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# Purdue Family Farm Guides

COOPERATIVE EXTENSION SERVICE,  
PURDUE UNIVERSITY, WEST LAFAYETTE, IN 47907



## Managing Your Finances

Ed Carson, George Patrick and Craig Dobbins,  
Department of Agricultural Economics

### INTRODUCTION

Financial management consists of a number of activities including income generation, saving, investment planning, selecting the type of business organization, use of borrowed funds, monitoring cash flow, tax management, estate planning, plus many others. Note that the use of credit (borrowing) is only one aspect of financial management and certainly not the most important. For effective financial management, several things must occur. An endeavor must be selected that promises a reasonable chance of success, enough resources must be brought together to meet the needs of the proposed endeavor, and the project must be kept under control as it proceeds.

In the discussion that follows, concepts that are relevant to the selection of farm enterprises, to decisions about the size of enterprise, and how much debt to use are presented. Then there are some guides to developing a good credit record, and finally, the sources of credit available to farmers are presented.

### CHOICE OF ENTERPRISE

#### Need to Be Above Average

To be successful, a major consideration is to choose an activity in

which you can expect to be an above average performer. Below average managers usually do not generate enough income to remain in business. Average managers can remain in business, but find it difficult to improve their financial position. Above average managers usually have enough left after family consumption needs are met to generate financial growth (Table 1). Above average managers are able to safely maintain higher levels of debt and, as will be indicated later, improve their financial position faster. Therefore, selecting an activity in which you have a relatively high degree of competence is critical to financial growth.

To effectively determine which farm enterprises are your strongest, requires a full awareness of the costs and returns involved - not only your own, but those of others in the same business. Making this determination may be accomplished by mental calculation or may require a lot of pencil work or even a computer. However done, awareness of costs and returns is very important to sound, financial management.

#### How Big?

A key question in farm management and thus financial planning is what size of enterprise is needed to be competitive. There are two dimensions to the size question: What is the minimum size

Table 1. Comparison of net farm income, operator's labor income and measures for high and low profit, small and medium size farms, Indiana Farm Record Account Summary, 1979

	Small farms		Medium farms	
	Least profit	Most profit	Least profit	Most profit
Number of farms	20	19	20	19
Tillable acres	212	251	483	513
Net farm income <sup>a</sup>	\$11,504	\$90,687	\$41,612	\$122,710
Operator labor income <sup>b</sup>	-10,026	52,231	-588	55,584
Corn yield (bu/A)	101	115	105	125
Crop yield index	95	95	86	106
Livestock receipts per dollars of feed fed	\$1.36	\$2.25	\$1.38	\$2.07
Livestock efficiency index	80	113	83	119

<sup>a</sup>This is the return to labor, management and total capital investment for both the operator and land owner(s). Neither principal or interest on loan payments have been deducted. No income tax has been deducted.

<sup>b</sup>This is the return to each operator's labor and management after a 5 percent interest charge on the capital investment has been deducted. Note: the amount deducted for interest may be understated because of (1) the 5 percent charge and (2) an undervaluation of the real estate. No income tax has been deducted.

that should be considered? and What is the maximum size that should be considered?

Minimum size is determined by the volume of business that an enterprise must generate in order to cover production costs. The production costs that must be covered will vary with the situation. For example, the production costs of a livestock enterprise that uses building resources that would otherwise go unused will have lower production costs than a livestock enterprise that requires new buildings to be built. It is likely that the livestock enterprise produced in new buildings will need to be larger in order to be competitive than the one that uses existing facilities.

In making a determination of the minimum size for an enterprise, two basic principles must be kept in mind. First, variable costs are not signifi-

cantly affected by how big the enterprise is. Variable costs are those that we save, in the short-run, if we do not carry on the activity. For crops, these would be seed, fertilizer, chemicals, fuel, oil and grease, equipment repairs, and seasonal hired labor. If we cannot cover variable costs the activity is bound to lose money. Second, fixed costs per unit of output (bu., cwt.) tend to decline as enterprise size increases. In the short-run, fixed costs usually include the value of the operator's labor and management and the ownership costs (depreciation, interest on investment, taxes, insurance and maintenance) of equipment and buildings. (Note that in the longer run, all costs are variable.)

The question is, how big does the enterprise have to be before fixed costs per unit of production are low enough that receipts will cover all costs? For example, a machinery complement to pro-

duce corn may require a \$40,000 investment. The annual fixed ownership costs are about 20 percent of that, or \$8,000. If corn yields 115 bushels an acre, and is sold for \$3.00 per bushel, gross receipts are \$345 per acre. But, variable (out-of-pocket) costs including custom harvesting, are estimated to be \$130 per acre, leaving \$215 per acre to pay fixed costs. The operator's labor and management might be \$10,000 a year (assumes some non-crop employment). The total fixed costs for producing corn would be \$18,000 (\$8,000 + \$10,000).

