an eye toward how the increased social attention to environmental outcomes of agriculture is affecting and will affect farm families.

ATFFI recently completed a third round of survey work with Wisconsin dairy farmers regarding their use of different technologies, including bovine somatotropin (rbST). One of the rounds was done in the 1993 ATFFI Family Farm Survey before rbST had been approved for commercial sale. The other two rounds were done in the spring and late fall of 1994. A report forthcoming in March of 1995 on technology use patterns among Wisconsin dairy farmers will feature the findings of these surveys and attempt to explain why the adoption rate of rbST on Wisconsin dairy farms could remain below 10 percent for the foreseeable future.

A broader look at technology use patterns of Wisconsin farmers was presented in a special edition of *Status of Wisconsin Farming* in August of 1994. Research on both the economics of intensive rotational grazing and the lifestyle implications for families adopting this technology continue in collaboration with the Center for Integrated Agricultural Systems. Surveys in 1994 and again in 1995 are providing ATFFI with a base of information on farmer attitudes and behaviors regarding agriculture and the environment. These survey results will be used in the future to inform institute initiatives in this arena.

ATFFI and Our Constituents

ATFFI continues to place high priority on expanding public input into University of Wisconsin programs and on taking the viewpoints of farm people into account when choosing our own research and extension priorities. If you have ideas that you think could help inform our efforts, questions you would like us to help explore, or would like more information on the kinds of topics and themes raised above, please call or write ATFFI at 1450 Linden Drive, Room 146, University of Wisconsin-Madison, Madison, WI 53706; 608-265-2908 or 262-8018.

SUMMARY

Wisconsin agriculture experienced a generally favorable production environment in 1994. However, record or near record production in several commodities has also resulted in relatively low prices for producers of milk, grain, and livestock. The low prices will pose significant challenges to producers in the coming year.

This issue of Status of Wisconsin Farming highlights the production picture for the major Wisconsin agricultural commodities. We also review the national production picture for 1994, with some projections for 1995. It is important to remember that outlook projections can only be based on the information that is available at the time the projections are made. We all know that market conditions will change in the future, and fully anticipating the changes that take place is, at best, an inexact science.

In addition to the usual articles, Professor Deller has written a feature article focused on the contributions of agriculture to the overall Wisconsin economy. This article represents a part of the work Professor Deller is currently conducting which focuses on the economics of rural communities. The article may be particularly timely given the changes recently experienced in the political picture at both the state and national level, and the ensuing debates which will likely focus on what role governments should play in rural environments.

The faculty of the Department of Agricultural Economics welcomes your comments and questions on material in this series. We also encourage your suggestions on rural issues important to Wisconsin that might be addressed in subsequent issues.

STATUS OF WISCONSIN FARMING, 1995

I. FARM FINANCIAL STATUS

William E. Saupe (608) 262-9480
Professor and Extension Specialist
Department of Agricultural Economics

In this section the financial status of Wisconsin farm businesses is reported using balance sheets that list assets and debts and the income statements of the farm business. The economic well-being of the people in farm households is described, some comments about the future are noted, and additional sources of information cited. First, to facilitate interpretation of the data that follow, the definition of "farm" is presented.

What is a "Farm"?

Most everyone has a mental picture of what constitutes a farm, but the widely differing personal farm experiences and rural-urban backgrounds of the 3,500 readers of this report could lead to a wide variety of perceptions of what is, and what is not, a "farm". To talk reasonably about the "status" of Wisconsin farms, we need first to begin with a common picture or definition of farms.

The issue is not new. To provide a uniform basis for counting and describing farms, the Census of Agriculture and the U.S. Department of Agriculture adopted a common definition more than a decade ago. Thus, in recent years, when farms were discussed in government reports or in the popular

press, unless otherwise noted, they were defined as follows:

"A farm is any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the year".¹

Two points in the definition particularly affect the interpretation of farm statistics in Wisconsin and the nation. First, the \$1,000 lower limit on production and sales is very inclusive, and thus the averages tend to hide the diversity within the farming sector. For example, Wisconsin has a relatively large proportion of small-scale farms and farm households in which the operator or another adult works off the farm. In the most recent agricultural census, about two-thirds of Wisconsin farmers reported farming as their primary occupation but nearly as many reported gross farm sales of less than \$50,000, the level that is sometimes used as the minimum size of a "commercial farms." Over one-fifth of Wisconsin farms reported gross sales of under \$5,000 in the last census.

Second, the "place" on which the farm production occurs includes all types of farm business organizations. In the most recent agricultural census

these included 86 percent as sole proprietors, 13.7 percent were multi-family partnerships or corporations, and 0.3 percent were other than family held corporations.²

Next, the recent past and current financial conditions of Wisconsin farm businesses are reported, first using farm business balance sheets and then reporting farm business income.

Farm Business Balance Sheets in Wisconsin

Balance sheets, or net worth statements, report the assets and debts of the farm business, giving a picture of the financial condition of the business at a specified time. As is usual in farm balance sheets, the data reported here are for the instant in time that marks the end of one business year on December 31st and the beginning of the next on January 1st. The data presented are as of January 1 of the indicated year and are based on annual surveys of random samples of Wisconsin farms conducted by the Economic Research Service, U.S. Department of Agriculture (ERS, USDA). More than half the value of assets is held in farm real estate, and farm machinery is the second largest group of assets.³

As a review of the situation in the recent past, note that aggregate net worth of Wisconsin farm businesses declined about ten billion dollars in the four years from 1982 to 1986. After that, net worth increased each year (in nominal dollars) and stood at \$18.7 billion at the beginning of 1991. After some fluctuation, it was just under \$19 billion at the beginning of 1994 (Table 1).

The per farm average assets and net worth for recent years are presented in Figure 1. Most of the rapid recovery from the 1986 lows had been made by January 1991. Since then both per farm business assets and net worth have fluctuated within a narrow range.

Farm Business Income in Wisconsin

Wisconsin net farm business income is based on cash accounting of farm business receipts and expenses plus a charge for capital consumption. As this is a business income concept rather than a farm household income concept, the rental value of a farm dwelling occupied by the farm operator is excluded from income as are any expenses associated with that dwelling. No imputed charges are made for unpaid labor furnished by the operator or other farm household members or for capital they furnished.

Inventory changes are not included in this cash income concept. Sources of the information are the same ERS, USDA farm surveys from which the balance sheet information was obtained.

Farm marketings of crops and livestock, government payments, and farm related income such as custom work done for hire and the sale of forest products are included in cash farm income. From that total, farm production expenses including interest, hired labor, rent, property taxes, and a charge for the consumption of farm capital are subtracted. The residual is net farm business income, and in effect is the net available to reward the farm household for the provision of their unpaid labor and management, and for the capital they furnished to the farm business.

Recent Trends in Wisconsin Farm Business

Income. Again reviewing the situation of the recent past, after the traumatic decline in net farm income and net worth in the early 1980s, Wisconsin farm business income increased substantially in 1985 and 1986 over the five immediately preceding years. It then fluctuated upward through 1989. Since then it has declined most years on a per farm and aggregate basis, and in 1993, the last year with completed data, it was at about half the level of four years earlier (Table 2).

Estimated 1994 Wisconsin Farm Business Income.

While the Wisconsin farming sector is very diverse in farm type as well as size, gross farm product sales and farm income are dominated by the dairy sector. Dairy farms comprise nearly half of all farms in the state, but in addition, most are organized as full-time farm businesses because of the nature of the labor demands of the dairy herd. In contrast to most other farm types in Wisconsin, few dairy farms are small volume, part-time activities. Thus, year-to-year changes in dairy farm income will dominate the changes in aggregate and thus average farm income in Wisconsin, even though over half of Wisconsin farms emphasize other enterprises.

Dairy, livestock, feed grain and oil crops, farm credit and finance, and input costs are analyzed and discussed in detail in later sections of this report. From them and other sources a preview of Wisconsin farm income for the year just ended and for 1995 can be developed.

Current estimates are that final 1994 data will show that average farm income of Wisconsin dairy farmers will be little different from 1993. Farm receipts are expected to be lower, as a slightly higher milk price per cwt. will not completely offset a decline in total production.

Table 1. Aggregate Balance Sheet for Wisconsin Farm Businesses, January 1, 1990-1994 (Millions of Dollars).

Item	1990	1991	1992	1993	1994
Real estate	\$12,410.8	\$13,238.6	\$13,267.5	\$13,721.8	\$13,541.1
Livestock and poultry	3,425.7	3,314.7	3,180.6	3,185.8	3,037.0
Machinery and motor vehicles	4,195.2	4,213.8	4,249.5	4,268.7	4,314.8
Crops	1,092.6	1,080.5	1,035.0	998.0	1,005.7
Investments in cooperatives, purchased inputs, other financial assets	1,536.9	1,586.4	1,665.9	1,777.1	1,877.1
Total farm business assets	22,661.2	23,434.0	23,398.5	23,951.4	23,776.4
Real estate debt	2,488.5	2,438.6	2,400.0	2,407.0	2,446.1
Other debt	2,395.5	2,264.8	2,287.4	2,281.4	2,330.4
Total farm business debt	4,884.0	4,703.4	4,687.4	4,688.4	4,776.5
Equity (net worth)	17,777.2	18,730.6	18,711.1	19,263.0	18,999.2
Debt to total assets ratio	21.6	20.1	20.0	19.6	20.1
Number of farms	80,000	80,000	79,000	79,000	79,000

Source: Economic Research Service, U.S. Department of Agriculture.

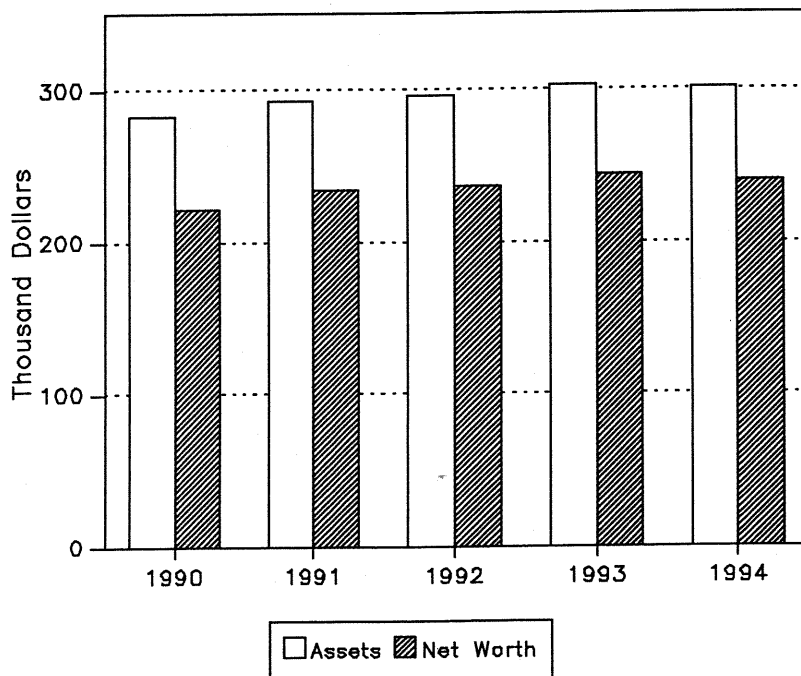
FIGURE 1. WISCONSIN FARM BUSINESS ASSETS AND NET WORTH PER FARM (JANUARY 1)

Table 2. Wisconsin Farm Business Income, 1989-1993 (Millions of Dollars).

Item	1989	1990	1991	1992	1993
Gross cash income					
Farm marketings	5,391.0	5,719.0	5,416.6	5,469.1	5,250.4
Government payments	522.3	181.2	150.0	166.0	310.2
Farm-related income ^{1/}	206.2	227.5	224.6	213.9	257.7
Total	<u>6,119.5</u>	<u>6,127.7</u>	<u>5,791.1</u>	<u>5,849.1</u>	<u>5,818.3</u>
Cash farm business expense					
Intermediate product expense	2,594.9	2,752.1	2,816.3	2,741.5	2,946.0
Interest	456.5	446.1	406.1	352.9	348.7
Cash labor expenses	351.7	445.9	467.9	476.0	477.4
Net rent to non operator landlords ^{2/}	289.4	241.3	232.9	195.6	215.9
Property taxes	273.4	308.6	314.6	337.6	344.5
Capital consumption (depreciation)	768.3	782.8	791.2	781.0	784.4
Net farm business income ^{3/}	<u>1,385.3</u>	<u>1,150.9</u>	<u>762.1</u>	<u>964.5</u>	<u>701.4</u>
Number of farms	81,000	80,000	79,000	79,000	79,000

^{1/} Includes income from machine hire, custom work, recreational, other farm-related business, and forest product sales.

^{2/} Landlords' capital consumption is included.

^{3/} Gross cash income less cash farm business expense and capital consumption.

Source: Economic Research Service, U.S. Department of Agriculture.

However, the difference appears to be less than \$700 per farm on average and lower feed costs in 1994 will narrow that gap.

But Wisconsin farming is very diversified, and over half of Wisconsin farms are not affected by changes in the price of milk or dairy products. Among other farm types, Wisconsin's 8,000 specialized beef cattle herds fared less well in 1994 than in 1993 while for the 7,500 swine producers 1994 was a disastrous year. In general, the 10,000 horticultural crop producers had a good growing and harvesting year (potatoes, vegetables, fruit, etc.) as did the 7,200 cash grain producers. Trying to average all the diverse farm types in the state before hard data for 1994 are available has some risk, but it appears that aggregate Wisconsin farm income will be little different in 1994 than in 1993.

Projected 1995 U.S. and Wisconsin Farm Business Income. As reported in detail in a later section, the 1995 U.S. and Wisconsin milk price is expected to be substantially lower in response to increased production nationwide and other factors. If Wisconsin dairy farmers make no adjustments, the per farm effect on net income could be several

thousand dollars. However, dairy farmers are using a number of strategies to respond, e.g., reducing cost of production, culling less and otherwise increasing the number of cows in the herd, undertaking major facility and herd expansion, dropping their dairy enterprise, etc. These responses could help maintain the receipts and total income from the dairy herd on a per farm basis, even though the total Wisconsin dairy sector could decline at the same time.

Likewise, production of red meats and poultry are expected to increase in 1995 and producer prices for all major animal products, like dairy products, are expected to remain under pressure during much of 1995. Lower feed prices will help to lower producers' costs somewhat. Larger government support payments to corn producers are expected for farm program participants.

For the nation's farmers in aggregate, current ERS, USDA projections are for cash income in 1994 to be about \$51 billion, down from \$58.5 in 1993 because of reduced livestock prices and government payments plus higher cash farm expenses. Their forecast for 1995 is for cash income to be in the range of \$49 to \$53 billion.

Because of the major role of animal agriculture in Wisconsin, it appears unlikely that cash income will hold up to the 1994 level in 1995. While some sectors in Wisconsin's diverse farming industry, and some farmers in all sectors, will likely do well in 1995, it appears unlikely now that it will be a good year on average for dairy and livestock producers.

Farm Household Income in Wisconsin

So far the focus in this report has been on Wisconsin farm business financial and income statements. That is appropriate as the financial success of the farm business is important not only to the owners and operators that receive income from the business, but to the input suppliers and product processors that serve and depend on the agricultural sector, and to the units of government for which farm businesses are an important tax base.

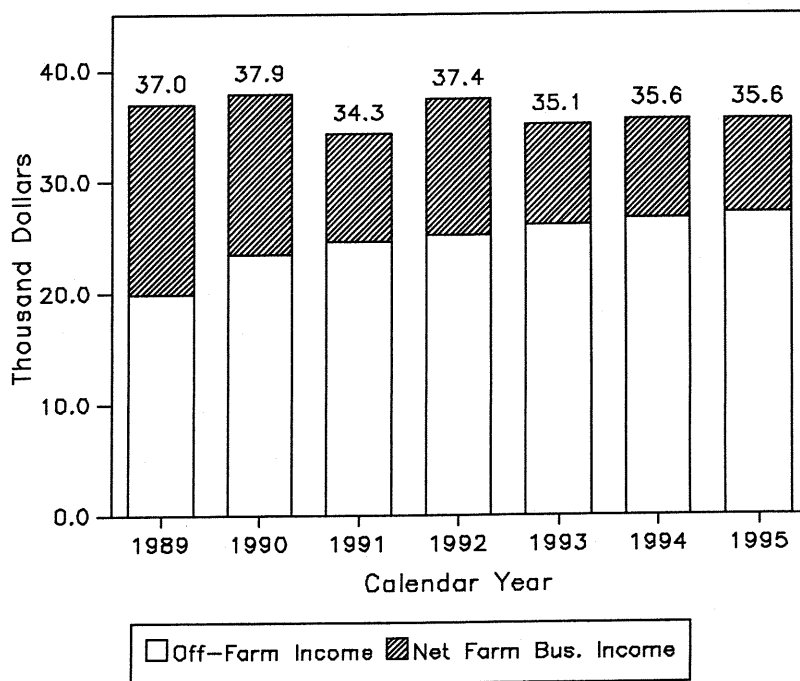
However, for the large majority of Wisconsin farms that are sole proprietorships or multi-family units, the farm business is not an end in itself. It is one means by which persons in farm households provide for their economic well-being. In this section, the focus is on farm households, including all sole proprietorships plus the senior partner in family partnerships and corporations. Nonfamily corporations are not considered as households, and are excluded.

Like farm households in Wisconsin, farm households members throughout the nation combine farm income, to various degrees, with off-farm wage income, nonfarm self-employment income, nonfarm asset earnings, and transfers for their total household income. The ERS, USDA estimates that farm operator household income in the nation will average about \$39,120 in 1994, with about \$4,750 coming as farm income and \$34,370 from nonfarm income sources. If that estimate is correct, farm income for farm operator households would be down slightly from 1993, but be more than offset by nonfarm income.

For 1995, the ERS, USDA forecasts average farm income per farm operator household to be between \$4,200 and \$5,000 and nonfarm income between \$34,600 and \$36,600. Total farm operator household income will likely be higher in 1995 than in 1994, with the increase coming from the nonfarm activities of the household members.

The information reported in Figure 2 for 1989-1995 is the author's best estimate based on information currently available, including ERS, USDA projections, analyses of the total Wisconsin economy made by the Wisconsin Department of Revenue, and the commodity-by-commodity analyses presented later in this report.⁴

FIGURE 2. ESTIMATED WISCONSIN FARM AND OFF-FARM INCOME PER FARM HOUSEHOLD



Source: Estimates made by the author from several sources (see the text).

In both stability and magnitude, nonfarm sources are the dominant base of farm household income in Wisconsin (Figure 2).

A decade ago, total income per Wisconsin farm household averaged \$18,500. About one-third came from the farm business and two-thirds from nonfarm income. The best estimate of farm operator household income for 1994 is about \$35,600 with about \$8,900 farm income plus \$26,700 nonfarm income. This would be about \$500 above a year earlier, with all the increase coming in nonfarm income.

