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A Microcomputer Program to Aid in Making Store Vs. Sell Decisions for Gain

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Market Pack I
A Microcomputer Program To Aid In Making Store Vs. Sell Decisions For Grain

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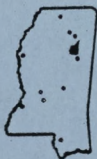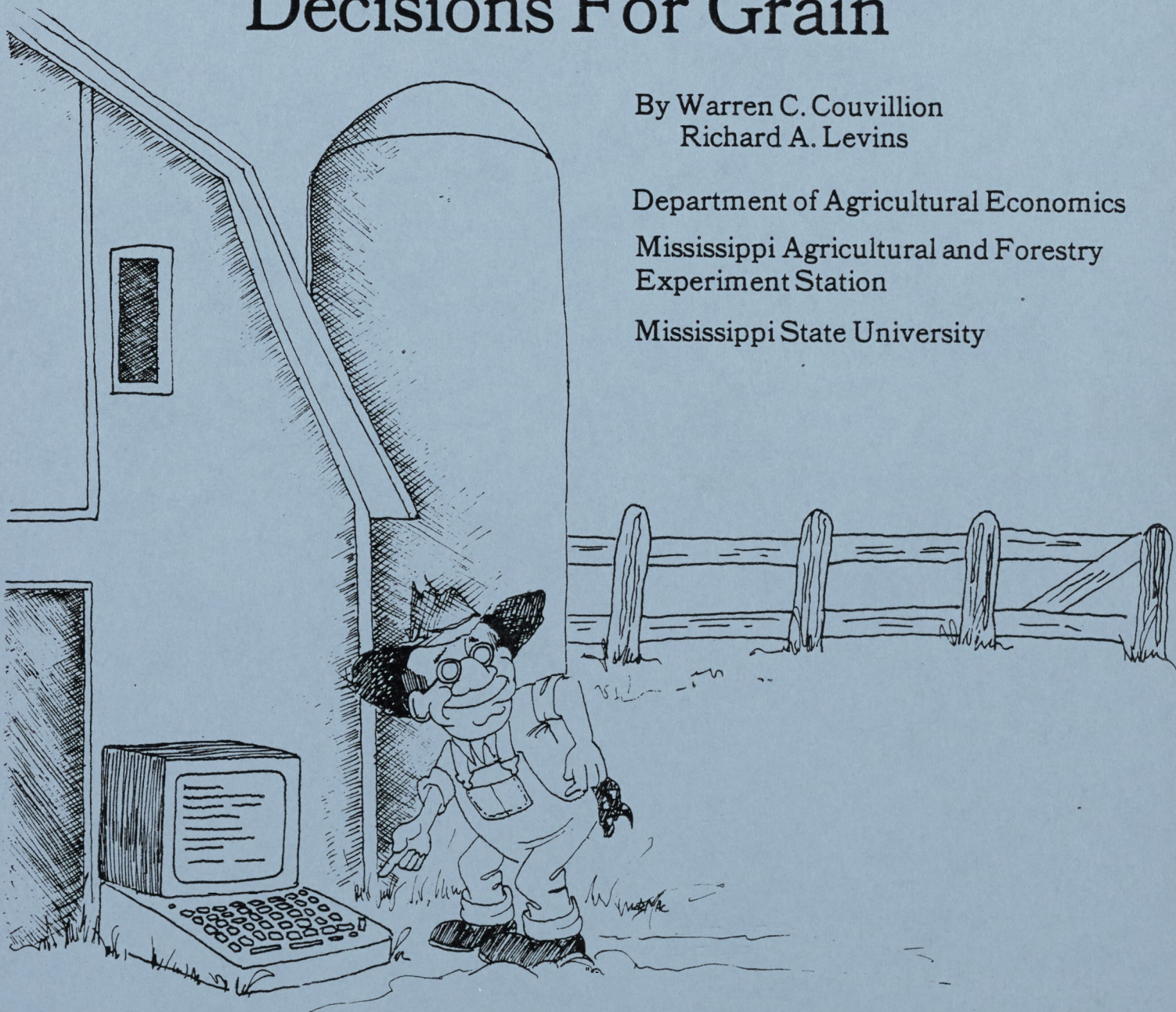This publication may be obtained by contacting:

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A MICROCOMPUTER PROGRAM TO AID IN MAKING
STORE VS. SELL DECISIONS FOR GRAIN

by

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MARKET PACK I

A MICROCOMPUTER PROGRAM TO AID IN MAKING
STORE VS. SELL DECISIONS FOR GRAIN

BY

WARREN C. COUVILLION AND RICHARD A. LEVINS[1]

INTRODUCTION

Determining a comprehensive marketing strategy for storable agri-cultural commodities is a complex undertaking. Depending upon the commodity, cash sale, forward contracting, hedging, government loan programs, and taxes must all be considered if profits are to be maximized.

Two common questions that arise in planning a marketing strategy are:

1. "What would the market have to be at specified future dates to offer the same financial benefits as the price offered today?"

2. "What would be the net financial outcome of storing a commodity under different projected price situations?"

The answers to these questions depend on storage costs, interest paid on loans, and interest received when cash is placed in short term interest bearing ventures. Although these questions are not concep-

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[1]Associate Economist and Research Associate, respectively.

tually difficult, the calculations involved in answering them can be very
time consuming unless they are performed by a computer. Market Pack I is
a program suitable for microcomputer use which can do these calculations
in a matter of minutes.

MARKET PACK I

Market Pack I can be used to evaluate storage decisions for such
crops as soybeans, corn, and rice. It was developed for Radio Shack's
TRS-80 Level II, 16 K machine and is written in BASIC. The program
requires approximately 4,500 bytes of RAM storage.

The program has three sections:

1. Part 1:   Data Entry
2. Part 2:   Break-Even Price Analysis
3. Part 3:   Financial Analysis of Price Estimates Supplied by
    the User

Part 1: Data Entry

The program assumes the crop is already in storage. In Part I of
the program, the user supplies information concerning loans, interest and
storage costs. This information will later be used to answer the two
questions posed in the introduction.

Part 2: Break-Even Price Analysis

The break=even price computed in Market Pack I is the minimum price
at some future month that will justify leaving the crop in storage.
Costs considered include storage costs and interest on the production
loan while the crop is in storage. Potential earnings from the purchase
of short term certificates of deposit (CD's) after the crop is sold are
also considered.

Part 3: Financial Analysis of User's Own Price Estimates

In Part 3, the user can supply his own price estimates for future months. Based on these expected future prices, the cash position one would have at the end of the marketing season is calculated for each price. Cash outflows include principal payment on the production loan, interest on the production loan, and storage costs. Income includes cash sales plus interest earned on cash placed in interest bearing ventures.

HOW TO USE MARKET PACK I

Part 1: Data Entry

The first information to be entered is the number of bushels in storage and the monthly storage charge in cents per bushel (not dollars per bushel). For example, a charge of $.04/month would be entered as 4. The computer then displays the entered data and calculates the total monthly storage charge.2/

If the crop has already been in storage for several months when this program is run, storage charges already accumulated must be con- sidered to accurately estimate the ending cash position. Therefore, the computer will next ask how many months the crop has been in storage and print the accumulated storage charges. If this is the first month the

_____

2/ If you make a mistake in entering data, it is no trouble to correct. If you type in some wrong information and recognize it before hitting "ENTER", simply backspace and type in the correct information. If you have entered incorrect data, you will have to hit the "BREAK" key, then type in "RUN". This will restart the program.

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crop has been in storage, simply enter a zero for the months the crop has already been in storage.

The production loan[3/] taken out for the crop in storage will, of course, show a higher total interest charge for longer periods of storage. To account for this, the computer next asks for the amount of the total production loan and the annual percentage rate (APR) on the note. Enter 15, not .15, for a 15 percent note, 10 for a 10 percent note, etc. Finally, enter the number of months ago the loan was taken out. (If there is no production loan outstanding, simply enter a zero for the size of loan, interest rate, and months outstanding). The computer will then display the amount of the loan, the interest rate, and the months outstanding on the note. The present debt (principal plus interest to date) and the monthly interest cost will also be displayed.