It is obvious that one acre will not generate enough receipts to cover all fixed costs. In fact, it would take

about 84 acres to cover the above fixed costs ( $\$18,000 \div \$215$ ). If a reasonable rent for land is also to be obtained (say \$115 per acre, either as a return to the owner-operator's investment, as a debt service requirement, or as a cash rent), then of the \$215 per acre, only \$100 per acre is left for the \$18,000 fixed costs. It would then take 180 acres ( $\$18,000 \div \$100$ ) to cover all costs.

The impact of increasing size on per acre costs of Illinois grain farms is illustrated in Figure 1. These data from Illinois Farm Record summaries show that per acre costs drop sharply up to about 300 acres and then remain nearly constant as size increases.

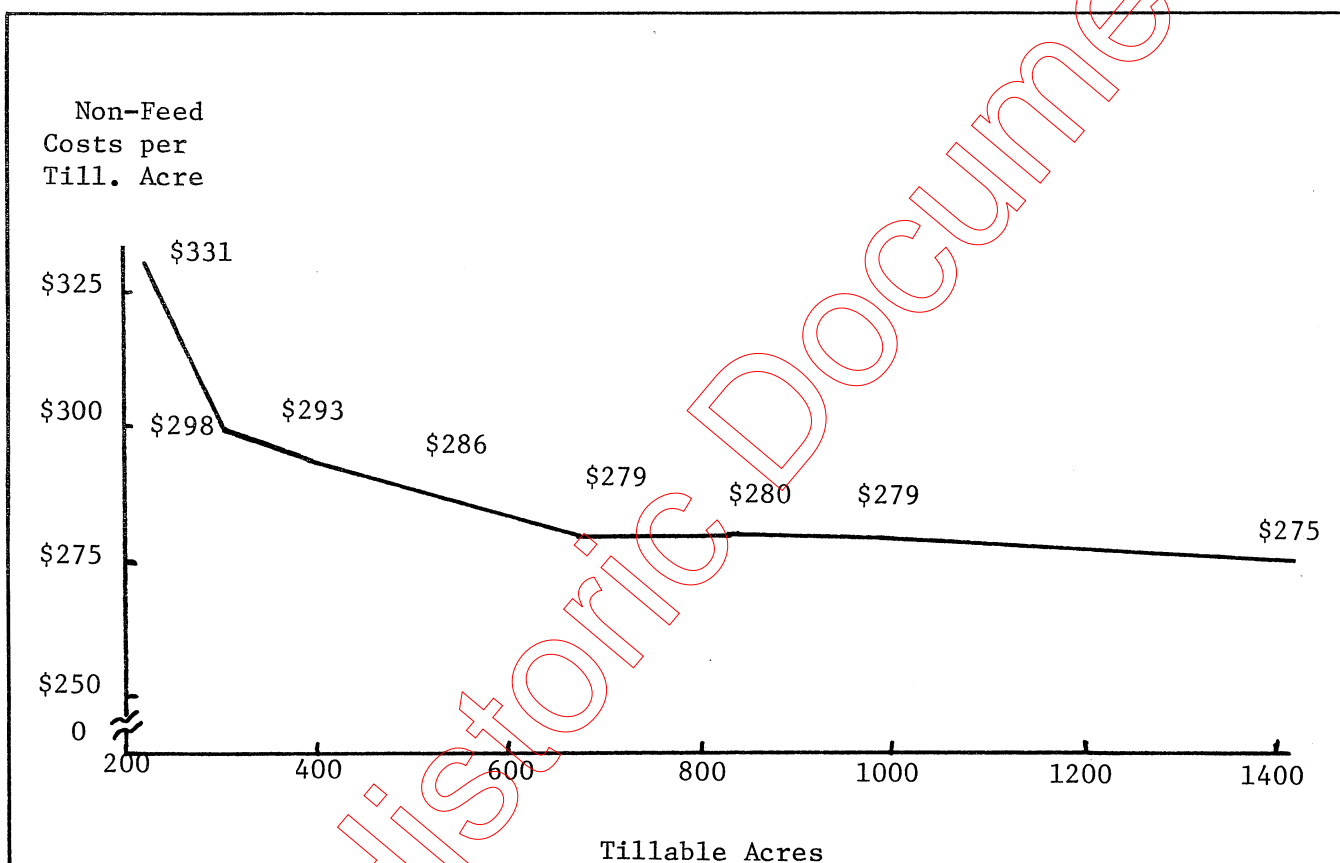


Figure 1. Nonfeed costs per tillable acre, by size, northern Illinois grain farms, 1978.

