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Economic evaluation of alternative rough rice marketing and storage strategies

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ECONOMIC EVALUATION OF ALTERNATIVE ROUGH RICE MARKETING AND STORAGE STRATEGIES

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Science

in

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and Agribusiness

By
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ABSTRACT

The alternative rough rice marketing and storage strategies were evaluated using three methods of analysis. The methods used in this study were MOTAD, simulation, and stochastic dominance. Historical rough rice prices from 1980/81 – 2000/01 was used and tested for trends and seasonality in order for the methods to be formed properly. SAS was used to verify that the data used in this study did not follow any time trend or reflect seasonality. MOTAD, simulation, and stochastic dominance were used to determine the most efficient marketing and storage strategy that will enable rice farmers to make the best decisions and earn the highest average net returns.

Results from the MOTAD analysis suggest that producers should take 100% of their loan deficiency payment in August. This study defined loan deficiency payments and storage usage as a type of marketing strategy. Once the statistical results clearly showed that loan deficiency payments were best taken in August, it was not utilized as a marketing strategy in the simulation analysis.

The simulation analysis utilized fixed and flexible marketing strategies that incorporated storage usage. The fixed strategies were modeled and gave the lowest average returns. As more and more flexible strategies were incorporated into the study, average returns increased. When world export, production, and ending stock flexible strategies were incorporated, the average net return increased dramatically. The results of the simulation analysis were tested using first degree stochastic analysis. The stochastic analysis and simulation analysis both chose the same marketing strategy as the most efficient strategy a farmer should adopt.

Results of this study indicate that farmers who store rice earn higher average net returns when they pay attention to monthly marketing year prices. Farmers that do not store rice should sell 100% of the rough rice in August. The study also suggests that average net returns are higher when loan deficiency payments are taken in August. These results are consistent with a similar study conducted on rice marketing strategies.

CHAPTER 1

INTRODUCTION

Rice is a grain that helps sustain two-thirds of the world's population. Although rice is produced worldwide, the physical requirements for growing rice, such as water availability and soil type, generally limit its production to certain areas within a country. To produce rice efficiently, production typically requires high average temperatures during the growing season, an abundant supply of water, a smooth land surface to facilitate uniform flooding and drainage, and a subsoil hardpan that prevents the percolation of irrigation water through the soil profile. (ERS/USDA, 2002).

Indica, Japonica, Aromatic, and Glutinous rice are the four major types of rice grown worldwide. Indica is grown in mostly tropical and subtropical regions. Indica rice accounts for more that seventy-five percent of global rice trade. Japonica rice is grown in regions with cooler climates and accounts for about twelve percent of global rice trade. Approximately ten percent of Aromatic rice is traded globally. Aromatic rice is primarily grown in Thailand, India, and Pakistan. Aromatic rice typically sells at a premium in world markets. Glutinous rice is grown mostly in Southeast Asia and used mostly for desserts. About three percent of Glutinous rice is traded globally. (ERS/USDA, 2002).

Approximately 1.5 to 2 percent of global rice output is produced in the United States. U. S. rice production is concentrated in six regions. The six regions are the California's Sacramento Valley, the Coastal Prairie of Texas, the Mississippi River Delta, the Arkansas Grand Prairie, northeastern Arkansas and the Missouri bootheel, and southwest Louisiana (ERS/USDA, 2002). Rice acreage currently averages about one percent of total cropland harvested in the United States. Arkansas is the largest rice

producing state, accounting for more than 45 percent of U.S. rice acreage. California ranks second, producing more than 18 percent of U.S. rice production. Accounting for almost 15 percent, Louisiana is the third largest rice producing state, while Mississippi and Texas rank fourth and fifth, each accounting for 8-9 percent of U.S. rice production. Less than 5 percent of U.S. rice production comes from Missouri, which is the sixth largest producing area in the U.S. (Childs, 2001).

Rice is categorized by length in the United States. Long grain rice is mostly grown in the south accounting for more than 70 percent of U.S. production. Long grain rice is generally Indica rice and the shorter grain is typically Japonica. Long grain rice is a long slender kernel that is 4 times longer than it is wide. Approximately 25 percent of rice produced in the U.S. are medium grain rice and form the bulk of California's rice crop. Medium grain rice is also grown in the south. Medium grain rice is 2 to 3 times longer than it is wide. California produces most of the short grain rice accounting for 1-2 percent of total U.S. rice production. The short grain rice kernel is almost round. (ERS/USDA, 2002).

All U.S. rice is produced in irrigated fields. Seeds are applied aerially in flooded or dry fields, or drilled into dry fields. Fertilizers, pesticides, and insecticides are used and can also be applied by air. Northeastern Louisiana and eastern Texas producers drill seeds into the field like most southern rice producers. Southwest Louisiana and California producers plant seeds by air into flooded fields. (ERS/USDA, 2002). Producers flood the fields with their irrigation systems. As the rice matures, the flooded fields serve as holding ponds, while sunlight and time breakdown the possible presence of chemicals. The water from the fields is drained when the rice matures. The rice grain

is cut and separated from the stalk by mechanical combines and funneled into trucks to be transported to dryers. The rice grain is dried with warm dry air to gradually remove moisture from the grain to a level suitable for storage. The stored rice is called rough rice. For rough rice, the kernel is still within the hull and bran layer (ERS/USDA, 2002). When the rice is sold, it will be transported to a rice mill. At the mill, the rough rice passes through a machine that separates the bran and outer layers from the rice kernel.

Planting in southwest Louisiana and in Texas typically begins in early March. The bulk of the rice from the Mississippi River Delta is planted in April, and California's crop is planted from late April through mid-May. California's harvest typically begins at the end of September and finishes by early November. In Texas and southwest Louisiana, harvest begins in early July. In the South, peak harvest occurs in September and early October when the Delta harvests the bulk of its rice crop. (ERS/USDA, 2002).

Louisiana ranks second in the U.S. in planted rice acreage. Louisiana's rice acreage increased slightly in 1999, from 603,567 acres in 1998 to 608,580 acres in 1999 for the third consecutive year. Federal farm legislation and the combination of an important farm rice price outlook at planting coupled with lower commodity prices in other crops was the primary cause of the rice acreage increase. Most of the acreage fluctuation occurred in northeast Louisiana where more cropping options were possible. Louisiana produced 32,853,114 pounds of rice in 2001, an increase of nearly 2.7 million pounds over 1998, which was due primarily to higher yields per acre and more available acres for planting (LSU Agricultural Center, 1999). The chart reflects the planted acreage, harvested acreage, yield per acre, and production of rice in 2001 for the major U.S. rice producing states. (2001 Crop Production Summary, 2002)

Table 1.1 Rice Production for Major U.S. Rice Producing States, 2001

State	Planted Acres		Harvested Acres		Yield		Production	
	Long Grain	Medium Grain	Long Grain	Medium Grain	Long Grain	Medium Grain	Long Grain	Medium Grain
	---------------- *1000 Acres* ----------------				----*Lbs / Acre* -----		------ *1,000 Cwt* ------	
AR	1480.0	150.0	1472.0	148.0	6225	6500	91,632	9,620
CA	13.0	435.0	13.0	433.0	7700	8300	1,001	35,939
LA	540.0	8.0	538.0	8.0	5500	5300	29,590	424
MS	255.0	-	253.0	-	6500	-	16,445	-
MO	210.0	1.0	206.0	1.0	5950	5950	12,257	60
TX	216.0	1.0	215.0	1.0	6700	6200	14,405	62
U.S.	2714.0	595.0	2697.0	591.0	6130	7801	165,330	46,105

In 1998, rice generated the third largest crop receipts in the state of

Louisiana.Agriculture & Forestry, March 2000). Rice harvested by Louisiana's

producers in 1999 had a gross value of $228,683,036, which is a decrease of nearly $48

million because of lower commodity prices. Processing, transportation, and value added

marketing increased gross farm value by $68,604,913 for a total value of $297,287,947

(Agriculture & Natural Resources, 1999). Louisiana rice is facing pressure from a

combination of drought, salt- water intrusion, and price. The U.S. price of rough rice

declined from around $10 per hundred pounds in 1999 to less than $5 per hundred

pounds in 2000. In 2000, U.S. rice acreage dropped in response to lower farm prices,

higher production costs, and drought related problems (LA Department of Agriculture &

Forestry, March 2000).   In 2000, gross farm income was $152,836,459 plus the value -

added portion of $45,850,938 for a total value of $198,687,397 (LA SUMMARY, 2000).

Rough rice prices in 2000 and 2001 were below break even price levels, which are

necessary to cover production costs in Louisiana as well as in other rice-producing regions of the country (LA Department of Forestry & Agriculture, March 2000).

The high rice production costs per acre, compared with other crops, should be an incentive for rice producers to effectively market their crop to maximize profits.   Some marketing strategies that rice producers can utilize are forward contracting, hedging, timing of LDP payments, storage, and the cash market. The cash market allows for rice buyers and sellers to come together at a particular point in time to trade money for the commodity. A forward contract allows rice producers to transfer market risk to the buyer. Forward contracts enable the producer and the elevator to agree to a certain price for the crop that remains fixed regardless of where the price moves in the future. Rice producers can hedge as a marketing strategy by shifting price risks in the cash market to the futures market by simultaneously holding equal but opposite positions in the cash and futures market. More and more rice producers are finding that storing their rice for later sale is becoming a very effective marketing strategy (Barry, 2000).

Throughout the course of a marketing year, monthly cash market prices for rice are generally assumed to follow seasonal patterns. During harvest, cash prices tend to be the lowest due to large supplies available to buyers in the market. As the marketing season progresses after harvest, the supply of rice available for sale declines. Therefore, the price of rice rises due to the lower supplies. Rice storage can be an integral part of a rice producer's marketing strategy. If rice prices increase more than storage costs, producers can increase market returns by storing the rice and selling it at some future time on the cash market (Salassi, 2001). More and more rice producers are reporting that they experience greater harvest flexibility and reap greater prices by adding storage to

their operations. Storing rice allows producers the opportunity to delay selling until the market may be more favorable. A recent study completed at Texas A & M found that growers who store their crops could take advantage of price increases. (Roberts, 2001)

Loan deficiency payments can be an additional source of income for rice producers. Rice producers can utilize the timing of loan deficiency payments as a marketing strategy. A loan deficiency payment (LDP) is a payment made to a producer who agrees to forgo placing a crop under loan when the market price is below the loan rate. An LDP payment is only available when the adjusted world rice price (AWP) is below the rice loan rate. Producers can attain a marketing loan gain (MLG) if the AWP is below the loan rate. When the loan is repaid, the producer is allowed to retain the difference between the loan rate and the world price, which will give producers a MLG (ERS, Sept. 2001). Producers are eligible for LDPs if they retain beneficial interest in the commodity from the time of harvest through the date the LDP is requested (ERS, March 1998).

In 1995, Louisiana State University's Department of Agricultural Economics and Agribusiness conducted a study of marketing practices of rice producers in the state. Approximately 44% of the Louisiana rice producers surveyed sold 100% of their crop in one month. About 22% of producers surveyed indicated that they sold their crop twice a year. An estimated 22% of rice producers sold their crop throughout the marketing season. Approximately 11% of producers surveyed did not indicate how they marketed their crop. An estimated 72% of producers indicated that they were considering forward contracting and/or hedging as a risk management practice in the future. Approximately 14% of Louisiana's rice producers were not interested is forward contracting and or

hedging as a risk management tool. The remaining 14% surveyed did not respond to the risk management question. The survey indicates that producers in general want to minimize price risk to maximize their net returns.

Problem Statement

Analysis of survey responses, along with other information sources, suggests that many rice producers in Louisiana tend to market their rice as a result of pre-determined selling strategies rather than in reaction to month-to-month changes in current year market prices. If current - year monthly rough rice price are not an integral part of the selling decision-marketing process, rice producers cannot assume that their selling decisions will maximize net returns. Optimal farm level rice marketing decisions apply not only to the rough rice crop itself, but also to the timing of the loan deficiency payment. For rice producers to make informed marketing decisions, critical information in this decision process would include the relative economic performance of alternative rough rice storage/selling strategies in terms of generating maximum net returns in the current structures of the U.S. and world rice markets.

Problem Justification

A few rice producing states have conducted studies on various marketing strategies. Some studies incorporated the use of storage and government assistance programs as marketing tools. Their goals were to identify the strategy that will maximize net returns while minimizing risk. While these studies have been conducted elsewhere, there is no known studies that pertain to rice production activities in Louisiana. Louisiana is in need of a similar study in order to demonstrate to rice producers that there

are opportunities to increase their net returns by abandoning their fixed selling strategies. According to the surveys and other information sources.

General Objective

The general objective of this study is to evaluate alternative rough rice marketing strategies for rice production activities in Louisiana related to storage and timing of cash sales to determine the impact of monthly movements of the market price on optimal marketing decisions.

Specific Objectives

1. To define specific alternative marketing decisions to be evaluated.

2. To determine appropriate methodology which can be used to evaluate alternative farm level rice marketing decisions.

3. To estimate the historical market price risk faced by rice producers.

4. To evaluate the impact of monthly rough rice market price risk on optimal marketing and storage decisions.

5. To identify the optimal marketing strategy related to storage and the timing of cash sales.

Research Procedures

<u>**Objective 1**</u>

To accomplish objective one, several different marketing strategies will be defined for the different selling strategies that Louisiana's producers use. Fixed selling strategies are predetermined crop sales with no consideration of current or projected monthly price changes. For example, producers can sell 100% of their crop in August or 50% in August and 50% in January. Flexible selling strategies are crop sale decisions

based upon current and projected monthly price changes or other factors. For example, producers can sell 100% of their crop at harvest time if the harvest month price is greater than a certain level otherwise the crop would be stored for sale at a later date. The timing of loan deficiency payments is an additional selling strategy that will be evaluated to determine optimal storage and marketing strategies for rice producers to maximize net returns above storage and interest costs. The methodology chosen from objective one will enable an economic evaluation of the fixed selling strategy, flexible selling strategy, and the timing of LDP payments. The results obtained from using the appropriate methodology will give values for the various marketing strategies that will determine the most effective marketing strategy for Louisiana's rice producers.

Objective 2

To accomplish objective two, a review of operations research and other types of models will be conducted to identify the model (or models) to be utilized in this study. Possible model types would include mathematical programming models, which directly incorporate price and income risk, such as MOTAD or Target MOTAD, and nonmathematical programming, models such as simulation, E-V (mean-variance) analysis, or stochastic dominance.   To analyze alternative rice marketing strategies, an economic model would require the capability of analyzing the impact of price risk on the several different selling strategies. Previous research in the area of analysis of alternative marketing strategies will be reviewed to aid in model selection and evaluation. After the appropriate methodology is chosen, a model will be created to help determine farm level marketing decisions.

Objective 3

The satisfaction of objective three will require that economic models used in this study should represent the actual price risk faced by Louisiana rice producers in making their marketing and storage decisions within a marketing year. Historical monthly rough rice prices for Louisiana will be used to represent market price risk faced by producers and will be incorporated into models utilized in this study. One of the methods discussed in objective one will be used in order to estimate and model the historical market price risk faced by Louisiana's rice producers.

Objective 4

Objective four will be accomplished by analyzing the data collected from the first three objectives. The data collected will enable the evaluation of the impact of monthly rough rice market price risk on optimal marketing, loan deficiency payments, and storage decisions. Models developed under objective one will be used to evaluate marketing strategies defined under objective two. The results obtained from the methods used in the first three objectives will determine the strategy that will maximize net returns above storage costs under various price scenarios.

Objective 5

Objective five will be accomplished by analyzing the data collected from objective four. After evaluating the rough rice marketing strategies related to storage and the timing of cash sales, the optimal marketing strategy will be identified. The most efficient marketing strategy will be documented upon the completion of the study.

Outline of Thesis

        In the next chapter, the economic theory relavant to this study, the research methods used, and a literature review covering topics essential to this research are presented and discussed. Chapter three will dicuss the empirical models used in this research. Chapter four will discuss the results from the empirical models. Followed by chapter five concluding this study and giving the implications of this study for future research.

CHAPTER 2

ECONOMIC THEORY, PREVIOUS RESEARCH AND RESEARCH METHODS

This chapter will discuss the economic theory, previous research conducted on this type of study, and the research methods incorporated into this study. The economic theory briefly discusses the importance of the utility function for farmers to make a decision. The previous research conducted was useful in determining the methodology used in this study. Based on the previous research and a study of operations research, MOTAD, simulation, and stochastic dominance were chosen as the research methods for this study. The methods used will enable the objectives of this study to be met.

Economic Theory

The management of risk is an important issue in the study of decision making in agriculture. In farm planning the sources of risk arise through uncertainty in farm level prices and yields. Decision makers form subjective probabilities based on intuition, on inferences from historical data, on logical deductions, or on any combination of these three types of information (King). Understanding utility will aid in the understanding of how decisions are made.

Utility represents the satisfaction that a consumer gets from a market basket (Pindyck, et al). A utility function is a device for assigning numerical utility values to probabilities in such a way that a decision-maker should act to maximize utility if he is to be consistent with his expressed preference. The expected utility theorem also implies the use of Bernoulli's Principle.

The three axioms below are a sufficient basis for deducing Bernoulli's principle for the case of risky prospects with single – dimensioned consequences. An act or a

possible choice that has a probability distribution of outcomes is considered a risky

prospect. The j_{th} risky prospect will be denoted by a_j.

1. Ordering and transitivity. A person either prefers one of two risky prospect a_1 and a_2

   or is indifferent between them. When more than two prospects are available, e.g., a_1,

   a_2, and a_3, a person may prefer a_1 to a_2 and prefers a_2 to a_3 he will prefer a_1 to a_3.

   Subjects are not always perfectly transitive in their choices, particularly where

   discrimination between prospects is difficult, such as when alternatives are complex

   according to experimental psychologists.

2. Continuity. If a person prefers a_1 to a_2 to a_3, a subjective probability $P(a_1)$ exists other

   than zero or one such that he is indifferent between a_2 and a lottery yielding a_1 with

   probability $P(a_1)$ and a_3 with probability $1 - P(a_1)$. This implies that if faced with a

   risky prospect involving a good and a bad outcome, a person will take the risk if the

   chance of getting the bad outcome is low enough.

3. Independence. If a_1 is preferred to a_2, and a_3 is any other risky prospect, a lottery with

   a_1 and a_3 as its outcomes will be preferred to a lottery with a_2 and a_3 as outcomes when

   $P(a_1) = P(a_2)$. In other words, preference between a_1 and a_2 is independent of a_3.

   Bernoulli's principle may be deduced from such axioms and may be stated as

follows: a utility function exists for a decision maker whose preferences are consistent

with the axioms of ordering and transitivity, continuity, and independence; this function

U associates a single real number with any risky prospect and has the following

properties, where we denote the utility value of a_j by $U(a_j)$.

1. If a_1 is preferred to a_2, then $U(a_1) > U(a_2)$ and vice versa.

2. The utility of a risky prospect is its expected utility value. This is obtained by evaluating the expected value of the utility function in terms or the risky prospect's consequences, e.g.,

$$U (a_j) = E [U (a_j)]$$ 2.1

the expectation is based on the decision-maker's subjective distribution of outcomes. The axioms logically imply use of the decision - maker's subjective probability distribution for utility evaluation of the risky prospect's outcomes. Thus, the axioms lead to both personal probability and Bernoullian utility.

3. The scale on which utility is defined is arbitrary. The properties of a utility function that are relevant to choice or decision analysis are not changed under a positive linear transformation; e.g., the function U^t will serve as well as the function U where $U^t = aU + b$, $a > 0$. There is no absolute scale of utility and comparisons of utility values between individuals are quite meaningless. We can only say that one prospect exceeds the other in utility.

Bernoulli's principle provides the means for ranking risky prospects in order of preference. The most preferred preference being the one with the highest utility. The decision-maker's degrees of belief and his degrees of preference are the important subjective inputs in a decision analysis.

The quadratic utility equation can demonstrate the level of risk or the type of risk decision- maker's face. Utility can be measured with this equation $U = E + bE^2 + bV$. Graphically the risk averter (E, V) indifference curves have increasing slope as V increases, and for a risk preferrer the (E, V) indifference curves have increasing negative slope as V increases. The greater the degree of risk aversion or preference, the steeper

the indifference curves. In figure 2.1 three isoutility or (E, V) indifference curves are

shown for utility levels $U^{(1)} > U^{(2)} > U^{(3)}$. Figure 2.1 demonstrates risk aversion

(Anderson et al).

(a) b<O
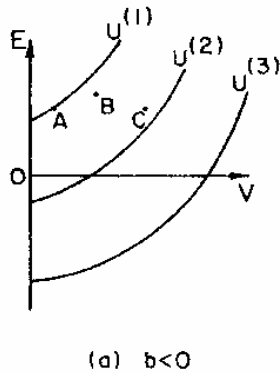
Figure 2.1 The (E,V) indifference or isoutility curves for $U = E + bE^2 + bV$

If you are very risk averse according to Figure 2.1, point A would be the utility level

preferred because variance (risk) is lower with expected returns being approximately the

same for all points.

Figure 2.2 demonstrates the use of $U = E + bE^2 + bV$ in portfolio analysis. Only

portfolios on the curve AB are efficient in the sense that they constitute combinations

having maximum E for given V or minimum V for given E. For any portfolio below this

curve, a portfolio on the curve can be found that yields greater utility. The (E, V) frontier

AB is thus known as the efficient set in (E, V) portfolio analysis. Point C is the most

efficient point on the AB frontier because it falls on a utility curve. Point A falls below

indifference curve $U^{(3)}$ and reflects low expected returns with lower levels of risk.
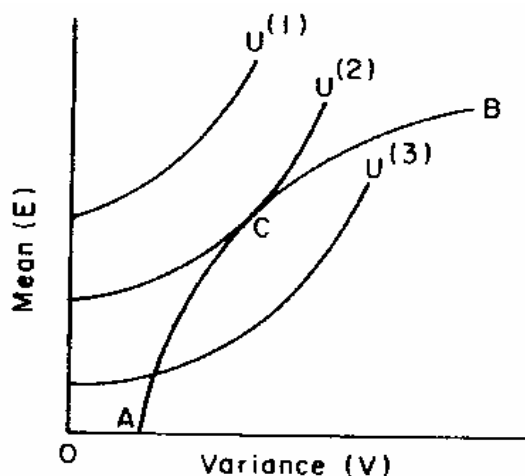
Figure 2.2 An illustration of (E, V) portfolio analysis $U^{(1)} > U^{(2)} > U^{(3)}$

In an (E, V) context, only if the decision-maker is risk averse the optimal portfolio may involve a mixture of risky prospects. The risk preferrer's optimal portfolio will always consist of only a single risky prospect since if the prospects are not perfectly correlated, diversification always reduces variability of total returns. Only by putting all his eggs in one basket could a risk-preferring decision-maker achieve maximum utility in an (E, V) context (Anderson et al).

Review of Previous Research

Walter studied the predominant pricing alternatives available for rice producers in an attempt to assist them in achieving an improved risk - adjusted return. The study focused on six categories of marketing strategies: Fixed Sales, Average Price Contracts, Green Rice Contracts, Scaled Sales (selling a portion of the crop at set target price levels), Adaptive Hedging, and Adaptive Technical Hedging. Simulation in LOTUS 1-2-3 was used, a range of target prices was determined, and the use of quadratic

programming in GAUS was used to identify the most efficient marketing strategy that maximized returns for a given level of risk.

Outlaw suggests that speculative storage was the most common marketing strategy used in Texas. Typically, Texas rice producers stored a majority of their crop and waited for price improvements to sell their crop. The study was done to examine speculative storage as an effective marketing strategy. " An Economic Analysis of On-Farm Drying & Storage for Rice & Soybeans in Southwest Louisiana" by Johnson and Taylor (1981) and " An Economic Analysis of On-Farm Rice Drying and Storage Facilities " by Wailes, Holder, and Welch (1984) were other studies on the effectiveness of crop storage. The University of Arkansas also conducted a study involving the cost of drying and storing rice called "Farm Cost Study of Drying and Storing Rice in Arkansas" (Smith, 1988).

The paper " Estimation of Optimal Grain and Oilseed Marketing Strategies for Various Types of Farms" by McCamely, is partly about determining the sensitivity of the optimal marketing strategies to data used. The author created a discrete stochastic program that modeled several types of farms. The marketing strategies used in the model included other enterprises, crop insurance, other government programs like LDPs, and off farm income. The author tested the volatility of cash prices by using Target MOTAD to explore the shadow price implications of second -degree stochastic dominance. Studying the shadow prices provided one way of examining the sensitivity of shadow prices to risk criterions.

Piggot conducted a study that identified and evaluated alternative strategies that resulted in effective marketing and risk management. Statistical and econometric

modeling of historical data were used to identify and measure key determinants in price levels and their variation overtime. The study required time sensitive analysis of cash prices, storage, transportation costs, and futures prices. The data collected were then evaluated via simulation. Simulation was used to determine the most effective marketing strategy.

The paper " Dynamic Behavior of Commodity Prices: Implications for Price Risk Management" by Tomek and Peterson discusses the utilization of simulation, using a stochastic dynamic model for commodity prices. Simulation is capable of reproducing the dynamic behavior of commodity prices. The authors established a model that was capable of reproducing the observed features of cash prices. The models were tested using simulation. The information required for the models were distribution of yields, storage costs, inventories, interest rates, and relevant commodity prices. Simulation provides distribution features that can be compared to actual commodity data. The probability distribution generated from simulation enabled the authors to evaluate post-harvest marketing strategies.

The performance of cash contracts for Illinois's corn and soybean producers was simulated using historical data for mean/ variance analysis. The analysis consisted of comparison of prices, cash contracts and insurance instruments. The results were compared to appropriate market benchmarks. The authors utilized simulation to measure risk. The simulation process can enable producers to match their expertise and marketing style with an appropriate marketing strategy (Good, 2001).

"Returns to Selected Rice Marketing Strategies" is a study that used simulation analysis to determine the net returns from selected storage marketing strategies using

historical data, storage, production cost data, and monthly interest rates. A variety of

marketing strategies were defined in order to find the best marketing strategy. The

analysis from this study indicated that producers who stored rough rice commercially

generally should not have delayed sales beyond November, because costs of storage and

money tended to more than offset market price gains when viewed over the long run.

Producers who have on-farm storage can generally store their rice for less and they could

wait until later in the marketing year before selling. The delay will give farmers the

opportunity to take greater advantage of the seasonal rise in prices.

A few rice- producing states have conducted studies on the various marketing

strategies. Their goals were to identify the strategy that will maximize net returns while

minimizing risk. While these studies have been conducted elsewhere, there is no known

studies that pertain to rice production activities in Louisiana. According to the surveys

and other information sources, Louisiana can benefit from an economic evaluation of

alternative rough rice marketing and storage strategies.

Research Methodology

The objective of this study is to evaluate alternative rough rice marketing

strategies related to storage and timing of sales to determine the impact of monthly

movements of the market price on optimal marketing decisions. The present research

relied on nonexperimental data. Nonexperimental data can lead to various empirical

problems like the degrees of freedom dilemma and the multicollinearity problem. The

degrees of freedom problems exists when available data do not include enough

observations to allow an adequate estimate of the model. The multicollinearity problem

is where there is a tendency for the data to move or bunch together rather than being

spread out. An example, most time series variables tend to exhibit the same trends over

time. The present research tested for trends and involved the use of MOTAD, simulation, and stochastic dominance to determine the optimal marketing decision.

The first part of this chapter describes the theory behind MOTAD and why it was used in this study. The mathematical form of the MOTAD model used in this present research follows the MOTAD theory. The second section discusses the theory behind the use of simulation and also has a model of the simulation process. The third section of this paper discusses the use and the importance of stochastic dominance. Also, it describes the types of stochastic dominance and includes a graphical example of how stochastic dominance chooses the most effective marketing strategy for a rice producer.

MOTAD

In recent years, various risk- programming techniques have been developed to address risk in decision making. In farm planning, sources of risk arise through uncertainty in farm level prices and yields. Most risk programming techniques in agriculture is based on either MOTAD or mean variance. MOTAD stands for minimization of total absolute deviations (Tauer). MOTAD will enable the examination of different risk specifications on farm plans. It readily permits the addition of assessed probabilities of occurrence of alternative states of nature. MOTAD is useful in this study because its approach is more in tune with a decision analysis view of the whole farm-planning problem.

Given an appropriate sample of data, the unbiased mean absolute deviation of expected farm profit is given by:

$$M = S^{-1} \sum_{r=1}^{s} \left| \sum_{j=1}^{n} (c_{rj} - \bar{c}_j) x_j \right| \tag{2.2}$$

S is the sample size, $\bar{c}j$ is the sample mean net revenue per unit of the jth activity, and crj is the net revenue observation for the jth activity in the rth year. Equation 2.2 can be manipulated so that this measure of risk can be incorporated into an augmented linear programming model of a farm planning problem such that the mean absolute deviation M can be minimized for a given level of expected profit E (z). The equation to work with the mean absolute value of negative deviations about the mean is estimated as:

$$D = M/2 \; = \; S^{-1} \sum_{r=1}^{s} \; \left| \min \left[\sum_{j=1}^{n} \; (c_{rj} - \bar{c}_j) \; x_j \; ,0 \right] \right| \qquad (2.3)$$

For each new year of sample data (yr) the negative deviations can be measured by:

$$Yr = - \sum_{j=1}^{n} \; (c_{rj} - \bar{c}_j) \; x_j \qquad (2.4)$$

if the summation yields a zero or a negative total otherwise. The MOTAD programming problem can be formulated as the minimization of the sum of the variable yr, subject to parametric constraints on expected outcomes and to the usual technical constraints. The MOTAD general form (Anderson et al):

$$\text{Max E(z)} = \sum_{j=1}^{n} \; \bar{c}_j \; x_j \qquad (2.5)$$

Subject to

$$\sum_{j=1}^{n} \; a_{hj} x_j \; \{ \geq = \leq \} b_h \quad h = 1, \ldots ,m \qquad (2.6)$$

$$\sum_{j=1}^{n} \; (c_{rj} - \bar{c}_j) \; x_j + y_r \geq 0 \qquad r = 1, \ldots .,s \qquad (2.7)$$

$$\sum_{r=1}^{s} \; y_r \leq \lambda = sM/2 \qquad \lambda = 0 \rightarrow \lambda max \qquad (2.8)$$

with

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$x_j \geq 0$ for $j = 1,\dots,n$ and $y_r \geq 0$ for $r = 1,\dots, s$

The usual technical constraints are represented by equation (2.6). An example of a technical constraint can be any type of resource that farmers used. Equation (2.7) records the negative deviations from the objective function value for each year of sample data analyzed. Equation (2.8) measures the sums of the negative deviations over the s states. MOTAD was used in this study to determine the best time for farmers to take their LDP payments. Also to estimate and model the historical market price risk faced by rice producers (Anderson et al).

Simulation

Simulation has become one of the latest trends in the study of economic problems. Simulation is defined as a technique that imitates the operation of a real- world system as it evolves over time (Winston). Simulation models usually take the form of a set of assumptions about the operation of a system. It can be expressed as a mathematical or logical relation between the objects of interest in the system. Simulation is considered a problem solving or a decision making tool. It may be seen as a sampling experiment on a real system, with the results being sample points. The more sample points generated the better the simulation performance. The advantage of simulation is that it allows for greater flexibility in representing a real system compared to analytical methods. A system is a collection of entities that act and interact toward the accomplishment of some logical end.

This study used a discrete-event simulation method to help farmers choose the best marketing strategy that will bring greater profits. A discrete-event simulation involves the modeling of a stochastic system as it evolves over time by a representation

in which the variables change only at discrete points in time (Winston). Simulation was used in this study to get a rough idea of the best rough rice marketing strategy related to storage and timing of cash sales to determine the impact of monthly movements of the market price on optimal marketing decisions.

The simulation analysis consisted of fixed and flexible marketing strategies. The fixed strategies were predetermined crop sales with no consideration of current or projected monthly price changes.   For example, producers can sell 100% of their crop in August. The flexible selling strategies are crop sale decisions based upon current and projected monthly price changes or other factors. Some flexible strategies were based on the amount of rough rice harvested, rice imports, and production levels. The simulation model identified the top marketing strategies that farmers could use to earn greater profit. The results from the simulation model was then tested stochastically in order to determine the best decision producers can make while minimizing risk when choosing a marketing strategy.

Stochastic Dominance

General Stochastic Dominance (GSD) is a technique for ordering risky strategies when it is desired to consider more than the first two moments of the underlying probability. Stochastic dominance procedures reduce a choice set of alternative management strategies down to smaller subset which should include the strategy that maximizes expected utility for the class of relevant risk preferences. A subset is commonly called the efficient set, and its members are risk efficient strategies for the preferences analyzed.

The expected utility hypothesis (EUH) is the basis for GSD. The expected utility hypothesis states that strategy F is preferred to strategy G when the expected utility of F exceeds that of G. Then strategy G can then be excluded as risk inefficient. An analyst can imprecisely represent risk preference of decision-makers with an interval, which should include the relevant preferences. The preference interval is defined as a class of admissible utility functions. The estimation of bounds on Pratt-Arrow absolute risk aversion function,

$$R = U''(X) / U'(X),$$

is how the preference interval is implemented. If an expected utility exceeds that of the other for every utility belonging to that class, the distribution is said to dominate the other. To minimize the chance of incorrectly excluding the preferred option, a large class of admissible utility functions needs to be specified.

The dominance test is carried out as follows. By the EUH, distribution F has greater expected utility than distribution G when

$$\int_{-\infty}^{\infty} (f(x) - g(x)) \, U(x) \, dx > 0, \tag{2.9}$$

where f and g are the probability density functions of the cumulative distribution functions F and G. When parts integrate the above expression, it becomes

$$\int_{-\infty}^{\infty} [G(x) - F(x)] * U'(x) \, dx > 0. \tag{2.10}$$

F is preferred to G if the area under the difference of the cumulative distribution functions, each positive point is weighted by the marginal utility. In terms of r(x), if

$$U'(x) = \exp \left(\int_0^x - r(x) \right), \tag{2.11}$$

Then the dominance is found when

$$\int_{-\infty}^{\infty} \left[(G(x) - F(x)) \right] * \exp \left(\int_{0}^{x} - r(x) \right) dx \ > 0. \tag{2.12}$$

Stochastic dominance is found when a limiting r(x) is found which minimizes the above

integral over all permissible values of r (x). The value of the integral will be positive for

all other risk preference functions within the stated bounds (Goh et al).

First degree stochastic (FSD) assumes decision-makers prefer more to less. FSD

places no restrictions on the value of r. Since the FSD criterion holds for all decision-

makers that prefer more to less, its use is limited. This may cause a large number of

distributions to intersect for any given application of the FSD. In other words, FSD has

low discriminatory power because it places so few restrictions on the utility function

causing only a few choices to be eliminated from consideration.

Second degree stochastic dominance (SSD) discriminates more than FSD.   For

risk averse decision-makers, SSD is performed.   Now let us consider that the cumulative

frequency distribution functions (CDF) F(Y) and G(Y), with Y being the positive

marginal utility of income, is: F dominates G if F(Y) ≤ G(Y) for all Y, and F(Y) < G(Y)

for at least one Y. If an additional CDF comes into consideration like H(Y), neither F (Y)

nor G (Y) can be ordered under FSD. SSD can more accurately discriminate between the

three distributions and therefore give more accurate results by eliminating more irrelevant

distributions from the data set (Hadar and Russel).

Stochastic dominance analysis has its advantages. It is a flexible evaluative tool

grounded in the expected utility hypothesis. It ranks risky alternatives for selected risk

preference intervals. Stochastic dominance's other advantage is that it does not require

specific knowledge of an individual's utility function. It has the ability to evaluate the

full range of risk preferences from risk averse to risk preferring (Maynard et al).

CHAPTER 3

EMPIRICAL MODELS

The present research relied on nonexperimental data. Nonexperimental data are not subject to control and cannot be replicated. Nonexperimental data can lead to various empirical problems. Degrees of freedom is one problem with nonexperimental data because available data may not include enough observations to allow an adequate estimate of the model. Another problem is the multicollinearity problem where there is a tendency for the data to bunch or move together rather than being spread out. For example, most time-series variables tend to exhibit the same trends over time.

The first section of this chapter consists of tables of the various data sources used in this study. The data used in this research were incorporated into one or more of the various methods for determining the economic impact of alternative rough rice marketing and storage strategies. The second part of this chapter describes the empirical methods of trend and seasonality, calculations of monthly net prices, MOTAD, simulation, and stochastic dominance.

Data Sources

The tables for the United States Rice Production, Harvested, and Planted Projections come from the United States Department of Agriculture's Historical Track Records. The world percentage change in rice production, rice exports, and ending stocks come from the World Grain Situation and Outlook from the United States Department of Agriculture. The Louisiana and United States monthly rough rice price source is the National Agricultural Statistics Service (NASS, USDA). The LDP values

were calculated from historical monthly United States market prices, world prices and the

loan rate.

Table 3.1 Louisiana Monthly Rough Rice Prices, 1981/82-2000/01

YEAR	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1981/82	11.60	10.80	10.30	9.61	9.24	8.74	8.29	7.84	7.75	7.90	8.00	7.87
1982/83	7.44	7.89	7.87	7.92	8.20	8.12	8.62	8.39	8.36	8.49	8.58	8.90
1983/84	9.08	9.01	8.83	8.65	8.74	9.24	9.07	8.57	8.61	8.73	8.12	8.12
1984/85	7.99	7.64	7.57	7.44	7.77	7.79	8.14	8.88	8.86	9.13	8.49	8.28
1985/86	8.37	7.96	8.00	8.03	8.03	7.97	8.13	7.76	5.47	4.58	4.12	3.86
1986/87	3.82	3.89	4.00	4.07	4.02	4.17	4.21	4.22	3.93	3.91	3.83	3.88
1987/88	3.82	4.24	6.03	9.22	8.78	8.71	10.00	9.61	8.75	8.13	7.58	7.59
1988/89	6.58	6.48	6.88	6.93	7.07	6.69	6.58	6.90	7.11	7.24	7.76	7.74
1989/90	8.02	7.60	7.58	7.33	7.21	7.78	8.07	7.85	8.21	8.36	8.06	7.06
1990/91	6.69	6.24	6.05	6.32	6.16	6.42	6.78	7.10	7.46	7.47	7.46	7.24
1991/92	7.25	7.76	7.74	7.93	8.07	7.93	8.06	7.87	7.55	7.27	7.05	7.07
1992/93	6.59	6.40	6.39	6.39	6.37	6.34	6.05	5.62	5.49	5.22	5.01	4.89
1993/94	4.93	4.95	5.76	7.61	8.42	8.55	9.58	9.68	9.39	9.49	8.40	7.37
1994/95	6.95	7.07	6.58	6.70	6.55	6.64	6.65	6.50	6.71	6.58	6.68	7.54
1995/96	8.01	8.16	9.47	9.42	9.35	9.48	9.43	9.42	9.71	9.90	10.40	10.50
1996/97	10.30	10.50	10.30	10.40	9.78	10.60	11.0	11.20	11.10	11.40	11.10	10.30
1997/98	10.20	9.62	10.10	10.40	10.40	10.40	10.40	10.40	10.10	10.20	10.40	10.00
1998/99	9.16	9.24	9.48	9.39	9.38	9.30	9.17	8.66	8.26	7.71	7.49	7.21
1999/00	6.76	6.58	6.15	5.96	5.84	5.59	5.46	5.61	5.78	5.89	5.59	5.46
2000/01	5.52	5.55	5.69	5.96	6.08	6.11	5.96	6.10	5.59	5.83	5.27	5.75

Source: Louisiana Agricultural Statistics Service.

Louisiana's monthly rough rice prices for the past 20 years were tested for trends

and seasonality. After being tested, Table 3.1 data were incorporated into the MOTAD

and simulation models as data sources. Table 3.1 and Table 3.2 was used in the

simulation analysis and Table 3.3 was used in the MOTAD analysis only.