For 1995, total farm household income is projected to be unchanged at \$35,600 with a \$500 per farm decrease in average farm income offset by a similar increase in nonfarm income. The projection assumes somewhat lower per farm income for Wisconsin's farmers in dairying and red meat and poultry production, and on average stable to higher per farm income for the farmers producing the diversity of other farm commodities. The projection also assumes increased off-farm employment and higher wage rates, consistent with the generally favorable Wisconsin employment picture and expected higher returns on financial assets.

References and Sources of Information

References and other sources of information about farm financial conditions are as follows:

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END NOTES

1. Counting the number of farms is not easy as there is no master list based on licensing or other requirement to be met to become a farmer. However, there is general consistency among the three major sources. The Agricultural Statistics Service, U.S. Department of Agriculture reports the number of farms by state rounded to the nearest thousand. Their tally has been 79,000 Wisconsin farms for each of the last three years. The 1992 Census of Agriculture reported 67,964 farms in Wisconsin but they acknowledge undercounting of the smaller farms that contribute little to the total agricultural sector. The Wisconsin Department of Revenue tallied 77,936 Wisconsin income tax returns in fiscal 1993-94 that included a Schedule F (farm income) with their return. Some part of those were for late filers or amended returns for prior years, but at least 71,000 could be attributed to calendar year 1993.
2. In the 1992 Wisconsin Census of Agriculture these were distributed as follows: 86 percent were sole proprietor family farms and they received 67 percent of Wisconsin's gross farm sales; 13.7 percent were multi-family partnerships or corporations that received 31 percent of total gross sales; and 0.3 percent were other than family held corporations and they received 2 percent of total gross sales.
3. The information is presented from the perspective of the farm business, not the farm household. Thus, the aggregate balance sheet excludes the value of nonfarm share of trucks and autos, financial assets owned by household members and debt for nonfarm purposes.
4. Responsibility for the projections lies solely with the author. It may be of interest to note that his projections overestimated average farm income by \$1,400 in 1993 and \$2,300 in 1994.

II. CURRENT SITUATION AND OUTLOOK

OVERVIEW OF THE NATIONAL ECONOMY IN 1995

Patrick Luby (608) 262-7359
Adjunct Professor
Department of Agricultural Economics

Summary

General business activity is expected to continue to expand during 1995, although the pace of expansion is likely to slow a bit as the year wears on. Vigorous expansion during the last two and one half years has placed much of the economy nearer its maximum capacity than at any time since early 1990.

Unemployment continued to decline throughout 1994 to 5.4 percent in December. It averaged between 5.3 percent and 5.5 percent from 1988 through 1990 at the height of the last business expansion. Shortages of human resources have emerged in many areas in late 1994, an indication that the pace of expansion is likely to slow soon.

The utilization of industrial capacity reached 85.4 percent in December 1994. This is higher than the average of 83.7 percent reached in 1988 and 83.6 percent in 1989. Although new capacity is being added at a rapid rate and the make up of the industrial sector may permit expansion beyond historical levels, it is likely that some constraints will be reached in 1995 thus slowing the rate of expansion.

Installment debt levels have been rising very rapidly during 1994. They fell from a peak of 18.6 percent of disposable personal income in 1989 to 15.6 percent at the recession low in 1992. They have risen back to about 18 percent at the end of 1994 and will likely provide less fuel for continued expansion during the next year or two than was seen in 1993 and 1994.

Other indicators such as the slightly rising level of industrial commodity prices, rising long term and short term interest rates in 1994 and a continued high level of total public and private debt point to a slower growth rate ahead. While good upward momentum exists as we enter 1995, and no recession is imminent, a slower pace of growth is likely to occur as 1995 unfolds.

An active economy with high levels of employment and rising consumer incomes is an encouraging feature for the agricultural and food sectors. Demand for most agricultural goods is historically high during the period of a mature business expansion. However, the food and agricultural industries will continue to face strong competition. Housing, health care, automobiles and durable goods, clothing and all sorts of personal services will continue to exert strong pressure in the marketplace for consumers' attention and spending.

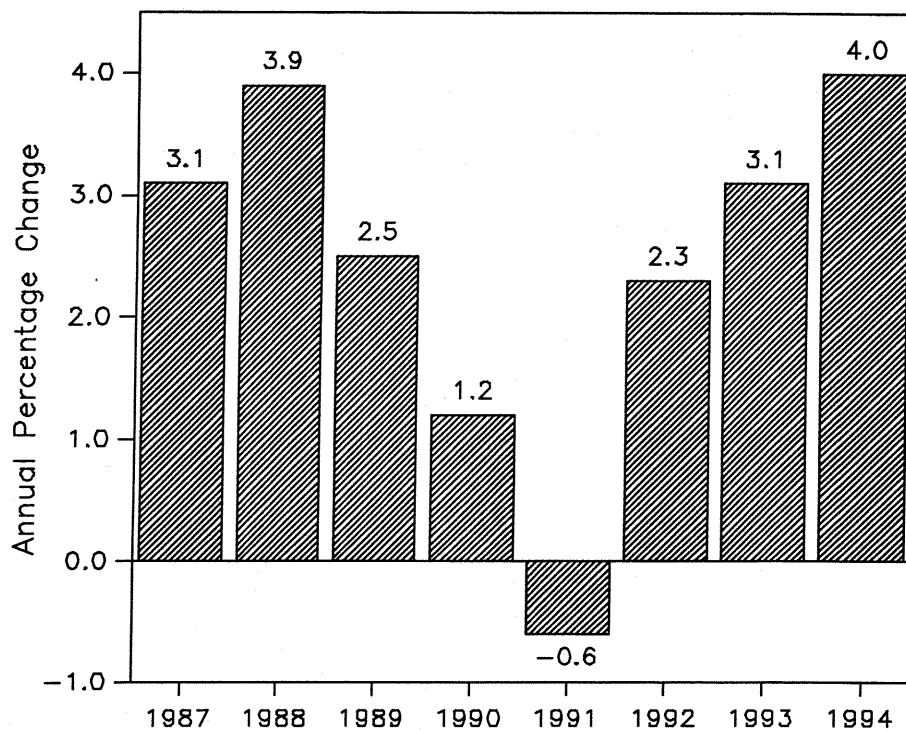
The proportion of consumers' expenditures that is spent for food and beverages has fallen for decades. It fell from about 25 percent in 1960 to about 15 percent in 1994. Meanwhile, spending for services rose from 41 percent in 1960 to over 54 percent in 1994. Expenditures for medical services alone rose from 5 percent in 1960 to over 15 percent in 1994.

Where Are We Now?

Gross Domestic Product. Real Gross Domestic Product (GDP) increased about 4.0 percent in 1994 following a 3.1 percent increase in 1993 (Figure 3). Both are above the long term trend and have brought the economy to near what is considered to be full employment of its principal resources. The 1994 gain is the largest since a 6.2 percent increase in 1984.

Domestic activity in 1994 was led by the private investment sector and consumer spending. Spurred by relatively low interest rates, real non-residential fixed investment rose by over 12 percent for the second straight year and residential housing increased over 8 percent to a level 36 percent above that of three years earlier. Real business inventories rose nearly 50 billion dollars (in 1987 dollars), the second largest one year boost in real inventories in over three decades (only 1984 recorded a larger increase).

The all important consumer spending sector, which accounts for two-thirds of the GDP total, recorded a 3.2 percent real increase in 1994, about the same as the increase in the preceding year. This increase was achieved partially by the assumption of increased installment credit.

FIGURE 3. CHANGES IN REAL GROSS DOMESTIC PRODUCT, 1987-1994

Source: Economic Indicators, December, 1994, p. 2.

For the third consecutive year, net real exports and real government spending were weak sectors. Real exports increased 8 percent in 1994, the 11th consecutive annual increase bringing real exports to a level 127 percent higher than in 1983. However, real imports rose 13 percent. Real imports of goods and services exceeded exports by about 115 billion (1987) dollars in 1994, the largest net deficit in seven years. Imports have exceeded exports in each of the last 20 years. Imports have continued to be large despite a relatively weakening dollar since the latter peaked in early 1985.

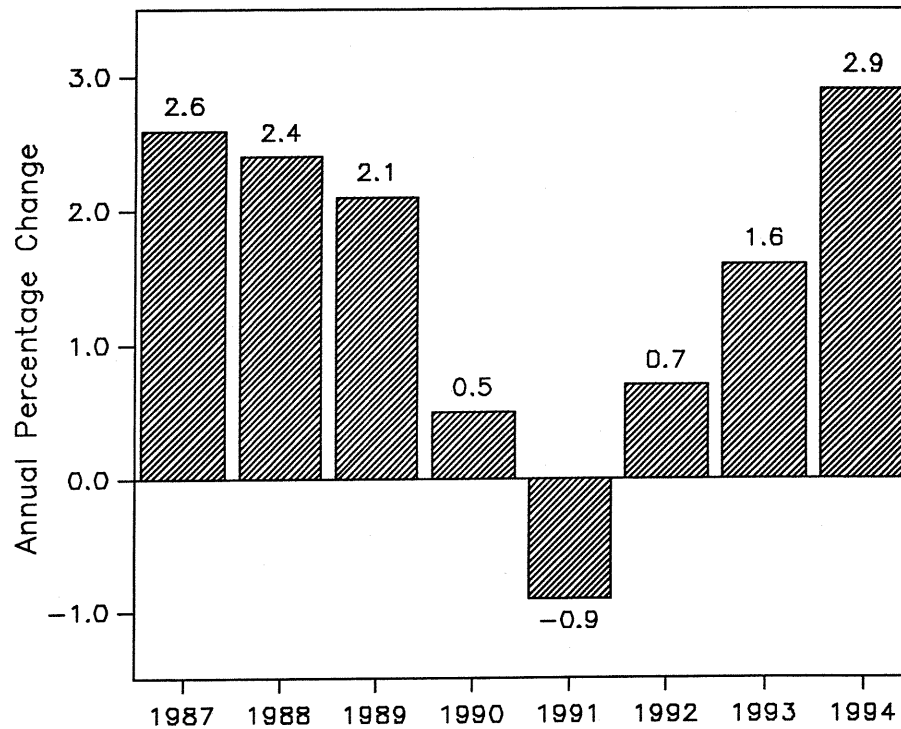
Total real government expenditures were down less than 1 percent in 1994 with federal government purchases down about 5 percent and state and local purchases up about 2 percent. Real defense expenditures dropped another 6 percent in 1994 and are now 22 percent below the peak in 1987 and the smallest since 1982. Real state and local expenditures have risen each year for the last 35 years except for very small declines in 1977 and 1981.

While the GDP rose about 4.0 percent in 1994, the rise in sales of domestically produced goods and services rose only 3.0 percent with the rise in inventories accounting for the difference. Total

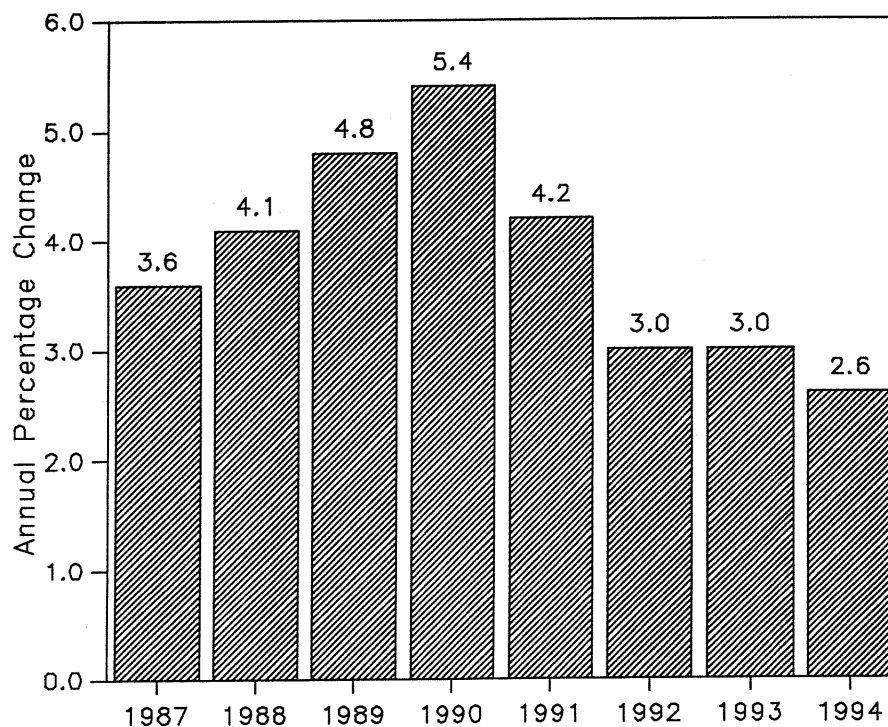
domestic purchases rose 5.0 percent with the negative trade balance boosting total domestic sales.

Employment. Non-agricultural civilian employment expanded about 2.9 percent to average more than 119,500,000 in 1994 (Figure 4). This 3.3 million boost in employment in one year was the third largest in history, exceeded only in 1984 and 1978. The average unemployment rate has declined steadily from 7.7 percent, the recession high reached in June, 1992 to 5.4 percent in December, 1994.

Prices. The Consumer Price Index (CPI) rose about 2.6 percent from 1993 to 1994, the smallest annual increase in eight years (Figure 5). Consumer food prices rose about 2.5 percent. The food segment of the CPI has risen at about the same pace as the total Index since 1985—both up about 37 percent in nine years. Sectors showing little or no inflation from 1993 to 1994 include apparel and upkeep and energy, motor fuel and housing fuel and utilities where prices were lower in the first half of the year but moved upward in the second half. The price of medical care, which rose rapidly in the last decade, increased less than 5 percent, the smallest annual percentage increase in 21 years (Figure 6).

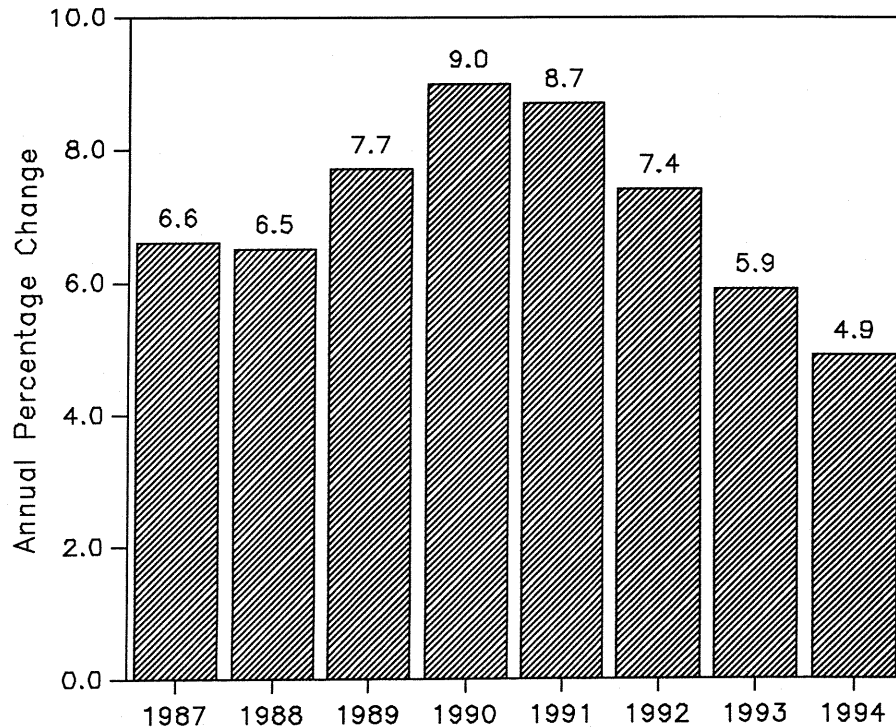
FIGURE 4. CHANGES IN CIVILIAN NON-AG EMPLOYMENT 1987-1994

Source: Economic Indicators, December, 1994, p. 11.

FIGURE 5. CHANGES IN THE CONSUMER PRICE INDEX 1987-1994

Source: Economic Indicators, December, 1994, p. 23.

FIGURE 6. CHANGES IN THE PRICE OF MEDICAL CARE 1987-1994



Source: Economic Indicators, December, 1994, p. 23.

The Producer Price Index continued its very slow climb, up less than 1 percent in 1994. It has risen only 3.2 percent during the last three years and only about half as fast as the CPI over the last decade.

Interest Rates. Both long-term and short-term interest rates rose steadily during 1994. Both rose about 200 basis points from late 1993 to late 1994. Both averaged more than 100 basis points higher in 1994 from the 1993 average which had been the lowest in 25 years for long term rates and the lowest in 31 years for three month U.S. Treasury Bills (Figures 7 and 8).

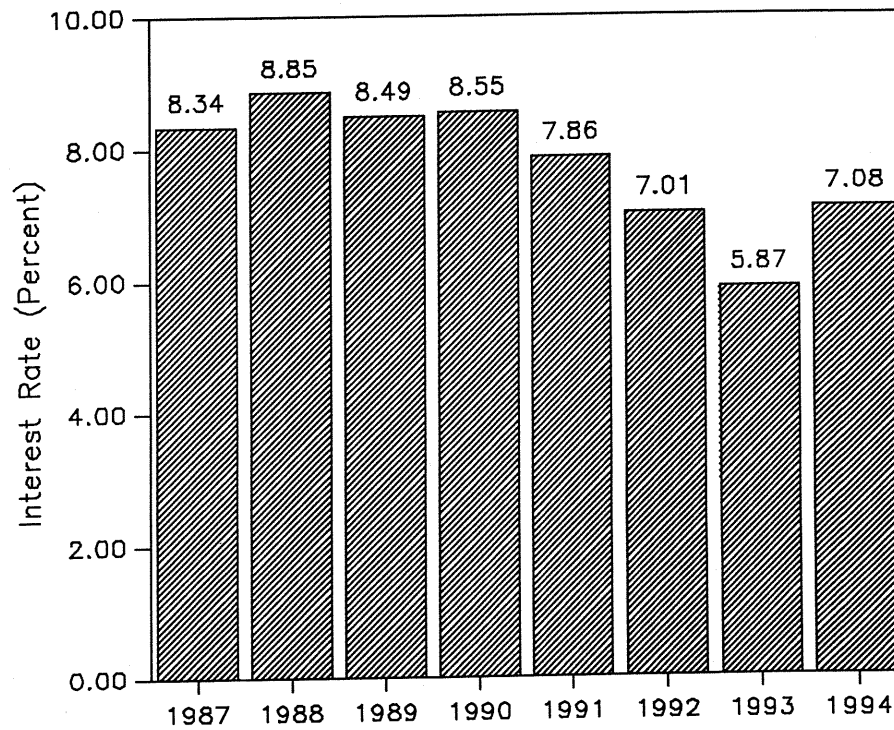
Debt. Total public and private debt expanded about 5 percent during 1994, about the same pace as in the preceding three years and well below the rates of the preceding decade when annual rates of debt expansion ranged from 12 to 15 percent from 1983 through 1986. Total debt, which for three decades had averaged between 1.3 and 1.4 times annual GDP, grew rapidly during 1980's to over 1.9 times annual GDP by 1990 and has been trending sidewise since then.