For each enterprise, there is a minimum size at which one can expect to cover essentially all costs given average efficiency. If efficiency is low, it may never be possible to cover all costs. If efficiency is high, a smaller

size will cover production costs; however, for efficient operators there will be more incentive to get larger. Some guidelines for the minimum sizes needed to reduce costs to a breakeven point follow:

Item	For commercial farms
Tillable acres (corn/soybean farm)	300-400 acres
Sow herd, 2 litters to market	30-40 sows
Dairy Herd	40-50 cows
Beef feeder cattle:	
Small bunker silos	100 feeders
Upright silos	300 feeders
Beef cows	25-30 cows
Ewe flock	20-25 ewes
Layers	10,000-20,000 hens

These guidelines are broad averages and vary from one area to another. For information specific to your area, refer to farm management publications available from your Cooperative Extension Service.

It is important to recognize that an enterprise can be viable at smaller sizes than this. This requires either that the operation has above-average efficiency or that there are some "free" resources, such as an existing building, salvage feed, or labor with no other use.

There are also upper limits to the size of a particular enterprise. Fundamentally, these are set by the individual family. When beginning, capital is usually short and the upper limits are often set by the providers of capital. But limits are also set to some degree by the operator's willingness to be in debt, or by the size of business he is willing to be responsible for. As businesses mature, financial positions change. Values and attitudes may also change. A successful business and financial growth will make access to capital easier. Just how big a business operators are willing to take on plus consideration about the amount of time devoted to other things (community service, family, etc.) will be more important in determining the upper limit of business size.

#### HOW MUCH DEBT<sup>1</sup>

"How much should I borrow?" is a question with a different answer for each farm family. You need enough resources to operate a profitable business. Resources can be acquired in a limited number of ways--save, borrow, lease, inherit, or as gifts. Each of these methods has advantages and disadvantages; however, in all cases these resource acquisitions require you to interact with some other person.

In modern agriculture, most farmers cannot operate a business of the size they need without using credit. Variability in both prices and yields combined with higher average debt levels has increased both farmers' and lenders' awareness of risk and concern with the amount of debt. Major factors affecting the evaluation of the amount of debt a particular farmer should carry are:

- his managerial ability;
- use of the borrowed funds;
- variability of income;
- margin for servicing debt.

The influence of each of the above factors on the amount of debt that can be successfully used will be discussed following a consideration of the principles of financial leverage.

<sup>1</sup>A large part of this section has been taken from Patrick, George F., "How Much Should I Borrow?", Cooperative Extension Service, Purdue University, EC-467.

