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**The U.S. Rice Marketing Loan:
Transitional Program or Permanent Feature**

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ABSTRACT

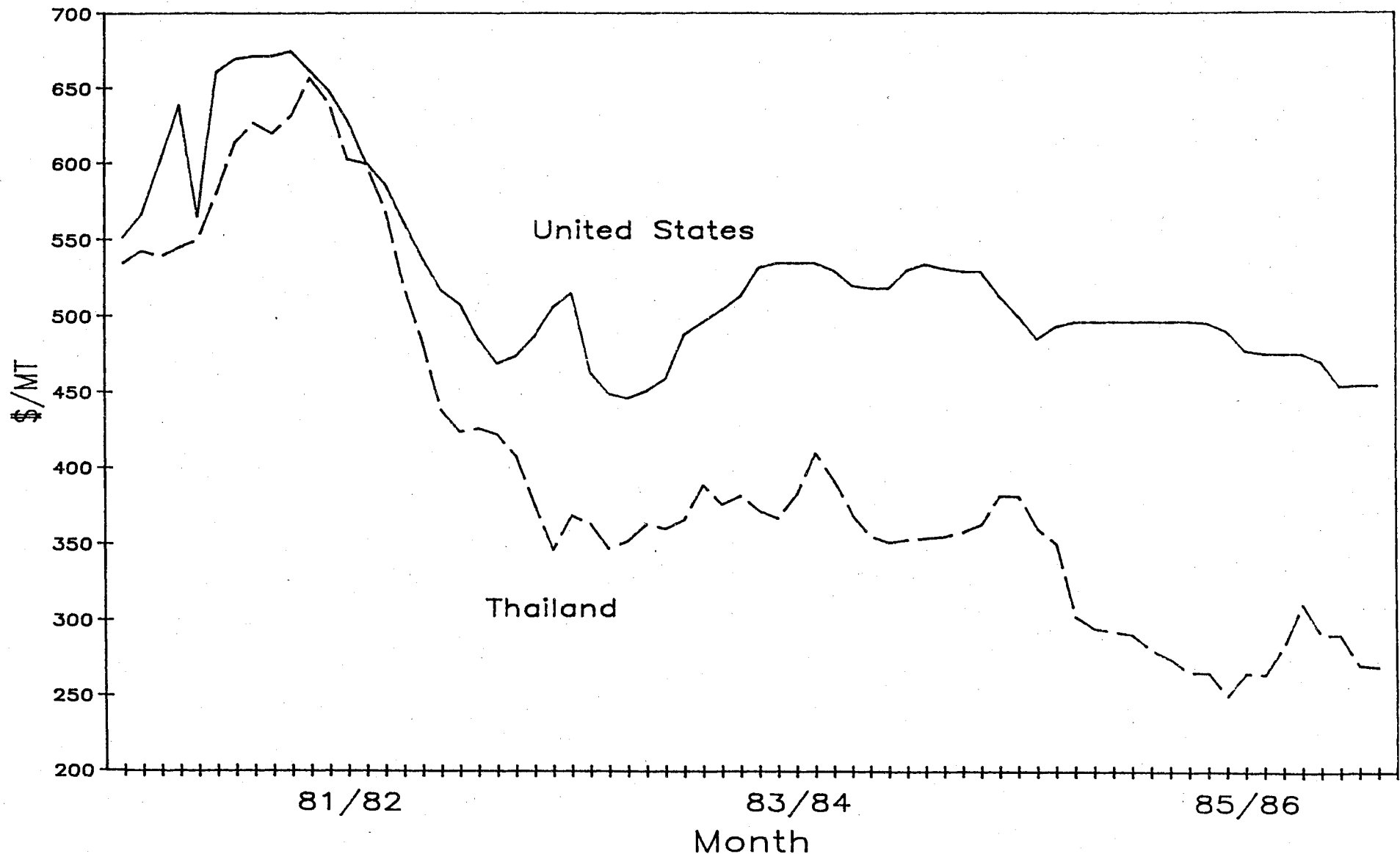
An econometric analysis of the marketing loan program for rice was used to project the performance of the U.S. rice industry through 1990/1991. Results indicate that the marketing loan provision should lead to increased exports, reduced stocks, and moderate price enhancement. A review of current cost of production estimates across the U.S. and in Thailand suggest that some form of government program will be required beyond 1990 if U.S. rice producers are to receive returns at or above the variable cost of production.