Table 3.2 United States Rough Rice Prices, 1981/82-2000/01

YEAR	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1981/82	11.80	10.70	10.20	9.86	9.34	9.34	9.46	8.99	8.54	8.55	8.54	8.25
1982/83	7.31	7.75	7.73	7.78	8.06	8.05	8.26	7.99	8.23	8.23	7.88	7.95
1983/84	8.41	8.48	8.80	8.80	8.66	8.57	8.85	8.63	8.49	8.24	8.20	8.18
1984/85	8.22	8.17	8.08	8.13	8.08	8.09	7.72	8.17	8.20	7.91	7.83	7.54
1985/86	7.86	7.55	7.73	7.84	7.71	7.90	7.86	7.60	5.32	4.52	4.04	3.86
1986/87	4.02	3.86	3.83	3.90	3.74	3.55	3.84	3.62	3.63	3.71	3.62	3.49
1987/88	3.82	4.34	6.25	7.53	7.64	7.93	9.37	9.22	8.92	7.97	7.69	7.94
1988/89	7.49	6.97	6.84	6.81	6.68	6.58	6.67	6.60	6.74	6.78	7.05	7.45
1989/90	7.41	7.59	7.41	7.03	7.05	7.44	7.57	7.55	7.41	7.28	7.18	7.05
1990/91	6.66	6.21	6.02	6.29	6.13	6.39	6.75	7.07	7.43	7.44	7.43	7.21
1991/92	7.16	7.67	7.65	7.84	7.98	7.84	7.97	7.78	7.46	7.18	6.97	6.99
1992/93	6.60	6.41	6.40	6.40	6.38	6.35	6.06	5.63	5.50	5.23	5.02	4.90
1993/94	5.14	5.16	6.01	7.94	8.78	8.92	9.99	10.10	9.80	9.90	8.76	7.69
1994/95	6.87	6.82	6.52	6.63	6.60	6.83	6.74	6.67	6.75	6.87	7.06	7.19
1995/96	7.77	8.01	8.84	9.21	9.45	9.36	9.19	9.20	9.35	9.73	9.77	9.81
1996/97	10.10	10.00	9.66	9.41	9.82	9.95	10.10	10.20	10.30	10.20	9.90	10.00
1997/98	9.94	9.92	10.00	9.82	9.77	9.57	9.75	9.67	9.40	9.38	9.58	9.58
1998/99	9.01	9.42	9.31	9.02	9.10	9.09	9.02	8.93	8.49	8.21	8.25	8.26
1999/00	6.94	5.78	5.97	6.02	6.08	6.02	5.88	5.71	5.75	5.63	5.80	5.65
2000/01	5.60	5.72	5.61	5.63	5.60	5.84	5.72	5.55	5.59	5.15	5.01	5.25

Source: U.S. Department of Agriculture.

Table 3.3 Estimated Loan Deficiency Payments, 1981/82-2000/01

YEAR	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1981/82	0	0	0	0	0	0	0	0	0	0	0	0
1982/83	0	0	0	0	0	0	0	0	0	0	0	0
1983/84	0	0	0	0	0	0	0	0	0	0	0	0
1984/85	0	0	0	0	0	0	0	0	0	0	0	0
1985/86	0	0	0	0	0	0	0	0	0	0	0	0
1986/87	2.75	2.83	2.89	2.90	3.03	3.01	2.97	2.97	2.85	2.78	2.73	2.83
1987/88	2.58	1.56	0.59	0.49	0.84	0.23	0	0	0	0.03	0.22	0
1988/89	0.02	0.23	0.38	0.38	0.50	0.49	0.32	0.14	0	0	0	0
1989/90	0.00	0.00	0	0.34	0.47	0.47	0.56	0.69	0.78	1.13	1.20	1.25
1990/91	1.29	1.36	1.30	1.30	1.33	1.28	0.74	0.65	0.65	0.65	0.60	0.60
1991/92	0.48	0.47	0.47	0.47	0.49	0.47	0.45	0.47	0.57	0.66	0.69	0.66
1992/93	0.59	0.80	0.97	1.02	1.14	1.23	1.27	1.52	1.87	2.12	2.25	2.25
1993/94	2.39	2.30	1.62	0	0	0	0	0	0.02	0.59	1.18	1.28
1994/95	1.17	0.88	0.76	0.65	0.68	0.29	0.09	0.09	0.09	0	0	0
1995/96	0	0	0	0	0	0	0	0	0	0	0	0
1996/97	0	0	0	0	0	0	0	0	0	0	0	0
1997/98	0	0	0	0	0	0	0	0	0	0	0	0
1998/99	0	0	0	0	0	0	0	0	0	0	0	0
1999/00	1.13	1.24	1.48	1.84	1.88	1.80	1.97	2.17	2.22	2.41	2.41	2.41
2000/01	2.51	2.81	2.96	3.06	3.10	3.12	3.16	3.42	3.51	3.56	3.54	3.57

Source: U.S. Department of Agriculture.

Table 3.4 United States Harvested Rice Forecast As a Percentage of Planted Acreage, 1981/82-2000/01

Year	June Harvest In Thousands/ Acres	% of Rice Harvested in June	August Harvest In Thousands/ Acres	% of Rice Harvested in August	September Harvest In Thousands/ Acres	% of Rice Harvested in September	October Harvest In Thousands/ Acres	% of Rice Harvested in October	November Harvest In Thousands/ Acres	% of Rice Harvested in November
1981/82	3806	100.4	3819	100.7	3819	100.7	3734	98.5	3734	98.5
1982/83	3286	100.7	3286	100.7	3286	100.7	3286	100.7	3286	100.7
1983/84	2309	106.5	2309	106.5	2246	103.6	2226	102.6	2226	102.6
1984/85	2871	102.5	2816	100.5	2796	99.8	2816	100.5	2816	100.5
1985/86	2485	99.7	2450	98.3	2450	98.3	2430	97.5	2430	97.5
1986/87	2333	98.9	2333	98.9	2333	98.9	2333	98.9	2333	98.9
1987/88	2325	99.7	2325	99.7	2318	99.4	2318	99.4	2333	100
1988/89	2856	98.5	2856	98.5	2856	98.5	2856	98.5	2856	98.5
1989/90	2746	102.2	2746	102.2	2746	102.2	2746	102.2	2746	102.2
1990/91	2827	100.1	2818	99.8	2818	99.8	2808	99.5	2808	99.5
1991/92	2831	101.8	2831	101.8	2831	101.8	2831	101.8	2831	101.8
1992/93	2968	94.8	2968	94.8	2968	94.8	2968	94.8	2968	94.8
1993/94	2970	104.8	2970	104.8	2970	104.8	2940	103.8	2940	103.8
1994/95	3300	99.5	3300	99.5	3300	99.5	3245	97.9	3300	99.5
1995/96	3111	100.6	3111	100.6	3111	100.6	3111	100.6	3092	100
1996/97	2879	102.7	2879	102.7	2879	102.7	2909	103.7	2909	103.7
1997/98	3037	97.9	3037	97.9	3037	97.9	3037	97.9	3037	97.9
1998/99	3187	97	3187	97	3187	97	3187	97	3187	97
1999/00	3575	101.8	3575	101.8	3555	101.2	3571	101.7	3571	101.7
2000/01	3270	107.6	3205	105.5	3085	101.5	3085	101.5	3085	101.5

Source: U.S. Department of Agriculture's Historical Track Records

Table 3.5 United States Planted Rice Acreage Projections, 1981/82-2000/01

Year	Thousand/Acres Planted March	% of Final Planted % of Planted March	Thousand/Acres Planted June	% of Final Planted % of Planted June	Thousand/Acres Planted August	% of Final Planted % of Planted August
1981/82	3486	91.1	3842	100.4	3857	100.8
1982/83	3621	109.9	3320	100.8	3285	99.7
1983/84	2258	103.1	2335	106.6	2309	105.4
1984/85	2816	99.5	2901	102.5	2851	100.7
1985/86	2468	98.2	2505	99.7	2470	98.3
1986/87	2270	95.3	2348	98.6	2348	98.6
1987/88	2319	98.4	2344	99.5	2344	99.5
1988/89	2803	95.6	2883	98.3	2883	98.3
1989/90	2861	104.8	2771	101.5	2771	101.5
1990/91	2902	100.2	2865	98.9	2865	98.9
1991/92	2812	97.5	2870	99.5	2870	99.5
1992/93	2995	94.3	3025	95.2	3025	95.2
1993/94	3125	107	3015	103.3	3015	103.3
1994/95	2920	87.1	3355	100.1	3355	100.1
1995/96	3135	100.4	3165	101.4	3165	101.4
1996/97	2985	105.7	2910	103	2910	103
1997/98	2880	92.2	3065	98.1	3065	98.1
1998/99	3085	93.9	3215	97.9	3215	97.9
1999/00	3580	101.4	3600	102	3600	102
2000/01	3395	110.9	3270	106.9	3230	105.6

Source: U.S. Department of Agriculture's Historical Track Records

The simulation analysis consisted of fixed and flexible marketing strategies. Some of the flexible strategies incorporated in this study were based on the United States planted rice acreage projections (Table 3.4) and the United States harvested rice forecast (Table 3.5) from the past 20 years. Other flexible strategies were formulated based on the percentage of the United States production forecast (Table 3.6) and annual changes in world rice production, exports, and ending stocks (Table 3.7).

Table 3.6 U.S. Rice Production Forecast as a Percentage of Actual Production

Year	August 1st	September 1st	October 1st	November 1st	January 1st
1981/82	97.1	97.7	97.8	99.9	101.4
1982/83	101.3	102.8	101.8	99.4	100.4
1983/84	107.4	104.2	102.9	103.6	100.0
1984/85	97.4	98.3	101.7	101.6	98.7
1985/86	91.6	93.5	97.7	97.5	100.8
1986/87	93.9	95.6	97.1	98.4	100.8
1987/88	98.6	97.9	97.9	99.9	98.6
1988/89	95.4	95.2	98.0	99.1	99.8
1989/90	97.7	98.6	100.4	101.3	100.0
1990/91	101.3	101.8	101.3	98.9	99.3
1991/92	98.5	98.8	99.0	99.8	96.9
1992/93	92.6	91.3	92.8	93.6	99.7
1993/94	108.7	108.0	105.9	103.8	100.0
1994/95	95.3	96.2	97.2	99.3	100.0
1995/96	106.5	104.5	102.2	100.2	100.0
1996/97	98.4	99.9	102.6	101.4	99.8
1997/98	99.5	99.2	98.0	98.3	97.8
1998/99	96.3	98.2	98.4	97.8	102.0
1999/00	104.0	103.0	103.0	102.8	102.2
2000/01	103.7	100.4	100.7	100.8	100.8

Source: U.S. Department of Agriculture's Historical Track Records

Table 3.7 Annual Changes in the World Rice Production, Exports, and Ending Stocks, 1981/82-2000/01

Year	Percent Change in World Rice Production from Previous Year	Percent Change in World Rice Exports from Previous Year	Percent Change in World Rice Ending Stocks from Previous Year
1981/82	3.0	-9.4	-4.0
1982/83	2.6	0.0	12.3
1983/84	7.7	5.2	22.2
1984/85	3.2	-5.0	26.6
1985/86	0.4	7.8	11.4
1986/87	-0.6	7.3	5.7
1987/88	-0.4	-15.8	1.3
1988/89	5.3	24.1	6.0
1989/90	3.8	-16.5	7.7
1990/91	2.4	4.3	5.9
1991/92	0.7	17.4	0.5
1992/93	0.3	4.9	-2.4
1993/94	-0.1	9.4	-3.1
1994/95	2.6	28.8	-1.3
1995/96	1.9	-6.2	-0.5
1996/97	2.4	-4.1	1.0
1997/98	1.7	46.6	6.1
1998/99	1.9	-10.1	5.3
1999/00	3.6	-8.0	7.4
2000/01	-3.0	0.4	-3.7

Source: World Grain Situation and Outlook from the United States Department of Agriculture

Trend and Seasonality

　　　Louisiana's monthly average rough rice prices from 1981/82 – 2000/01 were
averaged using SAS and graphed using Excel. Figure 3.1 appears to demonstrate that
prices followed a seasonal pattern. A price index of Louisiana rough rice was
constructed by dividing the marketing year average price by Louisiana's monthly rough
rice prices. The price index graph (Figure 3.2) appeared to be affected by seasonality.
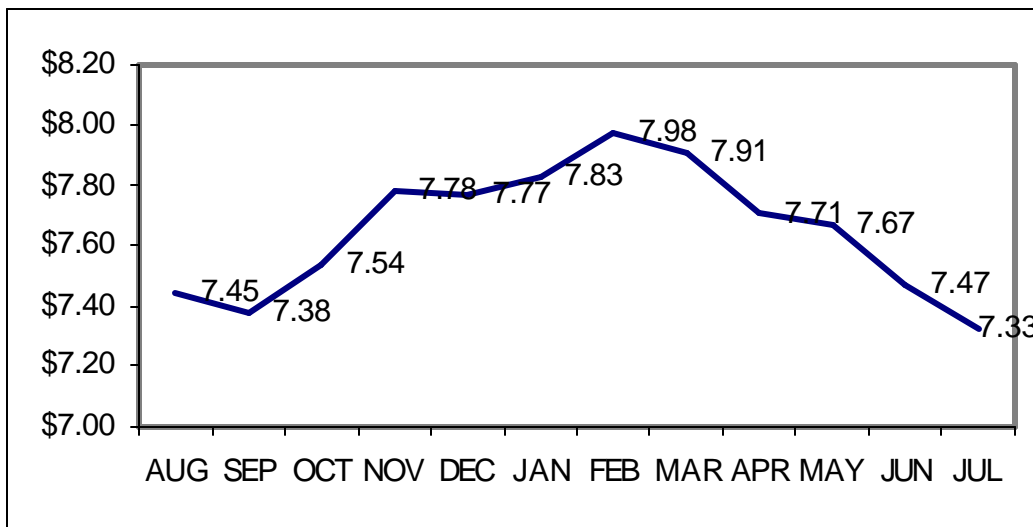
Figure 3.1 Louisiana Average Monthly Rough Rice Prices, 1980/81-2000/01
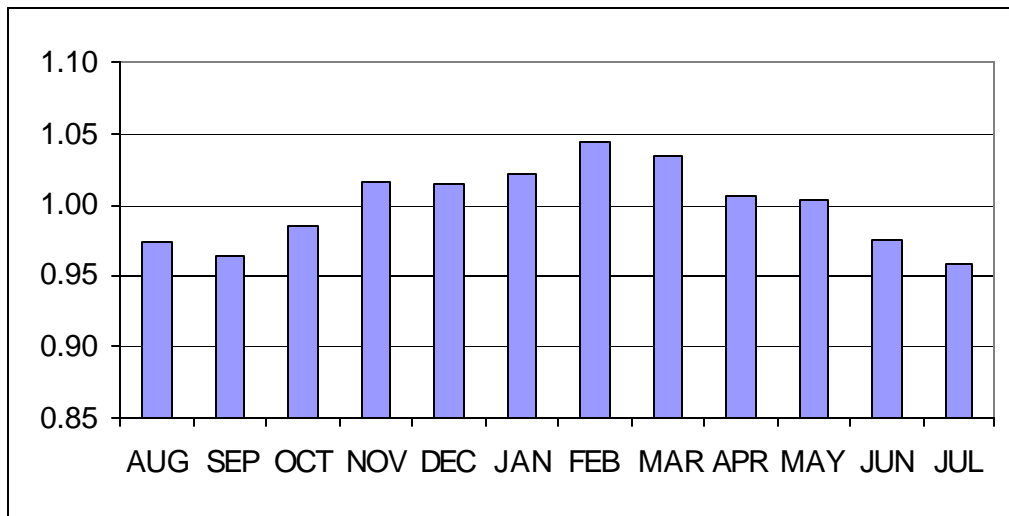
Figure 3.2 Estimated Louisiana Monthly Rough Rice Price Index, 1980/81-2000/01

According to both graphs, February had the highest monthly average and index price. This could mean that some of the February prices were unusually high, possibly due to some economic factors. Trend and seasonality tests were conducted to determine if Louisiana rough rice prices follow a time trend or seasonal patterns.

Some series that need to be forecasted vary over time. Often the variations are due to unobserved underlying components such as trends, seasonality, and cycles. A trend can be defined as a long run evolution in the variables that we want to model and forecast. If the trend evolves in a perfectly predictable way, it is said to be a deterministic trend (Diebold).

A time trend can formally be tested by a unit root test called the Philips-Perron (PP) procedure. Estimating three regression equations depending on slightly different assumptions on data generating processes is the Phillips-Perron unit root test procedure. The PP test statistic based on the zero mean autoregressive models using SAS:

$$LAPRICE_t = \phi \ LAPRICE_{t-1} + u_t \tag{3.1}$$

The PP test statistic based on the autoregressive model with a constant term:

$$LAPRICE_t = \text{constant term} + \phi \ LAPRICE_{t-1} + u_t \tag{3.2}$$

The PP unit root test procedure involves estimating a regression model with a constant term and a time trend. The trend computed using SAS:

$$LAPRICE_t = \text{constant term} + \phi \ LAPRICE_{t-1} + \theta \ time + u_t \tag{3.3}$$

where

$LAPRICE_t$ = Louisiana monthly rough rice prices

Constant term = Month (Intercept)

$\phi LAPRICE_{t-1}$ = Louisiana's previous month rough rice prices

$\theta time$ = time trend

u_t = the estimate of the error variance from the estimated residuals

SAS estimates the parameter u_t, Rho, and Tau.

The Philips –Perron unit root test was conducted on the Louisiana rough rice prices over the past 20 years. The Tau statistic is reported since the Rho and Tau almost always lead to the same conclusions. To detect a time trend in the series, the Tau statistic was examined in Trend Type in the SAS output. A series is nonstationary if the probability of Tau is less than 0.05. If the probability of Tau is greater than 0.05, then look at Tau statistics of Single Mean Type. If the p-value (Pr < Tau) is less than 0.05, then conclude that the series is stationary without trend. The Tau statistic in this study

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indicates that the Louisiana rough rice prices over the 1981/82-2000/01 period were

stationary without any time trend.

Table 3.8 Phillips-Perron Trend Test Results

The AUTOREG Procedure

Dependent Variable   LAPRICE

Ordinary Least Squares Estimates

SSE	14818.3195	DFE	240
MSE	61.74300	Root MSE	7.85767
SBC	1670.60583	AIC	1670.60583
Regress R-Square	0.0000	Total R-Square	0.0000
Durbin-Watson	0.0036		

NOTE: No intercept term is used. R-squares are redefined.

Phillips-Perron Unit Root Test

Type	Lags	Rho	Pr < Rho	Tau	Pr < Tau
Zero Mean	3	-1.5766	0.3840	-1.2826	0.1850
Single Mean	3	-16.7820	0.0240	-3.0903	0.0300
Trend	3	-16.8440	0.1230	-3.0989	0.1100

NOTE: No parameter estimates exist.

The results indicate that the data used in this study do not have to be detrended in order to

proceed with the analysis of the economic evaluation of alternative rough rice marketing

and storage rough rice strategies using MOTAD, simulation, and stochastic dominance.

A seasonal pattern is one that repeats itself every year. When the annual

repetition is exact, that is deterministic seasonality (Diebold). SAS was used in this study

to test for trend and seasonality. A general specification of the mathematical formulation

of seasonality used in this study may be stated as:

$$P_t = f\ (P_{t-1}, \text{monthly dummy variables}) \hspace{4cm} (3.4)$$

or, more specfically

$$P_t = B_0 + B_1P_{t-1} + B_2D_1 + B_3D_2 + B_4D_3 + B_5D_4 + B_6D_5 + B_7D_6 + B_8D_7$$
$$+ B_9D_8 + B_{10}D_9 + B_{11}D_{10} + B_{12}D_{11} \hspace{3cm} (3.5)$$

where

P_t = Rough rice price in month t
P_{t-1} = Rough rice price in month t-1
D_2 = Dummy variable for September
D_2 = Dummy variable for October
D_3 = Dummy variable for November
D_4 = Dummy variable for December
D_5 = Dummy variable for January
D_6 = Dummy variable for February
D_7 = Dummy variable for March
D_8 = Dummy variable for April
D_9 = Dummy variable for May
D_{10} = Dummy variable for June
D_{11} = Dummy variable for July

The actual seasonality regression formula used in this study:

Price = 0.097 + 0.957Plag + 0.146 SEP + 0.377 OCT + 0.470 NOV + 0.224 DEC +
0.290 JAN + 0.391 FEB + 0.170 MAR + 0.041 APR + 0.193 MAY + 0.028 JUN
+ 0.128 JUL. (3.6)

The regression results are found in Table 3.9. The t-values for the dummy

variables were compared to see if the dummy variables' prices were significantly

different from month to month. High t-values for October, November, and February

were significantly different from the other months. This may not mean seasonality is

present, for other economic factors or outliers in the data could cause huge price

differences in those months. The autocorrelation function in SAS was used to formally

test for seasonality. The seasonal regression formula was used to estimate if there was

seasonality.

The autocorrelation function was used to test for seasonality. The command used

in SAS that generated the sample autocorrelation function plot was PROC ARIMA. The

sample autocorrelation function identifies a series with seasonal components. Louisiana

rice is produced over a twelve - month period. The level of production is an important

determinant of price. A peak in every twelve - month period is indicative of seasonality

in the series. Seasonality might arise for agricultural prices because the supply and

demand conditions change rapidly before and after harvest season. Therefore, it is very

important to formally check for seasonality in any economic time series before

incorporating seasonality into models. Spectral analysis and autocorrelation function

analyses are popular procedures for detecting seasonality.

Seasonality was tested in order to determine if Louisiana monthly rough rice

prices from January 1980 to December 2001 followed a seasonal pattern. After

conducting the unit root test to check for trends, spectral analysis and the autocorrelation

function were used to determine if there are possible seasonal patterns in the data.

Regression Analysis of Time Series (RATS) was used to estimate the spectrum and

autocorrelation functions in the Figures 3.3. If seasonality exist in Louisiana monthly

rough rice prices, a distinguished peak should show seasonal frequency at

0.0833(e.g.,1/12). The estimated spectrum in Figure 3.3 – 1.A does not show any

Table 3.9 Seasonal Regression Results

MONTHLY REGRESSON ON ROUGH RICE PRICE SEASONALITY - 1981/82 TO 2000/01

The REG Procedure
Model: MODEL1
Dependent Variable: PRICE

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	700.61267	58.38439	278.82	<.0001
Error	226	47.32465	0.20940		
Corrected Total	238	747.93732			

Root MSE	0.45760	R-Square	0.9367	
Dependent Mean	7.63603	Adj R-Sq	0.9334	
Coeff Var	5.99269			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.09825	0.16125	0.61	0.5430
PRICE1	1	0.95716	0.01670	57.32	<.0001
SEP	1	0.14607	0.14471	1.01	0.3138
OCT	1	0.37736	0.14471	2.61	0.0097
NOV	1	0.47019	0.14471	3.25	0.0013
DEC	1	0.22421	0.14481	1.55	0.1229
JAN	1	0.28593	0.14480	1.97	0.0495
FEB	1	0.39111	0.14483	2.70	0.0074
MAR	1	0.17021	0.14497	1.17	0.2416
APR	1	0.04106	0.14490	0.28	0.7771
MAY	1	0.19402	0.14477	1.34	0.1815
JUN	1	0.02839	0.14475	0.20	0.8447
JUL	1	0.12859	0.14660	0.88	0.3814

distinguished peak around the seasonal frequency 0.0833 for the price series in levels and

in differences. The autocorrelation functions in Figures 3.3 do not reveal any high

correlation of observations with time = 12, 24, (e.g., monthly data) for the series in levels

and in differences. Therefore, the observations on the autocorrelation functions and the

estimated spectrum indicate that the series does not follow a seasonal pattern.
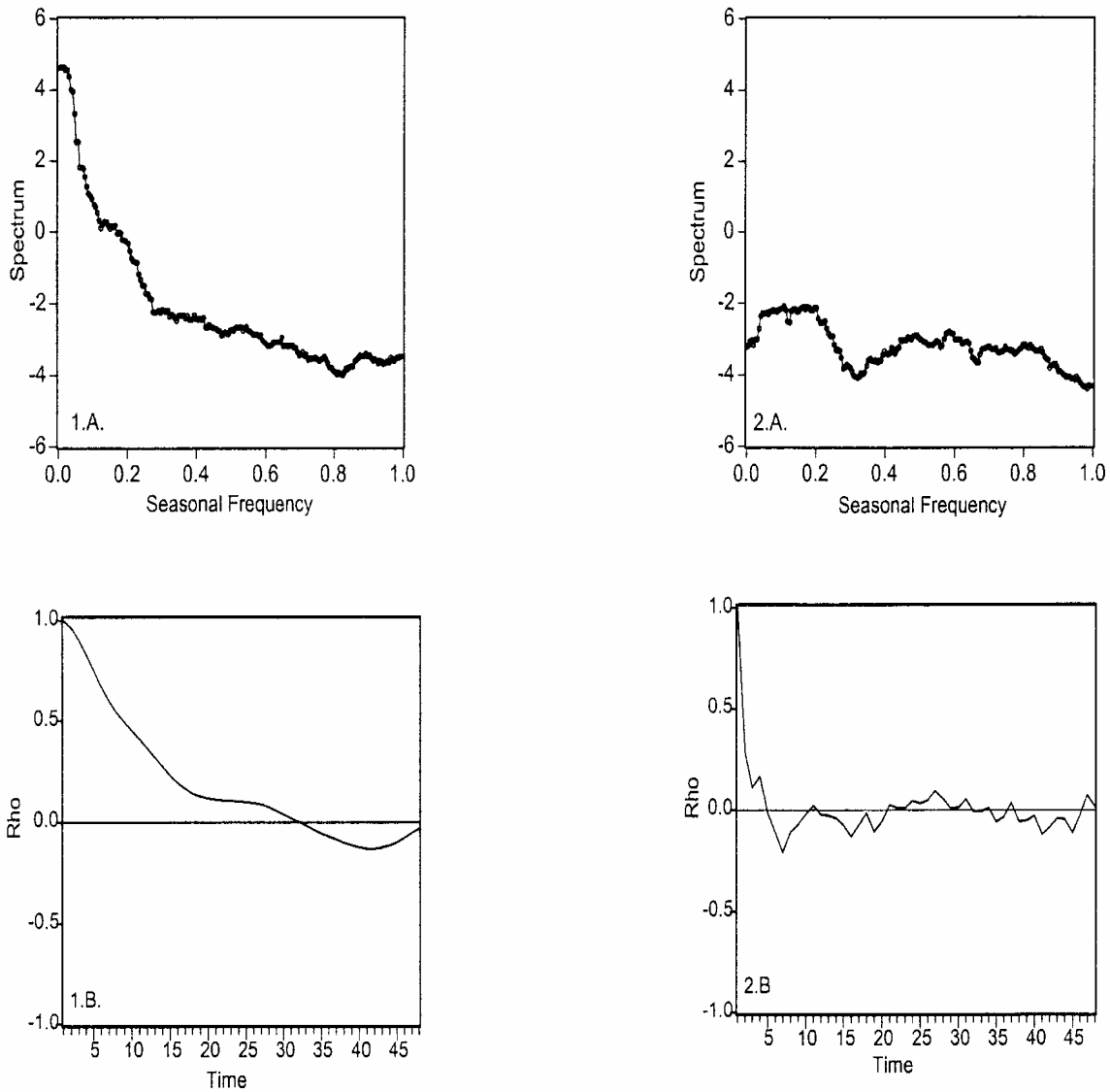
Figure 3.3 Spectral Analysis of Louisiana Monthly Rough Rice Prices
Spectrum (1.A) and Autocorrelation (1.B) of LA Monthly Rough Rice Prices in Levels:
1980:1 – 2000:12. Spectrum (2.A) and Autocorrelation (2.B) of LA Monthly Rough Rice
Prices in Difference: 1980:1 – 2000:12.

Net Rough Rice Price Calculation

Calculating net returns from storage was a valuable tool in this study. Calculating the monthly net returns, the highest average monthly net return above storage cost and the times when storage was beneficial for Louisiana's rice producers was determined. Monthly storage and interest costs needs to be calculated in order to determine the net price.

Storage cost (SC) was based on the commercial storage cost ($0.09) per hundred weight. The annual interest rate (0.0965) is fixed and was calculated on a monthly basis to determine the monthly interest rate. Marketing year price at harvest (MP$_{HAV}$) was also vital in determining the monthly storage and interest cost. Equation 3.7 represents how storage and interest costs (SIC) are calculated.

$$SIC = SC + (MP_{HAV} * \text{Annual Interest Rate} / 12) \tag{3.7}$$

Once the monthly storage and interest cost were determined, the net price (NP) can be calculated by this equation,

$$NP_i = MP_i - (SIC * MS) \tag{3.8}$$

MP$_i$ = Market Price in Month i.

Over the 20 years of Louisiana monthly rough rice prices from 1981/82 – 2000/01, monthly net prices on average were highest in August. Table 3.10 suggests that storage of rice for later sale has been profitable approximately 40% of the time. The underlined data indicate the times when it was beneficial to store rice. The data in bold represent when the highest net return was achieved. Although a majority of Louisiana's rice producers sell 100% of their rice crop at harvest, the results from Table 3.10 show that there are benefits from storing rice. The results also reflect that Louisiana's rice

Table 3.10 Monthly Net Returns From Storage By Year 1981/82 – 2000/01

YEAR	AUGS	SEPS	OCTS	NOVS	DECS	JANS	FEBS	MARS	APRS	MAYS	JUNS	JULS
198182	**11.60**	10.62	9.93	9.06	8.51	7.82	7.19	6.56	6.28	6.25	6.17	5.85
198283	7.44	**7.74**	7.57	7.47	7.60	7.37	7.72	7.34	7.16	7.14	7.08	7.25
198384	**9.08**	8.85	8.50	8.16	8.09	8.42	8.09	7.43	7.31	7.26	6.49	6.33
198485	**7.99**	7.49	7.26	6.98	7.15	7.02	7.21	7.80	7.63	7.74	6.95	6.58
198586	**8.37**	7.80	7.69	7.56	7.40	7.18	7.19	6.66	4.21	3.16	2.55	2.13
198687	**3.82**	3.77	3.76	3.71	3.54	3.57	3.49	3.37	2.96	2.82	2.62	2.55
198788	3.82	4.12	5.79	8.86	8.30	8.11	**9.28**	8.76	7.78	7.04	6.37	6.26
198889	6.58	6.34	**6.59**	6.50	6.50	5.98	5.72	5.90	5.97	5.95	6.33	6.17
198990	**8.02**	7.45	7.27	6.87	6.59	7.01	7.14	6.77	6.97	6.97	6.52	5.36
199091	**6.69**	6.10	5.76	5.89	5.58	5.70	5.92	6.09	6.31	6.18	6.02	5.66
199192	7.25	**7.61**	7.44	7.49	7.48	7.19	7.17	6.83	6.36	5.94	5.57	5.44
199293	**6.59**	6.26	6.10	5.96	5.80	5.63	5.19	4.62	4.35	3.93	3.58	3.32
199394	4.93	4.82	5.50	7.22	7.90	7.90	**8.80**	8.77	8.35	8.32	7.10	5.94
199495	**6.95**	6.92	6.29	6.26	5.97	5.91	5.77	5.48	5.54	5.27	5.22	5.94
199596	8.01	8.01	**9.16**	8.96	8.73	8.71	8.50	8.34	8.47	8.51	8.86	8.80
199697	10.30	**10.33**	9.95	9.88	9.09	9.74	9.96	9.99	9.72	9.84	9.37	8.40
199798	**10.20**	9.45	9.76	9.88	9.71	9.54	9.37	9.20	8.72	8.65	8.68	8.11
199899	**9.16**	9.08	9.15	8.90	8.73	8.48	8.19	7.51	6.95	6.24	5.85	5.41
199900	**6.76**	6.44	5.86	5.53	5.26	4.87	4.59	4.60	4.63	4.59	4.15	3.87
200001	5.52	5.42	5.42	**5.56**	5.54	5.44	5.15	5.16	4.51	4.62	3.93	4.27

producers are not maximizing their average net returns when they sell 100% of their crop in August 100% of the time.

MOTAD Mathematical Model

MOTAD was used in this study to determine the best time for farmers to take their LDP payments. Also, MOTAD was used to estimate the historical market price risk faced by rice producers. An example of the mathematical formulation of MOTAD used in this study:

Max E (z) = 6.97AUGS + 6.85SEPS + 7.01OCTS + 7.30NOVS + 7.17DECS   (3.9)
     + 7.15JANS + 7.23FEBS + 7.08MARS + 6.88APRS + 6.74MAYS
     + 6.47JUNS + 6.21JULS + 0.994AUGL + 0.965SEPL + 0.894OCTL
     + 0.830NOVL + 0.897DECL + 0.826JANL + 0.768FEBL+ 0.808MARL
     + 0.842APRL + 0.928MAYL + 0.988JUNL + 0.990JULL

subject to:

AUGS + SEPS + OCTS + NOVS + DECS + JANS + FEBS + MARS + APRS
     + MAYS + JUNS + JULS ≤ 1.0   (3.10)
AUGL + SEPL + OCTL + NOVL + DECL + JANL + FEBL + MARL + APRL
     + MAYL + JUNL + JULL ≤ 1.0   (3.11)

UNSLDAUG + AUGS = 1.0   (3.12)
AUGS + UNSLDAUG – BIAUG = 0   (3.13)
BIAUG + AUGL ≤ 0   (3.14)

UNSLDAUG – SEPS – UNSLDSEP = 0   (3.15)
SEPS + UNSLDSEP – BISEP = 0   (3.16)
-BISEP + SEPL ≤ 0   (3.17)

UNSLDSEP – OCTS – UNSLDOCT = 0   (3.18)
OCTS + UNSLDOCT – BIOCT = 0   (3.19)
-BIOCT + OCTL ≤ 0   (3.20)

UNSLDOCT – NOVS – UNSLDNOV = 0   (3.21)
NOVS + UNSLDNOV – BINOV = 0   (3.22)
-BINOV + NOVL ≤ 0   (3.23)

UNSLDNOV – DECS – UNSLDDEC = 0   (3.24)
DECS + UNSLDDEC – BIDEC = 0   (3.25)
-BIDEC + DECL ≤ 0   (3.26)

UNSLDDEC – JANS – UNSLDJAN = 0   (3.27)
JANS + UNSLDJAN – BIJAN = 0   (3.28)
-BIJAN + JANL ≤ 0   (3.29)

UNSLDJAN – FEBS – UNSLDFEB = 0   (3.30)
FEBS + UNSLDFEB – BIFEB = 0   (3.31)
-BIFEB + FEBL ≤ 0   (3.32)

UNSLDFEB – MARS – UNSLDMAR = 0   (3.33)
MARS + UNSLDMAR – BIMAR = 0   (3.34)
-BIMAR + MARL ≤ 0   (3.35)

UNSLDMAR – APRS – UNSLDAPR = 0   (3.36)
APRS + UNSLDAPR – BIAPR = 0   (3.37)
-BIAPR + APRL ≤ 0   (3.38)

UNSLDAPR – MAYS – UNSLDMAY = 0   (3.39)
MAYS + UNSLDMAY – BIMAY = 0   (3.40)
-BIMAY + MAYL ≤ 0   (3.41)

UNSLDMAY – JUNS – UNSLDJUN = 0   (3.42)
JUNS + UNSLDJUN – BIJUN = 0   (3.43)
-BIJUN + JUNL ≤ 0   (3.44)

UNSLDJUN – JULS – UNSLDJUL = 0   (3.45)
JULS + UNSLDJUL – BIJUL = 0   (3.46)
-BIJUL + JULL ≤ 0   (3.47)

-3.15AUGS – 3.06SEPS – 3.21OCTS – 3.53NOVS – 3.55DECS – 3.48JANS   (3.48)
– 3.62FEBS – 3.56MARS – 3.75APRS – 3.73MAYS – 3.64JUNS – 3.43JULS
+ 1.756AUGL + 1.865SEPL + 1.996OCTL + 2.070NOVL + 2.133DECL
+ 2.184JANL + 2.202FEBL + 2.162MARL +2.008APRL + 1.852MAYL
+ 1.742JUNL + 1.840JULL + Y1 ≥ 0

-3.15AUGS – 2.71SEPS – 1.18OCTS + 1.62NOVS + 1.21DECS + 1.06JANS   (3.49)
+ 2.17FEBS + 1.83MARS + 1.07APRS + 0.49MAYS + 0.11JUNS + 0.28JULS
+ 1.586AUGL + 0.595SEPL – 0.304OCTL – 0.340NOVL – 0.057DECL
– 0.596JANL – 0.768FEBL – 0.808MARL – 0.842APRL – 0.898MAYL
– 0.768JUNL – 0.990JULL - Y2 ≥ 0

-0.39AUGS – 0.47SEPS – 0.33OCTS – 0.67NOVS – 0.50DECS – 0.96JANS   (3.50)
– 1.25FEBS – 0.88MARS – 0.57APRS – 0.40MAYS + 0.29JUNS + 0.43JULS
–0.974AUGL – 0.735SEPL – 0.514OCTL – 0.450NOVL – 0.397DECL
– 0.336JANL – 0.448FEBL – 0.668MARL – 0.842APRL – 0.928MAYL
– 0.988JUNL – 0.990JULL + Y3 ≥ 0

1.05AUGS + 0.65SEPS + 0.37OCTS – 0.27NOVS – 0.36DECS + 0.13JANS   (3.51)
+ 0.24FEBS + 0.07MARS + 0.53APRS +0.72 MAYS + 0.59JUNS – 0.25JULS
– 0.994AUGL – 0.965SEPL – 0.894OCTL – 0.490NOVL – 0.427DECL
– 0.356JANL – 0.208FEBL – 0.118MARL – 0.062APRL + 0.202 MAYL
+ 0.212JUNL + 0.260JULL + Y4 ≥0

-0.28AUGS – 0.71SEPS – 1.16OCTS – 1.28NOVS – 1.41DECS – 1.23JANS   (3.52)
– 1.05FEBS – 0.68MARS – 0.22APRS – 0.17MAYS – 0.17JUNS – 0.07JULS
+ 0.296AUGL + 0.395SEPL + 0.406OCTL + 0.470NOVL + 0.433DECL
+ 0.454JANL – 0.028FEBL – 0.158MARL – 0.192APRL – 0.278MAYL
– 0.388JUNL – 0.390JULL + Y5 ≥ 0

0.28AUGS + 0.81SEPS + 0.53OCTS + 0.33NOVS + 0.50DECS + 0.28JANS   (3.53)
+ 0.23FEBS + 0.09MARS – 0.13APRS – 0.37MAYS – 0.42JUNS – 0.24JULS
– 0.514AUGL – 0.495SEPL – 0.424OCTL – 0.360NOVL – 0.407DECL
– 0.356JANL – 0.318FEBL – 0.338MARL – 0.272APRL – 0.268MAYL
– 0.298JUNL – 0.330JULL + Y6 ≥ 0

-0.38AUGS – 0.55SEPS – 0.82OCTS – 1.21NOVS – 1.20DECS – 1.31JANS   (3.54)
– 1.78FEBS – 2.16MARS – 2.19APRS – 2.42MAYS – 2.46JUNS – 2.42JULS
– 0.404AUGL – 0.165SEPL + 0.076OCTL + 0.190NOVL + 0.243DECL
+ 0.404JANL + 0.502FEBL + 0.712MARL + 1.028APRL + 1.192MAYL
+ 1.262JUNL + 1.260JULL + Y7 ≥ 0

-2.04AUGS – 2.00SEPS - 1.45OCTS + 0.01NOVS + 0.85DECS + 0.90JANS   (3.55)
+ 1.75FEBS + 1.90MARS + 1.71APRS + 1.85MAYS + 0.93JUNS + 0.06JULS
+ 1.396AUGL + 1.335SEPL + 0.726OCTL – 0.830NOVL – 0.897DECL
– 0.826JANL – 0.768FEBL – 0.808MARL – 0.822APRL – 0.338MAYL
+ 0.192JUNL + 0.290JULL + Y8 ≥ 0

-0.02AUGS + 0.12SEPS – 0.63OCTS – 0.90NOVS – 1.02DECS – 1.01JANS   (3.56)
– 1.18FEBS – 1.28MARS – 0.97APRS – 1.06MAYS – 0.79JUNS + 0.23JULS
+ 0.176AUGL – 0.085SEPL – 0.134OCTL – 0.180NOVL – 0.217DECL
– 0.536JANL – 0.678FEBL – 0.718MARL – 0.752APRL – 0.928MAYL
– 0.988JUNL – 0.990JULL + Y9 ≥ 0

1.04AUGS + 1.21SEPS + 2.26OCTS + 1.82NOVS + 1.78DECS + 1.83JANS   (3.57)
+ 1.60FEBS + 1.64MARS + 2.03APRS + 2.26MAYS + 2.93JUNS + 3.19JULS
– 0.994AUGL – 0.965SEPL – 0.894OCTL – 0.830NOVL – 0.897DECL
– 0.826JANL – 0.768FEBL – 0.808MARL –0.842APRL – 0.928MAYL

$- 0.988\text{JUNL} - 0.990\text{JULL} + \text{Y10} \geq 0$

$3.33\text{AUGS} + 3.55\text{SEPS} + 3.09\text{OCTS} + 2.80\text{NOVS} + 2.21\text{DECS} + 2.95\text{JANS}$ (3.58)
$+ 3.17\text{FEBS} + 3.42\text{MARS} + 3.42\text{APRS} + 3.76\text{MAYS} + 3.63\text{JUNS} + 2.99\text{JULS}$
$- 0.994\text{AUGL} - 0.965\text{SEPL} - 0.894\text{OCTL} - 0.830\text{NOVL} - 0.897\text{DECL}$
$- 0.826\text{JANL} - 0.768\text{FEBL} - 0.808\text{MARL} - 0.842\text{APRL} - 0.928\text{MAYL}$
$- 0.988\text{JUNL} - 0.990\text{JULL} + \text{Y11} \geq 0$

$3.23\text{AUGS} + 2.67\text{SEPS} + 2.89\text{OCTS} + 2.80\text{NOVS} + 2.83\text{DECS} + 2.75\text{JANS}$ (3.59)
$+ 2.57\text{FEBS} + 2.62\text{MARS} + 2.42\text{APRS} + 2.56\text{MAYS} + 2.93\text{JUNS} + 2.69\text{JULS}$
$- 0.994\text{AUGL} - 0.965\text{SEPL} - 0.894\text{OCTL} - 0.830\text{NOVL} - 0.897\text{DECL}$
$- 0.826\text{JANL} - 0.768\text{FEBL} - 0.808\text{MARL} - 0.842\text{APRL} - 0.928\text{MAYL}$
$- 0.988\text{JUNL} - 0.990\text{JULL} + \text{Y12} \geq 0$

$2.19\text{AUGS} + 2.29\text{SEPS} + 2.27\text{OCTS} + 1.79\text{NOVS} + 1.81\text{DECS} + 1.65\text{JANS}$ (3.60)
$+ 1.34\text{FEBS} + 0.88\text{MARS} + 0.58\text{APRS} + 0.07\text{MAYS} + 0.02\text{JUNS} - 0.10\text{JULS}$
$- 0.994\text{AUGL} - 0.965\text{SEPL} - 0.894\text{OCTL} - 0.830\text{NOVL} - 0.897\text{DECL}$
$- 0.826\text{JANL} - 0.768\text{FEBL} - 0.808\text{MARL} - 0.772\text{APRL} - 0.988\text{ MAYL}$
$- 0.988\text{JUNL} - 0.990\text{JULL} + \text{Y13} \geq 0$

$-0.21\text{AUGS} - 0.37\text{SEPS} - 1.06\text{OCTS} - 1.64\text{NOVS} - 1.73\text{DECS} - 2.06\text{JANS}$ (3.61)
$- 2.37\text{FEBS} - 2.17\text{MARS} - 1.90\text{APRS} - 1.75\text{ MAYS} - 1.88\text{JUNS} - 1.85\text{JULS}$
$+ 0.136\text{AUGL} + 0.275\text{SEPL} + 0.586\text{OCTL} + 1.010\text{NOVL} + 0.983\text{DECL}$
$+ 0.974\text{JANL} + 1.202\text{FEBL} + 1.362\text{MARL} + 1.378\text{APRL} + 1.482\text{MAYL}$
$+ 1.422\text{JUNL} + 1.420\text{JULL} + \text{Y14} \geq 0$

$-1.45\text{AUGS} - 1.40\text{SEPS} - 1.52\text{OCTS} - 1.64\text{NOVS} - 1.49\text{DECS} - 1.54\text{JANS}$ (3.62)
$- 1.87\text{FEBS} - 1.68\text{MARS} - 2.09\text{APRS} - 1.81\text{MAYS} - 2.20\text{JUNS}$
$- 1.56\text{JULS} + 1.516\text{AUGL} + 1.845\text{SEPL} + 2.066\text{OCTL} + 2.230\text{NOVL}$
$+ 2.203\text{DECL} + 2.294\text{JANL} + 2.392\text{FEBL} + 2.612\text{MARL} + 2.668\text{APRL}$
$+ 2.632\text{MAYL} + 2.552\text{JUNL} + 2.580\text{JULL} + \text{Y15} \geq 0$

$\text{Y1} + \text{Y2} + \text{Y3} + \text{Y4} + \text{Y5} + \text{Y6} + \text{Y7} + \text{Y8} + \text{Y9} + \text{Y10} + \text{Y11} + \text{Y12} + \text{Y13}$ (3.63)
$+ \text{Y14} + \text{Y15} \leq 0$

where

AUGS, SEPS, OCTS, NOVS, DECS, JANS, FEBS, MARS, APRS,
MAYS, JUNS, and JULS – Represent the percent of the rice crop (per hundred weight) sold in each month.   Objective function values for these variables were calculated as average monthly rough rice price, less storage and interest costs.