Next, enter the interest rate available on short-term cash investments. Typically, this will be the rate on a short term certificate of deposit (CD), but other investments with differing rates are also possible. Interest rates vary depending upon time held and amount placed in these ventures.

A final question is, "How many months remain in this marketing season?". For example, if it is November the crop could be held until May, enter a 7 (the number of months in the marketing season). If it is already late in the season, say February, and the crop must be sold by May, enter a 4. The program will handle a maximum of 10 months in the season.

[3/] It is realized that in many cases farmers may have loans from several sources made at different times. Since the program handles only one note, one may have to do some calculations outside the program to be able to enter the debts as one note.

Part 2: Break-Even Price Analysis

The price next month that is just high enough to justify holding the crop for another month is called the "break-even price".

Suppose the crop was sold today, the production loan and storage costs paid, and any remaining cash invested in a CD until the end of the marketing season. If the crop is held for another month, storage charges will be higher when the crop is sold, additional interest will be due on the production loan, and there will be less time to earn interest on a CD. Therefore, it is necessary to receive a higher price next month to justify holding the crop. How much higher depends on storage rates, the terms of your production loan, and current CD interest rates.

To start a break-even analysis, enter this month's price in dollars per bushel. The computer calculates the prices necessary in each month remaining in the marketing season to retain the present cash position. If the break-even price is higher than the price in some future month (even if the price in that month is higher than this month's price), waiting to sell the crop will not pay.

For example, assume that 100,000 bushels were placed in storage this month with a five cent per month storage cost. A production loan of $350,000 at 19 percent was taken out five months ago. CD's will pay 12 percent, and there are six months (counting this month) left in the marketing season. By entering these numbers and $6.50 per bushel as this month's cash price, the user will get the output presented in Table 1. The output has four columns labelled "Price", "Income", "Expense", and "Position at 6".

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Reading down the "Price" column gives the break-even price for each remaining month in the season. This month's price appears first, then the price for the second month, etc.

It is assumed that the production loan (principal plus interest) and all storage costs will be paid at the time of sale. The remaining cash will be invested until the end of the season. The "Income" column gives the sum of cash from sales and interest earned.

The "Expense" column gives the total of accumulated storage cost, principal on the production loan, and accumulated interest on the production loan, which are all assumed payable at the time of sale.

The "Position at 6" column gives the difference between "Income" and "Expense" for each month. Notice that the numbers in this column are all the same. That is the whole point of break-even analysis. Each monthly price in the "Price" column yields exactly the same cash position as any other.

In this example, if beans bring $6.50 this month and $7.16 six months later, one would neither gain nor lose by holding the crop. A price of more than $7.16 is necessary to justify holding the crop. How much more depends on the individual's financial position and attitudes towards risk. In any case, a price less than $7.16 six months from now is worse than $6.50 per bushel now.

Part 3: Financial Analysis of Price Estimates Supplied By the User

In Part 3 of Market Pack I, price estimates for each month remaining in the marketing season are entered. The computer will then calculate which month would be the most profitable one in which to sell based on the prices estimated by the user.

Table 1.   Sample Output for Break-Even Price Analysis

BREAK-EVEN PRICE ANALYSIS

PRICE	INCOME (*)	EXPENSE (**)	POSITION AT 6
6.5	663088	338250	274838
6.63059	673629	398792	274838
6.76166	684171	409333	274838
6.89324	694713	419875	274838
7.02533	705254	430417	274838
7.15796	715796	440958	274838

*   CASH SALES PLUS INTEREST EARNED

**   PRINCIPAL REPAYMENT + INTEREST ON LOAN + STORAGE CHARGES

For example, suppose the Part 1 data are the same as that used in the break-even example (100,000 bushels in storage, 5¢/month storage cost, etc.). Also suppose that these are the price estimates supplied for this season:

Month 1 $6.50/bushel

Month 2 $6.60/bushel

Month 3 $6.85/bushel

Month 4 $6.95/bushel

Month 5 $7.10/bushel

Month 6 $7.20/bushel

The computer will display a table similar to the one shown in Table 2 when the above prices are entered. Prices supplied are shown in the price column. The "Income", "Expense", and "Position at 6" columns mean the same as in the break-even example.