Consumer installment debt rose rapidly in 1994 at double digit rates. At about a 14 percent increase, it should rival some of the largest December to December increases of the past—17.1 percent in 1985, 20.0 percent in 1984, and 18.0 percent in both 1978 and 1977.

Industrial Production. Industrial activity in the U.S. reached new record highs during 1994. Following an increase of 2.3 percent in 1992 and 4.2 percent in 1993, industrial production rose about 6 percent in 1994. This was the largest annual increase since 1984 and the second largest since 1977.

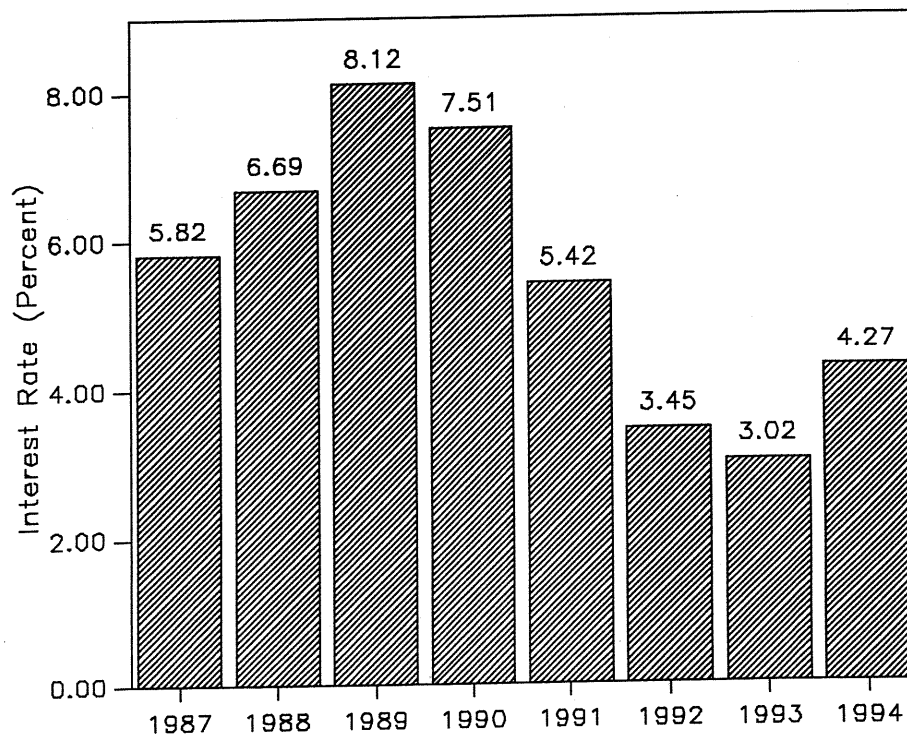
This compares favorably with other leading industrial nations. Industrial output in Japan recovered nicely from their recession low reached in October, 1993, but 1994 production averaged only 2 percent above 1993 and was still 8 percent below the 1991 peak. Production in France, Germany and Italy also rose about 3 percent to 4 percent in 1994, but still averaged below their 1990 and 1991 levels. Output in both the U.K. and Canada began rising from their recession lows at least a year earlier than in Japan and continental Europe and both had strong showings in 1994, reaching new all time highs.

**FIGURE 7. AVERAGE INTEREST RATE OF U.S. TREASURY
10-YEAR BONDS**



Source: Economic Indicators, December, 1994, p. 30.

**FIGURE 8. AVERAGE INTEREST RATE OF U.S. TREASURY
3-MONTH BILLS**



Source: Economic Indicators, December, 1994, p. 30.

Consumer Income. Personal income rose about 6 percent in 1994. Disposable income after taxes rose a little less than 6 percent. Real disposable income, after adjusting for inflation, rose more than 3 percent to a new record high.

Personal income increases by categories were fairly uniform in 1994 with the major groups— income from wages and salaries, transfer payments and dividend income all up between 5 percent and 7 percent. Personal interest income, a laggard in recent years because of falling interest rates, rose over 3 percent but was still more than 5 percent below the 1990 peak. In the past five years, personal income from interest has fallen from 15.3 percent of the total to only 11.6 percent.

Consumer Spending. Real spending, fueled by increased employment, income and installment credit, rose about 3.2 percent in 1994. For the third straight year, spending for durables led the sectors with an increase of over 7 percent in real terms. Real spending for durables has increased 24 percent in the last three years while real consumer expenditures for all other categories of goods and services have risen only 7 percent. Real spending for food rose only 3 percent from 1991 to 1994. Real spending for medical care rose over 9 percent during that time while real spending for all services rose over 8 percent.

What About 1995 and Beyond?

Economic expansion should continue during 1995, though the pace of expansion is likely to decrease during the year. Several constraining factors will begin to brake the momentum of the three year old expansion. Interest rates bottomed in late 1993 and have been rising during 1994. Unemployment rates have been falling and labor shortages are appearing in some industries and in some locations. The utilization of industrial production capacity is at very high levels and further expansion is likely to be more difficult and in some cases, more expensive. Consumers have been taking on more debt during the last several years and probably can not continue to do so at that pace for many more quarters. Government spending, particularly at the federal level has been subdued for several years and that is likely to continue during 1995. Energy prices, at very low levels a year ago, have since rebounded some and will be a slight drag on growth.

However, there are positive factors. The momentum of expansion as we enter 1995 is still strong and should carry the economy higher during

the year. The turnaround in business activity in Europe and Japan and continued expansion in Southeast Asia, China, the U.K. and Canada should give a boost to our exports and those industries and geographic areas which rely heavily on international sales. The recently passed NAFTA and GATT agreements may add a bit of impetus to these trends. Consumer confidence remains fairly high according to survey results. Inflation remains moderate. Interest rates, while rising, are not at high levels compared with those of the 1980's. Real interest rates are still at moderate levels.

During the last several cycles, there has been a two to three year lag between the low in short term interest rates and the subsequent peak in the business cycle as measured by real GDP. Interest rate lows in 1972, 1976 and 1987 were followed by GDP peaks in 1973, 1979 and 1990. The recessions of 1974-75, 1980-1982 and 1991 quickly followed. In each case, the timing and severity of the business cycle peak and subsequent recession was influenced by shocks of energy price increases. As measured in the CPI, energy prices, after rising only 27 percent in 15 years from 1957 to 1972, rose 30 percent in one year from 1973 to 1974. They rose 86 percent in the three years from 1979 to 1982 and 13 percent in three months from July to October at the outset of the Persian Gulf War in 1990.

At the current time, the economy is again near full capacity and vulnerable to outside shocks such as a quick rise in energy prices. However, in the absence of such shocks, expansion should continue during 1995. The Federal Reserve Board, in exerting upward pressure on short term interest rates during 1994 is trying to slow the momentum of business expansion to avoid "overheating" the economy beyond its normal capacity to produce, bring it into a soft and sustainable landing near that full capacity, and avoid a recession in 1996 or beyond.

Interest Rates. Interest rates are a "lagging indicator" of economic activity. They bottomed in late 1993, two years after the bottom of the preceding business cycle. They peaked in early 1989, a year or so before the peak in economic activity. Even after rising about 200 basis points from the low in late 1993, short term rates are still less than half way back to the preceding high of 1989. It is likely that they will continue to rise during 1995. Long term rates are also about 200 basis points higher than in late 1993 and closer to their 1988-1990 cyclical peak. Some mild increases are still possible but the interest rate yield curve should continue to flatten in the near term.

Industrial Capacity. Capacity utilization has increased from its cyclical low of 78 percent in the spring of 1991 to nearly 85 percent, a very high figure, in late 1994. The changing nature of industrial production and the ability of management and labor to more fully utilize capacity may mean that higher utilization may now be possible before cost-increasing and other bottlenecks occur. Also, expenditures for new plant and equipment have been increasing at a very rapid pace during 1993 and 1994 and, in many cases, this is bringing on state-of-the-art capacity. Rising corporate profits, even after rising taxes and dividends payments, during 1993 and 1994, along with relatively low interest rates, have provided the ability and incentive to expand industrial capacity. The momentum created by these factors will continue well into and probably throughout 1995 and allow further expansion of economic activity.

Employment. Civilian non-agricultural employment rose rapidly in 1994 reaching a new peak of 120 million persons during September, 1994. The labor force participation rate and the employment/population ratio recovered to at or near their previous records reached in 1989. Unemployment dropped to 5.4 percent in December, 1994, the lowest since 1990.

Employment should continue to increase during 1995 but at a much slower pace. The pool of unemployed human resources is much smaller than a year ago and will inhibit employment gains. Many employees are working longer hours than usual. Weekly hours worked in manufacturing in 1994 averaged about 42.0 hours, the highest recorded in a series which dates back to 1955. The old record of 41.4 hours was set in 1966 and equaled in 1993. Average weekly overtime hours worked at 4.7 hours in 1994 also set a new record high, erasing the old mark of 4.1 hours set a year earlier. Record hours worked per employee may also help explain the very high levels reached in industrial capacity utilization in 1994.

Average gross hourly earnings of workers in private non-agricultural industries reached a record high of about \$11.11 per hour, up about 2.6 percent from 1993. However, in real terms using the CPI as a deflator, they averaged about the same as in the preceding two years and were still 13 percent below the all time high reached in 1973. Continued mechanization and automation along with globalization of economic activity with rapidly rising numbers of competing unskilled and semi-skilled employees in the world are among factors holding down real wages of production workers.

Consumer Income. Total consumer income, fed by large gains in numbers employed and a larger number of overtime hours, increased about 5.8 percent in 1994. After increased personal tax payments of nearly 8 percent, disposable personal income rose about 5.5 percent. In real terms, disposable income rose about 3 percent and real per capita income rose about 2 percent to a new record high. This compares with a total rise of only 3.2 percent in the five preceding years from 1988 to 1993. Consumer income is likely to rise further in 1995 but real gains in the next year or two are likely to trail those of 1994.

Prices. Price inflation is likely to continue in 1995 with the CPI up more than 3 percent compared to a rise of 2.6 percent in 1994. Some pressures on prices are showing up in some industries as production capacities are approached. Prices of some industrial commodities are also rising although the Producer Price Index has shown little more than a slow, erratic gain in 1994. Prices are a lagging indicator in the business cycle and peak price increases normally follow peaks in production.

Strong productivity gains in many industries, including agriculture, communications and computation continue to hold down price increases. In addition, large investment in new plant and equipment during the last two years has probably increased productivity in many industries.

Question Marks. Unanswered questions and possible policy changes could play an important part in the new year. Republican control of both houses of congress for the first time in some years adds a note of uncertainty in the direction and pace of legislative change which could affect the economy as 1995 unfolds. Unanswered questions in proposed health care and welfare reform plus the timing and size of any changes in the tax code add to the uncertainty of the length of the present business expansion. Political trouble spots in the world, particularly if they were to occur in energy producing regions, could raise havoc with the outlook. The total impact of NAFTA, GATT and other proposed international trade agreements on foreign trade in 1995 is not yet clear. There are many other factors which could emerge to affect the length and future vitality of the current economic expansion.

Outlook By Sector. Consumer spending, accounting for 67 percent of total expenditures in the U.S. economy, should continue to expand in 1995 but the real rate of increase is likely to be a little less than the 3.9 percent increase in 1994. Although consumer confidence is fairly high, employment increases in 1995 will likely be considerably below those in 1994.

In addition, the rate of installment debt increase is likely to slow sometime within the next year. In 1994, installment debt rose 14 percent while consumer incomes rose only 6 percent.

Investment spending, a very bright spot in the economy during the last two years is likely to slow the pace of acceleration in 1995 as the year long rise in interest rates begins to take effect. Already the interest-rate sensitive residential housing industry has slowed, showing a flat trend throughout 1994. The non-residential fixed investment sector, three times larger than the residential housing industries, has also started to show signs of slowing from its 12 percent per year rate of real expansion exhibited for the last two years.

Business inventories which expanded rapidly at a 50 billion dollar per year pace in 1994 should expand again in 1995 but at a much reduced pace.

Real export volume should increase for the 12th consecutive year in 1995, helped by recovering economies in other major industrial countries and

recently enacted trade agreements. However, continued demand for foreign goods should also rise keeping the net trade deficit near the 1994 level.

The government sector is likely to continue to add little net real additional expenditures to the system in 1995. While the defense sector is likely to show a smaller real decline than the 6 percent to 7 percent annual decreases in each of the last three years and real state and local expenditures are likely to continue to rise for the 14th straight year, total government expenditures are not likely to be much different than in 1994. This would be slightly stronger than the 1 percent real decline in each of the last three years.

After two and a half years of strong growth, economic expansion should continue in 1995 but the pace should slow a bit as the year wears on. The net real growth is likely to be well below the estimated 4.0 percent increase in 1994 and is more likely to fall between the 3.1 percent rise recorded in 1993 and the 2.3 percent increase in 1992.

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DAIRY OUTLOOK

Bob Cropp (608) 262-9483
Professor and Extension Dairy Economist
Department of Agricultural Economics
Director
U.W. Center for Cooperatives

Summary of 1994

Milk production. National milk production started out slow during the first two quarters of 1994. Compared to the same period in 1993, production was up just .2 percent for the first quarter and 1.4 percent for the second quarter. Both the reduced quantity and quality of forages and grain harvested during 1993 were the main factors for this slow growth in production. This was especially true for two major dairy regions, the Upper Midwest and the Northeast. Lower quality feed adversely affected milk per cow and some dairy producers either exited from dairy or reduced their herd size in response to reduced quantity of quality forages. For example, in the Upper Midwest, Wisconsin had 7.2 percent fewer

milk cows in the first quarter of 1994 compared to a year earlier, and second quarter milk cows were down 5.4 percent.¹ In the Northeast, milk cow numbers were down about 2 percent for the first two quarters. In contrast, milk cow numbers were expanding in the far West, South and Southwest, up 2 to more than 3 percent for many of the states in these regions. But in total, U.S. milk cow numbers were down 1.6 percent and .9 percent, respectively, for the first two quarters of 1994.

The effect of lower quality feed on milk per cow was very evident in the Upper Midwest and the Northeast. Dairy producers in both regions feed mainly their own produced forages and grain. Compared to first quarter 1993, milk per cow was 1.1 percent lower for Wisconsin, and for the second quarter, it was up just .4 percent. During the first two quarters of 1994, milk per cow was at about the same level as the year before for the Northeast. Forage and grain quality did not, however, adversely affect milk per cow in most other regions. Milk per cow was running above the normal annual increases of about 2.5 percent. As a result, for the U.S. as a whole, milk per cow was up 1.9 percent for the first quarter and 2.3 percent for the second quarter.

These changes in milk cow numbers and milk per cow reduced, from a year earlier, first and second quarter total milk production in Wisconsin by 8 percent and 5 percent, respectively. In the Northeast, New York had 1.6 percent less total milk for the first quarter and .1 percent less for the second quarter. Pennsylvania had 1.6 percent more milk for the first quarter but just .6 percent for the third quarter. Although milk production was expanding in the West and Southwest, it only slightly offset the declines in the Upper Midwest and Northeast. As a result, for the U.S., milk production was up just .2 percent for the first quarter and 1.4 percent for the second quarter.

As the new forage crop became available in late May, 1994, milk production began to improve, not so much in the Northeast, but in the Upper Midwest. For Wisconsin, the decline in milk cow numbers slowed. Third quarter milk cow numbers were just 2.1 percent below a year earlier, and milk per cow was up 3.6 percent, netting an increase in total milk of 3 percent. Third quarter milk production in the Northeast was up just .1 percent for New York and down .6 percent for Pennsylvania. But because of the continuation of rather heavy milk production expansion in the West and Southwest, national third quarter milk cow numbers were down just .2 percent and milk per cow had improved to an increase of 3.0 percent, resulting in an increase in total milk production of 2.8 percent.

Fourth quarter milk production will finish much stronger than a year ago. Milk production in far Western states continues to expand. California's milk production has been expanding by more than 8 percent, and since April, Idaho has been increasing milk production from 15 to 19 percent. Although milk production in Minnesota continues to run below year ago levels, Wisconsin has stabilized its milk cow numbers and milk per cow has improved, up 3.4 percent in December, and as a result, total milk production increased 2.8 percent from a year ago. Although milk production increased in Pennsylvania, New York reduced milk cow numbers which held down milk expansion to just .6 percent for December. In the Southwest, Texas was experiencing 7 to 11 percent growth in milk production early in the year, but adverse weather adversely affected milk per cow during the summer and fall and increases in total milk production fell to about 2 percent.

Towards the end of 1994, U.S. milk production definitely strengthened. Compared to a year earlier, the number of milk cows was no longer in sharp decline and milk per cow was much improved.

Figure 9 shows monthly changes in milk cow numbers, milk per cow and total milk production, 1994 compared to 1993, for 21 reporting states. With the continued milk expansion in the West, South and Southwest, and strengthening of milk production in Wisconsin and some in the Northeast, total U.S. milk production for 1994 was estimated at 154.09 billion pounds, compared to 150.95 billion pounds in 1993, an increase of 2.1 percent (Table 3). This was the net result of an average of .8 percent fewer milk cows but an increase in milk per cow of 2.9 percent.

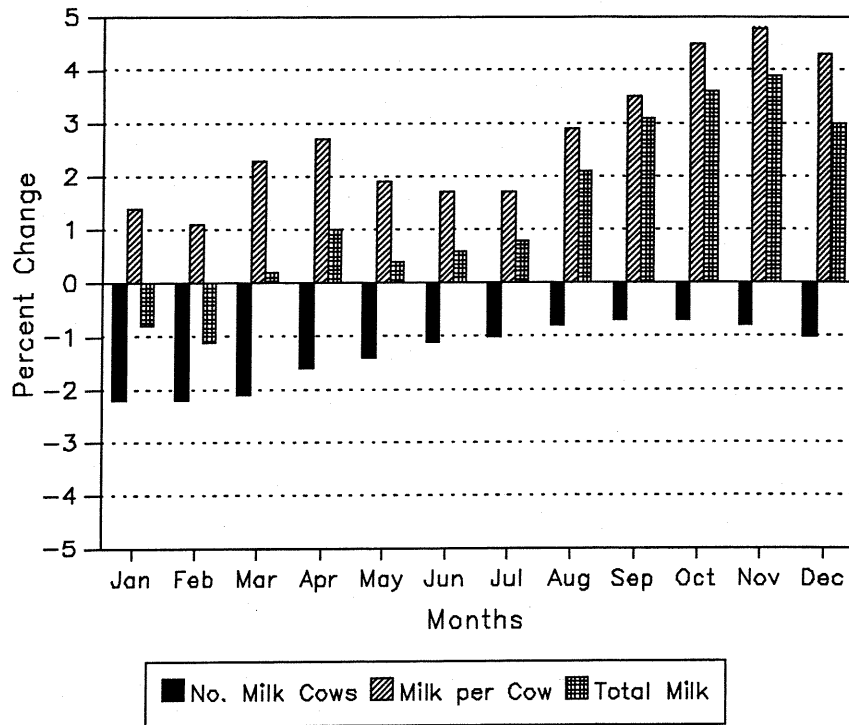
Wisconsin will finish 1994 with an average of about 1,496,000 milk cows, 3.9 percent fewer milk cows than 1993; milk per cow will average about 15,060 pounds, an increase of 1.9 percent; and total milk production will be about 22.6 billion pounds, down 1.7 percent from 1993.