AUGL, SEPL, OCTL, NOVL, DECL, JANL, FEBL, MARL, APRL , MAYL, JUNL, and JULL - Represents the percent of the LDP taken in each month. Objective function values for these variables represent average loan deficiency payments (LDP) per month of the marketing year.

UNSLD(AUGS, SEPS, OCTS, NOVS, DECS, JANS, FEBS, MARS, APRS, MAYS, JUNS, or JULS) = represents unsold percentage of rice in each month. For example, UNSLDAUGS represents the unsold percentage of rice in August.

BI(AUGS, SEPS, OCTS, NOVS, DECS, JANS, FEBS, MARS, APRS, MAYS, JUNS, or JULS) - represents the beneficial interest producers have each month of the marketing year. For example, BIAUG represents the beneficial interest producers have in August of the marketing year.

Formulas 3.12 – 3.47, Keeps track of the percent of rice sold in each month, calculates the percent of beneficial interest that a farmer maintains, and keeps track of the beneficial interest in order to determine if a producer can take their LDP payment. For example,

UNSLDAUG + AUGS = 1.0 - Keeps track of the percent of rice sold each month

AUGS + UNSLDAUG – BIAUG = 0 - Calculates the percent of beneficial interest that a farmer maintains.

BIAUG + AUGL ≤ 0 - Keeps track of the beneficial interest in order to determine if a producer can take their LDP payment.

Formulas 3.48-3.62, Keeps track of the deviations from the objective function values for each month of the sample data. Variables Y1 – Y15 measure the negative deviations from the mean values in the objective function.

Formula 3.63 measures the sum of the negative deviations (?) over the marketing year. The variable ? is then varied from zero to its maximum value to obtain a set of LP solutions with different levels of objective function values and associated risks (Anderson et al).

Simulation

Simulation was used in this study to estimate the rough rice marketing strategy related to storage and timing of cash sales and to determine the impact of monthly movements of the market price on optimal marketing decisions. The simulation analysis consisted of fixed and flexible marketing strategies. The fixed strategies were predetermined crop sales with no consideration of current or projected monthly price changes. For example, producers can sell 100% of their crop in August. The flexible selling strategies are crop sale decisions based upon current and projected monthly price

changes or other factors. Some flexible strategies were based on the amount of rough

rice harvested, rice exports, and world production levels. Table 3.11 and Table 3.12

consists of definitions of the fixed and flexible strategies used in this study.

Table 3.11 Definition of Fixed Strategies	
Variable Names	**Definitions**
NR1 – NR12	Net returns above storage and interest cost from selling 100% of rice crop in one month. Example: NR1 = sell 100% in August.
NR13 – NR78	Net returns above storage and interest costs from selling 50% or rice crop in one month and 50% in another month. Example: NR13 sell 50% in AUG and 50% in SEPT.
NR79 – NR210	Net returns above storage and interest costs from selling 75% or rice crop in one month and 25% in another month. Example: NR79 sell 25% in AUG and 75% in SEPT.

- Net returns are based on CWT

Table 3.12 Definition of Flexible Strategies	
Variable Names	**Definitions**
AFL1 – AFL210	Sell in AUG if AUG price $\geq$ 7.50 otherwise follow a fixed strategy. Example: AFL2 = sell in AUG if price $\geq$ 7.50 otherwise follow NR2 (sell 100% in SEPT).
SFL2 – SFL210	Sell in AUG if AUG & SEPT price $\geq$ 7.50 otherwise follows a fixed strategy. Example: SFL2 = sell in AUG if AUG & SEPT price $\geq$ 7.50 otherwise follow NR2 (sell 100% in SEPT).
MFL1 – MFL210	Sell in AUG if MAR 1st Acreage > 100% final estimate otherwise follow a fixed strategy. Example: Sell in AUG if the percentage of planted acreage in MAR > 100% of final estimate otherwise follows NR1 (sell 100% in AUG).

Table 3.12 Definition of Flexible Strategies Cont'd

JFL1 – JFL210	Sell in AUG if increase in AUG 1st planted acreage is over JUNE estimate otherwise follow a fixed strategy. Example: Sell in AUG if the percentage of planted rice acreage in JUNE > 0 then sell in AUG otherwise follow NR1 (sell 100% in AUG).
MFL4 – MFL210	Sell in NOV if the price of rice > 7.50 otherwise follow a fixed strategy. Example: Sell in NOV if the price of rice > 7.50 otherwise follow NR4 (sell 100% in NOV).
ASFL2 – ASFL210	Sell in SEP if the change in AUG-SEP rice production forecast is positive otherwise follows a fixed strategy. Example: Sell in SEP if the change in AUG-SEP production forecast is positive otherwise follow NR2 (sell 100% in SEP)
ANFL4 – ANFL210	Sell in NOV if the change in AUG-NOV rice production forecast is positive otherwise follows a fixed strategy. Example: Sell in NOV if the change in AUG-NOV production forecast is positive otherwise follow NR4 (sell 100% in NOV)
A3FL6 – A3FL 210	Sells in JAN if the change in AUG-JAN rice production forecast is positive otherwise follow a fixed strategy. Example: Sell in JAN if the change in AUG-JAN production forecast is positive otherwise follow NR6 (sell 100% in JAN)
SNFL4 – SNFL210	Sell in NOV if AUG-SEP forecast increased and NOV rice prices < 7.50 otherwise follow a fixed strategy. Example: Sell in NOV if AUG-SEP forecast increased and NOV rice price < 7.50 otherwise follow NR4 (sell 100% in NOV).
W1FL 1 – W1FL210	Sells in AUG if there is a positive increase in world production otherwise follow a fixed strategy. Example: If world production > 0 then sell in AUG otherwise follow NR1.
W2FL – W2FL210	Sells in AUG if there is a positive increase in world exports otherwise follow a fixed strategy. Example: If world exports > 0 then sell in AUG otherwise follow NR1.

Table 3.12 Definition of Flexible Strategies Cont'd

W3FL – W3FL210	Sell in AUG if there is a positive increase in world ending stocks otherwise follow a fixed strategy. Example: If world ending stocks > 0 then sell in AUG otherwise follow NR1.

These strategies were defined in order to provide variety of different marketing strategies that farmers can choose from. Appendix A contains the definitions of all fixed marketing strategies and the general definitions of the flexible strategies. The following paragraph will discuss economic reasoning for defining the fixed and flexible marketing strategies.

The definitions of the fixed marketing strategies were based on survey responses that indicated that Louisiana rough rice producers typically sell their rice based on pre-determined selling strategies. Therefore, two-hundred ten fixed marketing strategies were defined. An example of a fixed marketing strategy is NR2 = sell 100% of their rough rice crop in September. The fixed marketing strategies used in this study were then compared to the flexible marketing strategies incorporated in to this study.

The flexible selling strategies are crop sale decisions based upon current and projected monthly price changes or other factors. Some flexible strategies were based on the amount of rough rice harvested, world exports, world production levels, and market year price at harvest. The two-hundred ten AFL flexible marketing strategies were defined based on producers monitoring rough rice prices at harvest. If the rough rice price in August is above the long run average price ($7.50) then sell 100% of the rice crop in August, otherwise follow a fixed marketing strategy. The two-hundred ten SFL flexible marketing strategies were defined based on producers monitoring rough rice prices in August and September. If the rough rice price in August and September is

above the long run average price ($7.50) then sell 100% of the rice crop in September, otherwise follow a fixed marketing strategy. The two-hundred ten JFL flexible marketing strategies are based on the supply of rough rice available to sell. When a large supply of rice is on the market, the price typically falls. Therefore, if a large supply of rice is on the market, storage of rice may not be beneficial since the market price and storage cost may cause producers to have lower net returns. The two-hundred ten NFL flexible marketing strategies were defined based on producers monitoring rough rice prices at harvest. If the rough rice price in August - November is above the long run average price ($7.50) then sell 100% of the rice crop in November, otherwise follow a fixed marketing strategy. Strategies ASFL, ANFL, AJFL, and SNFL are based on U.S. rice production. Production of rice gives an indication of the supply of rough rice on the market. Therefore, if a large supply of rice is on the market, storage of rice may not be beneficial since the market price and storage cost may cause producers to have lower net returns. Strategies W1FL, W2FL, and W3FL are based on world rice production. Production of rice gives an indication of the supply of rough rice on the market. World rice production effects the profitability of the U.S. exports of rice and the adjusted world price that was why these strategies were incorporated into the simulation program.

The simulation process was used to analyze the various marketing strategies that producers can face. Below is a flow chart of how the simulation process works. Figure 3.4 is a model flow chart of the simulation process used in this study.

SIMULATION FLOW CHART

```
                    ┌─────────────────────┐
                    │     Input Data      │
                    └─────────────────────┘
                               │
                               ▼
           ┌───────────────────────────────────────┐
           │      Calculate Monthly Net Price       │
           │    Less Storage and Interest Costs     │
           │                                        │
           └───────────────────────────────────────┘
                               │
                               ▼
           ┌───────────────────────────────────────┐
           │   Define Fixed Selling Strategies and  │
           │   Calculate Net Returns per Unit Stored│
           │                                        │
           └───────────────────────────────────────┘
                               │
                               ▼
           ┌───────────────────────────────────────┐
           │  Define Flexible Selling Strategies and│
           │   Calculate Net Returns per Unit Stored│
           │                                        │
           └───────────────────────────────────────┘
                               │
                               ▼
           ┌───────────────────────────────────────┐
           │  Calculate Summary Statistics and Rank │
           │                Strategies               │
           └───────────────────────────────────────┘
```
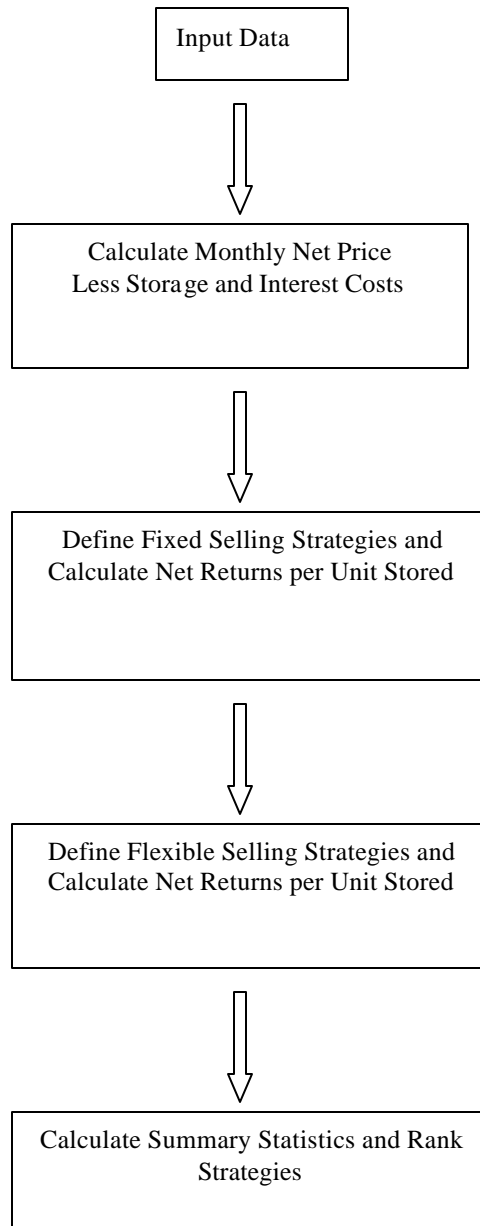
Figure 3.4 Rough Rice Storage Strategy Financial Simulation Model Flow Chart.

Stochastic Dominance

First degree stochastic (FSD) assumes decision makers prefer more to less. FSD

places no restrictions on the value of r. Since the FSD criterion holds for all decision

makers that prefer more to less, its use is limited. This may cause a large number of distributions to intersect for any given application of the FSD. In other words, FSD has low discriminatory power because it places so few restrictions on the utility function causing only a few choices to be eliminated from consideration. Functions presented in Figure 3.5 reflects how f (x) dominates g (x).

Second degree stochastic (SSD) dominance discriminates more than FSD. For risk averse decision-makers, SSD is performed. Now let us consider that the cumulative frequency distribution functions (CDF) F (Y) and G (Y), with Y being the positive marginal utility of income, is: F dominates G if F (Y) ≤ G (Y) for all Y, and F (Y) < G (Y) for at least one Y. If an additional CDF comes into consideration, neither F (Y) nor G (Y) can be ordered. Figure 3.6 graphical represents how stochastic dominance is used when multiple distribution functions are tested. Under SSD, distributions are compared based on the accumulated area under these cumulative distributions. F (Y) is the most efficient distribution according to figure 3.6. The accumulated area under F (Y) is always less than or equal to that under either H (Y) or G (Y) according to the graph above. By adding area A to area B, the accumulated difference evaluated over all Y is calculated. Area A, which is positive, is greater than area B. Therefore, F (Y) dominates H (Y), and F (Y) is stochastically significant. Area C is less than area D, and SSD is unable to discriminate between alternatives G and H. Although SSD is more discriminate than FSD, it is unable to rank all distributions (Goh). This study relied on FSD to determine the optimal marketing strategy that farmer's face.
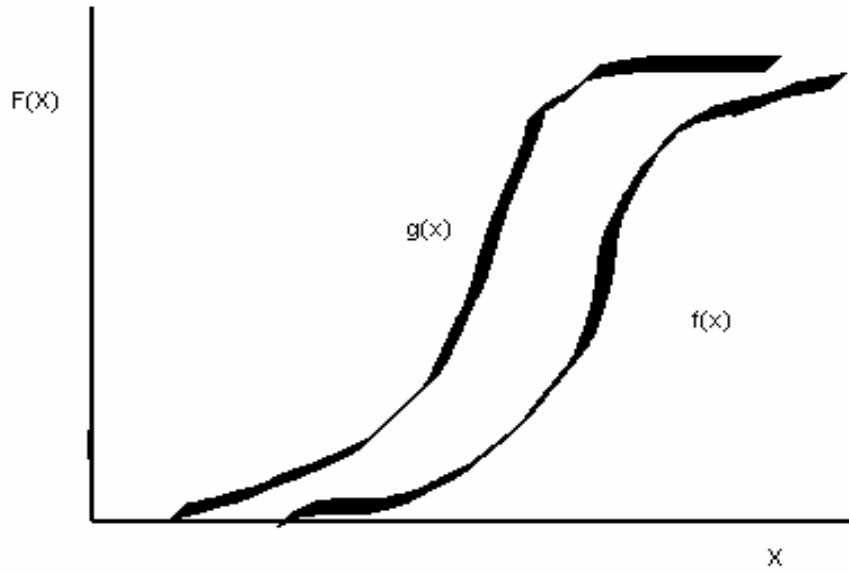
Figure 3.5 F has greater expected utility than distribution G when $\int_{-\infty}^{\infty}$ **(f (x) – g (x))**
U (x) dx > 0
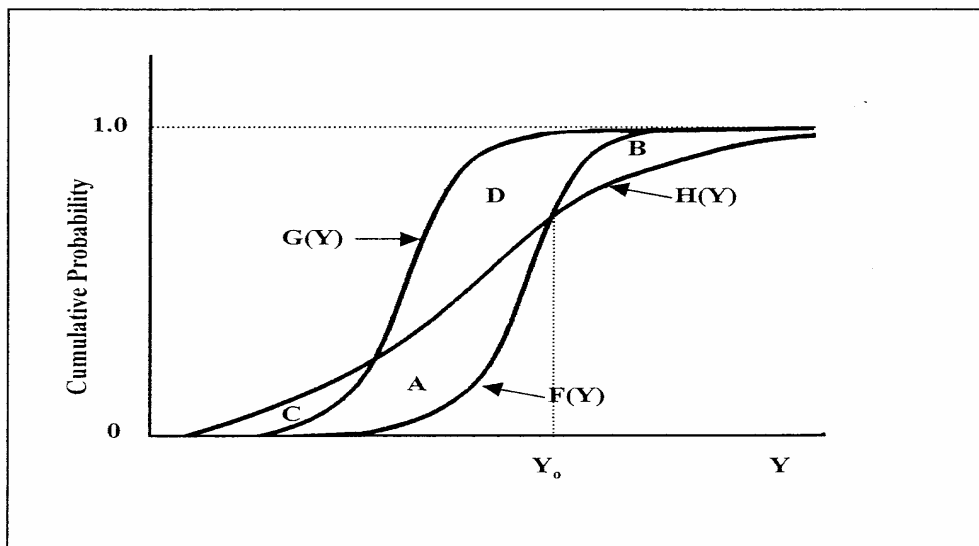
Figure 3.6 Second Degree Stochastic Dominance

CHAPTER 4

RESULTS

The goal of this study was to evaluate alternative rough rice marketing strategies related to storage and timing of cash sales to determine the impact of monthly movements of the market price on optimal marketing decisions. This chapter examines the effects of LDP payments as a marketing strategy, the value of fixed and flexible marketing strategies, and the most efficient strategy of all fixed and flexible strategies combined. This chapter of this study will discuss the results of MOTAD, simulation, and stochastic dominance. These results will be useful in the decision making process of Louisiana's rice producers.

MOTAD

MOTAD was used in this study to determine when farmers should take LDP payments and to get a rough idea of the optimal marketing / storage decision for various risk levels. The Loan Deficiency Payments offered by the government began in 1986. Therefore the results are from 1986 to 2001. Risk is measured by the mean absolute deviation.

Table 4.1 Average Returns for Rough Rice Sales and LDP Payments

Average Returns	% of Rough Rice Sales		% of Loan Deficiency Payments			
	AUG	NOV	AUG	SEP	DEC	RISK
8.154	-	100	100	-	-	1.290
8.146	-	100	74	26	-	1.258
8.048	69	31	100	-	-	0.833
8.025	68	32	100	-	-	0.739
8.022	69	31	100	-	-	0.737
7.764	65	31	96	-	4	0.701
6.489	56	22	89	-	11	0.526

- Average returns stated as dollars per cwt.

Table 4.1 reflects the highest returns for rough rice sales and the best time to take the LDP payment. The results indicate that rough rice sales mainly took place in August and November or some combination of the two months. Various percentages of loan deficiency payments were taken in August, September, and December. The strategy with the highest level of risk also brought in the highest average net returns.

Average returns prove to be higher when loan deficiency payments are taken in August and when 100% of rough rice sales are in November. This suggests that storing rice until November is beneficial for Louisiana rice producers. According to the Table 4.1, the majority of rough rice sales takes place in August with the remaining percentage being sold in November. The results clearly indicate that Louisiana rice producers should sell their rough rice in August and or November depending on their risk attitude and take their LDP payment in August according to table 4.1.

Table 4.2 Optimal Marketing / Storage Decisions for Various Risk Levels						
Ave. Return	AUG	NOV	DEC	MAR	APR	RISK
$7.450	100%	- -	--	--	--	1.560
$7.442	93%	7%	--	--	--	1.523
$7.384	45%	55%	--	--	--	1.267
$7.383	44%	56%	--	--	--	1.266
$7.377	39%	61%	--	--	--	1.246
$7.365	29%	71%	--	--	--	1.217
$7.336	30%	64%	--	6%	--	1.198
$7.315	295	65%	--	--	6%	1.188
$7.225	29%	54%	--	--	17%	1.151
$7.218	29%	52%	--	2%	17%	1.148
$7.215	29%	51%	1%	2%	17%	1.148
$7.135	29%	19%	21%	17%	14%	1.123

* Risk measure = mean total absolute deviation

Table 4.2 demonstrates the optimal marketing and storage decisions for various risk levels using MOTAD.   The results indicate that the optimal marketing and storage decisions mainly took place in August, November, December, March, and / or April. The strategy with the highest le vel of risk also generated the highest average net returns.

The strategy that spread sales after storage over August, November, December, March, and April had the lowest level of associated risk with the lowest average net returns. Risk averse individuals may choose this strategy to limit the loss due to higher levels of risk.   In the absence of the timing of LDP payments, Table 4.2 clearly indicates that the average return is higher when 100% of rough rice is sold in August. Typically, strategies with a higher risk bring higher average returns.

Simulation

After the MOTAD analysis, simulation analysis was conducted to improve the results from the MOTAD analysis. Fixed and flexible marketing strategies were modeled and used to provide realistic scenarios that farmers are likely to face. The fixed strategies were examined first in order to compare with the results found in the MOTAD analysis.

Table 4.3 demonstrates the top twenty fixed marketing strategies over 1981/82 – 2000/01 for Louisiana rice sales only. This study defined two hundred ten fixed strategies. The definitions of the fixed strategies can be found in table 3.11. Strategy NR1 was the best fixed strategy with the highest average net returns.   If a producer is more risk averse, they might choose a strategy with a lower standard deviation and covariance. The results from the fixed strategy reflect what was found in the MOTAD analysis (sell 100% in AUG).

Table 4.3 Top 20 Fixed Marketing Strategies Over 1981/82 – 2000/01 Rice Sales Only			
Strategy	**Mean**	**STD**	**CV**
NR1	7.45400	2.04597	27.4480
NR112	7.42404	1.83085	24.6610
NR101	7.40015	1.94366	26.2651
NR90	7.40776	2.00237	27.0672
NR15	7.39409	1.67751	22.6872
NR123	7.38381	1.80501	24.4455
NR81	7.36413	1.60379	21.7784
NR145	7.36121	1.77070	24.0545
NR134	7.36020	1.80893	24.5772
NR14	7.34631	1.85702	25.2783
NR13	7.34153	1.96191	26.7235
NR4	7.33417	1.62058	22.0963
NR92	7.30789	1.58884	21.7414
NR156	7.30535	1.75216	23.9846
NR126	7.29394	1.59877	21.9192
NR80	7.29246	1.78834	24.5231
NR34	7.28639	1.62690	22.3279
NR79	7.28529	1.92480	26.4204
NR25	7.28161	1.62753	22.3512
NR148	7.27134	1.62388	22.3326

* Mean = Average Net Returns CWT; STD = Standard Deviation; CV = Covariance

Flexible strategies were added to the simulation model in order to see if average net returns would increase. Each flexible strategy incorporated into this model added an additional two hundred ten marketing strategies. August and September flexible marketing strategies were incorporated into the simulation model. Table 3.12 contains the definitions of the August and September flexible marketing strategies.

The table 4.4 reflects the top marketing strategies farmers' face when two flexible strategies were incorporated into the simulation model. Like the previous tables, the strategy with the highest levels of risk has the highest average net returns. None of the

fixed strategies (NR) made it into the top twenty marketing strategies of the six hundred

thirty strategies.

Table 4.4 Top 20 August & September Flexible Marketing Strategies with the Fixed Marketing Strategies Over 1981/82 – 2000/01 Rice Sales Only			
Strategy	Mean	STD	CV
AFL4	7.65847	1.91509	25.0062
AFL126	7.64630	1.92631	25.1927
AFL148	7.63808	1.96273	25.6967
AFL43	7.63413	1.93925	25.4023
AFL137	7.62363	1.93766	25.4165
AFL115	7.62196	1.95387	25.6348
AFL45	7.61770	2.01778	26.4880
AFL159	7.61466	1.96898	25.8578
AFL5	7.60979	1.97015	25.8896
AFL81	7.60735	1.86346	24.4956
AFL103	7.60413	1.89937	24.9781
AFL149	7.60157	2.00724	26.4056
AFL117	7.59731	2.07964	27.3733
AFL92	7.59705	1.88305	24.7865
AFL52	7.59336	2.04941	26.9895
AFL44	7.58879	1.96292	25.8660
AFL138	7.58712	1.98176	26.1201
AFL128	7.58514	2.09634	27.6374
AFL160	7.57815	2.01469	26.5856
AFL170	7.57712	1.98329	26.1747

* Mean = Average Net Returns CWT; STD = Standard Deviation; CV = Covariance

The best fixed strategy (NR1) came in the 91st position of the six hundred thirty

strategies. The best flexible strategy was AFL4. AFL4 strategy states that if the price of

rough rice price in August is greater than $7.50 then sell 100% in AUG otherwise sell

100% in November. This strategy produced higher average returns then the MOTAD and

fixed strategy results. The September strategies did not reach the top 20 but had a few

higher returns then the fixed strategies. The highest September strategy ranked 84th of

the four hundred thirty marketing strategies.

Due to improved average returns, more flexible strategies were incorporated into the simulation model. Including world production, world exports, and world ending stock improved my simulation model. Table 4.5 reflect the strategies a farmer can choose in order to gain maximum average returns.

Table 4.5 Top 20 Results of All Fixed and Flexible Strategies From 1981/82 – 2000/01

Strategy	Mean	STD	CV
W1FL7	7.88536	1.85621	23.5400
W1FL162	7.87729	1.85455	23.5430
W1FL64	7.86922	1.85334	23.5518
W1FL117	7.86819	1.82936	23.2501
W1FL128	7.86737	1.83305	23.2994
W1FL139	7.86405	1.83254	23.3027
W1FL151	7.86115	1.85258	23.5663
W1FL8	7.85308	1.85227	23.5865
W1FL45	7.85102	1.80720	23.0187
W1FL52	7.84938	1.81289	23.0960
W1FL173	7.84660	1.86950	23.8257
W1FL118	7.84398	1.82673	23.2883
W1FL129	7.84316	1.83194	23.3572
W1FL58	7.84274	1.81241	23.1094
W1FL140	7.83985	1.83189	23.3664
W1FL184	7.83653	1.86663	23.8196
W1FL46	7.83488	1.80567	23.0465
W1FL148	7.83385	1.78991	22.8484
W1FL53	7.83324	1.81342	23.1503
W1FL149	7.83139	1.79585	22.9314

* Mean = Average Net Returns CWT; STD = Standard Deviation; CV = Covariance

Based on all the defined fixed and flexible strategies, there were two thousand two hundred forty eight marketing strategies Louisiana rice producers could use. The best fixed strategy (NR1) ranked 342nd of all the strategies defined. The best August strategy ranked 117th while the best September strategy ranked 322nd. According to Table 4.5, strategy W1FL7 ranked 1st of all the marketing strategies defined.

Strategy W1FL7 states if the change in world production is > 0.0 then W1FL7 = NR1 (sell 100% in AUG) otherwise W1FL7 = NR7 (sell 100% in FEB). This strategy produced the highest average returns under simulation analysis. After the simulation analysis was conducted, the results were tested stochastically to determine the validity of the results.

Stochastic Dominance

This study used first degree stochastic dominance to determine the strategy a farmer could choose to maximize their returns. The top fifty distributions (strategy) from the simulation results were analyzed using FSD. Table 4.6 reflects the top seventeen distributions that could be isolated by FSD. The results from the stochastic analysis show very similar results to the simulation analysis results.

Table 4.6 Top Marketing Strategies Using First Degree Stochastic Dominance			
Strategy	Mean	STD	CV
W1FL7	7.89	1.856	23.5400
W1FL162	7.88	1.854	23.5430
W1FL64	7.87	1.853	23.5518
W1FL117	7.87	1.829	23.2501
W1FL128	7.87	1.833	23.2994
W1FL139	7.86	1.833	23.5865
W1FL45	7.85	1.807	23.0187
W1FL52	7.85	1.813	23.0960
W1FL148	7.83	1.790	22.8484
W1FL149	7.83	1.796	22.9314
W1FL4	7.82	1.778	22.7413
W1FL126	7.82	1.776	22.7291
W1FL43	7.82	1.777	22.7360
W1FL115	7.81	1.779	22.7619
W1FL5	7.81	1.782	22.8069
W1FL138	7.81	1.782	22.8190
W1FL116	7.80	1.779	22.7940

Marketing Strategy

As more and more strategies were incorporated into this study, opportunities for higher average net returns were possible. Average net returns increased from $7.45 to $7.89 when alternative marketing strategies were available. W1FL7 had the highest average return and therefore the most efficient strategy according to the stochastic analysis. Both simulation and stochastic analysis indicates that W1FL7 was the most efficient marketing strategy for Louisiana rice producers based on the strategies defined in this study.

CHAPTER 5

CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

This study examined the economic impact of various fixed and flexible marketing strategies and storage strategies for Louisiana rice producers. Specifically, this study sought to empirically estimate the benefits of LDP payments, storage, and the most efficient marketing strategy Louisiana rice producers' face. In this chapter, I will discuss the research problem and methodology used in this study, research results, implications of the results, the limitations of this study, and the possibilities for future research.

Research Problem and Review of Methods

The problem statement suggests that analysis of survey responses, along with other information sources, that many rice producers in Louisiana tend to market their rice as a result of pre-determined selling strategies rather than in reaction to month-to-month changes in current year market prices. If current - year monthly rough rice price are not an integral part of the selling decision-marketing process, rice producers cannot assume that their selling decisions will maximize net returns. Optimal farm level rice marketing decisions apply not only to the rough rice crop itself, but also to the timing of the loan deficiency payment. For rice producers to make informed marketing decisions, critical information in this decision process would include the relative economic performance of alternative rough rice storage/selling strategies in terms of generating maximum net returns in the current structures of the U.S. and world rice markets. The problem statement is justified by a few rice-producing states having conducted studies on various marketing strategies. Some studies incorporated the use of storage and government assistance programs as marketing tools. Their goals were to identify the strategy that will

maximize net returns while minimizing risk. While these studies have been conducted

elsewhere, there are no known studies that pertain to rice production activities in

Louisiana.

To address the problem, some objectives were defined. The general objective of

this study was to evaluate alternative rough rice marketing strategies for rice production

activities in Louisiana related to storage and timing of cash sales to determine the impact

of monthly movements of the market price on optimal marketing decisions. Specifically,

I wanted to define specific alternative marketing decisions, to determine the appropriate

methodology which can be used to evaluate alternative farm level rice marketing

decisions, and to estimate the historical market price risk faced by rice producers.

Evaluating the impact of monthly rough rice market price risk on optimal marketing and

storage decisions and identifying the optimal marketing strategy related to storage and the

timing of cash sales are some other objectives defined in this study. The research

methods used in this study to ensure that the objectives will be met are MOTAD,

simulation, and stochastic dominance. Trend and seasonality tests were also conducted

along with the calculation of the net rough rice price.

Historical data were used in this study and thus need to be tested for seasonality

and a time trend. The time trend was tested by a unit root test called the Phillips-Perron

procedure in SAS. The autocorrelation function was used in SAS to test for seasonality.

The sample autocorrelation function identifies a series with seasonal components.

Seasonality might arise for agricultural prices because the supply and demand conditions

change rapidly before and after harvest season. Therefore, it is very important to

formally check for seasonality in any economic time series before incorporating

seasonality into models. Spectral analysis and autocorrelation function analyses are popular procedures for detecting seasonality.   The results from the trend and seasonality tests indicate that there were no significant trend or seasonality present in the data.

Calculating net returns from storage was a valuable tool in this study. By calculating the monthly net returns, the highest average monthly net return above storage cost and the times when storage was beneficial for Louisiana's rice producers was determined. Monthly storage and interest costs need to be calculated in order to determine the net price. The results of the monthly net return calculations reflect the opportunities available for rice producers to store.

MOTAD was used in this study to determine the best time for farmers to take their LDP payments. Also to estimate the historical market price risk faced by Louisiana rice producers. The simulation model identified the top marketing strategies that farmers could use to earn greater profit. The results from the simulation model was then tested stochastically in order to determine the best decision producers can make while minimizing risk when choosing a marketing strategy. Stochastic dominance procedures reduce a choice set of alternative management strategies down to smaller subset which should include the strategy that maximizes expected utility for the class of relevant risk preference.

Research Results

This study examined the economic impact of various fixed and flexible marketing strategies and for Louisiana rice producers. Specifically, this study sought to empirically estimate the benefits of LDP payments, storage, and the most efficient marketing strategy Louisiana rice producers' face. To estimate the benefits of LDP payments, and the most

efficient marketing strategy, MOTAD analysis, simulation analysis, and first degree stochastic dominance was used to test for the most efficient marketing strategy based on the marketing strategy defined in this study.

MOTAD was used in this study to determine when farmers should take LDP payments and to get a rough idea of the optimal marketing / storage decision for various risk levels. The results indicate that rough rice sales mainly took place in August and November or some combination of the two months. Various percentages of loan deficiency payments were taken in August, September, and December. Average returns prove to be higher when loan deficiency payments are taken in August and when 100% of rough rice sales are in November. Average returns for all strategies seemed to be higher when LDP payments were taken in August. The results of the MOTAD analyses clearly indicate that Louisiana rice producers should take their LDP payment in August and sell their rough rice in August and / or November depending on their risk attitude. The strategy that spread sales over August, November, December, March, and April had the lowest level of associated risk with the lowest average net returns. In the absence of the timing of LDP payments, average returns are higher when 100% of rough rice is sold in August.

After the MOTAD analysis, simulation analysis was conducted to improve the results from the MOTAD analysis. Fixed and flexible marketing strategies were modeled and used to provide realistic scenarios that farmers are likely to face. The fixed strategies were examined first in order to compare with the results found in the MOTAD analysis. The results from the fixed strategy reflect what was found in the MOTAD rice sales only analysis (sell 100% in AUG). Majority of the top twenty fixed strategies involved selling

a percentage of the rough rice in August. Fifteen of the twenty fixed strategies involved selling a percentage of the rough rice crop in August. The remaining five strategies involved selling a percentage of rough rice in November. Flexible strategies were added to the simulation model in order to see if average net returns would increase. August and September flexible marketing strategies were incorporated into the simulation model. The August and September strategy involves selling 100% of rough rice in August or September if the monthly price was greater than the average long run marketing year price otherwise follow the indicated fixed strategy. The top twenty marketing strategies with the two flexible strategies incorporated into the simulation model showed an increase in average returns. All the top twenty marketing strategies were based on the August selling strategy. Seventy percent of the top twenty marketing strategies involved selling a percentage of rough rice in November when the current monthly price is less than the average long run marketing year price. This demonstrates that storing a percentage of the rough rice may be beneficial when current monthly price is less than the average long run marketing year price.

The best fixed strategy (NR1 – sell 100% in AUG) came in the 91st position of the six hundred thirty strategies. The best flexible strategy was AFL4. AFL4 strategy states that if the price of rough rice price in August is greater than $7.50 then sell 100% in AUG otherwise sell 100% in November. This strategy produced higher average returns then the MOTAD and fixed strategy results. The September strategies did not reach the top 20 but had a few higher returns then the fixed strategies. The highest September strategy (SFL126) ranked 84th of the four hundred thirty marketing strategies. The top flexible strategy (AFL4 - $7.65) was $0.20 higher than the highest fixed strategy (NR1 - $7.45).

Due to improved average returns, more flexible strategies were incorporated into the simulation model. Some of the flexible strategies were based on world production, U.S. production, world exports, and world ending stocks. The inclusion of more flexible strategies improved my simulation model.

Based on all the defined fixed and flexible strategies, there were two thousand two hundred forty eight marketing strategies Louisiana rice producers could use. The best fixed strategy (NR1) ranked 342nd of all the strategies defined. The best August strategy (AFL4) ranked 117th while the best September strategy (SFL126) ranked 322nd. The top 116 marketing strategies were based on world production. Majority of the top 250 marketing strategies were based on world production. Strategy W1FL7 ranked 1st of all the marketing strategies defined. Strategy W1FL7 states if the change in world production is > 0.0 then W1FL7 = NR1 (sell 100% in AUG) otherwise W1FL7 = NR7 (sell 100% in FEB). This strategy produced the highest average returns under simulation analysis. For Louisiana and the remaining U.S. rice producing states, world production is an important economic factor. World production is important because 40% of U.S. rice is exported. If world production increases, U.S. exports will likely decrease and therefore reducing average returns. After the simulation analysis was conducted, the results were tested stochastically to determine the validity of the results.