Notice that the highest "Position at 6" figure is $283,937, which appears opposite the $6.85 price for month 3. This would be the best month to sell. In fact, the "Position at 6" numbers for months 3, 4, 5 and 6 are all higher than the one for this month, so it would be more profitable to sell in any of these late months rather than this month. The $6.50 price for month 2, however, yields a lower "Position at 6", so it would be less profitable to sell in that month.

Table 2.   Sample Output for Analyzing User-Supplied Prices

ANALYSIS OF YOUR PRICE ESTIMATES

PRICE	INCOME (*)	EXPENSE (**)	POSITION AT 6
6.5	663088	388250	274838
6.6	670448	398792	271657
6.85	693270	409333	283937
6.95	700503	419875	280628
7.1	712796	430417	282379
7.2	720000	440958	279042

*   CASH SALES PLUS INTEREST EARNED

**   PRINCIPAL REPAYMENT + INTEREST ON LOAN + STORAGE CHARGES

SUMMARY

Market Pack I is a microcomputer program to help individuals analyze their storage decisions for such crops as rice, corn, and soybeans. It is not designed to handle some of the more complex situations that some individuals may encounter. It will, however, allow individuals to consider both storage costs and the effects of today's high interest rates in determining when to sell a crop in storage.

APPENDICES

APPENDIX A: DERIVATION OF FORMULAS

The technical derivation of the financial formulas used in Market Pack I is provided here for the interested reader. The letter designations of variables are in most cases those used in the program listing of Appendix B.

Let A ≡ number of bushels in storage

B ≡ storage cost per bushel per month, converted from cents to dollars

C ≡ principal on production loan ($)

D ≡ interest rate on production loan (APR), expressed as a decimal fraction

E ≡ months outstanding on production loan at beginning of marketing period

H ≡ interest rate on short term cash investments, expressed as a decimal fraction

M ≡ months remaining in marketing season

S ≡ storage costs accumulated prior to marketing month 1

Then the accumulated expenses if the crop is sold in month N can be defined as:

$$C_n \equiv (C \times D \times \frac{E + N}{12}) + (B \times N \times A) + C + S$$

The first term in parenthesis is the accumulated interest on the production loan, the second term in parenthesis is the storage charge accumulated since marketing month 1, and C and S are as previously defined.

The income received if the crop is sold in month N can be expressed as:

$$I_n \equiv (P_n \times A) + [\frac{M-N}{12} \times H \times (P_n \times A - C_n)]$$

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In the income equation, P_n is the price per bushel ($) received in month N. The ($P_n \times A$) term represents cash received at the time of sale. The term in [ ] represents interest earned during the remaining M - N months of the marketing season on the cash from sales remaining after all expenses (C_n) are paid.

The <u>ending cash position</u> is simply:

$$W_n = I_n - C_n$$

The <u>break-even price</u> for month N is that price P_n for which:

$$W_n \equiv W_1$$

Substituting for W_n and I_n, we have:

$$I_n - C_n = W_1$$

and

$$(P_n \times A) + \frac{M - N}{12} \times H \times (P_n \times A - C_n) - C_n \equiv W_1$$

Finally, solving for P_n:

$$P_n = \frac{\frac{M - N}{12} \times H \times C_n + (C_n + W_1)}{A + \frac{M - N}{12} \times H \times A}$$