Commercial disappearance. Commercial disappearance of milk and milk products has been stronger than last year. Both a stronger economy and favorable retail prices have contributed to demand strength. Retail dairy product prices have been favorable as compared to all foods. Retail prices for dairy products have been running on a monthly basis 1 to 1.5 percent higher than a year ago compared to increases in retail prices of 2.4 to 2.8 percent for all food.

Total commercial disappearance for January through October was 4.2 percent above disappearance for the same period last year (milkfat equivalent basis, Figure 10). Commercial butter sales contributed to much of this increase. Butter sales in 1994 were 10.3 percent higher than 1993. Cheese sales were also considerably stronger. For 1993, sales of American cheese varieties increased 1.5 percent and other varieties, mostly Italian, increased 2.3 percent. But this year, American cheese sales were up 3.2 percent and other varieties up 3.8 percent. Nonfat dry milk sales were up 30.6 percent. A major contributor to increased nonfat dry milk sales was an increase in the use of nonfat dry milk by cheese manufacturers as a means to capture low value butterfat into cheese. Increased use of nonfat dry milk by food manufacturers was also a contributing factor. Total fluid milk product sales declined .8 percent during 1993, but were up about .8 percent in 1994 despite the concern over a possible negative impact of rbST on sales.

Total commercial disappearance for 1994 is estimated to be 149.5 billion pounds, milkfat equivalent. This is an increase of 3.0 percent over the 145.2 billion pounds in 1993.

FIGURE 9. PERCENT CHANGES IN MILK COWS, MILK PER COW & TOTAL MILK, 1994 vs 1993



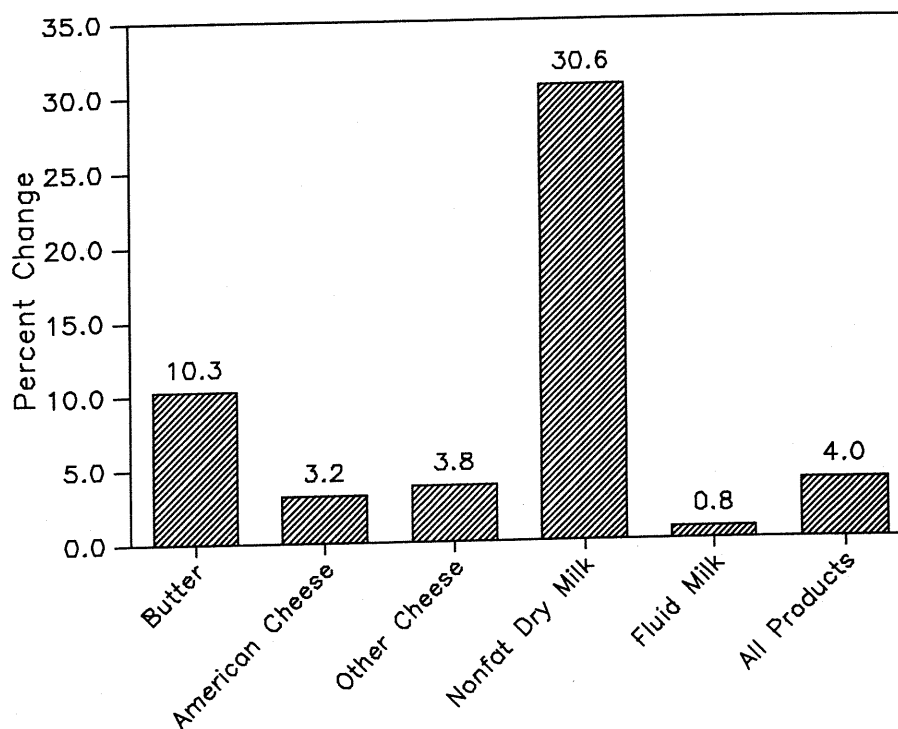
Source: USDA, 21 selected states.

Table 3. U.S. Milk Cows, Milk Per Cow, and Total Milk Production, 1993-94.

Year	Milk Cows million head	Milk/Cow pounds	Total Milk Prod. billion pounds
1993	9.705	15,554	150.95
1994 preliminary	9.624	16,010	154.09
Percent change	-0.8	+2.93	+2.1
1995 estimate	9.575	16,460	157.6
Percent change	-0.5	+2.8	+2.3

Source: ERS, USDA, *Dairy Yearbook*, Statistical Bulletin, No. 889, p. 9. The estimates for 1995 are the author's.

FIGURE 10. PERCENT CHANGE IN COMMERCIAL DISAPPEARANCE, JANUARY-OCTOBER, 1994 VS. 1993



Source: USDA, Dairy Market News.

Imports and exports. The U.S. dairy import-export situation has been favorable in recent years. For the past two years dairy imports have totaled 2.5 to 2.8 billion pounds, less than 2 percent of U.S. milk production. But commercial plus government assisted dairy exports have totaled about 8.6 billion pounds, more than 5 percent of U.S. production.² Estimates are for 1994 dairy exports to be as high, if not slightly higher. Prices in international dairy markets rose during the fall months because of lower supplies. Supplies from Europe were seasonally low, and milk production had not recovered from the summer drought. Weather also adversely affected early-season supplies from Oceania. Although the price gap between U.S. and international dairy products remains wide except for butter, tighter international supplies have narrowed the gap. In early December, international butter prices were about 66 cents per pound compared to U.S. wholesale prices of 72 cents per pound. Nonfat dry milk prices were about 81 cents per pound compared to U.S. prices of \$1.06 per pound. Cheddar cheese prices were about 83 cents per pound compared to U.S. cheddar block wholesale prices of \$1.23 per pound.³

The narrowing gap between international and domestic prices has enhanced government assisted dairy exports, in particular, the Dairy Export Incentive Program (DEIP). DEIP has moved additional U.S. dairy products onto the international market during 1994. As of the end of November, bid acceptances under the DEIP totaled 164,850 metric tons (365 million pounds) of dairy products.⁴ By comparison, 1993 total calendar year bid acceptances under the DEIP were 156,821 metric tons (345.6 million pounds) of dairy products. More than two-thirds of the DEIP program exports were nonfat dry milk with the remainder primarily butter and relatively small quantities of cheese and dry whole milk.

Stocks and CCC purchases. More favorable commercial disappearances, slow milk production for the first three quarters of the year and increased dairy exports all tightened the supply-demand situation during 1994. Both commercial and government stocks of most dairy products were tighter. As of October 31, commercial American cheese inventories totaled 314 million pounds, down 14.2 percent from a year ago, and commercial butter inventories totaled 16 million pounds, down 15.8 percent from a year

ago. September 30 commercial inventories of nonfat dry milk were 98 million pounds, up just 3.1 percent from a year ago. Government inventories were 107 million pounds of butter, down 66.8 percent and cheese inventories were just 1 million pounds, half the level of last year at this time. Government holdings of nonfat dry milk, as of September 30, were 38 million pounds compared to 5 million pounds on the same date a year ago.

The tighter supply-demand situation was also reflected in Commodity Credit Corporation (CCC) purchases of surplus dairy products. CCC purchases are estimated at 3.5 billion pounds on a milkfat equivalent basis, and just .6 billion pounds on a skim solids basis for 1994. This compares to 6.5 billion pounds and .6 billion pounds respectively on a milkfat and skim solids milk equivalent basis in 1993. In recent years, CCC purchases of surplus dairy products have been mainly butter. But with the U.S. Secretary of Agriculture's July 7, 1993 decision to lower the CCC purchase price of butter to 65 cents per pound commercial butter sales have greatly improved. Also, with the lower value of butterfat, more of this fat is being utilized in manufactured dairy products rather than being skimmed and made into butter. CCC purchases of surplus butter dropped from 440 million pounds in 1992 to 289 million pounds in 1993 and are estimated to be down to about 160 million pounds for all of 1994 (Figure 11). Nonfat dry milk purchases are estimated at about the same level as 1993, or 304 million pounds. Purchases of American cheese totaled just 8.3 billion pounds in 1993 and are estimated at similar levels for 1994. Most of the CCC purchases of nonfat dry milk were under DEIP as were all cheese purchases.

Farm level milk prices. The tighter supply-demand situation for dairy products resulted in stronger farm level milk prices for 1994. The base price for moving farm level milk prices under all federal milk marketing orders is the Minnesota-Wisconsin Price Series (M-W price). The M-W is the average price paid by Minnesota and Wisconsin butter, milk powder and cheese plants for grade B milk. The M-W was substantially above year earlier prices for January through April, dropped below for May through July, once again was above year earlier for August and September, declined and dropped below in October (Figure 12).

Since about 85 percent of the grade B milk is used to make cheese in Minnesota and Wisconsin, the M-W is driven by cheese prices. Increased milk production in the fall and in turn increased cheese production started to soften cheese prices on the National Cheese Exchange beginning the end of October. By December 16, the price of both cheddar

blocks and cheddar barrels on the National Cheese Exchange had declined 12 cents per pound. Further declines are anticipated by February, 1995.

Butter prices had stayed above support since early June, but grade A and Grade B prices on the Chicago Mercantile Exchange declined 6 cents per pound on December 9 to the CCC purchase level of 65 cents per pound for grade A butter. On December 16, grade AA butter prices dropped 10.75 cents per pound and were at the support level of 65 cents per pound for grade A butter, and both grade A and grade B butter prices dropped another 2 cents per pound, or 2 cents below the support level. This decline in butter price is a normal seasonal decline as butterfat tests for raw milk increase in the fall yielding more pounds of butter and other manufactured dairy products per 100 pounds of milk. Also, the demand for ice cream falls in the fall and winter, reducing the demand for butterfat. Much of the excess butterfat during this period is made into butter. Butter prices decline as butter supplies increase.

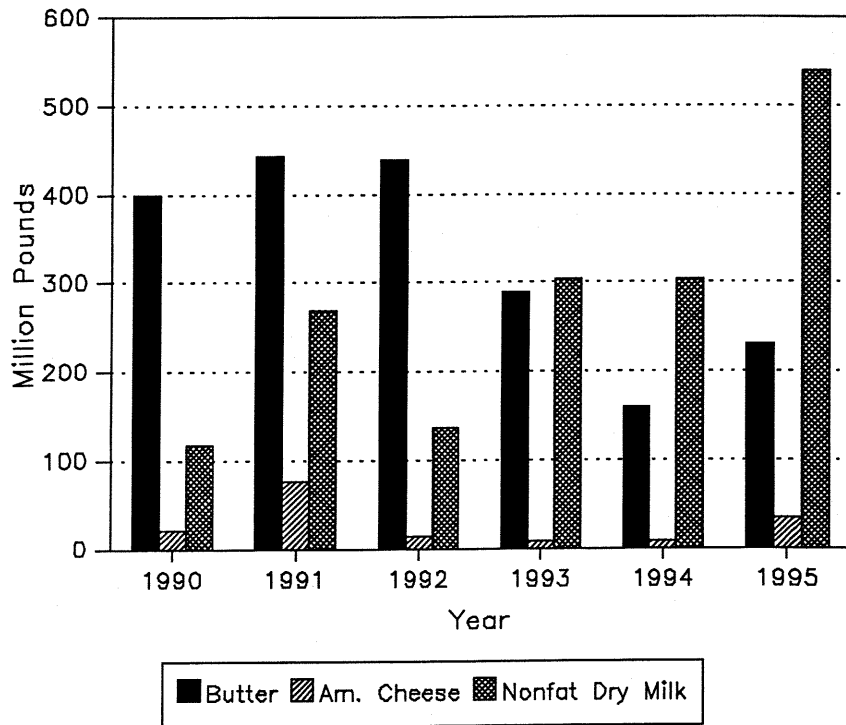
Nonfat dry milk prices remained firm despite production moving up about 50 percent during the fall. The DEIP activity of moving nonfat dry milk internationally has helped to keep prices firm.

The weaker cheese prices were responsible for lowering the M-W price from \$12.29 per hundredweight for October to \$11.38 for December. But because of much higher M-W prices earlier in the year and a good recovery in the fall, the M-W averaged \$12.00 per hundredweight for 1994, up 20 cents from an average of \$11.80 per hundredweight for 1993. The average U.S. "all milk" price for 1994 is estimated at \$13.00 to \$13.10 per hundredweight, up from the 1993 average of \$12.86 per hundredweight. Wisconsin's average "all milk" price will be similar. The Wisconsin average all milk price was \$12.89 for 1993 and will average in the \$13.00 to \$13.05 per hundredweight range for 1994.

Forecast for 1995

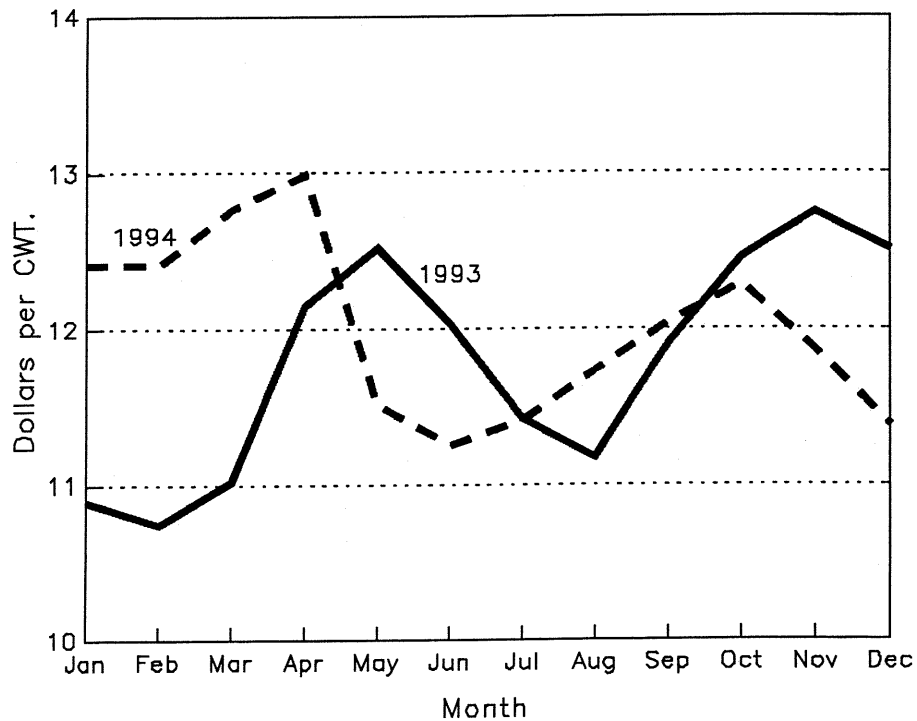
Supply and demand factors. Farm level milk prices are estimated to average lower in 1995 than they did in 1994. The question is, how much lower? Several factors point to this conclusion. First, the 1994 crop year for most all dairy regions yielded excellent quantities of forages and with higher quality than the 1993 crop. The 1994 grain crop was a record level. Therefore, grain and concentrate prices will be lower, offsetting some of the impact of anticipated lower milk prices. Hay and other forage prices will be lower, except for perhaps in the far

FIGURE 11. CCC PURCHASES OF SURPLUS DAIRY PRODUCTS, 1990-1995



Source: ERS, USDA, 1994-95 are estimates.

FIGURE 12. MINNESOTA-WISCONSIN PRICE SERIES, DOLLARS \$ PER CWT., 1993 AND 1994



Source: USDA Dairy Market News.

West where major expansion of larger herds has increased the demand for the available hay supplies. Latest hay prices available were for November, 1994. Compared to a year earlier, baled hay was \$112 per ton in California, up 6 percent, but baled hay prices were \$68 per ton in Wisconsin, 27 percent lower.⁵ The availability of lower cost forages will help to maintain the size of the nation's milking herd. But although lower priced grain and concentrates will help to maintain a favorable milk-feed price ratio, despite lower milk prices, the ratio will deteriorate in 1995. Those producers using rbST will still need to feed more grain. Both better quality of forages and higher grain and concentrate feeding levels will improve milk per cow in 1995.

Use of rbST is expected to expand in 1995. USDA estimates that about an eighth of the dairy cow herd will be injected for the first time in 1995, bringing the total injected to more than a fourth of the herd by year end.⁶ With better quality feed and the impact of rbST, average milk per cow is estimated to increase to about 16,460 pounds of milk for 1995, a 2.8 percent increase over the 1994 average.

A second factor affecting production is lower cull cow prices. Cull cow prices in the mid to high \$40's per hundredweight usually encourage heavier culling of milk cows. But with the increase in supplies of meat—pork, beef and poultry, cull cow prices dropped to below \$37 per hundredweight in November 1994, compared to prices in the high \$40's the year before.⁷ Cull cow prices are expected to remain in the high \$30's to low \$40's during 1995. Hence, with ample feed supplies and declining milk prices, dairy farmers will likely milk some cows longer before culling to get more total milk volume than what they would with higher cull cow prices.

A third production factor is the number of dairy replacements. A ratio of about 37 replacements per 100 milk cows is normally sufficient to maintain the size of the milking herd under normal culling. The July 1, 1994 livestock inventory showed dairy replacements at 4.1 million head, the same number as a year earlier.⁸ The ratio of replacements per 100 milk cows was 42.7. There are more than an adequate number of dairy replacements to expand the milking herd in 1995. During 1995, dairy herd expansions are expected to continue in the far West and in the Southwest. Higher hay prices and the fact that some California dairy cooperatives have implemented marketing quotas on their dairy producers, will slow dairy herd expansion and hence milk expansion relative to 1994 for California. Also, due to normal retirements from dairying and some dairy farmers exiting in response to lower milk prices, the average number of milk cows for 1995

will still decline, but the decline will likely be no more than about .5 percent from the 1994 average. This would make the average number of dairy cows for 1995 about 9.575 million head.