This study used first degree stochastic dominance to determine the strategy a farmer could choose to maximize their returns. The top fifty distributions (strategy) from the simulation results were analyzed using first degree stochastic dominance (FSD). The top seventeen selling strategies in Table 4.6 were distinguished based on FSD. The results from the stochastic analysis show very similar results to the simulation analysis

results. The average returns for strategy W1FL7 was $7.89 a $0.24 increase over the top august marketing strategy (AFL4 - $7.65). Paying attention to harvest price, U.S. production, and world production can be valuable to Louisiana rice producers. Average returns increased from $7.45 to $7.89 when world production strategies were incorporated into the model.

To show the benefits of the various fixed and flexible marketing strategies incorporated into this study, I conducted a hypothetical whole farm analysis of rough rice sales. The farm size consists of 300 acres with farm returns based on 55 CWT per acre yield. Table 5.1 reflects some of the marketing / storage strategies defined in this study. The per CWT difference and per farm difference were based on the harvest selling strategy (NR1). If Louisiana producers adopt strategy W1FL7, they will experience a +$7,260 over the harvest selling strategy and has an estimated total farm return of $130,185. A more risk averse producer may adopt strategy ASFL4. Returns will still be higher than the harvest selling strategy if ASFL4 is adopted. Table 5.1 reflects the benefits of looking at alternative storage / marketing strategies compared to producers sticking with their pre – determined selling strategies.

Implications

The main goal of this study was to evaluate the alternative rough rice marketing and storage strategies that might contribute to increased net returns for Louisiana's rice producers. The results have shown that there are opportunities for increased net returns from storage of rough rice for later sale. Review of historical data has also suggested that storage opportunities are sporadic and vary greatly under market conditions. Results

from this study have identified storage strategies and associated market conditions that

can increase net returns.

Table 5.1 Whole Farm Economic Impact of Alternative Marketing / Storage Strategies

Marketing/ Storage Strategy	Estimated Return per CWT	Per CWT Difference	Estimated Total Farm Return	Per Farm Difference
W1FL7	$7.89	+$0.44	$130,185	+$7,260
AFL4	$7.65	+$0.20	$126,125	+$3,300
NR1	$7.45	--	$122,925	--
ASFL4	$7.58	+$0.13	$125,070	+$2,145
NR145	$7.36	-$0.09	$121,440	-$1,485
NR112	$7.42	-$0.03	$122,430	-$495
W1FL111	$7.52	+$0.07	$124,080	+$1,155
SFL114	$7.31	-$0.14	$120,615	-$2,310

Farm returns based on 55 CWT per acre yield and 300 acres of rice per farm.
W1FL7 = Sell 100% in AUG if there is a positive increase in world production otherwise sell 100% in NOV.
AFL4 = Sell 100% in AUG if price is greater than the long run marketing price otherwise sell 25% NOV and 75% in OCT.
NR1 = Sell 100% in AUG.
ASFL4 = Sell in SEP if the change in AUG-SEP production forecast is positive otherwise sell 100% in NOV.
NR145 = Sell 25% in FEB and 75% AUG.
NR112 = Sell 25% in NOV and 75% AUG.
W1FL111 = Sell 100% in AUG if there is a positive increase in world production otherwise sell 25% in OCT and 75% JUL.
SFL114 = Sell 100% in SEP if AUG and SEP price is greater than the long run marketing price otherwise sell 25% NOV and 75% OCT

Loan deficiency payments as a marketing strategy have proven to be a valuable way to

earn higher average net returns when it is taken in August. Farmers should incorporate

the use of LDP payments as a way to increase net returns. In order for LDP payments to

be effective, farmers must have beneficial interest in the crop.

Limitations and Future Research

There were a number of limitations that arose during this research. The most limiting factor being the availability of data related to LDP payments. There is limited data available due to the LDP payment program being started in 1986 and for several years after 1986 no LDP payments were made due to the adjusted world price being higher than the loan rate. As mentioned earlier in this study, limited data can result in accurate findings. Another limitation of this study was that storage was evaluated under a single commercial rate. Lower commercial storage rates as well as on-farm storage would likely expand storage opportunities, but would not likely alter the general conclusions of this study.

This study was designed to determine the most efficient marketing strategy that Louisiana's rough rice producers could utilize. It was also designed to determine the optimal timing of asking for LDP payments. During the course of this study, a few elements of needed research became apparent. I believe additional research on additional marketing strategies may prove to be beneficial to Louisiana rice producers. Research on various risk management tools like the use of forward contracting or hedging may change the results of this study.

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APPENDIX A

DEFINITION OF FIXED AND FLEXIBLE RICE MARKETING STRATEGIES

Fixed Rice Marketing Strategies:

Definition -- NRi = net returns above storage and interest costs per cwt. of rough rice for
marketing / storage strategy NRi which is defined as selling a fixed percent of the crop in
one or mo re months irrespective of current market conditions.

NR1 = sell 100% of the crop in August
NR2 = sell 100% of the crop in September
NR3 = sell 100% of the crop in October
NR4 = sell 100% of the crop in November
NR5 = sell 100% of the crop in December
NR6 = sell 100% of the crop in January
NR7 = sell 100% of the crop in February
NR8 = sell 100% of the crop in March
NR9 = sell 100% of the crop in April
NR10 = sell 100% of the crop in May
NR11 = sell 100% of the crop in June
NR12 = sell 100% of the crop in Ju ly
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NR138 = sell 25% of crop in January and 75% in December
NR139 = sell 25% of crop in January and 75% in February
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NR200 = sell 25% of crop in July and 75% in August
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NR203 = sell 25% of crop in July and 75% in November
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NR205 = sell 25% of crop in July and 75% in January
NR206 = sell 25% of crop in July and 75% in February
NR207 = sell 25% of crop in July and 75% in March
NR208 = sell 25% of crop in July and 75% in April
NR209 = sell 25% of crop in July and 75% in May
NR210 = sell 25% of crop in July and 75% in June

Flexible Rice Marketing Strategies:

Definition -- AFLi = net returns above storage and interest costs per cwt. of rough rice for
marketing / storage strategy AFLi which is defined as selling 100 percent of the crop in
August if the harvest month price is $\geq$ $7.50/cwt. otherwise follow fixed marketing
strategy NRi. (Range – AFL1 – AFL210)

Examples:
AFL1 = sell 100% of crop in August if price $\geq$ $7.50, otherwise follow strategy NR1 (sell 100% in
August).
AFL210 = sell 100% of crop in August if price $\geq$ $7.50, otherwise follow strategy NR210 (sell
25% in July and 75% in June).

Definition -- SFLi = net returns above storage and interest costs per cwt. of rough rice for
marketing / storage strategy SFLi which is defined as selling 100 percent of the crop in
September if the August and September price is $\geq$ $7.50/cwt., otherwise follow fixed
marketing strategy NRi. (Range – SFL1 – SFL210)

Examples:
SFL2 = sell 100% of crop in September if the August and September price $\geq$ $7.50,
otherwise follow strategy NR2 (sell 100% in September).
SFL210 = sell 100% of crop in September if the August and September price $\geq$ $7.50,
otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition -- MFLi = net returns above storage and interest costs per cwt. of rough rice for
marketing / storage strategy MFLi which is defined as selling 100 percent of the crop in
August if the March 1 U.S. planted rice acreage forecast is > 100% of the final acreage
estimate, otherwise follow fixed marketing strategy NRi. (Range – MFL1 – MFL210)

Examples:
MFL1 = sell 100% of crop in August if the March 1 planted rice acreage forecast is > 100% of the
final estimate, otherwise follow strategy NR1 (sell 100% in August).
MFL210 = sell 100% of crop in August if the March 1 planted rice acreage forecast is > 100% of
the final estimate, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition -- JFLi = net returns above storage and interest costs per cwt. of rough rice for
marketing / storage strategy JFLi which is defined as selling 100 percent of the crop in
August if the August 1 U.S. planted rice acreage forecast is > June 1 acreage forecast,
otherwise follow fixed marketing strategy NRi. (Range – JFL1 – JFL210)

Examples:
JFL1 = sell 100% of crop in August if the August 1 planted rice acreage forecast is > June1
acreage forecast, otherwise follow strategy NR1 (sell 100% in August).

JFL210 = sell 100% of crop in August if the August 1 planted rice acreage forecast is > June 1 acreage forecast, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition -- NFLi = net returns above storage and interest costs per cwt. of rough rice for marketing / storage strategy NFLi which is defined as selling 100 percent of the crop in November if the harvest month price is ≥ $7.50/cwt., otherwise follow fixed marketing strategy NRi. (Range – NFL4 – NFL210)

Examples:
NFL4 = sell 100% of crop in November if price ≥ $7.50, otherwise follow strategy NR4 (sell 100% in November).
NFL210 = sell 100% of crop in November if price ≥ $7.50, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition -- ASFLi = net returns above storage and interest costs per cwt. of rough rice for marketing / storage strategy ASFLi which is defined as selling 100 percent of the crop in September if the change in U.S. rice production forecast from August 1 to September 1 is postive, otherwise follow fixed marketing strategy NRi. (Range – ASFL2 – ASFL210)

Examples:
ASFL2 = sell 100% of crop in September if the change in U.S. rice production forecast from August 1 to September 1 is postive, otherwise follow strategy NR2 (sell 100% in September).
ASFL210 = sell 100% of crop in September if the change in U.S. rice production forecast from August 1 to September 1 is postive, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition -- ANFLi = net returns above storage and interest costs per cwt. of rough rice for marketing / storage strategy ANFLi which is defined as selling 100 percent of the crop in November if the change in U.S. rice production forecast from August 1 to November 1 is postive, otherwise follow fixed marketing strategy NRi. (Range – ANFL4 – ANFL210)

Examples:
ANFL4 = sell 100% of crop in November if the change in U.S. rice production forecast from August 1 to November 1 is postive, otherwise follow strategy NR4 (sell 100% in November).
ANFL210 = sell 100% of crop in November if the change in U.S. rice production forecast from August 1 to November 1 is postive, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition -- AJFLi = net returns above storage and interest costs per cwt. of rough rice for marketing / storage strategy AJFLi which is defined as selling 100 percent of the crop in January if the change in U.S. rice production forecast from August 1 to January 1 is postive, otherwise follow fixed marketing strategy NRi. (Range – AJFL6 – AJFL210)

Examples:
AJFL6 = sell 100% of crop in January if the change in U.S. rice production forecast from August 1 to January 1 is postive, otherwise follow strategy NR6 (sell 100% in January).

AJFL210 = sell 100% of crop in January if the change in U.S. rice production forecast from August 1 to January 1 is positve, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition -- SNFLi = net returns above storage and interest costs per cwt. of rough rice for marketing / storage strategy SNFLi which is defined as selling 100 percent of the crop in Novmeber if the change in U.S. rice production forecast from August 1 to September 1 is positive and the November price is $\leq$ \$7.50/cwt., otherwise follow fixed marketing strategy NRi. (Range – SNFL4 – SNFL210)

Examples:
SNFL4 = sell 100 percent of the crop in Novmeber if the change in U.S. rice production forecast from August 1 to September 1 is positive and the November price is $\leq$ \$7.50/cwt, otherwise follow strategy NR4 (sell 100% in November).
SNFL210 = sell 100 percent of the crop in Novmeber if the change in U.S. rice production forecast from August 1 to September 1 is positive and the November price is $\leq$ \$7.50/cwt, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition – W1FLi = net returns above storage and interest costs per cwt. of rough rice for marketing / storage strategy W1FLi which is defined as selling 100 percent of the crop in August if the change in world rice production from the previous year is positive, otherwise follow fixed marketing strategy NRi. (Range – W1FL1 – W1FL210)

Examples:
W1FL1 = sell 100 percent of the crop in August if the change in world rice production from the previous year is positive, otherwise follow strategy NR1 (sell 100% in August).
W1FL210 = sell 100 percent of the crop in August if the change in world rice production from the previous year is positive, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition – W2FLi = net returns above storage and interest costs per cwt. of rough rice for marketing / storage strategy W2FLi which is defined as selling 100 percent of the crop in August if the change in world rice exp orts from the previous year is positive, otherwise follow fixed marketing strategy NRi. (Range – W2FL1 – W2FL210)

Examples:
W2FL1 = sell 100 percent of the crop in August if the change in world rice exports from the previous year is positive, otherwise follow strategy NR1 (sell 100% in August).
W2FL210 = sell 100 percent of the crop in August if the change in world rice exports from the previous year is positive, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

Definition – W3FLi = net returns above storage and interest costs per cwt. of rough rice for marketing / storage strategy W3FLi which is defined as selling 100 percent of the crop in August if the change in world rice ending stocks from the previous year is positive, otherwise follow fixed marketing strategy NRi. (Range – W3FL1 – W3FL210)

Examples:
W3FL1 = sell 100 percent of the crop in August if the change in world rice ending stocks from the

previous year is positive, otherwise follow strategy NR1 (sell 100% in August).

W3FL210 = sell 100 percent of the crop in August if the change in world rice ending stocks from the previous year is positive, otherwise follow strategy NR210 (sell 25% in July and 75% in June).

APPENDIX B

RANKING OF ALL FIXED AND FLEXIBLE STRATEGIES

Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only

Obs	Strategy	Mean	STD	CV	MIN	MAX
1	W1FL7	7. 88536	1. 85621	23. 5400	3. 48569	11. 6
2	W1FL162	7. 87729	1. 85455	23. 5430	3. 45801	11. 6
3	W1FL64	7. 86922	1. 85334	23. 5518	3. 43033	11. 6
4	W1FL117	7. 86819	1. 82936	23. 2501	3. 54122	11. 6
5	W1FL128	7. 86737	1. 83305	23. 2994	3. 49854	11. 6
6	W1FL139	7. 86405	1. 83254	23. 3027	3. 50586	11. 6
7	W1FL151	7. 86115	1. 85258	23. 5663	3. 40265	11. 6
8	W1FL8	7. 85308	1. 85227	23. 5865	3. 37497	11. 6
9	W1FL45	7. 85102	1. 80720	23. 0187	3. 59676	11. 6
10	W1FL52	7. 84938	1. 81289	23. 0960	3. 51140	11. 6
11	W1FL173	7. 84660	1. 86950	23. 8257	3. 35533	11. 6
12	W1FL118	7. 84398	1. 82673	23. 2883	3. 45819	11. 6
13	W1FL129	7. 84316	1. 83194	23. 3572	3. 41551	11. 6
14	W1FL58	7. 84274	1. 81241	23. 1094	3. 52604	11. 6
15	W1FL140	7. 83985	1. 83189	23. 3664	3. 42283	11. 6
16	W1FL184	7. 83653	1. 86663	23. 8196	3. 32015	11. 6
17	W1FL46	7. 83488	1. 80567	23. 0465	3. 54140	11. 6
18	W1FL148	7. 83385	1. 78991	22. 8484	3. 65230	11. 6
19	W1FL53	7. 83324	1. 81342	23. 1503	3. 45604	11. 6
20	W1FL149	7. 83139	1. 79585	22. 9314	3. 52426	11. 6
21	W1FL59	7. 82661	1. 81355	23. 1716	3. 47069	11. 6
22	W1FL159	7. 82578	1. 78926	22. 8636	3. 62462	11. 6
23	W1FL160	7. 82333	1. 79675	22. 9666	3. 49658	11. 6
24	W1FL174	7. 82239	1. 86975	23. 9026	3. 27229	11. 6
25	W1FL150	7. 82144	1. 79594	22. 9618	3. 54622	11. 6
26	W1FL4	7. 81668	1. 77762	22. 7413	3. 70784	11. 6
27	W1FL126	7. 81586	1. 77647	22. 7291	3. 66516	11. 6
28	W1FL43	7. 81504	1. 77683	22. 7360	3. 62248	11. 6
29	W1FL115	7. 81422	1. 77867	22. 7619	3. 57980	11. 6
30	W1FL5	7. 81341	1. 78200	22. 8069	3. 53712	11. 6
31	W1FL161	7. 81337	1. 79731	23. 0031	3. 51854	11. 6
32	W1FL137	7. 81254	1. 77609	22. 7338	3. 67248	11. 6
33	W1FL185	7. 81232	1. 86883	23. 9216	3. 23711	11. 6
34	W1FL138	7. 81009	1. 78218	22. 8190	3. 54444	11. 6
35	W1FL44	7. 80841	1. 77652	22. 7514	3. 63712	11. 6
36	W1FL65	7. 80783	1. 88728	24. 1717	3. 22497	11. 6
37	W1FL106	7. 80726	1. 80482	23. 1172	3. 55390	11. 6
38	W1FL51	7. 80677	1. 78245	22. 8321	3. 55176	11. 6
39	W1FL116	7. 80427	1. 77890	22. 7940	3. 60176	11. 6
40	W1FL127	7. 80345	1. 78280	22. 8463	3. 55908	11. 6
41	W1FL195	7. 80171	1. 87716	24. 0609	3. 26997	11. 6
42	W1FL6	7. 80013	1. 78324	22. 8616	3. 56640	11. 6
43	W1FL170	7. 79509	1. 80777	23. 1912	3. 52194	11. 6
44	W1FL171	7. 79263	1. 81702	23. 3171	3. 39390	11. 6
45	W1FL69	7. 79170	1. 88955	24. 2508	3. 16961	11. 6
46	W1FL206	7. 78927	1. 86822	23. 9846	3. 25229	11. 6
47	W1FL66	7. 78770	1. 88603	24. 2181	3. 15461	11. 6

Obs	Strategy	Mean	STD	CV	MIN	MAX
	Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only					
	Cont'd					
48	WlFL181	7.78502	1.80651	23.2049	3.48676	11.6
49	WlFL107	7.78305	1.81010	23.2569	3.47086	11.6
50	WlFL172	7.78268	1.81871	23.3687	3.41586	11.6
51	WlFL182	7.78256	1.81801	23.3600	3.35872	11.6
52	WlFL95	7.77795	1.79919	23.1320	3.55658	11.6
53	WlFL84	7.77752	1.79534	23.0837	3.56926	11.6
54	WlFL196	7.77750	1.88096	24.1846	3.18693	11.6
55	WlFL47	7.77349	1.84444	23.7273	3.33604	11.6
56	WlFL183	7.77261	1.82033	23.4198	3.38069	11.6
57	WlFL54	7.77186	1.85441	23.8606	3.25069	11.6
58	WlFL70	7.77156	1.89087	24.3306	3.09925	11.6
59	WlFL152	7.76907	1.90942	24.5773	3.09461	11.6
60	WlFL60	7.76522	1.85603	23.9018	3.26533	11.6
61	WlFL207	7.76506	1.87240	24.1132	3.16925	11.6
62	WlFL163	7.76100	1.91158	24.6306	3.06693	11.6
63	WlFL103	7.75575	1.77264	22.8558	3.72052	11.6
64	WlFL96	7.75374	1.80883	23.3285	3.47354	11.6
65	WlFL48	7.75336	1.84539	23.8011	3.26569	11.6
66	WlFL85	7.75331	1.80579	23.2905	3.48622	11.6
67	WlFL104	7.75329	1.77663	22.9145	3.59248	11.6
68	WlFL119	7.75190	1.88725	24.3456	3.15015	11.6
69	WlFL55	7.75172	1.85829	23.9727	3.18033	11.6
70	WlFL130	7.75108	1.89405	24.4359	3.10747	11.6
71	WlFL192	7.75020	1.82656	23.5678	3.43658	11.6
72	WlFL141	7.74777	1.89509	24.4598	3.11479	11.6
73	WlFL193	7.74774	1.83569	23.6932	3.30854	11.6
74	WlFL61	7.74508	1.86072	24.0246	3.19497	11.6
75	WlFL105	7.74334	1.77984	22.9854	3.61444	11.6
76	WlFL153	7.73887	1.91414	24.7341	2.98907	11.6
77	WlFL194	7.73779	1.83882	23.7642	3.33051	11.6
78	WlFL203	7.73776	1.82784	23.6224	3.41890	11.6
79	WlFL204	7.73530	1.83308	23.6976	3.29086	11.6
80	WlFL164	7.73080	1.91819	24.8124	2.96139	11.6
81	WlFL9	7.73031	1.93578	25.0414	2.96425	11.6
82	WlFL37	7.72916	1.79138	23.1769	3.62212	11.6
83	WlFL92	7.72644	1.77589	22.9846	3.72320	11.6
84	WlFL81	7.72601	1.77201	22.9356	3.73588	11.6
85	WlFL205	7.72535	1.83606	23.7667	3.31283	11.6
86	WlFL93	7.72399	1.78244	23.0767	3.59516	11.6
87	WlFL82	7.72355	1.77986	23.0446	3.60784	11.6
88	WlFL120	7.72170	1.89365	24.5237	3.04461	11.6
89	WlFL131	7.72088	1.90258	24.6420	3.00193	11.6
90	WlFL186	7.72024	1.93810	25.1041	2.92907	11.6
91	WlFL67	7.71806	1.91741	24.8431	3.05425	11.6
92	WlFL142	7.71756	1.90421	24.6738	3.00925	11.6
93	WlFL94	7.71403	1.78723	23.1686	3.61712	11.6
94	WlFL83	7.71360	1.78492	23.1399	3.62980	11.6
95	WlFL38	7.71302	1.80050	23.3436	3.56676	11.6
96	WlFL73	7.71017	1.94134	25.1789	2.89389	11.6
97	WlFL71	7.70192	1.92427	24.9842	2.99889	11.6
98	WlFL175	7.70011	1.94551	25.2660	2.85871	11.6
99	WlFL34	7.69482	1.78840	23.2416	3.73320	11.6
100	WlFL35	7.69318	1.79149	23.2867	3.64784	11.6
101	WlFL68	7.69317	1.90785	24.7993	3.01889	11.6

Obs	Strategy	Mean	STD	CV	MIN	MAX
102	W1FL108	7.69097	1.88796	24.5477	3.16283	11.6
103	W1FL10	7.69004	1.95059	25.3651	2.82353	11.6
104	W1FL36	7.68654	1.79512	23.3540	3.66248	11.6
105	W1FL197	7.68542	1.95666	25.4593	2.87889	11.6
106	W1FL49	7.68372	1.88927	24.5880	3.16533	11.6
107	W1FL56	7.68208	1.89898	24.7196	3.07997	11.6
108	W1FL72	7.67704	1.91521	24.9473	2.96353	11.6
109	W1FL62	7.67545	1.90245	24.7861	3.09461	11.6
110	W1FL208	7.67298	1.94984	25.4118	2.86121	11.6
111	W1FL28	7.67054	1.81234	23.6273	3.62748	11.6
112	W1FL18	7.66968	1.80903	23.5867	3.65284	11.6
113	W1FL97	7.66166	1.89527	24.7371	3.16551	11.6
114	W1FL86	7.66123	1.89317	24.7111	3.17819	11.6
115	W1FL109	7.66077	1.90530	24.8708	3.05729	11.6
116	W1FL50	7.65883	1.89307	24.7174	3.12997	11.6
117	AFL4	7.65847	1.91509	25.0062	3.70784	11.6
118	W1FL57	7.65720	1.89775	24.7839	3.04461	11.6
119	W1FL198	7.65522	1.97091	25.7460	2.77335	11.6
120	W1FL29	7.65441	1.82710	23.8698	3.57212	11.6
121	W1FL19	7.65354	1.82484	23.8430	3.59748	11.6
122	W1FL39	7.65163	1.86213	24.3364	3.36140	11.6
123	W1FL147	7.65105	1.81674	23.7450	3.69034	11.6
124	W1FL63	7.65056	1.90101	24.8479	3.05925	11.6
125	AFL126	7.64630	1.92631	25.1927	3.66516	11.6
126	W1FL158	7.64299	1.82399	23.8649	3.66266	11.6
127	W1FL209	7.64278	1.96476	25.7075	2.75567	11.6
128	W1FL74	7.64054	1.98291	25.9526	2.79353	11.6
129	AFL148	7.63808	1.96273	25.6967	3.65230	11.6
130	W1FL25	7.63620	1.82108	23.8480	3.73856	11.6
131	W1FL15	7.63534	1.81780	23.8077	3.76392	11.6
132	W1FL26	7.63457	1.82746	23.9367	3.65320	11.6
133	W1FL154	7.63441	1.97577	25.8798	2.83853	11.6
134	AFL43	7.63413	1.93925	25.4023	3.62248	11.6
135	W1FL114	7.63388	1.82435	23.8980	3.74588	11.6
136	W1FL16	7.63370	1.82586	23.9184	3.67856	11.6
137	W1FL125	7.63307	1.82609	23.9234	3.70320	11.6
138	W1FL40	7.63149	1.87789	24.6071	3.29104	11.6
139	W1FL98	7.63146	1.91852	25.1397	3.05997	11.6
140	W1FL87	7.63103	1.91759	25.1288	3.07265	11.6
141	W1FL136	7.62975	1.82861	23.9668	3.71052	11.6
142	W1FL27	7.62793	1.83309	24.0312	3.66784	11.6
143	W1FL17	7.62707	1.83183	24.0175	3.69320	11.6
144	W1FL165	7.62634	1.98123	25.9787	2.81085	11.6
145	AFL137	7.62363	1.93766	25.4165	3.67248	11.6
146	AFL115	7.62196	1.95387	25.6348	3.57980	11.6
147	W1FL76	7.62040	1.99445	26.1725	2.72317	11.6
148	AFL45	7.61770	2.01778	26.4880	3.59676	11.6000
149	W1FL121	7.61724	1.96444	25.7894	2.89407	11.6000
150	W1FL132	7.61642	1.97096	25.8777	2.85139	11.6000
151	W1FL75	7.61565	1.97599	25.9465	2.75817	11.6000
152	AFL159	7.61466	1.96898	25.8578	3.62462	11.6000
153	W1FL143	7.61311	1.97332	25.9201	2.85871	11.6000
154	W1FL169	7.61229	1.85922	24.4239	3.55998	11.6000
155	AFL5	7.60979	1.97015	25.8896	3.53712	11.6000

Obs	Strategy	Mean	STD	CV	MIN	MAX
156	AFL81	7. 60735	1. 86346	24. 4956	3. 73588	11. 6000
157	AFL103	7. 60413	1. 89937	24. 9781	3. 72052	11. 6000
158	W1FL180	7. 60222	1. 86914	24. 5868	3. 52480	11. 6000
159	AFL149	7. 60157	2. 00724	26. 4056	3. 52426	11. 6000
160	AFL117	7. 59731	2. 07964	27. 3733	3. 54122	11. 6000
161	W1FL155	7. 59708	1. 97343	25. 9762	2. 78549	11. 6000
162	AFL92	7. 59705	1. 88305	24. 7865	3. 72320	11. 6000
163	W1FL176	7. 59565	2. 01434	26. 5197	2. 70817	11. 6000
164	W1FL77	7. 59551	1. 98838	26. 1783	2. 68781	11. 6000
165	AFL52	7. 59336	2. 04941	26. 9895	3. 51140	11. 6000
166	W1FL30	7. 59302	1. 89921	25. 0126	3. 36676	11. 6000
167	W1FL20	7. 59216	1. 89812	25. 0010	3. 39212	11. 6000
168	W1FL166	7. 58901	1. 97924	26. 0803	2. 75781	11. 6000
169	AFL44	7. 58879	1. 96292	25. 8660	3. 63712	11. 6000
170	AFL138	7. 58712	1. 98176	26. 1201	3. 54444	11. 6000
171	W1FL187	7. 58558	2. 02109	26. 6438	2. 67299	11. 6000
172	AFL128	7. 58514	2. 09634	27. 6374	3. 49854	11. 6000
173	W1FL122	7. 57991	1. 97180	26. 0135	2. 84103	11. 6000
174	W1FL133	7. 57909	1. 97468	26. 0543	2. 79835	11. 6000
175	AFL160	7. 57815	2. 01469	26. 5856	3. 49658	11. 6000
176	AFL170	7. 57712	1. 98329	26. 1747	3. 52194	11. 6000
177	AFL7	7. 57693	2. 14772	28. 3455	3. 48569	11. 6000
178	ASFL4	7. 57611	1. 74205	22. 9940	3. 76928	10. 6167
179	W1FL144	7. 57578	1. 97689	26. 0949	2. 80567	11. 6000
180	W1FL3	7. 57295	1. 87933	24. 8163	3. 75856	11. 6000
181	W1FL31	7. 57288	1. 92262	25. 3882	3. 29640	11. 6000
182	W1FL21	7. 57202	1. 92305	25. 3968	3. 32176	11. 6000
183	AFL46	7. 57086	2. 03150	26. 8331	3. 54140	11. 6000
184	AFL82	7. 57084	1. 90418	25. 1516	3. 60784	11. 6000
185	AFL104	7. 56763	1. 93981	25. 6331	3. 59248	11. 6000
186	W1FL191	7. 56741	1. 90705	25. 2009	3. 47462	11. 6000
187	ASFL126	7. 56618	1. 73632	22. 9485	3. 76928	10. 6167
188	AFL51	7. 56445	1. 99413	26. 3619	3. 55176	11. 6000
189	W1FL146	7. 56313	1. 89421	25. 0452	3. 69838	11. 6000
190	AFL139	7. 56248	2. 11043	27. 9066	3. 50586	11. 6000
191	W1FL41	7. 56186	1. 94527	25. 7248	3. 19069	11. 6000
192	W1FL145	7. 56184	1. 89565	25. 0686	3. 73642	11. 6000
193	AFL93	7. 56055	1. 92383	25. 4456	3. 59516	11. 6000
194	W1FL177	7. 55832	2. 01376	26. 6429	2. 65513	11. 6000
195	W1FL110	7. 55631	1. 99339	26. 3804	2. 90675	11. 6000
196	ASFL43	7. 55625	1. 73234	22. 9260	3. 76928	10. 6167
197	AFL15	7. 55623	1. 86919	24. 7371	3. 76392	11. 6000
198	W1FL157	7. 55507	1. 90528	25. 2186	3. 67070	11. 6000
199	W1FL202	7. 55496	1. 91881	25. 3981	3. 45694	11. 6000
200	AFL116	7. 55395	1. 99075	26. 3538	3. 60176	11. 6000
201	W1FL156	7. 55377	1. 90746	25. 2518	3. 70874	11. 6000
202	AFL162	7. 55351	2. 15375	28. 5132	3. 45801	11. 6000
203	ASFL148	7. 55207	1. 76882	23. 4217	3. 76928	10. 6167
204	W1FL11	7. 55076	2. 05070	27. 1589	2. 62281	11. 6000
205	ASFL137	7. 55062	1. 74769	23. 1463	3. 76928	10. 6167
206	AFL181	7. 55057	1. 99254	26. 3892	3. 48676	11. 6000
207	AFL34	7. 54980	1. 90372	25. 2155	3. 73320	11. 6000
208	W1FL188	7. 54825	2. 02110	26. 7757	2. 61995	11. 6000
209	AFL58	7. 54802	2. 07677	27. 5142	3. 52604	11. 6000

Obs	Strategy	Mean	STD	CV	MIN	MAX
			Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only Cont'd			
210	AFL53	7.54652	2.06466	27.3591	3.45604	11.6000
211	ASFL115	7.54632	1.73012	22.9266	3.76928	10.6167
212	AFL84	7.54620	1.99291	26.4094	3.56926	11.6000
213	WlFL113	7.54596	1.90985	25.3095	3.75392	11.6000
214	WlFL124	7.54515	1.91390	25.3660	3.71124	11.6000
215	WlFL112	7.54467	1.91130	25.3331	3.79196	11.6000
216	WlFL123	7.54385	1.91654	25.4054	3.74928	11.6000
217	WlFL91	7.54365	1.91217	25.3481	3.76124	11.6000
218	WlFL80	7.54321	1.91223	25.3503	3.77392	11.6000
219	AFL106	7.54298	2.04217	27.0738	3.55390	11.6000
220	WlFL135	7.54183	1.91779	25.4287	3.71856	11.6000
221	AFL127	7.54178	2.00723	26.6149	3.55908	11.6000
222	AFL171	7.54061	2.02931	26.9117	3.39390	11.6000
223	WlFL134	7.54053	1.92067	25.4712	3.75660	11.6000
224	WlFL210	7.53832	2.05021	27.1972	2.60513	11.6000
225	WlFL42	7.53697	1.96270	26.0409	3.15533	11.6000
226	ASFL5	7.53639	1.72965	22.9507	3.76928	10.6167
227	AFL95	7.53590	2.01438	26.7305	3.55658	11.6000
228	AFL25	7.53564	1.90052	25.2203	3.73856	11.6000
229	AFL150	7.53356	2.04693	27.1708	3.54622	11.6000
230	AFL16	7.53189	1.89512	25.1613	3.67856	11.6000
231	AFL64	7.53009	2.16103	28.6986	3.43033	11.6000
232	ASFL45	7.52802	1.80469	23.9730	3.76928	10.6167
233	ASFL159	7.52801	1.76277	23.4161	3.76928	10.6167
234	AFL118	7.52706	2.10186	27.9240	3.45819	11.6000
235	WlFL99	7.52700	2.01401	26.7571	2.90943	11.6000
236	ASFL103	7.52692	1.72394	22.9036	3.76928	10.6167
237	WlFL88	7.52657	2.01302	26.7455	2.92211	11.6000
238	WlFL78	7.52588	2.05202	27.2662	2.58745	11.6000
239	AFL35	7.52547	1.92982	25.6439	3.64784	11.6000
240	ASFL44	7.52514	1.75689	23.3469	3.76928	10.6167
241	WlFL168	7.52437	1.94733	25.8804	3.56802	11.6000
242	WlFL167	7.52308	1.95025	25.9236	3.60606	11.6000
243	ASFL149	7.52227	1.76458	23.4581	3.76928	10.6167
244	ASFL138	7.52083	1.74222	23.1652	3.76928	10.6167
245	AFL6	7.51911	2.02106	26.8790	3.56640	11.6000
246	WlFL111	7.51898	2.01068	26.7414	2.85371	11.6000
247	AFL173	7.51597	2.16338	28.7838	3.35533	11.6000
248	AFL18	7.51547	1.92013	25.5490	3.65284	11.6000
249	AFL129	7.51489	2.11965	28.2061	3.41551	11.6000
250	WlFL24	7.51434	1.94948	25.9435	3.76392	11.6000
251	WlFL179	7.51430	1.96266	26.1189	3.53284	11.6000
252	AFL182	7.51406	2.04084	27.1603	3.35872	11.6000
253	WlFL14	7.51348	1.95121	25.9694	3.78928	11.6000
254	WlFL199	7.51343	2.05612	27.3659	2.56977	11.6000
255	WlFL178	7.51301	1.96666	26.1767	3.57088	11.6000
256	AFL26	7.51130	1.92665	25.6501	3.65320	11.6000
257	AFL161	7.51014	2.05495	27.3624	3.51854	11.6000
258	AFL37	7.50904	1.97536	26.3065	3.62212	11.6000
259	ASFL52	7.50816	1.80512	24.0422	3.76928	10.6167
260	AFL151	7.50667	2.16955	28.9016	3.40265	11.6000
261	ASFL51	7.50527	1.75576	23.3937	3.76928	10.6167
262	AFL112	7.50512	1.93177	25.7393	3.79196	11.6000
263	ASFL117	7.50398	1.84913	24.6420	3.76928	10.6167

Obs	Strategy	Mean	STD	CV	MIN	MAX
		Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only				
		Cont'd				
264	W1FL32	7. 50324	1. 99921	26. 6446	3. 19604	11. 6000
265	AFL83	7. 50283	1. 94246	25. 8897	3. 62980	11. 6000
266	AFL192	7. 50265	2. 01838	26. 9022	3. 43658	11. 6000
267	W1FL22	7. 50238	1. 99949	26. 6514	3. 22140	11. 6000
268	AFL59	7. 50118	2. 09277	27. 8991	3. 47069	11. 6000
269	W1FL12	7. 50099	2. 06250	27. 4963	2. 55209	11. 6000
270	ASFL116	7. 49965	1. 76959	23. 5956	3. 76928	10. 6167
271	AFL105	7. 49962	1. 97683	26. 3590	3. 61444	11. 6000
272	ASFL160	7. 49822	1. 76074	23. 4821	3. 76928	10. 6167
273	ASFL104	7. 49712	1. 71324	22. 8519	3. 76928	10. 6167
274	AFL47	7. 49577	2. 06155	27. 5029	3. 33604	11. 6000
275	AFL114	7. 49547	1. 92799	25. 7221	3. 74588	11. 6000
276	AFL28	7. 49488	1. 95496	26. 0840	3. 62748	11. 6000
277	ASFL170	7. 49445	1. 76038	23. 4890	3. 76928	10. 6167
278	ASFL128	7. 49405	1. 85090	24. 6983	3. 76928	10. 6167
279	AFL123	7. 49295	1. 94375	25. 9411	3. 74928	11. 6000
280	AFL94	7. 49254	1. 96147	26. 1789	3. 61712	11. 6000
281	AFL140	7. 49222	2. 13429	28. 4867	3. 42283	11. 6000
282	W1FL33	7. 49099	2. 00330	26. 7427	3. 22104	11. 6000
283	ASFL127	7. 48972	1. 77027	23. 6360	3. 76928	10. 6167
284	W1FL100	7. 48967	2. 03528	27. 1745	2. 85639	11. 6000
285	AFL184	7. 48942	2. 17223	29. 0040	3. 32015	11. 6000
286	ASFL92	7. 48935	1. 70018	22. 7014	3. 76928	10. 6167
287	W1FL89	7. 48924	2. 03399	27. 1588	2. 86907	11. 6000
288	AFL17	7. 48655	1. 91995	25. 6453	3. 69320	11. 6000
289	AFL203	7. 48636	2. 02456	27. 0433	3. 41890	11. 6000
290	W1FL102	7. 48503	1. 99101	26. 5999	3. 76660	11. 6000
291	AFL145	7. 48473	1. 93864	25. 9013	3. 73642	11. 6000
292	W1FL101	7. 48374	1. 99591	26. 6700	3. 80464	11. 6000
293	AFL125	7. 48330	1. 94048	25. 9308	3. 70320	11. 6000
294	AFL8	7. 48325	2. 17930	29. 1224	3. 37497	11. 6000
295	AFL36	7. 48013	1. 95343	26. 1150	3. 66248	11. 6000
296	ASFL7	7. 47994	1. 90154	25. 4219	3. 76928	10. 6167
297	ASFL46	7. 47991	1. 79473	23. 9941	3. 76928	10. 6167
298	W1FL190	7. 47949	2. 00679	26. 8306	3. 48266	11. 6000
299	ASFL181	7. 47940	1. 75893	23. 5170	3. 76928	10. 6167
300	ASFL139	7. 47849	1. 86595	24. 9509	3. 76928	10. 6167
301	W1FL189	7. 47819	2. 01061	26. 8863	3. 52070	11. 6000
302	ASFL34	7. 47772	1. 72851	23. 1155	3. 76928	10. 6167
303	W1FL23	7. 47749	2. 02160	27. 0358	3. 18604	11. 6000
304	ASFL58	7. 47705	1. 83464	24. 5369	3. 76928	10. 6167
305	AFL85	7. 47594	2. 02553	27. 0940	3. 48622	11. 6000
306	ASFL150	7. 47561	1. 80782	24. 1830	3. 76928	10. 6167
307	AFL147	7. 47509	1. 95127	26. 1036	3. 69034	11. 6000
308	SFL4	7. 47470	1. 74121	23. 2948	3. 70784	10. 6167
309	AFL113	7. 47423	1. 96618	26. 3060	3. 75392	11. 6000
310	ASFL6	7. 47416	1. 78571	23. 8918	3. 76928	10. 6167
311	AFL107	7. 47273	2. 06999	27. 7006	3. 47086	11. 6000
312	AFL172	7. 47260	2. 07009	27. 7024	3. 41586	11. 6000
313	AFL54	7. 47143	2. 09506	28. 0409	3. 25069	11. 6000
314	AFL134	7. 47028	1. 95546	26. 1765	3. 75660	11. 6000
315	AFL19	7. 46863	1. 94765	26. 0778	3. 59748	11. 6000
316	W1FL201	7. 46704	2. 02215	27. 0810	3. 46498	11. 6000
317	AFL193	7. 46614	2. 06432	27. 6491	3. 30854	11. 6000

