FARMER SURVIVABILITY IN VIRGINIA

by

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(ABSTRACT)

A study focusing on farm financial stress in Virginia was conducted to provide information to educators. The financial situation of Virginia farmers during the 1980's was reviewed. The years 1983, 1984, and 1985 were determined to be the time during the 1980s when farmers' financial situations were most severely stressed.

Attention was directed towards corn, soybean, and wheat farmers since this group was readily identifiable as being financially stressed. Fifteen personal interviews of farmers were conducted in seven counties where the majority of these crops are grown. For comparison purposes, part of the interviews was conducted with individuals who are still farming and part with individuals who were forced to exit farming due to financial adversity.

Comparing the information gathered from farmers in a favorable financial condition with the information gathered from those farmers in a vulnerable financial condition, some factors that helped farmers survive the agricultural depression of the 1980's were discovered. Farmers in favorable financial condition are superior managers, operate timely businesses, borrow and spend conservatively, are more educated, have more years of farming experience, and use better financial and production recordkeeping practices. Access to marketing information is also important for farmer survivability. Producers in favorable financial condition own larger percentages of their operated land, and they utilize more family labor.

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1. INTRODUCTION

Virginia's Agriculture and Financial Stress

Farming in Virginia is as old as the original colonies where the earliest settlers learned farming practices from American Indians. Corn and other vegetable crops were grown for subsistence while tobacco production increased dramatically to meet England's high demand. Hence, Virginia's role in agricultural production and exports were established early. Although time has changed the farming practices, many of the crops grown by the colonists are still being cultivated today. The numbers are substantially different now due to shifts in population and comparative advantages over time, but agricultural production has survived to remain a vital part of Virginia's economy.

According to Virginia Agricultural Statistics, (VASS), cash receipts in 1986 totaled 1.6 billion dollars from farming operations. Farming in Virginia entails a wide variety of crop and livestock operations. The following is a list of the more important field crops grown in Virginia in descending order according to cash receipts, and a list of livestock and livestock products listed in the same

manner. The field crops that produce the most revenue, in millions of dollars, are: tobacco $119, soybeans $75, peanuts $66, corn for grain $27, wheat $18, tomatoes $16, hay $10, and potatoes $8. These figures are for 1986 which was a drought year, thereby damaging crops more so than livestock. Some livestock figures, in millions of dollars, are: cattle and calves $294, milk, wholesale $268, broilers $243, turkeys $123, hogs $83, eggs $52, and sheep and lambs $8.

Gross farm income for the state was essentially the same in 1986 as it was in 1985. The average gross farm income per farmer for 1986 was a record 41,310 dollars, which includes off - farm income (VASS). The record high is the result of fewer and larger farms in Virginia and lower production expenses. VAS also reports that there are 50,000 farms in Virginia as of 1986, defining a farm as a place that has agricultural sales of 1,000 dollars or more. An average size farm in Virginia is 192 acres and has $8,176 in net income. This net income figure includes government payments, the value of home consumption, and the rental value of farm dwellings. Without these three categories of non-money income, the average net farm income is $2,240. Adding government payments to the $2,240 figure

raises the average net farm income to $3,092 per farmer.

In 1986 total farm debt was $1,927.2 million, excluding farm household debt. The debt breaks down into $1,083.8 million of real estate debt and $801.4 million of nonreal estate debt. With 50,000 farms in Virginia, the average debt per farm is $38,544 (VASS). This is not considered a high debt load per farm, since the average debt - to - asset ratio (D/A) per farm is only 15.3%. The D/A ratio shows what portion of a farmer's assets are owned by creditors, and is calculated by dividing total debt by total assets. The problem is not the level of farm sector debt, it is the distribution of that debt (Lins). Problems arise with those producers who have large debt loads defined as D/A ratios of 70 - 100% and negative cash flows. Other producers with much smaller debts, lower D/A ratios, and negative cash flows may also have problems meeting payments.

Cash flow is gross cash farm income and off - farm income minus cash farm expenses, principal payments, all interest paid, income taxes, and a family living allowance. The cash flow shows whether a household has any cash remaining for new investment, risk, and uncertainty after all other cash expenses are met. A financially stressed

farm operation is defined by many authors (Jolly, USDA 1985a, USDA 1986, and USDA 1987c) as one having a D/A ratio greater than 40 %, and a negative cash flow. For this study, those farmers who have a D/A ratio greater than 40% and a negative cash flow, plus the farmers who have a D/A ratio greater than 90% and a positive cash flow are considered financially stressed. A business operation that has a D/A ratio greater than 40% and a negative cash flow is considered stressed because limited cash makes meeting cash payments difficult, thereby straining the operation. Also, such an operation may experience increases in leverage due to the inability to meet principal and interest payments. An operation that has a positive cash flow and a D/A ratio greater than 90% may not have problems meeting cash payments. However, such a business that is largely owned by creditors is classified as stressed since the operation is under tremendous pressure to generate a positive cash flow every year. If there is a year in which cash flow is negative, the possibility of debt increasing past insolvency becomes likely, which may lead to bankruptcy.

Since this study involves farming operations which inherently experience variations in income, it is necessary

to include the highly leveraged operations as stressed also. In addition, farmers who have a D/A ratio greater than one are technically insolvent. The D/A and cash flow can determine if a farmer is stressed, however, further investigation is necessary to understand what caused these farmers to become financially stressed.

Factors Contributing to Financial Adversity

In the 1970's commodity prices were relatively high which provided excellent profit opportunities to farmers (USDA 1985a, USDA 1986, and USDA 1987c). But in the 1980's many farmers experienced smaller increases in commodity prices, and by the mid 1980's some prices were actually lower than the 1970's (USDA 1987a, and USDA 1988a). A cause of low profits for many farmers is the large interest and principal payments being made. In earlier years, commodity prices were, for a period of time, high enough to pay operating expenses plus interest and principal payments. Recently, however, commodity prices alone hold little hope for bringing financial relief to financially stressed farmers (USDA 1985a).

Weather conditions play an important role in farmer livelihood. Drought, excess heat, freezes, excess rain,

wind, and hail are the main problems farmers have when battling the weather. Virginia farmers received losses from drought in 1977, 80, 83, and 86, which have compounded problems and increased debt loads for some farmers in recent years.

Over the last several years agricultural producers have been under the constant pressures of a cost-price squeeze. A cost-price squeeze is an economic situation in which farmers, or business, are faced with high or increasing input costs while prices received for products are low or have been falling over the same period of time. The effects of a cost-price squeeze tend to drain reserves of cash that are normally used for family living expenses and interest and principal payments, thus adding to financial adversity. Cash reserves are depleted because the increases in cash operating costs and the reduced commodity prices both reduce cash on hand and liquid assets. Although the cost-price squeeze has received much attention over the last decade, the pressures have begun to lessen with input costs falling three percent in 1985 (VASS).

In many cases in Virginia and throughout the country, government payments are the difference between positive and

negative net incomes (USDA 1985a, USDA 1986, and USDA 1987c). Government programs do not help Virginia producers relatively as much as producers of some other states. For example, the U.S. paid on average to every state $154 million in farm program payments in 1985, while Virginia received only $23.9 million in government payments. In 1984 the average payment per state was $168.6 million and $185.9 million in 1983, while Virginia received $46 million in 1984 and $29.4 million in 1983 (USDA 1988b).

Virginia's low receipts of government payments is probably the result of Virginia's farm sector structure which has many small and part-time farmers who do not participate in government programs at all, or receive small payments relative to other commercially sized operations. In 1985 91.9% of U.S. farmers have non-farm income compared to 95.1% of Virginia farmers, and in the same year 8.2% of farmers in the U.S. participated in the federal set aside program compared to 2.3% of Virginia farmers (Womack and Traub). The percent of farms in the U.S. that farm 1 - 99 acres in 1985 is 43.8% compared to 53.1% in Virginia which shows that there are almost 10% more farmers in Virginia, compared to the national average, that farm 99 acres or less (Womack and Traub). The average size farm in the U.S.

is 416 acres compared to the average size farm in Virginia of 182 acres (Womack and Traub). Some producers fail to fully utilize farm programs for various reasons, such as lack of knowledge of the program or simply because some farmers refuse assistance from the government.

A series of macroeconomic and market events from the 1970's through the 1980's contributed to farm sector stress. In the early and mid 1970's when worldwide demand for U.S. agricultural products was high, commodity prices were up, interest rates were favorable, and most agricultural indicators showed signs of an improved economy (USDA 1985b). Farming was in a boom cycle, and farmers were encouraged to produce more, which toward the late 1970's tended to bid up the price of agricultural land. "The increases in farm prices and incomes encouraged many farmers to expand their operations and also attracted new farmers and investors into agriculture." (USDA 1985b). However, the number of farms in the state of Virginia only increased during the 1980 - 1982 period, but started declining again after 1982 (USDA 1988b). The attraction of more land into farming increased the demand for land. The high land values made farmers' asset situations appear improved without actually changing the asset structure,

which helped in obtaining credit. When the value of a farmer's land increases he experiences an increase in his asset base without actually purchasing more assets. Therefore the farmer's debt-to-asset ratio decreases as a result of the increased land and asset value, which lowers the farmer's leverage making his operation appear to be a safer candidate for acquiring additional debt.

However, the 1980's marked a reversal in the agricultural economy. Commodity prices began to stabilize and decline as a result of overproduction and the loss of overseas demand (USDA 1985b). Increased foreign production of agricultural products made competition stronger. In addition, many products grown in other countries were priced below U.S. levels. This reduced purchases of U.S. agricultural products and added to the momentum that had started to build leading to a depressed farm economy. The value of the dollar also rose and added to the foreign trade problems in agriculture (USDA 1985b).

As the farm economy declined, many of the loans and purchases made in previous years under better economic conditions became burdens to farmers (Hughes, Richardson, and Rister). Overproduction and surpluses were assessed by the government and various production control measures were

set into action. Some farmers, in hopes of paying off loans, were forced to plant at full capacity resulting in prolonged surplus problems. Eventually, farming lost some of its profitability and land values dropped. Farmland prices peaked in 1981, but by April 1984 farmland prices had dropped 8% nationwide. In Virginia from February 1977 to 1981 farmland prices increased 32.9%, but decreased 4% from 1981 to April of 1984. (USDA 1985b). Although some farmers may have sold their farms in time to cover debts, many producers decided to continue farming in hopes of better times. Some of these have paid their debts, but others have not. A few have watched their situations steadily grow worse over the years. Melichar describes very well the situation in which many farmers were caught. A midwestern family farm owning 500 acres and producing 140 bushels of corn per acre may earn over $70,000 annually from capital, labor, and management. This farm has little or no debt other than seasonal operating costs which was typical of farmers in the area in the 1970's.

> But if the farmer purchased this land in 1981 at the going price of $3,000 per acre, for a total of $1.5 million, and financed his purchase with a mortgage, his current financial position may be precarious. Suppose the farmer made a down payment of $450,000 from the sale of a smaller farm and obtained a 30 - year,

> variable - rate Federal Land Bank loan for the remaining 70 percent of the purchase price - fairly typical financing. Today, only five years later, this farmer still owes about $1 million. At the current interest rate of 12 percent, the annual interest charge is $120,000. Operating profits fall nearly $50,000 short of covering this charge. The straightforward remedy is to sell the farm and repay the debt, thereby salvaging the down payment. But it is too late for this course, because such land now sells for perhaps $1,500 per acre, and so the farm is now worth only $750,000. The farmer's net worth is now -$250,000, and the Federal Land Bank stands to lose an appreciable portion of the funds it lent. (Melichar, p.441)

This example sums up how some farmers got caught in the boom period, made unrealistic speculations on the future of agriculture, and when land values dropped, were trapped with high, and sometimes insurmountable, debt loads. Many areas that are not as agriculturally oriented as the Midwest, such as Virginia, did not realize such drastic swings in land values. However, a less dramatic version of the same scenario applies to Virginia.

Reduced land values created many problems for some farmers. Not only did they have debt repayment problems due to buying land in the boom period, but obtaining credit also became a problem. Farmers who owned land watched as their asset base diminished as a result of lower land values. Since asset values were lower, producers' D/A ratios climbed higher and the value of collateral dropped,

both of which reduce a farmer's borrowing capacity.

Interest rates also play an important role in the repayment of debt, since more cash goes to paying interest rather than principal when repaying a loan (Brake and Boehlje). When long-term debt is acquired and variable interest rates are low, principal and interest payments are made without as much difficulty. However, over the years the interest rate will fluctuate. When the interest rate increases many farmers have to cut family living expenditures, or borrow additional funds in order to meet principal and interest payments (Hughes and Penson). Reducing family living expenditures is a serious problem for many households who are used to spending more freely on family needs. In addition, higher interest rates also reduce the rate of net worth accumulation.

Dean Hughes offers some explanation of how macroeconomic policy has helped depress the farm economy.

> Current financial conditions in the farm sector indicate that some farmers are having substantial difficulties in adjusting to general economic conditions. Large government deficits and a monetary policy that has reduced the inflation rate by more than one-half in three years have changed the economic environment for farmers. While the general economy has exhibited a vigorous recovery over the last year, agriculture has not benefited. The current blend of macroeconomic policies tilts returns in the economy away from production activities sensitive to interest and

> exchange rates. Since farm production is one of the few sectors sensitive to both rates, it has continued to suffer even though profitability has returned to most other sectors of the economy. (Hughes and Penson, p.90)

As pointed out thus far, some factors that cause problems for farmers cannot be directly controlled by the farmers themselves. However, there are some critical fundamentals that farmers can directly control. These areas are the focus of this study.

Other factors need to be considered when looking at farmers' problems. In addition to economic conditions and government programs, farmers' daily farm management decisions and reactions to farm policy are also important in avoiding financial stress. From the mid 1970's, farm balance sheets have been restructured to include less liquid (longer-term) assets and more short-term liabilities. This makes repayment of liabilities more difficult because it is harder to produce quick cash from the less liquid assets (Boehlje and Eidman, 1983). Farmers may have to sell intermediate or long-term assets to meet payments, thereby reducing the productive capabilities of the farm. The tendency to structure loans on a short-term basis increases the demand on cash, since payments are higher for short-term loans, making payments more difficult

to meet. Brake and Boehlje suggest restructuring assets and liabilities in such a manner that principal and interest payments can be met with more liquid assets. Projected cash flow worksheets give the manager an idea of how much an operation can pay out during the period and continue to maintain a positive cash flow.

Another area that has room for improvement is marketing. Some commodities grown in Virginia such as tobacco can only be marketed one way after being harvested. The only options available to tobacco farmers at harvest are to spread sales over time and location. However, a complete marketing plan starts before planting, not at harvest when marketing options are limited. Marketing involves decisions of what varieties to plant, government program participation, forward contracting, use of the futures market, as well as other decisions. A whole farm marketing plan may enhance profitability (Barry and Fraser). However, marketing is only one of the factors included in a complex mixture that make up the farm business management plan.

Problem Statement

In recent years the problems of financially distressed

farmers have become a popular topic for the media and politicians. This nationwide attention has educated the public and raised concern over farming. As a result, the government has attempted to aid farmers with various types of disaster loans, and presently, with direct payments. However, most government aid to farmers is initiated by unfavorable weather conditions and low commodity prices, which farmers cannot control. This study focuses on the actions and decisions that farm managers can control that affect their physical and financial performance.

Since extension's goal is to educate farmers and the public alike, the distressed farmer's problems may be addressed through extension programs. However, to reach this goal, extension has to know what factors are related to farmer survivability. Some farmers in Virginia have survived and earned positive net returns, while other farmers, in the same sector facing similar external conditions, have exited farming either unwillingly or by choice as a result of financial stress. If the conditions that force farmers out of business can be better understood, then extension personnel will be better prepared to teach farmers how to recognize, and avoid being caught in, those conditions that put farmers out of

business. Hence, extension's goal, related to farm situations shown in Table 1, is to teach management practices that will move farmers into the Favorable category. It is obvious that extension can not be expected to make each farmer in Virginia prosperous, but through focused teaching programs it can help more farmers survive financially stressful periods.

Objective Of This Study

The main objective of this study is to provide insight into why some corn, soybean, and wheat farmers in Virginia survived the agricultural recession of the 1980's while other farmers did not.

General Procedures

In order to accomplish the above objective, a case study approach was utilized. A small sample of people who were corn, soybean, and/or wheat producers in eastern Virginia during 1983, 84, and 85 were personally interviewed to gather information. The continuum in Table 1 was developed so that the farmer's financial condition could be quickly classified as either Favorable, Marginal Income, Marginal Solvency, or Vulnerable. During the

TABLE 1

CONTINUUM USED TO CLASSIFY FARMERS' FINANCIAL CONDITION DURING THE SURVEY PERIOD, BY DEBT-TO-ASSET RATIO AND CASH FLOW

F	MI	MS	V
Favorable	Marginal Income	Marginal Solvency	Vulnerable
D/A $\leq$ .4* and a positive cash flow	D/A $\leq$ .4 and a negative cash flow	D/A between .4 and .9 and a positive cash flow	D/A $\geq$ .9 and a positive cash flow, also, D/A > .4 and a negative cash flow

* D/A is the debt - to - asset ratio

survey years, each farmer was classified in one of the four categories. After the interviews were complete and the information was sorted, the farming operations were categorized along the continuum and the factors unique to Favorable and to Vulnerable farmers were outlined in an attempt to understand why some farmers were forced out of business due to financial problems.

Table 2 has three categories that are used to classify the individuals' present situations. The Currently Farming category includes all the producers who are presently farming. The No Longer Farming category includes the individuals who have exited farming. The No Longer Farming category is divided into two sections that account for the two main reasons why the individuals stopped production. The successfully exited section includes people who were corn, soybean, and/or wheat producers, but decided to cease production for various reasons. Reasons for inclusion in the SE category are retirement, bad health, a decision to pursue a different career, the operation did not produce an acceptable level of income even though it had no debt, or the farmer decided to exit farming and sell his assets before debt became larger than assets. The other section includes producers who discontinued farming as a result of

TABLE 2

CATEGORIES USED TO CLASSIFY INTERVIEWEE'S PRESENT POSITION EITHER AS CURRENTLY FARMING OR NO LONGER FARMING

CF Currently Farming	NLF No Longer Farming	
	SE Successfully Exited	DF Discontinued Farming
Producers who are still farming.	Producers who are no longer farming, but chose to stop production for reasons other than those involving financial hardships.	Producers who are no longer farming due to financial hardships such as forced sell out, or bankruptcy.

foreclosure, forced sale, or some other financial hardship that disallowed further production. By looking at the present situation of the interviewees, it can be determined if the farmers in the Vulnerable category during the survey period are the ones who were forced to exit farming, and if the farmers in the Favorable category during the survey period continue to farm today. A discussion of the detailed procedures used in the case study follows in chapter four.

Selection of the Counties and Time Period

The case study will focus on farmers who raised corn, soybeans, and/or wheat during 1983, 84, and 85. This sector of farmers was hardest hit with financial problems in the 1980's (Melichar, and USDA 1987b). Most of the financially stressed operations derived the largest portions of their gross value of production from corn and soybeans with the remainder of farm income coming from other crop and livestock operations (USDA 1985a). Therefore, the selection of the case study counties was limited to the counties that have significant production of corn, soybeans, and wheat.

The publication Virginia Agricultural Statistics, Sept. 1987, was used to compile a list of counties that

produced a majority of the state's corn, soybeans, and wheat (see Table 3). To allow for some geographical differences, counties were chosen from the Northern, Northeast, and Southeast districts rather than from one area. The Planning districts are defined by the Virginia Cooperative Extension Service and are shown in Figure 1. The counties that appear in each of the three crop categories of Table 3 are listed in Table 4. In Table 4, the counties are ordered according to the sum of their ranks in the three categories in Table 3, with the county having the lowest rank sum appearing first. Hence, Table 4 shows which counties or cities in Virginia had the highest cumulative production of corn, soybeans, and wheat in 1985.

From Table 4, eight counties/cities were chosen as target areas for the selection of interviewees. The eight counties/cities are: Suffolk (city), Essex, Northumberland, Southampton, Westmoreland, Sussex, King William, and Fauquier. Although Chesapeake (city), Virginia Beach (city), and Loudoun county had higher ranks than some counties selected, they were not chosen because farmers in these areas may be affected by urban pressures that distort normal farming procedures. For example, a farmer owning land adjoining a highly developed area may sell a portion

TABLE 3

TOTAL PRODUCTION OF CORN, SOYBEANS, AND WHEAT
IN SELECTED VIRGINIA COUNTIES IN 1985

	Corn For Grain		Winter Wheat		Soybeans	
Rank	Co.	Mil. Bu.	Co.	Thou. Bu.	Co.	Thou. Bu.
1	Sohamptn.	3.736	Chesapeake	675	Accomack	1,728
2	Loudoun	2.8	Northumbl.	502	Chesapeake	765
3	Suffolk	2.598	VA Beach	486	Sussex	720
4	Is. Wight	2.286	Accomack	480	VA Beach	708
5	Chespek.	2.152	Pittsylvania	418	Southampton	680
6	V Beach	1.588	Loudoun	417	Suffolk	680
7	Rockingham	1.573	Northampton	375	Essex	652
8	King Wm.	1.520	Westmoreland	362	King Wm.	620
9	Essex	1.454	Essex	344	Caroline	587
10	Sussex	1.370	Hanover	332	Westmoreland	561
11	Westmorel	1.340	Suffolk	301	Northumberl	517
12	Culpeper	1.311	Charles City	283	Dinwiddie	487
13	Fauquier	1.260	King and Queen	250	Hanover	465
14	Northumbl.	1.247	Prince George	244	Prince George	450
15	Augusta	1.123	Caroline	217	King and Queen	449
16	Caroline	1.111	Fauquier	213	Northumberland	442
17	Surry	1.100	King William	213	Isle of Wight	440
18	Kg. a Qu.	1.042	Surry	205	Brunswick	415
19	Richmond	.968	Richmond	190	Mecklenburg	387
20	Greensville	.964	Isle of Wight	185	Pittsylvania	379
21	Orange	.864	Southampton	177	Richmond	373
22	Madison	.846	Halifax	172	Greensville	348
23	Hanover	.780	Middlesex	168	Gloucester	300
24	Halifax	.751	Culpeper	166	Surry	300
25	Gloucester	.728	Louisa	160	Henrico	274
26	Charles C.	.678	Campbell	156	King George	270
27	Accomack	.640	King George	156	Amelia	260
28	Lancaster	.595	Sussex	154	New Kent	257
*31					Loudoun	209
*38					Fauquier	97

* These two counties are shown in addition to the 28 because Fauquier County was included in the interviewing and Loudoun County is in the same district as Fauquier, but was not chosen for interviewing because of its location in relation to Washington, D.C.

Virginia Agricultural Statistics, Sept. 1987, Bulletin No.56 Compiled by the Virginia Agricultural Statistics Service

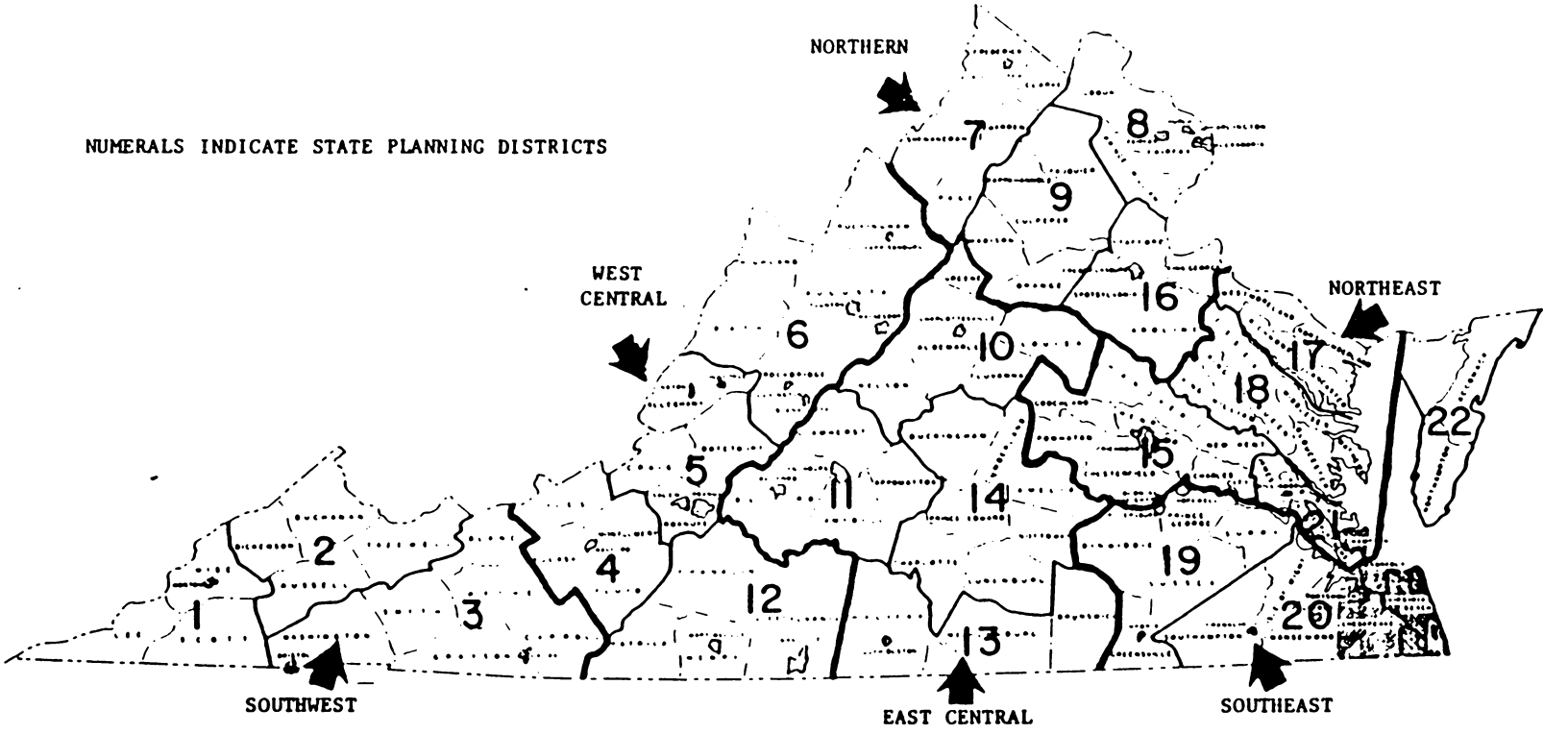

Figure 1. Map Of Virginia Showing The Virginia Cooperative Extension Service's Planning Districts.