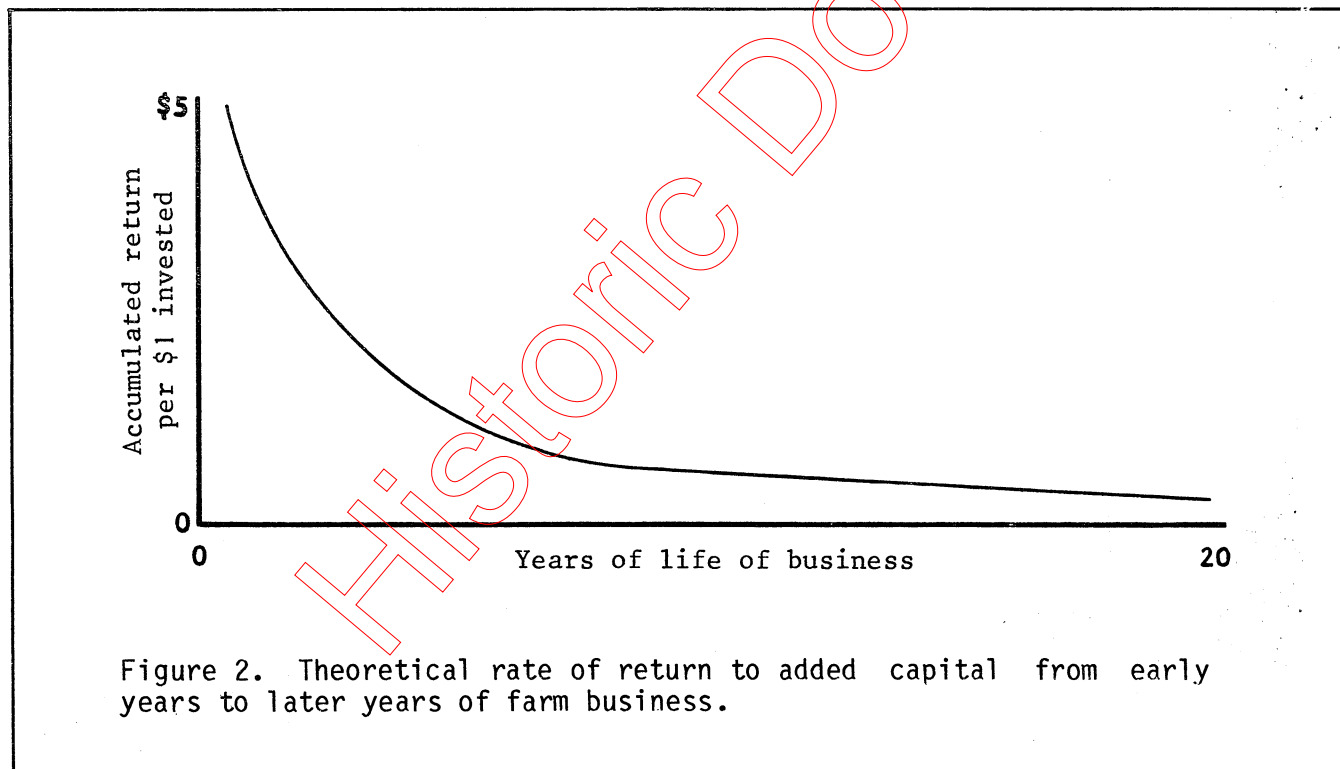
## Financial Leverage Principles

The financial resources generated early in the development of a business are much more valuable than those that come along later. The early dollars have a longer time over which to earn. The interest earned by a dollar invested at 5 percent for 20 years is much more than the interest on a dollar invested at 5 percent for 1 year. A dollar invested the first year of business could have a marginal value of as much as \$5 (i.e., 500 percent) compared to a marginal value of 5 cents or 10 cents (5 or 10 percent) in the twentieth year. It is also easier to find high pay-off investments early in the life of a business when dollars are scarce (example: added fertilizer may return \$2 to \$4 per dollar spent) compared to later in the life of the business when all those "easy" options have already been covered. Figure 2 illustrates how the return to added capital changes over the life of the farm business.

In acquiring resources for an adequate-sized business, leverage (borrowed capital) is often used. The use

of leverage in acquiring these resources carries with it risks as well as rewards. In deciding how much debt to use, it is important to recognize the risk-reward trade-off that exists with the use of borrowed funds.

For an illustration, assume a farmer has \$1,000 and borrows \$4,000 at 10 percent interest. In situation "A," borrowing 80 percent of the investment at 10 percent interest when the total investment will earn 15 percent results in a 35 percent return on the investor's original capital. In situation "B," when the investment earns 10 percent, he is no better (or worse) off than if he had not borrowed money. Situation "C" illustrates the danger. No one would borrow at 10 percent interest expecting only a 5 percent return, but one might expect "A" and end up with "C" (poor yields, price drop, etc.). Here, if he had only invested his \$1,000, he would at least have gotten a 5 percent return. But, because of the low return, he lost 15 percent on his own money. Leverage can help, but it can also hurt. It is for this reason that the timing of the



start is often critical, particularly in hog or beef production. While the future is never certain, the phase of the

hog or cattle cycle as well as other future prices should be considered. How much risk are you willing to take?

#### How Leverage Works

Situations:	A.	B.	C.
	Earn 15%	Earn 10%	Earn 5%
Investment	\$5,000.	\$5,000.	\$5,000.
Earnings	15% = 750.	10% = 500.	5% = 250.
Interest payments(10%)	400.	400.	400.
Net returns after interest payments	350.	100.	-150.
Rate earned on original capital	35%	10%	-15%

#### Managerial Ability

The managerial ability of a farmer can have a profound impact upon net worth accumulation, or financial growth of the farm, as well as, the level of debt which can be handled. But, how is management ability related to the amount of debt? Table 2 summarizes the results of a computer simulation representing the financial growth of a farm under prices and yields similar to those experienced by central Indiana farmers in the mid 70's. Corn and soybean prices of \$2.25 and \$5.50 per bushel and costs similar to those of 1975-76 were used. Different management levels were represented by varying crop and livestock yield levels. It was assumed that the above-average managers would have

crop and livestock yields about 10 percent above the average yields of central Indiana. Yields for the below-average manager would be 10 percent below the average of 110-bushel corn and 34-bushel soybeans. Different debt levels were represented by limiting the amount of intermediate and long-run debt to a maximum of 40, 60, or 80 percent of the value of farm assets. Annual operating capital was essentially unlimited. No increase in land values, product prices, or production costs were considered. Income taxes and family living expenses varied with income.

These simulations indicate that farmers starting from the same initial position with a net worth of \$86,560 and debts of \$83,000 could have quite dif-

Table 2. Simulated 20-year net worth accumulations by "farmers" with varying managerial ability and percent debt limits<sup>a</sup>

Percent debt limit	Net worth accumulation in thousands of dollars		
	Below average management	Average management	Above average management
80	Sold out Year 7	292	377
60	Sold out Year 7	242	347
40	Sold out Year 4	227	306

<sup>a</sup>All farmers started with the same resources, a net worth of \$86,560 and debts of \$83,000. Taxes, family living and other expenses have been paid each year of the simulation. An interest rate of 9 percent annually is assessed.

ferent financial positions at the end of a 20-year period, depending upon managerial ability. If a farmer had been of below-average managerial ability, he would have "sold out" because he was unable to repay his debts and meet his family living expenses. An average manager could have increased his net worth to a level between \$227,000 and \$292,000 depending upon the debt limit. The net worth of the above average farmer was at least 30 percent higher at each debt level than for the average manager.