Obs	Strategy	Mean	STD	CV	MIN	MAX
318	AFL27	7.46597	1.95074	26.1284	3.66784	11.6000
319	W1FL200	7.46575	2.02563	27.1323	3.50302	11.6000
320	AFL96	7.46564	2.04469	27.3880	3.47354	11.6000
321	ASFL171	7.46466	1.75983	23.5754	3.76928	10.6167
322	SFL126	7.46253	1.75220	23.4800	3.66516	10.6167
323	AFL38	7.46220	1.99656	26.7556	3.56676	11.6000
324	AFL124	7.46206	1.97842	26.5130	3.71124	11.6000
325	AFL156	7.46131	1.95476	26.1986	3.70874	11.6000
326	JFL4	7.46116	1.84669	24.7507	3.70784	11.6000
327	AFL136	7.46063	1.95162	26.1590	3.71052	11.6000
328	ASFL53	7.46005	1.79807	24.1026	3.76928	10.6167
329	ASFL93	7.45955	1.69205	22.6829	3.76928	10.6167
330	JFL81	7.45937	1.79470	24.0597	3.73588	11.6000
331	ASFL35	7.45786	1.72053	23.0700	3.76928	10.6167
332	JFL15	7.45758	1.81305	24.3115	3.76392	11.6000
333	ASFL162	7.45588	1.89622	25.4325	3.76928	10.6167
334	JFL112	7.45579	1.89969	25.4794	3.79196	11.6000
335	W1FL2	7.45573	2.03651	27.3147	3.76928	11.6000
336	W1FL79	7.45529	2.03860	27.3443	3.78196	11.6000
337	AFL65	7.45500	2.18476	29.3059	3.22497	11.6000
338	W1FL13	7.45486	2.04087	27.3764	3.79464	11.6000
339	ASFL106	7.45479	1.80565	24.2214	3.76928	10.6167
340	W1FL90	7.45443	2.04333	27.4110	3.80732	11.6000
341	SFL148	7.45432	1.79128	24.0301	3.65230	10.6167
342	NR1	7.45400	2.04597	27.4480	3.82000	11.6000
343	AFL1	7.45400	2.04597	27.4480	3.82000	11.6000
344	MFL1	7.45400	2.04597	27.4480	3.82000	11.6000
345	JFL1	7.45400	2.04597	27.4480	3.82000	11.6000
346	W1FL1	7.45400	2.04597	27.4480	3.82000	11.6000
347	W2FL1	7.45400	2.04597	27.4480	3.82000	11.6000
348	W3FL1	7.45400	2.04597	27.4480	3.82000	11.6000
349	AFL146	7.45385	1.97614	26.5117	3.69838	11.6000
350	AFL158	7.45167	1.96304	26.3436	3.66266	11.6000
351	ASFL161	7.45155	1.80293	24.1954	3.76928	10.6167
352	AFL101	7.45079	2.01146	26.9966	3.80464	11.6000
353	ASFL105	7.45045	1.75467	23.5512	3.76928	10.6167
354	SFL43	7.45036	1.76508	23.6912	3.62248	10.6167
355	AFL204	7.44985	2.06681	27.7430	3.29086	11.6000
356	ASFL182	7.44961	1.76079	23.6361	3.76928	10.6167
357	AFL29	7.44804	1.97929	26.5746	3.57212	11.6000
358	AFL14	7.44757	1.98731	26.6839	3.78928	11.6000
359	W3FL112	7.44673	1.95866	26.3023	3.82000	10.9650
360	W2FL112	7.44607	1.87353	25.1613	3.82000	10.9650
361	AFL183	7.44606	2.08213	27.9628	3.38069	11.6000
362	AFL174	7.44571	2.19193	29.4388	3.27229	11.6000
363	AFL80	7.44436	1.97390	26.5154	3.77392	11.6000
364	AFL90	7.44371	2.05115	27.5554	3.80732	11.6000
365	AFL48	7.44268	2.08501	28.0143	3.26569	11.6000
366	AFL195	7.44150	2.18837	29.4076	3.26997	11.6000
367	AFL3	7.44114	1.97146	26.4941	3.75856	11.6000
368	SFL137	7.43986	1.76219	23.6858	3.67248	10.6167
369	W3FL123	7.43959	1.93879	26.0604	3.82000	10.8267
370	W3FL15	7.43945	1.89082	25.4161	3.82000	10.3301
371	AFL135	7.43939	1.98967	26.7450	3.71856	11.6000

Obs	Strategy	Mean	STD	CV	MIN	MAX
	Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only Cont'd					
372	MFL112	7.43930	1.87272	25.1733	3.79196	10.9650
373	W3FL101	7.43911	2.00613	26.9673	3.82000	11.1834
374	SFL115	7.43819	1.77982	23.9281	3.57980	10.6167
375	W2FL15	7.43815	1.75399	23.5810	3.82000	10.3301
376	W2FL101	7.43805	1.95810	26.3254	3.82000	11.1834
377	ASFL192	7.43684	1.77885	23.9194	3.76928	10.6167
378	W3FL90	7.43449	2.02544	27.2438	3.82000	11.3542
379	AFL91	7.43406	1.98751	26.7351	3.76124	11.6000
380	SFL45	7.43393	1.84930	24.8765	3.59676	10.6167
381	AFL13	7.43341	2.05780	27.6831	3.79464	11.6000
382	W3FL81	7.43218	1.84459	24.8190	3.82000	10.3000
383	ASFL64	7.43182	1.89250	25.4648	3.76928	10.6167
384	ASFL118	7.43181	1.83736	24.7229	3.76928	10.6167
385	SFL159	7.43090	1.79561	24.1641	3.62462	10.6167
386	AFL157	7.43043	1.98993	26.7809	3.67070	11.6000
387	W2FL81	7.43022	1.69857	22.8603	3.82000	10.2000
388	ASFL37	7.42964	1.75549	23.6282	3.76928	10.6167
389	ASFL59	7.42894	1.82620	24.5822	3.76928	10.6167
390	ASFL114	7.42853	1.75559	23.6331	3.76928	10.6167
391	JFL126	7.42785	1.83674	24.7278	3.66516	11.6000
392	W2FL90	7.42715	2.01087	27.0745	3.82000	11.3542
393	AFL24	7.42698	2.01035	27.0681	3.76392	11.6000
394	ASFL36	7.42675	1.74736	23.5279	3.76928	10.6167
395	W3FL134	7.42659	1.92617	25.9361	3.82000	10.6559
396	JFL103	7.42636	1.82813	24.6168	3.72052	11.6000
397	AFL60	7.42609	2.12382	28.5994	3.26533	11.6000
398	SFL5	7.42602	1.79636	24.1901	3.53712	10.6167
399	AFL206	7.42521	2.18596	29.4397	3.25229	11.6000
400	W3FL16	7.42519	1.86181	25.0742	3.82000	10.3000
401	W3FL4	7.42491	1.82162	24.5339	3.82000	10.3000
402	MFL15	7.42459	1.74800	23.5433	3.76392	10.3301
403	W3FL14	7.42422	1.97389	26.5872	3.82000	10.7667
404	NR112	7.42404	1.83085	24.6610	3.79196	10.9650
405	AFL167	7.42377	1.99636	26.8915	3.60606	11.6000
406	AFL79	7.42312	2.06590	27.8307	3.78196	11.6000
407	JFL123	7.42247	1.88897	25.4493	3.74928	11.6000
408	ASFL173	7.42232	1.89010	25.4650	3.76928	10.6167
409	W2FL4	7.42230	1.71350	23.0859	3.82000	10.2000
410	W2FL14	7.42210	1.88348	25.3767	3.82000	10.7667
411	MFL101	7.42195	1.95145	26.2929	3.80464	11.1834
412	ASFL129	7.42188	1.84126	24.8086	3.76928	10.6167
413	JFL148	7.42171	1.87283	25.2344	3.65230	11.6000
414	JFL101	7.42099	1.98807	26.7898	3.80464	11.6000
415	SFL103	7.42037	1.71781	23.1499	3.72052	10.6167
416	AFL102	7.41990	2.03976	27.4903	3.76660	11.6000
417	AFL185	7.41916	2.20353	29.7006	3.23711	11.6000
418	ASFL125	7.41860	1.75124	23.6060	3.76928	10.6167
419	AFL55	7.41834	2.12134	28.5959	3.18033	11.6000
420	ASFL172	7.41799	1.80273	24.3021	3.76928	10.6167
421	MFL90	7.41797	1.99863	26.9430	3.80732	11.3542
422	SFL149	7.41781	1.83610	24.7526	3.52426	10.6167
423	W3FL126	7.41777	1.81683	24.4929	3.82000	10.3000
424	W3FL103	7.41729	1.84016	24.8090	3.82000	10.3000
425	ASFL95	7.41722	1.77269	23.8997	3.76928	10.6167

Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only
Cont'd

Obs	Strategy	Mean	STD	CV	MIN	MAX
426	W3FL145	7. 41670	1. 90918	25. 7416	3. 82000	10. 4976
427	JFL145	7. 41633	1. 88683	25. 4415	3. 73642	11. 6000
428	JFL92	7. 41543	1. 80013	24. 2755	3. 72320	11. 6000
429	W3FL13	7. 41498	2. 00630	27. 0573	3. 82000	11. 1084
430	AFL119	7. 41442	2. 14879	28. 9812	3. 15015	11. 6000
431	W2FL103	7. 41427	1. 69990	22. 9274	3. 82000	10. 2000
432	AFL169	7. 41413	1. 99278	26. 8781	3. 55998	11. 6000
433	SFL117	7. 41355	1. 91455	25. 8250	3. 54122	10. 6167
434	SFL92	7. 41329	1. 69893	22. 9174	3. 72320	10. 6167
435	MFL123	7. 41327	1. 87012	25. 2266	3. 74928	10. 8267
436	ASFL94	7. 41289	1. 73518	23. 4076	3. 76928	10. 6167
437	AFL2	7. 41282	2. 07546	27. 9982	3. 76928	11. 6000
438	ASFL47	7. 41280	1. 79215	24. 1765	3. 76928	10. 6167
439	JFL137	7. 41278	1. 85147	24. 9768	3. 67248	11. 6000
440	W2FL123	7. 41272	1. 85315	24. 9995	3. 82000	10. 8267
441	W3FL92	7. 41267	1. 83485	24. 7528	3. 82000	10. 3000
442	W3FL82	7. 41078	1. 81886	24. 5435	3. 82000	10. 3000
443	W3FL43	7. 41064	1. 81368	24. 4740	3. 82000	10. 3000
444	JFL90	7. 41006	2. 02852	27. 3752	3. 80732	11. 6000
445	MFL81	7. 40989	1. 68263	22. 7079	3. 73588	10. 3000
446	W3FL34	7. 40967	1. 86519	25. 1724	3. 82000	10. 3000
447	SFL52	7. 40959	1. 88126	25. 3896	3. 51140	10. 6167
448	W3FL80	7. 40933	1. 94965	26. 3134	3. 82000	10. 3501
449	W2FL145	7. 40915	1. 82237	24. 5962	3. 82000	10. 4976
450	AFL69	7. 40816	2. 20694	29. 7907	3. 16961	11. 6000
451	ASFL151	7. 40777	1. 89040	25. 5192	3. 76928	10. 6167
452	JFL134	7. 40740	1. 90901	25. 7717	3. 75660	11. 6000
453	ASFL184	7. 40727	1. 88807	25. 4894	3. 76928	10. 6167
454	ASFL193	7. 40705	1. 77830	24. 0082	3. 76928	10. 6167
455	ASFL203	7. 40666	1. 77576	23. 9752	3. 76928	10. 6167
456	ASFL140	7. 40632	1. 85528	25. 0500	3. 76928	10. 6167
457	W2FL34	7. 40625	1. 70680	23. 0454	3. 82000	10. 2000
458	W2FL80	7. 40615	1. 82376	24. 6250	3. 82000	10. 3501
459	W2FL134	7. 40512	1. 85326	25. 0268	3. 82000	10. 6559
460	SFL44	7. 40502	1. 78615	24. 1209	3. 63712	10. 6167
461	W3FL137	7. 40477	1. 81332	24. 4885	3. 82000	10. 3000
462	ASFL147	7. 40448	1. 75498	23. 7016	3. 76928	10. 6167
463	W3FL115	7. 40351	1. 81220	24. 4776	3. 82000	10. 3000
464	W2FL92	7. 40337	1. 68867	22. 8095	3. 82000	10. 2000
465	SFL138	7. 40335	1. 80667	24. 4034	3. 54444	10. 6167
466	ASFL136	7. 40304	1. 76408	23. 8291	3. 76928	10. 6167
467	ASFL183	7. 40294	1. 80446	24. 3749	3. 76928	10. 6167
468	ASFL25	7. 40258	1. 71258	23. 1349	3. 76928	10. 6167
469	AFL130	7. 40225	2. 16680	29. 2722	3. 10747	11. 6000
470	W3FL114	7. 40206	1. 89647	25. 6209	3. 82000	10. 3000
471	AFL66	7. 40191	2. 20738	29. 8218	3. 15461	11. 6000
472	SFL128	7. 40138	1. 93146	26. 0959	3. 49854	10. 6167
473	W3FL25	7. 40044	1. 86497	25. 2007	3. 82000	10. 3000
474	W2FL13	7. 40030	1. 97767	26. 7242	3. 82000	11. 1084
475	NR101	7. 40015	1. 94366	26. 2651	3. 80464	11. 1834
476	W3FL17	7. 39917	1. 84419	24. 9243	3. 82000	10. 3000
477	W2FL114	7. 39822	1. 73395	23. 4374	3. 82000	10. 2000
478	AFL194	7. 39814	2. 10510	28. 4545	3. 33051	11. 6000
479	NR90	7. 39776	2. 00237	27. 0672	3. 80732	11. 3542

Obs	Strategy	Mean	STD	CV	MIN	MAX
	Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only Cont'd					
480	AFL178	7.39722	2.01951	27.3010	3.57088	11.6000
481	W3FL5	7.39638	1.81238	24.5036	3.82000	10.3000
482	W3FL104	7.39589	1.82139	24.6271	3.82000	10.3000
483	W3FL156	7.39557	1.90194	25.7173	3.82000	10.3393
484	W3FL79	7.39548	1.98859	26.8893	3.82000	10.8625
485	W3FL35	7.39541	1.84503	24.9483	3.82000	10.3000
486	MFL4	7.39519	1.68356	22.7656	3.70784	10.3000
487	W3FL125	7.39492	1.88274	25.4599	3.82000	10.3000
488	W3FL148	7.39488	1.81609	24.5587	3.82000	10.3000
489	JFL43	7.39453	1.82965	24.7433	3.62248	11.6000
490	W3FL3	7.39444	1.93369	26.1507	3.82000	10.3000
491	SFL160	7.39439	1.84179	24.9079	3.49658	10.6167
492	NR15	7.39409	1.67751	22.6872	3.76392	10.3301
493	AFL152	7.39404	2.21168	29.9117	3.09461	11.6000
494	AFL20	7.39354	2.01498	27.2533	3.39212	11.6000
495	SFL170	7.39335	1.80727	24.4445	3.52194	10.6167
496	SFL7	7.39317	1.98631	26.8668	3.48569	10.6167
497	ASFL54	7.39294	1.79743	24.3128	3.76928	10.6167
498	AFL168	7.39288	2.02804	27.4323	3.56802	11.6000
499	JFL34	7.39155	1.83230	24.7891	3.73320	11.6000
500	W3FL93	7.39127	1.81165	24.5106	3.82000	10.3000
501	JFL16	7.39094	1.79421	24.2758	3.67856	11.6000
502	W2FL3	7.39020	1.78044	24.0918	3.82000	10.2000
503	MFL14	7.38990	1.86668	25.2599	3.78928	10.7667
504	W3FL91	7.38982	1.93660	26.2063	3.82000	10.3000
505	W2FL126	7.38895	1.68608	22.8190	3.82000	10.2000
506	W3FL113	7.38820	1.91118	25.8680	3.82000	10.3000
507	JFL14	7.38797	1.94506	26.3274	3.78928	11.6000
508	AFL180	7.38758	2.01082	27.2189	3.52480	11.6000
509	W2FL156	7.38742	1.81064	24.5097	3.82000	10.3393
510	AFL39	7.38711	2.04714	27.7123	3.36140	11.6000
511	SFL46	7.38709	1.85939	25.1709	3.54140	10.6167
512	W3FL26	7.38617	1.83905	24.8985	3.82000	10.3000
513	W2FL148	7.38537	1.69902	23.0051	3.82000	10.2000
514	W3FL24	7.38520	1.94406	26.3237	3.82000	10.3000
515	W3FL44	7.38463	1.80893	24.4959	3.82000	10.3000
516	W2FL25	7.38445	1.71663	23.2466	3.82000	10.2000
517	SFL104	7.38386	1.75841	23.8142	3.59248	10.6167
518	NR123	7.38381	1.80501	24.4455	3.74928	10.8267
519	ASFL8	7.38371	1.88992	25.5958	3.76928	10.6167
520	W3FL138	7.38337	1.81104	24.5287	3.82000	10.3000
521	ASFL26	7.38272	1.70811	23.1366	3.76928	10.6167
522	ASFL48	7.38269	1.79446	24.3063	3.76928	10.6167
523	ASFL107	7.38262	1.79874	24.3645	3.76928	10.6167
524	JFL45	7.38225	1.90917	25.8616	3.59676	11.6000
525	MFL13	7.38195	1.95366	26.4654	3.79464	11.1084
526	W3FL136	7.38192	1.87595	25.4128	3.82000	10.3000
527	AFL205	7.38184	2.10763	28.5515	3.31283	11.6000
528	ASFL38	7.38152	1.75230	23.7390	3.76928	10.6167
529	W2FL137	7.38135	1.69012	22.8971	3.82000	10.2000
530	W3FL124	7.38107	1.89336	25.6516	3.82000	10.3000
531	SFL51	7.38068	1.81781	24.6294	3.55176	10.6167
532	W3FL102	7.38059	1.95600	26.5020	3.82000	10.4459
533	ASFL158	7.38043	1.75416	23.7677	3.76928	10.6167

Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only Cont'd						
Obs	Strategy	Mean	STD	CV	MIN	MAX
534	MFL134	7.38012	1.85422	25.1246	3.75660	10.6559
535	AFL141	7.37958	2.18188	29.5665	3.11479	11.6000
536	W3FL18	7.37941	1.83085	24.8102	3.82000	10.3000
537	ASFL3	7.37933	1.80416	24.4488	3.76928	10.6167
538	W2FL91	7.37930	1.80172	24.4158	3.82000	10.2000
539	SFL139	7.37871	1.94449	26.3527	3.50586	10.6167
540	JFL18	7.37866	1.82407	24.7209	3.65284	11.6000
541	W3FL167	7.37794	1.91280	25.9259	3.82000	10.3000
542	MFL103	7.37784	1.66555	22.5751	3.72052	10.3000
543	ASFL204	7.37687	1.77193	24.0201	3.76928	10.6167
544	SFL93	7.37678	1.73997	23.5871	3.59516	10.6167
545	MOTAD2	7.37611	1.62277	22.0003	3.74710	10.0280
546	W3FL2	7.37597	1.97236	26.7404	3.82000	10.6167
547	MFL92	7.37387	1.65723	22.4744	3.72320	10.3000
548	JFL159	7.37376	1.86356	25.2729	3.62462	11.6000
549	W3FL159	7.37375	1.81881	24.6660	3.82000	10.3000
550	W3FL149	7.37349	1.81980	24.6803	3.82000	10.3000
551	W2FL79	7.37345	1.94648	26.3985	3.82000	10.8625
552	AFL61	7.37300	2.15068	29.1697	3.19497	11.6000
553	AFL30	7.37295	2.04191	27.6946	3.36676	11.6000
554	MFL16	7.37254	1.73926	23.5910	3.67856	10.3000
555	W3FL147	7.37203	1.86707	25.3264	3.82000	10.3000
556	MFL145	7.37197	1.82207	24.7162	3.73642	10.4976
557	W3FL83	7.37176	1.80522	24.4883	3.82000	10.3000
558	W2FL16	7.37145	1.70898	23.1838	3.82000	10.2000
559	AFL196	7.37124	2.22139	30.1359	3.18693	11.6000
560	AFL163	7.37062	2.22430	30.1780	3.06693	11.6000
561	W3FL51	7.37036	1.81054	24.5651	3.82000	10.3000
562	W3FL178	7.37031	1.91663	26.0047	3.82000	10.3000
563	SFL116	7.37018	1.81299	24.5989	3.60176	10.6167
564	SFL162	7.36975	1.99055	27.0097	3.45801	10.6167
565	JFL25	7.36969	1.81056	24.5676	3.73856	11.6000
566	W3FL36	7.36939	1.83573	24.9102	3.82000	10.3000
567	MFL126	7.36916	1.67379	22.7134	3.66516	10.3000
568	W2FL24	7.36840	1.83194	24.8621	3.82000	10.2751
569	JFL156	7.36839	1.88472	25.5784	3.70874	11.6000
570	W3FL135	7.36806	1.88390	25.5684	3.82000	10.3000
571	SFL181	7.36681	1.81459	24.6320	3.48676	10.6167
572	AFL179	7.36634	2.04972	27.8254	3.53284	11.6000
573	JFL13	7.36611	2.01398	27.3412	3.79464	11.6000
574	SFL34	7.36604	1.71650	23.3029	3.73320	10.6167
575	W2FL113	7.36552	1.79493	24.3693	3.82000	10.2276
576	W2FL125	7.36487	1.71179	23.2427	3.82000	10.2000
577	W3FL45	7.36486	1.82303	24.7531	3.82000	10.3000
578	ASFL65	7.36471	1.88484	25.5929	3.76928	10.6167
579	ASFL195	7.36471	1.89635	25.7492	3.76928	10.6167
580	W3FL116	7.36449	1.80850	24.5570	3.82000	10.3000
581	JFL44	7.36439	1.85978	25.2538	3.63712	11.6000
582	W2FL18	7.36430	1.68049	22.8194	3.82000	10.2000
583	SFL58	7.36426	1.90644	25.8878	3.52604	10.6167
584	NR81	7.36413	1.60379	21.7784	3.73588	9.9861
585	W2FL167	7.36370	1.81166	24.6026	3.82000	10.2709
586	W2FL159	7.36365	1.67951	22.8081	3.82000	10.2000
587	AFL86	7.36331	2.10003	28.5202	3.17819	11.6000

Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only
Cont'd

Obs	Strategy	Mean	STD	CV	MIN	MAX
588	ASFL55	7.36282	1.80287	24.4861	3.76928	10.6167
589	SFL53	7.36276	1.89308	25.7116	3.45604	10.6167
590	ASFL60	7.36182	1.82647	24.8100	3.76928	10.6167
591	W2FL147	7.36130	1.69995	23.0931	3.82000	10.2000
592	NR145	7.36121	1.77070	24.0545	3.73642	10.4976
593	JFL115	7.36121	1.82545	24.7983	3.57980	11.6000
594	JFL17	7.36080	1.83287	24.9005	3.69320	11.6000
595	MOTAD3	7.36053	1.60094	21.7503	3.73252	9.9736
596	MFL34	7.36049	1.66779	22.6587	3.73320	10.3000
597	ASFL194	7.36038	1.82021	24.7298	3.76928	10.6167
598	NR134	7.36020	1.80893	24.5772	3.75660	10.6559
599	W3FL27	7.36016	1.82598	24.8090	3.82000	10.3000
600	AFL108	7.36009	2.13202	28.9673	3.16283	11.6000
601	JFL82	7.35941	1.77172	24.0742	3.60784	11.6000
602	SFL106	7.35922	1.86817	25.3854	3.55390	10.6167
603	W3FL146	7.35818	1.86991	25.4127	3.82000	10.3000
604	SFL127	7.35801	1.82978	24.8679	3.55908	10.6167
605	MFL80	7.35784	1.79304	24.3691	3.77392	10.3501
606	W2FL102	7.35750	1.87067	25.4254	3.82000	10.4459
607	W3FL127	7.35735	1.81086	24.6129	3.82000	10.3000
608	W2FL136	7.35727	1.71547	23.3166	3.82000	10.2000
609	W3FL105	7.35687	1.81420	24.6599	3.82000	10.3000
610	SFL171	7.35684	1.85385	25.1990	3.39390	10.6167
611	JFL114	7.35675	1.85905	25.2701	3.74588	11.6000
612	W2FL17	7.35625	1.71396	23.2994	3.82000	10.2000
613	W3FL170	7.35612	1.82975	24.8738	3.82000	10.3000
614	W2FL43	7.35560	1.66049	22.5745	3.82000	10.2000
615	AFL70	7.35507	2.23312	30.3617	3.09925	11.6000
616	JFL80	7.35496	1.91796	26.0771	3.77392	11.6000
617	AFL207	7.35495	2.21814	30.1584	3.16925	11.6000
618	ASFL28	7.35450	1.72573	23.4649	3.76928	10.6167
619	AFL97	7.35301	2.11586	28.7754	3.16551	11.6000
620	MFL25	7.35254	1.68181	22.8738	3.73856	10.3000
621	W3FL160	7.35235	1.82522	24.8250	3.82000	10.3000
622	W3FL94	7.35225	1.80157	24.5037	3.82000	10.3000
623	SFL95	7.35214	1.83700	24.9860	3.55658	10.6167
624	SFL25	7.35188	1.71135	23.2777	3.73856	10.6167
625	ASFL27	7.35161	1.73672	23.6237	3.76928	10.6167
626	W3FL158	7.35090	1.86614	25.3865	3.82000	10.3000
627	W3FL52	7.35060	1.83255	24.9307	3.82000	10.3000
628	ASFL174	7.35016	1.88671	25.6690	3.76928	10.6167
629	SFL150	7.34980	1.87239	25.4754	3.54622	10.6167
630	W3FL37	7.34963	1.83395	24.9530	3.82000	10.3000
631	AFL189	7.34930	2.06702	28.1254	3.52070	11.6000
632	W3FL181	7.34849	1.83637	24.9897	3.82000	10.3000
633	W2FL45	7.34845	1.69405	23.0532	3.82000	10.2000
634	W2FL178	7.34810	1.82262	24.8040	3.82000	10.2626
635	ASFL169	7.34687	1.77032	24.0962	3.76928	10.6167
636	AFL49	7.34684	2.13949	29.1213	3.16533	11.6000
637	W2FL2	7.34660	1.91740	26.0992	3.82000	10.6167
638	SFL64	7.34633	1.99616	27.1722	3.43033	10.6167
639	NR14	7.34631	1.85702	25.2783	3.78928	10.7667
640	MFL79	7.34592	1.91124	26.0177	3.78196	10.8625
641	ASFL96	7.34505	1.76827	24.0743	3.76928	10.6167

Obs	Strategy	Mean	STD	CV	MIN	MAX
		Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only Cont'd				
642	W3FL189	7.34467	1.94529	26.4857	3.82000	10.3000
643	W3FL6	7.34435	1.81202	24.6722	3.82000	10.3000
644	SFL118	7.34329	1.93164	26.3048	3.45819	10.6167
645	MFL114	7.34314	1.69019	23.0172	3.74588	10.3000
646	MFL43	7.34314	1.66527	22.6779	3.62248	10.3000
647	JFL117	7.34279	1.95515	26.6268	3.54122	11.6000
648	W3FL84	7.34211	1.81855	24.7687	3.82000	10.3000
649	ASFL91	7.34176	1.81340	24.6998	3.76928	10.6167
650	SFL35	7.34170	1.74270	23.7371	3.64784	10.6167
651	NR13	7.34153	1.96191	26.7235	3.79464	11.1084
652	JFL84	7.34100	1.86745	25.4387	3.56926	11.6000
653	AFL21	7.34045	2.05727	28.0265	3.32176	11.6000
654	W2FL44	7.34040	1.67088	22.7628	3.82000	10.2000
655	W3FL28	7.34039	1.81715	24.7555	3.82000	10.3000
656	W2FL170	7.33992	1.65690	22.5738	3.82000	10.2000
657	AFL191	7.33966	2.05221	27.9606	3.47462	11.6000
658	W2FL158	7.33957	1.68499	22.9576	3.82000	10.2000
659	W2FL35	7.33955	1.66035	22.6220	3.82000	10.2000
660	MOTAD4	7.33777	1.61374	21.9922	3.71121	9.8941
661	W3FL19	7.33714	1.82959	24.9360	3.82000	10.3000
662	W3FL157	7.33705	1.86619	25.4351	3.82000	10.3000
663	MFL137	7.33601	1.66295	22.6683	3.67248	10.3000
664	W3FL200	7.33554	1.94878	26.5663	3.82000	10.3000
665	SFL6	7.33534	1.84256	25.1189	3.56640	10.6167
666	ASFL185	7.33510	1.88747	25.7320	3.76928	10.6167
667	W3FL117	7.33484	1.84233	25.1175	3.82000	10.3000
668	AFL120	7.33479	2.19061	29.8660	3.04461	11.6000
669	W3FL171	7.33472	1.83521	25.0208	3.82000	10.3000
670	ASFL66	7.33460	1.88612	25.7154	3.76928	10.6167
671	ASFL206	7.33453	1.88649	25.7206	3.76928	10.6167
672	W3FL150	7.33446	1.82352	24.8624	3.82000	10.3000
673	NR4	7.33417	1.62058	22.0963	3.70784	9.8839
674	MOTAD5	7.33417	1.62058	22.0963	3.70784	9.8839
675	NFL4	7.33417	1.62058	22.0963	3.70784	9.8839
676	ANFL4	7.33417	1.62058	22.0963	3.70784	9.8839
677	SNFL4	7.33417	1.62058	22.0963	3.70784	9.8839
678	AFL40	7.33402	2.08214	28.3902	3.29104	11.6000
679	MFL156	7.33357	1.81404	24.7362	3.70874	10.3393
680	W3FL169	7.33327	1.87952	25.6301	3.82000	10.3000
681	AFL9	7.33307	2.24395	30.6005	2.96425	11.6000
682	AFL200	7.33301	2.08556	28.4407	3.50302	11.6000
683	W2FL37	7.33240	1.66046	22.6455	3.82000	10.2000
684	SFL173	7.33220	1.99734	27.2406	3.35533	10.6167
685	W2FL124	7.33217	1.77497	24.2080	3.82000	10.2000
686	ASFL180	7.33182	1.78002	24.2780	3.76928	10.6167
687	MFL82	7.33181	1.66403	22.6960	3.60784	10.3000
688	ASFL61	7.33171	1.83286	24.9990	3.76928	10.6167
689	MFL113	7.33122	1.75516	23.9408	3.75392	10.3000
690	ANFL126	7.33115	1.62148	22.1177	3.70784	9.8815
691	ASFL119	7.33114	1.83668	25.0531	3.76928	10.6167
692	SFL129	7.33112	1.94978	26.5960	3.41551	10.6167
693	SFL182	7.33030	1.86371	25.4248	3.35872	10.6167
694	ASFL205	7.33020	1.81463	24.7555	3.76928	10.6167
695	W2FL82	7.33017	1.62648	22.1888	3.82000	10.2000

Obs	Strategy	Mean	STD	CV	MIN	MAX
	Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only					
	Cont'd					
696	W2FL146	7. 32860	1. 75127	23. 8963	3. 82000	10. 2361
697	ANFL43	7. 32814	1. 62385	22. 1591	3. 70784	9. 8815
698	JFL5	7. 32789	1. 82417	24. 8935	3. 53712	11. 6000
699	MFL148	7. 32786	1. 67355	22. 8382	3. 65230	10. 3000
700	ANFL148	7. 32774	1. 62558	22. 1839	3. 70784	9. 8815
701	W3FL128	7. 32771	1. 85053	25. 2539	3. 82000	10. 3000
702	SFL26	7. 32754	1. 73762	23. 7135	3. 65320	10. 6167
703	W3FL106	7. 32722	1. 83617	25. 0595	3. 82000	10. 3000
704	W3FL182	7. 32709	1. 84245	25. 1457	3. 82000	10. 3000
705	JFL104	7. 32640	1. 80598	24. 6503	3. 59248	11. 6000
706	SFL161	7. 32638	1. 87875	25. 6437	3. 51854	10. 6167
707	MFL3	7. 32579	1. 73196	23. 6420	3. 75856	10. 3000
708	W3FL180	7. 32563	1. 88560	25. 7397	3. 82000	10. 3000
709	SFL37	7. 32527	1. 79123	24. 4528	3. 62212	10. 6167
710	ANFL137	7. 32526	1. 62599	22. 1970	3. 70784	9. 8815
711	ANFL115	7. 32512	1. 62768	22. 2205	3. 70784	9. 8815
712	JFL35	7. 32491	1. 81420	24. 7676	3. 64784	11. 6000
713	W3FL58	7. 32458	1. 83766	25. 0889	3. 82000	10. 3000
714	W2FL135	7. 32457	1. 77812	24. 2761	3. 82000	10. 2000
715	W2FL36	7. 32435	1. 67033	22. 8052	3. 82000	10. 2000
716	W2FL181	7. 32432	1. 64752	22. 4938	3. 82000	10. 2000
717	JFL113	7. 32396	1. 87702	25. 6285	3. 75392	11. 6000
718	JFL125	7. 32343	1. 84849	25. 2408	3. 70320	11. 6000
719	AFL202	7. 32337	2. 06759	28. 2328	3. 45694	11. 6000
720	SFL151	7. 32291	2. 00312	27. 3542	3. 40265	10. 6167
721	W3FL192	7. 32285	1. 85519	25. 3343	3. 82000	10. 3000
722	AFL131	7. 32262	2. 21057	30. 1883	3. 00193	11. 6000
723	W3FL95	7. 32260	1. 81841	24. 8328	3. 82000	10. 3000
724	W3FL46	7. 32260	1. 83544	25. 0654	3. 82000	10. 3000
725	AFL56	7. 32250	2. 17269	29. 6714	3. 07997	11. 6000
726	W2FL115	7. 32225	1. 63680	22. 3538	3. 82000	10. 2000
727	JFL79	7. 32217	2. 00243	27. 3476	3. 78196	11. 6000
728	ANFL5	7. 32210	1. 63296	22. 3018	3. 70784	9. 8815
729	JFL3	7. 32194	1. 90744	26. 0509	3. 75856	11. 6000
730	MFL91	7. 32182	1. 75688	23. 9951	3. 76124	10. 3000
731	JFL149	7. 32175	1. 85874	25. 3865	3. 52426	11. 6000
732	ANFL45	7. 32131	1. 63872	22. 3829	3. 70784	9. 8815
733	ASFL130	7. 32121	1. 84200	25. 1598	3. 76928	10. 6167
734	W2FL19	7. 32085	1. 65833	22. 6522	3. 82000	10. 2000
735	AFL31	7. 31986	2. 08218	28. 4456	3. 29640	11. 6000
736	W2FL84	7. 31945	1. 64165	22. 4286	3. 82000	10. 2000
737	W3FL168	7. 31942	1. 87914	25. 6734	3. 82000	10. 3000
738	SFL192	7. 31889	1. 83788	25. 1115	3. 43658	10. 6167
739	ANFL149	7. 31869	1. 64194	22. 4349	3. 70784	9. 8815
740	AFL190	7. 31842	2. 09639	28. 6454	3. 48266	11. 6000
741	MFL24	7. 31784	1. 78869	24. 4429	3. 76392	10. 3000
742	W2FL26	7. 31775	1. 67250	22. 8554	3. 82000	10. 2000
743	SFL59	7. 31742	1. 91913	26. 2269	3. 47069	10. 6167
744	JFL147	7. 31729	1. 85885	25. 4035	3. 69034	11. 6000
745	MFL125	7. 31712	1. 68668	23. 0512	3. 70320	10. 3000
746	MFL115	7. 31711	1. 65802	22. 6595	3. 57980	10. 3000
747	ASFL69	7. 31660	1. 88617	25. 7793	3. 76928	10. 6167
748	ANFL44	7. 31635	1. 63376	22. 3302	3. 70784	9. 8815
749	ANFL138	7. 31620	1. 63771	22. 3847	3. 70784	9. 8815

Obs	Strategy	Mean	STD	CV	MIN	MAX
		Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only				
		Cont'd				
750	JFL116	7.31600	1.87158	25.5820	3.60176	11.6000
751	SFL105	7.31585	1.79183	24.4924	3.61444	10.6167
752	W2FL169	7.31585	1.67792	22.9355	3.82000	10.2000
753	ASFL113	7.31582	1.77810	24.3048	3.76928	10.6167
754	JFL52	7.31561	1.90162	25.9940	3.51140	11.6000
755	JFL93	7.31547	1.77701	24.2911	3.59516	11.6000
756	ANFL52	7.31527	1.65426	22.6138	3.70784	9.8815
757	ANFL117	7.31488	1.65983	22.6912	3.70784	9.8815
758	W3FL139	7.31470	1.85437	25.3513	3.82000	10.3000
759	ASFL39	7.31441	1.77439	24.2589	3.76928	10.6167
760	AFL153	7.31440	2.25268	30.7979	2.98907	11.6000
761	AFL50	7.31425	2.15316	29.4379	3.12997	11.6000
762	W2FL104	7.31422	1.62775	22.2545	3.82000	10.2000
763	JFL83	7.31421	1.82519	24.9540	3.62980	11.6000
764	MFL102	7.31387	1.82705	24.9806	3.76660	10.4459
765	W3FL203	7.31372	1.84689	25.2524	3.82000	10.3000
766	NR16	7.31361	1.62897	22.2732	3.67856	10.0534
767	W3FL161	7.31333	1.83144	25.0424	3.82000	10.3000
768	JFL138	7.31282	1.83614	25.1085	3.54444	11.6000
769	JFL37	7.31264	1.86047	25.4419	3.62212	11.6000
770	ANFL159	7.31247	1.61344	22.0642	3.70784	9.8815
771	SFL47	7.31201	1.88449	25.7726	3.33604	10.6167
772	ANFL128	7.31186	1.66984	22.8375	3.70784	9.8815
773	W3FL179	7.31178	1.88368	25.7622	3.82000	10.3000
774	SFL114	7.31171	1.73734	23.7611	3.74588	10.6167
775	W2FL117	7.31152	1.69870	23.2332	3.82000	10.2000
776	W2FL189	7.31112	1.82369	24.9440	3.82000	10.2418
777	SFL28	7.31111	1.76716	24.1709	3.62748	10.6167
778	JFL91	7.31101	1.91404	26.1802	3.76124	11.6000
779	W2FL28	7.31060	1.65530	22.6425	3.82000	10.2000
780	NFL126	7.31036	1.58073	21.6231	3.70784	9.8409
781	ANFL51	7.31031	1.64318	22.4775	3.70784	9.8815
782	NR103	7.31028	1.60985	22.0217	3.72052	9.8997
783	MFL2	7.30990	1.87155	25.6029	3.76928	10.6167
784	NFL148	7.30948	1.57970	21.6117	3.70784	9.9019
785	JFL128	7.30947	1.95228	26.7089	3.49854	11.6000
786	SFL94	7.30877	1.77410	24.2735	3.61712	10.6167
787	SFL140	7.30845	1.96345	26.8654	3.42283	10.6167
788	ANFL7	7.30845	1.68860	23.1048	3.70784	9.8815
789	MFL35	7.30844	1.65778	22.6830	3.64784	10.3000
790	JFL136	7.30836	1.86536	25.5236	3.71052	11.6000
791	W3FL53	7.30833	1.84845	25.2924	3.82000	10.3000
792	JFL106	7.30798	1.91218	26.1656	3.55390	11.6000
793	NR92	7.30789	1.58884	21.7414	3.72320	9.9929
794	ANFL116	7.30744	1.64386	22.4957	3.70784	9.8815
795	W2FL83	7.30737	1.64172	22.4666	3.82000	10.2000
796	W3FL38	7.30736	1.84145	25.1999	3.82000	10.3000
797	ASFL152	7.30710	1.88584	25.8083	3.76928	10.6167
798	W2FL157	7.30687	1.74052	23.8203	3.82000	10.2429
799	AFL186	7.30653	2.25826	30.9074	2.92907	11.6000
800	ASFL29	7.30639	1.72606	23.6239	3.76928	10.6167
801	MFL17	7.30624	1.71200	23.4321	3.69320	10.3000
802	AFL67	7.30607	2.24908	30.7837	3.05425	11.6000
803	ANFL139	7.30597	1.67670	22.9497	3.70784	9.8815