TABLE 4

PRIORITY LIST OF COUNTIES WITH THE HIGHEST CUMULATIVE PRODUCTIONS OF CORN, SOYBEANS, AND WHEAT IN VIRGINIA, 1985 DATA

	County/City	Rank *	
1:	Chesapeake, city	8	
2:	VA Beach, city	13	
3:	Suffolk, city	19	**
4:	Essex	25	**
5:	Northumberland	27	**
6:	Southampton	27	**
7:	Westmoreland	29	**
8:	King William	32	**
9:	Accomack	32	
10:	Loudoun	39	
11:	Caroline	40	
12:	Isle of Wight	41	
13:	Sussex	41	**
14:	Hanover	46	
15:	King and Queen	46	
16:	Surry	58	
17:	Richmond	59	
18:	Fauquier	67	**

* Rank is the sum of the ranks in corn, soybean, and wheat production in Virginia in 1985 from Table 3.

** Indicates the counties/cities chosen for the interviewing process.

of his farm to developers at a price much higher than other agricultural land in the area sells for, yielding benefits that many farmers are unable to obtain. Accomack county was not selected in order to reduce travel expenses. Fauquier county was chosen over Caroline county in order to include some representation from the northern part of the state. Moreover, Fauquier is further from the other counties, which was desirable in order to limit geographically specific problems such as localized drought and localized pest problems. Fauquier county was selected since it had the highest ranking of any county in the Northern district, other than Loudoun. Figure 2 provides a map of Virginia with the target counties indicated.

The years 1983, 84, and 85 were selected as the time period to cover in the interviews. These years were chosen out of the 1980 - 1986 period because farmers' D/A and debt to equity ratios and total farm debt were the highest during these years. Also, interest expenses were high, cash operating expenses were high, total farm assets were low, and equity was low during these years (USDA 1985a, USDA 1986, USDA 1987c, and USDA 1988b). Table 5 provides various measures of financial stress, commodity prices, and expense figures for the 1980-1986 period. The worst year

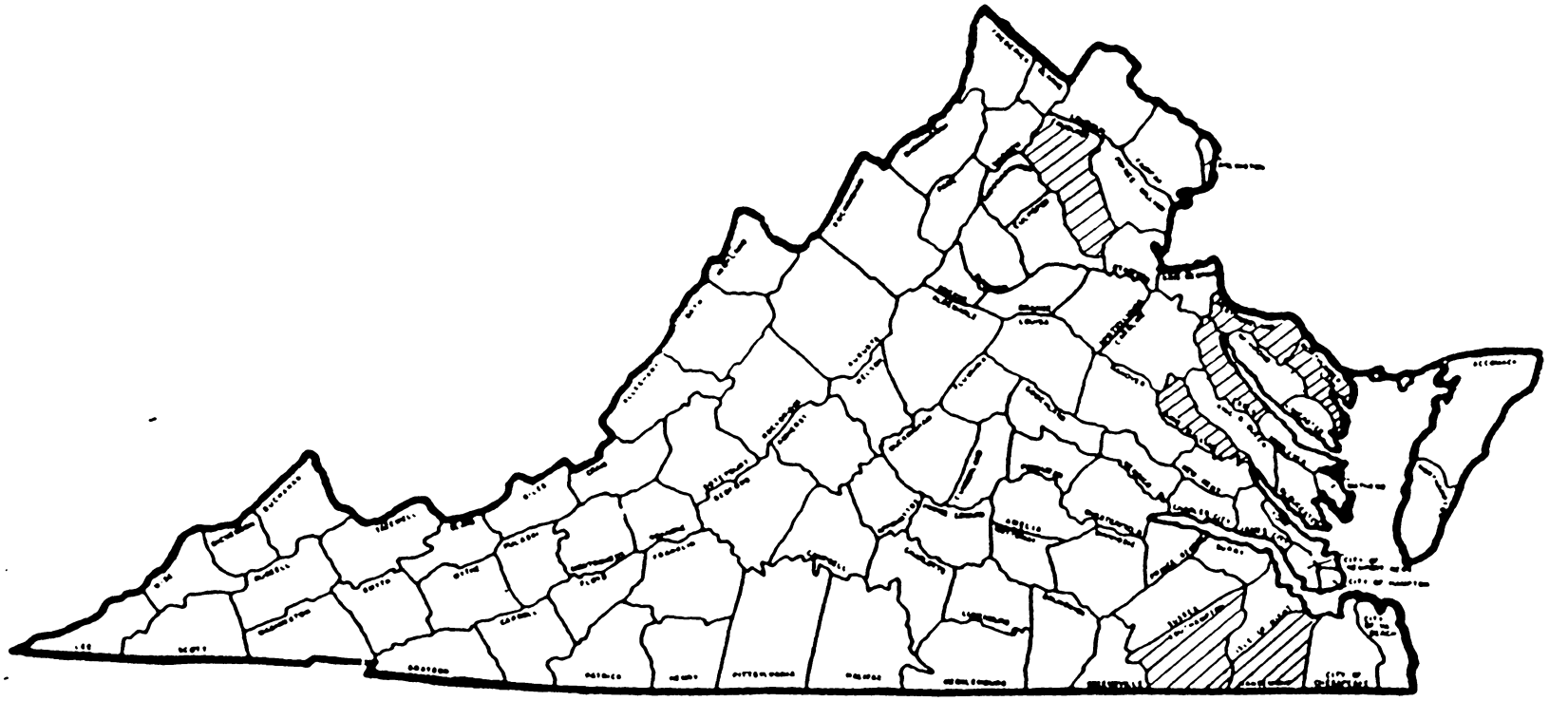

Figure 2. Map Of Virginia With Shaded Area Showing The Counties Participating In The Interviews.

TABLE 5

SELECTED INCOME AND BALANCE SHEET STATISTICS OF VIRGINIA FARMERS AND CORN, SOYBEANS, AND WHEAT PRICES

	1980	1981	1982	1983	1984	1985	1986
($ mill.)							
Cash Receipts							
Corn :	40.7	62.5	67.4	34.2	66.3	84.4	26.7
Soybeans:	71.7	84.1	104.9	89.4	101.6	105.9	75.2
Wheat:	32.3	55.5	41.8	45.3	38.6	31.2	17.6
($ mill.)							
Total Farm							
Assets:	12.6	12.6	12.7	12.6	12.3	12.4	12.1
Debt:	1.82	1.96	2.01	2.08	2.10	2.01	1.86
Equity:	10.8	10.6	10.7	10.5	10.2	10.4	10.3
Equity to Assets:	85.6	84.4	84.1	83.5	83	83.9	84.7
Debt to Equity:	16.8	18.5	18.8	19.8	20.5	19.3	18.1
Debt to Asset:	14.4	15.6	15.9	16.5	17	16.1	15.3
($ mill.)							
Net Farm Income:	23.9	298	127	42	360	223	393
Net Cash Income:	157	282	351	169	505	379	524
Gross Cash Farm Income from Crops :	461	698	655	551	665	623	486
Cash Farm Exp. :	1,335	1,398	1,366	1,371	1,406	1,360	
Interest Expense:	171	215	233	228	221	201	189

Agricultural Prices 1986 Summary. USDA. June, 1987.
Economic Indicators of the Farm Sector State Financial Summary, 1986. USDA. February, 1988.
Farm Income Data: A Historical Perspective. USDA. May, 1986.

for farmers during the 1980's, using these measures, was 1984. In 1983 farmers experienced a major drought and the PIK program. Hence, 1983 was chosen to include a drought year, and 1985 was included to represent an above average production year.

Overview of the Thesis

Chapter two of this thesis is a review of literature that points out factors related to farmer survivability, financial stress, and farmer success. The third chapter develops a conceptual framework that explains how these factors influence a farming operation. Chapter four details a description of the farming areas involved and how the case study was carried out. The findings from the case study are presented in chapter five. Finally, chapter six covers the Study's conclusions and implications.

2.Literature Review

Introduction

A review of literature that pertains to the financial crisis in agriculture, how to approach the problem, and measures of farm financial success is presented in this chapter. In reviewing the literature, special attention was given to determining how management practices may affect a farmer's well-being. Drabenstotts statement that "...farm producers must be total risk managers - making simultaneous decisions to manage production, marketing, and financial risks" sets the topics for this literature review. Essentially, a manager's responsibility is to control risk in order to achieve his goals. Hence, the ability to make better management decisions should facilitate the achievement of the manager's goals. The factors that influence this decision making ability are covered in the literature review. The review is divided into four sections for organizational and reference purposes. They are: Farming Experience, Debt Load and Structure, Whole Farm Management, and Farm Ownership/Size.

Farming Experience, Hired Labor, and Age of the Operator

This section includes literature that discusses the role of farming experience, hired labor, and age of the operator in farmer survivability. Bartlett conducted a study in 1982 that looked at the polarization of farms between small, mostly part-time farms and small numbers of large commercial farms. The study was conducted in one Georgia county to determine how farm size, the use of hired labor, and age of the operator affect farmer survivability (Bartlett, p. 836).

Farmers were divided into three categories for comparison purposes. They are retired/disabled farmers, part-time farmers, and full-time farmers. The author found that retired/disabled farmers used the farm as a supplement to their social security income. This group received little farm income and farmed a median-sized operation of 102 acres. This type of farmer was in the least vulnerable economic situation. Part-time farmers are defined as under 65 years old, and having a full-time off-farm job, or a part-time off-farm job that pays a minimum of 75 dollars a week and greatly reduces time available for farming. The median farm size is 131 acres, gross sales are between $10,000-$19,999, and a small percentage have no debt while a similar amount have debt-to-asset ratios of .75 or

greater. This type of farmer relies on his salary and savings to provide income during drought and low price periods. The full-time farm, which is run by a full-time farm operator, is the largest type of operation, operating a median of 698 acres. Gross sales fall in the $40,000-$99,999 range, and 50%-70% of the farms have at least some off-farm income. This type farmer is in the most serious financial condition, with many being delinquent in loan repayment (Bartlett, pps. 837-839).

In her study, four strategies for surviving the farm crisis were observed: changing farm size, changing hired labor input, adding off-farm income, and adding irrigation facilities. Changing farm size was the least desirable for retired farmers, and the most desirable for full-time farmers. The author reported that land purchases are virtually at a standstill in the area, and "there is no evidence that large farmers have a competitive edge over other types in obtaining farm rentals at this time" (Bartlett, p.840). "Further, many of the largest farmers have expressed a preference to cut back, citing the increased efficiency and productivity of supervising a smaller operation more closely" (Bartlett, p.840). The alternative of changing hired labor was used mostly by

retired farmers, and was least desirable for full-time farmers. Few farmers were interested in increasing hired labor, and most reduced hired labor to cut costs. All farm types added off-farm jobs, with full-time farmers adding more, and retired farmers adding fewer. Almost half of the full-time farmers now use irrigation with only a few retired and part-time farmers doing so (Bartlett, pps.839-840).

The farmers were also divided into three groups according to ownership and hired labor. The three groups are the family farm group, the renters group, and the large-scale farmer. The family farm group, which owns most of its land and uses more family labor than hired labor, was the largest group. This group had a "median size of 340 acres, they are mostly older farmers who have been farming a median of 30 years, and the majority have debts that are 25% of assets or less" (Bartlett, p.841). Only 13% have a debt to asset ratio greater than 75%. This group has been conservative, less likely to expand rapidly with borrowed funds, and only one-third have invested in irrigation. "Their less expansive strategy has not protected them from significant losses during their bad years, but their financial troubles are unlikely to

threaten the continued viability of the farm" (Bartlett, p.841).

The renters group, who rent or lease most of their land and use more family than hired labor, have serious financial problems. Seventy-one percent of these renters are facing D/A ratios greater than .75. However, there are some young farmers in this group who have survived by forming partnerships with other farmers, or by inheriting land. The operators are young, with a median of seven years experience. Bartlett claims that the renters are younger versions of the family farm group, but have not yet purchased enough land and built up their equity to place them in a more favorable situation.

The large-scale farmers, who hired more labor, operate farms with a median acreage of 1,042 acres. The age range for this group is wide, with a median of 25 years of farming experience. "Large-scale farmers are technically sophisticated, grow large acreages of high cost crops, and nearly all have irrigation. Almost half of them face financial troubles, a figure which reveals the risk involved with the expansive, capital intensive strategies they have followed" (Bartlett, p.841).

The author also points out, "though skill and hard

work are crucial, operators who have inherited substantial property or who began farming in time to pay off their land and accumulate considerable savings are able to withstand extended drought years that will bankrupt equally hard-working or efficient farmers" (Bartlett, p.842).

Bartlett discusses farm size, farming experience, and the timing of entry into farming as critical determinants of farmer survival. Larger operations are associated with a higher rate of financial stress, while the use of larger amounts of family labor is a desirable characteristic. The younger farmers are in a more vulnerable financial situation, and the family farm group which has older operators is in better financial condition. Bartlett also argues that family and farm life cycle considerations are important variables in understanding farm survival.

Dunn and Frey (1976) agree with Bartlett that the number of years of farming experience is a good measure of farmer survivability. They use the measure, along with others, in discriminant loan analyses.

Debt Load and Structure

This section discusses how to measure the financial condition of a farm operation and the effect that debt has

on a farm operation.

Jolly uses the 1984 USDA Farm Costs and Returns Survey, and a mail survey of 4,700 Iowa farm operators to collect income, cost, balance sheet data, and operator statistics. The objective of the article was to collect farmer information in an attempt to measure the incidence, intensity, and duration of farm financial stress for subsequent policy discussion. Jolly offers the following definition of financial stress:

> ... the absence of normal profit or returns to factors cause financial stress, yet these same factors drive the allocative mechanism of a market economy. Financial stress occurs when the capacity of an individual or firm or a specific sector of the economy to adjust to the forces causing stress is exceeded. Some stress is essential for efficiency and growth. Too much financial stress may lead to misallocation of resources, undesirable structural change, loss of economic and human capital, needed institutions, and individual well-being. (Jolly, p.1108)

Jolly says that financial stress can be determined by directly examining four long -run characteristics of the farm business. These four characteristics are: profitability, liquidity, solvency, and risk - bearing ability. He also claims that financial stress can be measured indirectly by aggregate indicators such as land value trends, foreclosure and loan delinquency rates, or

loan losses taken by creditors (Jolly, p.1108). Jolly discusses some of these long - run characteristics of the farm business as net cash flow, the D/A ratio, and return to equity.

> A negative cash flow means cash obligations are not being met and can indicate financial stress. However profitable, businesses may experience short-term cash-flow problems - for example, if inventories or productive assets are being increased, if principal payments exceed depreciation, or if family consumption less off-farm income exceeds the cost of unpaid family labor. Similarly, unprofitable businesses may have positive cash flow in the short run if inventories or productive assets are being liquidated or principal payments are being delayed. (Jolly, p.1108)

Jolly indicates that cash flow problems in one year may be an inadequate measure of financial stress, but cash flow over a period of two or three years will more accurately measure payment problems.

Jolly claims that much of the recent analysis of financial stress focuses on the D/A ratio. The D/A ratio measures relative indebtedness and the solvency and risk-bearing ability of the business. The D/A ratio can also be used to assess income or debt service capacity by relating returns on assets to the servicing requirements of existing liabilities (Jolly, pps.1108-1109).

The return to equity measure combines income and balance sheet information in one ratio. A negative return

to equity value is a relative measure of financial stress. The size of the return to equity ratio gives a measure of the rate at which a financially stressed business is consuming its own capital stock (Jolly, p. 1109). Jolly states that, in the short run, operators with a ROE from -5% to +5% are financially stable, but may be vulnerable to asset value declines. Jolly states that nearly one-third of U.S. farmers are either insolvent (debts are larger than assets) or have an estimated ROE less than -5%. However, many operators have an ROE greater than +5% and are financially stable (Jolly, p.1111).

To assess the incidence of farm financial stress, Jolly used the D/A ratio and the occurrence of a negative cash flow in 1984. These stress indicators were estimated from FCRS (Farm Costs and Returns Survey) data. The D/A ratio was calculated using the farm operator's total owned assets and liabilities as of January 1, 1985 (Jolly, p.1109). Cash flows were estimated from reported net cash farm and non-farm income less estimated family living expenditures and principal payment. "Farms with a low D/A ratio and a positive cash flow would generally be considered financially stable. Farms with a high D/A ratio and negative cash flow could be vulnerable to both solvency

and liquidity problems" (Jolly, p.1109). Jolly reports that 19% of all farms nationally had a D/A ratio greater than .4, with 3% being insolvent. Also, 12.6% of U.S. operators had a negative cash flow and a D/A ratio greater than .40. Most of these operators were located in the Corn Belt, Lake States, and Northern Plains (Jolly, p.1109).

Jolly reports that the small farm category is likely to experience a higher number of farms with financial stress due to the greater number of these farmers, but most of the sector debt is held by farms with sales over $40,000. Eighty-two percent of the debt is held by commercial farms that have a negative cash flow (Jolly, p.1113).

Whole Farm Management

This section reviews articles that discuss measures of management and its effect on farmer survivability, and steps that farmers may take to help alleviate financial hardships.

Driver and Onwona (1986) provide ideas of how to measure management's effect on performance. The authors claim that in

> applications of economics ... to farm management

> problems are often based on the assumptions that entrepreneurial skills (e.g., planning, decision making, implementation and operational skills) are adequate. These assumptions seem to be relatively naive in an agricultural community which is undergoing adjustment shocks ... (Driver and Onwona, p. 156)

Driver and Onwona argue that making these assumptions presumes homogeneity in production technology, management and behavior. If these assumptions are invalid, then "allowances for attitudes towards risks, and choice of markets and enterprise types, as well as the introduction of alternative goal objectives into constrained optimization, such as profits or net worth maximization, and cost minimization, are not sufficient to overcome the shortcomings of these assumptions" (Driver and Onwona, pps. 156-157). The authors' purpose is to test the validity of these assumptions by looking at profiles in management and performance.

The problem that the authors identify is that more detailed information is being required to analyze the interrelated financial, production and marketing problems and to answer "what if" questions about opportunities and their consequences on measures of profit, risk and resource efficiency, financial structure, liquidity and solvency. To solve these problems, farmers need better farm management information systems.

In the article, management attributes are divided into three categories: conceptual, managerial, and technical. Managerial skills include decision making and implementation skills which can be improved upon by outlined physical and financial targets for strategy planning and ex post evaluation of previous decisions. Conceptual skills are those skills that allow a manager to perceive scenarios of future economic conditions which are invaluable for long-term planning. Technical skills are the farmer's abilities to use technical practices and to perform technical jobs so as to achieve targets.

> The effective practice of management requires the judicious application of all three sets of skills. For a given set of conceptual skills, managerial and technical skills must be continuously updated over time. Basil (1970) points out that most managerial problems - especially those associated with the timeliness of an operation, strategy choice and forward planning - are caused by the failure of the manager to shift his skill-mix to the optimal level required for maintaining the appropriate balance in the numerous activities on the farm to ensure satisfactory profits." (Driver and Onwona, p. 160)

To measure business performance Driver and Onwona used income, levels of quasi-fixed resources, and structural and managerial efficiency factors. Levels of quasi-fixed resources are measures of farm size and include tillable acres, acres of each crop planted, labor hours utilized,

and the value of farm assets. Labor per acre and assets per acre are structural efficiency factors and measure the time efficiency required to substitute capital for labor. Managerial efficiency factors indicate the farmer's reward for adopting some technology systems and a variable input mix. Some managerial efficiency factors are net business income, gross profit, gross farm income, and net profit (Driver and Onwona, p.161).

Using multiple correlation analysis and the Aid clustering technique, Driver and Onwona found two dominant explanatory variables of business performance: technology systems, and level of production per technical unit. For dairy technology, milking systems were selected by the program as the best proxy for technology, while horsepower of the largest tractor was picked by the program for the crop technology. Also, the program showed a strong association between technology, quasi-fixed and structural efficiency factors, plus a strong association between willingness to accept risk and new technology. The authors found that these factors tended to rise along with net business income as technology increased (Driver and Onwona, p.162).

Milk production per cow was the second dominant

variable, and was most highly correlated with decision making skills, technical skills, and technology. The AID clustering program selected managerial skills as the best explanation for milk production per cow. Managerial efficiency factors, technical skills, and conceptual skills, were determined to be statistically significant measures of business and management factors over milk production classes using the multiple correlation analysis and the AID clustering technique.

The authors also found that technical skills were much more highly significant using the multiple correlation analysis and the AID clustering technique across milk production classes than technology. However, this finding is not surprising since for most technical jobs done on the farm such as fertilizer/seed application, weed/insect control, feed ration formulation, crop rotation, etc. require only a minimum threshold of technology (Driver and Onwona, p. 166).

Driver and Onwona reported that the farmer using the highest level of technology and reaching the highest milk production per cow experienced lower managerial (decision making) and conceptual (long-term planning) skills. However, this relationship is tenative because it is based

on only one observation.

Driver and Onwona assessed the need for management information and determined that "three sources of information that show significant difference in usage across technologies are agricultural extension services, colleges and universities, and farm organizations and co-operatives" (Driver and Onwona, p.173). They also found that usage of these sources rose with technology. However, reliance on these sources on a regular basis is low, implying that the sources are inappropriate or that farmers are unaware of the importance of these sources (Driver and Onwona, p.173).

This article gives some valuable measures of skills required to keep up with a changing operation and an understanding of how these skills should be used together in order to enhance the performance of a farm business. The authors state that management requires the effective execution of conceptual, managerial, and technical skills and that these skills need to be continually updated over time. These skills are updated through information that is provided by extension services, colleges and universities, and farm organizations and co-operatives. The authors stress that obtaining information is the key to analyzing

management problems.

A mail survey of 12 states was conducted by Patrick in 1983 to help determine the risk perceptions of various types of producers in the U.S. Producers ranked, from one to five, the importance of various sources of variability that create risk, and on a scale of one to four various management responses to variability. Throughout the text the average rankings of the responses are shown in parenthesis with a larger number indicating higher rank. The sample used is not a statistically representative sample, and therefore, cannot be considered representative of all producers.

Crop producers were differentiated from livestock producers in Patrick's results, but since the present research is interested in crop producers, only the crop results are reviewed. Weather was considered the most important source of variability (4.59), with crop prices second (4.24). Other important sources of risk are inflation (3.93), input costs (3.93), disease and pests (3.91), world events (3.72), and safety and health (3.67). "The least important factors included hired labor, leasing cropland, and technology. It is important to note that factors beyond the control of the decisionmaker contribute

most significantly to variability" (Patrick, pps. 232-233). Credit availability, the cost of credit, leverage, and family plans were assigned greater values by Midwestern corn, soybean, and hog (CSH) producers. Small grain producers claimed disease and pests an important source of variability (Patrick, p.233).

"Pacing of investments and expansion to avoid becoming overextended was considered the most important (3.30) managerial response to risk. Obtaining market information was a close second (3.26). These responses were used by about 90 percent of the respondents" (Patrick, p.235). Production practice diversification (2.68) was the most important production response for Midwestern CSH producers. Patrick found that more than 90% of producers obtained market information, and spreading sales and forward contracting were used by over 77% of the respondents (Patrick, p.236). "CSH and small grain producers gave less importance to holding financial reserves such as bank accounts, bonds, or other financial assets than other farm - type operations, and lower percentages of these producers held reserves in these forms" (Patrick, p.236).

Patrick discovered the most important managerial responses to price variability were obtaining market

information (3.26) and pacing of investments (3.30). Small grain producers placed importance on diversification of enterprises (2.97) and production practices (2.79) as well as monitoring eligibility for government programs (2.97). Also, Midwestern CSH producers responded that spreading sales (3.41), hail insurance (3.25), and production practice diversification (2.86) were important (Patrick, p.236).

> These results have interesting implications for the design of educational programs ... the heavy emphasis on marketing strategies in educational programs with farmers appears to be warranted and of significant payoff in light of the importance that producers gave to marketing responses to variability. In addition, including marketing education with lenders, as well as financial management programs with both farmers and lenders, appears important in light of these survey responses. (Patrick, p.237)

Although Patrick did not give any ways to measure the variables, it did provide some valuable information on what farmers may consider as important risk variables in today's agriculture.

Unlike Patrick, Barry and Fraser found that producers are relying more on their borrowing capacities as a source of emergency funds in meeting variable cash flows. Producers try to not exhaust their borrowing capacity so as to have the option of injecting liquidity into the operation in times of financial hardships without

disturbing the farm's asset structure or productive ability (Barry and Fraser, p.290). Patrick found that CSH and small grain producers placed less importance on holding reserves than other farm - type operations, but Barry and Fraser claim that in general farmers are placing greater importance on holding financial reserves.

The authors also point out that producers are placing more value on obtaining financial and recently released market information. This demand for information comes from increased price and income risk, and the need for farmers to improve their expectations on future events. Crop producers are expected to rely on the need for information more so than other producers due to their heavy involvement and reliance on government programs (Barry and Fraser, p.289).