At the invitation of Mr. Tim Price I have agreed to comment on my impressions regarding the 1985 farm bill's marketing loan provisions for rice. I would like to begin by referring to events surrounding implementation of the provisions. Next I would like to comment on some of the existing studies and projections of what we can expect from the marketing loan, if it is allowed to remain in effect. I will then discuss my concerns about the long-run competitiveness of the U.S. rice industry, possible adjustments that may occur, where and why.

Introduction

As we all know, a major portion of the debate surrounding development of the 1985 farm bill concerned ways to restore competitiveness to the agricultural export sector. Although there were probably as many ideas of how this should be done as there were definitions of what competitiveness is, policymakers concerned with cotton and rice supported the idea that prices were the central problem. Our price support levels placed a floor under the price at which U.S. exporters could acquire rice for processing and sales in overseas markets. At the same time, our support prices provided a clear signal of the price ceiling under which our competitors could reasonably expect to market their rice. Much the same conditions existed for cotton. As illustrated in figure 1, the price difference between U.S. and Thailand rice delivered to Rotterdam provides one example of the pricing problem facing rice exporters.

Figure 1. U.S. vs Thai Rice Prices
C&F Rotterdam (\$/MT)



Source: Rice Situation and Outlook Report, USDA, ERS, RS#48, Sept.

The result of the farm program prior to 1985 was the accumulation of huge stocks, projected to reach 62% of total use by the end of 1985/86.[1] These stock levels, coupled with relatively high prices made worse by an overvalued dollar and seriously depressed markets in traditional importing countries, led to a bleak outlook for the U.S. rice industry. This was especially distressing since just five years prior, 1980/81, U.S. rice exports were at a record level of 91.4 million cwts., and producers enjoyed an average price of \$12.80 per cwt.[2]

Within this environment, the marketing loan provisions of the 1985 farm bill were born. The idea was to allow rice and cotton to become price competitive in world markets while maintaining some degree of income support for producers. All of us, by now, are aware of how the program works, allowing producers to receive the loan rate for their rice and then buying it back at the loan repayment. The incentive for redeeming the rice is a premium above the loan repayment level offered by buyers. In the Texas rice belt this premium has been running around 25-65 cents per cwt. As a result, rice producers who are in compliance with the program provisions, are entitled to their deficiency payment, loan rate payment, and the premium above the loan repayment rate they receive if they redeem their rice from the loan.

Initial Results

The marketing loan was made applicable to the sales of 1985 crop rice in April of 1986 and is in effect for the 1986/87 crop.

The administration has also announced the 1987/88 program provisions which include the marketing loan. Any change to the existing program would, therefore, not apply before the 1988 crop.