APPENDIX B: LISTING OF MARKET PACK I

```
10 CLS
20 PRINT:PRINT:PRINT
30 PRINT " ","MARKET PACK I"
40 PRINT:PRINT
60 PRINT "DEPARTMENT  OF AGRICULTURAL ECONOMICS"
70 PRINT "MISSISSIPPI STATE UNIVERSITY"
80 FOR N = 1 TO 1000
90 NEXT N
100 CLS
110 PRINT:PRINT
120  PRINT "THIS PRIGRAM  ANALYZES MARKET PRICES FOR RICE, SOYBEANS, & CORN."
130 PRINT "IT ASSUMES THE GRAIN IS IN STORAGE  AND HELPS SELECT  THE MOST  PROFITABLE TIME TO MARKET THE CROP."
140 PRINT
150 PRINT "THE PROGRAM HAS THREE PARTS:"
160 PRINT "1. DATA ENTRY"
170 PRINT "2. BREAK EVEN PRICE ANALYSIS"
180 PRINT "3. FINANCIAL ANALYSIS OF YOUR OWN PRICE  ESTIMATES."
188  PRINT
190  INPUT "HIT ENTER TO CONTINUE";B$
210 CLS
220 PRINT:PRINT
230 PRINT " ","PART 1 : DATA ENTRY"
240 PRINT:PRINT
250 PRINT "IN THIS PART OF THE PROGRAM YOU WILL BE ASKED TO "
260 PRINT "TYPE IN INFORMATION ON THE CROP IN STORAGE, "
270 PRINT "STORAGE  CHARGES, YOUR PRODUCTION LOAN,  AND "
280 PRINT "INTEREST RATES."
290 PRINT "THIS INFORMATION  WILL BE  THE  BASIS FOR THE"
300 PRINT "FINANCIAL ANALYSIS IN PARTS 2 AND 3."
310 PRINT
320 INPUT "HIT ENTER  TO CONTINUE";B$
330 CLS
340 PRINT:PRINT:PRINT
350 INPUT "HOW MANY BUSHELS ARE  IN STORAGE";A
360 PRINT
370 INPUT "ENTER MONTHLY STORAGE COST IN C/BU.";B
380 PRINT
390 C = A*B/100
400 PRINT "LET ME SEE.";A;" BUSHELS AT ";B;" CENTS PER MONTH."
405 B = B / 100
410 PRINT
420 FOR N = 1 TO 500
430 NEXT N
440 PRINT "THAT COMES  TO $";C;" PER  MONTH FOR STORAGE."
450 PRINT
452 PRINT "HOW MANY MONTHS  HAS THIS CROP ALREADY BEEN IN"
454 INPUT "STORAGE (IF NONE ENTER Ø)";S1
456 S = S1 * C
458 PRINT "YOU ALREADY OWE $"; S;" FOR STORAGE."
460 PRINT
470 INPUT "HIT ENTER TO CONTINUE";B$
480 CLS
490 PRINT:PRINT:PRINT
500 PRINT "INTEREST MUST ALSO BE CONSIDERED, SO..."
510 PRINT
520 PRINT "WHAT WAS YOUR TOTAL PRODUCTION LOAN (IN $) FOR"
530 INPUT "THIS CROP IN STORAGE";C
540 PRINT
550 INPUT "WHAT IS THE INTEREST RATE (APR) ON THIS NOTE";D
555 D = D / 100
560 PRINT
570 INPUT "HOW MANY MONTHS AGO DID YOU TAKE OUT THIS LOAN";E
580 F = (D/12) * C
590 G = C + E * F
600 PRINT
610 PRINT "OK YOU TOOK OUT $";C;" " ;E;"MONTHS AGO AT";D*100;" PERCENT."
615 PRINT "THIS MEANS YOU NOW OWE $";G
620 PRINT "EACH  EXTRA MONTH  YOU HOLD  THE NOTE COSTS $";F
630 PRINT
640 INPUT "HIT  ENTER  TO CONTINUE";B$
650 CLS
660 PRINT:PRINT:PRINT
670 PRINT "THE NEXT  QUESTION CONCERNS HOW YOU  WILL INVEST THE MONEY YOU WILL RECEIVE WHEN THE CROP IS SOLD."
680 PRINT "CASH ON HAND CAN BE INVESTED IN VARIOUS WAYS SUCH  AS"
682 PRINT "CERTIFICATES OF  DEPOSIT SO INTEREST CAN BE EARNED."
690 PRINT
```

```
700 INPUT "WHAT INTEREST RATE (%) CAN YOU GET";H
710 H = H/100
720 PRINT
730 PRINT "AND FINALLY...."
740 PRINT
750 INPUT "HOW MANY MONTHS REMAIN IN THIS MARKETING SEASON";M
760 PRINT
770 PRINT "NOW TO GET DOWN TO BUSINESS."
780 INPUT "HIT ENTER TO CONTINUE";B$
800 CLS
810 PRINT:PRINT:PRINT
820 PRINT "PART 2 OF THIS PROGRAM CALCULATES WHAT PRICES"
830 PRINT "YOU WOULD HAVE TO  GET IN LATER MONTHS  TO BE AS"
840 PRINT "WELL OFF AS YOU WOULD BE IF  YOU SOLD  YOUR CROP"