Lins also emphasizes the need to look at cash flow over time and the need to consider other measures in addition to cash flow and the D/A ratio. "Such measures would provide additional guidance and insights to the financial problems" (Lins, p. 1129). Measures other than the D/A and cash flow pointed out in the Lins article are the levels of and changes in net worth and net farm income, the number of bankruptcies and foreclosures, and the number

of voluntary or involuntary liquidations. Although this thesis will not use the number of bankruptcies nor the number of liquidations, the conditions that prompted some grain farmers to terminate their businesses can provide similar information.

Lins also provides some information from research on grain farmers in Illinois.

> A cash grain farm with average management (management skills are based upon returns per dollar of input) and an initial D/A ratio of 50%, is likely to experience significant reductions in net worth and negative farm income under current economic conditions. However, managers ranked in the top 25% achieve crop revenues which are approximately 12% above average and have production expenses, excluding interest, more than 11% below average. With superior management, a cash-grain farmer with a D/A ratio of 50% can survive current economic conditions. However, a superior production and marketing manager saddled with a D/A ratio of 80% cannot survive current economic conditions. (Lins, p. 1129)

Brake and Boehlje, 1985, offer a five-step sequence of adjustments for firms experiencing financial stress. The five-step sequence is: (1) increase net income through expanding sales, increasing productivity, or reducing costs, (2) restructure liabilities to reduce debt service requirements by deferment of principal and interest payments, reamortization of principal over longer repayment periods, discharging or writing off part of the debt by the

lender, (3) restructure assets to reduce the proportion of low yielding, low liquidity assets of the firm. A sale-leaseback arrangement is a method of restructuring assets that frees up money that can be used for debt service or investment in higher-yielding, higher-liquidity assets. (4) Equity infusion by a conversion of debt to equity by borrower-lender agreement where the seller or equity holder reclaims title of the asset while the farmer retains use on a risk and return sharing agreement, (5) merger/acquisition where the farm or firm is to merge with and/or be acquired by another firm. This option is more popular in nonagricultural firms (Brake and Boehlje, pps.1124-1125). Lins claims that this information can be useful to administrators, policy analysts, and physical scientists who suggest that lower production costs are the only solution to financial problems in agriculture. Brake and Boehlje point out that cost containment is only the first of a five-part sequence that can be taken to alleviate financial stress (Lins, p. 1130).

Farm Ownership/size

This section includes articles that discuss the role of farm ownership and size in farmer financial well-

being.

Musser, White, and Smith (1984) analyze the impacts of expansion on current financial conditions for a representative farm firm in Georgia. The authors simulated four farm situations under two levels of initial debt. The four farm sizes are: owning 200 acres, owning 400 acres, owning 200 and renting 200 acres, and owning 600 acres, and the farms are observed under 30% and 50% initial debt levels. After-tax net income, equity, D/A ratio, and the probability of the D/A ratio being greater than or equal to 80% and the probability of the D/A ratio being greater than or equal to 100% are calculated for all situations.

The authors collected the data during 1982 and used the data to run the simulation model over the 1974-1981 period. Prices, asset values, and yields were initially set at the 1974 level and adjusted for observed trends over the period. Random gross incomes were generated and found to be consistent with incomes over the 1974-1981 period. Real estate loans carried interest rates of 11.8% and nonreal estate debt had an interest rate of 15.2%, both of which were assumed constant over the period. Consumption withdrawals were initially set at $15,000 and adjusted to follow a consumption trend over the simulation period.

> Surprisingly, the most favorable strategy proved to be the purchase of additional land early in this period, resulting in steady growth in equity and no financial stress even for the higher leveraged situation. In contrast, no expansion was the worst strategy, resulting in a steady decline in equity and a high probability of failure. A two-stage growth strategy to 600 acres resulted in stagnation after the second expansion. Expansion by rental of increased acreage was superior to no expansion but inferior to land purchases.
>
> These results suggest some broader implications. Larger initial owned acreage and/or a lower initial leverage position would probably have resulted in a better current financial situation than the situations simulated. In contrast, a higher initial leverage situation, later land purchases, and/or no initial land ownership would likely result in a worse current equity position. ... Farm firms with these financial strategies are likely to be those concentrated in the high stress and insolvent situations. As earlier firm growth literature has stressed, purchase of additional land is desirable especially if it is purchased early in the planning horizon. Later purchases did cause an erosion of equity.
>
> From a management perspective, purchase of land with an unfavorable operating cash flow perspective, ... is not to be recommended. However, land purchases with immediate profitable operating conditions are desirable because the land value appreciation provides a financial cushion and, as in this study, allows equity to continue growing even in an unfavorable cost-price situation. (Musser et.al., p.6)

The respondents to a survey conducted as part of the Musser, White, and Smith study were categorized into three groups according to their D/A ratio. Almost 30% of the respondents were insolvent, 40% were experiencing financial stress, meaning they have debt to asset ratios

between 51 and 100%, and 31.2%, were classified in normal condition, that is, having a debt to asset ratio of 50% or less. Farmers who owned all farmed land tended to be in normal financial condition (55.6%), while those who rented all of their farmland were in a stressful or insolvent situation. Farmers in the survey who raised peanuts were analyzed to see if those who owned peanut allotments were in a better financial condition than those who rent out or rent in peanut allotments. Sixty-two and a half percent of the farmers who responded and owned peanut allotments were in normal financial condition, and 77.9% of the respondents who leased in peanut allotments were either under financial stress or insolvent (Musser et. al., pps. 2-3).

These findings have some implications for land ownership versus renting. Musser, White, and Smith also point out that the stresses brought on from expanding farm operations may be important when considering expansion.

Stanton provides some interesting concluding observations in his article "Perspective on Farm Size".

> Over the seventy - five years agricultural economists have been studying and observing farmers and their families, both in Western societies and others, some generalizations begin to emerge. It is not returns to capital, or returns to land, or returns to any single scarce resource, that motivates farm decisions. A farm family tries to get the most it can out of the bundle of resources it controls. And it is

> not net income by itself that matters to a family. Rather, it is some larger combination of things, including survival, net income over time, enlarging the bundle of resources that the family controls, and increased prestige within the local social system. In many cases around the world, family resources turn out to consist largely of family labor and entrepreneurship with precious little capital and land to go along with them. (Stanton, p.735)

This discussion points out some factors that are important in determing the survivability of a farm operation. Mail surveys can be used to measure many factors related to farmer survivability, but personal interviews are better at revealing the whole farm picture.

It seems logical to emphasize family resources and employment as key policy variables in economic studies of farms and farming systems. As the Japanese and Dutch have demonstrated rather dramatically, quite different combinations of land, labor, and capital from those in America may be combined efficiently by able entrepreneurs. Even though land is fundamental to farming and a unique resource that is almost nonrenewable, perhaps too much emphasis has been given to land, and too little to family labor and management in our analysis. After all, it is people and not simply physical resources that take final priority (Stanton, p.735).

Summary

The review of literature gives some thoughts on how financial stress can be measured, and more importantly enlightens the reader on the necessity to gather profitability, liquidity, and solvency measures over time so as to accurately determine the financial condition of the operation.

Farming experience is generally considered to aid in farmer survival. Bartlett found that the family farm group consisted of mainly older farmers who have been farming a median of 30 years and have a D/A ratio of less than .25. She also found that these farmers were more conservative. The renters group in Bartlett's study were in worse financial condition and had a median of 7 years of farming experience.

Bartlett found that full-time farms, which were the largest type of operation considered in her study, were in the most serious financial condition. These large farmers expressed a preference to cut back on the farmed acreage in an effort to increase efficiency and productivity. Most farmers reduced the amount of hired labor used to cut costs and added off-farm jobs. Musser, White, and Smith also addressed the ownership/size question and found that

purchases of land early in the farming career rather than later in the farming career were advantageous. They found that producers that owned all of their farmed land tended to be in normal financial condition, while those who rented all of their farmland were in a stressful or insolvent situation. Jolly found that 82% of the farm sector debt is held by commercial farms that have a negative cash flow.

Driver and Onwona discussed the importance of information in making management decisions. They found that effective management requires conceptual, managerial, and technical skills. They found that technology systems and the level of production per technical unit were the two dominant predictors of business performance.

Patrick et. al. identified important risk variables. The more important managerial responses to variability were obtaining market information and pacing of investments. Small grain producers placed importance on diversification of enterprises, on production practice diversification, and monitoring eligibility in government programs. Midwestern corn, soybean, and hog producers responded that spreading sales, hail insurance, and production practice diversification were important.

Lins points out the importance of considering several

measures of stress along with the D/A ratio and cash flow. He found that above average managers have a better chance of surviving adverse financial and economic conditions.

Barry and Fraser discuss the use of borrowing reserves as a financial management tool that may be used to provide liquidity in financially stressed periods. They also stated that the use of borrowing reserves as a management tool was becoming a more common practice of farmers.

The results of this reviewed research will be used to help develop the conceptual framework related to farm survivability and the specific questions to be asked farmers during the interviewing process.

3. Conceptual Framework

Introduction

This chapter includes the factors that are theorized to affect farmer survivability. Following the preface, there are six sections that explain in what manner the factors are expected to affect farmer survivability. The six sections are: Farming Experience, Debt Load and Structure, Whole Farm Management, Farm Ownership, Family Labor, and Credit Availability/Use.

Factors Influencing Farmer Survivability

There are many factors that when taken independently may not suggest farmer survival, but when all factors are observed holistically the understanding of how some corn, soybean, and wheat farmers survived the agriculturally depressed period in the 1980's and other farmers did not will be improved. To understand a particular farm operation, one must identify the different factors that work together. By looking at the different parts separately and then interrelatedly, a pattern distinguishing farmer survivability can be developed. In this study, the pattern was evaluated by a farm business

scoring procedure. The scoring rated each farmer in nine sections, with the sum of the nine sections yielding a total farm score. The nine sections are: Farming Experience, Debt Load and Structure, Whole Farm Management, Financial Management, Marketing Management, Production Management, Farm Ownership, Family Labor, and Credit Availability/Use. The farm business scoring procedure will be discussed in more detail in chapter five.

In an attempt to understand the characteristics unique to F (Favorable) and V (Vulnerable) producers (see Table 1, Chapter 1), the two groups were contrasted using the nine section subtotals from the farm business scoring procedure. Each farm's D/A (debt - to - asset) ratio and level of cash flow were assessed. The D/A ratio and cash flow were the dependent variables when contrasting the F group with the V group. These two measures were used to classify farmers in either the F, V, MI (Marginal Income), or MS (Marginal Solvency) category of Table 1 (Chapter 1). All financial measures other than the D/A ratio and cash flow, and all farmer characteristics were considered independent variables when conducting the analysis. By observing the differences between the two groups in the farm business scores, the characteristics unique to each group were

identified. Hence, those factors and characteristics unique to F farmers were outlined and used to explain why the F farmers are more financially successful than those in the V group.

The CF (Currently Farming) group was contrasted with the NLF (No Longer Farming) group (see Table 2, Chapter 1) to also aid in understanding farmer survivability. In contrasting the two groups, the analysis was focused on those farmers who are currently farming without severe financial hardships, and those who were forced out of business due to financial pressure. This analysis was based on the data gathered during the survey period, but the individuals were classified based on their present farming status. Therefore, the dependent variable in this analysis was the individual's present farming status. All other measures and characteristics were independent variables. By contrasting the CF group with the NLF group, the characteristics and factors unique to each group were identified. Consequently, the information gained from contrasting the two groups will aid in the understanding of farmer survivability. The nine sections of the farm business scoring procedure were also used in making this analysis.

The remainder of this chapter discusses the measures and characteristics that are expected to best explain differences between F and V producers. These measures and characteristics originated from the review of literature and are outlined in this chapter as the working hypotheses to be addressed in this study. The same measures and characteristics are used when contrasting the CF group with the NLF group.

Farming Experience

A collective term for the amount of experience, formal education, and time invested in adding to one's knowledge of the farming business is "human capital". This term will often be used to describe a farm operator who has a college education, is knowledgeable of new farming practices and/or new technological advances, takes college courses pertaining to his farming operation after high school or college, consistently adds to his existing knowledge by attending farm management or marketing conferences and/or meetings, consistently reads published material pertaining to a farmer's business, and/or appears to obtain the knowledge required to make rational and sound business decisions concerning his farming operation. An addition to

one's human capital is the completion of any of the acts mentioned in the first part of this paragraph.

The knowledge gained through years of on the job training is invaluable to a farming operation. Knowing things such as what production practices have worked best, when is the best time for expansion, how to prepare the product for market, what farm operations need close supervision, the capabilities of the soil and farming operation, who to ask for assistance when advice is needed, the importance of timely action, how to handle risk, the cash flow demands of the farm and household, what debt load the operation can support, and how to minimize costs and maximize efficient use of time all evolve through years of experience. Logically the more experience a farmer has, the closer he will be to the F end of the continuum.

Not only do age of the operator and the number of years farming indicate experience, but experience can also be gained through personal association and education. A farmer's educational attainment can improve his chances for survival if he is patient and disciplined. Conversely, a false sense of security may accompany a higher level of formal education. In such cases, the individual may try to manage too large an operation, expand too rapidly, or rely

on his education to compensate for shortcomings in his productive ability or in his lack of involvement in manual labor, thereby overextending his capabilities. Therefore, ceteris paribus, the level of formal education will not be an influential characteristic. However, educational undertakings specific to the farmer's situations such as: financial analysis, marketing training, information on government program participation, recordkeeping training, and information on new production practices will increase the farmer's ability to survive.

Experience through personal association, on the other hand, is influential, but it is only as valuable as the source of personal association. A perfect example is a farm operated by the son of an experienced farmer, where the father is retired and the son takes over the farm and acquires experience from his father's advice in the early years of operation. This and similar situations are akin to management trainee positions where the supervisor is the father who steers the trainee through precarious situations. Therefore, a farmer without experience can move closer to the F end of the continuum by obtaining close supervision from someone who has years of experience such as a father, grandfather, relative, or neighbor.

Although supervision from a paid advisory source, extension personnel, or the advice of an experienced farmer may improve an operator's position, these sources are not as valuable as a close continuous advisory relationship from a relative, neighbor, or father. Some reasons for this is that paid advice, or similar sources, can not provide day-to-day supervision nor teach the subtle, refined, aspects of technical jobs which are characteristic of more experienced farm managers. In addition, many farmers tend to seek outside advice after they experience a problem rather than before a problem arises, thereby reducing the paid advisory's potential for improving the farmer's situation, whereas the constant surveillance of a father is available more frequently to help avoid difficulties.

Debt Load and Structure

The amount of debt acquired and how the debt load is structured is crucial to a farmer's welfare. Studies (Ahearn et. al., Jolly et. al., VASS) show that farm sector debt is not overwhelmingly large, rather it is the distribution thereof that is causing trouble. A small percentage of the farmers carry a large percentage of the debt. This implies that pacing of investments, financial

discipline, and patience in expanding are important in debt management. Often, farmers attempt expansions or the starting of large-scale operations by acquiring debt loads that prove to be insurmountable. When a farming operation is being founded and the asset base is small, debt loads should be relatively small to safeguard against not being able to meet debt payments and possibly going bankrupt. The possibility of bankruptcy is reduced by keeping the farm operation away from heavily leveraged situations. Although a highly leveraged operation can accumulate equity more rapidly if it is generating a higher rate of return on borrowed funds than the interest rate, the same operation will lose more money if the two rates are reversed in magnitude. Greater risk in reaching the desired rate of return is associated with greater leverage, and increasing risk indicates that the potential for losses is much greater than the potential for benefits. This relationship is a result of the committment to interest on credit that must be paid, in larger amounts as leverage increases, reguardless of the rate of return (Boehlje and Eidman, 1984, p.336).

The debt to equity ratio measures financial leverage. A debt to equity ratio of 0 is optimum for a risk-averse

producer, and a value of 1 or greater indicates a highly leveraged operation. Therefore, farmers in the F category will have lower debt to equity ratios than farmers in the V category.

There are several liquidity and solvency measures that can be helpful in determining how much debt a firm can withstand. Liquidity is the capacity of a firm to generate enough cash to meet financial obligations as they fall due (Kohl, Dec. 85). Current working capital (current assets - current liabilities) provides an absolute measure of liquidity (Kohl, Sept. 85). The debt to asset ratio (D/A) is the most popular measure, and is used to classify farms along the continuum in Table 1 of Chapter 1. A farmer who has a D/A ratio greater than 1 is insolvent and will be classified as V.

Another important measure is the current ratio, which is a relative measure of liquidity that indicates a firm's vulnerability, and is equal to current assets divided by current liabilities (Kohl, Sept. 85). A current ratio value of 1.5 or greater is considered good, and a value of less than .5 is considered poor (Kohl). The current debt ratio (current debt divided by total debt) is another key measure and shows what proportion of debt comes due within

the year (Kohl, Sept. 85). The debt service ratio measures income available to pay principal and interest expenses and is equal to the sum of interest and principal payments on longer - term notes, and interest on operating capital divided by the sum of cash from operating receipts, government payments, and non-farm income (Kohl, Sept.85). A debt service ratio greater than 25% is poor and a debt service ratio less than 15% is good (Kohl).

The other measure employed to classify farms along the continuum is the occurrence of a positive or negative cash flow. Cash flow is defined as farm business earnings plus non-farm income, minus business operating expenses, family living expenses, income taxes, interest and principal payments, and interest on operating capital (Kohl, Sept. 85).

The goal of a farm operation is to keep the debt load at a level where cash flow can consistently remain positive without having to liquidate needed assets. The measures addressed in the previous two paragraphs try to define that level of debt. The cash flow to equity ratio (cash flow divided by equity) tells how fast a negative cash flow is eroding away equity, or a positive cash flow is adding to equity. Therefore, it is logical to classify a farmer as F

if he has a positive cash flow and keeps debts less than or equal to 40% of his assets. Moreover, those farmers who have large debts relative to assets and are not able to meet cash demands are in the V category, and those in the DF (Discontinued Farming) category probably were in the V category before exiting. The D/A and cash flow should be observed concurrently, since it is possible for an operation with a very high D/A ratio to have a positive cash flow in any given year as a result of asset liquidation. Therefore, the measures gain credibility when observed together, and still more credibility when observed over time (Lins).

Balance sheet structure also plays an important role in keeping the farm operation liquid. Some farmers have structured loans over too short a time period, putting excessive demands on current assets. These producers find themselves in the MI (Marginal Income) category where a negative cash flow results from an attempt to pay off shorter term loans with longer term assets. If the balance sheet structure problem persists over a longer period of time, some farmers may be in the Vulnerable category as a result of not being able to meet debt payments. The problem can be addressed by keeping more liquid assets to

meet debt payments, or by refinancing the debt or a portion of the debt over a longer time period, thereby reducing demands on current assets. Farmers in the F category have found the equilibrium level where debts are not excessive (<40%), and a repayment plan allows for a positive cash flow. The current and the current debt ratios can also be applied here to help understand the structure of debt.

The financing of debt by a parent, other relative, neighbor, close friend, etc. will play a part in improving the financial condition of some farm operators. If a farmer purchases land or borrows money from a relative who charges a lower than market rate of interest he will receive benefits that will place him closer to the F category as opposed to a farmer who has to make higher interest payments. Moreover, if a farmer borrows from a relative or close friend, he may be allowed to skip principal and/or interest payments in times of cash shortfalls, which should help the farmer to survive financially hard times. Some farmers who have low to moderate debt levels may be in the F or MS (Marginal Solvency) categories as a result of low interest loans that require smaller interest payments, when under normal circumstances they would be in worse financial condition.

Whole Farm Management

Whole farm management involves marketing strategies, financial analysis and planning, and production management. In the past, farmer attention was mainly directed toward production. However, in today's agricultural society a farm manager needs to keep up on marketing alternatives, be informed of market offerings and government programs, be aware of laws and regulations concerning the environment and pesticide use, keep close track of the firm's financial condition, and produce a product that best fits the farm's production schedule while offering the market a high quality product that is in demand. There are a larger number of factors that contribute to a farmer's success as a whole farm manager, but only those of major importance will be covered in this section. Most financial measures are located in the previous section, with those not covered previously being discussed here.

One way to evaluate a farm manager's abilities is by the level of farm income. NCFI (net cash farm income) is calculated by subtracting cash operating expenses and interest paid out during the year from cash receipts. Although similar to cash flow, NCFI does not consider off-

farm income, family living expenses, principal payments, or income taxes. The size of NCFI can vary for farmers with approximately the same management skills, since the size of the farm operation will play an important role in sales, and hence, in the size of NCFI. Therefore, the F class will have a mixture of farmers who have low to moderate NCFIs supplemented by some off-farm income, and some producers who have large NCFIs and little or no off-farm income. The MS category will have the same mixture as the F category, but will have a greater number of larger producers than smaller scale farmers.

Larger farmers are more likely to acquire debt to pay for equipment and operating expenses resulting in higher interest costs, lower NCFI, and more financial stress. Also, the operations with higher debt loads experienced relatively higher increases in their D/A ratios during the farm depression of the 1980's because asset values decreased much faster than debt decreased. For smaller scale operations, the same events occurred, but smaller farmers are less likely to have debt and usually have off-farm income to supplement the farming operation. The MI category will have a similar make up as the F category, but will have more operations with no off-farm income to carry

the farm operation through the nonprofitable years. The farmers in the MI category experience income problems because of large commitments to debt service, poor management, large family living expenses, or production related problems such as drought or disease control.

Profitability measures such as returns to equity (NCFI divided by equity), return on assets (NCFI divided by assets), the cash expenses to cash receipts ratio, and percent equity (equity divided by total assets) also reveal the management abilities of a farm operator. Unlike income measures, these profitability measures can be used to compare farms of various sizes. Farmers in the F category will have the largest returns to equity and returns to assets. F farmers will have little or no debt, large equity positions, and large returns, while producers in the MS category may have equally large returns, but are likely to be in an expansion stage, thus having lower equity positions. Producers in the MI, V, and DF categories will have higher cash expenses to cash receipts ratios than other farmers.

Two additional measures are used to indicate labor efficiency resulting from the substitution of capital for labor. These are called structural efficiency factors and

are labor hours per acre and assets per acre. Those farmers toward the F end of the continuum should have lower values for these measures than those producers that are in the V range. Labor hours per acre and assets per acre indicate the manager's ability to efficiently utilize labor and his ability to produce crops with few assets. Both are desirable qualities in an above average manager. However, there may be some cases where a farmer has decided to decrease production because of age or health reasons, but chooses to retain most of his asset accumulations for convenience, resulting in higher than normal values for assets per acre.

The two dominant explanatory variables of business performance outlined in Driver and Onwona (1986) are technology and production level per technical unit. Technology is measured by the horsepower of the farmer's largest tractor. However, since most interviews will probably involve farms of approximately the same size, no major variations in the horsepower of the largest tractor is expected across categories. The other measure of business performance, production level per technical unit, will be measured by bushels per acre for this study's purposes. Bushels per acre should be higher for those

producers toward the F end of the continuum. However, the best producers in terms of bushels per acre may not be the best producers in terms of dollars per acre, since the bushels per acre measure does not account for production costs. Hence, some producers in the F category may be average producers, but excellent cost controllers resulting in a higher NCFI per acre. Therefore, a farmer who understands and implements the trade-offs between bushels per acre and costs per acre should realize higher NCFIs per acre, placing him towards the F end of the continuum.

A whole farm manager may also consider marketing alternatives when planning a year's production and exercise various options to minimize risk and to maximize profits per acre, given the producer's level of risk acceptance. Farmers toward the F end of the continuum will possess some of the following qualities: have a marketing plan; spread sales; participate in government programs; hedge in the futures market; use options in the futures market; forward contract; obtain market information from various sources on cash prices, futures quotes, world trade, government action, existing commodity stocks, and projected usage; use fundamental analysis; use technical analysis; and receive a higher than average price for commodities over the years.

Fundamental analysis is defined as buying and selling decisions that are based on a study of the factors that are likely to shape the trend of prices (Horn). Technical analysis or chart analysis is a study of the price movement itself in an attempt to determine the probable future course prices will take by observing the present and past action of the market (Horn). Farmers in the V or DF categories probably do not utilize many of these tools.

Other important characteristics of F producers are that they keep detailed farm records of costs, cash receipts, income statements, balance sheets, and cash flows; are very conscious of input costs, and where large portions of cash expenses originate; take advantage of government programs when feasible; consider altering crop acreage mixes to maximize income; make sure they can cash flow debt payments before borrowing or purchasing; monitor disease and pests closely; are timely in land preparation, planting, chemical and fertilizer applications, and harvesting; realistically know what the farm is capable of producing and what level of earnings are obtainable; make fewer impulse decisions when equipment and land purchases are made; plan for the future; and anticipate future activity in the markets, weather, and government actions.

Those farmers in the V or DF categories will possess fewer of these qualities than those farmers in the F category.

Farm Ownership

The percentage of operated land owned by the operator will be the greatest for producers in the F category, and producers in the V and DF categories will own the lowest percentage of land that they operate. This hypothesis is supported by the findings of Musser, White, and Smith who found that farmers who own larger portions of their operated land were in better financial condition than producers who owned less of their operated land. The reason could be associated with pride in ownership driving the owners to work harder, or that operators tend to practice conservation more so on owned acreage than on rented acreage, increasing the profitability of owned land, or those renting land may not be as wholeheartedly devoted to farming as those who own land.

For those farmers in the F category who own most of their operated acreage, the bulk of their land purchases were made before the land value increases of the mid and late 1970's, and they purchased land early in their farming career rather than later. The F category will also

have more partnerships and operations where equipment is shared by two or more farmers in an attempt to spread fixed costs over more acreage than the V or DF categories. Farmers that inherit land, equipment, and/or equity will also tend to be members of the F category.