Obs	Strategy	Mean	STD	CV	MIN	MAX
804	ASFL124	7.30589	1.77638	24.3144	3.76928	10.6167
805	SFL184	7.30566	2.00436	27.4357	3.32015	10.6167
806	ASFL141	7.30566	1.85669	25.4144	3.76928	10.6167
807	NR156	7.30535	1.75216	23.9846	3.70874	10.3393
808	MFL124	7.30519	1.75401	24.0104	3.71124	10.3000
809	W2FL46	7.30500	1.66277	22.7621	3.82000	10.2000
810	W3FL7	7.30482	1.87358	25.6486	3.82000	10.3000
811	SNFL126	7.30480	1.58679	21.7226	3.70784	9.8409
812	ANFL127	7.30442	1.64936	22.5803	3.70784	9.8815
813	ASFL24	7.30420	1.83117	25.0701	3.76928	10.6167
814	W2FL106	7.30350	1.66488	22.7957	3.82000	10.2000
815	ANFL58	7.30349	1.66731	22.8290	3.70784	9.8815
816	ANFL160	7.30342	1.62977	22.3152	3.70784	9.8815
817	JFL7	7.30333	2.01011	27.5232	3.48569	11.6000
818	W2FL93	7.30332	1.61759	22.1487	3.82000	10.2000
819	JFL26	7.30305	1.79142	24.5297	3.65320	11.6000
820	SFL203	7.30259	1.84296	25.2371	3.41890	10.6167
821	W2FL27	7.30255	1.68185	23.0310	3.82000	10.2000
822	AFL201	7.30213	2.11667	28.9870	3.46498	11.6000
823	W3FL20	7.30188	1.85382	25.3882	3.82000	10.3000
824	W3FL193	7.30146	1.85676	25.4300	3.82000	10.3000
825	ANFL150	7.30101	1.66048	22.7432	3.70784	9.8815
826	MFL26	7.30049	1.67499	22.9436	3.65320	10.3000
827	W2FL180	7.30025	1.68080	23.0238	3.82000	10.2000
828	JFL24	7.30008	1.93085	26.4497	3.76392	11.6000
829	W3FL191	7.30000	1.91467	26.2283	3.82000	10.3000
830	AFL142	7.29995	2.22604	30.4939	3.00925	11.6000
831	MFL104	7.29976	1.64611	22.5502	3.59248	10.3000
832	SFL125	7.29954	1.74985	23.9720	3.70320	10.6167
833	SFL8	7.29949	2.01143	27.5557	3.37497	10.6167
834	W2FL116	7.29945	1.65593	22.6856	3.82000	10.2000
835	ANFL6	7.29852	1.65624	22.6928	3.70784	9.8815
836	W3FL29	7.29813	1.82089	24.9501	3.82000	10.3000
837	JFL51	7.29775	1.85060	25.3586	3.55176	11.6000
838	ASFL49	7.29757	1.84100	25.2275	3.76928	10.6167
839	JFL95	7.29705	1.87559	25.7035	3.55658	11.6000
840	NFL137	7.29705	1.57750	21.6184	3.70784	9.8451
841	SFL36	7.29636	1.76385	24.1744	3.66248	10.6167
842	MFL93	7.29579	1.64008	22.4798	3.59516	10.3000
843	W3FL172	7.29570	1.84257	25.2556	3.82000	10.3000
844	JFL36	7.29478	1.84759	25.3276	3.66248	11.6000
845	JFL139	7.29440	1.97218	27.0369	3.50586	11.6000
846	ANFL170	7.29420	1.61172	22.0960	3.70784	9.8815
847	NR126	7.29394	1.59877	21.9192	3.66516	9.8409
848	ANFL162	7.29318	1.67712	22.9957	3.70784	9.8815
849	W2FL95	7.29260	1.64185	22.5140	3.82000	10.2000
850	ASFL196	7.29254	1.89974	26.0504	3.76928	10.6167
851	NR80	7.29246	1.78834	24.5231	3.77392	10.3501
852	W3FL204	7.29232	1.84420	25.2896	3.82000	10.3000
853	ANFL181	7.29181	1.61082	22.0908	3.70784	9.8815
854	ASFL146	7.29178	1.76717	24.2351	3.76928	10.6167
855	W2FL105	7.29142	1.64666	22.5835	3.82000	10.2000
856	SFL147	7.29133	1.76090	24.1506	3.69034	10.6167
857	MFL5	7.29109	1.65206	22.6586	3.53712	10.3000

Obs	Strategy	Mean	STD	CV	MIN	MAX
858	AFL164	7.29099	2.26787	31.1051	2.96139	11.6000
859	W3FL202	7.29087	1.91500	26.2657	3.82000	10.3000
860	JFL28	7.29078	1.82560	25.0399	3.62748	11.6000
861	ANFL46	7.29077	1.61591	22.1637	3.70784	9.8815
862	JFL124	7.29064	1.86597	25.5940	3.71124	11.6000
863	SFL113	7.29047	1.77731	24.3785	3.75392	10.6167
864	ASFL135	7.29033	1.79021	24.5559	3.76928	10.6167
865	MFL18	7.28994	1.67779	23.0151	3.65284	10.3000
866	AFL57	7.28991	2.18166	29.9271	3.04461	11.6000
867	JFL170	7.28982	1.86158	25.5368	3.52194	11.6000
868	MFL159	7.28946	1.66126	22.7899	3.62462	10.3000
869	ASFL191	7.28926	1.81727	24.9308	3.76928	10.6167
870	JFL102	7.28915	1.95761	26.8565	3.76660	11.6000
871	SFL107	7.28896	1.89137	25.9484	3.47086	10.6167
872	W2FL38	7.28895	1.63477	22.4281	3.82000	10.2000
873	W2FL5	7.28890	1.61511	22.1585	3.82000	10.2000
874	SFL172	7.28884	1.89147	25.9502	3.41586	10.6167
875	W3FL183	7.28807	1.85013	25.3858	3.82000	10.3000
876	SFL54	7.28767	1.91864	26.3272	3.25069	10.6167
877	W2FL192	7.28735	1.64414	22.5616	3.82000	10.2000
878	W3FL47	7.28733	1.85905	25.5107	3.82000	10.3000
879	W3FL21	7.28661	1.86607	25.6096	3.82000	10.3000
880	NFL43	7.28655	1.54344	21.1820	3.70784	9.7979
881	ASFL70	7.28649	1.89116	25.9543	3.76928	10.6167
882	NR34	7.28639	1.62690	22.3279	3.73320	9.9179
883	JFL46	7.28636	1.89627	26.0249	3.54140	11.6000
884	W3FL190	7.28615	1.91410	26.2704	3.82000	10.3000
885	ASFL120	7.28598	1.84755	25.3576	3.76928	10.6167
886	ANFL161	7.28574	1.64777	22.6164	3.70784	9.8815
887	JFL58	7.28547	1.93883	26.6122	3.52604	11.6000
888	W2FL149	7.28532	1.62636	22.3238	3.82000	10.2000
889	NR79	7.28529	1.92480	26.4204	3.78196	10.8625
890	ANFL171	7.28515	1.62608	22.3204	3.70784	9.8815
891	NFL45	7.28479	1.55320	21.3211	3.70784	9.9223
892	ANFL53	7.28474	1.63146	22.3956	3.70784	9.8815
893	JFL146	7.28450	1.86694	25.6289	3.69838	11.6000
894	JFL167	7.28444	1.90077	26.0935	3.60606	11.6000
895	ASFL40	7.28430	1.79150	24.5939	3.76928	10.6167
896	MFL136	7.28397	1.67379	22.9791	3.71052	10.3000
897	W3FL162	7.28368	1.88457	25.8739	3.82000	10.3000
898	AFL87	7.28367	2.15587	29.5987	3.07265	11.6000
899	W2FL168	7.28315	1.74029	23.8948	3.82000	10.2000
900	ASFL163	7.28304	1.88829	25.9272	3.76928	10.6167
901	JFL19	7.28278	1.82036	24.9953	3.59748	11.6000
902	ANFL182	7.28276	1.62537	22.3180	3.70784	9.8815
903	JFL127	7.28268	1.86751	25.6432	3.55908	11.6000
904	SFL193	7.28238	1.88448	25.8773	3.30854	10.6167
905	W3FL59	7.28232	1.85681	25.4975	3.82000	10.3000
906	SFL27	7.28220	1.75931	24.1591	3.66784	10.6167
907	ASFL108	7.28195	1.81614	24.9403	3.76928	10.6167
908	SFL96	7.28188	1.86291	25.5828	3.47354	10.6167
909	W2FL52	7.28175	1.64664	22.6133	3.82000	10.2000
910	NR25	7.28161	1.62753	22.3512	3.73856	10.1043
911	W2FL138	7.28130	1.61875	22.2316	3.82000	10.2000

Obs	Strategy	Mean	STD	CV	MIN	MAX
912	JFL105	7.28119	1.85483	25.4742	3.61444	11.6000
913	W2FL94	7.28052	1.63620	22.4736	3.82000	10.2000
914	AFL109	7.28046	2.18229	29.9747	3.05729	11.6000
915	AFL73	7.27999	2.27364	31.2313	2.89389	11.6000
916	W3FL85	7.27871	1.83740	25.2434	3.82000	10.3000
917	SFL38	7.27843	1.80958	24.8622	3.56676	10.6167
918	SFL124	7.27830	1.78953	24.5872	3.71124	10.6167
919	JFL2	7.27822	1.99392	27.3957	3.76928	11.6000
920	W2FL128	7.27817	1.67563	23.0226	3.82000	10.2000
921	ANFL64	7.27791	1.66673	22.9013	3.70784	9.8815
922	ASFL56	7.27771	1.84612	25.3668	3.76928	10.6167
923	AFL62	7.27716	2.20129	30.2493	3.09461	11.6000
924	W3FL201	7.27702	1.91977	26.3812	3.82000	10.3000
925	SFL136	7.27687	1.75971	24.1822	3.71052	10.6167
926	MFL44	7.27684	1.64614	22.6216	3.63712	10.3000
927	SNFL137	7.27655	1.59680	21.9445	3.70784	9.8451
928	JFL150	7.27654	1.91029	26.2527	3.54622	11.6000
929	ASFL131	7.27604	1.85513	25.4964	3.76928	10.6167
930	MFL147	7.27581	1.65908	22.8027	3.69034	10.3000
931	JFL135	7.27557	1.88549	25.9153	3.71856	11.6000
932	SNFL43	7.27543	1.55584	21.3848	3.70784	9.7979
933	ANFL173	7.27491	1.67362	23.0054	3.70784	9.8815
934	W2FL7	7.27460	1.71287	23.5460	3.82000	10.2000
935	JFL160	7.27380	1.85128	25.4513	3.49658	11.6000
936	W2FL51	7.27370	1.62503	22.3411	3.82000	10.2000
937	AFL68	7.27349	2.25158	30.9561	3.01889	11.6000
938	SNFL148	7.27343	1.61482	22.2016	3.70784	9.9019
939	W2FL20	7.27340	1.65051	22.6925	3.82000	10.2000
940	AFL98	7.27338	2.17023	29.8381	3.05997	11.6000
941	W3FL54	7.27307	1.87070	25.7210	3.82000	10.3000
942	ANFL59	7.27295	1.64379	22.6014	3.70784	9.8815
943	JFL27	7.27291	1.82909	25.1493	3.66784	11.6000
944	ANFL184	7.27252	1.67247	22.9972	3.70784	9.8815
945	W3FL39	7.27210	1.86864	25.6960	3.82000	10.3000
946	W3FL48	7.27207	1.87469	25.7793	3.82000	10.3000
947	MFL135	7.27204	1.74076	23.9377	3.71856	10.3000
948	W3FL118	7.27144	1.87098	25.7305	3.82000	10.3000
949	NR148	7.27134	1.62388	22.3326	3.65230	9.9019
950	SFL65	7.27124	2.01463	27.7068	3.22497	10.6167
951	W2FL139	7.27057	1.69021	23.2472	3.82000	10.2000
952	NR137	7.27033	1.60564	22.0848	3.67248	9.8451
953	JFL94	7.27026	1.82953	25.1646	3.61712	11.6000
954	SFL146	7.27008	1.78612	24.5681	3.69838	10.6167
955	JFL158	7.26935	1.85218	25.4794	3.66266	11.6000
956	ANFL118	7.26907	1.62795	22.3955	3.70784	9.8815
957	NR18	7.26842	1.60953	22.1441	3.65284	10.1315
958	SFL158	7.26791	1.77137	24.3726	3.66266	10.6167
959	ASFL157	7.26772	1.76897	24.3401	3.76928	10.6167
960	JFL6	7.26761	1.88679	25.9616	3.56640	11.6000
961	W2FL179	7.26755	1.74999	24.0795	3.82000	10.2065
962	ANFL172	7.26747	1.64487	22.6333	3.70784	9.8815
963	W2FL29	7.26715	1.63489	22.4970	3.82000	10.2000
964	ASFL102	7.26663	1.85723	25.5583	3.76928	10.6167
965	W2FL58	7.26655	1.67132	23.0002	3.82000	10.2000

Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only
Cont'd

Obs	Strategy	Mean	STD	CV	MIN	MAX
966	NR17	7.26639	1.64168	22.5928	3.69320	10.0179
967	W2FL127	7.26610	1.63392	22.4869	3.82000	10.2000
968	SFL204	7.26609	1.88554	25.9499	3.29086	10.6167
969	ANFL129	7.26606	1.63801	22.5433	3.70784	9.8815
970	W3FL173	7.26605	1.89542	26.0860	3.82000	10.3000
971	ANFL183	7.26507	1.64407	22.6298	3.70784	9.8815
972	W2FL200	7.26502	1.79658	24.7292	3.82000	10.2000
973	W3FL129	7.26431	1.88168	25.9031	3.82000	10.3000
974	SFL29	7.26427	1.78897	24.6270	3.57212	10.6167
975	MOTAD1	7.26390	1.55290	21.3783	3.62882	9.8652
976	MFL146	7.26389	1.71305	23.5830	3.69838	10.3000
977	W3FL107	7.26382	1.86133	25.6246	3.82000	10.3000
978	W2FL160	7.26360	1.61052	22.1725	3.82000	10.2000
979	W2FL191	7.26327	1.68495	23.1982	3.82000	10.2000
980	W3FL30	7.26286	1.84780	25.4418	3.82000	10.3000
981	NFL115	7.26273	1.50891	20.7761	3.70784	9.7549
982	ANFL151	7.26264	1.65747	22.8219	3.70784	9.8815
983	W3FL64	7.26255	1.89672	26.1165	3.82000	10.3000
984	W2FL150	7.26252	1.65635	22.8068	3.82000	10.2000
985	NR114	7.26250	1.67087	23.0069	3.74588	9.9361
986	W3FL194	7.26243	1.86480	25.6773	3.82000	10.3000
987	ASFL207	7.26236	1.89091	26.0371	3.76928	10.6167
988	SFL183	7.26229	1.90193	26.1891	3.38069	10.6167
989	SFL174	7.26194	2.02151	27.8370	3.27229	10.6167
990	ASFL153	7.26193	1.89574	26.1052	3.76928	10.6167
991	MFL45	7.26053	1.67289	23.0409	3.59676	10.3000
992	ASFL142	7.26049	1.87047	25.7623	3.76928	10.6167
993	ANFL140	7.26016	1.64431	22.6485	3.70784	9.8815
994	NFL117	7.26011	1.54181	21.2368	3.70784	9.9426
995	NFL44	7.25992	1.53921	21.2014	3.70784	9.8087
996	MFL167	7.25942	1.81678	25.0265	3.60606	10.3000
997	AFL71	7.25924	2.27688	31.3653	2.99889	11.6000
998	W3FL96	7.25921	1.84097	25.3605	3.82000	10.3000
999	ASFL202	7.25908	1.82333	25.1180	3.76928	10.6167
1000	SFL48	7.25892	1.90475	26.2401	3.26569	10.6167
1001	NFL159	7.25867	1.54767	21.3217	3.70784	9.9087
1002	AFL197	7.25861	2.28167	31.4339	2.87889	11.6000
1003	W2FL6	7.25850	1.64539	22.6684	3.82000	10.2000
1004	W3FL184	7.25842	1.90355	26.2254	3.82000	10.3000
1005	MFL138	7.25794	1.64309	22.6385	3.54444	10.3000
1006	W3FL55	7.25780	1.88708	26.0008	3.82000	10.3000
1007	SFL195	7.25774	2.01724	27.7944	3.26997	10.6167
1008	W2FL47	7.25755	1.62279	22.3600	3.82000	10.2000
1009	SFL3	7.25738	1.77956	24.5208	3.75856	10.6167
1010	W3FL40	7.25683	1.88371	25.9577	3.82000	10.3000
1011	SFL135	7.25563	1.79952	24.8018	3.71856	10.6167
1012	JFL162	7.25538	2.00412	27.6226	3.45801	11.6000
1013	NR113	7.25534	1.73195	23.8713	3.75392	10.2276
1014	ANFL192	7.25467	1.63205	22.4965	3.70784	9.8815
1015	W2FL85	7.25427	1.61276	22.2318	3.82000	10.2000
1016	ANFL47	7.25424	1.61356	22.2430	3.70784	9.8815
1017	NR43	7.25370	1.58033	21.7865	3.62248	9.7979
1018	AFL175	7.25344	2.29007	31.5722	2.85871	11.6000
1019	W3FL205	7.25330	1.85307	25.5480	3.82000	10.3000

Obs	Strategy	Mean	STD	CV	MIN	MAX
1020	W2FL162	7.25287	1.70108	23.4539	3.82000	10.2000
1021	W3FL140	7.25130	1.88788	26.0351	3.82000	10.3000
1022	SFL91	7.25030	1.79656	24.7791	3.76124	10.6167
1023	MFL149	7.24978	1.65303	22.8011	3.52426	10.3000
1024	ASFL9	7.24949	1.89306	26.1130	3.76928	10.6167
1025	ASFL67	7.24949	1.91690	26.4419	3.76928	10.6167
1026	ANFL48	7.24945	1.61146	22.2287	3.70784	9.8815
1027	ANFL54	7.24820	1.62647	22.4396	3.70784	9.8815
1028	W3FL31	7.24760	1.86096	25.6769	3.82000	10.3000
1029	ANFL8	7.24738	1.64935	22.7579	3.70784	9.8815
1030	W3FL60	7.24705	1.88051	25.9486	3.82000	10.3000
1031	SFL157	7.24667	1.79885	24.8232	3.67070	10.6167
1032	ASFL62	7.24660	1.87369	25.8561	3.76928	10.6167
1033	W2FL118	7.24635	1.66382	22.9608	3.82000	10.2000
1034	SNFL115	7.24606	1.52790	21.0860	3.70784	9.7549
1035	ANFL193	7.24561	1.64206	22.6628	3.70784	9.8815
1036	AFL22	7.24461	2.14084	29.5508	3.22140	11.6000
1037	AFL63	7.24457	2.21026	30.5092	3.05925	11.6000
1038	ASFL97	7.24438	1.79383	24.7616	3.76928	10.6167
1039	NR82	7.24342	1.54030	21.2649	3.60784	9.8339
1040	ANFL55	7.24341	1.62464	22.4291	3.70784	9.8815
1041	JFL181	7.24325	1.86793	25.7885	3.48676	11.6000
1042	SFL24	7.24322	1.82104	25.1414	3.76392	10.6167
1043	SFL60	7.24233	1.94550	26.8629	3.26533	10.6167
1044	AFL208	7.24232	2.27961	31.4762	2.86121	11.6000
1045	W2FL21	7.24220	1.66996	23.0588	3.82000	10.2000
1046	MFL36	7.24214	1.63564	22.5851	3.66248	10.3000
1047	W2FL39	7.24150	1.61554	22.3095	3.82000	10.2000
1048	SFL206	7.24144	2.01306	27.7992	3.25229	10.6167
1049	W3FL151	7.24142	1.91000	26.3761	3.82000	10.3000
1050	ANFL65	7.24138	1.66198	22.9511	3.70784	9.8815
1051	W2FL203	7.24125	1.63004	22.5105	3.82000	10.2000
1052	W2FL161	7.24080	1.64336	22.6958	3.82000	10.2000
1053	W2FL171	7.23987	1.59090	21.9741	3.82000	10.2000
1054	ASFL30	7.23927	1.75917	24.3004	3.76928	10.6167
1055	NFL5	7.23892	1.47734	20.4083	3.70784	9.7119
1056	NR3	7.23861	1.73974	24.0341	3.75856	9.9543
1057	W2FL107	7.23832	1.63395	22.5737	3.82000	10.2000
1058	W2FL53	7.23830	1.62048	22.3875	3.82000	10.2000
1059	AFL41	7.23818	2.15674	29.7968	3.19069	11.6000
1060	NFL149	7.23804	1.47857	20.4278	3.70784	9.6259
1061	ASFL164	7.23788	1.90095	26.2639	3.76928	10.6167
1062	JFL178	7.23787	1.91878	26.5102	3.57088	11.6000
1063	MFL158	7.23741	1.65080	22.8092	3.66266	10.3000
1064	ASFL50	7.23721	1.83989	25.4226	3.76928	10.6167
1065	NFL52	7.23717	1.49061	20.5966	3.70784	9.5399
1066	ASFL109	7.23678	1.83792	25.3969	3.76928	10.6167
1067	ANFL66	7.23659	1.65956	22.9330	3.70784	9.8815
1068	JFL157	7.23655	1.86244	25.7366	3.67070	11.6000
1069	ANFL60	7.23641	1.63984	22.6609	3.70784	9.8815
1070	NFL128	7.23629	1.51320	20.9113	3.70784	9.7444
1071	NR91	7.23623	1.76072	24.3320	3.76124	10.1043
1072	SFL102	7.23614	1.85272	25.6037	3.76660	10.6167
1073	NFL7	7.23542	1.54588	21.3654	3.70784	9.9630

Obs	Strategy	Mean	STD	CV	MIN	MAX
1074	SFL185	7.23540	2.03156	28.0781	3.23711	10.6167
1075	ANFL195	7.23538	1.68447	23.2810	3.70784	9.8815
1076	W3FL22	7.23535	1.91913	26.5244	3.82000	10.3000
1077	SFL55	7.23458	1.94202	26.8436	3.18033	10.6167
1078	ASFL186	7.23443	1.89728	26.2256	3.76928	10.6167
1079	MFL27	7.23419	1.65189	22.8345	3.66784	10.3000
1080	ASFL168	7.23417	1.79286	24.7832	3.76928	10.6167
1081	NR24	7.23384	1.79340	24.7918	3.76392	10.2751
1082	W3FL195	7.23278	1.91347	26.4555	3.82000	10.3000
1083	MFL83	7.23236	1.63230	22.5694	3.62980	10.3000
1084	W3FL61	7.23178	1.89726	26.2350	3.82000	10.3000
1085	ANFL61	7.23163	1.63789	22.6490	3.70784	9.8815
1086	NR102	7.23145	1.83716	25.4051	3.76660	10.4459
1087	W2FL64	7.23114	1.69208	23.3999	3.82000	10.2000
1088	SFL119	7.23066	1.97159	27.2670	3.15015	10.6167
1089	W2FL190	7.23057	1.75327	24.2480	3.82000	10.2000
1090	SFL169	7.23036	1.80025	24.8985	3.55998	10.6167
1091	AFL33	7.22952	2.16783	29.9858	3.22104	11.6000
1092	W2FL173	7.22914	1.67953	23.2327	3.82000	10.2000
1093	ANFL174	7.22911	1.64679	22.7800	3.70784	9.8815
1094	NR2	7.22906	1.89123	26.1615	3.76928	10.6167
1095	SFL2	7.22906	1.89123	26.1615	3.76928	10.6167
1096	ASFL2	7.22906	1.89123	26.1615	3.76928	10.6167
1097	ANFL203	7.22877	1.62516	22.4818	3.70784	9.8815
1098	JFL161	7.22859	1.90283	26.3236	3.51854	11.6000
1099	ANFL194	7.22793	1.65997	22.9661	3.70784	9.8815
1100	W2FL96	7.22742	1.61455	22.3393	3.82000	10.2000
1101	W3FL65	7.22728	1.91996	26.5655	3.82000	10.3000
1102	AFL10	7.22690	2.30753	31.9297	2.82353	11.6000
1103	ANFL185	7.22671	1.64568	22.7721	3.70784	9.8815
1104	AFL72	7.22665	2.27821	31.5252	2.96353	11.6000
1105	W2FL48	7.22635	1.61355	22.3288	3.82000	10.2000
1106	MFL37	7.22584	1.62838	22.5355	3.62212	10.3000
1107	W3FL86	7.22582	1.87604	25.9630	3.82000	10.3000
1108	NFL138	7.22561	1.47342	20.3917	3.70784	9.6689
1109	MFL157	7.22549	1.70598	23.6106	3.67070	10.3000
1110	MFL51	7.22478	1.63547	22.6369	3.55176	10.3000
1111	SFL69	7.22440	2.03421	28.1575	3.16961	10.6167
1112	W2FL182	7.22427	1.58308	21.9133	3.82000	10.2000
1113	AFL32	7.22402	2.16460	29.9639	3.19604	11.6000
1114	W3FL206	7.22365	1.89714	26.2629	3.82000	10.3000
1115	W2FL59	7.22310	1.64895	22.8289	3.82000	10.2000
1116	NFL139	7.22298	1.51967	21.0394	3.70784	9.9062
1117	NFL116	7.22279	1.50606	20.8515	3.70784	9.7723
1118	NR125	7.22227	1.64645	22.7969	3.70320	9.7449
1119	W3FL49	7.22080	1.91321	26.4958	3.82000	10.3000
1120	W3FL8	7.22028	1.92439	26.6526	3.82000	10.3000
1121	JFL53	7.21972	1.89112	26.1938	3.45604	11.6000
1122	ANFL204	7.21972	1.63224	22.6080	3.70784	9.8815
1123	W2FL30	7.21970	1.62511	22.5094	3.82000	10.2000
1124	ASFL73	7.21938	1.90263	26.3546	3.76928	10.6167
1125	ASFL179	7.21911	1.80770	25.0405	3.76928	10.6167
1126	SNFL44	7.21894	1.57896	21.8724	3.70784	9.8087
1127	W3FL119	7.21854	1.90855	26.4396	3.82000	10.3000

Obs	Strategy	Mean	STD	CV	MIN	MAX
			Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only Cont'd			
1128	SFL130	7.21849	1.99002	27.5683	3.10747	10.6167
1129	SFL66	7.21815	2.03410	28.1803	3.15461	10.6167
1130	NR167	7.21799	1.75997	24.3830	3.60606	10.2709
1131	MFL28	7.21789	1.62565	22.5225	3.62748	10.3000
1132	SNFL159	7.21781	1.58804	22.0017	3.70784	9.9087
1133	MFL116	7.21766	1.63324	22.6284	3.60176	10.3000
1134	ASFL57	7.21735	1.84081	25.5054	3.76928	10.6167
1135	W2FL202	7.21717	1.66581	23.0813	3.82000	10.2000
1136	W3FL23	7.21708	1.92238	26.6366	3.82000	10.3000
1137	W2FL172	7.21707	1.62639	22.5353	3.82000	10.2000
1138	JFL38	7.21675	1.85080	25.6459	3.56676	11.6000
1139	SNFL5	7.21669	1.50315	20.8287	3.70784	9.7119
1140	NR159	7.21548	1.60176	22.1989	3.62462	9.9087
1141	MFL170	7.21531	1.65188	22.8941	3.52194	10.3000
1142	NR124	7.21510	1.70606	23.6457	3.71124	10.0893
1143	SFL194	7.21437	1.92224	26.6445	3.33051	10.6167
1144	ANFL119	7.21427	1.62605	22.5394	3.70784	9.8815
1145	W2FL184	7.21354	1.67103	23.1652	3.82000	10.2000
1146	NR115	7.21347	1.56538	21.7008	3.57980	9.7549
1147	MFL19	7.21314	1.66805	23.1252	3.59748	10.3000
1148	W2FL129	7.21300	1.64471	22.8021	3.82000	10.2000
1149	SNFL45	7.21270	1.62634	22.5484	3.70784	9.9223
1150	MFL178	7.21239	1.83206	25.4016	3.57088	10.3000
1151	NFL51	7.21229	1.47230	20.4137	3.70784	9.6259
1152	AFL23	7.21202	2.17053	30.0960	3.18604	11.6000
1153	W3FL66	7.21202	1.93739	26.8633	3.82000	10.3000
1154	W3FL130	7.21141	1.91817	26.5991	3.82000	10.3000
1155	MFL160	7.21138	1.64570	22.8209	3.49658	10.3000
1156	ANFL130	7.21125	1.63413	22.6608	3.70784	9.8815
1157	W3FL108	7.21092	1.90178	26.3736	3.82000	10.3000
1158	ANFL69	7.21084	1.64587	22.8250	3.70784	9.8815
1159	NFL58	7.21054	1.49954	20.7965	3.70784	9.8494
1160	W2FL40	7.21030	1.62305	22.5102	3.82000	10.2000
1161	SFL152	7.21027	2.03801	28.2654	3.09461	10.6167
1162	ANFL206	7.20948	1.66950	23.1570	3.70784	9.8815
1163	W2FL151	7.20942	1.68591	23.3849	3.82000	10.2000
1164	ASFL31	7.20916	1.78353	24.7398	3.76928	10.6167
1165	SFL168	7.20912	1.83697	25.4812	3.56802	10.6167
1166	NR45	7.20851	1.64497	22.8198	3.59676	9.9223
1167	MFL52	7.20848	1.66134	23.0471	3.51140	10.3000
1168	MFL84	7.20791	1.63435	22.6744	3.56926	10.3000
1169	ANFL152	7.20784	1.65374	22.9436	3.70784	9.8815
1170	JFL64	7.20744	2.00139	27.7684	3.43033	11.6000
1171	ANFL120	7.20709	1.62249	22.5124	3.70784	9.8815
1172	W3FL56	7.20653	1.91962	26.6372	3.82000	10.3000
1173	NR44	7.20648	1.59669	22.1563	3.63712	9.8087
1174	W3FL97	7.20631	1.88144	26.1082	3.82000	10.3000
1175	ANFL70	7.20605	1.64351	22.8073	3.70784	9.8815
1176	NR35	7.20592	1.58227	21.9579	3.64784	9.7339
1177	AFL42	7.20559	2.18205	30.2827	3.15533	11.6000
1178	W3FL41	7.20557	1.93621	26.8710	3.82000	10.3000
1179	W2FL140	7.20539	1.66210	23.0674	3.82000	10.2000
1180	ANFL141	7.20536	1.64121	22.7776	3.70784	9.8815
1181	ASFL175	7.20432	1.90913	26.4998	3.76928	10.6167

Obs	Strategy	Mean	STD	CV	MIN	MAX
1182	ANFL131	7.20407	1.63077	22.6368	3.70784	9.8815
1183	SFL180	7.20382	1.81738	25.2280	3.52480	10.6167
1184	SFL39	7.20334	1.85743	25.7857	3.36140	10.6167
1185	W3FL87	7.20292	1.90061	26.3867	3.82000	10.3000
1186	W3FL174	7.20265	1.93592	26.8779	3.82000	10.3000
1187	W3FL50	7.20253	1.90098	26.3932	3.82000	10.3000
1188	ANFL205	7.20204	1.65018	22.9127	3.70784	9.8815
1189	W2FL183	7.20147	1.62104	22.5098	3.82000	10.2000
1190	ASFL71	7.20138	1.92708	26.7599	3.76928	10.6167
1191	NR26	7.20114	1.57955	21.9347	3.65320	9.7079
1192	ANFL153	7.20066	1.64996	22.9140	3.70784	9.8815
1193	W3FL33	7.20033	1.91381	26.5795	3.82000	10.3000
1194	MFL105	7.20031	1.61895	22.4844	3.61444	10.3000
1195	NR147	7.19967	1.63448	22.7022	3.69034	9.9565
1196	ASFL98	7.19921	1.82109	25.2957	3.76928	10.6167
1197	ASFL41	7.19919	1.86101	25.8502	3.76928	10.6167
1198	NFL127	7.19898	1.47396	20.4746	3.70784	9.5829
1199	JFL118	7.19895	1.94401	27.0041	3.45819	11.6000
1200	NR136	7.19866	1.65200	22.9487	3.71052	9.8997
1201	W3FL141	7.19840	1.92539	26.7474	3.82000	10.3000
1202	ANFL142	7.19818	1.63777	22.7525	3.70784	9.8815
1203	NFL150	7.19811	1.48573	20.6405	3.70784	9.7926
1204	SFL205	7.19808	1.92337	26.7206	3.31283	10.6167
1205	JFL85	7.19716	1.86296	25.8846	3.48622	11.6000
1206	MFL94	7.19634	1.61189	22.3987	3.61712	10.3000
1207	W3FL32	7.19633	1.91585	26.6226	3.82000	10.3000
1208	SFL141	7.19582	2.00424	27.8529	3.11479	10.6167
1209	W3FL120	7.19564	1.93519	26.8939	3.82000	10.3000
1210	W3FL185	7.19502	1.94532	27.0370	3.82000	10.3000
1211	JFL29	7.19489	1.81867	25.2772	3.57212	11.6000
1212	MFL117	7.19321	1.68159	23.3775	3.54122	10.3000
1213	ANFL163	7.19257	1.64659	22.8930	3.70784	9.8815
1214	NR146	7.19250	1.67896	23.3432	3.69838	10.2361
1215	ASFL197	7.19188	1.91669	26.6508	3.76928	10.6167
1216	MFL127	7.19163	1.62922	22.6544	3.55908	10.3000
1217	NR135	7.19149	1.71202	23.8061	3.71856	10.1793
1218	AFL121	7.19103	2.27560	31.6450	2.89407	11.6000
1219	W2FL54	7.19085	1.58473	22.0381	3.82000	10.2000
1220	JFL171	7.18986	1.84957	25.7248	3.39390	11.6000
1221	JFL59	7.18958	1.92826	26.8202	3.47069	11.6000
1222	NR104	7.18958	1.55079	21.5700	3.59248	9.7229
1223	ANFL196	7.18957	1.65962	23.0838	3.70784	9.8815
1224	ASFL10	7.18926	1.91675	26.6613	3.76928	10.6167
1225	SFL61	7.18924	1.96958	27.3963	3.19497	10.6167
1226	SFL30	7.18918	1.85018	25.7357	3.36676	10.6167
1227	ASFL68	7.18913	1.90665	26.5213	3.76928	10.6167
1228	W3FL152	7.18852	1.94710	27.0863	3.82000	10.3000
1229	W3FL131	7.18851	1.94528	27.0610	3.82000	10.3000
1230	W2FL31	7.18850	1.64242	22.8480	3.82000	10.2000
1231	SNFL138	7.18844	1.51307	21.0486	3.70784	9.6689
1232	W3FL57	7.18827	1.90192	26.4587	3.82000	10.3000
1233	W3FL109	7.18803	1.92815	26.8245	3.82000	10.3000
1234	W2FL8	7.18769	1.68261	23.4096	3.82000	10.2000
1235	SFL196	7.18748	2.04639	28.4716	3.18693	10.6167

Obs	Strategy	Mean	STD	CV	MIN	MAX
1236	W3FL42	7.18730	1.93519	26.9251	3.82000	10.3000
1237	W2FL193	7.18730	1.58264	22.0200	3.82000	10.2000
1238	NFL160	7.18723	1.44755	20.1405	3.70784	9.5829
1239	NR93	7.18719	1.52636	21.2372	3.59516	9.6459
1240	SFL163	7.18685	2.04949	28.5173	3.06693	10.6167
1241	ASFL63	7.18624	1.86929	26.0121	3.76928	10.6167
1242	NFL6	7.18567	1.47841	20.5745	3.70784	9.7359
1243	JFL169	7.18540	1.86306	25.9284	3.55998	11.6000
1244	ANFL164	7.18539	1.64285	22.8637	3.70784	9.8815
1245	SNFL149	7.18532	1.53492	21.3619	3.70784	9.6259
1246	W3FL69	7.18502	1.94850	27.1189	3.82000	10.3000
1247	NFL162	7.18460	1.52236	21.1893	3.70784	9.9698
1248	W2FL201	7.18447	1.72978	24.0767	3.82000	10.2000
1249	AFL74	7.18415	2.32446	32.3554	2.79353	11.6000
1250	MFL46	7.18373	1.65840	23.0854	3.54140	10.3000
1251	W2FL65	7.18369	1.65384	23.0221	3.82000	10.2000
1252	W3FL98	7.18341	1.90657	26.5413	3.82000	10.3000
1253	NFL46	7.18317	1.49649	20.8332	3.70784	9.9359
1254	W2FL86	7.18310	1.58501	22.0659	3.82000	10.2000
1255	NFL170	7.18286	1.51358	21.0722	3.70784	9.8405
1256	SFL179	7.18258	1.85811	25.8697	3.53284	10.6167
1257	W3FL62	7.18052	1.93015	26.8803	3.82000	10.3000
1258	AFL198	7.17898	2.33226	32.4874	2.77335	11.6000
1259	AFL132	7.17886	2.29325	31.9445	2.85139	11.6000
1260	W2FL195	7.17657	1.66543	23.2065	3.82000	10.2000
1261	ASFL190	7.17655	1.84633	25.7272	3.76928	10.6167
1262	SFL108	7.17633	1.94790	27.1435	3.16283	10.6167
1263	MFL106	7.17586	1.64221	22.8852	3.55390	10.3000
1264	W2FL60	7.17564	1.61687	22.5327	3.82000	10.2000
1265	NR84	7.17563	1.59737	22.2610	3.56926	10.0473
1266	W3FL142	7.17550	1.95273	27.2139	3.82000	10.3000
1267	W2FL119	7.17517	1.61259	22.4745	3.82000	10.2000
1268	ANFL49	7.17516	1.65734	23.0984	3.70784	9.8815
1269	ANFL9	7.17430	1.64895	22.9842	3.70784	9.8815
1270	MFL189	7.17349	1.84516	25.7220	3.52070	10.3000
1271	NR5	7.17323	1.55402	21.6642	3.53712	9.7119
1272	NR83	7.17259	1.56673	21.8433	3.62980	9.8769
1273	ANFL186	7.17191	1.64753	22.9720	3.70784	9.8815
1274	MFL95	7.17188	1.62091	22.6008	3.55658	10.3000
1275	JFL173	7.17144	2.00191	27.9150	3.35533	11.6000
1276	SFL70	7.17131	2.05760	28.6921	3.09925	10.6167
1277	SFL207	7.17118	2.04131	28.4655	3.16925	10.6167
1278	NR178	7.17100	1.77681	24.7777	3.57088	10.2626
1279	AFL154	7.17065	2.32828	32.4696	2.83853	11.6000
1280	W3FL70	7.16975	1.96757	27.4426	3.82000	10.3000
1281	ANFL73	7.16951	1.64618	22.9608	3.70784	9.8815
1282	W3FL196	7.16939	1.95539	27.2741	3.82000	10.3000
1283	SFL97	7.16925	1.92949	26.9134	3.16551	10.6167
1284	ANFL56	7.16913	1.66443	23.2167	3.70784	9.8815
1285	MFL181	7.16828	1.65347	23.0665	3.48676	10.3000
1286	W2FL22	7.16825	1.67602	23.3811	3.82000	10.2000
1287	W3FL163	7.16739	1.96211	27.3756	3.82000	10.3000
1288	MFL128	7.16718	1.67690	23.3970	3.49854	10.3000
1289	W2FL108	7.16714	1.59800	22.2962	3.82000	10.2000