A fourth production factor is the dairy export-import situation. The passage of GATT will eventually increase the level of imports of dairy products into the U.S. GATT requires countries to allow dairy imports, initially, to equal 3 percent of domestic consumption. Although market access began on January 1, because of details of import schedules yet to be finalized, dairy imports into the U.S. in 1995 are not likely to increase much as result of GATT. Further, GATT requires countries to phase down subsidy levels for dairy exports over a six year period. But for 1995, the U.S. will be able to subsidize about the same amount of dairy exports with DEIP as occurred in 1994. With lower milk prices anticipated in 1995, pressure will be on USDA to fully implement DEIP in 1995. Further, dairy exports to Mexico under NAFTA rules are expected to more than offset any additional imports due to GATT in 1995. Therefore, the dairy export-import situation should not change much in 1995 relative to 1994 and may have only a minimal impact on farm level milk prices.

A fifth consideration for 1995 is commercial disappearance. With lower farm level milk prices, retail prices of beverage milk and manufactured products are anticipated to increase little, if at all in 1995. This will make milk and dairy products an even better relative buy since the retail prices for all foods are expected to increase 2 to 4 percent. However, very favorable retail beef prices are projected for 1995. Since there is some cross substitution between beef and cheese, this could dampen the growth in 1995 cheese sales.

Commercial butter sales are not likely to increase as much as they have for the past two years. As indicated earlier, previous increases in butter sales were largely in response to very favorable wholesale and retail butter prices that stemmed from the July 1993 reduction in the support price for butter to 65 cents per pound. Butter prices for 1995 should be about the same as 1994.

Overall, 1995 commercial disappearance of all milk and dairy products is estimated to increase close to 2.0 percent, milkfat equivalent basis, to more than 152 billion pounds.

In summary, the average number of U.S. milk cows for 1995 are estimated at 9.575 million head, down .5 percent from 1994; milk per cow at

16,460 pounds, up 2.8 percent; and total milk production at 157.6 billion pounds, up 2.3 percent.

With increased milk production relative to commercial disappearance projected for 1995, CCC purchases of surplus dairy products are also projected to increase. USDA has estimated that surplus dairy products removed from the commercial market for 1995 will include 230 million pounds of surplus butter, 540 million pounds of surplus nonfat dry milk, 35 million pounds of surplus cheese and 25 million pounds of surplus dry whole milk.⁹ These purchases will exceed 1994 purchase levels. On a total milk solids basis these estimated purchases total 6.4 billion pounds of milk. If purchased had exceeded 7.0 billion pounds, the U.S. Secretary of Agriculture would have been required under provisions of the 1990 Farm Bill to assess dairy farmers for the CCC costs of these additional purchases.

Wisconsin's milk production will also recover in 1995. It is estimated that the average number of milk cows in Wisconsin will decline less than 1 percent during 1995, and milk per cow will improve about 2.5 percent, netting more than a 1.5 percent increase in total milk production to more than 23 billion pounds, rebounding to about the same level of milk production experienced 1993.

Farm level milk prices. Stronger supply in relation to demand for 1995 spells lower average milk prices. Cheese prices are estimated to stay above the support level of \$1.12 per pound for cheddar blocks. But cheddar block prices could drop to about \$1.15 per pound by mid-February of 1995. Butter prices will remain below support until early summer. Although nonfat dry milk prices could be weaker in 1995, if DEIP is fully activated, prices should stay above the \$1.034 per pound support price most of the year. West coast nonfat dry milk prices may drop to or below support during the first half of the year. But with cheese prices above support, the M-W price will also stay above the support price of \$10.00 on a 3.5 percent fat test basis. The M-W may drop as low as \$10.30 per hundredweight by March or April. The M-W price should strengthen by June and may peak in October or November at about \$12.30 per hundredweight.

The estimated low for the M-W price is lower than what occurred during 1994 and the peak is also lower. Hence, the average M-W price for 1995 is estimated at \$11.15 to \$11.20 per hundredweight, about \$.80 per hundredweight lower than the \$12.00 average for 1994. The average "all milk" price would be \$12.25 to \$12.30 per hundredweight, about \$.75 per hundredweight less than the estimated 1994 average. Since Wisconsin dairy farmers receive close

to the U.S. average prices, the estimated average "all milk" price for Wisconsin is also estimated between \$12.25 and \$12.30 per hundredweight.

The net reduction in profit per hundredweight will be less than the drop in estimated milk prices. The lower forage and grain prices will partially offset some of the lower milk prices. Of course this situation varies greatly among those dairy farmers who raise versus those who purchase part or all of their feed supplies. However, Wisconsin farmers who need to purchase hay should have some advantage over California farmers because hay prices are estimated to average much lower than last year and well below California hay prices.

END NOTES

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3. USDA, AMS, Dairy Division, Dairy Market News, Vol. 61, Report 49, 12/09/94, p. 8.
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LIVESTOCK AND POULTRY OUTLOOK

Patrick Luby (608) 262-7359
Adjunct Professor
Department of Agricultural Economics

Livestock and poultry producers combined to set another meat production record in 1994 for the 12th consecutive year. Through droughts and recessions, through good years and bad, producers have achieved new records in meat production. It will be surprising if they do not do it again in 1995.

In the 12 years from 1982 to 1994, meat production rose 37 percent, from 52.3 billion pounds to 71.7 billion pounds. Beef production rose 8 percent, pork output climbed 25 percent, broiler output rocketed up 98 percent and turkey production more than doubled—up 104 percent. Of the total increase in meat output over those 12 years, broilers accounted for 61 percent of the gain and broilers and turkey combined accounted for 74 percent of the increase.

Not all of the increased production has been consumed in the U.S. Net exports of meat rose to new record highs in 1994, totaling about 1,975 million pounds, up from 747 million pounds in 1993. Meat exports have been rising since 1985 when net imports totaled 2,299 million pounds. The rise in net exports of meat from 1985 to 1994 of 4,274 million pounds represents more than 27 percent of the increase in total meat production in the U.S. during that time.

Several factors have contributed to the rise in meat exports. The U.S. dollar has weakened against many leading currencies since reaching a peak in the first quarter of 1985. The meat industry has concentrated on exporting more meat, producing leaner meat, breaking down some of the barriers against international meat trade and promoting American meat overseas. Domestic demand for broiler and turkey breastmeat has risen rapidly during the last decade and the poultry industry has successfully promoted exports of other parts of the birds.

Exports accounted for 11.2 percent of broiler production in 1994, up from 3.1 percent in 1985. Turkey exports rose from 1.0 percent to 4.8 percent of output during the same period. Both represent new highs. Beef imports still exceed exports but net beef imports fell to 3.3 percent of production in 1994, the lowest level in decades and down from the peak of 10.5 percent in 1979. Net pork imports in 1994 were 1.4 percent of domestic output, down from 7.6 percent in 1987. Continued gains by U.S. producers in raising quality and lowering cost of production, rising levels of incomes and demand for meat in some important export markets, and the implementation of NAFTA and other international trade agreements should allow the rise in meat exports to continue, although the rate of increase may not equal that of the recent past.

Consumption of meat per person in the U.S. also reached a new record high in 1994. Based on retail weight, per capita consumption reached 212.8 pounds, up from 207.6 in 1993. Consumption of broiler meat exceeded 70 pounds per person for the first time in 1994 coming in at 70.2 pounds, up from 68.3 in 1993. Turkey consumption reached

18.1 pounds per person, edging out the old record set in 1991 and equaled in 1992. Pork consumption per person in 1994 rose to 53.2 pounds, the largest in 13 years. Beef consumption per person rose to 67.5 pounds, up from 65.1 in 1993 and the first increase in nine years. Beef consumption per capita is now down to the same level as in the early 1960's. After peaking at 94.4 pounds in 1976, beef consumption per person suffered a 31 percent decline in the next 17 years.

Cattle numbers continue their slow cyclical climb. From their cyclical low of 98.1 million cattle and calves on U.S. farms and ranches at the beginning of 1989, the number grew to 101.7 million at the start of 1994 and is expected to continue to grow slowly during 1995 to about 103 million by January 1, 1996. Usually beef production continues to increase a year or two after peak numbers are reached. Therefore, beef output is expected to increase in a moderate fashion, 1 percent to 3 percent per year through most of the rest of the 1990's.

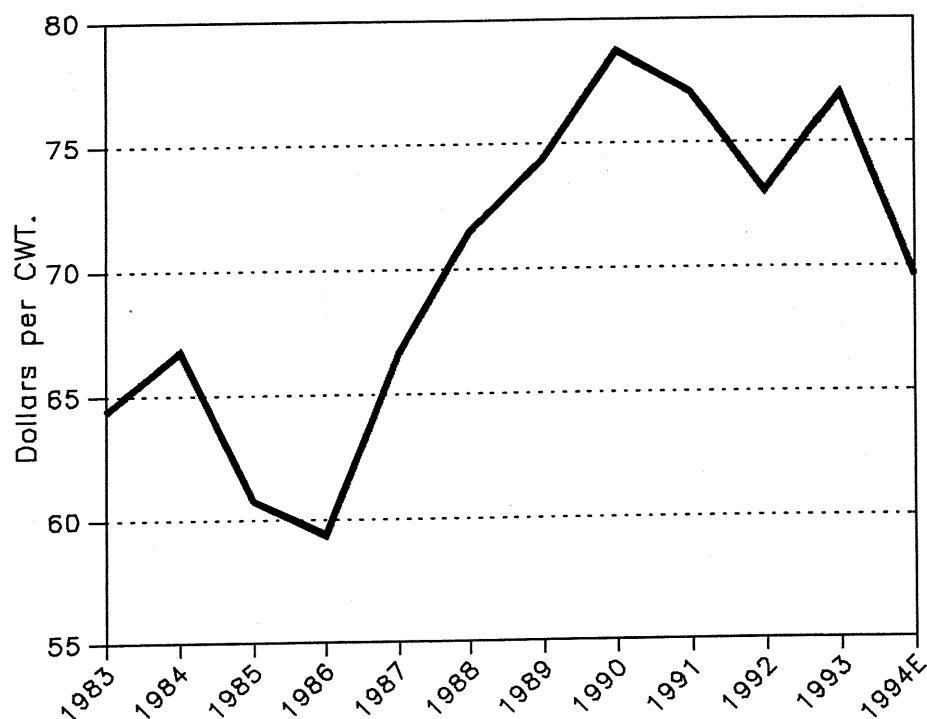
Beef production is expected to rise about 1 percent in 1995, less than the 5.9 percent in 1994 which was the largest percentage increase in 18 years. As a result, choice cattle prices averaged a little less than \$70.00 per cwt., down nearly 10 percent from 1993 and the lowest in seven years (Figure 13). The average price of cattle is expected to be about the same or a little higher in 1995.

Continued gains in productivity and the feeding of cattle to heavier slaughter weights have allowed beef production per animal unit to increase considerably during the last decade or two. The decline in veal production has also permitted more cattle to be fed and beef production to increase. Excellent weather in most cattle feeding areas during the 1993-94 winter compared with extremely adverse weather a year earlier was a big factor in producing nearly 6 percent more beef in 1994 from an increase of less than 3 percent in the number of cattle slaughtered.

The U.S. calf crop, which peaked at 50.7 million in 1974, has been in a sidewise trend between 39 and 41 million head for the last ten years. It rose about 1 percent in 1994 and should rise about that much again in 1995.

Veal production, which fell from 827 million pounds in 1975 to 267 million pounds in 1993, rose about 6 percent in 1994. Veal consumption per capita fell from 3.4 pounds per capita from 1975 to about one pound per person in recent years. Little change in production is expected in 1995.

**FIGURE 13. LIVE CHOICE CATTLE PRICES
TEXAS-OKLAHOMA**



E = Estimate.

Cow slaughter declined about 2 percent during 1994 after two years of increases from its cyclical low in 1991. Slaughter of beef cows was about the same as in 1993 but dairy cow slaughter fell nearly 5 percent. Of the nearly six million cows slaughtered in 1994, about 51 percent were beef cows. Total cow slaughter is expected to be up slightly in 1995.

Lamb production fell 8 percent in 1994 to about 303 million pounds as the industry continues to adjust to sharply lower wool prices and the phase-out of the U.S. wool incentive program. This is the largest one year production decline since 1978. Production has decreased 15 percent over the last 3 years. Lamb consumption per person has fallen to about 1.2 pounds per person per year, the lowest in many decades. No turnaround in this declining trend is expected in 1995.

Hog slaughter rose nearly 3 percent in 1994 to over 95.6 million head, the second largest total in history and less than 1 percent below the record set in 1980. Hog slaughter in the last five months of 1994 was more than 6 percent above the year earlier.

Pork production per hog continued to increase in 1994 as average slaughter weights reached another record high. Average slaughter weights of barrows and gilts under Federal Inspection have risen 9 percent in the last 12 years.

Pork production should be near 1994 totals in 1995 with increases from a year ago during the first quarter and decreases in the fourth quarter. Pork output rose 3.6 percent in 1994 with over 90 percent of the increase coming in the last five months of the year. The surprisingly large output, on top of large supplies of competing meats and large stocks of pork in freezers, caused hog prices to collapse into the twenties (dollars per cwt.) for the first time since early 1980.

Weekly Federally Inspected slaughter exceeded two million hogs per week most of the time from mid-October to mid-December while five day packer slaughter capacity, including overtime, was about 1.8 million head. Considerable record Saturday slaughter ensued for weeks and packer and other marketing price spreads increased to very high levels

as hog prices plummeted. Hog prices averaged a little under \$40.00 per cwt. for the year, the lowest in 20 years (Figure 14). They are likely to average a little higher than that in 1995. Hog prices should be lower than in 1994 early in the year and much higher than a year earlier in the fourth quarter.

The structure of hog production is undergoing considerable and rapid change with many very large units entering the industry. Many of these are outside the major Midwest hog production belt. The geography of hog production had been fairly static in recent decades. However, in the last decade, large increases have occurred in North Carolina and certain other states. North Carolina, the sixth leading hog producing state in 1990, has increased hog production 131 percent in four years to become the second leading state, behind Iowa.

A total of 11,779,000 hogs were produced in North Carolina in 1994, up from 5,101,000 in 1990. The total pig crop in the U.S. increased 12 percent from 90,260,000 to 101,117,000 during that time. In the last four years, 63 percent of the increase in U.S. hog production industry took place in North Carolina.

The number of pigs born in Wisconsin fell slightly from 2,022,000 in 1990 to 2,009,000 in 1994. Wisconsin's share of the U.S. pig crop dropped from 2.24 percent in 1990 to 1.99 percent in 1994.

Broiler output set a new record high for the 20th consecutive year in 1994, up over 7 percent from 1993. Broiler production has doubled during the last 13 years. It is expected to rise again in 1995, up about 5 percent. Strong demand, particularly in the first half of the year allowed the annual wholesale price of broilers in 1994 to average about the same as in 1993 (Figure 15). Prices are expected to average about the same to a little lower in 1995 but the seasonal pattern is expected to be considerably different with lower prices early in the year and prices above 1994 levels later in the year.

Broiler production has increased more than 4 percent in each of the last 11 years and should do so again in 1995. Over seven billion broilers were produced in 1994, an average of over 135 million per week, or the production of more than one broiler per person every two weeks. As is true with cattle and hogs, the production of broiler meat per bird continues to rise. The average weight of broilers slaughtered has risen steadily since the 1950's. It has risen 21 percent in the last 17 years, from 3.82 pounds in 1977 to 4.63 pounds in 1994.

Wholesale broiler prices fell from 60 cents per pound (12 markets) in the second quarter of 1994 to average less than 52 cents per pound in the fourth quarter of the year. However, feed costs also declined and production continued to be profitable. According to the USDA, returns from broiler production averaged about 6.1 cents per pound in 1994, a little below the average of 6.6 cents in 1993 but well above the 3.3 cents in 1992 and 3.0 cents in 1991.

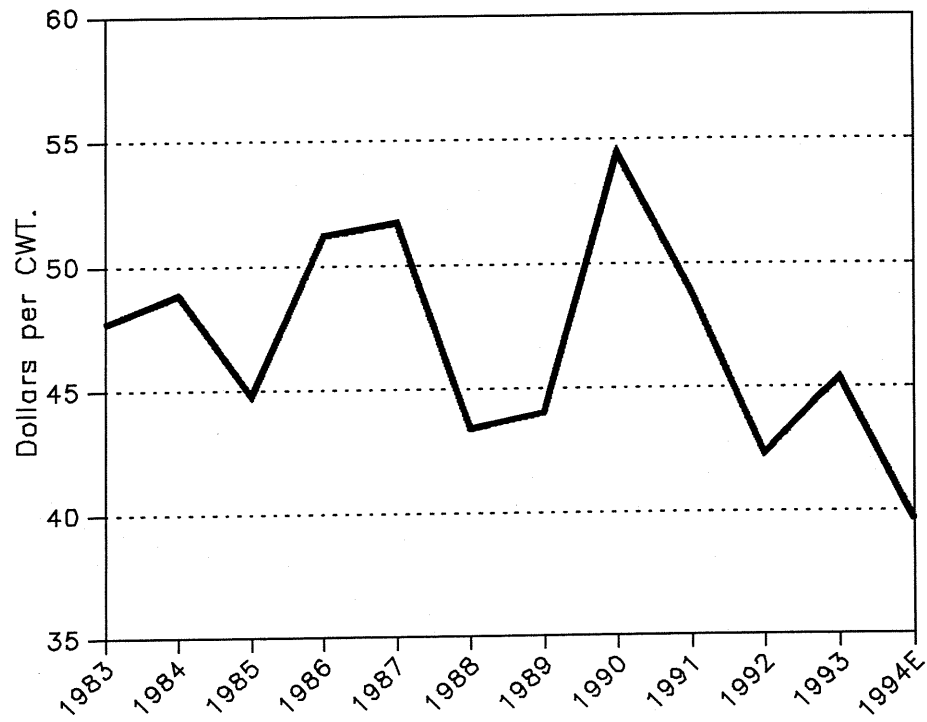
Broiler exports were unusually strong in 1994. Exports to the major markets—Hong Kong, Japan and Mexico—were all higher, and exports to the former USSR increased five fold, allowing that market to exceed Hong Kong as the number one export market for broilers.

Turkey production increased for the 12th consecutive year in 1994, up 3 percent from 1993 and reaching the five billion pound mark for the first time. Turkey output has more than doubled since 1982. It is expected to rise over 5 percent in 1995 with a double digit rise in the first quarter. Despite the rise in turkey production and a large rise in total meat output in 1994, turkey prices averaged more than 4 percent higher than in 1993 (Figure 16). Average prices are expected to be just a little lower in 1995.

After increasing 77 percent in the six years from 1984 to 1990, turkey output has increased less than 12 percent in the four years since 1990. This moderate increase, combined with continued increases in the demand for turkey meat caused frozen turkey stocks to be lower during the entire year of 1994 than in 1993, helping prices to stay above year earlier levels all year. With these higher prices, combined with lower feed prices in the latter half of 1994, USDA calculated returns from turkey production averaged about 2.5 cents per pound in 1994, the highest return in eight years. Average returns from turkey production appears to have exceeded ten cents per pound for the fourth quarter of 1994, the highest for any quarter since the fourth quarter of 1986.