Although the average level manager did not get "sold out" with the 80 percent debt limit, income was not adequate for both loan repayments and minimum family consumption during several years. In these instances, the farmer was forced to increase short-term borrowing to meet family living expenses. Many lenders would consider this a "problem" loan. To meet debt commitments with the 80 percent debt limit, family consumption had to be reduced by more than \$3,000 per year as compared to family consumption when the debt limit was 60 percent.<sup>2</sup> In other words, the farmer and his family sacrificed a total of about \$60,000 worth of family consumption to have a \$50,000 higher net worth after 20 years. Most of the additional revenue generated from the higher debt load was used for interest payments.

The above average manager had the capacity to repay loans while maintaining family consumption, even when debts were allowed to equal 60 percent of asset value. The family consumption expenditures of the above average manager with the 80 percent limit were almost the same as for the average manager with the 60 percent debt limit, but the above average manager accumulated about 55 percent more net worth. The higher levels of technical efficiency allow the above average manager to generate much greater revenue, devote as much income to family living and still grow much faster than the average manager.

<sup>2</sup>Minimum family consumption for a family of four was \$6,000 per year. It is assumed that living expenditures increased with income with about 55 cents of each additional dollar of after tax income above \$6,000 used for family consumption.

For the above average manager, increasing the debt limit from 40 to 60 percent resulted in about a 13 percent greater net worth accumulation. At the higher debt levels, taxes and interest payments took a substantial part of the additional revenue generated.

Managerial ability has a major influence on the amount of debt an individual can handle. These results indicate that a below average manager was unable to service even a 40 percent level of intermediate and long term debt and also maintain family living expenditures at an acceptable level. Above 60 percent debt, farmers of average managerial ability encountered difficulty making loan repayment and maintaining family expenditures. If "bad" years had been included in the simulation, it is expected that a farmer of average ability would have had considerable difficulty repaying the loan, even at the 60 percent level, and frequently would be a problem loan for a lender. In general, these results suggest returns to borrowing above the 60 percent level are somewhat limited and entail considerably greater risks.

#### Use of Borrowed Funds

Some resources, like feed, seed, fertilizer and feeder livestock typically pay-off quickly and can support high levels of debt. Lenders might not want to supply 100 percent of these operating expenses, particularly if a farmer were heavily in debt on other items, but they would generally lend a high percentage. Other resources such as machinery, equipment, and breeding livestock pay-off at slower rates. Typically, lenders require them to be paid-off before they are worn out and will commonly lend 70 to 80 percent on these assets. Land never wears out, if properly used, but is a difficult asset to buy from current earnings.<sup>3</sup> Because of the security of land, lenders may loan 60 to 90 percent of the land's value, but farmers need to

<sup>3</sup>Typically, the interest cost on the investment in land has exceeded the current net earnings. Changes in technology have increased the absolute returns to land over time and helped make land payments.



carefully consider their cash flow situation when making land and other investments.

Table 3 summarizes the investment, annual debt service and annual cash flow for land and various livestock enterprises. The annual cash flow (column 3) from land does not meet the annual debt servicing (column 2) and is a clear signal to watch debt levels carefully. In contrast, the high investment farrow-to-finish enterprise has a positive cash flow, even after a charge for labor, which approaches or exceeds the annual payment needed to service debt. Enterprises differ considerably in their cash flow, and the amount of debt which can be supported depends upon this cash flow as well as the individual farmer's circumstances.

Making a decision between buying land and renting land is often difficult. A land purchase will require a sizable income supplement from other sources while renting provides the potential for a positive cash flow (Table 3). However, purchasing farm land provides additional security to the operator when compared to leasing and also provides an investment that generally increases in value.

There are two key factors that provide guidance on when to buy (vs. rent) land. The first is the size of the business. As long as purchasing land will result in a total volume of business that is less than needed to fully employ the labor and management of the operator, financial growth will generally be faster by adding rental land. Second, there must be enough total cash flow to meet the repayment demands of a land purchase. Both of these considerations require careful analysis, preferably a total farm business budget, such as provided by the Indiana Farm Business Planning and Financial Management Budget, C4.

#### Variability of Income

Because of the unanticipated changes that can occur in the farming business, some margin of safety must be

maintained when determining the amount of debt that can be supported. Yields per acre and per animal vary with weather, disease and other factors, while prices are affected by change in supply and demand. As a result, returns to agricultural enterprises vary because of factors beyond a farmer's control. This variability influences the amount of debt that is prudent to carry. Table 4 illustrates the variability in returns above direct costs for various midwestern crop and livestock enterprises.

Returns to some agricultural enterprises are more variable than others. Column 3 in Table 4, "Coefficient of Variation," indicates the percent variation in returns compared to average returns. The larger numbers indicate wide variation; the smaller numbers indicate narrow variation. For example, expected returns to dairying would be within 21.8 percent or \$121.65 of the \$558.14 average about two-thirds of the time. For hogs, the return will be within 42.67 percent of the average (\$16.46/cwt. + \$7.02) about two-thirds of the time. These comparisons point out that while the standard deviation (in actual dollars) is much smaller for hogs than for dairy (\$7.02 vs. \$121.65), as a percentage of the average return, it is larger (42.67 percent compared to 21.80 percent).