The average size farm in Virginia is 192 acres (VASS), but corn, soybean, and wheat farms will average larger in size than this state average due to Virginia's diverse agricultural sector that is made up of many small farms and many labor intense operations. Therefore, a large operation will be defined for this study as one that is above the average size farm included in the survey. A small farm will be one that is below the average sized operation included in the survey. There are several proxies available to measure farm size. They are tillable acres, labor hours utilized, value of farm assets, and crop labor hours per year. The F category will consist of large and small producers as will the V category. However, farmers in the DF category will consist mostly of large farms. Farm management is often spread too thin in large operations that require more management time than smaller operations. Also, some farmers expand to gain prestige and envy of other farmers, rather than to improve financial

performance. Hence, expanding without considering the limits of management may lead to poor and inefficient management of farm operations.

Family Labor

Farmers in the F category will utilize more hours of family labor and fewer hours of hired labor as opposed to farmers in the V or DF categories. In addition, F farmers will spend more hours out of the day managing the farm and participating in hands - on jobs than those in the V and DF categories. For a small family sized operation, the producer who is willing to do hands - on jobs most of the day and spend a few hours a day managing and planning will be more successful than a farmer, of relatively equal size, who manages most of the day and seldom is involved in actual hands - on labor. A smaller-sized operation does not require a full-time manager. Therefore the owner has time to participate in the manual labor also, or have a part-time job and pay for hired help. If an operation is large enough, the manager may have a full-time job managing the operation. However, he may still gain from doing some manual labor as it will make him familiar with how to do all of the farming operations, and give him opportunity to

spend some time with the employees to foster a good working relationship.

Credit Availability/Use

Farmers in the F category are more likely to expand or make improvements to their business using retained earnings rather than credit. A majority of these producers will have no debt and not intend to use debt. Also, these producers will view their borrowing capacity as a reserve that will only be used if all other alternatives fail, whereas farmers in the V and DF categories will have exhausted nearly all of their borrowing capacity. Those who have debt in the F category will owe fewer creditors, and choose debt for equipment and/or land purchases rather than acquiring debt to pay past overdue loans, and will use more self-liquidating loans (operating loans) than producers in the V and DF categories. Farmers in the V and DF categories will do more borrowing to pay off other loans than any other group.

Hypotheses

Below are eleven hypotheses that outline the interrelationships of the factors and describe the patterns

that the case study will either support or refute. Farmers in the Favorable category as contrasted with farmers in the Vulnerable category during the survey period will:

1. Record higher farm business scores on the questions in the Farming Experience section.
2. Record higher farm business scores on the questions in the Debt Load and Structure section.
3. Record higher farm business scores on the questions in the Whole Farm Management section.
4. Record higher farm business scores on the questions in the Production Management section.
5. Record higher farm business scores on the questions in the Financial Management section.
6. Record higher farm business scores on the questions in the Marketing Management section.
7. Own larger percentages of their operated land.
8. Use retained earnings rather than credit for expansion.
9. Utilize more family labor.
10. Utilize less hired labor.
11. Owe a fewer number of creditors.

4. THE CASE STUDY

Introduction

This chapter will outline: a) the objectives of the case studies, b) the procedures followed in setting up and carrying out the interviews, and c) a description of the areas involved in the case study.

Objectives of the Case Study

The main objective of the case studies was to gather information concerning financial, marketing, and production management practices of producers in order to understand variations in farm financial situations and the liklihood of farm survivability. The information gathered from the interviews was used to contrast the management strategies of producers in various farm financial situations.

Detailed Procedures

A list of potential interviewees and their phone numbers was requested from county agricultural extension agents. Originally, eight counties were involved, with at least six names being requested from each agent. The list was to include three individuals who are still in the corn,

soybean, and wheat growing business, and three people who are no longer farming those crops for financial reasons. One county was eliminated from the survey due to a lack of potential interviewees, leaving seven. The goal was to interview, in each county, someone still farming and someone no longer farming. However, in one county an interviewee who was still farming could not be contacted, but an additional interview was conducted in a neighboring county to compensate for this shortfall.

After the list was compiled, potential interviewees were contacted by phone. In the initial contact, several questions were asked to assure that the person met the criteria outlined for the study. If so, the purpose of the study was explained and cooperation was requested. If the person agreed to an interview, the day, time, and location was arranged, and directions to the home were obtained. Followup phone calls were used to remind the interviewee of the appointment and to verify the day and time.

The interviewee was presented with a Virginia Tech cap as an expression of appreciation usually at the beginning of the interview. A location to conduct the interview was selected by the interviewee. On all but three occasions the interview was conducted in private, with those not in

private involving the wife to some extent. Privacy was very important. The interviewee often requested that he be left alone with the interviewer. The interviewee was supplied with an abbreviated version of the questionaire to provide him with visual assistance and orientation to the interview. After the interview was complete, the interviewee was asked if he would like to add anything to the survey, or clarify any points brought out. Usually, a period of discussion followed lasting from 15 minutes to two hours. These discussions were always helpful in getting to know the person, which aided in understanding how the farm operation was run. At the end of the interview, the interviewee was thanked for his time, cooperation, and help.

All 15 interviews were conducted successively over a 13 day period. One additional interview was conducted, because the person was willing to help. Also, this interviewee had entered the farming business after the survey period, which was viewed as a bold move by other interviewees. Hence, his insights and tactics for survival during a depressed period should be enlightening.

Description of the Areas Involved in the Study

The two interviews conducted in Fauquier county (see map, Figure 2, Chapter 1) both involved operations near the south end of the county, thereby limiting the effects rapidly rising land prices have on farm equity in the northern part of the county. However, both interviewees agreed that land ownership is presently beneficial because of the potential for making a profit from future sales. Although the area did not appear to be experiencing rapid development or increases in population, both interviewees mentioned that people are moving into the area which will lead to development and increased land prices. Major agricultural commodities grown in the area are: corn, soybeans, wheat, barley, hay, and cattle. The land was slightly rolling, and was divided by wooded areas, rivers, and creeks.

The second area involved in the interviewing process is four counties in the Northeastern District of the state. The farm visited in King William county is very similar to the ones in Fauquier county. Hence the discription that follows will apply to the counties of Northumberland, Westmoreland, and Essex. Eight interviews were conducted in these three counties (see map, Figure 2, Chapter 1).

The agriculture in these areas included corn,

soybeans, wheat, and barley as the mainstays of agricultural production, thereby making this area most desirable for conducting interviews. The land is very flat and is farmed in large fields that are separated by a few wooded lots. The soil is sandy and drains quickly after rainfall. The area is dependent mostly on agriculture and the fishing industry, which has depressed the local economies since both industries have had poor profit opportunities in recent years.

The only noticeable activity in the area other than agriculture is the development of waterfront property. The Rappahannock and Potomac rivers and the Chesapeake Bay provide an abundance of shoreline acreage that is very valuable. Although no one that was interviewed had sold any portion of their farmland for development, all had stories to tell of someone who had become wealthy from selling waterfront property. Since the interviewees had not used land sales to aid their operations, the information gathered concerning returns should reflect returns from the farm alone. None interviewed owned waterfront property, however, most people agreed that land ownership was beneficial for speculative purposes.

The third area involved in the interviewing process is

the Southeast District of Virginia. Two interviews were conducted in Southampton county and two in Suffolk city (see map, Figure 2, Chapter 1). The main agricultural products associated with this area include: corn, soybeans, wheat, barley, peanuts, and hogs. The land is flat and the soil is mostly sandy. Fields are usually large and unseparated by wooded lots. Unlike the two previous areas, the interviewees in the Southeast District were not being crowded by urban sprawl. Although this district is close to several large cities near the ocean, it is still far enough away that commuting from the area is impractical. Moreover, the district lacks waterfront property which is a major attraction for tourists and second home builders. Therefore, the rural areas visited are mainly agriculturally oriented.

5.FINDINGS

Introduction

This chapter is divided into three sections. The first outlines the respondent's situation and summarizes each interview. Appendix 1 provides a copy of the questionaire used in the interviewing process. The interviewee's D/A ratio and cash flow was calculated as an average over the survey period. Then the interviewee was classified as F (Favorable), MI (Marginal Income), MS (Marginal Solvency), or V (Vulnerable) depending on the interviewee's D/A ratio and cash flow (see Table 1, Chapter 1). At the beginning of each case summary, a short list of biographical facts is utilized to familiarize the reader with the respondent. The individual cases are letter-numbered with the letter representing the interviewee's classification along the continuum in Table 1 of Chapter 1 as either F, MI, MS, or V, and the number serving as a counter. The "Operations" line of the biographical information lists the major farming operations performed on the farm during the 1983-1985 survey period. The "Present Status" line in the biographical information indicates whether the interviewee is still farming or has exited farming operations. Hence,

it is possible to determine quickly if the interviewee is classified in the CF (Currently Farming) group or in the NLF (No Longer Farming) group (see Table 2, Chapter 1). The "Key Issues" line of the biographical information lists several of the more important topics concerning the interviewee's farming operation. The term "human capital" is often used and, for this study, is defined as educational attainment and on the job training and the effect that these have on effective management of a farm operation. Following the biographical summary is a discussion of some of the key factors influencing farmer survivability.

The second section contrasts the Favorable group with the Vulnerable group, as defined by the continuum in Table 1. The third section contrasts the group who are Currently Farming with the group who are No Longer Farming (see Table 2, Chapter 1). The purpose of these sections is to identify a pattern that may aid in understanding farmer survivability.

The Individual Case Studies

Case V1

Age: 49
Education: high school
Years of Farming Experience: 22
Acres Farmed: 1,550
Operations: corn, soybeans, wheat, hay, and dairy cows
Present Status: Discontinued Farming
Key Issues: human capital
management
size of operation

This operator said that he "managed in the tractor seat", and did not dedicate much additional time to management. Two people were employed on the farm full-time to help in all operations and the interviewee spent practically all of his time laboring. Hence, the management functions and additions to human capital were neglected. Survey information was obtained for 1983 only, since this was the last year the farm was operated, making the analysis a little less comprehensive. However, a long post-interview discussion aided in understanding the farm situation.

The operator was forced to sell out of farming in an attempt to pay accumulated operating debt and outstanding equipment loans. Total liquidation of all farm assets and the home forced the operator to start a new career.

One major factor contributing to financial adversity was the level of whole farm management. The interviewee agreed that he did not spend a great deal of time keeping records, planning, or in gathering information. In the years previous to the case study year, he operated 6,000 plus acres, and had a fairly diversified operation that he described as making him a "good living". He quoted a large net worth figure for the late 1970's.

All interviewees were asked to report the number of hours they spent working each month of the year, and to report the amount of time they spent during a typical week managing. These numbers were later converted to daily averages per year. The interviewee estimated that he usually worked 12 hours a day and spent about 10 minutes a day doing all management functions. He stated that grain sales were based on cash needs, and the monthly milk check was used to pay family living expenses. Some grain storage at a local elevator was utilized along with up to one half of his grain being sold via cash contract. Although he completed high school and attended some courses taught by VPI personnel, his application of new ideas to the farm business were minimal. He was aware of hedging, but was reluctant to participate. Therefore, the evidence suggests

that the owner made additions to his human capital, but failed to apply his human capital in managing the farm. Instead he chose to apply himself manually and did not develop financial and marketing management skills needed to survive difficult times.

The lack of adequate management required for such a large operation, proper financial analysis, government program participation, and application of his human capital to the farming business appear to have been the main factors contributing to financial hardships. The amount of time he estimated that he spent in management appears to have been inadequate for a 6,000 acre operation. Several years of drought and depressed prices made this lack of management costly.

<u>Case</u> <u>F1</u>
Age: 48
Education: college
Years of Farming Experience: 10
Acres Farmed: 350
Operations: corn, soybeans, wheat, and beef cows
Present Status: Currently Farming
Key Issues: human capital management

This farmer raised some grain during the survey period, but since then has started to divert some of his attention away from corn, soybeans, and wheat and towards vegetables and fruits. He is a firm believer in being

diversified. He said that a farmer needs at least five operations. In any given year, the interviewee says that three operations will lose money or break even, and two will turn a profit. Over the years, he learned from experience and has applied his diversification theory to his operation. He considers himself an early adopter of technology and an innovator.

The interviewee has a non-agricultural degree and relies on his education and intelligence rather than off-farm sources when making farm decisions. He said that he likes to be presented with facts concerning a decision, and then make a decision based on what he knows instead of based on what everybody else is doing. In some aspects, this farm operator is an economically-minded man. When presented with a decision, he considers the benefits and costs involved and the chances of possible outcomes occuring. On the other hand, he does not apply himself in financial analysis nor in marketing. Marketing training for corn, soybeans, and wheat was viewed as a waste of time, which may be one reason that he decided to decrease production of those crops. He seemed to be not at all interested in marketing alternatives for corn, soybeans, and wheat, but said that he had faith in options and would

use those today if he were still producing large acreages of those crops. The contradiction concerning marketing arose when he spoke of marketing his fruit and vegetable crops. For these "truck crops" he was very much concerned with the quality of the product, time of harvests, and different ways he could get the products to market and sell them in a timely manner. However, his concern over marketing truck crops may be due to the perishable nature of the crop which causes them to require a more rigorous marketing plan.

His record keeping is done mostly for tax and bank purposes. He spends an average of 11 hours per day working and 22 minutes per day managing. Case F1 participates in all government programs that he views as feasible, and he acts in a timely manner when faced with farm tasks. However, he does not spend very much time reading, obtaining marketing training, or in extension involvement. He relies mostly on his personal abilities for financial performance.

Case V2
Age: 52
Education: high school
Years of Farm Experience: 25
Acres Farmed: 780
Operations: corn, soybeans, wheat, and barley
Present Status: Discontinued Farming
Key Issues: management
program participation
purchases
timeliness

This farm operator exhibits poor financial, marketing, and production management as well as an inability to accomplish farm tasks in a timely manner. The farmer did not participate in government programs (except PIK in 1983), and stated that he was an impulse buyer often spending money without good reason. The business showed a negative cash flow mainly due to large accumulated interest and principal payments. The farmer had to sell all of his farm assets and his home. Presently, he is doing well in a new career.

This interviewee's financial analysis was conducted mostly by lending institutions. However, he did say that he kept production records, records of cash receipts, and records of expenses. Also, he indicated that purchases were often made in hopes of a good year, rather than following a good year.

As for marketing, the farmer sold in the cash market,

extended the marketing period by using storage, and in earlier years cash contracted up to one-half of his crop. He said that he used technical and fundamental analysis, followed cash and cash contract prices, and spent some time following futures quotes (from a newspaper). He reported that he labored over 11 hours per day, and managed almost 3 hours per day, on average, for a total of 14 hours a day. Production management absorbed at least half of his managing time with the remainder of his managing time spent in financial and marketing management. He spent no time in obtaining marketing training, and some time gathering information from written sources. Consequently, he invested little time in expanding his human capital resource base.

In addition, the farmer stated that he sometimes purchased expensive items on impulse. "I was wild on spending" and "sometimes I bought new equipment that I really could have did without" are statements he made about his spending habits. He failed to consider the cash flow impacts of such purchases. Subsequently, debt load increased and cash flow became strained or negative. For a period of time, the farm business survived by absorbing off-farm incomes and by using the depreciation expense as a

source of income. Nevertheless, the business eventually went bankrupt.

Timeliness was also important in this case. The farmer stated that setting target dates for planting, harvesting, and other farm operations is worthless, and that he was usually late accomplishing most all of these farming operations.

<u>Case</u> <u>MS1</u>
Age: 55
Education: 9th grade
Years of Farm Experience: 33
Acres Farmed: 1,500
Operations: corn, soybeans, wheat, barley, tomatoes, firewood, and a cannery
Present Status: Discontinued Farming
Key Issues: health
management
spending
timeliness

This farming operation was discontinued due to financial hardships. However, the financial hardships resulted from an automobile accident that hospitalized the farm manager/operator for several months leaving him handicapped. The last two years of his farming career were attempted during hospitalization and surgeries which disallowed proper management of the farm and of his hired employees.

The manager rented all of his acreage and employed a minimum of 10 people year round. Although he said he worked over 8 hours a day and managed over 2 hours a day, the time was essentially 8 hours of production management and 2 hours of financial and marketing management.

This producer, although not completing high school, seemed to have an adequate store of human capital, based on his ability to effectively converse on many topics concerning farm management and marketing practices. He spent many hours reading, invested time in marketing training education, utilized the aid of a phone marketing information service, followed cash and cash contract prices, and followed futures quotes. He kept fairly good records himself, and hired an accountant to keep extensive financial records. The extension service was helpful in providing information, and in providing a field pest scouting service.

The manager's financial management was excellent. He kept some records himself, and also paid an accountant to keep farm business records. Records were available to him from the accounting service, and he used the records and the accountants advice in managing his operation. In addition, purchases were usually planned and made after

considering cash flow implications. Production management was equally well attended. The farm manager spent much of his time working with the employees and making sure the quality of work was maintained at the level he desired. He treated his employees well, but was firm in demanding that the job be done correctly. He stated that he had a good relationship with his employees. However, he did have some complaints concerning situations occurring among employees during his hospitalization.

His marketing management consisted mainly of phone calls to brokers and other marketing information services, and reading that led to cash contracts and storage decisions. He used technical and fundamental analysis, was concerned about getting timely information, and set his breakeven price as his minimum price goal.

Timeliness was also very important to this farmer as was government program participation. These characteristics, added to his management abilities may have helped him survive the 1980's. However, due to the accident which led to two consecutive years of losses and disability, he was forced to discontinue farming.

Case F2
Age: 47
Education: high school
Years of Farming Experience: 22
Acres Farmed: 1,023
Operations: corn, soybeans, wheat, and barley
Present Status: Currently Farming
Key Issues: human capital
management
timeliness

This case is one that points to success for the period covered by the interview. However, recently the farmer has had a problem with low NCFI (net cash farm income), due mainly to successive years of drought. Off-farm income and the use of the depreciation expense as income have enabled the farm operation to survive the drought years, a situation found in most interviews conducted. Farmers interviewed charged a depreciation expense to the farm business yearly, but most farmers used the depreciation expense as disposable income during low income years.

Management is high priority in the interviewee's operation. He stated that "better managers will stay in farming - the tough times will weed them, (the poor managers) out". Also, he added that "when prices are up it doesn't take as much (management) skill to survive". The interviewee practices soil conservation, and is presently working with the ASCS office on the required conservation plan due in 1990. He controls expenditures closely,

although he said that purchases are sometimes made in good years, when funds are available, because he has the means to do so. Nonetheless, large ticket items are always planned, and investments are paced over time so as not to strain the farm financial situation. He emphasized the importance of cash flowing equipment and other large purchases. Production, cash receipt, cash expense, and financial records are maintained for the farm. Available borrowing capacity is considered a management tool, and is viewed as a reserve which is available for future use. In addition to debt management, he has learned that government program participation is beneficial. After no participation in '83, and minimal participation in '84, full participation in '85 added significantly to farm income.

This producer is very comprehensive in applying cash contracts, cash sales, and storage decisions to his farming needs, but is reluctant to participate in marketing alternatives available to him. Storage for later sale is his most preferred alternative. However, some cash contracting is used, and a predetermined price is set to initiate cash contracting of commodities. He also uses CCC loans as a marketing tool. He spends approximately 14

hours a year in marketing training education, 104 hours a year following cash and cash contract prices, and 26 hours a year following futures quotes and government action. He has the human capital needed to introduce himself to hedging and options use. Based on his knowledge of marketing alternatives and his communication skills, he would probably adapt to the futures market easily. On the other hand, he may be satisfied with his operation, given his family goals and present situation, and may not desire to get involved.

Regardless of past marketing performance, this interviewee appears to have survived the recent farm depression by utilizing shrewd management tactics, experience, and a firm belief in the timeliness of operations.

<u>Case</u> <u>V3</u>
Age: 46
Education: high school
Years of Farming Experience: 10
Acres Farmed: 500
Operations: corn, soybeans, wheat, barley, and hogs
Present Status: Discontinued Farming
Key Issues: management
timeliness

This individual stated that he entered farming in hopes of reaping the benefits available in the 1970's,

although he had little experience. He was not raised on a farm, nor employed on a regular basis as a farmhand. Moreover, additions to his human capital were minimal. After 10 years of farming he had to sell all farm assets including his land and home.

He did not keep production records, and the only financial records kept were those that the bank required for loans. He accumulated most of his debt from overdue operating loans, federal government disaster loans that were made available to farmers in recent drought years, and some from a land purchase. One hundred percent of his borrowing capacity was exhausted in the final year of production indicating poor debt repayment and a highly leveraged operation. In addition, the farm business was supplemented with equity and farm assets provided by relatives, that eventually were lost or had to be sold.

As for marketing, the interviewee sold in the cash market, stored for future sale, and cash contracted up to 50% of expected production with a local buyer. Fundamental analysis and reading were used to provide information for pricing opportunities. He reportedly spent 14 hours per year in marketing training education. All of the 104 hours per year spent in obtaining market information were for

cash and cash contract prices.

Another possible explanation for the low returns is that the individual did not provide enough of his own labor to the farm. He said that he did not work in the winter, but that isn't so unusual for crop farmers. However, he did say that he worked 10 hours a day otherwise, which was a major contradiction to what was reported from another source that was closely associated with the interviewee. Moreover, he reported that he was untimely in his operations. He was almost always late in accomplishing major operations such as preparing land, planting, applying chemicals, and harvesting. Hence, poor management, inadequate labor input, untimeliness, and inexperience may explain why his farming operation was unsuccessful.

<u>Case</u> <u>Ms2</u>
Age: 58
Education: high school
Years of Farming Experience: 28
Acres Farmed: 850
Operations: corn, soybeans, wheat, and barley
Present Status: Currently Farming
Key Issues: experience
human capital
management

This farm manager runs a fairly large operation with the assistance of his sons. During the survey period, the farm was moderately leveraged and had a positive cash flow,

but it has been strained lately by droughts and a recent purchase of additional land. The debt to asset ratio increased 20 percentage points with the land purchase; however, NCFI and cash flow are both positive. Off-farm income and depreciation are keeping the farm liquid during the 1980's.

The interviewee has a large amount of human capital as the result of many years of farming experience and a large commitment to reading published farm information material. He farmed with his father for 8 years, and was employed as a manager of another farm for nearly 20 years before he started farming on his own. Although the farmer uses forward contracting and is knowledgeable of alternative marketing options available to him, he is reluctant to explore the marketing alternatives.

He spends a great deal of time gathering information. Thirty hours a year are spent in marketing training education, while 234 hours are used collecting cash and cash contract information, and 234 hours a year are spent in following futures quotes, options, and government action. However, he is reluctant to use hedging or options as a marketing alternative. His strategy involves cash contracting and storage for later sale. He said that

"storage has paid me". When his son finishes college and joins the operation full-time, the son plans to computerize the farm and follow more rigorous marketing practices.

The interviewee's wife keeps most of the farm records which are extensive. The wife was knowledgeable and confident in her record-keeping ability. He also participates in government programs faithfully, which adds to his farm income.

In total, this operation is moderately leveraged, and has a positive cash flow. The operator's management abilities are above average due to years of experience and a committment to expanding his human capital. The farmer stated that he is still active in the farm, and sees that the operation is run in a timely manner.

Case F3
Age: 45
Education: high school
Years of Farming Experience: 23
Acres Farmed: 660
Operations: corn, soybeans, wheat, and barley
Present Status: Currently Farming
Key Issues: management
timeliness

This farming operation is a success story. Although the manager's financial and marketing techniques appear unsophisticated, his NCFI is relatively high. Moreover,

his household is not supplemented by off-farm income.

The interviewee has been farming for 23 years. A part of his career involved a partnership with his father that lasted for 15 years. Although he was not given land, equipment, or other forms of equity, he may have received some other positive benefits from the partnership that allowed him to begin his own farming operation without straining his financial situation drastically. Those positive benefits could have been management expertise, guidance, discipline in controling spending, or a disciplined work ethic.

It was obvious from the farm visit that the farmer is disciplined. He handled the interview in a formal and business-like manner with a minimum of idle chatter. He placed business first, and then engaged in social conversation. Not only did the interview leave a businesslike impression, but it also suggested a sense of timeliness. The operation of the farm was also time efficient. Survey questions concerning timeliness indicated that he set target dates for all operations, and weather permitting, he was almost always successful in reaching the target dates. His home, yard, and surrounding crops were clean, neat, and orderly. These observations

indicate timeliness and effective production management.

Although the interviewee keeps sufficient production records, his financial records consist mainly of cash receipts, cash expenses, and debt payments. He did admit that his record-keeping and financial analysis were inadequate. The farmer does own a personal computer which he plans to use in the future for farm recordkeeping and analysis. He stated that he presently uses it "very little". He does not use operating loans and has no outstanding equipment loans. All of his debt is for land purchases and he has a D/A ratio less than .4.

He spent no time furthering his marketing training education during the survey period, 52 hours a year in obtaining cash and cash contract prices, and 52 hours a year in following futures quotes and government action. He said that he cash contracts a third of his crop, stores a third, and sells a third at harvest. Although he uses no technical or fundamental analysis, his level of NCFI suggests that his marketing strategy is sufficient given his other characteristics and management practices.

Case F4
Age: 36
Education: college
Years of Farming Experience: 2
Acres Farmed: 690
Operations: corn, soybeans, wheat, barley, hogs, and cattle
Present Status: Currently Farming
Key Issues: human capital
management
marketing

This farmer recently started farming on his own after completion of his college education. Although he majored in a nonagricultural program, he is knowledgeable of farming practices. In addition, he is the most progressive in marketing relative to all others interviewed. His marketing strategy is to sell in a rising market in small increments. The interviewee hedges and uses options in the futures market. Also, he cash contracts, stores for later sale, uses technical and fundamental analysis, and receives a charting service to aid in his marketing decisions. His marketing strategy and other farm management tools have earned him a positive cash flow in his first three years of farming on his own. He reads and uses the phone for marketing information purposes. He usually spends 80 hours a year in marketing training education, 52 hours a year in obtaining cash and cash contract information, and 156 hours per year in obtaining futures quotes, option prices, and

government action information. He writes out yearly production, financial, and marketing plans, and has a long-range financial plan written out. The interviewee keeps production records, records of cash receipts, records of cash expenses, and fills out projected cash flow worksheets. Although he presently has a personal computer, the inadequacy of compatible programs has persuaded him to plan to purchase another personal computer this winter.