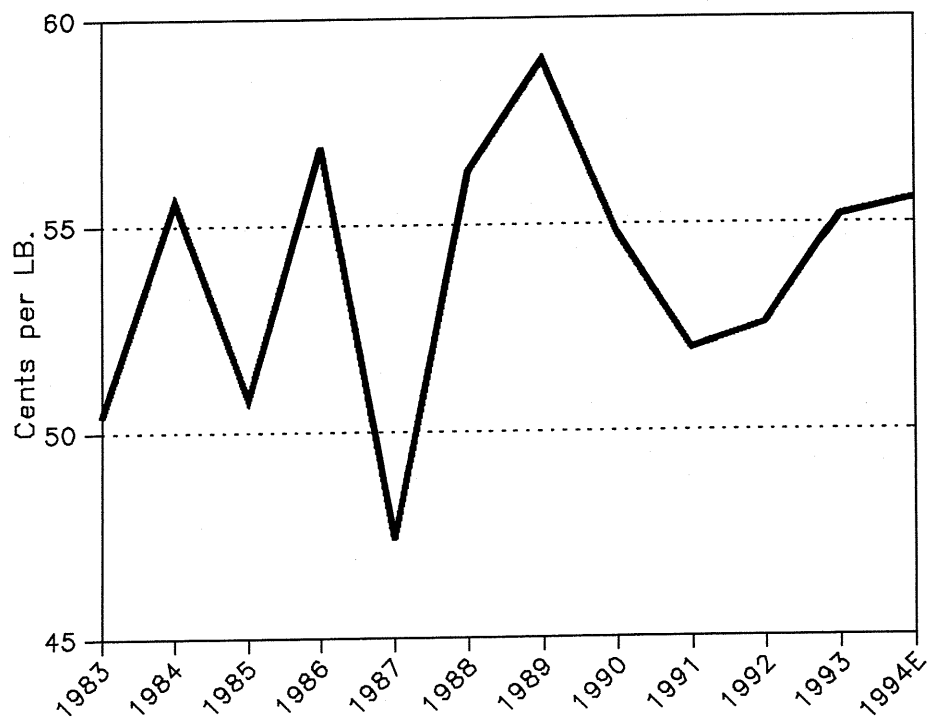
As with the other major meats, the average weight of turkeys slaughtered continues to rise. In 1994, the number of turkeys slaughtered rose only about 1 percent, but turkey meat production rose 3 percent. The average weight of turkeys slaughtered has risen steadily since the 1950's and was 22.65 pounds in 1994, up nearly 13 percent in the last seven years.

**FIGURE 14. LIVE BARROWS AND GILTS
FIVE MIDWEST MARKETS**



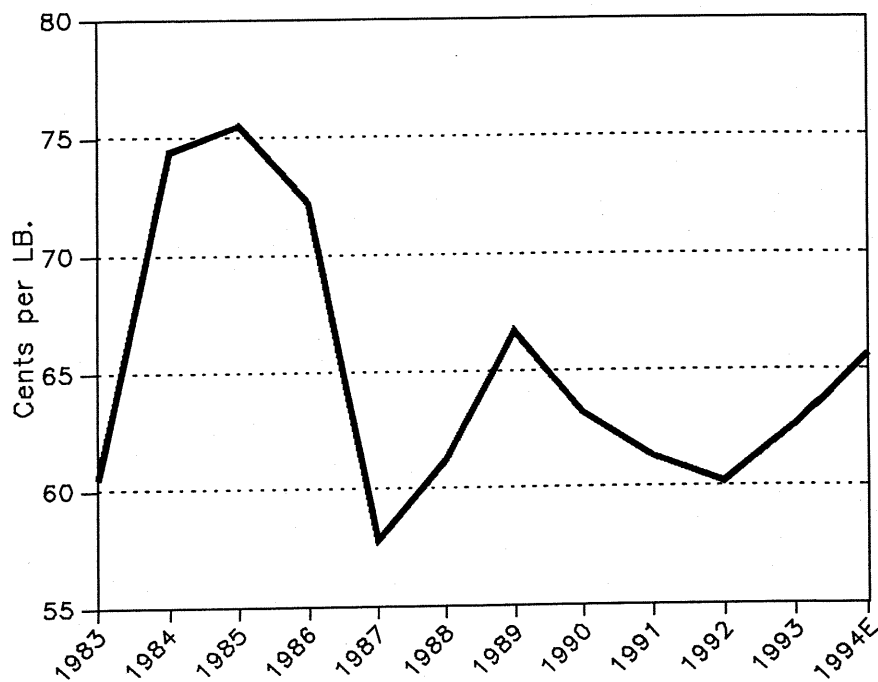
E = Estimate.

FIGURE 15. WHOLESALE BROILER PRICES—12 CITIES



E = Estimate.

FIGURE 16. WHOLESALE TURKEY PRICES—8-16 LB. HENS, EASTERN U.S.



E = Estimate.

Mexico remained the leading export market for turkey meat in 1994 despite an 8 percent decline. Exports to other markets increased 38 percent allowing total turkey exports to reach a new record high.

Egg production rose about 3 percent in 1994 and is expected to rise a little less than that in 1995. Exports were up 13 percent to the second highest level in history. Consumption of eggs per capita totaled nearly 237, up 1 percent from 1993 and should remain near that level in 1995. Average prices, which dropped about 7 percent in 1994, should be near or slightly below the 1994 level in 1995.

Retail meat prices were mixed in 1994 with poultry prices up about 3 percent to a new record high and beef prices down by about the same amount from their record high 1993 level. After being up 3 percent in the first half of the year, retail pork prices fell 4 percent below year earlier levels by the end of the year and the average for the year was up less than 1 percent. Retail pork prices in 1994 averaged about 7 percent below 1991 and 1992 levels and at the end of the year were 14 percent below the record high reached in August, 1990.

Meat demand held up fairly well in 1994, as employment and consumer incomes rose to record

levels, and is expected to be strong again in 1995. With good demand and a small increase in the supply of meat in 1995, retail prices are likely to average slightly above those of 1994. As in 1994, retail prices in 1995 are expected to rise less than the overall Consumer Price Index.

Summary

Meat production, favored by excellent weather, experienced the largest annual percentage increase in 18 years during 1994, driving choice cattle prices down to the lowest level in over seven years in June and driving hog prices down to the lowest level in over 14 years in November. A record 1994 feed crop of excellent quality, a cattle cycle on a moderate upswing, a continued restructuring of the pork production industry and the continued profitability of the broiler industry point to another, but probably more modest, increase in the output of meat in 1995. The price of cattle and hogs should average near to a little above 1994 levels but the seasonality of prices should be considerably different. Consumers again will be favored by an abundance of meat. Record high employment and consumer incomes are expected during 1995 causing average retail meat prices to average slightly above 1994 levels.

CORN, SOYBEANS, AND WHEAT OUTLOOK

T. Randall Fortenbery (608) 262-4908
Assistant Professor
Department of Agricultural Economics

Introduction

The final production numbers released by USDA January 12 confirm that the United States has experienced its second record corn and soybean harvest in three years. Unlike 1992, however, Wisconsin producers shared in the large national harvest, enjoying higher than average yields and generally excellent grain quality. Good local production for most Wisconsin areas has resulted in local basis levels which provide storage incentives for corn and soybeans not seen in the last couple of years. However, the size of the U.S. corn and soybean crops suggests that the prices in the coming months will likely not be as attractive as those experienced in early 1994. The relatively abundant and cheap corn may also limit wheat prices in coming months.

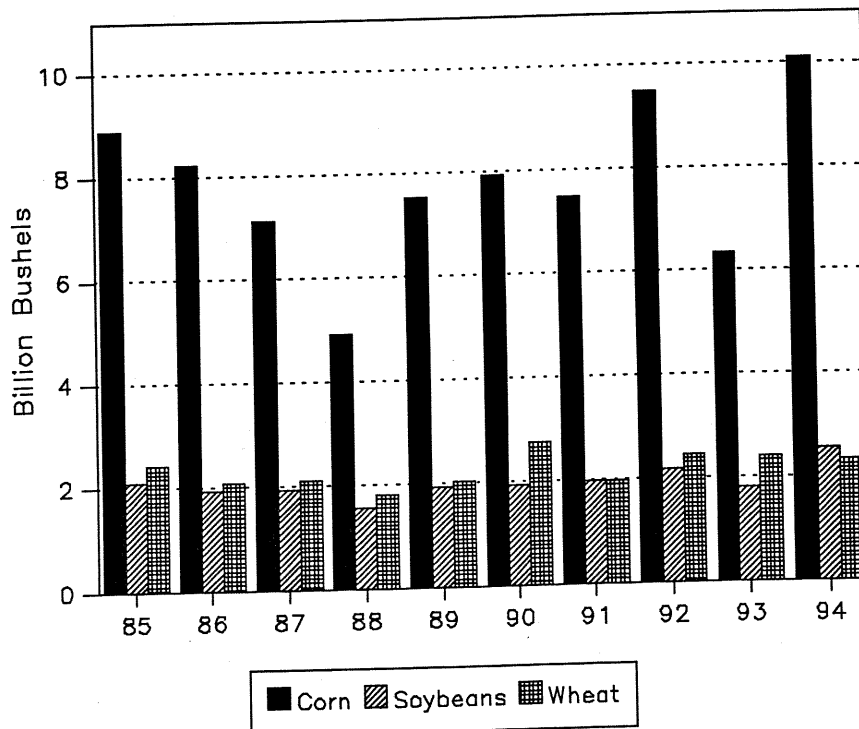
Corn Outlook

U.S. corn production for the 1994/95 marketing year (the marketing year runs from September 1994 through August 1995) is currently estimated at 10.103 billion bushels. The record corn harvest represents a 58 percent increase over 1993 production (Figure 17), and more than a 6 percent increase from the record production of 1992. The production increase reflects both increased acreage over 1993, as well as greatly improved yields.

Wisconsin's corn production for 1994 is currently estimated at 437.1 million bushels. This results from a harvested acreage of 3.1 million acres and an average corn yield of 141 bushels per acre. In addition to a large corn crop, quality is substantially better than a year ago.

U.S. corn ending stocks for the 1994/95 marketing year are expected to more than double what was carried into 1994/95. This is despite expectations of strong demand in both the domestic and export markets. As a result, average farm prices for corn are likely to be lower this year than last.

FIGURE 17. U.S. GRAIN PRODUCTION -- 1985 - 1994



Current USDA estimates suggest an average U.S. farm level corn price for 1994/95 of about \$2.05 per bushel. This compares to a 1993/94 average farm price of \$2.50. Estimates of both supply and demand for corn in 1994/95 are summarized in Table 4.

Despite the relatively low harvest price for corn, this is the first year in three where Wisconsin farmers face significant incentives for corn storage. Unlike the record crop of 1992, Wisconsin farmers shared in the excellent 1994 corn crop. This resulted in very weak basis levels in local markets as local production strained storage facilities (basis is the difference between the futures price in Chicago and the local cash price). A weak basis usually represents an attractive storage opportunity, especially for those with on-farm storage, because we generally expect the basis to appreciate (i.e. the cash price to rise relative to futures) as we move away from the relative excess grain supply associated with a large harvest. Many Wisconsin producers currently storing grain have already experienced some substantial basis improvement in recent weeks.

While a large local harvest does provide incentives to storage, the expectation of a large increase in the carryout at the end of the year suggests that, without some significant adversity at planting, new crop prices for 1995 production may not be as high this spring as they were last year. This suggests that those looking for pre-harvest pricing opportunities need to scale back price expectations relative to experiences of a year ago. It is generally reasonable to look for December futures prices to trade above \$2.65 per bushel as an attractive opportunity to price some portion of expected production. Following a record crop, however, \$2.65 per bushel may be a bit optimistic. Following the record 1992 crop, we did not see that price level until very late in the 1993 production season (see Figure 18), when it was confirmed that the 1993 crop would be poor. As a result, a more appropriate target to begin pricing this spring might be \$2.60 per bushel on the December 1995 futures contract.

Soybean Outlook

Like corn, U.S. soybean production has set a record for the second time in three years. Not only was there a record soybean harvest, but record soybean supplies exist when production is combined with what is left from previous years' production. U.S. soybean production is estimated to be 2.558 billion bushels. This compares to 1.87 billion bushels last year, and 2.19 billion in 1992.

USDA has estimated average U.S. farm level prices for soybeans to be \$4.80 to \$5.50 per bushel in 1994/95. This compares with an average farm price last year of \$6.40.

Wisconsin soybean production for 1994 is estimated to be just over 36.5 million bushels. This is an increase of almost 43 percent over a year ago. This production results from a harvested acreage of 830 thousand acres and an estimated yield of 44 bushels per acre. Like corn, Wisconsin soybean quality is quite favorable this year. Harvest basis levels in Wisconsin provided more attractive opportunities for soybean storage than have been experienced in the previous two years.

Low soybean prices suggest that we will likely experience wider-than-average crushing margins (the difference between the price of soybeans and the price of soybean meal or oil) nationally, and thus a record U.S. crush. Because of low prices, demand is expected to be quite healthy. U.S. soybean supply/demand balance expectations for 1994/95 compared to previous years are illustrated in Table 4.

As with corn, record supplies of soybeans have implications for pre-harvest pricing opportunities in 1995 soybeans. Generally, November soybean futures prices above about \$6.60 or \$6.65 per bushel provide an incentive to price some part of the next year's production. However, the current supply situation suggests that, barring a production disaster in 1995, those price levels may be quite optimistic. A more reasonable price signal going into 1995 might be \$6.20 to \$6.30 per bushel on the November futures contract. As we move through the next six to eight weeks, it may turn out that even these levels are optimistic. Figure 19 shows the early season prices available on the 1993 November soybean contract following the record 1992 harvest. Similar price patterns may be expected to exist early in 1995.

An important thing to keep in mind for both corn and soybeans is that the most attractive prices following a record production year may not be prices you would have considered attractive following less productive years. If you look at the prices in 1993 following the record 1992 harvest, you will notice that it wasn't until harvest, when it was confirmed that the 1993 crop was of low quality and small, that we got back to the price levels we had experienced going into 1992. If we have a decent planting season and expectations of normal production going into 1995, it will be important to adjust price expectations accordingly, which probably means not holding out for \$2.75 corn or \$6.75 soybeans.

Table 4. Supply and Demand Situation for Selected Commodities (Millions of Bushels).

Crop Year	Corn		Soybeans		Wheat	
	93/94	94/95	93/94	94/95	93/94	94/95
Carry In	2,113	850	292	209	531	568
Production	6,336	10,103	1,869	2,558	2,396	2,321
Imports	21	5	6	8	109	85
Total Supply	8,470	10,958	2,167	2,775	3,036	2,974
Feed Use	4,704	5,650	0	0	274	250
Crush/Mill	1,558	1,650	1,272	1,360	869	885
Seed/Other	30	50	97	115	96	98
Exports	1,328	1,950	589	790	1,228	1,275
Total Demand	7,620	9,300	1,958	2,265	2,467	2,508
Carry Out	850	1,658	209	510	568	466
Average U.S. Price	\$2.65	\$2.20	\$6.60	\$5.25	\$3.17	\$3.50

FIGURE 18. DECEMBER CORN FUTURES -- 1993

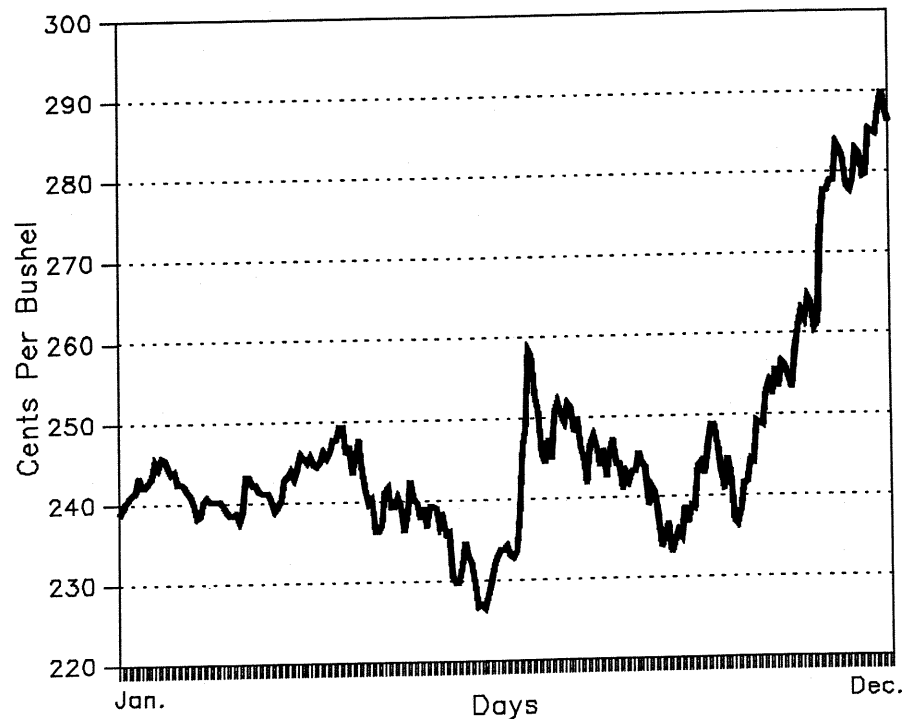
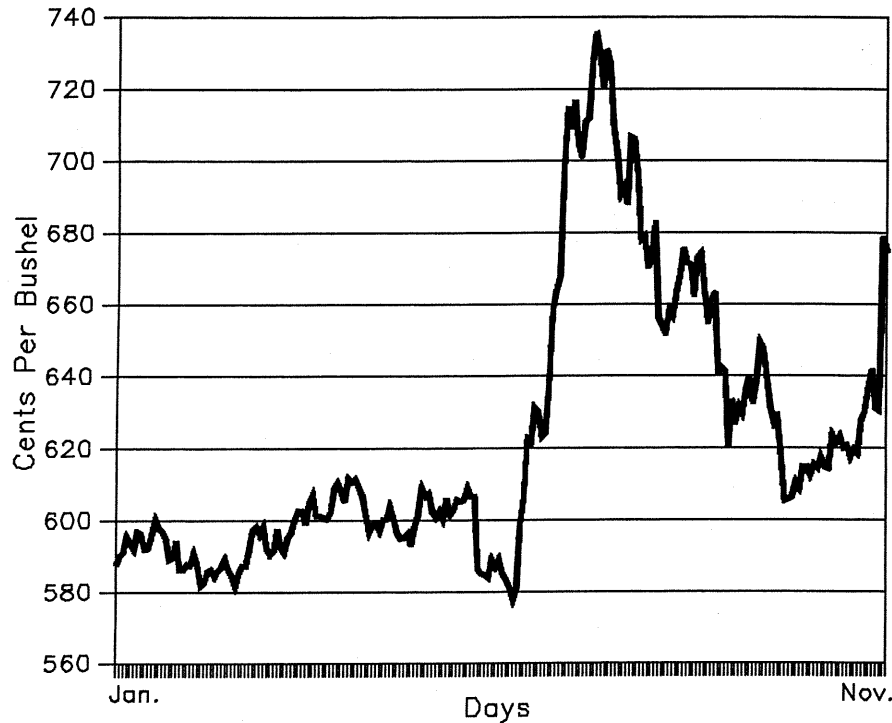


FIGURE 19. NOVEMBER SOYBEAN FUTURES -- 1993

Wheat

Total U.S. wheat production in 1994 was just over 2.3 billion bushels. This represented a decline from both 1993 and 1992 production levels. Conversely, Wisconsin wheat production increased dramatically in 1994 to over 7.9 million bushels. Wisconsin production in 1993 had been about 4.7 million bushels, and in 1992 about 2.6 million bushels.