The income variability of an enterprise and the margin for servicing debt often affects the amount an individual wishes to borrow and how much a lender will provide. Farm enterprises differ substantially in the margin which is left to pay debt and other fixed expenses. Table 5 summarizes information for a number of enterprises. Column two, "Margin Above Direct Costs," represents the money available for fixed costs of labor, management, depreciation, and repayment of debt after paying direct costs of feed, veterinary expenses, fuel, chemicals, seed, and fertilizers. The margin above direct costs ranges from about \$47 per productive man work unit (PMWU) for the low investment system of producing feeder pigs to \$555 per PMWU in crops on owned land.

Table 3. Comparison of debt servicing and estimated cash flow generated for land and various livestock enterprises

Investment	Investment per unit <sup>a</sup>	Annual debt servicing <sup>b</sup>	Annual cash flow <sup>c</sup>
Land -- 115 bu. corn, \$2200/acre, 25-year mort. Machinery \$200/A	\$ 2400	\$ 324	\$ 182
Land rent -- 115 bu. corn, Cash rent \$115/A Machinery \$200/A	200	173 <sup>d</sup>	182
Sow, farrow-to-finish, high investment (7X/yr)	2475 (1830)	421	453
Sow produce feeder pigs low investment (4X/yr)	900 (625)	146	102
Purchased feeder pigs, high investment (100 pigs)	8575 (6280)	1416	881
Dairy cow, dry lot, 13,500#	4446 (2550)	682	645
Layers, owned, automated (1,000 birds)	8650 (7500)	1546	1481
Feeder steer (calf)	1031 (530)	149	121
Feeder steer (Yearling)	546 (269)	81	70
Beef cow, calf sold	1335 (164)	169	169

<sup>a</sup> For the livestock enterprises the upper annual figure is the total investment required, including animals and an average supply of feed. The lower figure ( ) is the equipment and buildings only (i.e., the longer term fixed investment).

<sup>b</sup> Assumes 100 percent financing, amortized level payment loans at 12 percent interest, 15-year building repayment and 7-year equipment repayment. Livestock and feed investment is considered as current debt with no annual repayment requirement but with interest due at 12 percent.

<sup>c</sup> Cash income minus cash operating expenses and minus property tax, insurance, and building repairs, with an allowance for labor (family living) at \$5.00 per hour. Thus, the cash flow is available to cover depreciation, interest on capital rent, and return to management.

<sup>d</sup> Includes the debt repayment on machinery, (repaid over a 7-year period) annual cash rent, and interest on operating expenses and rent.

SOURCE: Based partially upon ID-68, Farm Planning and Financial Management, Cooperative Extension Service, Purdue University, 1980.

The third column expresses the margin above direct costs as a percentage of the investment. The margin as a percentage of capital investment does not indicate the relative profitability of the different enterprises, but it does indicate the degree to which a farmer could "pull in his belt" if he has a bad year. For example, a farmer who has

gone heavily in debt for a high investment, farrow-to-finish system has a margin which represents 20.6 percent of the required investment as compared with a margin of only 7.8 percent in the case of the purchase of land. The larger the margin, the less likely it is that a farmer would have difficulty repaying his loan.

Table 4. Variability of returns above variable costs of selected enterprises, 1960 to 1977

Enterprise	Average return (\$)	Standard deviation <sup>a</sup> (\$)	Coefficient of variation <sup>b</sup> (%)
Returns above cost of feed and purchased animals per unit 1960-76 <sup>c</sup>			
Hogs (cwt.)	16.46	7.02	42.67
Feeder pigs (cwt. gain)	8.32	5.48	65.80
Feeder cattle (cwt. gain)	8.91	10.55	118.44
Dairy (cow)	558.14	121.65	21.80
Beef (cow)	72.55	81.87	112.85
Returns above direct costs per acre 1951-76 <sup>d</sup>			
Corn	261.92	93.68	35.77
Soybeans	222.96	73.60	32.57
Wheat	149.33	33.37	21.68
Double crop soybeans <sup>e</sup>	117.82	88.91	77.00

a/ The standard deviation measures about two-thirds, plus or minus, of the deviation of the observations from the average. That is, two-thirds of the time the observations are expected to fall in this range.

b/ This is the standard deviation expressed as a percentage of the average. For hogs it is calculated as follows:  $(\$7.02 \div \$16.46) \times 100 = 42.67$ .

c/ Returns above the cost of feed and purchased animals, at market prices, per livestock unit. From "Summary of Illinois Farm Business Records," Cooperative Extension Circular 1019 (various years), College of Agriculture, University of Illinois.

d/ Direct costs include seed, fertilizer, herbicides, insecticides, drying and machine operation. Information utilized is from the Purdue Agronomy Farm and is partially based on Lars Bring, "Plans, Decisions and Results: An Evaluation of a Procedure for Farm Planning Under Risk", Unpublished Ph.D. thesis, Purdue University, December 1976.

e/ Following agronomists' recommendations and not planting soybeans in years when June moisture was inadequate would substantially reduce the variability.