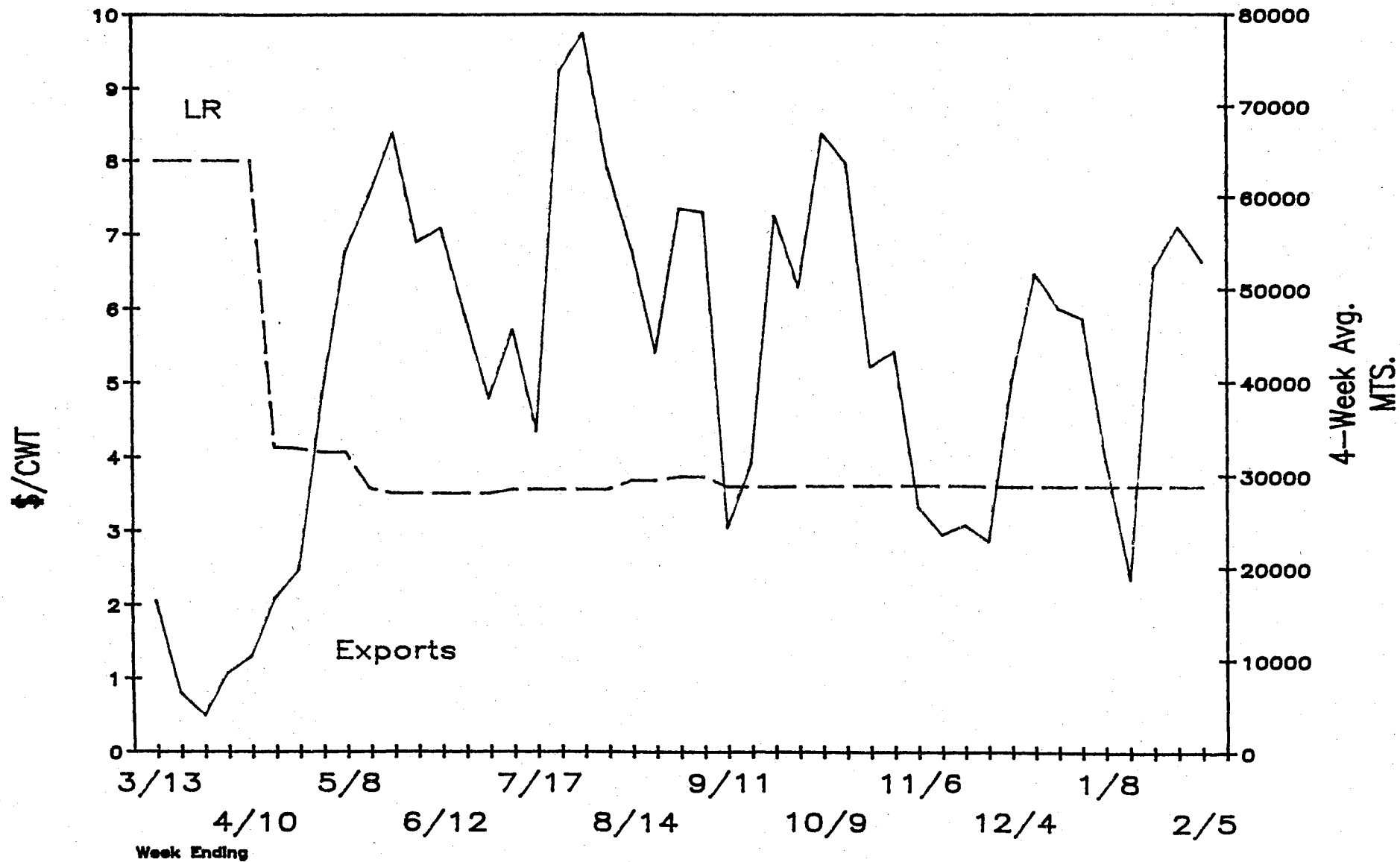
Immediately after the program went into effect, things began to happen in the export markets. As indicated in figure 2, rice sales (measured as a 4-week moving average) began to pick up. Within a month, export sales of rice were up five times from the previous 4-week average. Prices fell dramatically, in line with the new repayment levels. As the initial flurry subsided, sales began to level off but stayed above levels for the same period in previous years, figure 3.[3]

Not surprisingly, much optimism began to surface in response to what appeared to be a much needed success in the area of farm policy. The marketing loan was accomplishing what it was designed to do, increase the movement of U.S. rice stocks into export markets. Despite the boost provided by the marketing loan, 1985/86 rice exports just did reach USDA early projection levels and carryover stocks for the 1986/87 marketing year increased by 19 percent.