The other key issue involved in this case is his store of human capital. He learned the importance of having an education from his father, who lacked an education. The interviewee added that his father struggled at farming due to having a lack of education. The interviewee gained experience from 15 years of farming with his father and grandfather. He also utilizes two agricultural reporting services, the extension service, farm bureau, and the aid of his broker in adding to his human capital resource base.

In summary, the farmer's management abilities and human capital base, along with timely operations have made him successful in his early farming years.

Case F5
Age: 74
Education: 6th grade
Years of Farming Experience: 57
Acres Farmed: 250
Operations: corn, soybeans, wheat
Present Status: Successfully Exited
Key Issues: farming career
retirement

This case is unique among those studied. This individual is an older man who has "farmed all of my life", and was faced with an opportunity to sell his land and retire from farming. Recently, a local company offered to purchase his land for gravel mining purposes. Due to the recent depressed agricultural sector, his advanced age, and an opportunity to sell on favorable terms, he decided to sell the land and retire.

Since the interviewee learned farming practices from his father and from personal experiences, most of his farming practices, other than production, were similar to those used years ago. The interviewee failed to keep up with the latest methods of marketing and newer technological advances in the farm sector. He did not participate in government programs because he had never proven yields on his farmed land. However, he mentioned that it was profitable for farmers to participate today. His marketing consisted mainly of selling in the cash

market after a period of storage, or at harvest, though he did utilize a minimum of cash contracting. His records consisted of production records, and those needed for tax purposes. Since he had no debt and because of his advanced age, he felt that financial analysis was unimportant. He has a considerable amount of money in the bank to support himself, and he does not plan to squander it. The interviewee said that he never had debt and that he "always paid for what I bought" meaning he never purchased with credit. In most aspects, he could be classified as a successful farmer.

<u>Case</u> <u>F6</u>
Age: 42
Education: college
Years of Farming Experience: 12
Acres Farmed: 500
Operations: corn, soybeans, peanuts, and watermelons
Present Status: Currently Farming
Key Issues: human capital management

This farming operation is one that shows success through effective management and years of farming experience. Although the interviewee has only recently taken full charge of the farming operation, he had farmed for 13 years in a partnership with his father. Hence, he has an advisory source at his disposal which he continues

to utilize.

Moreover, the interviewee has a college degree. Although the degree is not in agriculture, he stated that his college education has helped him survive farming. He also expands his human capital resource base by reading. He read all of the publications listed on the questionaire for farm information purposes. Judging from the interview, he is a well informed farmer. He also uses the extension service as a source of advice. He has a financial recordkeeping system on an IBM personal computer that he or his wife updates monthly. Purchases are not made unless payments will cash flow. However, the interviewee does prefer to pay off debt as quickly as possible to avoid paying extra interest charges. He stated that as long as cash flow is positive, the short payback periods are effective in eliminating debt with minimal interest charges. He understands and utilizes good financial management practices.

Marketing for the producer consists mainly of finding a market for his watermelons, and using a mixture of storage and cash contracting in an attempt to improve his prices of corn and soybeans. He spends no time in marketing training education, and 52 hours a year in

obtaining cash and cash contract prices. No technical or fundamental analysis is involved other than keeping up with government action, world trade, and happenings throughout the U.S.

As for production management, there are some decisions that appear to be poor management decisions, but when viewed in context of the entire farm operation are not as poor as they first appear. He said that he does not rotate his crops on the owned acreage. Centerpivot irrigation is used on almost all of the owned acreage where corn and peanuts are grown. The peanuts are irrigated because of their profit potential, and the corn because of their profit potential and his participation in seed company test plots and in local yield contests which he participates in for enjoyment. Therefore, certain fields are reserved for corn and peanuts because they provide easy access and water control. His soil is very sandy and has to have irrigation for the crops that he grows. However, it may be beneficial to rotate the crops at least occasionally within the confines of the owned acreage. Other than his lack of rotation of some crops, his production management skills were above average in terms of timeliness, disease and pest control, soil conservation, and crop appearance.

Case MS3
Age: 45
Education: high school and 1 year of college
Years of Farming Experience: 11
Acres Farmed: 600
Operations: corn, soybeans, wheat
Present Status: Currently Farming
Key Issues: debt management
management
timeliness

The interviewee operates a clean and organized farm. He has added to his human capital resource base and used timely management to make the farming operation a success. The business shows a moderate NCFI and a positive cash flow over the period, even if off-farm income were not considered. However, if off-farm income were subtracted and a depreciation expense added, the cash flow would be negative for the period. But relative to others interviewed, this farmer has one of the highest NCFIs.

The interviewee has 11 years of farm experience in addition to what he learned while farming with his father prior to attending college. Although he has not obtained additional marketing training, he pointed out that the reason is because there is no one in the area that can offer him what he wants. The area is in great need of a "marketing scouting service" as he called it, and he was very anxious to acquire marketing training if the

opportunity became available. However, he does keep himself well informed. He spends 338 hours a year obtaining cash and cash contract price information, and 520 hours a year in obtaining information on options, futures quotes, and government programs. Much of his information comes from printed sources including two agricultural reporting services. He appears to be aware of and understand the various management alternatives as well as anyone interviewed.

The interviewee's wife kept most of the farm records, and the interviewee admitted that he probably would not do so if the recordkeeping were left to him. However, financial and production records are kept for the farm and he is knowledgeable of his financial situation. He participates rigorously in government programs, using them to his advantage whenever possible. His production practices include soil conservation and water control with drainage tiles. Dates are set for all major farm operations and they are consistently met, weather permitting. He also has indicators that are used to initiate pricing activity. Although he does not hedge or use options, he does cash contract, store for later sale, use fundamental analysis, use technical analysis, and plots

futures quotes and cash prices himself. Potential exists for more aggressive marketing tactics.

Another important issue that may have helped the interviewee survive is his low land acquisition costs. Although he owns all of the land that he farms, he acquired it through a partnership agreement. However, debt was utilized for land clearing and drainage tile installation. In the first survey year, his D/A ratio was above 70%, and since then he has repaid all debts.

Case V4
Age: 47
Education: 3 years of college
Years of Farming Experience: 21
Acres Farmed: 230
Operations: corn, peanuts, and hogs
Present Status: Discontinued Farming
Key issues: management
timeliness

This Farmer made a decision to sell his farm assets in an attempt to repay debts. He was not forced to sell, but chose to sell because his farm operation was not profitable and his debts were becoming larger each year resulting in his decision to explore an alternative form of employment. Also, he was offered a salaried job with a local company, and the idea of having a steady flow of income was attractive. He enjoyed farming, but he indicated the

recent years were so emotionally and financially stressful he chose to change careers.

During the survey period corn was the only crop that he grew pertaining to the study. Most of the corn raised on the farm was used for feed, and in the drought years the interviewee had to occasionally purchase corn. However, he did not use hedges, options, or government programs. Some forward contracting was used for hog sales to a local buyer. He did not use technical or fundamental analysis to aid in pricing his products, and spent little time in following futures quotes and government action. However, he did spend a considerable amount of time, 260 hours a year, in following cash and cash contract prices.

The interviewee did keep some financial records. They consisted mostly of projected cash flows and those needed for bank and tax purposes. He did have a yearly financial plan written out for bank purposes. Some production records were kept, but they were not very extensive. Also, he stated that many of his farm operations were not timely due to weather and equipment problems.

The interviewee had 22 years of farm experience plus 3 years of experience gained while farming with his father. He also stated that his father provided him with many hours

of advice in his early farming career, and that the extension service was also used for advice. This experience, together with 3 years in a university, and extensive reading, suggest that he had successfully added to his human capital resource base. However, he failed to expand his human capital base beyond production practices. This oversight along with poor management and an untimely operation forced him to discontinue farming.

Case V5
Age: 39
Education: college
Years of Farming Experience: 12
Acres Farmed: 500
Operations: corn, soybeans, peanuts, and hogs
Present Status: Currently Farming
Key Issues: discipline
management
timeliness

This case is presently on the borderline between continuing and ceasing operation. During the survey period the interviewee filed for bankruptcy under chapter 11, and since then has worked out a repayment plan under the laws of reorganization. A portion of his debts may be forgiven if the reorganization plan succeeds. At the time of bankruptcy filing, his debt load was $750,000, but he is attempting to repay the debt and has had some years with positive cash flows. He was optimistic and has not given

up on making his farming career a success.

As for farm management, the interviewee does have good production and financial management skills. He keeps extensive records in both categories, however, his doing so may have been required by his lending institution and the reorganization plan. His production management is hampered by untimeliness resulting from weather and equipment failure. Creditors are fully involved in his financial management practices which has forced him to keep financial records that he may otherwise neglect.

The interviewee's marketing management skills and attitude are less desirable. His basic marketing strategy is to follow cash and cash contract prices looking for contracting opportunities. No time was spent in marketing training education, and he stated that he could not "stand it". He does cash contract up to one-half of his expected production, but does not participate in any other marketing alternatives. However, he did say that he had to sell his crop as soon as it was harvested to pay creditors. Moreover, his financial situation will not allow him to spend funds in exploring new marketing techniques.

In addition, the interviewee offered some explanations as to how he became debt ridden. He said that he

"purchased land when I shouldn't have" , and made other decisions such as to expand by acquiring additional rented acreage without giving the decisions much thought. He said that he was in the mindset that more is better, without regard to costs. He said that he has learned that costs are also important. Consequently, the lack of discipline in expansion and in decision making proved detrimental to his farming operation. He also stated that being an early adopter of technology has gotten him in "more trouble than I care to admit". The interviewee did not wish to discuss how early adoption caused him problems.

<u>Case</u> <u>V6</u>
Age: 38
Education: college
Years of Farm Experience: 2
Acres Farmed: 500
Operations: corn, soybeans, wheat, and barley
Present Status: Currently Farming
Key Issues: human capital
information
management
timeliness

This interview was conducted out of interest to provide some understanding of how the interviewee manages his farm. He started farming in 1986, when most other interviewees advised against entering a farming occupation because of the depressed agricultural economy. For this reason, this case may provide some insight on what

management strategy works best to help a farmer start a business during a period of depressed prices. Hence, some reference to this operation is made throughout the remainder of the study.

This individual is full of ambition and optimism. He has only recently started farming as the result of a career change. Farming has been the interviewee's lifelong ambition. He was faced with the opportunity to purchase land and equipment that suited his location and size goal, so he decided to enter a farming career.

The interviewee has sufficient training in fertilization and in chemical mixing and application gained from his college education and his previous job experience. The extension service is used frequently, 40 hours a year, as well as the advice of his broker, two other agricultural information services, VPI, local farmers, and his father. He attends Young Farmers meetings, and takes an active part in participating and organizing these meetings as well as similar activities. These groups are used to spread information through the community. Information is also gathered from published sources, paid consultants, and from the extension service's Monthly Marketing Update programs. He is very informed on farming and community issues that

continually add to his human capital resources.

Concerning management, the interviewee keeps extensive records, and monitors cash flow very closely. He plans to improve his record-keeping system with the purchase of a personal computer this year. He is very cautious to keep cash flow positive, and is an excellent money manager. During the first two years that he farmed he had a negative cash flow, but it was due to a personal choice to pay off some land and equipment debt. The interviewee has savings and pension money from his previous job that he uses to cover negative cash flow periods.

He practices soil conservation, and is presently working on the required ASCS soil conservation plan. His major concern involving production is equipment failure. He purchased old equipment with the farm, and it, along with weather, are the only items hampering an otherwise well managed and timely operation.

The Farm Scoring Procedure

A farm business scoring procedure was developed and used to rate each farm business. The scoring procedure was developed in order to provide a numerical measure of the various aspects of the farm operation, allowing for

comparisons to be made. Hence, through analyzing the comparisons, some characteristics unique to certain groups can be identified. The information gathered from the interviews was divided into nine sections. The sections are: 1. Farming Experience, 2. Debt Load and Structure, 3. Whole Farm Management, 4. Financial Management, 5. Marketing Management, 6. Production Management, 7. Farm Ownership, 8. Family Labor, and 9. Credit Availability/Use.

Tables 6 - 14 show the individual questions that comprise each section and the point value assigned to each question. The total available points are also shown for each section and the average amount of points earned by the F group, the V group, the CF group, and the NLF group.

There were 89 responses used in the scoring process. Thirty-three of the responses were in numerical form (dollar values, ratios, number of years, number of acres, etc.), and the balance (56) were yes/no, or a similar type of response. The numerical responses were ordered from least desirable to most desirable, and given points accordingly. Desirable responses are ones that are viewed by economic and management theory as being the responses that will most likely lead the farm operator to financial success. Most desirable responses were given 15 points,

TABLE 6

THE QUESTIONS USED IN SCORING THE FARMING EXPERIENCE SECTION, THE POINT VALUE ASSIGNED TO EACH QUESTION, AND THE AVERAGE SCORES RECEIVED BY THE FAVORABLE, VULNERABLE, CURRENTLY FARMING, AND NO LONGER FARMING GROUPS IN THE SECTION.

FARMING EXPERIENCE	
QUESTION	POINT VALUE
1. Number of years farming	15
2. Educational level of the operator	15
3. Additional courses, conferences, information sessions, etc. attended	15
4. Farmed with father, grandfather, or other relative for a number of years	15
5. How often advice was acquired from sources mentioned in question 4	15
6. How often advice was acquired from farm bureau, extension, paid consultant, etc.	15
Total points available in the section	90
Average Total Points Received by Groups:	
Favorable	50
Vulnerable	37.5
Currently Farming	51.8
No Longer Farming	40.6

TABLE 7

THE QUESTIONS USED IN SCORING THE DEBT LOAD AND STRUCTURE SECTION, THE POINT VALUE ASSIGNED TO EACH QUESTION, AND THE AVERAGE SCORES RECEIVED BY THE FAVORABLE, VULNERABLE, CURRENTLY FARMING, AND NO LONGER FARMING GROUPS IN THE SECTION.

DEBT LOAD AND STRUCTURE	
Questions	Point value
1. Number of different years large purchases were made.	15
2. Debt - to - equity ratio	15
3. Current working capital	15
4. Current ratio	15
5. Current debt ratio	15
6. Debt service ratio	15
7. Cash flow to equity	15
8. Loan structure (a combination of the current, current debt, and debt service ratios)	10
Total points available in the section	115
Average Total Points Received by Groups:	
Favorable	78.7
Vulnerable	27
Currently Farming	74.7
No Longer Farming	32.3
The average score of F producers when only question 1 is used	8.6
The average score of V producers when only question 1 is used	6.4

TABLE 8

THE QUESTIONS USED IN SCORING THE WHOLE FARM MANAGEMENT SECTION, THE POINT VALUE ASSIGNED TO EACH QUESTION, AND THE AVERAGE SCORES RECEIVED BY THE FAVORABLE, VULNERABLE, CURRENTLY FARMING, AND NO LONGER FARMING GROUPS IN THE SECTION.

WHOLE FARM MANAGEMENT

QUESTION	POINT VALUE
1. Fill out projected cash flow worksheets	5
2. Net cash farm income	15
3. Off-farm income	15
4. Family living expenses	15
5. Returns to equity	15
6. Rate of return on assets	15
7. Net returns per acre	15
8. Government program participation	15
*9. All farms participate in government programs	10
10. Own a personal computer	15
11. Add (one point) for each program used for farm purposes	
12. Plan to purchase a personal computer	1
13. Time spent doing all management functions	15
14. Hours spent managing per day	15
15. Magazines, papers, etc. subscribed to	14
Total Points Available in the Section	180

Average Total Points Received by Groups:

Favorable	101.7
Vulnerable	79
Currently Farming	113.1
No Longer Farming	80.9
The average score of F producers excluding questions 2, 5, 6, and 7	64.1
The average score of V producers excluding questions 2, 5, 6, and 7	60.9

* Under Agricultural Stabilization and Conservation Service Definitions, blocks of land farmed by the same farm operator may be considered as separate farms. This question (9) asks if the farmer has all "farms" that he operates participating in government programs.

TABLE 9

THE QUESTIONS USED IN SCORING THE FINANCIAL MANAGEMENT SECTION, THE POINT VALUE ASSIGNED TO EACH QUESTION, AND THE AVERAGE SCORES RECEIVED BY THE FAVORABLE, VULNERABLE, CURRENTLY FARMING, AND NO LONGER FARMING GROUPS IN THE SECTION.

FINANCIAL MANAGEMENT	
QUESTION	POINT VALUE
1. Cash expense to cash receipt ratio	15
2. Percent equity	15
3. Have a yearly financial plan written out	15
4. Have a long-term financial plan written out	15
5. Set goals for profits	15
6. Keep financial records	15
7. Keep records of cash receipts	15
8. Keep up with spending and prices of input costs	15
9. Make sure large expenditures and debt repayments will cash flow	15
10. Fill out cash flow worksheets	15
Total Points Available in the Section	150
Average Total Points Received by Groups:	
Favorable	99.3
Vulnerable	84.6
Currently Farming	99.4
No Longer Farming	76.8
The average score of F producers excluding questions 1 and 2	77.2
The average score of V producers excluding questions 1 and 2	74

TABLE 10

THE QUESTIONS USED IN SCORING THE MARKETING MANAGEMENT SECTION, THE POINT VALUE ASSIGNED TO EACH QUESTION, AND THE AVERAGE SCORES RECEIVED BY THE FAVORABLE, VULNERABLE, CURRENTLY FARMING, AND NO LONGER FARMING GROUPS IN THE SECTION.

MARKETING MANAGEMENT

QUESTION	POINT VALUE
1. Did you: Spread sales	1
2. Hedge in the futures market	15
3. Use options in the futures market	15
4. Cash forward contract	10
5. Use minimum price contracts	15
6. Use technical analysis	10
7. Receive a charting service	15
8. Use fundamental analysis	10
9. Keep up with world trade	5
10. Keep up with government programs	5
11. Keep up with commodity stocks	5
12. Keep up with commodity usage	5
13. Have a yearly marketing plan written out	15
14. Have a long-term marketing plan written out	15
15. Alter marketing strategies to maximize income	10
16. Watched monthly marketing update programs	10
17. Time spent obtaining cash and cash contract prices	15
18. Time spent obtaining futures quotes and futures information, and government program information	15
Total Points Available in the Section	191

Average Total Points Received by Groups:	
Favorable	60.8
Vulnerable	52.2
Currently Farming	83
No Longer Farming	62.9

TABLE 11

THE QUESTIONS USED IN SCORING THE PRODUCTION MANAGEMENT SECTION, THE POINT VALUE ASSIGNED TO EACH QUESTION, AND THE AVERAGE SCORES RECEIVED BY THE FAVORABLE, VULNERABLE, CURRENTLY FARMING, AND NO LONGER FARMING GROUPS IN THE SECTION.

PRODUCTION MANAGEMENT		
QUESTION		POINT VALUE
1.	Set target dates to: prepare land	5
2.	plant crops	5
3.	apply chemicals	5
4.	harvest crops	5
5.	Generally close to target date when:	
	preparing land	5
6.	planting	5
7.	applying chemicals	5
8.	harvesting	5
9.	Labor hours per acre	15
10.	Have a yearly production plan written out	15
11.	Have a long-term production plan written out	15
12.	Set goals for yields	10
13.	Keep production records	10
14.	Alter crop acreages to maximize income	10
15.	Have a soil conservation plan at the ASCS office	15
	Total Points Available in the Section	130

Average Total Points Received by Groups:	
Favorable	82.3
Vulnerable	67.3
Currently Farming	90.1
No Longer Farming	66.1

TABLE 12

THE QUESTIONS USED IN SCORING THE FARM OWNERSHIP SECTION, THE POINT VALUE ASSIGNED TO EACH QUESTION, AND THE AVERAGE SCORES RECEIVED BY THE FAVORABLE, VULNERABLE, CURRENTLY FARMING, AND NO LONGER FARMING GROUPS IN THE SECTION.

FARM OWNERSHIP

QUESTION	POINT VALUE
1. Percent of operated land owned by the operator	15
2. Purchased bulk of land before the early 1970's	5
3. Purchase majority of land early in farming career	5
4. Involved in a partnership at one time	5
5. Share equipment on a regular basis	5
Total Points Available in the Section	35

Average Total Points Received by Groups:

Favorable	17.5
Vulnerable	12.7
Currently Farming	16.7
No Longer Farming	9

TABLE 13

THE QUESTIONS USED IN SCORING THE FAMILY LABOR SECTION, THE POINT VALUE ASSIGNED TO EACH QUESTION, AND THE AVERAGE SCORES RECEIVED BY THE FAVORABLE, VULNERABLE, CURRENTLY FARMING, AND NO LONGER FARMING GROUPS IN THE SECTION.

FAMILY LABOR	
QUESTION	POINT VALUE
1. Hours spent working (manual) per day	15
2. Did you enjoy farming in 1983-1985	5
3. Were you wholeheartedly devoted to farming in 1983-1985	5
Total Points Available in the Section	25
Average Total Points Received by Groups:	
Favorable	17.8
Vulnerable	17.1
Currently Farming	16.4
No Longer Farming	16.7

TABLE 14

THE QUESTIONS USED IN SCORING THE CREDIT AVAILABILITY/ USE SECTION, THE POINT VALUE ASSIGNED TO EACH QUESTION, AND THE AVERAGE SCORES RECEIVED BY THE FAVORABLE, VULNERABLE, CURRENTLY FARMING, AND NO LONGER FARMING GROUPS IN THE SECTION.

CREDIT AVAILABILITY/USE

QUESTION	POINT VALUE
1. Expand with retained earnings or with borrowed funds	15
2. Do you ever intend to use debt	10
3. Is a part of your borrowing capacity a reserve	15
4. Percent of borrowing capacity exhausted	15
5. Number of creditors owed	15
6. Percent of borrowed funds in operating loans	15
7. Why did you choose debt	15
8. Plan large ticket purchases ahead of time	15
9. Are you an impulse buyer	15
Total Points Available in the Section	130

Average Total Points Received by Groups:

Favorable	75.4
Vulnerable	45.7
Currently Farming	69.4
No Longer Farming	54.3
The average scores of F producers excluding questions 4 and 5	57.1
The average scores of V producers excluding questions 4 and 5	21.2

the second most desirable response received 14 points, and so on, with the least desirable answer receiving one point. This type of scoring procedure seemed logical, because for any one answer category the responses could have been all desirable, all undesirable, or a mixture of both. By ordering the responses from least desirable to most desirable and assigning points over the range, the need for determining cut-off points for desirable and undesirable responses was eliminated. For example, cut-off points for the debt service ratio could be set as: less than 15% good, 15% - 20% fair, 21% - 25% poor, and greater than 25% dangerous. However, most numerical responses tended to be clustered in the good and in the dangerous ranges, with the remainder of the responses scattered throughout. Hence, in order to eliminate having to give an individual with a debt service ratio of 26% the same amount of points as an individual with a debt service ratio of 95%, the method of assigning points consecutively over the range was adopted. Using the latter method, a debt service ratio of 95% would be given 1 point assuming it was the worst debt service response of all interviewees, and a debt service ratio of, say, 60%, assuming it was the next worse response, would receive 2 points. This process of assigning points

continued until the most desirable response received 15 points.

The remaining 56 responses received points based on the individual's answer alone. Since these responses were, for the most part, yes or no, the 1 through 15 point rating scale was insufficient. Hence, points were given based on whether the response was desirable or not. Either 1, 5, 10, or 15 points were given for desirable responses depending on the question, and 0 points were given for undesirable responses. A varying amount of points was used because some questions indicated a higher level of management skill than other questions. For example, for spreading sales of a commodity over time in the cash market the interviewee received one point; but, if the interviewee hedged his crop in the futures market, he received 15 points because hedging was assumed to require more management skill than spreading sales. Questions that were judged not to require a great deal of skill, were given a point value of 0 or 1 because such questions provided little additional information in differentiating between farmers' management skills. On the other hand, if the interviewee said that he had a long-range financial plan written out, he received a point value of 15. This

response was judged to reflect a higher level of management, and the manager's dedication to financial analysis and planning.

The total amount of points that could be earned by a single interviewee is 1,046. Therefore, those interviewees with the highest total scores should be better equipped to survive agriculturally depressed periods than those interviewees with the lower scores. However, relative significance should not be attached to the magnitude of the total scores. Rather, the significance lies in which interviewees have the higher scores and how much difference there is between the scores of F and V farmers. Also, the difference in the section subtotals of the scoring procedure are important points of analysis. These subtotals can be compared across groups to identify where the major differences between the groups under study occur.