Obs	Strategy	Mean	STD	CV	MIN	MAX
		Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only				
		Cont'd				
1290	ANFL175	7.16712	1.64490	22.9507	3.70784	9.8815
1291	JFL129	7.16563	1.94291	27.1142	3.41551	11.6000
1292	W3FL153	7.16562	1.97490	27.5607	3.82000	10.3000
1293	ANFL10	7.16473	1.64370	22.9416	3.70784	9.8815
1294	W2FL194	7.16450	1.62042	22.6173	3.82000	10.2000
1295	JFL107	7.16415	1.90339	26.5682	3.47086	11.6000
1296	W2FL174	7.16397	1.66485	23.2393	3.82000	10.2000
1297	ANFL207	7.16368	1.64439	22.9546	3.70784	9.8815
1298	MFL169	7.16326	1.65265	23.0711	3.55998	10.3000
1299	SFL49	7.16308	1.95477	27.2896	3.16533	10.6167
1300	AFL209	7.16268	2.33045	32.5360	2.75567	11.6000
1301	ANFL67	7.16230	1.69294	23.6369	3.70784	9.8815
1302	W3FL63	7.16225	1.91355	26.7172	3.82000	10.3000
1303	ASFL208	7.16170	1.90994	26.6688	3.76928	10.6167
1304	SNFL116	7.16132	1.56725	21.8850	3.70784	9.7723
1305	W3FL67	7.16075	1.96398	27.4270	3.82000	10.3000
1306	NR37	7.16073	1.59742	22.3081	3.62212	9.9587
1307	W3FL207	7.16025	1.94002	27.0943	3.82000	10.3000
1308	SNFL51	7.16020	1.52621	21.3153	3.70784	9.6259
1309	W2FL55	7.15964	1.57788	22.0386	3.82000	10.2000
1310	JFL151	7.15950	2.00192	27.9618	3.40265	11.6000
1311	NR36	7.15870	1.59705	22.3093	3.66248	9.8451
1312	MFL6	7.15848	1.62436	22.6914	3.56640	10.3000
1313	ASFL121	7.15831	1.92603	26.9063	3.76928	10.6167
1314	ANFL62	7.15734	1.67659	23.4247	3.70784	9.8815
1315	NR19	7.15670	1.57661	22.0299	3.59748	10.1451
1316	JFL192	7.15630	1.88196	26.2980	3.43658	11.6000
1317	W2FL97	7.15625	1.58542	22.1544	3.82000	10.2000
1318	AFL143	7.15619	2.30812	32.2534	2.85871	11.6000
1319	NR28	7.15595	1.57265	21.9769	3.62748	10.1451
1320	SFL191	7.15590	1.85809	25.9659	3.47462	10.6167
1321	SNFL52	7.15395	1.57888	22.0700	3.70784	9.5399
1322	NR27	7.15392	1.59523	22.2987	3.66784	10.0315
1323	JFL96	7.15322	1.86877	26.1248	3.47354	11.6000
1324	JFL168	7.15261	1.87949	26.2770	3.56802	11.6000
1325	W2FL66	7.15249	1.64580	23.0102	3.82000	10.2000
1326	W2FL49	7.15239	1.61364	22.5608	3.82000	10.2000
1327	SNFL117	7.15196	1.65479	23.1376	3.70784	9.9426
1328	AFL75	7.15156	2.32722	32.5414	2.75817	11.6000
1329	MFL168	7.15134	1.71421	23.9705	3.56802	10.3000
1330	SFL120	7.15102	2.00943	28.0999	3.04461	10.6167
1331	JFL189	7.15093	1.94346	27.1777	3.52070	11.6000
1332	NR149	7.15063	1.58092	22.1088	3.52426	9.6259
1333	JFL140	7.15057	1.96271	27.4483	3.42283	11.6000
1334	MFL150	7.15033	1.63691	22.8929	3.54622	10.3000
1335	SFL40	7.15026	1.89052	26.4398	3.29104	10.6167
1336	W3FL9	7.14975	1.97674	27.6476	3.82000	10.3000
1337	NR138	7.14962	1.55920	21.8082	3.54444	9.6689
1338	SFL9	7.14931	2.06729	28.9160	2.96425	10.6167
1339	MFL38	7.14903	1.61907	22.6475	3.56676	10.3000
1340	ASFL132	7.14838	1.93110	27.0146	3.76928	10.6167
1341	W2FL185	7.14837	1.66127	23.2399	3.82000	10.2000
1342	NFL161	7.14729	1.45895	20.4127	3.70784	9.7994
1343	AFL165	7.14723	2.34482	32.8074	2.81085	11.6000

Obs	Strategy	Mean	STD	CV	MIN	MAX
1344	MFL200	7.14684	1.82852	25.5850	3.50302	10.3000
1345	ASFL198	7.14671	1.93829	27.1214	3.76928	10.6167
1346	ASFL201	7.14637	1.85568	25.9668	3.76928	10.6167
1347	AJFL7	7.14626	1.69033	23.6534	3.56640	9.7359
1348	NFL181	7.14579	1.50428	21.0512	3.70784	9.8723
1349	NR117	7.14568	1.68317	23.5550	3.54122	9.9426
1350	JFL172	7.14465	1.90467	26.6587	3.41586	11.6000
1351	W3FL164	7.14449	1.99110	27.8691	3.82000	10.3000
1352	W2FL61	7.14444	1.61324	22.5804	3.82000	10.2000
1353	NR158	7.14381	1.61284	22.5767	3.66266	9.9633
1354	JFL182	7.14329	1.85775	26.0070	3.35872	11.6000
1355	NR116	7.14263	1.59384	22.3145	3.60176	9.7723
1356	W3FL68	7.14249	1.94128	27.1794	3.82000	10.3000
1357	MFL58	7.14218	1.65371	23.1542	3.52604	10.3000
1358	AFL122	7.14215	2.29769	32.1709	2.84103	11.6000
1359	W3FL186	7.14212	1.98599	27.8067	3.82000	10.3000
1360	W2FL130	7.14182	1.59681	22.3586	3.82000	10.2000
1361	W2FL204	7.14120	1.57382	22.0387	3.82000	10.2000
1362	MFL29	7.14109	1.61768	22.6531	3.57212	10.3000
1363	ASFL72	7.14101	1.91823	26.8622	3.76928	10.6167
1364	W2FL69	7.14024	1.64958	23.1026	3.82000	10.2000
1365	AFL88	7.13991	2.26227	31.6849	2.92211	11.6000
1366	SFL202	7.13960	1.87338	26.2392	3.45694	10.6167
1367	SFL131	7.13885	2.03002	28.4362	3.00193	10.6167
1368	JFL180	7.13883	1.87712	26.2945	3.52480	11.6000
1369	ASFL42	7.13882	1.87172	26.2189	3.76928	10.6167
1370	SFL56	7.13874	1.98869	27.8577	3.07997	10.6167
1371	W2FL152	7.13824	1.63616	22.9210	3.82000	10.2000
1372	MFL171	7.13723	1.64055	22.9857	3.39390	10.3000
1373	AFL110	7.13670	2.28179	31.9726	2.90675	11.6000
1374	NR157	7.13664	1.65848	23.2389	3.67070	10.2429
1375	W2FL41	7.13635	1.63341	22.8886	3.82000	10.2000
1376	W2FL87	7.13629	1.60825	22.5362	3.82000	10.2000
1377	SFL31	7.13609	1.88911	26.4726	3.29640	10.6167
1378	NFL53	7.13554	1.43579	20.1217	3.70784	9.5394
1379	ANFL197	7.13476	1.66642	23.3564	3.70784	9.8815
1380	SFL190	7.13466	1.90462	26.6953	3.48266	10.6167
1381	W3FL73	7.13449	1.99560	27.9712	3.82000	10.3000
1382	ASFL74	7.13426	1.94782	27.3023	3.76928	10.6167
1383	ASFL154	7.13426	1.96237	27.5063	3.76928	10.6167
1384	W2FL141	7.13422	1.61699	22.6652	3.82000	10.2000
1385	MFL139	7.13403	1.67463	23.4738	3.50586	10.3000
1386	NFL64	7.13379	1.50139	21.0461	3.70784	9.9766
1387	ASFL143	7.13282	1.94459	27.2626	3.76928	10.6167
1388	SNFL127	7.13195	1.54250	21.6280	3.70784	9.5829
1389	ANFL71	7.13176	1.67952	23.5498	3.70784	9.8815
1390	SNFL170	7.13169	1.56504	21.9449	3.70784	9.8405
1391	MFL53	7.13168	1.65354	23.1858	3.45604	10.3000
1392	AFL76	7.13106	2.36002	33.0949	2.72317	11.6000
1393	SFL153	7.13064	2.07503	29.1001	2.98907	10.6167
1394	SFL50	7.13049	1.96652	27.5790	3.12997	10.6167
1395	W2FL206	7.13047	1.65214	23.1702	3.82000	10.2000
1396	AFL133	7.12998	2.31199	32.4264	2.79835	11.6000
1397	SNFL160	7.12970	1.50955	21.1726	3.70784	9.5829

Obs	Strategy	Mean	STD	CV	MIN	MAX
1398	AFL99	7.12962	2.27583	31.9208	2.90943	11.6000
1399	AJFL139	7.12939	1.65983	23.2814	3.56640	9.7359
1400	MFL192	7.12938	1.65732	23.2464	3.43658	10.3000
1401	W2FL120	7.12837	1.61363	22.6367	3.82000	10.2000
1402	NR170	7.12812	1.58782	22.2754	3.52194	9.8405
1403	NR52	7.12804	1.62110	22.7426	3.51140	9.5399
1404	ANFL198	7.12758	1.66273	23.3281	3.70784	9.8815
1405	W3FL175	7.12686	2.00557	28.1410	3.82000	10.3000
1406	W3FL88	7.12602	1.97048	27.6519	3.82000	10.3000
1407	NR51	7.12601	1.56816	22.0061	3.55176	9.6259
1408	MFL7	7.12588	1.69950	23.8497	3.48569	10.3000
1409	JFL184	7.12487	2.01087	28.2232	3.32015	11.6000
1410	ASFL32	7.12405	1.85591	26.0514	3.76928	10.6167
1411	ANFL50	7.12338	1.64800	23.1351	3.70784	9.8815
1412	SFL186	7.12277	2.08035	29.2070	2.92907	10.6167
1413	SNFL128	7.12259	1.63404	22.9416	3.70784	9.7444
1414	SFL67	7.12231	2.07033	29.0683	3.05425	10.6167
1415	NR106	7.12179	1.63321	22.9326	3.55390	9.9609
1416	AFL155	7.12176	2.34230	32.8894	2.78549	11.6000
1417	AJFL162	7.12038	1.66892	23.4387	3.56640	9.7359
1418	W2FL109	7.12034	1.61171	22.6353	3.82000	10.2000
1419	NR95	7.11940	1.59365	22.3847	3.55658	10.0541
1420	W3FL10	7.11922	2.01587	28.3159	3.82000	10.3000
1421	W3FL121	7.11875	1.99355	28.0042	3.82000	10.3000
1422	NR105	7.11874	1.57834	22.1716	3.61444	9.7905
1423	W3FL71	7.11849	1.99423	28.0148	3.82000	10.3000
1424	JFL47	7.11847	1.90799	26.8034	3.33604	11.6000
1425	W2FL205	7.11839	1.60739	22.5808	3.82000	10.2000
1426	SFL201	7.11836	1.92527	27.0466	3.46498	10.6167
1427	ANFL57	7.11734	1.65122	23.2000	3.70784	9.8815
1428	ASFL209	7.11653	1.93250	27.1551	3.76928	10.6167
1429	W2FL163	7.11652	1.63686	23.0008	3.82000	10.2000
1430	W3FL197	7.11649	2.00068	28.1134	3.82000	10.3000
1431	NR94	7.11635	1.55500	21.8511	3.61712	9.8837
1432	MFL180	7.11624	1.66407	23.3841	3.52480	10.3000
1433	SFL142	7.11618	2.04470	28.7331	3.00925	10.6167
1434	JFL20	7.11489	1.85718	26.1027	3.39212	11.6000
1435	W2FL32	7.11455	1.65167	23.2153	3.82000	10.2000
1436	AJFL58	7.11252	1.63398	22.9733	3.56640	9.7359
1437	MFL161	7.11193	1.63236	22.9524	3.51854	10.3000
1438	W3FL132	7.11161	1.99921	28.1119	3.82000	10.3000
1439	JFL8	7.11155	2.00572	28.2037	3.37497	11.6000
1440	NFL171	7.11142	1.41508	19.8987	3.70784	9.4649
1441	W2FL196	7.11139	1.65582	23.2840	3.82000	10.2000
1442	W3FL110	7.11113	1.99700	28.0828	3.82000	10.3000
1443	ANFL68	7.11051	1.67277	23.5253	3.70784	9.8815
1444	ASFL165	7.11021	1.97123	27.7240	3.76928	10.6167
1445	AFL176	7.10968	2.37205	33.3637	2.70817	11.6000
1446	W2FL98	7.10944	1.60678	22.6007	3.82000	10.2000
1447	ASFL110	7.10911	1.93330	27.1946	3.76928	10.6167
1448	W2FL70	7.10904	1.64823	23.1850	3.82000	10.2000
1449	NFL59	7.10892	1.45055	20.4047	3.70784	9.8630
1450	ANFL208	7.10887	1.65292	23.2516	3.70784	9.8815
1451	NFL173	7.10879	1.49049	20.9668	3.70784	9.9016

Obs	Strategy	Mean	STD	CV	MIN	MAX
				Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only Cont'd		
1452	NFL118	7.10767	1.46930	20.6721	3.70784	9.9630
1453	W3FL208	7.10736	1.98770	27.9668	3.82000	10.3000
1454	AFL144	7.10731	2.32682	32.7384	2.80567	11.6000
1455	SFL164	7.10722	2.08933	29.3973	2.96139	10.6167
1456	W3FL99	7.10651	1.97745	27.8259	3.82000	10.3000
1457	SFL57	7.10615	1.99533	28.0789	3.04461	10.6167
1458	JFL179	7.10604	1.89701	26.6957	3.53284	11.6000
1459	ANFL63	7.10555	1.66336	23.4094	3.70784	9.8815
1460	NR128	7.10544	1.67362	23.5541	3.49854	9.7444
1461	MFL179	7.10431	1.72994	24.3505	3.53284	10.3000
1462	ASFL76	7.10415	1.96466	27.6550	3.75655	10.6167
1463	SNFL6	7.10370	1.56182	21.9860	3.70784	9.7359
1464	MFL203	7.10273	1.64348	23.1387	3.41890	10.3000
1465	NR127	7.10240	1.58083	22.2577	3.55908	9.5829
1466	ANFL209	7.10169	1.65011	23.2354	3.70784	9.8815
1467	SNFL46	7.10145	1.58022	22.2520	3.70784	9.9359
1468	SNFL150	7.10058	1.58668	22.3458	3.70784	9.7926
1469	W3FL72	7.10022	1.97269	27.7835	3.82000	10.3000
1470	W3FL89	7.09862	1.96963	27.7466	3.82000	10.3000
1471	W3FL143	7.09861	2.00684	28.2709	3.82000	10.3000
1472	AFL77	7.09847	2.36300	33.2888	2.68781	11.6000
1473	AFL166	7.09834	2.35792	33.2179	2.75781	11.6000
1474	JFL183	7.09808	1.91563	26.9880	3.38069	11.6000
1475	SNFL58	7.09746	1.61814	22.7989	3.70784	9.8494
1476	NR46	7.09679	1.61028	22.6903	3.54140	9.9359
1477	SFL109	7.09669	1.99510	28.1131	3.05729	10.6167
1478	ASFL33	7.09630	1.85920	26.1996	3.76928	10.6167
1479	SFL73	7.09622	2.09458	29.5168	2.89389	10.6167
1480	ANFL121	7.09566	1.69585	23.8998	3.70784	9.8815
1481	AJFL150	7.09566	1.61302	22.7324	3.56640	9.7359
1482	ANFL74	7.09523	1.68866	23.8000	3.70784	9.8815
1483	W2FL131	7.09502	1.59980	22.5481	3.82000	10.2000
1484	NR160	7.09477	1.56131	22.0065	3.49658	9.5829
1485	AJFL64	7.09450	1.64890	23.2419	3.56640	9.7359
1486	SNFL139	7.09434	1.65582	23.3401	3.70784	9.9062
1487	W3FL198	7.09359	2.03071	28.6274	3.82000	10.3000
1488	SFL62	7.09340	2.01555	28.4144	3.09461	10.6167
1489	W2FL9	7.09279	1.62675	22.9352	3.82000	10.2000
1490	MFL85	7.09271	1.63124	22.9989	3.48622	10.3000
1491	ANFL132	7.09264	1.69957	23.9624	3.70784	9.8815
1492	NFL192	7.09236	1.48421	20.9270	3.70784	9.7541
1493	W2FL153	7.09144	1.63795	23.0976	3.82000	10.2000
1494	W3FL122	7.09135	1.98155	27.9431	3.82000	10.3000
1495	SNFL7	7.09122	1.69931	23.9636	3.70784	9.9630
1496	AFL89	7.09103	2.29585	32.3768	2.86907	11.6000
1497	ANFL76	7.09044	1.68637	23.7837	3.70784	9.8815
1498	MFL182	7.09021	1.64538	23.2064	3.35872	10.3000
1499	SNFL181	7.09020	1.55930	21.9924	3.70784	9.8723
1500	SFL68	7.08972	2.07001	29.1974	3.01889	10.6167
1501	SFL98	7.08961	1.98121	27.9453	3.05997	10.6167
1502	ANFL154	7.08923	1.71383	24.1751	3.70784	9.8815
1503	W3FL154	7.08872	2.02432	28.5569	3.82000	10.3000
1504	JFL203	7.08823	1.86110	26.2561	3.41890	11.6000
1505	AFL111	7.08782	2.31213	32.6211	2.85371	11.6000

Obs	Strategy	Mean	STD	CV	MIN	MAX
		Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only				
		Cont'd				
1506	MFL162	7.08748	1.69688	23.9419	3.45801	10.3000
1507	W2FL142	7.08742	1.62223	22.8889	3.82000	10.2000
1508	ANFL143	7.08675	1.70570	24.0689	3.70784	9.8815
1509	W2FL56	7.08569	1.58208	22.3278	3.82000	10.2000
1510	W3FL209	7.08446	2.01776	28.4815	3.77905	10.3000
1511	W3FL133	7.08421	1.98328	27.9958	3.82000	10.3000
1512	AJFL173	7.08400	1.64860	23.2722	3.56640	9.7359
1513	NFL129	7.08385	1.44251	20.3634	3.70784	9.7648
1514	W3FL111	7.08373	1.99307	28.1359	3.82000	10.3000
1515	W3FL74	7.08322	2.02825	28.6345	3.82000	10.3000
1516	AFL187	7.08314	2.39069	33.7518	2.67299	11.6000
1517	NR189	7.08302	1.79811	25.3862	3.52070	10.2418
1518	NFL151	7.08298	1.48305	20.9382	3.70784	9.9834
1519	JFL200	7.08286	1.92337	27.1553	3.50302	11.6000
1520	NR7	7.08284	1.73735	24.5290	3.48569	9.9630
1521	NR139	7.08183	1.69304	23.9068	3.50586	9.9062
1522	NR181	7.08113	1.58992	22.4529	3.48676	9.8723
1523	NR58	7.08082	1.65463	23.3678	3.52604	9.8494
1524	AFL100	7.08074	2.31103	32.6382	2.85639	11.6000
1525	ANFL72	7.07998	1.65914	23.4343	3.70784	9.8815
1526	NR150	7.07980	1.62253	22.9178	3.54622	9.7926
1527	W3FL100	7.07911	1.97866	27.9506	3.82000	10.3000
1528	NR6	7.07879	1.59713	22.5622	3.56640	9.7359
1529	AJFL6	7.07879	1.59713	22.5622	3.56640	9.7359
1530	W2FL67	7.07854	1.64282	23.2084	3.82000	10.2000
1531	MFL118	7.07800	1.67506	23.6656	3.45819	10.3000
1532	MFL191	7.07734	1.67589	23.6797	3.47462	10.3000
1533	W2FL186	7.07719	1.62895	23.0169	3.82000	10.2000
1534	ASFL176	7.07665	1.98609	28.0653	3.76928	10.6167
1535	W2FL23	7.07605	1.63876	23.1593	3.82000	10.2000
1536	SFL71	7.07547	2.09619	29.6261	2.99889	10.6167
1537	SFL197	7.07485	2.10133	29.7014	2.87889	10.6167
1538	NFL182	7.07436	1.40742	19.8946	3.70784	9.4469
1539	ANFL165	7.07396	1.70869	24.1547	3.70784	9.8815
1540	ASFL75	7.07390	1.94167	27.4484	3.76928	10.6167
1541	NFL184	7.07173	1.48419	20.9877	3.70784	9.9334
1542	ASFL99	7.07154	1.91917	27.1394	3.76928	10.6167
1543	NFL172	7.07148	1.43196	20.2498	3.70784	9.7312
1544	W3FL144	7.07121	1.99170	28.1663	3.82000	10.3000
1545	NFL140	7.07054	1.45341	20.5558	3.70784	9.9266
1546	W2FL62	7.07049	1.61708	22.8709	3.82000	10.2000
1547	AJFL161	7.06977	1.59237	22.5237	3.56640	9.7359
1548	W2FL164	7.06972	1.64370	23.2498	3.82000	10.2000
1549	SFL175	7.06968	2.10997	29.8454	2.85871	10.6167
1550	AJFL151	7.06862	1.63031	23.0640	3.56640	9.7359
1551	W3FL76	7.06796	2.04867	28.9853	3.75655	10.3000
1552	ASFL122	7.06776	1.93140	27.3269	3.76928	10.6167
1553	W3FL165	7.06759	2.04048	28.8709	3.82000	10.3000
1554	AJFL184	7.06699	1.63739	23.1695	3.56640	9.7359
1555	MFL190	7.06541	1.74436	24.6888	3.48266	10.3000
1556	MFL59	7.06538	1.64962	23.3480	3.47069	10.3000
1557	W2FL207	7.06529	1.64505	23.2835	3.82000	10.2000
1558	W3FL75	7.06496	2.00974	28.4467	3.82000	10.3000
1559	MFL20	7.06484	1.68661	23.8734	3.39212	10.3000

Obs	Strategy	Mean	STD	CV	MIN	MAX
1560	ASFL187	7.06160	1.99566	28.2608	3.66830	10.6167
1561	W2FL73	7.06159	1.63320	23.1279	3.82000	10.2000
1562	W3FL155	7.06132	2.00466	28.3893	3.78580	10.3000
1563	SFL63	7.06081	2.02222	28.6401	3.05925	10.6167
1564	AFL177	7.06080	2.38606	33.7931	2.65513	11.6000
1565	AJFL59	7.06076	1.59349	22.5682	3.56640	9.7359
1566	MFL107	7.06065	1.63966	23.2225	3.47086	10.3000
1567	W2FL50	7.06019	1.59674	22.6161	3.82000	10.2000
1568	SFL208	7.05855	2.09759	29.7170	2.86121	10.6167
1569	ASFL133	7.05783	1.93345	27.3944	3.76928	10.6167
1570	MFL96	7.05668	1.61933	22.9475	3.47354	10.3000
1571	NR169	7.05645	1.61404	22.8732	3.55998	9.8951
1572	JFL193	7.05634	1.86865	26.4819	3.30854	11.6000
1573	ANFL176	7.05569	1.71549	24.3136	3.70784	9.8815
1574	SFL41	7.05442	1.96296	27.8260	3.19069	10.6167
1575	W2FL33	7.05355	1.62578	23.0491	3.82000	10.2000
1576	ANFL187	7.05330	1.71443	24.3067	3.70784	9.8815
1577	MFL129	7.05198	1.67537	23.7575	3.41551	10.3000
1578	JFL191	7.05189	1.90315	26.9878	3.47462	11.6000
1579	JFL54	7.05183	1.90325	26.9894	3.25069	11.6000
1580	AJFL140	7.05175	1.60045	22.6958	3.56640	9.7359
1581	MFL193	7.05131	1.65060	23.4085	3.30854	10.3000
1582	MFL202	7.05069	1.66035	23.5488	3.45694	10.3000
1583	W3FL176	7.04996	2.05928	29.2098	3.77155	10.3000
1584	W3FL77	7.04969	2.03015	28.7977	3.62505	10.3000
1585	NR168	7.04928	1.66691	23.6465	3.56802	10.1747
1586	MFL64	7.04908	1.69787	24.0864	3.43033	10.3000
1587	NR38	7.04901	1.56214	22.1612	3.56676	9.9723
1588	JFL39	7.04886	1.87983	26.6685	3.36140	11.6000
1589	W2FL175	7.04599	1.63947	23.2681	3.82000	10.2000
1590	SFL33	7.04576	1.97428	28.0209	3.22104	10.6167
1591	SNFL161	7.04496	1.56419	22.2029	3.70784	9.7994
1592	NR29	7.04423	1.53763	21.8283	3.57212	10.1587
1593	W2FL42	7.04414	1.60931	22.8460	3.82000	10.2000
1594	ASFL77	7.04379	1.95973	27.8221	3.62505	10.6167
1595	ASFL155	7.04372	1.96093	27.8395	3.76928	10.6167
1596	SNFL171	7.04358	1.48793	21.1247	3.70784	9.4649
1597	ANFL75	7.04344	1.67060	23.7185	3.70784	9.8815
1598	SFL10	7.04313	2.12650	30.1925	2.82353	10.6167
1599	SFL72	7.04288	2.09463	29.7411	2.96353	10.6167
1600	AJFL8	7.04274	1.61320	22.9059	3.56640	9.7359
1601	SNFL53	7.04271	1.53503	21.7960	3.70784	9.5394
1602	W3FL187	7.04232	2.06967	29.3891	3.66830	10.3000
1603	ASFL144	7.04228	1.94753	27.6548	3.76928	10.6167
1604	NFL203	7.04029	1.44249	20.4891	3.70784	9.5109
1605	SFL32	7.04026	1.97020	27.9847	3.19604	10.6167
1606	W2FL197	7.04022	1.62840	23.1300	3.82000	10.2000
1607	W3FL166	7.04019	2.02157	28.7146	3.64255	10.3000
1608	JFL65	7.03955	2.01201	28.5814	3.22497	11.6000
1609	MFL201	7.03876	1.73201	24.6067	3.46498	10.3000
1610	ANFL77	7.03865	1.66948	23.7187	3.70784	9.8815
1611	JFL195	7.03793	2.01199	28.5878	3.26997	11.6000
1612	MFL172	7.03778	1.63014	23.1628	3.41586	10.3000
1613	SNFL162	7.03560	1.67998	23.8783	3.70784	9.9698

Obs	Strategy	Mean	STD	CV	MIN	MAX
		Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only				
		Cont'd				
1614	MFL47	7.03543	1.66069	23.6046	3.33604	10.3000
1615	AFL11	7.03522	2.42417	34.4577	2.62281	11.6000
1616	W2FL71	7.03509	1.64549	23.3897	3.82000	10.2000
1617	NFL183	7.03442	1.42865	20.3094	3.70784	9.7630
1618	AFL188	7.03425	2.40478	34.1868	2.61995	11.6000
1619	AJFL172	7.03339	1.57774	22.4321	3.56640	9.7359
1620	NFL8	7.03216	1.46745	20.8677	3.70784	9.9902
1621	NFL47	7.03154	1.44812	20.5946	3.70784	9.7994
1622	W2FL10	7.03039	1.64773	23.4373	3.82000	10.2000
1623	JFL174	7.02761	2.00993	28.6004	3.27229	11.6000
1624	JFL30	7.02700	1.85662	26.4212	3.36676	11.6000
1625	NR162	7.02698	1.72359	24.5282	3.45801	9.9698
1626	W2FL88	7.02537	1.62346	23.1085	3.82000	10.2000
1627	JFL48	7.02533	1.93937	27.6053	3.26569	11.6000
1628	MFL204	7.02465	1.63691	23.3024	3.29086	10.3000
1629	NR161	7.02394	1.60468	22.8459	3.51854	9.7994
1630	SNFL192	7.02282	1.55816	22.1871	3.70784	9.7541
1631	W3FL177	7.02256	2.04252	29.0851	3.57431	10.3000
1632	SFL42	7.02183	1.98756	28.3055	3.15533	10.6167
1633	JFL21	7.02175	1.90526	27.1337	3.32176	11.6000
1634	AJFL65	7.02174	1.61344	22.9778	3.56640	9.7359
1635	JFL60	7.02169	1.94473	27.6960	3.26533	11.6000
1636	NFL193	7.02092	1.38377	19.7092	3.70784	9.4539
1637	ASFL166	7.01967	1.97079	28.0752	3.64255	10.6167
1638	JFL190	7.01910	1.92245	27.3888	3.48266	11.6000
1639	ASFL11	7.01904	2.03109	28.9369	3.58005	10.6167
1640	AFL210	7.01892	2.42742	34.5839	2.60513	11.6000
1641	MFL140	7.01883	1.67586	23.8767	3.42283	10.3000
1642	ASFL111	7.01857	1.94715	27.7429	3.76928	10.6167
1643	NFL195	7.01829	1.45012	20.6620	3.70784	9.8152
1644	ANFL122	7.01798	1.68838	24.0580	3.70784	9.8815
1645	W2FL121	7.01744	1.62418	23.1448	3.82000	10.2000
1646	AJFL195	7.01686	1.63671	23.3254	3.56640	9.7359
1647	W3FL11	7.01669	2.09363	29.8379	3.58005	10.3000
1648	AJFL183	7.01639	1.57124	22.3939	3.56640	9.7359
1649	NR53	7.01632	1.58999	22.6613	3.45604	9.5394
1650	ANFL11	7.01615	1.74669	24.8953	3.70784	9.8815
1651	ANFL133	7.01496	1.68925	24.0807	3.70784	9.8815
1652	W3FL188	7.01493	2.05285	29.2640	3.47106	10.3000
1653	MFL173	7.01333	1.68993	24.0959	3.35533	10.3000
1654	ANFL155	7.01155	1.69829	24.2213	3.70784	9.8815
1655	JFL194	7.01113	1.92356	27.4358	3.33051	11.6000
1656	NR200	7.01103	1.76621	25.1918	3.50302	10.1635
1657	MFL151	7.01068	1.70248	24.2841	3.40265	10.3000
1658	NR180	7.00947	1.62582	23.1947	3.52480	9.9269
1659	W2FL110	7.00942	1.62999	23.2543	3.82000	10.2000
1660	ANFL144	7.00907	1.69534	24.1878	3.70784	9.8815
1661	NR85	7.00805	1.55980	22.2572	3.48622	10.0676
1662	W3FL210	7.00756	2.08661	29.7765	3.51431	10.3000
1663	NR171	7.00741	1.54685	22.0744	3.39390	9.4649
1664	SFL121	7.00727	2.08849	29.8046	2.89407	10.6167
1665	AJFL174	7.00636	1.59597	22.7789	3.56640	9.7359
1666	AFL78	7.00263	2.43371	34.7543	2.58745	11.6000
1667	NR179	7.00230	1.68297	24.0345	3.53284	10.2065

Obs	Strategy	Mean	STD	CV	MIN	MAX
1668	SNFL182	7.00208	1.48386	21.1917	3.70784	9.4469
1669	MFL39	7.00073	1.63663	23.3780	3.36140	10.3000
1670	SFL74	7.00038	2.14100	30.5840	2.79353	10.6167
1671	W2FL99	6.99852	1.62436	23.2100	3.82000	10.2000
1672	W3FL78	6.99843	2.08290	29.7624	3.44856	10.3000
1673	ANFL166	6.99628	1.69307	24.1996	3.70784	9.8815
1674	SFL198	6.99521	2.14900	30.7210	2.77335	10.6167
1675	SFL132	6.99510	2.10659	30.1152	2.85139	10.6167
1676	W2FL208	6.99412	1.61850	23.1408	3.82000	10.2000
1677	W2FL57	6.99349	1.57264	22.4872	3.82000	10.2000
1678	W2FL198	6.99342	1.64998	23.5933	3.82000	10.2000
1679	NR192	6.99315	1.59620	22.8251	3.43658	9.7541
1680	MFL30	6.99278	1.64422	23.5131	3.36676	10.3000
1681	MFL183	6.99075	1.63668	23.4121	3.38069	10.3000
1682	ANFL210	6.99026	1.74107	24.9071	3.70784	9.8815
1683	AJFL185	6.98935	1.58689	22.7044	3.56640	9.7359
1684	W3FL199	6.98929	2.08254	29.7961	3.38281	10.3000
1685	ASFL210	6.98886	2.03083	29.0581	3.51431	10.6167
1686	JFL204	6.98827	1.84701	26.4301	3.29086	11.6000
1687	AJFL60	6.98800	1.56574	22.4062	3.56640	9.7359
1688	AJFL206	6.98798	1.61648	23.1322	3.56640	9.7359
1689	AJFL66	6.98772	1.59636	22.8451	3.56640	9.7359
1690	W2FL74	6.98764	1.63708	23.4282	3.82000	10.2000
1691	SFL154	6.98688	2.14393	30.6851	2.83853	10.6167
1692	W2FL68	6.98634	1.62708	23.2895	3.82000	10.2000
1693	AFL199	6.98633	2.44303	34.9687	2.56977	11.6000
1694	SNFL59	6.98622	1.57808	22.5884	3.70784	9.8630
1695	ASFL177	6.98611	1.98756	28.4501	3.57431	10.6167
1696	SNFL118	6.98509	1.59747	22.8697	3.70784	9.9630
1697	W2FL132	6.98409	1.61346	23.1020	3.82000	10.2000
1698	NFL54	6.98392	1.39078	19.9140	3.70784	9.4030
1699	JFL202	6.98382	1.88601	27.0055	3.45694	11.6000
1700	MFL54	6.98338	1.66152	23.7924	3.25069	10.3000
1701	NFL65	6.98216	1.45698	20.8672	3.70784	9.8402
1702	NR20	6.98198	1.59607	22.8599	3.39212	10.0087
1703	JFL185	6.98104	2.02503	29.0075	3.23711	11.6000
1704	ASFL100	6.98100	1.93637	27.7378	3.76928	10.6167
1705	NFL194	6.98098	1.40342	20.1034	3.70784	9.6448
1706	W2FL154	6.98052	1.64605	23.5807	3.82000	10.2000
1707	W3FL12	6.98016	2.08551	29.8777	3.31706	10.3000
1708	SNFL64	6.97998	1.66343	23.8315	3.70784	9.9766
1709	SFL209	6.97892	2.14556	30.7435	2.75567	10.6167
1710	W2FL63	6.97829	1.60195	22.9561	3.82000	10.2000
1711	NR118	6.97809	1.64573	23.5842	3.45819	9.9630
1712	ANFL177	6.97801	1.70155	24.3845	3.70784	9.8815
1713	W2FL143	6.97649	1.63551	23.4432	3.82000	10.2000
1714	ANFL188	6.97562	1.70136	24.3901	3.70784	9.8815
1715	SFL143	6.97243	2.12070	30.4155	2.85871	10.6167
1716	MFL8	6.97228	1.71067	24.5353	3.37497	10.3000
1717	NR64	6.97112	1.71381	24.5844	3.43033	9.9766
1718	ASFL188	6.97105	1.99798	28.6611	3.47106	10.6167
1719	MFL21	6.97078	1.73115	24.8344	3.32176	10.3000
1720	AFL12	6.97004	2.45534	35.2270	2.55209	11.6000
1721	AJFL69	6.96997	1.58206	22.6981	3.56640	9.7359

Obs	Strategy	Mean	STD	CV	MIN	MAX
1722	JFL206	6.96986	1.98137	28.4277	3.25229	11.6000
1723	NR59	6.96909	1.62580	23.3287	3.47069	9.8630
1724	NFL204	6.96885	1.33973	19.2245	3.70784	9.3109
1725	SFL75	6.96779	2.14105	30.7278	2.75817	10.6167
1726	SNFL203	6.96633	1.51945	21.8114	3.70784	9.5109
1727	MFL184	6.96630	1.69340	24.3084	3.32015	10.3000
1728	AJFL194	6.96626	1.57780	22.6492	3.56640	9.7359
1729	NFL206	6.96623	1.40106	20.1122	3.70784	9.5720
1730	ANFL78	6.96437	1.73893	24.9689	3.70784	9.8815
1731	SFL165	6.96346	2.15978	31.0160	2.81085	10.6167
1732	NR182	6.96043	1.55058	22.2771	3.35872	9.4469
1733	AJFL152	6.95947	1.58529	22.7788	3.56640	9.7359
1734	SNFL172	6.95884	1.54570	22.2121	3.70784	9.7312
1735	W2FL165	6.95879	1.65195	23.7390	3.82000	10.2000
1736	JFL55	6.95869	1.93700	27.8356	3.18033	11.6000
1737	ASFL78	6.95868	2.03334	29.2203	3.44856	10.6167
1738	SFL122	6.95838	2.10805	30.2952	2.84103	10.6167
1739	NFL48	6.95742	1.45364	20.8933	3.70784	9.8630
1740	NFL60	6.95729	1.41307	20.3106	3.70784	9.7266
1741	W2FL76	6.95644	1.65529	23.7951	3.82000	10.2000
1742	NFL174	6.95635	1.44453	20.7656	3.70784	9.9220
1743	SNFL129	6.95572	1.57866	22.6959	3.70784	9.7648
1744	JFL40	6.95572	1.92173	27.6280	3.29104	11.6000
1745	NR107	6.95421	1.59494	22.9349	3.47086	9.9812
1746	AJFL61	6.95399	1.55517	22.3638	3.56640	9.7359
1747	SFL110	6.95293	2.09021	30.0622	2.90675	10.6167
1748	MFL194	6.95185	1.64234	23.6245	3.33051	10.3000
1749	NR96	6.95182	1.55502	22.3685	3.47354	10.0744
1750	JFL201	6.95103	1.90776	27.4457	3.46498	11.6000
1751	SNFL173	6.94948	1.65670	23.8392	3.70784	9.9016
1752	W2FL209	6.94732	1.64036	23.6114	3.82000	10.2000
1753	SFL76	6.94729	2.17483	31.3047	2.72317	10.6167
1754	JFL119	6.94712	1.98370	28.5543	3.15015	11.6000
1755	JFL66	6.94641	2.04579	29.4510	3.15461	11.6000
1756	SFL133	6.94621	2.12252	30.5566	2.79835	10.6167
1757	SFL99	6.94585	2.08304	29.9897	2.90943	10.6167
1758	JFL86	6.94533	1.92214	27.6753	3.17819	11.6000
1759	JFL69	6.94366	2.02481	29.1606	3.16961	11.6000
1760	JFL205	6.94307	1.89730	27.3265	3.31283	11.6000
1761	W2FL72	6.94289	1.63327	23.5244	3.82000	10.2000
1762	AJFL141	6.94261	1.56132	22.4889	3.56640	9.7359
1763	MFL48	6.94138	1.68603	24.2896	3.26569	10.3000
1764	NR173	6.93962	1.70913	24.6286	3.35533	9.9016
1765	AJFL196	6.93922	1.58948	22.9057	3.56640	9.7359
1766	ANFL199	6.93847	1.74026	25.0814	3.70784	9.8815
1767	SFL155	6.93800	2.15477	31.0575	2.78549	10.6167
1768	NR129	6.93786	1.63894	23.6231	3.41551	9.7648
1769	AJFL205	6.93737	1.56245	22.5222	3.56640	9.7359
1770	NR172	6.93658	1.59437	22.9849	3.41586	9.7312
1771	AJFL70	6.93596	1.56801	22.6070	3.56640	9.7359
1772	W2FL176	6.93507	1.65267	23.8306	3.82000	10.2000
1773	SNFL193	6.93471	1.48034	21.3467	3.70784	9.4539
1774	JFL31	6.93386	1.90379	27.4564	3.29640	11.6000
1775	AJFL163	6.93359	1.57155	22.6657	3.56640	9.7359