Outlook for 1986/87 and Beyond

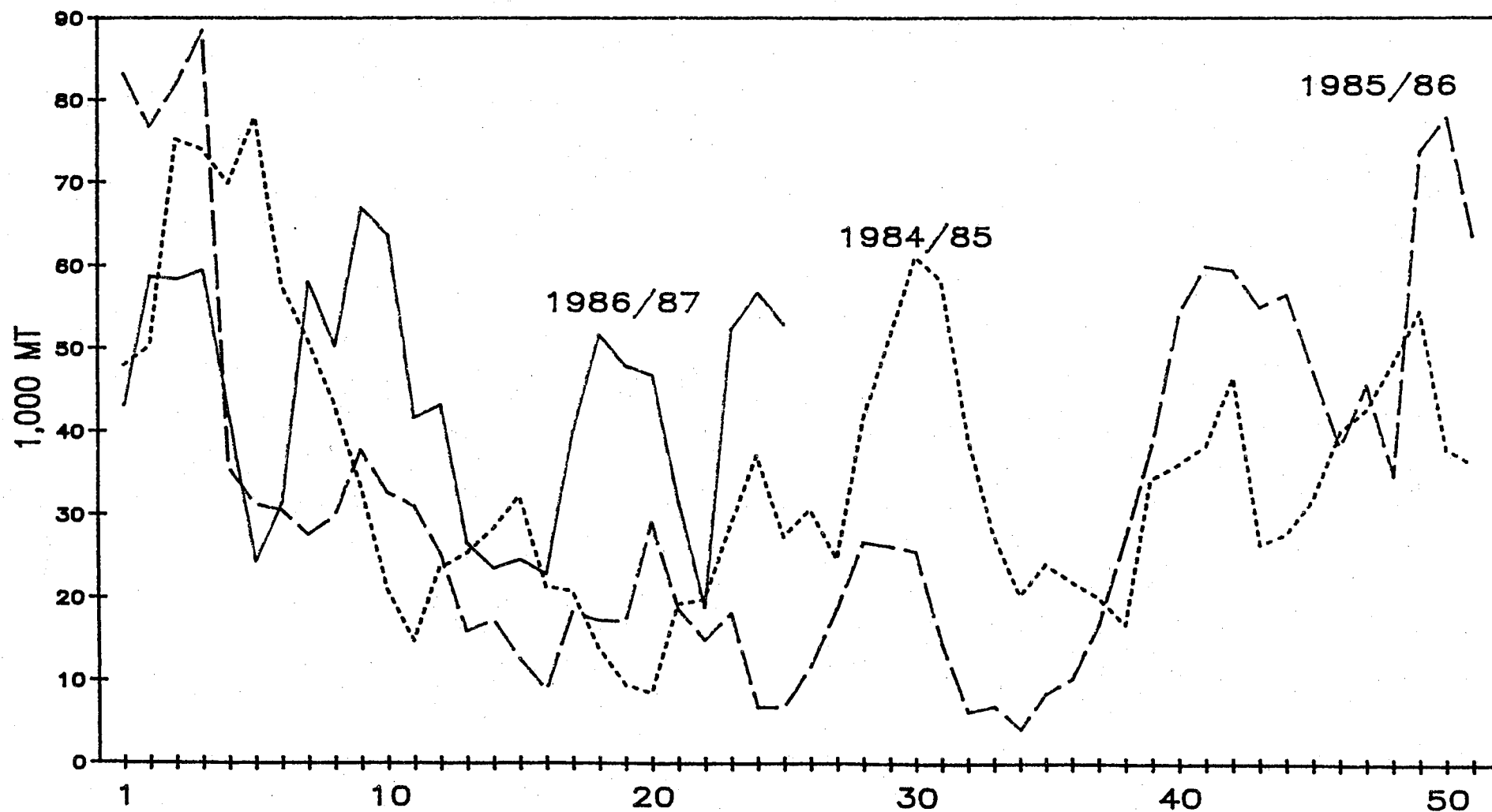
The crop year, which began August 1, 1986, is the first full year of operation for the marketing loan in rice. Unfortunately, it is also a year in which much noise is being heard about possible changes to the existing farm programs. The combination of a new program and possible changes in mid stream have made the job of long-range outlook forecasting very interesting. Nevertheless,

Figure 2. U.S. RICE EXPORT SALES AND LOAN REPAYMENT LEVELS 1986-1987



Source: US Export Sales, USDA, FAS, various issues.