Table 15 shows the total scores of all interviewees and where they fall along the continuum of F, MI, MS, and V categories. For a more detailed breakdown of the interviewees' scores, Table 16 shows each interviewee's score in the 9 sections of the farm business scoring procedure. Table 16 also shows the average scores of the F, V, CF, and NLF groups in each of the 9 sections. Case

TABLE 15

CONTINUUM USED TO CLASSIFY FARMERS' FINANCIAL CONDITION DURING THE SURVEY PERIOD, BY DEBT-TO-ASSET RATIO AND CASH FLOW SHOWING THE TOTAL SCORES EARNED BY EACH INTERVIEWEE

F	MI	MS	V
Favorable	Marginal Income	Marginal Solvency	Vulnerable
D/A ≤ .4* and a positive cash flow	D/A ≤ .4 and a negative cash flow	D/A between .4 and .9 and a positive cash flow	D/A ≥ .9 and a positive cash flow, also, D/A > .4 and a negative cash flow

The Individual Cases:

Classification	Farm Business Score	D/A Ratio	Cash Flow
F1	566.5	.03	(+)
F2	604	.02	(+)
F3	590.5	.38	(+)
F4	692.5	.34	(+)
F5	492.5	0	(+)
F6	554.5	.14	(+)
MS1	570.5	.56	(+)
MS2	667	.49	(+)
MS3	607.5	.44	(+)
V1	448	1.47	(-)
V2	457	.79	(-)
V3	349.5	over 1**	(-)
V4	373	.94	(-)
V5	488	1.58	(+)
V6	633.5	.78	(-)

* D/A Means debt - to - asset ratio

** Case V3 was insolvent, but the magnitude of the D/A ratio could not be calculated.

TABLE 16

THE INDIVIDUAL CASE SCORES BY SECTIONS
AND GROUP AVERAGES

CASE	Farming Exp.	Debt Load & Struct.	Whole Farm Mgt.	Fin. Mgt.	Mkt. Mgt.	Prod. Mgt.	Farm Owner-ship	Family Labor	Credit Avail./ Use	Total
V1	32.00	26.50	66.00	94.00	64.00	81.00	11.00	25.00	48.50	448.00
F1	27.00	75.00	98.50	115.00	86.50	71.00	17.00	17.00	59.50	566.50
V2	28.50	31.50	107.00	78.00	70.00	67.50	17.00	15.00	42.50	457.00
MS1	61.50	58.00	93.00	78.00	100.00	85.00	1.00	10.00	84.00	570.50
F2	63.50	86.00	76.50	120.00	43.00	98.00	9.00	18.00	90.00	604.00
V3	26.50	13.50	83.00	67.00	51.50	39.00	10.50	19.50	39.00	349.50
MS2	68.00	77.50	121.00	100.00	86.00	107.00	19.50	9.00	79.00	667.00
F3	52.50	94.00	127.50	64.00	54.50	85.50	21.00	13.00	78.50	590.50
F4	67.00	49.50	136.00	141.00	127.00	94.00	6.00	17.00	55.00	692.50
F5	39.00	105.50	44.50	59.00	8.00	63.00	24.00	19.50	130.00	492.50
F6	51.00	62.00	127.00	97.00	46.00	82.00	28.00	22.00	39.50	554.50
MS3	42.00	81.00	127.50	58.00	105.00	89.00	20.00	14.00	71.00	607.50
V4	54.50	32.00	55.50	67.00	29.00	58.00	5.50	14.00	57.50	373.00
V5	46.00	31.50	83.50	117.00	46.50	91.00	19.50	12.00	41.00	488.00
V6	43.00	72.50	91.00	100.00	116.00	94.00	13.00	21.00	83.00	633.50
AVERAGE SCORES OF:										
ALL	46.80	59.73	95.83	90.33	68.87	80.33	14.80	16.40	66.53	539.63
*F	50.00	78.67	101.67	99.33	60.83	82.25	17.50	17.75	75.42	583.42
V	37.50	27.00	79.00	84.60	52.20	67.30	12.70	17.10	45.70	423.10
CF	51.75	74.69	113.13	99.38	83.00	90.06	16.69	16.38	69.44	614.50
NLF	40.60	32.30	80.90	76.80	62.90	66.10	9.00	16.70	54.30	439.60

* F stands for farmers in the Favorable group, V for farmers in the Vulnerable group, CF for interviewees Currently Farming, and NLF for interviewees No Longer Farming.

V6 is the only farmer in the V category with a score much higher than the other V farmers. However, he started farming in 1986, which disallows his inclusion in the F versus V analysis. His score is as high as other farmers in the F category, but his recent decision to enter farming, and his debt repayment plan has kept his D/A ratio high, forcing him to be classified as V. The remaining five V farmers have the five lowest total scores. The F and MS farmers' scores are spread out evenly with the exception of case F5. This individual was the only individual who had no debt and a positive cash flow. He is classified as F, but as his low score indicates, his level of management is not comparable to other F farmers.

The MS cases have higher scores than cases V1 - V5, and are comparable to the F scores. Case MS1 is the individual who was hospitalized which led to increased debt, causing his D/A ratio to increase. Hence, he had to be classified as MS. Case MS2 has the second highest total score, but he purchased additional land during the survey period which increased his D/A ratio over .4. Case MS3 has the fourth highest score, but acquired debt for land clearing and drainage tile installation during the survey period, pushing his D/A over .4. Other than these

"special" cases, those farmers with lower scores tended to be in a more vulnerable financial position.

The F Group Versus the V Group

When contrasting the farmers classified in the F group to those in the V group, 14 of the 15 case studies will be used. The V6 case can not be included in this analysis because he started farming after the 1983-1985 survey period.

The farm scoring procedure was used to contrast the farmers in the F group to those farmers in the V group, as determined by placement along the continuum in Table 1 of Chapter 1. As mentioned earlier, 14 cases are available for analysis, however, three of the cases fell in the MS category of the continuum. Therefore, the remaining cases are available for comparisons. Among these, six are classified as F and five as V. Table 17 shows the D/A ratios, whether the cash flow is positive or negative, and the total farm business scores of the F and V producers.

Table 18 summarizes the F and V mean responses of farmers in each section (columns 2 and 3), and the average totals scored by the F and V farmers. Column 4 of Table 18 shows the difference (column 2-column 3) between the scores

TABLE 17

DEBT-TO-ASSET RATIO, CASH FLOW, AND THE TOTAL SCORES EARNED BY FAVORABLE AND VULNERABLE FARMERS

The Individual Cases:			
Case	Farm Business Score	D/A Ratio*	Cash Flow
	Favorable		
F1	566.5	.03	(+)
F2	604	.02	(+)
F3	590.5	.38	(+)
F4	692.5	.34	(+)
F5	492.5	0	(+)
F6	554.5	.14	(+)
	Vulnerable		
V1	448	1.47	(-)
V2	457	.79	(-)
V3	349.5	over 1**	(-)
V4	373	.94	(-)
V5	488	1.58	(+)
V6	633.5	.78	(-)

* D/A Means debt - to - asset ratio
** Case V3 was insolvent, but the magnitude of the D/A ratio could not be calculated.

TABLE 18

THE AVERAGE SCORES OF FAVORABLE AND VULNERABLE FARMERS AND THE DIFFERENCE BETWEEN THE GROUPS

Section	FAVORABLE Average Total Scores	VULNER. Average Total Scores	Diff.* F - V	% ** Diff. Compared To Total	Total Avail. Per Section
Farming Experience	50.00	37.50	12.50	13.89%	90.00
Debt Load and Structure	78.67	27.00	51.67	44.93%	115.00
Whole Farm Management	101.67	79.00	22.67	12.59%	180.00
Financial Management	99.33	84.60	14.73	9.82%	150.00
Marketing Management	60.83	52.20	8.63	4.52%	191.00
Production Management	82.25	67.30	14.95	11.50%	130.00
Farm Ownership	17.50	12.70	4.80	13.71%	35.00
Family Labor	17.75	17.10	.65	2.60%	25.00
Credit Availability/Use	75.42	45.70	29.72	22.86%	130.00
Total	583.42	423.10	160.32	15.33%	1,046.00
Timeliness***	38.33	29.00	9.33	23.33%	40.00
Prod. Mgt. Less Timeliness	43.92	38.30	5.62	6.24%	90.00

* Favorable column minus Vulnerable column (Col.2 - col.3)
** Difference column divided by the Total Available Per Section column (col.4/col.6)
*** The questions concerning the timeliness of an operation were separated from the Production Management section so the importance of timeliness of operations could be analyzed

in each section of the F group and the V group. Since there are no negative figures in column 4, the F farmers, on average, scored better than the V farmers in each section. However, the magnitude of the difference is deceiving since each section has a different amount of total points available (see column 6 of Table 18). Therefore, column 5 of Table 18 puts the differences into perspective by dividing the difference between the two groups in each section by the total amount of points available in the respective section (column 4 divided by column 6). Consequently, column 5 tells what percentage of the total points available in each section was earned by the F producers that was not earned by the V farmers.

The percent difference column, column 5, of Table 18 shows the percentage difference between F and V farmers. The largest difference was in the debt load and structure section, with V farmers scoring 44.9% lower than F farmers. Table 7 shows the questions used in the debt load and structure section and the point value assigned to each question. Included in the debt load and structure section are several financial ratios that measure leverage, debt service, and loan structure. The ratios are positively correlated to the D/A ratio, and the existence of a

positive or negative cash flow. Neither the D/A ratio nor the magnitude of cash flow, which is used to categorize farmers as F or V, is included in the debt load and structure section. However, the existence of a high D/A ratio and a negative cash flow over a period of years is closely related to poor financial ratios in the debt load and structure section. Hence the ratios in Table 7 may not be very helpful in understanding the variations between groups. Hence an additional analysis was conducted. The last line of Table 7 shows the difference between the average scores of the F and V producers when only the question "number of years large ticket items were purchased?" was considered in the section. Although the difference between the F and V group drops from 44.9% to 14.6%, the F group continued to score higher than the V group.

Most interviewed revealed that the farmer classified as V first acquired debt for land or equipment purchases, pushing up the D/A ratio. Then, either due to poor debt management or a series of drought years, cash flow became negative, subsequently leading to lower equity and eventually additional debt. Many of the farmers that had to discontinue farming suffered from accumulated unpaid

operating loans as well as long-term debt repayment problems. Thus, it is imperative for farm managers to analyze all financial ratios in addition to the D/A ratio and cash flow analysis in order to better understand and predict the debt repayment capabilities of their operation.

The credit availability/use section shows the second largest percentage difference at 22.8%. Table 14 shows the questions used in the credit availability/use section and the point value assigned to each question. The large difference in this section reveals the importance of monitoring the amount of borrowing capacity that the operation has in reserve. Two out of the six F farmers said that their borrowing capacity was a reserve, one farmer replied that he did not treat his borrowing capacity as a reserve because he had always used retained earnings instead of borrowed funds, and the other three interviewees replied that they did not treat their borrowing capacity as a reserve. However, two of these three currently use little long-term debt, and explained that they did not view their borrowing capacity as a reserve because they were not planning to use any additional long-term debt. They viewed acquiring long-term debt hazardous to the financial well-being of their farming operation, so in a sense, they

wanted to make all of their borrowing capacity a reserve. The remaining interviewee in the F group said that he did not view his borrowing capacity as a reserve, because he always planned to pay it back and never considered failure as a feasible option. Incidentally, this farmer is the one who earned the highest total farm score of all interviewees.

The V group expressed a different attitude. Of the five in the group, two replied that their borrowing capacity was a reserve, one replied that his borrowing capacity was not a reserve and borrowed funds should be used whenever needed, and two interviewees had no reserves available during the survey period (1983-1985).

In addition to reserves, the treatment of operating loans also was important. Two of the F farmers used no loans for operating money, one interviewee had practically all liabilities in operating loans, and three had between 25% and 50% of their outstanding debt in operating loans. Four of the V farmers had over 50% of outstanding debt in operating loans, and the fifth interviewee had approximately 20% of outstanding debt in operating loans. More important, however, is the fact that no F farmers had accumulated debt from overdue operating loans, while all of

the V farmers had some accumulated unpaid operating loans. Drought was blamed in most of the delinquent cases. The implication is that farmers should be careful not to exhaust their borrowing capacity so additional funds are available if no other alternative is feasible. Moreover, if a certain amount of borrowing capacity is kept in reserve as a rule, a disciplined borrowing habit is established.

An interesting additional comment concerning the credit availability/use section is that two of the five V farmers described themselves as being impulse buyers of large ticket items such as tractors, combines, and trucks. One other V producer said that he made impulse decisions early in his farming career that led to money losses. On the other hand, none of the F farmers said they were impulse buyers.

An observation is appropriate here to aid in the understanding of the importance of credit use. Two of the V farmers seemed to place importance on the size of farm that they used to run and how much money they spent on equipment and operating loans, and the large sums of money involved in their farming operations. The F farmers, however, were more reserved and concerned about the large

sums of money involved in their farming operations, the cost of equipment and land, or the small amount of income earned by the farm. This observation may suggest that good farm managers do not get caught up in making impressions, and manage their operation based on the returns earned by resources, not the appearance or size of resources.

Due to the duplicative nature of questions 4 and 5 on Table 14, an additional computation for the credit availability/use section was carried out. The average scores of F and V producers were calculated for the section omitting "percent of borrowing capacity exhausted" and "number of creditors owed", which showed the F group with an advantage of 21.4% over the V group. This difference is close to the original difference of 22.8%.

The sections that show the third and fourth largest percentage difference are of nearly equal magnitude. Farming experience showed a 13.9% difference, while the farm ownership section showed 13.7% additional points earned by the F group. Tables 6 and 12 show the questions used in the farming experience and the farm ownership sections respectively, and the point value assigned to each question.

The farming experience section includes: years

farming; educational level; the number of years the interviewee farmed with someone else before farming on their own; amount of advice received from various sources; and additional courses taken or conferences attended. The F farmers have an average of 21 years of farming experience; three of them are college graduates, two with english degrees and one with a civil engineering degree; two of the six spent a considerable amount of time (14 and 80 hours a year) in courses after college or in conferences and/or information sessions; five of the six farmed for an average of 12.4 years with their fathers before farming on their own; and four obtained from 1 to 156 hours of advice a year from outside sources such as extension, Farm Bureau, or a paid consultant.

The V producers had an average of 17.8 years of farming experience; one of them was a college graduate, and one attended college for three years, both graduating in agriculturally related majors; three of the five said they attended courses, conferences, and/or information sessions spending 6, 4, and 10.5 hours a year, but they consisted mainly of "supper meetings" sponsored by agricultural input companies that are generally not as educational as meetings or conferences given by administrative personnel; three

farmed with their fathers for an average of three years; and all acquired advice from extension, Farm Bureau, and/or paid consultants for an average of 11.2 hours a year. From these figures, the most notable difference is in the number of years that the F farmers farmed with their fathers. All interviewees who farmed with their fathers said that they gained experience from their fathers, and no interviewees said they received resources at no charge from their fathers. One interviewee did say that he would inherit equity from his father some day.

A college education is a characteristic found more often in the F group. Both groups were equally involved in getting advice from outside sources, and in obtaining additional coursework. However, the F farmers were either committed or not committed to seeking outside advice. Although more of the V farmers used off-farm information sources, they invested minimal amounts of time in them and did not seek off-farm advice as regularly as those farmers in the F group who did use off-farm information sources. The V producers placed greater value on advice from the extension service and on advice from family counsel than did the F group. Both the F and V groups placed a higher value on family counsel and advice from other farmers than

they placed on advice from the extension service.

The farm ownership section suggests that those farmers that purchased land early in their farming career are more likely to be in the F group. The farmer in the F group who has the highest farm score of all those interviewed is presently renting all of his operated land. However, he will inherit land in the future, which may have contributed to his decision not to purchase land since the amount of land that he expects to inherit will satisfy his goal for farm size. The F producers owned 43% of their total operated land, and the V farmers owned only 13.5% of their total operated land. Sixty percent of the farmers in both groups purchased the majority of their operated land after the mid 1970's when land values were higher than normal. The remaining 40% in both groups purchased the majority of their operated land in the early 1970's or in the 1960's. The percentage of operated land owned by the operator accounted for most of the difference between the F and V groups. When observing the groups as a whole, it is more advantageous to own a greater amount of the operated acreage. In addition, those who were in a partnership for a longer period of time before entering into a sole proprietorship are more likely to be in the F group. This

section reinforces the importance of having farming experience, and the timing of land purchases.

Whole farm management, production management, financial management, and marketing management were next in order of largest differences shown, with the family labor section showing the least difference between the two groups.

Table 8 shows the questions used in the whole farm management section and the point value assigned to each question. Most of the 12.6% difference in the whole farm management section can be attributed to the size of net cash farm and off-farm income. This difference is not surprising since NCFI is calculated similarly to net cash flow which is one of the dependent variables. NCFI is cash receipts less cash operating expenses and interest paid during the year, while net cash flow also considers off-farm income, family living expenses, income taxes, and principal payments. At the bottom of Table 8 the result of computing the difference between the F and V groups excluding NCFI, returns to equity, rate of return on assets, and net returns per acre is shown. Excluding these closely related questions, the F group scored 2.7% higher than the V group on average.

Four of the six F farmers owned a personal computer, but only two individuals used them to any extent. Only one farmer in the V group owned a computer. The F group spent 366 hours a year doing all management functions, and the V group spent 347 hours doing all management functions. The V producers spent 2/3's of their total management time in managing production functions, while the F farmers spent 1/2 of their total management time in production functions. V producers spent 1/3 of their total managing time in marketing and financial management functions. F producers spent 1/2 of their total management time in marketing and financial management functions. Greater proportion of time spent on financial and marketing management may add to a farmer's chances of surviving a depressed farm economy.

Involvement in government programs was also a distinctive characteristic of F producers in the whole farm management section. F producers scored an average of 8.8 points on the government program participation question, and V producers scored an average of 5.4 points.

Table 11 shows the questions used in the production management section and the point value assigned to each question. For the production management section, it is worthwhile to divide it into two parts: timeliness and

production management. The timeliness questions were separated because they were hypothesized to account for most of the difference between the two groups in production management. The F group earned 23.3% more of the points available in the timeliness questions than the V group did. For production management, the F group earned 6.2% additional points (see Table 18). There were only 40 total available points in the timeliness section. However, four of the F farmers earned all available points, one interviewee earned 39, and one 36. The V group had a high score of 34, a 33, a 32, a 24, and a 22. Therefore, the F group appeared to do better in timeliness of operation.

The financial management section showed almost a 10% advantage for the F group. Table 9 shows the questions used in the financial management section and the point value assigned to each question. The cash expense to cash receipt ratio and the percent equity information was hypothesized to contain information found in other questions, therefore excluding them from the original analysis would provide the extent of their duplicative nature. The last line of Table 9 shows that when the cash expense to cash receipt ratio and percent equity figures are deleted from the financial management analysis, the F

farmers continue to show an advantage over the V group by 2.6%.

The original analysis which includes the cash expense to cash receipt ratio and percent equity will be used for the remainder of this section. The percent equity of the F group accounted for 69% of the difference in the two groups. However, this large difference can be attributed to the percent equity's close relationship to the D/A ratio which is a dependent variable. In addition to percent equity, the financial management section deserves more discussion. All of the V farmers upgraded or started keeping financial records as a result of bank requirements. The F group was more likely to improve financial management because of personal goals rather than externally imposed requirements. Four of the six F producers maintained financial statements for personal needs as well as for their lenders. All of the V producers mentioned that they kept financial statements because the bank required that the records be kept. Therefore, the F group manages finances to stay out of financial hardships, and the V group manages finances as a result of financial hardships.

The marketing management section shows only a 4.5% advantage for the F group. Table 10 shows the questions

used in the marketing management section and the point value assigned to each section. The concern with this section is across both groups since the difference is relatively minor. The F group earned only 32% of the total points available in marketing management, the lowest of all sections, and the V group earned earned 27% of the total available, which was second lowest only to the farming experience section. The low scores in the marketing management section can be partly attributed to the lack of participation in hedging, options use, fundamental and technical analysis, and chart analysis by most interviewees. However, the educational level of the F group concerning marketing topics was much higher than those in the V group, but this could be due to the fact that four of the V farmers are no longer farming. The interviewee who hedges and uses options is in the F group. Also, one individual in the F group indicated that if he were still producing crops heavily, he would probably use options. Most farmers were more receptive to the idea of using options as opposed to using futures. In addition, case V6 who is not included in either group, uses options, and is probably more knowledgeable in marketing alternatives among all interviewees. Farmer MS3 is

knowledgeable in marketing management, and expressed a strong need for a local advisor in marketing management. However, he did not hedge or use options, but said that he probably will in the future, if he receives the desired training.

The remaining section is family labor, and only a 2.6% advantage is shown by the F group. Table 13 shows the questions used in the family labor section and the point value assigned to each question. This difference is of little merit since there were only three questions included in the family labor section. Two questions on the survey, hours of family labor per year and hours of hired labor per year, get at the family labor issue more directly, but were not included in the scoring because the survey responses could not be fairly coded for scoring. Some interviewees had children that worked when not in school, some used hired labor part-time, full-time, or only during the busy times. Therefore, it was impossible to use a measure that could treat each interviewee fairly. To give some idea of the family labor situation, both groups had only one farmer that used no hired labor, and the V group had one farmer who utilized two full-time employees, compared to one farmer in the F group who use one employee four and a half

days a week. Generally the F group used more family labor than the V group, and more part-time instead of full-time hired labor.

Summary

The F versus the V group comparison shows the need for a farmer to manage his debt load and credit thoroughly. Most F farmers shared the concern for keeping debt load to a minimum, which helped the group score higher than the V group in percent equity. F producers were more conservative when spending and acquiring debt, and seldom make impulse decisions. Farm ownership was also characteristic of F producers. Farming experience was important, preferably gained from several years of farming with the father and farming in a partnership before farming in a sole proprietorship. Also, more F producers are college graduates than V producers. F producers did use more family labor than hired labor, relative to V producers. Also, F farmers spent more time in financial and marketing management and in obtaining information on these topics. Both groups scored poorly in the marketing management section, indicating a need for improved marketing for all farmers. Finally, timeliness was a

distinctive characteristic of F farmers.

The CF Group Versus the NLF Group

The CF versus the NLF analysis considers the farmers classified as MS and MI as well as the F and V farmers (see Table 19). Two V farmers and two MS farmers are currently farming, while one F producer and one MS producer are no longer farming. Of the 15 cases, 9 of the interviewees are still farming today. Case V5, however, is farming under reorganization bankruptcy laws with $750,000 of outstanding debt, and, by definition, is in the group that is currently farming, although his decisionmaking is somewhat hampered by the demands of the reorganization plan (see case V5 under the individual case studies section). The 7 other farmers in the CF group have smaller debt loads than case V5 and are in better financial condition. Some producers, at the time of the interview, were highly leveraged, but today most are at least as well off financially as they were during the survey period.

The NLF group has a total of 6 members. Included in the group are 5 that had to discontinue farming because of financial reasons, and 1 farmer, case F5, who decided to stop farming because of the depressed agricultural

TABLE 19

THE DEBT-TO-ASSET RATIOS, CASH FLOW, AND FARM BUSINESS SCORES OF THOSE INTERVIEWEES' CURRENTLY FARMING AND THOSE NO LONGER FARMING AT THE TIME OF THE INTERVIEW

The Individual Cases			
Case	Farm Business Score	D/A Ratio*	Cash Flow
	Currently Farming		
F1	566.5	.03	(+)
F2	604	.02	(+)
F3	590.5	.38	(+)
F4	692.5	.34	(+)
F6	554.5	.14	(+)
MS2	667	.49	(+)
MS3	607.5	.44	(+)
V5	488	1.58	(+)
V6	633.5	.78	(-)
	No Longer Farming		
V1	448	1.47	(-)
V2	457	.79	(-)
V3	349.5	over 1**	(-)
V4	373	.94	(-)
MS1	570.5	.56	(+)
F5	492.5	0	(+)

* D/A means debt - to - asset ratio

** Case V3 was insolvent, but the magnitude of the D/A ratio could not be calculated.

conditions and his age. He, for all practical purposes, retired from farming. He is the sole interviewee classified in the Successfully Exited category of Table 2, Chapter 1, and was in favorable condition before exiting farming. He is the only interviewee in the study that had no debt. One other case in the NLF group, case MS1, did exit farming because of financial reasons. However, his operation was strained because of an accident that led to hospitalization and subsequent disability. These problems kept the farmer from properly managing his hired crew, and after two years of losses, forced him out of the business. The remaining 4 cases were businesses that involved the liquidation of all farm assets in an attempt to repay debt. Three of the four lost their homes. Table 19 shows the farm business scores, the D/A ratios, and the sign of cash flow of the CF and NLF groups.

The farm business scoring procedure is also used in contrasting the CF group with the NLF group. Table 20 displays both groups' scores broken down by the nine sections, and each group's average total score (columns 2 and 3). Also, included in Table 20 are a difference column, 4, which is the CF scores minus the NLF scores, and column 5 which shows what percentage of the total points

TABLE 20

THE AVERAGE SCORES OF THE CURRENTLY FARMING GROUP AND THE NO LONGER FARMING GROUP SHOWING THE DIFFERENCE BETWEEN THE TWO GROUPS

Section	Currently Farming Average Total Scores	No Longer Farming Average Total Scores	Diff.* CF-NLF	% Diff.** Compared To Total	Total Avail. Per Section
Farming Experience	51.11	40.33	10.78	11.98%	90.00
Debt Load and Structure	69.89	44.50	25.39	22.08%	115.00
Whole Farm Management	109.83	74.83	35.00	19.44%	180.00
Financial Management	101.33	73.83	27.50	18.33%	150.00
Marketing Management	78.94	53.75	25.19	13.19%	191.00
Production Management	90.17	65.58	24.59	18.92%	130.00
Farm Ownership	17.00	11.50	5.50	15.71%	35.00
Family Labor	15.89	17.17	-1.28	-5.12%	25.00
Credit Availability/Use	66.28	66.92	-.64	-.49%	130.00
Grand Total	600.44	448.42	152.02	114.04%	1,046.00

* The Diff. column is the Currently Farming scores minus the No Longer Farming scores

available in each section was earned by the CF group that was not earned by the NLF group. Column 6 replicates the total available points in each section.