Estimated supply and demand numbers for U.S. wheat for the 1994/95 crop year are presented in Table 4, (unlike corn and soybeans, the wheat crop year begins June 1 and runs through the following May). The average farm level wheat price for 1994/95 has been estimated by USDA to be \$3.50 per bushel.

The key to wheat price movement between now and harvest rests with the export market. There are currently expectations of a healthy export business this spring. If this materializes, wheat prices may remain stable or even slightly increase. If, however, the market is disappointed in its export expectations, July wheat futures prices will likely deteriorate as we approach the winter wheat harvest. Deciding whether

to price 1995 wheat early basically becomes a bet on your assessment of the wheat export situation in the next few months.

Summary

U.S. grain producers have experienced their second record harvest in three years. Unlike the previous record year, however, Wisconsin producers shared in the record production levels. Not only were the crops high yielding, but they also were of relatively high quality. However, since production levels and prices in the following spring and summer tend to be negatively correlated, producers do face significant marketing challenges. Storage of corn and soybeans appears to be a more attractive alternative for Wisconsin producers than in previous years, but markets should be closely monitored to determine when storage should be liquidated. This requires tracking local basis and recognizing when it has experienced a return to normal spring levels, or forward pricing current storage to insure a positive storage profit for delivery later in the year. Pre-harvest pricing of 1995 production will also be a challenge. If we experience expectations of a normal production year in the coming months, prices

experienced last year will not likely be attained this year. This means producers will need to scale back their pricing targets if they want to insure that some part of their corn and soybean production is priced going into the 1995 harvest.

For wheat, the key to price movement between now and harvest rests with the export market. There are currently expectations of a healthy export business this spring. If this materializes, wheat prices may remain stable or even slightly increase. If, however, the market is disappointed in its export

expectations, July wheat futures prices will likely deteriorate as we approach the winter wheat harvest. Deciding whether to price 1995 wheat early basically becomes a bet on your assessment of the wheat export situation in the next few months.

Wheat prices in coming months will be largely driven by export business. However, cheap, high quality corn will reduce incentives for feeding wheat relative to the last couple of years, and this will work against any potential rallies which might result from increased export activity.

FARM CREDIT OUTLOOK *

Bruce L. Jones (608) 262-0705
Associate Professor
Department of Agricultural Economics

Situation and General Outlook for Credit

Survey data published in a recent issue of the Federal Reserve Bank of Chicago's *Agricultural Letter*, suggest that agricultural bankers in the Seventh District are seeing increased demands for farm loans. These bankers are also indicating that repayments on loans are lagging behind the repayment rates that were experienced in 1993. This decline in repayment rates coupled with an increase in the demand for farm loans is probably the result of the low earnings that farmers experienced in 1993. Given these trends it would appear that the farm loan situation in 1994 is somewhat less favorable than in the two previous years. This slippage in credit conditions is a little concerning but it is not necessarily a signal that another agricultural credit crisis is on the horizon.

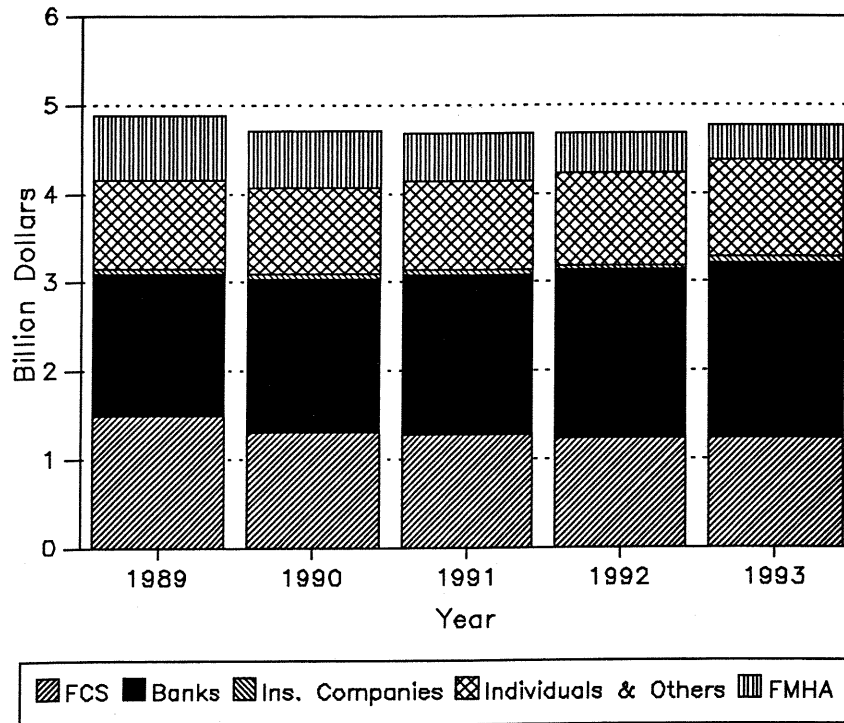
Despite the downturn in credit conditions, obtaining credit should not be a problem for most Wisconsin farmers in the coming year. The majority of farmers should be able to meet the credit standards of most agricultural lenders. As a result, they should have little if any problems getting the operating credit they need.

Operating credit may be readily available to most farmers, but credit for purchasing machinery, dairy cows, land, and other capital assets may not be as easy to obtain from lenders. Farm earnings have been modest the last couple of years and the prospects for higher earnings in the coming year are not good. Lenders will be hesitant to extend capital credit to farmers who may not have the ability to generate the earnings that are necessary to make the annual principal payments on machinery loans and real estate mortgages. Therefore, it is quite possible that some farmers with high levels of debts may have problems getting additional capital credit.

Wisconsin Farm Credit Markets

Wisconsin's farm credit markets have been changing since 1989. The size of the market, as reflected by total debt, has been increasing slowly since 1991 according to the data presented in Figure 20. Also the structure of the market has been changing such that banks are increasing their share of the total farm credit market. These gains by bankers appear to be coming at the expense of Farm Credit System (FCS) institutions since the declines in FCS lending seem to match the increases in bank lending. This movement of loans from the FCS to banks could be interpreted as a sign that banks are offering farmers terms on loans that are preferable to the terms that are being offered by FCS institutions. Alternatively these changes in the market positions of banks and the FCS could be a sign that there is a marked difference in the credit standards of these two competitors. Banks could be easing their credit standards relative to FCS's in an effort to gain more business. This practice could expose banks to more risks but it could also allow them to increase their earnings if their loans perform satisfactorily.

* This section is based on information obtained from: *Agricultural Letter*, Federal Reserve Bank of Chicago; *Economic Indicators*, Council of Economic Advisors; and *Economic Indicators of the Farm Sector*, ERS, USDA.

FIGURE 20. WISCONSIN FARM DEBT

Another possible explanation for the increases in commercial banks' lending activities is the loan guarantee program of the Farmers Home Administration (FmHA), which is the federal government's agricultural lending agency. The FmHA, which has recently been renamed the Rural Economic Community Development Service, has been curtailing its direct lending activities and instead guaranteeing the loans farmers receive from banks, FCS, and other agricultural credit institutions. The information in Figure 20 clearly shows that FmHA has steadily reduced its direct lending activities since 1989. As these reductions in FmHA direct lending occurred, bank lending rose. This increase in bank lending may have occurred because bankers took advantage of loan guarantees that were in greater supply when FmHA shifted its resources from direct lending programs to loan guarantees.

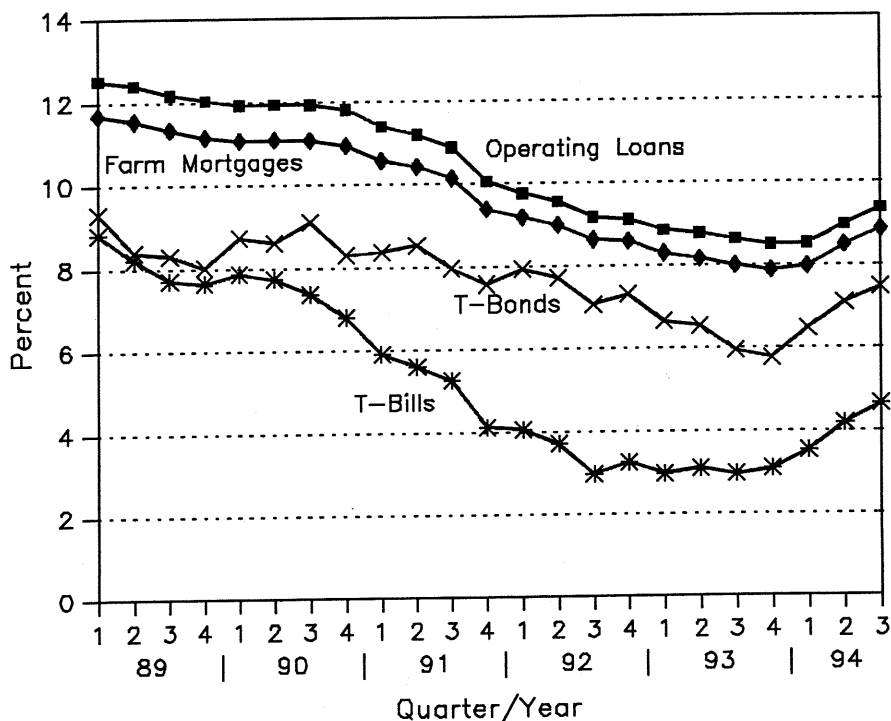
Interest Rates

From the first quarter of 1989 to the fourth of 1993 interest rates steadily fell and farmers had access to credit that was relatively affordable. These were the good times. Unfortunately, it is beginning to look like the good times are over for a while.

Since the first quarter of 1994, interest rates on farm operating loans and real estate mortgages have been creeping up as other interest rates in the economy have been rising (Figure 21). This turnaround in interest rates has been caused by the Federal Reserve Bank, which is responsible for managing the United States' monetary system. The Federal Reserve Bank, which is also referred to as the "Fed," has been driving interest rates up in an attempt to slow down the growth of the U.S. economy. At first glance, this may seem to be an irrational action given that economic growth leads to low unemployment and higher household incomes. Unfortunately, economic growth can also result in inflation if the rate of growth is too high. Thus, the Fed has to be careful not to let the economy grow too quickly or high rates of inflation, like those experienced in the late 1970s and early 1980s, could once again be present in the U.S. economy.

At this time it is unclear whether the Fed will continue to drive up interest rates in 1995. The Fed will only ease up on interest rates when it is convinced that the economy is growing at an acceptable rate. Therefore, one should only expect interest rates to stabilize when we have indications that this latest economic recovery is starting to plateau. We

**FIGURE 21. SELECTED INTEREST RATES
1ST QUARTER 1989 TO 3RD QUARTER 1994**



probably will not have evidence of this slow down until the middle of 1995. Thus, it is a good bet that the Fed will increase interest rates a couple more times in the first half of the coming year.

Wisconsin Farm Credit Programs

For almost ten years the state of Wisconsin has been providing credit assistance to farmers who would be ineligible to receive operating loans from banks, farm credit service centers, or other lending institutions that make loans to farmers. The state's farm credit program, named the Credit Relief Outreach Program (CROP), gives farmers access to a maximum of \$20,000 operating credit annually. The interest rates on these loans are generally two or more percentage points below the market rate charged on farm loans. The interest rates on CROP loans are below the market because the state pays a portion of the farmers' interest charges. Thus, when the interest rate on a loan is 8 percent, a farmer pays 6 percent interest and the state picks up the other 2 percent.

CROP was established at a time when a considerable number of the state's farmers were struggling to stay in business. This special credit program no doubt was responsible for easing the financial strains of many farm families. Thus, the program accomplished its purpose. The question that might be asked now is whether CROP is still needed given that financial conditions in agriculture are not nearly as bleak as they were in the mid-1980s when the program was initiated. Wisconsin lawmakers will have to answer this when they decide whether to continue this special credit program in 1995.

Wisconsin implemented a second farm credit program in 1994 which is intended to provide "beginning" farmers access to low interest rate loans that can be used to purchase cows, machinery, real estate, and other capital assets used in farming operations. This new farm credit program is administered by the Wisconsin Housing and Economic Development Authority (WHEDA), the same institution that handles CROP. The primary benefit of this program is that it gives farmers access to credit at interest rates that are 2 to 3 percentage points below market rates.

The beginning farmer program is funded by a special bonding program that allows lenders to exchange farm loans for tax-free bonds issued by WHEDA. This special tax treatment for the bonds is key to the program. Lenders essentially use the tax savings from these bonds to recoup some of the earnings they forgo on the low interest rate loans they make to beginning farmers.

From the state's perspective, this program is very desirable because no state dollars are used to finance it. The federal government picks up the tab for this program because it loses the income taxes that the lenders would have been obligated to pay on the farm loans that were traded for tax-free bonds.

When the state implemented its beginning farmer program in late 1994, it implicitly sent a signal that it should be possible for a farm business to succeed in the present financial environment. This is an interesting position for the state to take in light of the fact that it was also providing CROP loans to farmers who were supposed to be financially stressed

and in danger of going out of business. The state has adopted two farm credit programs which appear to be at odds with one another. In one case the state is saying that individuals should start farming (beginning farmer program). In the other case the state appears to be saying that farm businesses will not be able to survive without some credit subsidies (CROP).

Wisconsin lawmakers need to recognize that the state's two credit programs cannot be thought of separately. These two programs are inter-related because one can potentially impact the other. For example, the beginning farmer program could get more young families started in farming. This in and of itself is not a problem. But, if the agricultural economy experiences a downturn in the future, the farmers who got their start with the beginning farmer program could then need CROP loans. State lawmakers should be aware of this linkage between the beginning farmer program and the CROP program when they are making decisions about the scope of these programs.

FARM INPUTS AND FARMLAND PRICE SITUATION *

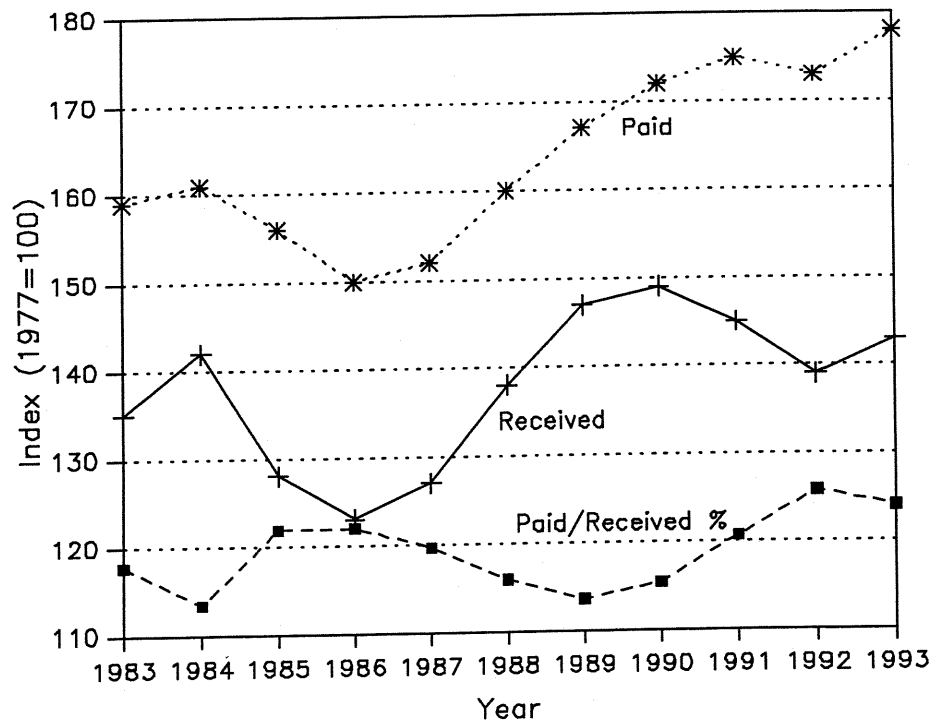
Gary G. Frank (608) 262-9729
Farm Management Specialist
Department of Agricultural Economics

The index of farm input prices paid increased 5 points to 178 percent of the 1977 base in 1993, a 2.9 percent increase in 1993. The prices paid index stood at 159 in 1983, therefore the index increased 19 points (or 11.9 percent) in the last 10 years. In contrast, the prices received index, which averaged 143 for 1993, has only increased 8 points (5.9 percent) over that same time period. This means that farmers would need to be more efficient in 1993 in order to be as well off as they were in 1983 (see Figure 22 for details).

The prices paid index for all farm products stood at 132 in November of 1994, a drop of 11 points (7.7 percent) from the 1993 average. This is the lowest level since April of 1988. It is due to the low prices for hogs, cattle, corn, and some citrus fruits. The index may drop further in the next few months because it is unlikely the prices of hogs, cattle, or corn will recover any time soon. Also, the price of milk is projected to drop over the next few months.

It is expected that quantities of farm inputs used will decrease in 1995. This expectation is based on the high cropland use (with excellent crops) in 1994 and the increased set-aside required on program crops in 1995. The set-aside requirement on corn was zero in 1994 and will be 7.5 percent in 1995. This set-aside requirement will idle an estimated 4 million acres in 1995. Decreased planted acres means decreased demand for seed, fertilizer, fuel, and other inputs. This coupled with expected price increases, for reasons to be elaborated later, will keep total expenditure nearly stable in 1995.

* The farm input data in this report is based on information received from ERS, USDA personnel Stan Daberkow, Marlo Vesterby, and Eddie Oaks. The land price information is based on data collected by the Wisconsin Department of Revenue and summarized and reported by the Wisconsin Agricultural Statistics Service.

FIGURE 22. INDEXES OF FARM PRICES PAID AND RECEIVED

Fertilizer

U.S. fertilizer supplies during 1995 are expected to be tight at higher prices. Nitrogen prices are expected to be at least 25 percent higher than last year. Nitrogen prices started to increase in the spring of 1994 and are continuing because 1) total exports (to all locations) from Russia are down, 2) problems with plants in Louisiana and Iowa, and 3) the demand for nitrogen in the non-ag sector is up. Also the price of di-ammonium phosphate (DAP) will likely be higher because the world-wide demand for DAP is up largely due to additional purchases by the governments of China and India. However, potash supplies and prices have not been affected and should remain stable.