A study of the real estate debt of central Indiana crop-hog farms<sup>4</sup> found that farmers could be about 95 percent safe on their loans if they maintained a credit reserve of about 20 percent of borrowing capacity. This credit reserve could result from borrowing no more than 80 percent of the potential maximum loan

on real estate, or no more than 50 percent of the potential maximum loan on non-real estate assets. Liquid assets such as crops in storage, stocks or

<sup>4</sup>Benny R. McManus, "Credit Reserves for Midwestern Farmers," unpublished PH.D. dissertation, Purdue University, January 1971.

Table 5. Capital investment and margin above direct costs for productive man work units (PMWU), margin as a percentage of capital investments\*

	Capital investment per PMWU at 1981 prices	Margin above direct costs per PMWU	Margin as a percent of capital investment
Crops-corn & soybeans			
owned land at \$2200/A	\$ 7110	555	7.8
50-50 crop share lease	590	210	35.6
Sow, feeder pigs sold			
high investment confinement system (7X/yr)	565	105	18.6
low investment system (4X/yr)	345	47	13.7
Sow, farrow-to-finish			
high investment, confinement system (7X/yr)	775	110	20.6
low investment system (4X/yr)	370	74	20.1
Finishing purchased feeder pigs			
high investment, confinement system	1070	129	12.1
low investment system	590	73	12.4
Dairy cows			
pasture system	620	104	16.8
drylot system	685	115	16.8
Feeder steers (yearling)			
high roughage system	2830	415	14.7
high grain system	2730	440	16.1
Beef cow			
calf sold	1670	220	13.1
calf fed out	1840	270	14.8

\* Direct costs include feed, veterinary and medicine, breeding, marketing, power, fuel, equipment repair, and other out of pocket costs and an allowance of \$5 per hour for labor for family living.

SOURCE: Based largely upon ID-68, Farm Planning and Financial Management, Cooperative Extension Service, Purdue University, 1980.

bonds could also serve as a reserve. Essentially, a farmer is maintaining an equity reserve on which he could borrow if the need arises. Similar data are not available for other than crop-hog farms. However, based on the variability of income and the margin for serving debt, it would appear that strictly crop or beef farms would need larger reserves. In contrast, because of greater stability of income, dairy farms would probably need smaller reserves.

There are several other methods in addition to maintaining a liquid reserve that are used by farmers to manage the risks they face. One common practice involves the combination of production enterprises. If one enterprise generally had high returns in a year that another enterprise had low returns, a farmer would stabilize his income by combining the two enterprises. This is especially important for farmers stressing the highly variable enterprises, such as feeder cattle. Combining crop and livestock enterprises can be an effective means of reducing income variability.<sup>5</sup> In addition, a combination of crops or crops together with livestock often permits better use of labor and machinery and may result in higher profits.

In summary, the use of borrowed capital is often profitable; however, it also carries additional risks. There is no one answer for "How Much Should I Borrow?" Managerial ability, use of the funds, variability of income, margin for servicing debt and specific loan arrangements are all important considerations. In all cases, judgment is extremely important. Farmers and lenders may predict the profitability of a particular loan accurately, but if the loan is to be repaid from the investment, a repayment plan based on average income could put a farmer in financial difficulty about one-half the time. Repayment periods for loans should reflect the useful life of an asset, loan payments should be scheduled to follow produce sales, and flexible repayment

schedules should be allowed especially for enterprises with a high degree of income variability or for which there are price cycles. In all cases, one final check can always be applied; for lenders the loan needs to feel right; for farmers, if sleep is lost because of debt worries then the amount borrowed should be reduced.

## DEVELOPING A GOOD CREDIT RECORD

To successfully meet your commitments and develop a good credit record usually requires prior planning: a projected cash flow and a meaningful record keeping system<sup>6</sup> to monitor the results. This can be in your head, but with today's complex business, it probably should be on paper.

To determine if financial progress is being made, a cash flow projection (preferably on paper) and continuous comparison of the actual results (records) to those expected must be made. If progress is not as indicated, this needs to be discovered early and action taken to overcome the problem. Materials for both are available from the Cooperative Extension Service and most lenders. This can be a key factor to the acquisition of resources for future projects.

### Be Good to Your Lender

An important aspect of developing a good credit record is to stay on the good side of your lenders, be they commercial banks, Production Credit Associations, Federal Land Banks, insurance companies, individuals, or others:<sup>7</sup>

1. Budget to be sure that the purpose for which the money is borrowed will produce a return greater than needed to retire the debt; don't bother him with unlikely proposals.