Table 20 shows that the debt load and structure section is where the CF group displays the biggest advantage over the NLF group. The CF group earned 22% more of the available points in the section than did the NLF group. However, the credit availability/use section shows that the NLF group holds a slight advantage. It seems illogical that the debt load and structure section would show the largest advantage for the CF group, while credit availability/use would favor the NLF group. Part of the reason can be attributed to case F5 who received 100% of the points in credit availability/use and is no longer farming, and the inclusion of case V5 in the CF category who is farming under reorganization. The seven sections that show an advantage for the CF group are separated by only 11 percentage points. This suggests that there is no single section that stands out when contrasting the two groups, which implies that the two groups are not defined well enough to eliminate cases that may easily fit into both groups, or there is actually little difference between the two groups. Hence, it is necessary to contrast the CF

group excluding case V5 with the NLF group excluding case F5.

Table 21 shows the results of contrasting the CF group with the NLF group when case V5 and case F5 are excluded from the analysis. This analysis gets directly to the issue of farm failure. Those included in the NLF group exited due to financial pressures, although some cases were more severe than others. The CF group includes those interviewees who are still farming, unhampered by the forced decisions that accompany a reorganization plan. Only one farmer in the CF group was classified as Vulnerable. This case is case V6, who due to recently entering farming has a high debt load, but he is not forced to make decisions based on financial concerns alone.

Table 21 displays eight sections in the percent difference column (5) that are positive, meaning that the CF group scored higher in each of those eight sections. Debt load and structure showed the largest difference, 36.86%, which is 15 percentage points higher than the second largest difference. Debt load and debt management is the characteristic that most differentiates the CF from the NLF group. The debt load and structure section also recorded the largest difference in the F versus the V

TABLE 21

THE DIFFERENCE BETWEEN THE AVERAGE SCORES OF THE CURRENTLY FARMING GROUP WITHOUT CASE V5 AND THE NO LONGER FARMING GROUP WITHOUT CASE F5

Section	CF Average Total Scores W/O Case V5	NLF Average Total Scores W/O Case F5	Diff.* CF-NLF	% Diff.** Compared To Total	Total Avail. Per Section
Farming Experience	51.75	40.60	11.15	12.39%	90.00
Debt Load and Structure	74.69	32.30	42.39	36.86%	115.00
Whole Farm Management	113.13	80.90	32.23	17.90%	180.00
Financial Management	99.38	76.80	22.58	15.05%	150.00
Marketing Management	83.00	62.90	20.10	10.52%	191.00
Production Management	90.06	66.10	23.96	18.43%	130.00
Farm Ownership	16.69	9.00	7.69	21.96%	35.00
Family Labor	16.38	16.70	-.33	-1.30%	25.00
Credit Availability/Use	69.44	54.30	15.14	11.64%	130.00
Total	614.50	439.60	174.90	143.47%	1,046.00

* The Diff. column is the Currently Farming scores minus the No Longer Farming scores. (col.2 - col.3)

** The %Diff. column is the Diff. column divided by the Total Available Per Section column. (col.4/col.6)

comparison.

The farm ownership section shows the second largest difference with a 21.96% advantage for the CF group. Table 12 shows the questions used in the farm ownership section and the point values assigned to each question. The CF group owns, on average, almost 43% of their operated land. In the CF group, 75% purchased the majority of their land early in their farming career. The NLF group, on average, owned only 9.2% of their operated acreage, and 40% purchased the majority of their owned land early in their farming career. Of the 5 interviewees in the NLF group, 2 purchased a majority of their land in 1975, 2 purchased a majority of their land in the 1960's, and 1 rented all operated acreage. Therefore, half of the NLF group who owned farmland purchased land when land values were high, and half did not. The CF group has 2 interviewees who purchased the majority of their land between 1976-1986. Hence, 67% of the farmers in the CF group purchased land when land prices were high in the mid to late 1970s and 1980s, with the remainder of the CF farmers purchasing land before this period except for case F4 who rents all of his operated acreage. Since all of the interviewees purchased land using some borrowed funds, it appears that land

purchases made during periods of high land prices, alone, do not force farmers out of business. The decision to purchase land is based more on the farmer's entry into farming, the location of purchased land to existing owned acreage, and productivity expectations. These results show a distinct difference between the two groups, and imply that farmers should try to own a larger percentage of their operated acreage, and purchase land early in their farming career, rather than later.

The third section showing an advantage for the CF group is marketing management with an 18.43% advantage. Whole farm management was fourth with 17.9%, financial management was fifth with 15.05%, and production management was eighth with 10.52%. These management sections show a relatively significant difference between the two groups, suggesting the importance of management to farm financial survival. Tables 10, 8, 9, and 11 respectively show the questions used in these sections and the point values assigned to each question.

Concerning marketing management, the interviewees who scored the first and third highest total scores are in the CF section, and they hedge and/or use options in the futures market. Also, these two interviewees placed the

first and second highest scores in the marketing management section. The two interviewees who scored the lowest in marketing management are in the NLF group and did not use the futures market, did little cash contracting, and participated minimally in government programs.

Judging from the entire interview process and the resulting scores, it is obvious that the interviewees who are careful managers fared much better than the producers who placed less importance on the managing responsibilities. The management section that showed the least difference (10.52%) is the marketing management section. The production management section showed the greatest difference (18.43%) of the 4 management sections. However, the timeliness responses accounted for 42.55% of the difference between the two groups in the production management section. Therefore, it is clear that management and timeliness are important to farmer survivability.

Farming experience shows the sixth largest percentage difference of 12.39%. Table 6 shows the questions used in the farming experience section and the point value assigned to each question. The magnitude of the difference is not as large as it was in the previous analysis where the F group was contrasted to the V group. Three interviewees in

the CF group have college degrees, while none in the NLF group have a college degree. Another distinct characteristic of CF farmers is the number who farmed with their fathers before farming on their own. Seven interviewees in the CF group farmed with their fathers, but two of the five interviewees in the NLF group had not farmed with their fathers.

Finally, the family labor section showed a small advantage (1.3%) for the NLF group. As mentioned earlier, this section did not include the hours of hired or family labor utilized because of scoring problems. However, only one farmer in the NLF group used family labor and five of the eight in the CF group used some family labor. Two interviewees in the NLF group utilized full-time employees, with one having two employees and the other having 10 employees. The CF group utilized seasonal or part-time hired labor. The CF group reported that they enjoyed and were wholeheartedly devoted to farming more so than the NLF group when asked to respond for the 1983-1985 period. However, the NLF group said that they spent more hours a day laboring than did the CF group, which gave the NLF group the overall advantage in the family labor section. A question was also asked concerning the amount of time spent

managing each day. Although the question was scored in the whole farm management section, the responses can be compared here with the hours spent laboring each day. The NLF group responded that they also spent more hours a day managing than did the CF group.

Summary

In summary, the most influential characteristic of those interviewees who are still farming is their concern over debt management. Also, land ownership was a distinct characteristic of the CF group. The CF group owned 43% of their operated land, compared to 9% in the NLF group. Land purchases were made early in the farming career more often by those in the CF group than by those in the NLF group. CF farmers scored 10 - 18% more of the points available in the sections representing farm management than did the NLF group. The CF farmers practiced better whole farm management, were more knowledgeable marketers, more astute record keepers, better production managers, and were timelier operators. They also practiced more conservative spending and were not impulse buyers. Farming experience gained through a formal education, additions to human capital, and years of farming with the father proved to be

distinct characteristics of those farmers still in business. The use of family labor rather than hired labor was also a practice of those farmers still in business. The CF farmers are better managers of borrowed funds, spend more time expanding their production possibilities, and try to obtain information, especially marketing information, in a timely manner.

6. Conclusions

Introduction

This chapter is divided into four parts. The first part is a summary of the major findings of the study. The second part compares the findings of this study to the findings outlined in the literature review. The third part discusses the inconsistencies between the findings of this study with the conceptual framework developed in Chapter 3. The final part discusses the implications this study has for the extension service, lenders, farmers, and researchers.

A Summary of the Major Findings

This study addresses the topic of farmer survivability in Virginia. The problem is that some farmers in the state have survived and earned positive net returns, while other farmers in the same sector facing similar external conditions, have exited farming as a result of financial hardship. The objective of this research is to provide an understanding of how some corn, soybean, and wheat farmers in Virginia survived the agricultural recession of the 1980's while other similar farmers did not.

In order to address the problem, a small sample of corn, soybean, and wheat farmers in Virginia were contacted and personally interviewed. The interviewees were questioned concerning their farming operations during the 1983-1985 time period on the following 9 topics: Farming Experience, Debt Load and Structure, Whole Farm Management, Finanacial Management, Marketing Management, Production Management, Farm Ownership, Family Labor, and Credit Availability/Use. The interviewees' D/A ratios and cash flows were calculated and using the two measures the interviewees were classified as either F (Favorable), MI (Marginal Income), MS (Marginal Solvency), or V (Vulnerable). Also, interviewees were classified as either CF (Currently Farming), or NLF (No Longer Farming) according to their present farming status.

The farmers in the F group were contrasted with the farmers in the V group by the use of a farm business scoring procedure that scored the farm operations in each of the 9 sections listed in the previous paragraph. By comparing the average scores of the F and V groups in each of the 9 sections, some characteristics that distinguish farmers in the F classification were found. Also, the CF group was contrasted with the NLF group using the same

scoring procedure. This analysis discovered similar characteristics that aided in farmer survivability.

It was hypothesized in Chapter 3 that when the F and V groups were contrasted the F farmers would:

1) Record higher farm business scores on the questions in the Farming Experience section.
2) Record higher farm business scores on the questions in the Debt Load and Structure section.
3) Record higher farm business scores on the questions in the Whole Farm Management section.
4) Record higher farm business scores on the questions in the Financial Management section.
5) Record higher farm business scores on the questions in the Marketing Management section.
6) Record higher farm business scores on the questions in the Production Management section.
7) Own larger percentages of their operated land.
8) Use retained earnings rather than credit for expansions and improvements.
9) Utilize more family labor.
10) Utilize less hired labor.
11) Owe a fewer number of creditors.

When the Favorable group of farmers were contrasted to the Vulnerable group, it was discovered that the Favorable farmers had, on average, higher scores than the Vulnerable group in each of the nine sections. The debt load and structure section and the credit availability/use section showed the two largest differences between the two groups. This finding emphasizes the importance of financial management. Favorable farmers had lower debt loads, kept a portion of their borrowing capacity in reserve, and

practiced timely repayment of debt. The Vulnerable producers borrowed less conservatively, had much larger debt loads, exhausted most to all of their borrowing capacities, and often fell behind in repaying long-term debt as well as operating loans. The attitudes of Favorable producers towards the attainment of debt, credit management, and the preservation of positive cash flow were more conservative. Similar results were found when the Currently Farming group was contrasted with the No Longer Farming group. The Currently Farming group exhibited characteristics similar to the Favorable group

The Favorable group's higher score in farming experience is attributed to more education, more time spent in adding to their knowledge base, and more years in the farming profession. Farm ownership also aided Favorable farmers. The Favorable producers owned 43% of their total operated land, while the Vulnerable producers owned 15.5%. Favorable producers tended to purchase land early in their farming career, although more Vulnerable farmers purchased land before the early 1970's than did Favorable farmers. However, an equal percentage (60%) of F and V farmers purchased land during the 1975-1982 period of inflated land values. Those farmers who farmed with their fathers for a

longer period of time before farming on their own also tended to be members of the Favorable group. The farmers in the Currently Farming group owned 43% of their operated land opposed to farmers in the No Longer Farming group who owned 9.2% of their operated acreage.

The sections measuring farm management skills (whole farm management, financial management, marketing management, and production management) showed distinctly higher scores for Favorable producers with the exception of the marketing management section which showed only a small advantage for the Favorable group. Favorable farmers had larger net cash farm incomes, and off-farm incomes. The percent equity was much larger for the Favorable producers as well and accounted for most of the difference in the financial management section. Scores were low for both groups in the marketing management section; however, Favorable farmers tended to have a more receptive attitude towards trying to understand newer marketing alternatives. The Favorable farmers were generally more knowledgeable of marketing alternatives, and one had participated in the futures market. Most Favorable producers seemed to be concerned with obtaining market information. However, most were still reluctant to commit themselves to participation

in hedging using either futures or options. The other outstanding characteristic of Favorable producers was their timeliness of action in preparing land for seeding, applying chemicals and fertilizer, and harvesting crops which indicated the importance of timely action for survival.

The family labor section showed the least difference between the F and V groups. However, two questions concerning the amounts of family and hired labor could not be scored. These two questions revealed that Favorable producers use relatively more family labor and relatively less hired labor than the Vulnerable group.

As hypothesized, the Favorable producers did score higher in farming experience, debt load and structure, and whole farm management categories, and did own larger percentages of their operated land, utilize more family labor, and utilize less hired labor than the Vulnerable group. Although all producers except one had some debt, the Favorable group used retained earnings for expansion and improvements more often than the Vulnerable producers. The Vulnerable producers did owe more creditors (6.8 on average) than did the Favorable group (2.8 on average). When the Currently Farming group was contrasted with the No

Longer Farming group, similar results were found. In order to contrast a Currently Farming group that consists of farmers that are farming under normal conditions with a No Longer Farming group that consists of producers who were forced out of business because of financial stress, two cases were excluded from this analysis. Case V5 was excluded from the Currently Farming group, because he is farming under severely stressed financial conditions. Therefore, his decision making processes may be distorted, and some aspects of his operation may be hampered by the reorganization plan being followed by the farmer. Also, case F5 was excluded from the No Longer Farming group because he successfully exited farming without financial pressures.

When these adjusted groups are contrasted, the Currently Farming group had an advantage in all sections except the family labor section. The debt load and structure section showed the largest difference, by far, between the two groups. Hence, debt management was the most distinct characteristic of those farmers still in business. Also, the Currently Farming group owned 43% of their total operated land, compared to 9% owned in the No Longer Farming group. In addition, the CF group purchased

relatively more land early in their farming career than the NLF group.

The sections representing farm management (whole farm management, financial management, marketing management, and production management) showed that the Currently Farming group scored 10% - 18% more of the total points available than did the No Longer Farming group. More knowledgable marketing, more astute record keeping, analysis of financial records, better production management, timely operation, conservative spending, and more off-farm income all aided in farmer survivability. The Currently Farming group also reveals that farming experience is important for farmer survival. The Currently Farming group has long-time farmers as well as one who has been farming for only three years. The group has three college graduates, although they have nonagricultural degrees, while the No Longer Farming group has no college graduates. The Currently Farming group also spent more years farming with their fathers than did the No Longer Farming group.

Although the family labor section showed the No Longer Farming group with the higher score, the Currently Farming group used more family labor and less hired labor than the No Longer Farming group. Two entrants in the No Longer

Farming group had two or more full-time employees, while one farmer in the Currently Farming group hired an employee on a regular basis for four and a half days a week.

From these findings, those farmers who survived the agriculturally depressed 1980's seemed to possess some distinct characteristics that enabled them to survive. The most outstanding distinction was debt and credit management. Surviving farmers are conservative when obtaining debt, and although a few had large debt loads, they understand the importance of keeping cash flow positive. Surviving farmers also tend to view a portion of their borrowing capacity as a reserve. They are also more conservative in spending, and are not impulse buyers. Those farmers who are still farming generally have more education, and more often than other farmers, regularly add to their store of knowledge. Timeliness in production operations is also important if a farmer is to stay in business. Those interviewees still farming scored much higher in timeliness than those no longer farming. Farm ownership was also a characteristic of surviving farmers, with the purchase of land early in the farming career being advantageous. Most farmers that continue to farm have some type of off-farm income that supplements their farm income.

Some of the wives had full-time jobs and others had part-time jobs which helped support the family in years when farm income was low. The use of more family labor than hired labor is an advantageous characteristic of surviving farmers when observing the percent of farmers in each group who used part-time and full-time hired labor. However, the NLF group did score better than the CF group in the family labor section. The reason being that the questions concerning the amount of hired and family labor used on the farm was not included in the scoring . Members of the CF group are also more astute marketers, and better whole farm managers.

Findings Compared to the Literature

This section compares the findings of this study to the findings discussed in the literature review (Chapter 2).

Bartlett found that the larger full-time farmers were in worse financial trouble than any other group observed. Although for the present study most farmers operated approximately the same size operation, the two producers who each farmed over 2,000 acres are both no longer farming. Four cases analogous to Bartlett's "family farm"

group, defined as individuals who own most of their operated land and use more family labor than hired labor was observed. Three of these family farmers are currently farming and one has successfully exited farming. They, on average, own 475 acres, have a debt to asset ratio of 15%, and have 23 years of farm experience. A group similar to Bartlett's "renters" group was also observed. These producers rent a majority of their operated land, and use more family than hired labor. Ten cases met Bartlett's criteria with half currently farming and the other half being members of the Discontinued Farming category. These renters, as Bartlett found, are in worse financial condition, operate larger farms, use more hired labor, and have a wider age range than the family farm group.

Responses to risk were not solicited as in the Patrick study, however, most producers surveyed offered their thoughts concerning risks that farmers face. Patrick found weather and price risks to be the most important sources of variability, with inflation, input costs, disease and pests, world events, and safety and health also rating as important. Most interviewees in the present study mentioned weather and commodity prices as the two most important risk factors, and some reported input costs and

disease and pests as important sources of variability. Patrick also stated that 90% of his respondents obtained market information, and over 77% utilized sequential selling and cash forward contracting. The present study discovered that all interviewees obtained some kind of market information, and all used sequential selling and cash contracting to some extent.

Barry and Fraser indicated that keeping a portion of the firm's borrowing capacity in reserve is becoming a desirable financial management tool. The present research found that most farmers in the Favorable category agreed that a portion of their borrowing capacity should be kept in reserve as a debt management tool. Barry and Fraser also stated that producers are placing greater value on obtaining recently released market information. Of the interviewees who are still farming, four greatly valued the receipt of timely information, and four acknowledged the increasing importance of keeping informed on market conditions.

The article by Musser pointed out that the producers who rented all of their farmland were either stressed or insolvent. The findings from the present study revealed one farmer who rents all of his operated acreage and is

successful - he scored the highest total farm score of all interviewees. Also, one producer who rented all of his operated acreage was classified as Vulnerable and has discontinued farming. Therefore, it is inconclusive whether renting all operated acreage is desirable or undesirable during agriculturally depressed periods.

Findings Compared to the Conceptual Framework

According to Fusfeld (1980) and Dugger (1979) for a case study to be complete in developing an understanding of the case under study, it is necessary to adjust the theory or "story" after the study has been conducted so as to provide a foundation upon which broader studies can build. The broader studies add to the understanding through more diverse and in-depth studies on the same subject.

The purpose of this section is to point out the differences between the theory developed in Chapter Three and the information collected in the interviews. In Chapter Three a conceptual framework was developed according to the factors that were expected to affect farmer survivability. Now that the interviews have been analyzed, an ex post evaluation of the theory will disclose the areas where the theory is inconsistent with the

information gathered.

The conceptual framework chapter discussed the factors affecting farmer survivability, and how the individuals in the Favorable, Marginal Income, Marginal Solvency, and Vulnerable categories were influenced by the factors. Six of the interviewees were classified as Favorable during the survey period, with all still farming except one who has quit farming and is classified as Successfully Exited. Three were in the Marginal Solvency category during the survey period, with two still farming and one presently no longer farming. Five of the interviewees were classified as Vulnerable during the survey period, with all but one presently no longer farming, and the other interviewee still farming under the Vulnerable classification. He is presently farming with a large debt load, and is operating under reorganization bankruptcy laws.

The most pronounced inconsistency disclosed between the conceptual framework and the Favorable versus the Vulnerable analysis is the debt load carried by most farmers. Most farmers in the Favorable group were expected not to have debt other than operating loans since most farmers in Virginia have no debt (Tabor). However, all farmers in the Favorable group, except one, had some type

of debt outstanding other than operating loans. It was also expected that the Favorable group would have a higher percent of its debt in operating loans when compared to the Vulnerable group. This proved true when debt load was observed on a year to year basis. However, due to Vulnerable farmers not being able to repay operating loans over a number of years, they had a higher percentage of outstanding debt in operating loans than did the Favorable producers. The Favorable group scored higher in the debt load and structure section because their financial ratios were more favorable than the ratios of the farmers in the Vulnerable group. In the conceptual framework the Favorable farmers were expected to to have more favorable financial ratios and be better debt managers.

Moreover, it was expected that farmers who borrowed from a relative would be in the Favorable group, but none were. Instead, the interviewees who did borrow from a relative were in the Vulnerable group. Two of the three interviewees who borrowed from relatives borrowed money after their operation became endangered, and the other interviewee borrowed early in his career and repaid the debt.

The amount of time that farmers reportedly spent

managing and doing manual labor was also inconsistent with what was expected, although the difference between the Favorable and Vulnerable groups was small. Vulnerable farmers reported that they spent, on average, 10 hours and 11 minutes a day doing manual labor and 1 hour and 22 minutes a day doing all management functions. Favorable producers reported that they participated in manual labor, on average, 10 hours and 3 minutes a day and spent 1 hour and 10 minutes a day doing all management functions. However, the Favorable farmers scored higher in the whole farm management section of the farm scoring procedure indicating that the Favorable producers are better whole farm managers. The Vulnerable producers spent more time managing finances in accordance with the guidelines of banks, Farmers' Home Administration, Production Credit Associations, and Federal Land Banks.

Favorable farmers were also expected to have lower values for assets per acre and labor hours per acre than the Vulnerable farmers. However, Favorable farmers spent almost twice as much time laboring on a per- acre basis, and had invested almost 300 dollars an acre more in assets. The Favorable farmers did utilize more family labor than the Vulnerable group and owned more assets than the

producers in the Vulnerable group. Vulnerable producers, however, may have been liquidating assets in an attempt to meet debt payments, thus reducing the number of productive assets on the farm. The Vulnerable farmers operated, on average, farms that were 136 acres larger than farms operated by Favorable producers. Therefore, the Vulnerable producers farmed larger farms with fewer assets. The Vulnerable farmers may have been more efficient in production management, although the lower net returns per acre of the Vulnerable group do not suggest the same. Therefore, the Vulnerable farmers may have spent too little time in manual labor, resulting in crops being neglected and in lower returns. Favorable farmers also utilized more assets per acre than the Vulnerable group, suggesting that the Favorable group operates a more capital intensive operation which may indicate a more technologically advanced group. Also implying advanced technology, the Favorable group's largest tractor was rated, on average, as having 13 more horsepower than the Vulnerable group. Moreover, the Favorable group may have had the funds available to purchase assets when the financially stressed, Vulnerable group was faced with asset liquidation.

Responses concerning the timing of land purchases were

also unexpected. Although the purchase of land early in the farming career was unique to Favorable farmers, 2 of the 5 Vulnerable farmers purchased land before the 1970's and only 1 of the 6 Favorable producers purchased land before the 1970's. The decision to purchase land seemed to be based on the individual's needs, goals, entry into the farming business, and financial situation, more so than the local land market conditions of the time. Most interviewees purchased land based on location relative to existing acreage or on productivity expectations. Most farmers did not purchase land solely for speculative purposes, although the local value of land did enter into the decision making process when purchases were contemplated.

None of the Favorable producers had inherited land, equipment, or equity, while two of the Vulnerable producers had inherited equipment, one inherited land, and one inherited money. It was expected that farmers who inherited land, equipment, and other forms of equity would be in the Favorable group. However, all were in the Vulnerable group, and received relatively small inheritances which may not have aided a stressed operation significantly.

The most outstanding characteristic of Favorable producers in the farm ownership section was the involvement in partnerships. Five of the Favorable farmers farmed with their fathers prior to farming on their own, while three of the Vulnerable farmers did. In addition, the Favorable farmers farmed with their fathers for a longer period of time than did the Vulnerable farmers before entering into a sole proprietorship.

Implications

This research has implications for the extension service. Increasing farmers' education concerning debt management, credit management, marketing management, and financial analysis is of foremost importance. Area farm management agents are in a position to address most of these concerns. However, extension personnel can also provide educational programs in topics specific to farmers needs. Farmers need to improve their debt management skills and their financial analysis skills so they can properly evaluate the financial condition of their business. Farmers have been exposed to marketing alternatives; however most farmers are unsure if they want to be involved in the futures market for fear of margin

calls and the possibility of not making larger profits in the years when cash prices are unusually high. The importance of having a more stable income over the years, which will make a debt repayment plan more likely to be realized, needs to be stressed when teaching farmers. Timeliness is also an issue that needs to be taught to some farmers. County extension agents are in a better position to encourage the importance of timeliness when accomplishing farm operations.

Lenders need to focus on obtaining accurate information from farmers when considering making a loan. Encouraging the farmer to keep accurate records will facilitate a more accurate financial evaluation of the farm business. Hence, the level of debt, and a repayment schedule that best suits the farmer's needs can be developed. Lenders should complete a thorough financial analysis of the farm and monitor the financial progress of the business on a regular basis to try to avoid repayment problems. Also, lenders should consider the farmer's past repayment habits. A farm visit by the lender can familiarize him with the farm operation and provide an opportunity for the lender to evaluate the production practices used on the farm and the farmer's ability to

accomplish tasks in a timely manner. Lenders can encourage farmers to keep a portion of their borrowing capacity in reserve, and establish a conservative borrowing and spending habit. Lenders can also encourage farmers to supplement their farm incomes with some off-farm income, especially in years when farm income is low.

Agricultural lenders are in a position to require a certain amount of recordkeeping from their potential customers. With the authority to reject loan applications, lenders can force farmers to keep better records that are sufficient for completing a proper financial analysis. Therefore, agricultural lenders can have an effect on farmers' recordkeeping habits. Lenders have to collectively agree on stricter requirements for loan applicants to prevent one lender with weak or no requirements from making most of the area's loans.

Farmers need to think about the cash flow impacts of debt acquisition before obtaining debt. Impulsive buying decisions should be avoided. Records need to be kept for accurate evaluations that have to be made by the farmer as well as the lender. Accurate records will allow a precise financial analysis which may avoid future financial hardships. Farmers need to keep a portion of their

borrowing capacity in reserve for emergency use and borrow and spend based on sound management decisions. Debt repayment needs to be kept on schedule, since all Vulnerable producers had accumulated overdue operating and long-term debt payments that forced them out of business.