Selected input prices are detailed in Figure 23. Notice that fertilizer prices have been relatively stable over the last 10 years, but that is expected to change in 1995.

Seed

In 1993, field and forage seed prices index for all seeds rose to 169 from 165 in 1992. When the final numbers are in, it is expected they will show

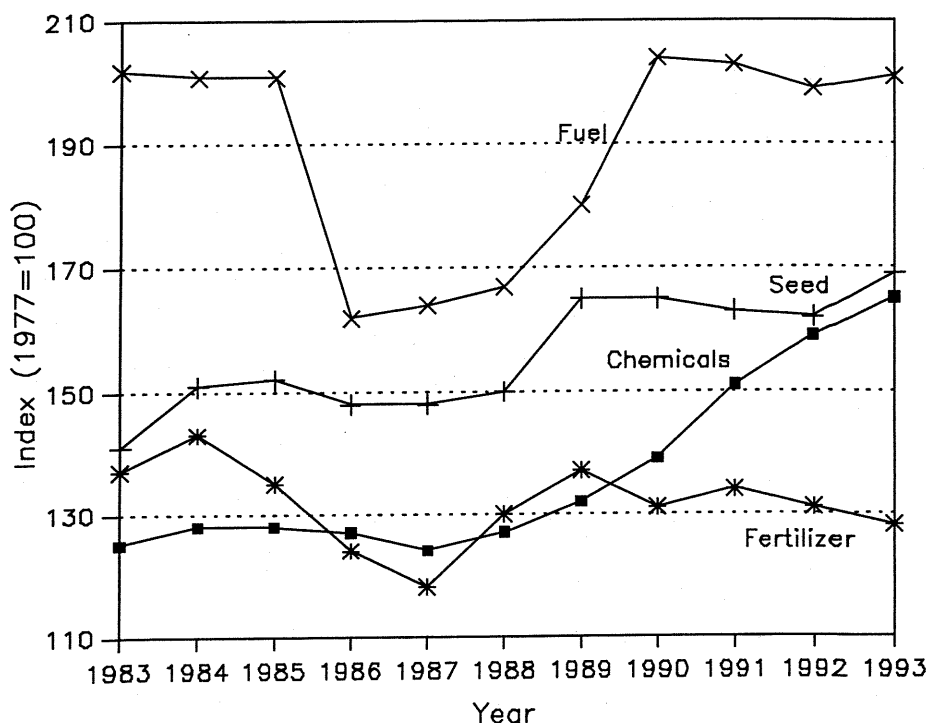
further price increases due to decreased supply (flood problems in some seed growing areas in 1993) and increased demand (more planted acres in 1994).

The prices for 1995 should show only minor increases. There should be ample supplies of seeds and that will hold down the price of soybean and wheat seed. Corn seed will likely increase \$1 or \$2 per bag primarily because of rising research and development costs that must be recovered through higher prices.

Fuel

U.S. farmers can expect energy prices for 1995 to be at their 1992 to 1994 averages due to an apparent abundance of importable crude oil. The average price paid for diesel fuel by some Wisconsin farmers was below \$0.70 per gallon in 1994. The price of crude oil seems to be stable and mostly likely will not change dramatically unless an international incident causes panic.

In 1995, the quantity of fuel used and the total energy expenditures are likely to be 3 to 4 percent below 1994. This reduction is attributed to a drop in planted acreage resulting from the higher set-aside

FIGURE 23. SELECTED FARM INPUT PRICE INDEXES

and more min-till and no-till acreage that will be necessary to meet the conservation requirements effective January 1, 1995. This decrease in fuel consumption by the production agricultural sector of our economy will have little effect on the total demand for fuels, since production agriculture only constitutes 3 to 4 percent of the total fuel consumption.

Agricultural Chemicals

The pounds of agricultural chemical applied to farm land continues to decrease but total expenditures on chemicals have risen because restrictions have forced farmers to use higher cost chemicals in the move away from tri-azines. Help may be on the way however. Some companies are currently trying to register products that will be priced near the cost of Atrazine on a per acre basis and won't have Atrazine's carry over problems.

Capital Items

Capital investment in farm machinery increased during the first 10 months of 1994. The number of

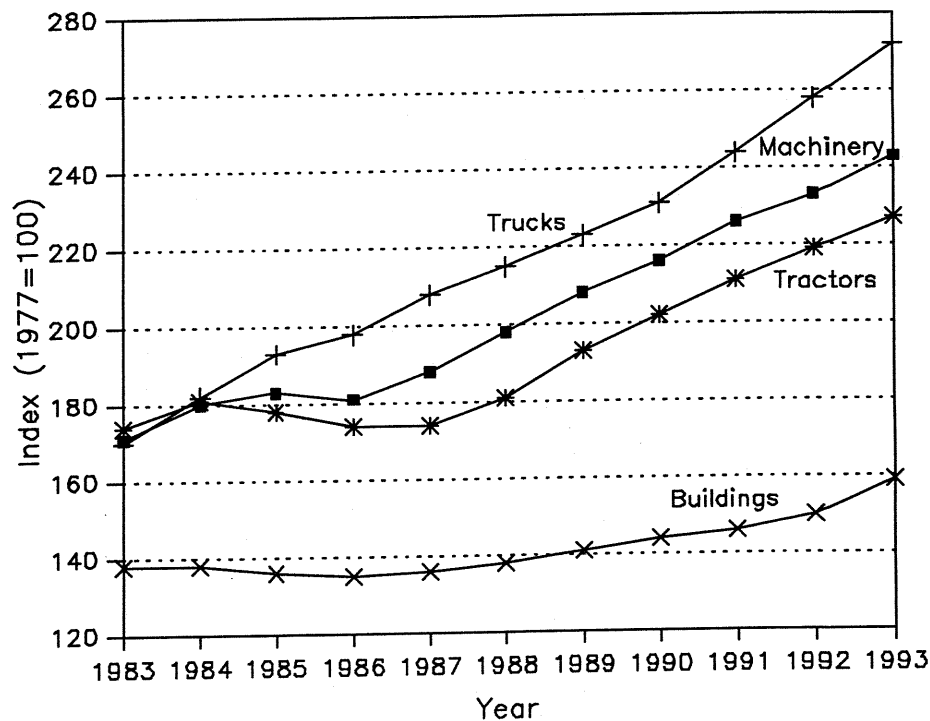
farm tractors purchased (under 100 HP) was up 8 percent, over 100 HP up 2 percent, and four wheel drive up 12 percent. Also the number of combines purchased was up 9 percent, compared to 1993. This increase was surprising since these numbers had grown at double digit rates in 1993.

The average price of farm machinery also increased in 1993. This continues the long term trend in the prices of capital items, see Figure 24.

Higher incomes and lower interest rates in the 1990's were responsible for increased investment in farm machinery. Farm income was up 20 percent in 1992, largely due to bumper grain crops. Farm income was down in 1993, but will be up again in 1994. Since machinery purchases tend to lag behind farm income, the income increase could lead to more purchases in 1995. The threat of higher interest rates may have lead to some anticipatory buying in 1994, so the amount of purchases in 1995 may not be as strong as would be expected if interest rates and expectations had remained constant.

Higher asset values and lower farm debt increased farmers' equity position, which also contributed to higher demand for farm machinery.

FIGURE 24. SELECTED FARM CAPITAL PRICE INDEXES



Nationally, farm capital depletion is continuing, with real depreciation exceeding real capital expenditure every year since 1980.

Land Prices

In 1993, there were 430,575 acres of Wisconsin farm land recorded as sold, according to the Wisconsin Agricultural Statistics Service. This is an increase of approximately 20,000 acres from 1992. The average price per acre of all land sold was \$969. This is versus \$901 per acre in 1992. This is an increase of \$68 per acre, or 7.5 percent.

Of the 430,575 acres sold, 90,971 acres were diverted to other uses. The land diverted to other uses was 21 percent of all land sold, up from 20 percent of all land sold in 1992. This continues the trend of larger percentages of Wisconsin agricultural land sales being diverted to non-agricultural use, see Figure 25.

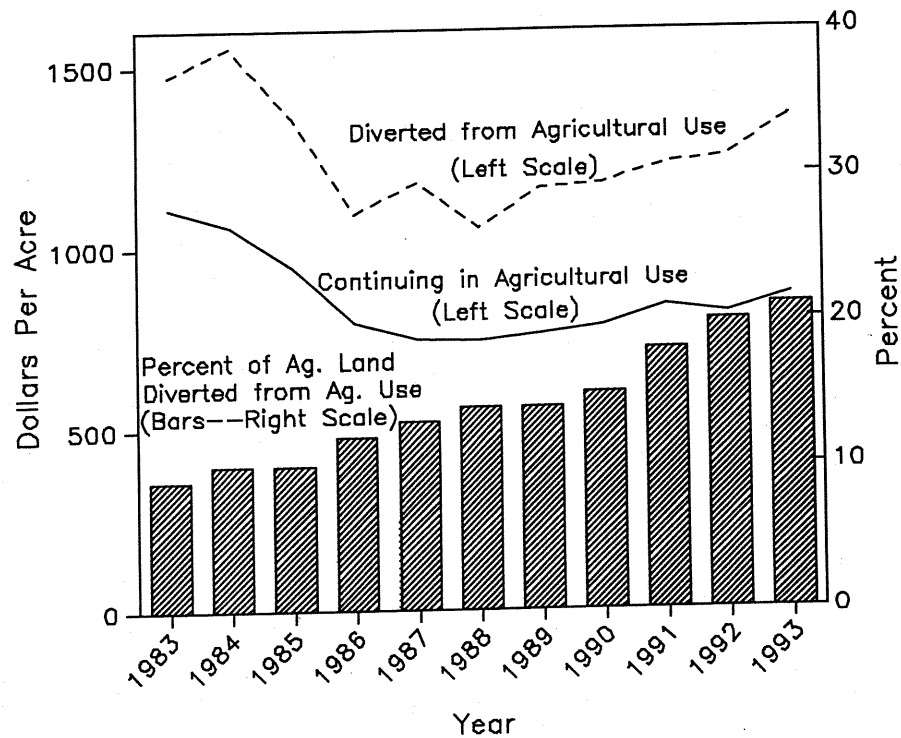
The land removed from agricultural use in 1993 sold for an average of \$1,357 per acre, \$112 per acre more than in 1992 or a 9.0 percent increase.

Land remaining in agricultural use sold for an average of \$864 in 1993. This \$49 per acre increase (6.0 percent) more than recovers the loss of \$22 per acre that occurred in 1992.

The number of acres of agricultural land sold increased by 5 percent in 1993. Whereas, the total increase in sales of agricultural land (acres) in the 1988 to 1992 period was only 4 percent. Projections for 1994 are that this overall increase in demand has continued. This has led to estimates of increases in land values for 1994 of 5 to 10 percent. The anticipation of higher interest may have fueled the demand for, and the price of, land in 1994. The realization of higher interest rates could slow the demand and the price of land in 1995.

The longer upward trend has been in the number of acres diverted to other uses. The increase from 82,441 acres in 1992 to 90,971 acres in 1993 is an increase of over 10 percent, whereas the percentage increase in total acres sold was about 5 percent. It is expected this trend will continue and this demand for land will cause the average overall price paid for land in 1995 to increase.

FIGURE 25. PRICE OF AGRICULTURAL LAND SOLD IN WISCONSIN



Higher interest rates could dampen this increase somewhat but the demand for agricultural land for use in both the agricultural sector and the non-agricultural sector appears to be increasing each year. This is caused by farm expansions and the growth of the general economy. It is estimated that the value of agricultural land going into agricultural uses will increase by 5 percent in 1995 and land moving into non-agricultural uses will increase by 8-10 percent.

There is a large difference in the price paid for land continuing in agricultural use and that going to other uses in urban counties. This difference is very small in rural counties, see Table 5. In addition, the

price of land continuing in agriculture is also higher in urban counties within the same area of the state.

Land Rental Rates

According to the Wisconsin Agricultural Statistical Service data "Farms Rented for Cash" averaged \$57.10 per acre in 1994. When whole farms are rented, there may be some buildings included.

"Cropland Rented for Cash" averaged \$51.20 per acre or \$5.90 less per acre than whole farms. "Pasture Rented for Cash" averaged \$22.50 per acre.

Table 5. Land Price in 1993 by County and District.

	Land Continuing in Agricultural Use	Agricultural Land Being Diverted to Other Uses	Total of all Agricultural Lands
COUNTY - DISTRICT	1993	1993	1993
	----- DOLLARS PER ACRE -----		
ADAMS - C	753	767	755
ASHLAND - NC	356	528	405
BARRON - NW	547	633	570
BAYFIELD - NW	241	249	244
BROWN - EC	1,089	2,649	1,823
BUFFALO - WC	630	845	655
BURNETT - NW	333	512	402
CALUMET - EC	981	1,211	1,011
CHIPPEWA - NW	545	539	544
CLARK - NC	608	599	607
COLUMBIA - SC	1,120	1,523	1,194
CRAWFORD - SW	661	815	697
DANE - SC	1,520	2,876	1,873
DODGE - SC	1,195	1,911	1,363
DOOR - EC	838	860	844
DOUGLAS - NW	262	383	286
DUNN - WC	716	828	735
EAU CLAIRE - WC	737	1,138	802
FLORENCE - NE	774	601	680
FOND DU LAC - EC	1,035	1,438	1,144
FOREST - NE	732	254	606
GRANT - SW	764	912	776
GREEN - SC	872	1,165	900
GREEN LAKE - C	1,081	1,389	1,131
IOWA - SW	869	923	889
IRON - NC	384	200	376
JACKSON - WC	742	564	726
JEFFERSON - SC	1,252	1,759	1,493
JUNEAU - C	648	874	696
KENOSHA - SE	2,582	5,725	3,466
KEWAUNEE - EC	759	1,238	873
LA CROSSE - WC	1,023	1,986	1,184
LAFAYETTE - SW	911	1,044	921
LANGLADE - NE	694	2,665	771
LINCOLN - NC	491	551	515
MANITOWOC - EC	991	1,188	1,031
MARATHON - NC	717	496	685
MARINETTE - NE	651	697	663
MARQUETTE - C	766	633	726
MILWAUKEE - SE	2,070	8,372	7,658

Table 5. (Continued)

	Land Continuing in Agricultural Use	Agricultural Land Being Diverted to Other Uses	Total of all Agricultural Lands
COUNTY - DISTRICT	1993	1993	1993
	----- DOLLARS PER ACRE -----		
MONROE - WC	979	992	980
OCONTO - NE	647	653	648
ONEIDA - NC	271	315	296
OUTAGAMIE - EC	1,089	2,663	1,488
OZAUKEE - SE	2,168	3,928	2,454
PEPIN - WC	625	829	633
PIERCE - WC	676	962	800
POLK - NW	579	851	668
PORTAGE - C	960	1,055	976
PRICE - NC	422	618	500
RACINE - SE	1,954	2,505	2,101
RICHLAND - SW	804	758	792
ROCK - SC	1,168	1,832	1,357
RUSK - NW	352	686	412
SAUK - SW	1,077	1,428	1,164
SAWYER - NW	372	598	496
SHAWANO - NE	798	765	794
SHEBOYGAN - EC	942	1,742	1,246
ST. CROIX - WC	713	1,288	891
TAYLOR - NC	494	603	499
TREMPEALEAU - WC	696	821	704
VERNON - SW	812	869	817
VILAS - NC	420	4,275	917
WALWORTH - SE	1,644	2,601	1,876
WASHBURN - NW	393	500	427
WASHINGTON - SE	2,170	4,706	2,872
WAUKESHA - SE	2,403	4,299	3,301
WAUPACA - C	909	912	909
WAUSHARA - C	840	794	827
WINNEBAGO - EC	1,116	2,683	1,583
WOOD - C	728	665	711
STATE	864	1,357	969

III. THE CONTRIBUTION OF AGRICULTURE TO THE WISCONSIN ECONOMY ¹

Steven C. Deller (608) 263-6251
Assistant Professor and Extension Economist
Department of Agricultural Economics

Introduction

Wisconsin has historically been considered an agricultural state. Until recently Wisconsin has been the number one producer of milk and remains the top producer of cheese products, specifically American and Italian cheeses; the number one producer of sweet corn, snap beans, and green peas for processing; the second largest producer of cranberries and a top ten producer of corn, oats, and potatoes. Recent events, however, have called attention to the economic vitality of the Wisconsin agricultural economy. Some have suggested that the critical juncture, at least in the general public's eye, occurred in August, 1993 when California produced more milk than Wisconsin. Our self-image as the "Dairy State" has been challenged.

The intent of this essay is to take a step back and reflect upon the larger picture of agriculture and how it fits into the Wisconsin economy. This reflection is conducted in two parts. First, an examination of historical data details recent trends in income and employment derived from agriculture. The analysis will examine the overall performance of the Wisconsin economy, with specific attention to the agricultural industry, relative to the United States and the Great Lakes Region of states (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin). Second, using a regional economic modeling approach referred to as input-output analysis, the analysis will detail the total contribution of agriculture, both on-farm production and agricultural processing, to the Wisconsin economy. The essay will conclude with a brief discussion of future directions and policy implications.

Recent Trends

While Wisconsin agriculture is diverse, ranging from on-farm production of ginseng and cranberries to agricultural processing such as cheese, sausages, and beer, space limitations do not allow a detailed historical analysis of individual agricultural

enterprises. Instead an aggregate analysis is conducted utilizing two measures of economic performance; income and employment. Three different levels of economic activity are compared. These are the total or aggregate economy, on-farm production, and agricultural processing.

In order to assess the performance of the Wisconsin economy results are compared to those of the national economy and that of the Great Lakes Region of states. To account for the differences in the relative sizes of these reference economies, growth indices are computed and reported. By examining growth rates over time we can compare relative levels of growth and stability. The analysis examines the period 1969 to 1992.

Trends in Income. Examining growth rates in Wisconsin's real income (i.e., adjusted for inflation) we see that income grew by 61.7 percent over the period inspected (Figure 26).² This lagged behind the U.S. increase of 82.9 percent but out-paced the Great Lakes Region's increase of 45.2 percent. The analysis reveals that Wisconsin and the Great Lakes Region were particularly hard hit during the recession of the late 1970s and early 1980s and lost ground after that. Generally, other than two recessionary periods, real income grew at steady rates.

Examination of growth rates in income from on-farm production, however, paints a different picture. After a surge in 1973, income from on-farm production declined for Wisconsin as well as for the U.S. and the Great Lakes Region. After reaching a low in 1983 marginal increases in on-farm income growth rates were experienced through the remainder of the decade. More recent years have seen declining growth rates. A partial explanation of the recent decline is the shake-out which occurred in farming after the surge, then plummet, in land prices. Coupled with high interest rates observed during this period and changing export policies, maintaining a viable farm enterprise became increasingly difficult.