850 PRINT "THIS MONTH."
860 PRINT:PRINT
870 INPUT "DO YOU WANT TO USE PART 2 (YES  OR NO)";A$
880 PRINT
890 IF A$ = "YES" GOTO 1000
900 PRINT "IN THAT CASE  WE GO  ON TO PART  3."
905 CLS
910 GOTO 2000
1000 PRINT "OK. HERE WE GO."
1010 INPUT "WHAT PRICE CAN  YOU GET  THIS MONTH ($/BU)";P(1)
1020 FOR N = 1 TO M
1030 C(N) = (C*((E+N)/12)*D) + (B*N*A) + C + S
1040 NEXT N
1050 I(1) = (P(1)*A) + ((M-1)/12)*H*(P(1)*A-C(1))
1060 W(1) = I(1) -C(1)
1070 CLS
1080 PRINT
1090 PRINT " ","BREAK EVEN PRICE ANALYSIS"
1100 PRINT
1110 PRINT "PRICE",INCOME(*)","EXPENSE(**)","POSITION AT ";M
1120 PRINT
1130 FOR N = 2 TO M
1135 F = ((M-N)/12) * H
1140 P(N) = (C(N)+W(1)+F*C(N))/(A+F*A)
1150 I(N) = (P(N)*A) + (((M-N)/12)*H*(P(N)*A-C(N)))
1160 W(N) = I(N) - C(N)
1170 NEXT N
1180 FOR N = 1 TO M
1190 PRINT P(N),I(N),C(N),W(N)
1200 NEXT N
1210 PRINT
1220 PRINT "* CASH SALES PLUS INTEREST EARNED"
1230 PRINT "** PRINCIPAL REPAYMENT + INTEREST ON LOAN + STORAGE  CHARGES"
1240 PRINT
1250 INPUT "HIT ENTER TO CONTINUE";B$
1260 CLS
1270 PRINT:PRINT:PRINT
1280 PRINT "YOU CAN NOW REPLAY PART 2  WITH  A DIFFERENT  STARTING PRICE OR  GO  ON  TO  PART 3."
1290 PRINT
1300 INPUT "DO YOU  WANT TO REPLAY  PART 2 (YES OR NO)";A$
1310 FOR N = 1 TO 500
1320 NEXT N
1330 IF A$ = "YES" GOTO 1000
1340 CLS
2000 PRINT:PRINT:PRINT
2010 PRINT "PART 3 OF THIS PROGRAM ASKS YOU TO ESTIMATE  MARKET PRICES"
2015 PRINT "FOR THE REMAINING MONTHS OF THIS SEASON."
2020 PRINT "BASED ON THESE PRICES, THE MOST PROFITABLE MONTH TO"
2022 PRINT "SELL THE CROP IS DETERMINED."
2030 PRINT:PRINT
2040 INPUT "DO  YOU  WISH TO USE PART 3 (YES OR NO)";A$
2050 IF A$ = "NO" GOTO 3000
2060 FOR N = 1 TO 500
2070 NEXT N
2500 CLS
2505 PRINT
2510 PRINT " ","*** BEGIN PART  3 ***"
2520 PRINT
2530 PRINT "WHAT ARE  YOUR MARKET PRICE ESTIMATES ($/BU) FOR:"
2540 INPUT "THIS  MONTH $";P(1)
2550 FOR N = 2 TO  M - 1
2560 INPUT "FOR THE NEXT MONTH $";P(N)
2570 NEXT N
```

```
2580 INPUT "AND  FOR THE LAST MONTH $";P(M)
2590 PRINT
2600 PRINT "BASED ON THESE PRICES, YOUR  EXPECTED INCOME,"
2610 PRINT "EXPENSES, AND ENDING NET WORTH ARE AS FOLLOWS..."
2620 PRINT
2630 INPUT "HIT ENTER TO CONTINUE";B$
2640 CLS
2650 PRINT
2660 PRINT  " ", "ANALYSIS OF  YOUR PRICE ESTIMATES"
2670 FOR N = 1 TO M
2690 C(N) = (C*((E+N)/12)*D) + (B*N*A) + C + S
2695 I(N) = (P(N)*A)+(((M-N)/12)*H*(P(N)*A-C(N)))
2700 W(N) = I(N) - C(N)
2710 NEXT N
2720 PRINT
2730 PRINT "PRICE","INCOME(*)","EXPENSE(**)","POSITION AT";M
2740 PRINT
2750 FOR N = 1 TO M
2760 PRINT P(N),I(N),C(N),W(N)
2770 NEXT N
2780 PRINT
2790 PRINT "* CASH FROM SALES + INTEREST EARNED"
2800 PRINT "** PRINCIPAL  REPAYMENT + INTEREST ON LOAN + STORAGE CHARGE"
2810 PRINT
2820 INPUT "HIT ENTER TO CONTINUE";B$
2830 CLS
2840 PRINT:PRINT:PRINT
2850 PRINT "YOU CAN NOW  REPLAY PART 3 WITH DIFFERENT PRICES  OR END THIS  PROGRAM"
2860 PRINT
2870 INPUT "DO YOU  WANT TO REPLAY PART 3 (YES OR NO)";A$
2880 FOR N = 1 TO 500
2890 NEXT N
2900 IF A$ = "YES" GOTO 2500
3000 CLS
3010 PRINT:PRINT:PRINT
3020 PRINT " ","END OF  PROGRAM"
3022 PRINT:PRINT"PRINT
3025 END
```