FIGURE 3. RICE SALES 4-WEEK
MOVING AVERAGE
1984/85, 1985/86, 1986/87
(MARKETING YEAR AUGUST-JULY)



Source: USDA Export Sales

a number of brave economists have ventured into this apparent briar patch. Some less adventurous, but perhaps wiser economist, who will remain nameless, Mr. Rosera, have provided estimates as far out as 1987/88. A brief look at some of these estimates reveals some disagreement over the performance of the U. S. rice industry under a continuation of the current marketing loan program.

Results from a recent analysis by Dr. Warren Grant and me are presented in table 1. These projections were developed from the USDA rice model developed by Warren and others and updated to reflect the marketing loan program, technology adoption rates, and recent production cost estimates by state. The model is quite detailed involving some 133 parameters. With the model, we have attempted to provide a realistic approximation of the U.S. rice economy.

In general, the outcome of the marketing loan program, projected by this econometric model, is a reduction in rice acreage as program benefits decline. Remaining producers receive a higher market price as production begins to fall more in line with use and stocks fall as a result of increased exports. The increase in prices leads to declining government cost when combined with decreased production and lower support prices.

These results are not too different from those presented by others. Given the degree of accuracy associated with even the best econometric forecast, caution should be exercised when using any such results to support or argue one position versus another. If we assume that the market reacts to price signals as it has in the

Table 1. Projected Rice Industry Performance Under Marketing Loan 1987-1990.

	1987/88	1988/89	1989/90	1990/91
Target Price	11.66	11.30	10.95	10.71
Loan Rate	6.84	6.50	6.50	6.50
Min. Repayment Rate	3.42	3.90	4.55	4.55
Farm Price	5.01	6.03	7.25	7.88
Acreage Limitation	35%	35%	35%	35%
Participation Rate	92%	92%	92%	92%
Acreage Base	4,199	4,199	4,199	4,199
Harvested Acreage	2,216	2,140	2,070	2,003
Actual Yield	5,814	5,960	6,090	6,178
Program Yield	4,800	4,800	4,800	4,800
Production (rough)	128,697	127,455	126,016	123,668
Domestic Use (rough)	78,519	77,780	77,111	76,593
Exports (milled)	61,512	57,542	54,400	51,725
Carry Over Stocks (rough)	47,690	39,249	33,187	27,958
Pgm Cost (mill)	1,015	906	689	580

past and no extreme changes in weather or technology occur, the marketing loan in combination with acreage reduction programs can lead to a significant reduction in stocks of rice. Such a reduction in stocks should provide the environment necessary to see prices increase by the end of the 1980's.

Concerns for the Future

The question I have been asked to address is, Will there be a need for a marketing loan program beyond 1990? The answer to that question depends on what we want to achieve. If, for the moment, we assume that prices projected by whatever source are in the ballpark, then rice farmers will still have difficulty covering their cost of production. The variable costs of production and total production costs presented in table 2 were developed from USDA enterprise budgets. Projecting the U.S. average cost figures out to 1990 yields, a VC=\$5.15/cwt with a TC=\$8.40/cwt assuming average yields increase to around 6100 lbs. per acre.

It would appear from this analysis that some form of income support is still going to be needed if we continue to maintain an industry of the size we have in 1987. Indications of how difficult it will be to continue competing with countries like Thailand are made clear from the figures in table 3. In these estimates developed in 1984 by Bob Eddleman and others, the total cost of rice production was estimated to be 5.04 per cwt. More recent estimates based on indications of Thai support prices report a \$5.50/cwt. cost. Assuming the 5-5.50/cwt. range is applicable, it will continue to put us in the role of the high cost supplier

Table 2. Variable and Fixed Rough Rice Production Cost by State, 1981-86.