Farmers should expand their human capital resource base whenever possible. Educational attainment is desirable for survival and can be obtained from other farmers, outside of the farm sources, and from extension programs. Published sources also provide information and education to farmers.

Farmers should also consider purchasing land early in their farming career, spread large purchases over time, and maintain an equilibrium level between percent equity and the level of debt that allows the largest returns to resources given the amount of leverage and risk the producer is willing to accept. This equilibrium level can be achieved through financial analysis, debt management, and credit management. Supplementing farm income with off-farm income, and spending more time in managing marketing and finances also aid in farmer survival.

Researchers can explore methods of how to better teach recordkeeping, financial analysis, credit management, and

marketing management. Teaching should be done in a manner that motivates farmers and lenders to adopt better management practices.

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Appendix I

Questionaire and Related Correspondence

FARMING EXPERIENCE

- How many years have you been a corn, wheat, and/or a soybean producer? _____yrs.

- What is the highest level of education that you finished?

_____

- Did you take over your father's, grandfather's, other relative's, or neighbor's operation? _____ whose?_____

- (If so,) did you work with the person for a number of years before taking over the operation? _____(how many?) _____

- If you did not take over an operation, did you farm with your father, other relative, etc., before farming on your own? _____ With who? _____How many years?_____

- Did your father, grandfather, other relative, neighbor, or close friend provide helpful farming advice in your earlyfarming years? (yes, no)._____ How many hours of advice per year?_____hrs./yr.

  (Yes), How would you rate the quality of their advice?
  1-POOR, 2-FAIR, 3-AVERAGE, 4-GOOD, 5-EXCELLENT

- If the person providing you with farming advice was a farmer or was previously a farmer, how profitable of a farmer would you say he/she was?
  (open end: NOT VERY, AVERAGE, VERY)

_____

_____

- Did you seek advice from other sources such as a paid advisory, extension personnel, farm bureau, etc. ? (yes, no)_____(other, list:_____
_____)

(yes), How many times per year did you visit this source?___
Approximately, how many hours did you spend with the person during each visit? _____hrs./visit (Hrs./yr.)

- How would you rate the quality of their advice?

1-POOR, 2-FAIR, 3-AVERAGE, 4-GOOD, 5-EXCELLENT

- Given a certain production, marketing, or financial problem, would you tend to seek advice from your father, other relative, close friend, or other farmer <u>before</u> you consulted a public service such as extension or some other source? (Yes, no) _____Who and why?_____

_____

_____

- Do you think that these public sources, such as extension or a paid source, provide as good advice as a father, grandfather, etc., could provide? (yes, no)._____

NEVER, SELDOM, SOMETIMES, FREQUENTLY, ALMOST ALWAYS, ALWAYS

- Are you the sole operator of the farming operation? (yes,no). _____ (No), With who?_____

- Do you share equipment with a partner, relative, neighbor, etc., on a regular basis to cut down on fixed costs? (yes, no)._____ (Yes), Someone other than your partner? _____

<u>PRODUCTION INFORMATION</u>

- What was the horsepower rating of your largest tractor during 1983 - 1985? _____HP.

- What crops and/ or livestock did you raise in
  83?_____
  84?_____
  85?_____

- How many acres of each did you plant?

(TOTAL BUSHELS)	83	84	85
corn	_____	_____	_____
soybeans	_____	_____	_____
wheat	_____	_____	_____

- What were your crop yields

(BU./ACRE)	83	84	85
corn	_____	_____	_____
soybeans	_____	_____	_____
wheat	_____	_____	_____

- Did you have any major problems (yes, no),_____with pests or disease during this time period in corn, soybeans, or wheat?
Explain_____
_____

_____
_____

	83	84	85
- How much land did you own in	_____	_____	_____
How much land did you rent in	_____	_____	_____

- How many tillable acres did you have available for production in?	83	84	85
	_____	_____	_____

- Why do you purchase additional land? (open end)_____

_____
_____
_____

(suggestions: there is pride in owning land, or because it is something you can call your own.)

- Do you tend to work harder on land you own as opposed to rented acreage? (Yes, no)._____

NEVER, SELDOM, SOMETIMES, FREQUENTLY, ALMOST ALWAYS, ALWAYS

- Do you have a soil conservation plan worked out for your farm at the ASCS office?_____ (Requirement to have highly erodible land under a full conservation plan by 1995)

- Do you tend to practice soil conservation more on land you own as opposed to rented land? (Yes, no)._____

NEVER, SELDOM, SOMETIMES, FREQUENTLY, ALMOST ALWAYS, ALWAYS

- Does the owned acreage usually earn higher returns per acre than the rented acreage, not counting the rent charge? (Yes, no)._____

- When did you purchase the bulk of your owned land? _____yr.

- Was land given to you or did you inherit farmland? (Yes, no).

_____

- (If so,) At the time of the inheritance, what percentage of your total owned farmland did you receive? _____%

- Did you inherit equipment or equity? (Yes, no)_____ (Yes), At the time of inheritance, What percentage of your total equipment or equity did you receive?_____%

- During 1983 - 1985, how many hours a day, on average, did you spend doing actual manual labor in the Summer?____ Fall_____,Winter_____, Spring_____ hrs./day

- During 1983 - 1985, how much time did you spend in a typical week doing management functions?

TOTAL = _____hrs./week
PRODUCTION MGT. = _____%
MARKETING MGT. = _____%
FINANCIAL MGT. = _____%

- Did you usually do the managing tasks in the morning, in the afternoons, or in the evenings?_____
_____
_____

- How often were you willing to do manual labor?

NEVER, SELDOM, SOMETIMES, FREQUENTLY, ALMOST ALWAYS, ALWAYS

- How often were you willing to do the managing tasks?

NEVER, SELDOM, SOMETIMES, FREQUENTLY, ALMOST ALWAYS, ALWAYS

- During 1985, how many hours per month, on average, did you yourself spend laboring in corn, soybeans, and wheat?

In Jan._____, Feb._____, Mar._____, Apr._____, May_____,
Ju._____, Jly._____, Aug._____, Sep._____, Oct._____,
Nov._____, Dec._____ HRS./DAY

Would you say that the numbers were very different for 1984?

_____
83?_____
(Hrs./Yr.)

- During 1985, how many hours per month, on average, did your household (excluding yourself) spend laboring in C,SB,and W?

In Jan._____, Feb._____, Mar._____, Apr._____, May_____, Ju._____, Jly._____, Aug._____, Sep._____, Oct._____, Nov._____, Dec._____ HRS./DAY

Would you say that the numbers were very different for 1984?

_____
83?_____
(Hrs./Yr.)

- During the same period, how many hours per month, on average, of hired labor did you use in producing C, SB, and W?

In Jan._____, Feb._____, Mar._____, Apr._____, May_____,

Ju._____, Jly._____, Aug._____, Sep._____, Oct._____,

Nov._____, Dec._____ HRS./DAY

Would you say that the numbers were very different for 1984?

_____

83?_____

(Hrs./Yr.)

- Did you decrease your total crop production significantly over the 1983 - 1985 period?_____Which ones?_____

_____

_____

- (If so,) why? (aged, or health reasons)

_____

_____

_____

_____

- (If you decreased production of any of the crops) Did you adjust your equipment mix? (Sell some assets that you may no longer have needed)_____

_____

(yes, no). (No, Why?)_____

- During 1983 - 1985, did you alter the mix of crop acreages in order to INCREASE your chances of maximizing profits? (ex: increase soybean acreage in a year when you expect soybean prices to be unusually high) (Yes, No)_____Explain

_____

- Do you consider yourself an early adopter, middle of the road person, or someone who tends to wait and see how other farmers are doing when faced with adopting new technology?

_____
_____
_____

- Do you tend to make decisions based on your anticipating some future action? (ex: a drought in Argentina and Brazil cuts both of their soybean productions in half, would you plant more soybeans this year?) (Yes, no)._____
Explain_____

_____
_____
_____

- During 1983 - 1985, did you pay special attention to the timing of your fertilizer, chemical, fuel, and other production inputs throughout the year so as to try and minimize costs?
(Yes, no)._____

- During the period, on what inputs did you spend the bulk of your cash expenses in each crop?

CORN _____
SOYBEANS _____
WHEAT _____

- During 1983 - 1985, did you set target dates as to when you wanted to:

prepare your land _____
plant _____
apply chemicals _____
harvest _____

- How did you usually do on reaching those targets? (circle one) (Ex. Did you often find yourself planting behind schedule?)

EARLIER, 4-5 DAYS EARLY, ON TARGET, 4-5 DAYS LATE, LATER

preparing land: _____
planting: _____
applying chemicals: _____
harvesting: _____

- If you were late or early, what were some causes for the delaysor early actions?

_____

- During 1983 - 1985, did you set goals for yields? (Yes, no).

_____

- Did you set goals for whole farm profits? (Yes, no)._____

- During 1983 - 1985, what percentage of the time would you say that you reached your goals?_____% Explain_____

_____

- When you purchase land, equipment, or other large ticket items, do you usually PLAN to buy these items ahead of time as a result of some production, storage, marketing or other farming problem? (Yes, no)._____

- Do you consider yourself an impulse buyer? (Yes, no)._____

- During 1983 - 1985, did you enjoy farming? (Yes, no)._____

NOT AT ALL, I DIDN'T LIKE IT VERY MUCH, IT WAS O.K., MOST OF THE TIME, ALWAYS

- Would you say that you were wholeheartedly devoted to farming? (Yes, no)._____

NOT AT ALL, NOT REALLY, SOMETIMES, PRETTY MUCH, MOST OF THE TIME

FINANCIAL INFORMATION

- Did you have any debt in: 1983? _____
  (Yes, No) 1984? _____
  (NO, skip to NO DEBT) 1985? _____

- (If so,) In what year was the loan taken out and for what purpose? _____

- (If so,) what was the principal outstanding, years remaining on the loan, and interest rate? (Could get payments for each year, principal and interest.)

	P.O.	Y.R.	INT. RATE
83			
84			
85			

(Need interest and principal payments for each year.)

- During 1983 - 1985, approximately what percentage of your borrowing capacity did you exhaust?
  83_____ %
  84_____ %
  85_____ %

- How many creditors did you owe in
  83?_____
  84?_____
  85?_____

- During 1983 - 1985, what percentage of your debt was operating loans? 83_____%, 84_____%, 85_____%

- Did you choose debt because: (Choose one or more if applicable)
  (a). You had to pay off other loans, _____
  (b). To meet family living expenses, _____
  (c). You needed operating money, _____
  (d). Because I could make more money on borrowed capital. _____
  (e). To purchase equipment and/or land, _____
  (f). To stay in business? _____

- At any time, when you borrowed money, did you borrow from a parent, other relative, close friend, or neighbor? (Yes, no). _____

- (If so,) were you charged lower than market interest rates? (yes, no), _____

- (If so,) were you allowed to skip interest and/or principal payments if you experienced cash shortfalls? (Yes, no). _____

********* NO DEBT********

- If you expanded your farming operation, did you use retained earnings (cash in savings accounts)? (Yes, no) _____ Explain _____

- Do you ever plan to take on debt? (Yes, No) _____

**********ASK EVERYONE**********

- Did you make a point of not exhausting all of your borrowing capacity so you would have something to fall back upon when all other alternatives failed? (Yes, No)_____

_____

- In what years did you purchase:
Land?_____,
Tractors?_____,
Grain bins?_____,
Trucks?_____, and
Combines?_____
(# of different years)

- What was the value of your total farm assets in:
83?_____ DOES THIS INCLUDE
84? _____ YOUR HOUSE AND ANY
85? _____ OTHER NON-FARM ASSETS?

(Can ask for 1985 and ask about 84 and 83 next)

- What was the value of your current assets in:
83? _____
84? _____
85? _____

(current assets are cash on hand, in checking accounts, savings accounts, time certificates, and hedging accounts; equity; bonds and securities; good notes on accounts receivable; livestock and poultry sold; grains and feed in storage; cash investments in growing crops; supplies; and prepaid expenses, rent, and taxes.)

- What was the value of your current liabilities in:
  83? _____
  84? _____
  85? _____

(current liabilities are accounts payable on labor, repairs, storage, feed, seed, fertilizer, chemicals, fuel and oil, machine hire, and other; medical and other personal expenses; notes payable within 12 months, and principal and interest due within 12 months on longer term notes; estimated accrued tax liabilities on property, real estate, income, and social security; interest delinquent; and accrued rent and lease payments.)

- Did you have any other liabilities in: 83? _____
  84? _____
  (If yes, what amount?) 85? _____

[RATIOS NEEDED: D/A_____, CA/CL_____, CA-CL_____, EQUITY_____,
CD/TD_____, D/EQUITY_____, TOTAL BUSINESS EARNINGS_____,
BUSINESS OPERATING EXPENSES_____, FAMILY LIVING EXP._____,
INCOME TAXES_____, OFF-FARM INCOME_____, TOTAL VALUE OF FARM ASSETS_____, PERCENT EQUITY_____,
CASH EX. / CASH REC._____,] (GET FOR ALL THREE YEARS)

- What were your total business cash operating <u>expenses</u> in: (includes cash operating expenses, but DOES NOT include family living, interest paid, nor income taxes)

  83? _____
  84? _____
  85? _____

(examples: hired labor, fertilizer, lime, chemicals, machine rental, feed, seed, tractor and other equipment leasing, fuels, oils, tires, tubes, repairs, replacement parts, supplies, marketing expenses, services, rent, share rent expenses, storage and drying.)

- What were your total business cash receipts (includes cash operating receipts and govt. payments for:
83?$_____
84? $_____
85? $_____
(Net Cash Farm Income) (Sep. govt. prog.)

- What were your family living expenses for: (U.S. avg. for 1984 $12,950)
83? _____
84? _____
85? _____

- That includes _____children.
(College?)_____

- What were your income tax expenses for: (FEDERAL, STATE,)
83? ____
84? ____
85? ____

- What was your off-farm income in: (Was it from your job or your wife's work?)
83? _____
84? _____
85? _____

- During 1983 - 1985, did you fill out projected cash flow worksheets? (Yes, no) 83_____ 84_____ 85_____

- Did you have a positive cash flow in: (Yes, no)
83? _____
84? _____
85? _____

- What do you expect your farm income for 1988 to be expressed as a percentage of 1987's farm income?
_____%

MARKETING INFORMATION

- How much time have you spent in marketing training education
in:
1983?_____hrs./days What type?_____
1984?_____hrs./days What type?_____
1985?_____hrs./days What type?_____

(Ex. marketing clubs, videos, special meetings, Kenyon and Purcell)

-How much time do you spend in a typical week obtaining information on:

Cash and forward contract prices?_____hrs./week
Futures, options, government programs, minimum price contracts, and basis contracts?_____hrs./week

- During the period did you have: (Yes, no) (no, in your head?)
A yearly marketing plan written out?_____ (NO)___
A yearly financial plan written out?_____ ___
A yearly production plan written out?_____ ___

A long-range marketing plan written out?_____ (NO)__
A long-range financial plan written out?_____ __
A long-range production plan written out?_____ __

- Please explain your basic marketing strategy. (Objective, plan, source of information, implementation, procedure, etc.)

_____
_____
_____

- What is the average cash price you received for your commodities during the period?

_____	83	84	85
CORN	_____	_____	_____
SOYBEANS	_____	_____	_____
WHEAT	_____	_____	_____

- For the following government programs, which ones did you participate in and for which crops?

		SET ASIDE	PAID LAND DIVERSION	CCC LOANS	FARMER OWNED RESERVE	(83) PIK	(Paid Storage) OTHER
CORN	83						
	84						
	85						
SOYBEANS	83						
CCC	84						
Loans	85						
Only							
WHEAT	83						
	84						
	85						

- If you operated more than one "farm" according to ASCS's definition, did you have all farms participating or only some? _____ If only some, why?
_____

- If you did not participate in some of the farm programs, why not?
_____

- During 1983 - 1985, did you:

(YES or NO What % of each crop?)

SPREAD SALES _____ _____
HEDGE IN THE FUTURES MARKET _____ _____
USE OPTIONS IN FUT. MARKET _____ _____
FORWARD CONTRACT _____ _____
MINIMUM PRICE CONTRACT _____ _____
USE TECHNICAL ANALYSIS _____
PLOT FUTURES QUOTES _____
USE FUNDAMENTAL ANALYSIS _____
KEEP UP WITH: WORLD TRADE _____
GOVERNMENT ACTION _____
COMMODITY STOCKS _____
COMMODITY USAGES _____
KEEP FINANCIAL RECORDS _____ (What TYPE?)___
(Appear to keep extensive _____
records or not?) _____
KEEP PRODUCTION RECORDS _____ _____
KEEP RECORDS OF CASH RECEIPTS _____
MAKE SURE YOU CAN CASH FLOW PURCHASES AND
DEBT PAYMENTS BEFORE TAKEN ON OR PURCHASED _____

- Which of the following do you use for farm information purposes?

(YES, NO); RATE EACH AS: 1-NOT VERY HELPFUL, 2-SOMETIMES HELPFUL, 3-AVERAGE, 4-IMPORTANT, 5-VERY IMPORTANT

(1 - 5)

LOCAL NEWSPAPER (Yes, no)_____ _____
LARGER CITY NEWSPAPER _____ _____
NATIONAL NEWSPAPER _____ _____
FARM JOURNAL _____ _____
PROGRESSIVE FARMER _____ _____
FARM BUREAU NEWS _____ _____
COOPERATIVE FARMER _____ _____
SOUTH EAST FARM PRESS _____ _____
SUCCESSFUL FARMER _____ _____
VIRGINIA FARMER _____ _____
EXTENSION SERVICE PUBLICATION _____ _____
RADIO PROGRAM _____ _____
TELEVISION PROGRAM _____ _____

- Did you change your grain marketing strategy from year

to year? (Yes,No)_____Explain_____

_____

- Do you use a personal computer as part of your farm business? (Yes, no)._____ (Yes), What programs do you use? _____

_____

_____

(No), Do you intend to purchase a computer sometimes?_____

When?_____

- Have you watched any of VPI's Extension Monthly Marketing Update programs? (Yes) Evaluate____

_____

_____

(No), Were you aware of these programs?_____

- Who handles the bulk of the book-work involving the farming operation? _____

- Does your wife often help you in keeping records?

_____

- Do you involve your wife when making farming decisions?

_____

- How old are you? _____

- Do you mind if I call you if I find that I have a couple things missing?_____

NOTES: Most commodity prices fell low in Fall of 1984.

Wheat and soybean options started trading in Nov. 84.

Corn options started trading in Feb. 85.

- What could have made your transition out of farming easier?___

_____

_____

March 11, 1988

William A. Allen
Associate Dean and Assistant Director VCES
101 Hutcheson Hall, VPI&SU
Blacksburg, VA 24061

Dear Mr. Allen:

I am a master's student in agricultural economics here at VPI&SU, and am currently working on the USDA project entitled Farm Financial Management and Marketing: A Course for Farm Couples and Extension Agents. In an attempt to help extension personnel better understand the decisionmaking problems and situations farmers face in times when the farm economy is depressed, I plan to conduct personal interviews with approximately 15 corn, soybean, and/or wheat producers who were farming in the early 1980's in Virginia. I would like to include in the 15 interviewed approximately half who are no longer farming, and the balance consisting of farmers who are still in business.

The areas in which I plan to conduct interviews are: Fauquier county in the Northern District, Essex, Northumberland, Westmoreland, and King William counties in the Northeast District, and the city of Suffolk, and the counties of Southampton and Sussex in the Southeast District. The interviews will take place in April.

I would like for the Agriculture Agents in these counties to confidentially provide names and telephone numbers of persons currently farming or who were farming in the early 1980's. The agents may also be asked for further references, that is, names of other people who may be of assistance in locating interviewees. After contact with the interviewees has been made, the agent's assistance will no longer be requested.

Letters requesting farmer names will also be sent to the District Program Leaders for Agriculture and to the Unit Agents for Agriculture informing these persons of my plans and asking them for advice in this undertaking.

I would like to have your support to help make this project a success, and any comments or advice will be gladly appreciated.

Sincerely,

Michael Hudson
cc G.W. Warmann
D.E. Kenyon
D.M. Kohl

March 15, 1988

James R. Gardner
District Program Leader, Agriculture and Natural Resources
James Monroe Bldg., 10th Floor
101 N. 14th Street
Richmond, VA 23219

Dear Mr. Gardner:

I am a master's student in agricultural economics here at VPI&SU, and am currently working on the USDA project entitled Farm Financial Management and Marketing: A Course for Farm Couples and Extension Agents. In an attempt to help extension's administrative personnel better understand the decisionmaking problems and situations farmers face in times when the farm economy is depressed, I plan to conduct personal interviews with approximately 15 corn, soybean, and/or wheat producers who were farming in the early 1980's in Virginia. I would like to include in the 15 interviewed approximately half who are no longer farming, and the balance consisting of farmers who are still in business. The information gathered in the interviews should have some implications for Virginia extension and Virginia's agriculture.

The areas in which I plan to conduct interviews are: Fauquier county in the Northern District, Essex, Northumberland, Westmoreland, and King William counties in the Northeast District, and the city of Suffolk, and the counties of Southampton and Sussex in the Southeast District. The interviews will take place in April.

I would like for the Agriculture Agents in these counties to confidentially provide names and telephone numbers of persons currently farming or who were farming in the early 1980's. The agents may also be asked for further

references, that is, names of other people who may be of assistance in locating interviewees. After contact with the interviewees has been made, the agent's assistance will no longer be requested.

A letter has been sent informing the Assistant Director of the VCES, Bill Allen, of my plans. Also, letters will be sent to the Unit Agents for Agriculture informing these persons of my plans and asking them for advice in this undertaking.

I would like to have your support to help make this project a success, and any comments or advice will be gladly appreciated.

Sincerely,

Michael Hudson
cc Bill Allen
Ann Sanderson

March 24, 1988

Bobby M. Coggsdale
County Agricultural Extension Agent
P.O. Box 1858
Suffolk, VA 23434

Dear Mr. Coggsdale:

I am a master's student in agricultural economics here at VPI&SU, and am currently working on the USDA project entitled Farm Financial Management and Marketing: A Course for Farm Couples and Extension Agents. In an attempt to help extension's administrative personnel better understand the decisionmaking problems and situations farmers face in times when the farm economy is depressed, I plan to conduct personal interviews with approximately 16 corn, soybean, and/or wheat producers who were farming in the early 1980's in Virginia. I would like to include in the 16 interviewed approximately half who are still farming, and the balance consisting of people who quit farming during the 1980's. The information gathered in the interviews should have some implications for Virginia extension and Virginia's agriculture.

I need assistance from you, the county extension agent, in locating these farmers and ex-farmers. Since the county agents know more about the farmers and agriculture in their area than anyone else, I would like for you to confidentially provide me with six names and telephone numbers. Three of these should be current corn, soybean, and/or wheat producers, in your county, whom you think earn the majority of their household income from any combination of the crops listed above. Please try not to include

"hobby" farmers because they may have been sheltered from the normal adversities that other farmers struggled through, or farmers whom you are sure would not agree to a personal interview. The remaining three should include individuals who exited the corn, soybean, and/or wheat production business in the 1980's due to financial pressures. These could have been forced out of business by foreclosure or by an individual decision to stop production before debt loads became insurmountable or the individual's accumulation of wealth and assets were depleted.

These individuals may presently be in some other farming operation, as long as they are no longer corn soybean, and/or wheat producers nor any other type of cash grain producer.

If you can not identify three ex-farmers, the names and numbers of local agricultural lenders will be helpful. I plan to phone you on April 8th to collect the information.

This study is important to the VCES, farmers, and myself. The selection of interviewees is the first crucial step toward gathering quality information. Therefore, your advice, support, and assistance in making the project a success will be greatly appreciated.

Please remember that the anonymity of the individuals involved will be protected throughout the process. Also, a copy of the case study results will be made available to you, if you so desire.

Letters have been sent to Bill Allen, the Assistant Director of the VCES, to your District Director, and to your District Program Leader for Agriculture.

Thank you for your cooperation.

Sincerely,

Michael Hudson
cc Delbert E. O'Meara

Date: 6 April 88, 09:18:37 EDT
From: WAALLEN at VTVM1
To: EX133, EX101, EX193, EX057 EX201 EX206 EX205g

Bob Pittman
Randy Shank
Sam Johnson
Robert Haston

Recently you received a letter from Michael Hudson asking for assistance in locating interviewees in your county. The study is attempting to help extension personnel better understand why some farmers seem to survive and earn profits while others, facing similar exogenous environments, cannot stay in business. Mr. Hudson plans to talk to a few farmers and ask them questions concerning their management and decision-making strategies in an attempt to understand what qualities, decision-making abilities, and situations produce farmers that are better able to withstand financially adverse situations. By including several individuals who have quit farming in his interviewing process, the possibility of learning from these people may be very valuable.

I would like to have your support and cooperation in this undertaking.

Thank you.

William A. Allen
Associate Dean
College of Agriculture

cc: Bob Tudor, Delbert O'Meara, Jim Gardner

Michael Hudson
Agricultural Econ. Dept.
Hutcheson Hall
Virginia Tech
Blacksburg, VA 24061

April 29, 1988

Wesley Alexander
Extension Agent, Ag.
P.O. Box 107
Courtland, VA 23837-0107

Dear Mr Alexander:

I want to express my appreciation to you for providing me with the information I requested concerning corn, soybean, and wheat farmers and ex-farmers in your county. I have not yet contacted the people, but will probably be doing so in the next week. Hopefully, I can make use of the information that these individuals may provide.

If you would like to see the results of my case study, please let me know and I will get them to you when the time comes.

Thank you again for your cooperation.

Sincerely,

Michael Hudson

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