Appendix C. An Interactive Microcomputer Session Using Market Pack I.

Computer prompts are in all caps; operator responses are underlined; and general explanations are enclosed in parentheses. The symbol Ⓔ means depress the enter key.

First CLOAD or LOAD program from cassette tape or disk, or key in the program from the keyboard using a listing of the program.

>Run Ⓔ

                              MARKET PACK I
DEPARTMENT OF AGRICULTURAL ECONOMICS
MISSISSIPPI STATE UNIVERSITY

THIS PROGRAM ANALYZES MARKET PRICES FOR RICE, SOYBEANS, AND CORN.
IT ASSUMES THE GRAIN IS IN STORAGE AND HELPS SELECT THE MOST
PROFITABLE TIME TO MARKET THE CROP.
THE PROGRAM HAS THREE PARTS:
        1.   DATA ENTRY
        2.   BREAKEVEN PRICE ANALYSIS
        3.   FINANCIAL ANALYSIS OF YOUR OWN PRICE ESTIMATES
HIT ENTER TO CONTINUE? Ⓔ

                        PART 1:   DATA ENTRY
IN THIS PART OF THE PROGRAM YOU WILL BE ASKED TO
TYPE IN INFORMATION ON THE CROP IN STORAGE,
STORAGE CHARGES, YOUR PRODUCTION LOAN, AND
INTEREST RATES.
THIS INFORMATION WILL BE THE BASIS FOR THE
FINANCIAL ANALYSIS IN PARTS 2 AND 3.
HIT ENTER TO CONTINUE? Ⓔ