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Obs	Strategy	Mean	STD	CV	MIN	MAX
1776	SNFL47	6. 92921	1. 55154	22. 3913	3. 70784	9. 7994
1777	NFL205	6. 92892	1. 35729	19. 5887	3. 70784	9. 4016
1778	JFL61	6. 92855	1. 98165	28. 6013	3. 19497	11. 6000
1779	ASFL199	6. 92850	2. 03862	29. 4237	3. 38281	10. 6167
1780	SNFL140	6. 92748	1. 60319	23. 1425	3. 70784	9. 9266
1781	MFL195	6. 92740	1. 69424	24. 4571	3. 26997	10. 3000
1782	SFL176	6. 92592	2. 18600	31. 5626	2. 70817	10. 6167
1783	MFL205	6. 92520	1. 63115	23. 5538	3. 31283	10. 3000
1784	SNFL151	6. 92435	1. 64975	23. 8254	3. 70784	9. 9834
1785	SFL144	6. 92354	2. 13662	30. 8602	2. 80567	10. 6167
1786	NR47	6. 92207	1. 59965	23. 1095	3. 33604	9. 7994
1787	NR191	6. 92148	1. 64725	23. 7992	3. 47462	9. 8087
1788	NR203	6. 92116	1. 56045	22. 5461	3. 41890	9. 5109
1789	W2FL187	6. 91947	1. 66364	24. 0429	3. 82000	10. 2000
1790	NFL185	6. 91929	1. 44502	20. 8840	3. 70784	9. 9538
1791	SNFL183	6. 91734	1. 54484	22. 3329	3. 70784	9. 7630
1792	MFL60	6. 91708	1. 66152	24. 0206	3. 26533	10. 3000
1793	NR151	6. 91526	1. 70807	24. 7000	3. 40265	9. 9834
1794	SFL77	6. 91470	2. 17517	31. 4572	2. 68781	10. 6167
1795	SFL166	6. 91458	2. 16964	31. 3778	2. 75781	10. 6167
1796	NR190	6. 91431	1. 70437	24. 6498	3. 48266	10. 0883
1797	NR140	6. 91425	1. 65997	24. 0080	3. 42283	9. 9266
1798	JFL130	6. 91380	1. 98289	28. 6802	3. 10747	11. 6000
1799	ANFL12	6. 91258	1. 74508	25. 2449	3. 70784	9. 8815
1800	JFL108	6. 91232	1. 95616	28. 2996	3. 16283	11. 6000
1801	AJFL207	6. 91034	1. 56852	22. 6981	3. 56640	9. 7359
1802	NFL55	6. 90979	1. 39961	20. 2554	3. 70784	9. 4666
1803	AJFL153	6. 90846	1. 56817	22. 6993	3. 56640	9. 7359
1804	NFL66	6. 90804	1. 46673	21. 2322	3. 70784	9. 9038
1805	SNFL184	6. 90798	1. 65294	23. 9280	3. 70784	9. 9334
1806	JFL152	6. 90766	2. 04012	29. 5342	3. 09461	11. 6000
1807	MFL40	6. 90668	1. 67539	24. 2576	3. 29104	10. 3000
1808	SFL111	6. 90405	2. 11883	30. 6896	2. 85371	10. 6167
1809	JFL97	6. 90138	1. 92856	27. 9446	3. 16551	11. 6000
1810	MFL65	6. 90078	1. 70306	24. 6793	3. 22497	10. 3000
1811	MFL206	6. 90075	1. 68469	24. 4132	3. 25229	10. 3000
1812	SFL187	6. 89937	2. 20388	31. 9432	2. 67299	10. 6167
1813	MFL31	6. 89873	1. 68924	24. 4862	3. 29640	10. 3000
1814	JFL141	6. 89873	2. 00562	29. 0723	3. 11479	11. 6000
1815	ASFL12	6. 89832	2. 04663	29. 6686	3. 31706	10. 6167
1816	MFL174	6. 89812	1. 71397	24. 8469	3. 27229	10. 3000
1817	AJFL9	6. 89721	1. 56452	22. 6834	3. 56640	9. 7359
1818	SFL100	6. 89697	2. 11698	30. 6943	2. 85639	10. 6167
1819	W2FL75	6. 89544	1. 62619	23. 5835	3. 82000	10. 2000
1820	JFL196	6. 89409	2. 02707	29. 4030	3. 18693	11. 6000
1821	MFL22	6. 89298	1. 76628	25. 6244	3. 22140	10. 3000
1822	NR184	6. 89264	1. 71297	24. 8522	3. 32015	9. 9334
1823	AJFL142	6. 89159	1. 54924	22. 4801	3. 56640	9. 7359
1824	NR183	6. 88959	1. 60094	23. 2370	3. 38069	9. 7630
1825	MFL55	6. 88933	1. 69106	24. 5461	3. 18033	10. 3000
1826	NR21	6. 88801	1. 64277	23. 8498	3. 32176	10. 0723
1827	AJFL67	6. 88746	1. 60976	23. 3723	3. 56640	9. 7359
1828	W2FL89	6. 88707	1. 59984	23. 2297	3. 82000	10. 2000
1829	NFL61	6. 88316	1. 42744	20. 7381	3. 70784	9. 7902

Table B. 1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only
Cont'd

Obs	Strategy	Mean	STD	CV	MIN	MAX
1830	AJFL164	6.88257	1.55684	22.6200	3.56640	9.7359
1831	W2FL11	6.88249	1.67499	24.3369	3.82000	10.2000
1832	NFL69	6.88054	1.43565	20.8654	3.70784	9.8538
1833	NFL119	6.88023	1.42989	20.7826	3.70784	9.7584
1834	AJFL186	6.88021	1.55964	22.6684	3.56640	9.7359
1835	W2FL122	6.87914	1.61671	23.5017	3.82000	10.2000
1836	SNFL204	6.87821	1.44012	20.9375	3.70784	9.3109
1837	SFL177	6.87703	2.19689	31.9453	2.65513	10.6167
1838	NR39	6.87429	1.57182	22.8652	3.36140	9.8359
1839	NR193	6.87244	1.55214	22.5849	3.30854	9.4539
1840	W2FL111	6.87112	1.61702	23.5336	3.82000	10.2000
1841	SNFL54	6.87047	1.50892	21.9623	3.70784	9.4030
1842	MFL86	6.87025	1.67869	24.4341	3.17819	10.3000
1843	NR30	6.86951	1.55785	22.6777	3.36676	10.0223
1844	SNFL8	6.86873	1.63901	23.8619	3.70784	9.9902
1845	NFL196	6.86585	1.41512	20.6109	3.70784	9.8356
1846	W2FL77	6.86424	1.64472	23.9608	3.82000	10.2000
1847	MFL49	6.86358	1.70833	24.8897	3.16533	10.3000
1848	AJFL73	6.86320	1.55617	22.6742	3.56640	9.7359
1849	W2FL100	6.86022	1.60584	23.4080	3.82000	10.2000
1850	JFL163	6.85972	2.05014	29.8867	3.06693	11.6000
1851	NR8	6.85940	1.70641	24.8770	3.37497	9.9902
1852	NFL130	6.85641	1.40640	20.5122	3.70784	9.5602
1853	MFL119	6.85555	1.70934	24.9337	3.15015	10.3000
1854	NFL152	6.85554	1.44689	21.1054	3.70784	9.7788
1855	AJFL62	6.85372	1.57861	23.0329	3.56640	9.7359
1856	SFL11	6.85145	2.23601	32.6356	2.62281	10.6167
1857	JFL49	6.85144	1.97049	28.7602	3.16533	11.6000
1858	MFL185	6.85110	1.72548	25.1855	3.23711	10.3000
1859	NFL49	6.85054	1.42594	20.8150	3.70784	9.6266
1860	JFL70	6.85052	2.06646	30.1651	3.09925	11.6000
1861	SFL188	6.85049	2.21489	32.3319	2.61995	10.6167
1862	SNFL194	6.84997	1.53796	22.4521	3.70784	9.6448
1863	NR202	6.84949	1.61632	23.5977	3.45694	9.5655
1864	JFL22	6.84786	1.95157	28.4990	3.22140	11.6000
1865	SNFL48	6.84622	1.56210	22.8170	3.70784	9.8630
1866	AJFL175	6.84619	1.55414	22.7008	3.56640	9.7359
1867	W2FL133	6.84579	1.61165	23.5422	3.82000	10.2000
1868	NFL141	6.84310	1.42283	20.7922	3.70784	9.7220
1869	NR201	6.84233	1.67690	24.5077	3.46498	9.8451
1870	W2FL155	6.84222	1.63933	23.9590	3.82000	10.2000
1871	NR54	6.84159	1.57902	23.0797	3.25069	9.4030
1872	SNFL195	6.84061	1.63841	23.9512	3.70784	9.8152
1873	MFL23	6.83968	1.74925	25.5750	3.18604	10.3000
1874	MFL108	6.83820	1.68573	24.6517	3.16283	10.3000
1875	W2FL144	6.83819	1.62937	23.8275	3.82000	10.2000
1876	W2FL210	6.83639	1.67203	24.4578	3.82000	10.2000
1877	AJFL71	6.83570	1.58604	23.2024	3.56640	9.7359
1878	SFL210	6.83516	2.23813	32.7443	2.60513	10.6167
1879	MFL97	6.83423	1.67257	24.4734	3.16551	10.3000
1880	AJFL197	6.83007	1.57046	22.9934	3.56640	9.7359
1881	AJFL68	6.82970	1.57835	23.1101	3.56640	9.7359
1882	MFL130	6.82953	1.71378	25.0937	3.10747	10.3000
1883	AJFL10	6.82919	1.55354	22.7486	3.56640	9.7359

Obs	Strategy	Mean	STD	CV	MIN	MAX
		Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only				
		Cont'd				
1884	MFL41	6.82888	1.70828	25.0155	3.19069	10.3000
1885	NR48	6.82809	1.62469	23.7942	3.26569	9.8630
1886	JFL207	6.82602	1.99573	29.2371	3.16925	11.6000
1887	MFL69	6.82397	1.72931	25.3417	3.16961	10.3000
1888	MFL61	6.82303	1.69322	24.8162	3.19497	10.3000
1889	MFL32	6.82093	1.72598	25.3041	3.19604	10.3000
1890	W2FL166	6.82049	1.64784	24.1602	3.82000	10.2000
1891	SFL78	6.81886	2.24355	32.9021	2.58745	10.6167
1892	SNFL60	6.81398	1.55582	22.8328	3.70784	9.7266
1893	NFL207	6.81379	1.36574	20.0438	3.70784	9.5924
1894	MFL196	6.81220	1.72894	25.3801	3.18693	10.3000
1895	MFL56	6.81153	1.71501	25.1781	3.07997	10.3000
1896	MFL50	6.81028	1.69678	24.9150	3.12997	10.3000
1897	MFL33	6.80893	1.70657	25.0637	3.22104	10.3000
1898	SNFL65	6.80773	1.63412	24.0038	3.70784	9.8402
1899	JFL120	6.80741	2.05579	30.1992	3.04461	11.6000
1900	MFL66	6.80672	1.73029	25.4204	3.15461	10.3000
1901	NFL70	6.80641	1.45481	21.3742	3.70784	9.9174
1902	JFL87	6.80562	2.00772	29.5009	3.07265	11.6000
1903	NFL163	6.80473	1.44109	21.1778	3.70784	9.7856
1904	NR195	6.80465	1.70176	25.0087	3.26997	9.8152
1905	NFL56	6.80291	1.36787	20.1071	3.70784	9.2302
1906	SFL199	6.80257	2.25225	33.1088	2.56977	10.6167
1907	NR194	6.80161	1.59810	23.4959	3.33051	9.6448
1908	AJFL208	6.80119	1.55092	22.8037	3.56640	9.7359
1909	NFL67	6.80116	1.42062	20.8879	3.70784	9.6674
1910	NR204	6.80046	1.51441	22.2692	3.29086	9.3109
1911	W2FL177	6.79677	1.64960	24.2703	3.82000	10.2000
1912	NR65	6.79640	1.70180	25.0398	3.22497	9.8402
1913	MFL141	6.79637	1.71709	25.2649	3.11479	10.3000
1914	AJFL63	6.79596	1.55416	22.8688	3.56640	9.7359
1915	NR60	6.79437	1.62001	23.8433	3.26533	9.7266
1916	SNFL205	6.79348	1.49626	22.0250	3.70784	9.4016
1917	W2FL78	6.79029	1.67324	24.6416	3.82000	10.2000
1918	MFL152	6.78822	1.73839	25.6090	3.09461	10.3000
1919	SNFL55	6.78748	1.52232	22.4284	3.70784	9.4666
1920	SFL12	6.78628	2.26420	33.3644	2.55209	10.6167
1921	MFL207	6.78555	1.72127	25.3667	3.16925	10.3000
1922	JFL56	6.78480	1.96408	28.9482	3.07997	11.6000
1923	SNFL206	6.78411	1.59460	23.5049	3.70784	9.5720
1924	SNFL174	6.78261	1.62336	23.9341	3.70784	9.9220
1925	JFL41	6.78183	1.96868	29.0288	3.19069	11.6000
1926	W2FL188	6.78117	1.66074	24.4905	3.82000	10.2000
1927	NR40	6.78032	1.61039	23.7510	3.29104	9.8994
1928	AJFL198	6.77905	1.56710	23.1167	3.56640	9.7359
1929	AJFL72	6.77794	1.55401	22.9274	3.56640	9.7359
1930	NFL62	6.77629	1.39374	20.5678	3.70784	9.5538
1931	JFL9	6.77577	2.08553	30.7792	2.96425	11.6000
1932	MFL42	6.77558	1.69433	25.0064	3.15533	10.3000
1933	NR31	6.77554	1.60326	23.6625	3.29640	10.0859
1934	JFL131	6.77409	2.05662	30.3601	3.00193	11.6000
1935	JFL109	6.77261	2.03634	30.0673	3.05729	11.6000
1936	JFL67	6.77252	2.05979	30.4140	3.05425	11.6000
1937	NR174	6.77204	1.69882	25.0858	3.27229	9.9220

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	Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only					
			Cont'd			
Obs	Strategy	Mean	STD	CV	MIN	MAX
1938	NFL120	6.76904	1.47543	21.7968	3.70784	9.8538
1939	JFL153	6.76795	2.11318	31.2234	2.98907	11.6000
1940	AJFL74	6.76294	1.58517	23.4391	3.56640	9.7359
1941	JFL98	6.76168	2.01321	29.7738	3.05997	11.6000
1942	JFL32	6.75997	1.95076	28.8575	3.19604	11.6000
1943	JFL142	6.75902	2.08132	30.7932	3.00925	11.6000
1944	MFL57	6.75822	1.70379	25.2106	3.04461	10.3000
1945	AJFL154	6.75806	1.61081	23.8354	3.56640	9.7359
1946	JFL62	6.75466	2.00475	29.6795	3.09461	11.6000
1947	AJFL209	6.75017	1.54848	22.9398	3.56640	9.7359
1948	MFL163	6.74982	1.75636	26.0209	3.06693	10.3000
1949	NR55	6.74762	1.60641	23.8071	3.18033	9.4666
1950	NFL50	6.74641	1.35481	20.0819	3.70784	9.1402
1951	NR86	6.74597	1.59246	23.6061	3.17819	9.8630
1952	NFL131	6.74523	1.45491	21.5694	3.70784	9.6556
1953	MFL62	6.74522	1.71766	25.4649	3.09461	10.3000
1954	NFL153	6.74435	1.49504	22.1673	3.70784	9.8742
1955	W2FL199	6.74419	1.67860	24.8895	3.82000	10.2000
1956	AJFL143	6.74119	1.59954	23.7278	3.56640	9.7359
1957	SNFL185	6.74112	1.62634	24.1256	3.70784	9.9538
1958	NR206	6.73267	1.65498	24.5814	3.25229	9.5720
1959	AJFL165	6.73218	1.60303	23.8115	3.56640	9.7359
1960	NFL142	6.73191	1.47491	21.9093	3.70784	9.8174
1961	SNFL61	6.73098	1.57284	23.3671	3.70784	9.7902
1962	MFL70	6.72992	1.76668	26.2511	3.09925	10.3000
1963	NR205	6.72962	1.55509	23.1081	3.31283	9.4016
1964	JFL186	6.72920	2.11274	31.3965	2.92907	11.6000
1965	MFL87	6.72918	1.76275	26.1956	3.07265	10.3000
1966	AJFL76	6.72892	1.58613	23.5718	3.56640	9.7359
1967	MFL67	6.72892	1.74825	25.9811	3.05425	10.3000
1968	NFL9	6.72891	1.46068	21.7076	3.70784	9.7174
1969	SNFL119	6.72673	1.58117	23.5057	3.70784	9.7584
1970	NR185	6.72506	1.70941	25.4185	3.23711	9.9538
1971	SNFL66	6.72474	1.64637	24.4823	3.70784	9.9038
1972	JFL164	6.72001	2.12874	31.6776	2.96139	11.6000
1973	NR119	6.71601	1.65513	24.6446	3.15015	9.7584
1974	JFL50	6.71530	1.93393	28.7989	3.12997	11.6000
1975	MFL120	6.71447	1.77781	26.4773	3.04461	10.3000
1976	NR22	6.71204	1.67891	25.0134	3.22140	9.8359
1977	JFL23	6.71172	1.91480	28.5292	3.18604	11.6000
1978	SNFL49	6.71148	1.57156	23.4160	3.70784	9.6266
1979	AJFL75	6.70517	1.55535	23.1962	3.56640	9.7359
1980	NR66	6.70243	1.72786	25.7796	3.15461	9.9038
1981	NR61	6.70040	1.65052	24.6332	3.19497	9.7902
1982	NFL71	6.69954	1.41514	21.1229	3.70784	9.6810
1983	NFL57	6.69879	1.29466	19.3268	3.70784	8.9098
1984	W2FL12	6.69809	1.68807	25.2023	3.82000	10.2000
1985	SNFL130	6.69736	1.56464	23.3621	3.70784	9.5602
1986	MFL109	6.69712	1.76440	26.3457	3.05729	10.3000
1987	NFL68	6.69704	1.34041	20.0150	3.70784	9.1810
1988	SNFL69	6.69649	1.62024	24.1953	3.70784	9.8538
1989	AJFL176	6.69580	1.60841	24.0212	3.56640	9.7359
1990	JFL33	6.69422	1.91611	28.6233	3.22104	11.6000
1991	NFL164	6.69354	1.49619	22.3527	3.70784	9.8810

Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only						
			Cont'd			
Obs	**Strategy**	**Mean**	**STD**	**CV**	**MIN**	**MAX**
1992	MFL98	6.69315	1.75647	26.2428	3.05997	10.3000
1993	NR108	6.69212	1.61963	24.2021	3.16283	9.7766
1994	MFL63	6.69192	1.70973	25.5491	3.05925	10.3000
1995	NFL186	6.69185	1.48148	22.1386	3.70784	9.7492
1996	NR97	6.68973	1.58797	23.7375	3.16551	9.8698
1997	MFL131	6.68845	1.78507	26.6889	3.00193	10.3000
1998	NR69	6.68468	1.70369	25.4864	3.16961	9.8538
1999	JFL73	6.68263	2.14264	32.0628	2.89389	11.6000
2000	AJFL187	6.67879	1.61044	24.1128	3.56640	9.7359
2001	JFL71	6.67663	2.08154	31.1764	2.99889	11.6000
2002	NR130	6.67578	1.64824	24.6899	3.10747	9.5602
2003	MFL9	6.67567	1.79461	26.8828	2.96425	10.3000
2004	MFL68	6.67562	1.74213	26.0968	3.01889	10.3000
2005	SNFL196	6.67374	1.61563	24.2087	3.70784	9.8356
2006	NFL63	6.67216	1.31823	19.7571	3.70784	9.0674
2007	AJFL155	6.67142	1.57856	23.6615	3.56640	9.7359
2008	AJFL77	6.67116	1.55760	23.3482	3.56640	9.7359
2009	SNFL141	6.66911	1.59168	23.8664	3.70784	9.7220
2010	SNFL152	6.66599	1.63239	24.4884	3.70784	9.7788
2011	MFL142	6.65530	1.78978	26.8925	3.00925	10.3000
2012	NFL73	6.65479	1.50621	22.6334	3.68788	9.7810
2013	AJFL144	6.65455	1.57267	23.6330	3.56640	9.7359
2014	NR152	6.65318	1.71563	25.7866	3.09461	9.7788
2015	SNFL56	6.65273	1.52902	22.9834	3.70784	9.2302
2016	NR141	6.65217	1.67274	25.1457	3.11479	9.7220
2017	NR49	6.65212	1.63853	24.6318	3.16533	9.6266
2018	MFL71	6.65212	1.78766	26.8735	2.99889	10.3000
2019	JFL57	6.64866	1.92659	28.9772	3.04461	11.6000
2020	MFL153	6.64715	1.80756	27.1931	2.98907	10.3000
2021	JFL42	6.64569	1.93663	29.1412	3.15533	11.6000
2022	AJFL166	6.64554	1.57051	23.6325	3.56640	9.7359
2023	JFL197	6.64226	2.12238	31.9527	2.87889	11.6000
2024	NFL197	6.63841	1.46628	22.0879	3.70784	9.6310
2025	NR196	6.63707	1.69819	25.5864	3.18693	9.8356
2026	JFL68	6.63638	2.01026	30.2916	3.01889	11.6000
2027	JFL175	6.63606	2.17513	32.7774	2.85871	11.6000
2028	AJFL11	6.62866	1.63981	24.7381	3.56640	9.7359
2029	MFL186	6.62865	1.82167	27.4817	2.92907	10.3000
2030	JFL63	6.61852	1.96129	29.6334	3.05925	11.6000
2031	NFL175	6.61772	1.53466	23.1902	3.42605	9.8127
2032	SNFL207	6.61725	1.57176	23.7525	3.70784	9.5924
2033	SNFL70	6.61350	1.64160	24.8220	3.70784	9.9174
2034	MFL88	6.61247	1.82521	27.6026	2.92211	10.3000
2035	SNFL163	6.61037	1.62972	24.6540	3.70784	9.7856
2036	AJFL177	6.60915	1.57764	23.8705	3.56640	9.7359
2037	MFL164	6.60875	1.83247	27.7279	2.96139	10.3000
2038	NFL121	6.60873	1.45516	22.0188	3.70784	9.4992
2039	NR87	6.60501	1.67660	25.3838	3.07265	9.9584
2040	NR41	6.60434	1.64481	24.9050	3.19069	9.6630
2041	SNFL120	6.60224	1.62865	24.6681	3.70784	9.8538
2042	AJFL210	6.59978	1.62865	24.6773	3.56640	9.7359
2043	NR32	6.59957	1.63878	24.8316	3.19604	9.8494
2044	MFL72	6.59882	1.78383	27.0326	2.96353	10.3000
2045	SNFL50	6.59848	1.50465	22.8029	3.70784	9.1402

Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only

Cont'd

Obs	Strategy	Mean	STD	CV	MIN	MAX
2046	MFL121	6. 59777	1. 83012	27. 7384	2. 89407	10. 3000
2047	NR163	6. 59732	1. 72091	26. 0849	3. 06693	9. 7856
2048	SNFL62	6. 59624	1. 57477	23. 8738	3. 70784	9. 5538
2049	NFL72	6. 59541	1. 33587	20. 2546	3. 70784	9. 1945
2050	AJFL188	6. 59215	1. 58066	23. 9779	3. 56640	9. 7359
2051	NR70	6. 59071	1. 73853	26. 3785	3. 09925	9. 9174
2052	SNFL67	6. 59000	1. 63742	24. 8470	3. 70784	9. 6674
2053	MFL197	6. 58975	1. 83564	27. 8559	2. 87889	10. 3000
2054	JFL10	6. 58949	2. 21009	33. 5395	2. 82353	11. 6000
2055	NFL208	6. 58635	1. 42747	21. 6732	3. 69105	9. 3877
2056	NFL132	6. 58491	1. 43223	21. 7502	3. 70784	9. 3010
2057	NFL154	6. 58404	1. 46141	22. 1963	3. 70672	9. 5195
2058	MFL73	6. 58162	1. 85174	28. 1350	2. 89389	10. 3000
2059	NFL10	6. 58066	1. 56665	23. 8068	3. 16422	9. 8445
2060	MFL110	6. 58042	1. 82443	27. 7251	2. 90675	10. 3000
2061	MFL99	6. 57645	1. 81968	27. 6697	2. 90943	10. 3000
2062	NR120	6. 57506	1. 72094	26. 1738	3. 04461	9. 8538
2063	JFL208	6. 57419	2. 09374	31. 8479	2. 86121	11. 6000
2064	SNFL131	6. 57287	1. 61441	24. 5618	3. 70784	9. 6556
2065	MFL132	6. 57175	1. 83837	27. 9739	2. 85139	10. 3000
2066	NR56	6. 57165	1. 61416	24. 5624	3. 07997	9. 2302
2067	NFL143	6. 57160	1. 45068	22. 0750	3. 70605	9. 4627
2068	AJFL78	6. 57090	1. 62111	24. 6711	3. 56640	9. 7359
2069	NR23	6. 56807	1. 61271	24. 5538	3. 18604	9. 3494
2070	NR207	6. 56508	1. 64990	25. 1314	3. 16925	9. 5924
2071	MFL208	6. 56309	1. 83575	27. 9708	2. 86121	10. 3000
2072	NR109	6. 55117	1. 69614	25. 8907	3. 05729	9. 8720
2073	NR98	6. 54878	1. 67062	25. 5103	3. 05997	9. 9652
2074	NFL74	6. 54791	1. 48630	22. 6989	3. 37922	9. 5445
2075	JFL121	6. 54658	2. 10555	32. 1627	2. 89407	11. 6000
2076	JFL88	6. 54479	2. 06899	31. 6129	2. 92211	11. 6000
2077	SNFL142	6. 54462	1. 64351	25. 1123	3. 70784	9. 8174
2078	AJFL199	6. 54202	1. 61724	24. 7209	3. 56640	9. 7359
2079	SNFL153	6. 54150	1. 68006	25. 6831	3. 70784	9. 8742
2080	JFL72	6. 54049	2. 03129	31. 0571	2. 96353	11. 6000
2081	SNFL57	6. 53974	1. 46094	22. 3394	3. 70784	8. 9098
2082	MFL143	6. 53859	1. 84331	28. 1912	2. 85871	10. 3000
2083	NR131	6. 53482	1. 71574	26. 2553	3. 00193	9. 6556
2084	MFL175	6. 53459	1. 88468	28. 8415	2. 85871	10. 3000
2085	NFL165	6. 53322	1. 46751	22. 4623	3. 57489	9. 5263
2086	MFL89	6. 53252	1. 82625	27. 9563	2. 86907	10. 3000
2087	NR33	6. 53057	1. 58648	24. 2931	3. 22104	9. 4494
2088	MFL154	6. 53044	1. 85636	28. 4263	2. 83853	10. 3000
2089	NFL198	6. 52722	1. 55840	23. 8754	3. 00989	9. 7263
2090	NR67	6. 52646	1. 71841	26. 3299	3. 05425	9. 6674
2091	NR62	6. 52443	1. 65246	25. 3273	3. 09461	9. 5538
2092	SNFL9	6. 52425	1. 65159	25. 3147	3. 70784	9. 7174
2093	MFL122	6. 51782	1. 83536	28. 1591	2. 84103	10. 3000
2094	JFL132	6. 51326	2. 10351	32. 2959	2. 85139	11. 6000
2095	AJFL12	6. 51314	1. 61707	24. 8278	3. 56640	9. 7359
2096	NR153	6. 51222	1. 78102	27. 3489	2. 98907	9. 8742
2097	JFL110	6. 51177	2. 09750	32. 2109	2. 90675	11. 6000
2098	NR142	6. 51121	1. 74199	26. 7537	3. 00925	9. 8174
2099	NR9	6. 50996	1. 75012	26. 8837	2. 96425	9. 7174

Obs	Strategy	Mean	STD	CV	MIN	MAX

Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 – 2000/01 Rice Sales Only
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Obs	Strategy	Mean	STD	CV	MIN	MAX
2100	JFL74	6.50874	2.16723	33.2971	2.79353	11.6000
2101	NR50	6.50815	1.57101	24.1391	3.12997	9.1402
2102	JFL154	6.50712	2.15047	33.0480	2.83853	11.6000
2103	MFL74	6.50382	1.88565	28.9930	2.79353	10.3000
2104	JFL198	6.50255	2.22089	34.1541	2.77335	11.6000
2105	JFL99	6.50084	2.07476	31.9153	2.90943	11.6000
2106	MFL111	6.50047	1.82801	28.1212	2.85371	10.3000
2107	JFL143	6.49819	2.12528	32.7057	2.85871	11.6000
2108	MFL100	6.49650	1.82571	28.1030	2.85639	10.3000
2109	MFL165	6.49204	1.88304	29.0053	2.81085	10.3000
2110	MFL133	6.49179	1.84378	28.4018	2.79835	10.3000
2111	MFL10	6.48757	1.92033	29.6002	2.82353	10.3000
2112	SNFL164	6.48588	1.68404	25.9648	3.70784	9.8810
2113	SNFL63	6.48325	1.50473	23.2095	3.70784	9.0674
2114	SNFL186	6.48275	1.67129	25.7806	3.70784	9.7492
2115	SNFL71	6.47876	1.63797	25.2821	3.70784	9.6810
2116	SNFL68	6.47701	1.56374	24.1429	3.70784	9.1810
2117	NFL209	6.47516	1.52348	23.5281	2.90557	9.4831
2118	NFL76	6.47379	1.55570	24.0308	2.85557	9.6081
2119	NR186	6.46297	1.77517	27.4667	2.92907	9.7492
2120	NR42	6.46037	1.58257	24.4965	3.15533	9.1766
2121	JFL165	6.45917	2.16662	33.5433	2.81085	11.6000
2122	MFL144	6.45864	1.85097	28.6588	2.80567	10.3000
2123	NFL176	6.45741	1.52018	23.5416	2.96307	9.4581
2124	NR164	6.45636	1.79251	27.7635	2.96139	9.8810
2125	NFL122	6.45254	1.37494	21.3085	3.48672	8.8403
2126	MFL75	6.45052	1.89153	29.3237	2.75817	10.3000
2127	MFL155	6.45049	1.86514	28.9147	2.78549	10.3000
2128	MFL198	6.44867	1.93909	30.0697	2.77335	10.3000
2129	NFL75	6.44379	1.42281	22.0803	3.17057	9.0581
2130	SNFL73	6.44126	1.69464	26.3092	3.68788	9.7810
2131	JFL209	6.43448	2.19268	34.0771	2.75567	11.6000
2132	NFL133	6.42872	1.35144	21.0220	3.44739	8.7842
2133	NFL155	6.42785	1.37510	21.3929	3.39374	8.7899
2134	NR57	6.42768	1.54432	24.0261	3.04461	8.9098
2135	MFL209	6.42202	1.94135	30.2297	2.75567	10.3000
2136	NFL187	6.42035	1.55858	24.2757	2.70124	9.4899
2137	MFL176	6.41789	1.94397	30.2899	2.70817	10.3000
2138	NR73	6.41599	1.80347	28.1089	2.89389	9.7810
2139	JFL76	6.41561	2.23602	34.8528	2.72317	11.6000
2140	NFL144	6.41541	1.36828	21.3280	3.39307	8.7781
2141	SNFL197	6.41538	1.67308	26.0792	3.70784	9.6310
2142	NR71	6.41474	1.72917	26.9562	2.99889	9.6810
2143	MFL166	6.41209	1.89322	29.5257	2.75781	10.3000
2144	MFL76	6.40977	1.96032	30.5834	2.72317	10.3000
2145	SNFL121	6.40013	1.65894	25.9204	3.70784	9.4992
2146	SNFL175	6.39976	1.72150	26.8994	3.42605	9.8127
2147	NR68	6.38249	1.63624	25.6364	3.01889	9.1810
2148	NR63	6.38046	1.57591	24.6990	3.05925	9.0674
2149	NFL166	6.37703	1.38251	21.6796	3.26191	8.7967
2150	JFL176	6.37523	2.21957	34.8155	2.70817	11.6000
2151	NR197	6.37499	1.77302	27.8121	2.87889	9.6310
2152	JFL75	6.37261	2.12068	33.2781	2.75817	11.6000
2153	MFL187	6.37087	1.98394	31.1409	2.67299	10.3000

Obs	Strategy	Mean	STD	CV	MIN	MAX
			Cont'd			

Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only

Obs	Strategy	Mean	STD	CV	MIN	MAX
2154	SNFL132	6.37076	1.64287	25.7876	3.70784	9.3010
2155	NFL77	6.36966	1.49724	23.5059	2.64691	9.1217
2156	NR175	6.36900	1.83486	28.8092	2.85871	9.8127
2157	NFL11	6.36691	1.56701	24.6117	2.54691	9.3717
2158	SNFL72	6.36576	1.56509	24.5861	3.70784	9.1945
2159	SNFL208	6.35888	1.63561	25.7217	3.69105	9.3877
2160	SNFL10	6.35826	1.75169	27.5499	3.16422	9.8445
2161	MFL77	6.35646	1.96881	30.9733	2.64691	10.3000
2162	SNFL143	6.34251	1.66824	26.3026	3.70605	9.4627
2163	JFL122	6.34237	2.05900	32.4642	2.84103	11.6000
2164	NR88	6.34106	1.71541	27.0525	2.92211	9.6038
2165	JFL89	6.34058	2.02170	31.8852	2.86907	11.6000
2166	SNFL154	6.33939	1.69644	26.7603	3.70672	9.5195
2167	MFL177	6.33794	1.96071	30.9360	2.65009	10.3000
2168	MFL11	6.33196	2.00987	31.7416	2.54691	10.3000
2169	JFL187	6.32866	2.25539	35.6377	2.67299	11.6000
2170	NR10	6.32202	1.86920	29.5665	2.82353	9.8445
2171	NFL210	6.31485	1.54281	24.4315	2.44259	9.1285
2172	NR121	6.31110	1.74274	27.6139	2.89407	9.4992
2173	JFL133	6.30905	2.05635	32.5937	2.79835	11.6000
2174	JFL111	6.30756	2.05398	32.5637	2.85371	11.6000
2175	SNFL74	6.30651	1.70709	27.0686	3.37922	9.5445
2176	MFL210	6.30531	2.01464	31.9515	2.44259	10.3000
2177	NR208	6.30300	1.72780	27.4123	2.86121	9.3877
2178	JFL155	6.30291	2.09440	33.2291	2.78549	11.6000
2179	NFL177	6.30122	1.44696	22.9631	2.65009	8.7285
2180	JFL100	6.29663	2.03288	32.2853	2.85639	11.6000
2181	JFL144	6.29398	2.07381	32.9492	2.80567	11.6000
2182	MFL188	6.29091	2.00243	31.8305	2.38826	10.3000
2183	SNFL198	6.29089	1.75782	27.9423	3.00989	9.7263
2184	NR110	6.28721	1.73279	27.5605	2.90675	9.5174
2185	NR99	6.28482	1.70849	27.1844	2.90943	9.6106
2186	SNFL165	6.28377	1.70423	27.1212	3.57489	9.5263
2187	JFL77	6.27947	2.18980	34.8723	2.64691	11.6000
2188	MFL78	6.27866	2.02159	32.1978	2.33826	10.3000
2189	NR132	6.27086	1.73323	27.6394	2.85139	9.3010
2190	NR72	6.27077	1.64565	26.2431	2.96353	9.1945
2191	NFL188	6.26416	1.48883	23.7674	2.38826	8.7603
2192	NFL78	6.26278	1.52322	24.3218	2.33826	8.8853
2193	JFL166	6.25497	2.11008	33.7345	2.75781	11.6000
2194	MFL199	6.25201	2.03069	32.4806	2.23393	10.3000
2195	NR154	6.24827	1.78584	28.5814	2.83853	9.5195
2196	NR143	6.24725	1.75527	28.0966	2.85871	9.4627
2197	JFL11	6.24172	2.27890	36.5109	2.54691	11.6000
2198	NR74	6.24002	1.80577	28.9386	2.79353	9.5445
2199	SNFL209	6.23440	1.72369	27.6481	2.90557	9.4831
2200	NR198	6.23403	1.86890	29.9789	2.77335	9.7263
2201	SNFL122	6.23064	1.57859	25.3360	3.48672	8.8403
2202	MFL12	6.22536	2.04191	32.7999	2.12960	10.3000
2203	SNFL76	6.22352	1.76959	28.4340	2.85557	9.6081
2204	NFL199	6.21072	1.50841	24.2872	2.23393	8.8151
2205	SNFL133	6.20127	1.56224	25.1923	3.44739	8.7842
2206	SNFL176	6.19765	1.75290	28.2833	2.96307	9.4581
2207	SNFL75	6.19352	1.64374	26.5397	3.17057	9.0581

Obs	Strategy	Mean	STD	CV	MIN	MAX
	Table B.1 Ranking of Fixed & Flexible Strategies Over 1981/82 - 2000/01 Rice Sales Only					
	Cont'd					
2208	NR165	6.19241	1.79733	29.0247	2.81085	9.5263
2209	JFL210	6.17365	2.25745	36.5659	2.44259	11.6000
2210	SNFL144	6.17302	1.58604	25.6931	3.39307	8.7781
2211	JFL177	6.17102	2.16564	35.0937	2.65009	11.6000
2212	SNFL155	6.16990	1.61099	26.1104	3.39374	8.7899
2213	NR209	6.16205	1.82472	29.6122	2.75567	9.4831
2214	NFL12	6.15866	1.49853	24.3322	2.12960	8.8014
2215	SNFL187	6.15615	1.78691	29.0264	2.70124	9.4899
2216	NR76	6.14605	1.87374	30.4869	2.72317	9.6081
2217	NR89	6.12510	1.62174	26.4769	2.86907	8.8742
2218	JFL188	6.12445	2.20149	35.9459	2.38826	11.6000
2219	SNFL166	6.11428	1.61976	26.4914	3.26191	8.7967
2220	SNFL77	6.11053	1.71058	27.9939	2.64691	9.1217
2221	JFL78	6.10558	2.24166	36.7150	2.33826	11.6000
2222	NR176	6.10505	1.84786	30.2678	2.70817	9.4581
2223	NR75	6.09605	1.72726	28.3341	2.75817	9.0581
2224	NR122	6.09514	1.65089	27.0853	2.84103	8.8403
2225	SNFL11	6.08878	1.80961	29.7204	2.54691	9.3717
2226	NR111	6.07125	1.64399	27.0783	2.85371	8.8914
2227	NR100	6.06886	1.62085	26.7076	2.85639	8.8810
2228	NR187	6.05806	1.88369	31.0939	2.67299	9.4899
2229	NR133	6.05491	1.63997	27.0849	2.79835	8.7842
2230	JFL199	6.03751	2.23166	36.9633	2.23393	11.6000
2231	NR155	6.03231	1.68325	27.9039	2.78549	8.7899
2232	SNFL210	6.03228	1.78328	29.5623	2.44259	9.1285
2233	NR144	6.03130	1.65724	27.4773	2.80567	8.7781
2234	SNFL177	6.02816	1.67563	27.7967	2.65009	8.7285
2235	NR77	6.00207	1.79640	29.9296	2.64691	9.1217
2236	SNFL188	5.98666	1.71268	28.6083	2.38826	8.7603
2237	NR166	5.97645	1.69405	28.3454	2.75781	8.7967
2238	SNFL78	5.97579	1.76112	29.4710	2.33826	8.8853
2239	NR11	5.97007	1.89866	31.8029	2.54691	9.3717
2240	JFL12	5.96944	2.22753	37.3155	2.12960	11.6000
2241	SNFL199	5.91929	1.74330	29.4512	2.23393	8.8151
2242	NR210	5.89809	1.86193	31.5683	2.44259	9.1285
2243	NR177	5.88909	1.74853	29.6911	2.65009	8.7285
2244	SNFL12	5.86279	1.72995	29.5073	2.12960	8.8014
2245	NR188	5.84210	1.78499	30.5540	2.38826	8.7603
2246	NR78	5.82610	1.83151	31.4363	2.33826	8.8853
2247	NR199	5.75412	1.80772	31.4162	2.23393	8.8151
2248	NR12	5.68213	1.79084	31.5170	2.12960	8.8014

VITA

April Street was born in Chicago, Illinois, but was raised in Baker, Louisiana. As the years passed, April developed into a one of Louisiana's finest athletes. She played all sports from volleyball to tennis. Street was offered full athletic scholarships in all the sports she played. In April's senior year of high school she became a high school all American, named one of the nation's top recruits, and was named "Scholar Athlete of the Year".

Upon graduation of high school, April accepted a scholarship from the University of Minnesota to play tennis. Due to reconstructive surgery to the right shoulder, she was unable to finish her education and tennis career at the University of Minnesota. Transferring to Southern University in Baton Rouge enabled April to play tennis again. Southern University's Lady Jaguars tennis team won their conference and Street was named "Most Valuable Player" of the conference. After April achieved her athletic goals, she transferred to Louisiana State University to finish her undergraduate degree in microbiology.

April received her Bachelor of Science degree in microbiology from Louisiana State University in December 1999. Her education prepared her for a job in analytical chemistry. After a year on the job, April decided to pursue a master's degree in agricultural business. Louisiana State University was the obvious place for April to receive her master's degree because the program has the finest professors and the best resources.