State	1981	1982	1983	1984	1985	1986
Dollars/Cwt.						
Variable Cost:						
Arkansas	6.01	6.19	5.92	5.70	4.89	4.78
California	4.56	4.79	4.49	4.59	4.28	4.10
Louisiana	5.63	5.44	6.02	5.83	5.45	5.13
Mississippi	6.15	6.29	6.23	5.81	5.02	4.66
Texas, Up Co	8.03	8.33	9.34	7.98	6.77	6.12
Texas, Lo Co	7.80	8.24	8.46	8.23	7.33	6.19
United States	5.92	6.07	6.10	5.83	5.11	4.96
Total Cost:						
Arkansas	10.22	9.53	9.77	9.28	8.47	8.27
California	8.63	8.31	8.31	8.22	7.46	7.16
Louisiana	10.03	8.73	9.62	9.27	8.85	8.33
Mississippi	10.66	9.73	10.16	9.56	8.70	8.08
Texas, Up Co	12.52	11.66	13.19	11.52	10.38	9.38
Texas, Lo Co	12.06	11.19	11.84	11.27	10.55	8.91
United States	9.82	9.67	9.69	9.17	8.33	8.10

Compiled from ERS, USDA data.

Table 3. Production cost per hundredweight under current technology in selected rice producing regions in 1984.

Region	Preharvest Cost	Harvesting Cost	Ownership Cost	Land Charge	Total Cost	Prod. Cost Index
Delta - Mississippi	5.62	1.87	1.94	1.19	10.62	207
Central Plains - Thailand	2.86	1.47	0.08	0.63	5.04	100

Notes:

- Preharvest cost includes a general farm overhead charge.
- Land charge includes a 5% land charge on 1984 land Value of \$939/acre in the Delta Region and a land charge of \$13.65/acre in the Central Plains Region.
- Exchange rate of \$1 : 26 bhat.

Source:

Agricultural Economics Research Report No. 166 - July 1986
 "Size Economies and Comparative Advantage in Long-grain Rice Production in Thailand and the Delta of Mississippi"

among the major exporters.

If the U.S. is not going to provide a program to stimulate exports like the marketing loan, then a return to stock accumulation and price decline will likely result unless the level of production is decreased. Such a decline in production may occur through government program ARP's or through market forces if government supports for rice farmers are eliminated or greatly reduced. If the latter is the method of choice, then the competition of importance to U.S. producers will be between states. We would expect high cost production areas to be forced out gradually.

Conclusions

The future of the rice industry in the U.S. is uncertain. The eventual outcome of the recent program appears to buy time for the industry to come to terms with the problems facing all export intensive industry in the US today: How are we going to compete with other countries where labor costs, life styles and institutions are contributing to their ability to undercut our price for similar commodities and/or making it impossible for us to sell our products in their countries?

What are the answers? Continued research can lead to more improvement in yields and help develop other practices which can reduce our average costs per unit. Increased market development efforts can help induce growth in domestic consumption and help maintain international markets. Government programs can maintain income support for producers and keep imports out and exports

competitively priced.

Much of what will happen is beyond our control, however. It is impossible to determine how Thailand will react over time to U.S. policies that appear to change with the wind, or at least are in a constant state of review for possible change. The extent to which technology will change or that technology will be transferred and at what pace will have a tremendous impact on the long run outcome for all of agriculture. What will happen in China, Burma, Indonesia, etc. The fact is we just don't know.

In summary, it appears that the marketing loan provision of the 1985 farm bill is working and will have a positive impact on the rice industry through 1990 if it is allowed to continue to function. It also appears that it will not cure the income/cost squeeze being felt by most producers. It does not appear that our competitors will be brought to their knees and retreat from international competition. I am left, therefore, with the conclusion that some form of program will be required beyond 1990. Whether that program will contain a marketing loan provision or some other export stimulus is anybody's guess.

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- [1] USDA, FAS, "World Grain Situation and Outlook", FG-1-1987, January, 1987.
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- [3] ———, FAS, "U S Export Sales", various issues.
- [4] Grant, Warren R., John Beach and William Lin. "Factors Affecting Supply, Demand, and Prices of US Rice ", USDA, ERS, NED, AGES840803, October, 1984.