HOW MANY BUSHELS ARE IN STORAGE? 100,000 Ⓔ
ENTER MONTHLY STORAGE COSTS IN C/BU.? 5 Ⓔ
LET ME SEE. 100,000 BUSHELS AT 5 CENTS PER MONTH.
THAT COMES TO $5,000 PER MONTH FOR STORAGE.
HOW MANY MONTHS HAS THIS CROP ALREADY BEEN IN
STORAGE (IF NONE ENTER 0)? 0 Ⓔ
YOU ALREADY OWE $0 FOR STORAGE.
HIT ENTER TO CONTINUE? Ⓔ

INTEREST MUST ALSO BE CONSIDERED, SO ...
WHAT WAS YOUR TOTAL PRODUCTION LOAN (IN $) FOR
THIS CROP IN STORAGE? 350,000 Ⓔ
WHAT IS THE INTEREST RATE (APR) ON THIS NOTE? 19 Ⓔ
HOW MANY MONTHS AGO DID YOU TAKE OUT THIS LOAN? 5 Ⓔ
O.K. YOU TOOK OUT $350,000 5 MONTHS AGO AT 19 PERCENT.
THIS MEANS YOU NOW OWE $377,708.
EACH EXTRA MONTH YOU HOLD THE NOTE COSTS $5,541.67.
HIT ENTER TO CONTINUE? Ⓔ

THE NEXT QUESTION CONCERNS HOW YOU WILL INVEST THE MONEY YOU
WILL RECEIVE WHEN THE CROP IS SOLD.
CASH ON HAND CAN BE INVESTED IN VARIOUS WAYS SUCH AS
CERTIFICATES OF DEPOSIT SO INTEREST CAN BE EARNED.
WHAT INTEREST RATE (%) CAN YOU GET? 12 Ⓔ
AND FINALLY ...
HOW MANY MONTHS REMAIN IN THIS MARKETING SEASON? 6 Ⓔ
NOW TO GET DOWN TO BUSINESS.
HIT ENTER TO CONTINUE? Ⓔ

PART 2 OF THIS PROGRAM CALCULATES WHAT PRICES
YOU WOULD HAVE TO GET IN LATER MONTHS TO BE AS
WELL OFF AS YOU WOULD BE IF YOU SOLD YOUR CROP
THIS MONTH.
DO YOU WANT TO USE PART 2 (YES OR NO)? YES Ⓔ
O.K. HERE WE GO.
WHAT PRICE CAN YOU GET THIS MONTH ($/BU.)? 6.50 Ⓔ

(Table 1 from the text will be displayed.)

HIT ENTER TO CONTINUE? Ⓔ

YOU CAN NOW REPLAY PART 2 WITH A DIFFERENT STARTING PRICE OR
GO ON TO PART 3.
DO YOU WANT TO REPLAY PART 2 (YES OR NO)? NO Ⓔ

PART 3 OF THIS PROGRAM ASKS YOU TO ESTIMATE MARKET PRICES
FOR THE REMAINING MONTHS OF THIS SEASON.
BASED ON THESE PRICES, THE MOST PROFITABLE MONTH TO
SELL THE CROP IS DETERMINED.
DO YOU WISH TO USE PART 3 (YES OR NO)? YES Ⓔ

BEGIN PART 3

WHAT ARE YOUR MARKET PRICE ESTIMATES ($/BU.) FOR:
THIS MONTH $? 6.50 Ⓔ
FOR THE NEXT MONTH $? 6.60 Ⓔ
FOR THE NEXT MONTH $? 6.85 Ⓔ
FOR THE NEXT MONTH $? 6.95 Ⓔ
FOR THE NEXT MONTH $? 7.10 Ⓔ
AND FOR THE LAST MONTH $? 7.20 Ⓔ
BASED ON THESE PRICES, YOUR EXPECTED INCOME,
EXPENSES, AND ENDING NET WORTH ARE AS FOLLOWS . . .
HIT ENTER TO CONTINUE? Ⓔ

(Table 2 from the text will be displayed.)

HIT ENTER TO CONTINUE? Ⓔ

YOU CAN NOW REPLAY PART 3 WITH DIFFERENT PRICES OR END THIS
PROGRAM.
DO YOU WANT TO REPLAY PART 3 (YES OR NO)? NO Ⓔ

END OF PROGRAM