<sup>6</sup>For further discussion see "Records, What Kind and How," by Ed Carson, Department of Agricultural Economics, Purdue University, West Lafayette, IN.

<sup>7</sup>Adapted from Robbins, P.R., and R.N. Weigle, Acquiring and Investing Capital in Modern Agriculture, Cooperative Extension Service, Purdue University, EC-256, November 1962.

<sup>5</sup>Hedging, forward contracting and other methods are available for a farmer to shift some of the price risk, but a farmer still has the risk of variation.

2. Borrow for enterprises you understand, avoid speculation with borrowed money.

3. Borrow for income-producing purposes first and avoid excessive consumer credit.

4. Length of loan (repayment period) should be appropriate to the production life of the resource(s) for which the money is borrowed.

5. Plan and budget the operation through to completion before the loan is finalized and the operation started. Make allowances for overhead expenses and living costs as well as for debt repayment.

6. Don't use your full line of credit at the start. Use enough to do the job but keep some slack, both for underestimated costs and for emergency situations.

7. Concentrate borrowing with one lender, where feasible. Generally your credit standing will be higher when you and one lender work out a complete financing program fully coordinated to meet all your needs.

8. Select a strong and dependable credit agency in whose fairness you have confidence.

9. Build lender confidence. Be financially honest with yourself and your lender. If you see trouble coming, let your lender know and work out an answer early. Your credit reputation depends upon how promptly debts are paid and how you respond when you can't pay.

10. Do not provide security for other people unless you can afford it and/or are amply secured yourself. Most people who have a sound basis for borrowing have ample credit available which can be obtained without asking for security from others. An exception to co-signing might be made for family members, but even that would be viewed on its repayment merits.

## Personal Characteristics

Your personal characteristics as a farm operator will also have an important effect on the amount you can and/or may want to borrow. Essentially the lender evaluates the credit worthiness of a borrower, and this requires judgments with respect to his management potential. The farmer's age, health, previous credit experience and other characteristics are factors which will influence the size of loan a lender will be willing to extend.

If you are borrowing for the first time, the lender may consider family background, education and motivation in an attempt to judge your capabilities. Previous loan experience is very important for the repeat borrower.

The goals of an individual farmer can be very important in determining the "best" amount of debt. These goals generally change as a farmer ages and his financial position changes. Generally, but not always, individuals tend to become more conservative and want less debt as they become older. Similarly, one tends to become more conservative as wealth increases.

The presence of a son or daughter who wants to continue the family farm can have a major influence. A lender might not want to finance a large investment in livestock buildings and equipment for an older farmer because he might not stay active long enough to repay the loan, but the presence of a younger family member could influence the lender.

Farmers and their families may differ considerably in the amount of income they use for consumption. Some families never seem to have enough income, while others get by on almost nothing. A family that limits its consumption expenditures can service a greater debt than a family with the same income and higher consumption expenditures. For example, if a family takes \$1,000 of income and uses it for interest and principal payments instead of consumption, the \$1,000 would amortize about \$8,500 of additional debt over a 20-year period at an interest rate of 10 percent.

## SOURCES OF CREDIT

The various sources of credit commonly used by farmers are listed and briefly discussed:

Commercial Banks --make short term (operating) loans, intermediate (machinery, breeding, livestock) loans and long term (buildings and land) loans. Terms are usually competitive with other sources. Real estate loans are generally for shorter periods (15 to 20 years) than is the case with some other lenders. Not all banks encourage agricultural loans.

Savings Banks --some may make real estate loans, usually for 15 to 20 years.

Insurance Companies --some make real estate loans, usually with long (up to 40 years, or more) repayment terms. Check your phone directory or with your banker.

Federal Land Bank --a farmer-owned cooperative that makes long-term loans on real estate. They make long-term loans, requiring purchase of stock equal in value to 5 percent of the loan. There is usually an office in the county seat.

Production Credit Association --a farmer-owned cooperative that makes short term and intermediate term loans. Requires purchase of stock equal in value to 5 percent of the loan. There is usually an office in the county seat.

Farmers Home Administration -- Federal government sponsored, so-called "lender of last resort." A borrower must be unable to obtain

necessary credit from regular lenders. Make short-term, intermediate and long-term loans. FmHA has several classes of loans (depending upon the financial situation of the borrower) ranging from direct subsidized, low-interest loans to guaranteed loans (made through regular lenders). Funds are limited; thus delays are sometimes encountered.

Small Business Administration -- Federal Government sponsored--has limited funds for agriculture on terms similar to the Farmers Home Administration.

Individuals --often make real estate loans through contract sales, usually at lower interest rates but with shorter repayment terms than commercial lenders. (Repayment requirements can be eased by using lump-sum final payments called balloon payments.) In some cases, usually within families, individuals will also make short term and intermediate loans.

These are the primary agricultural lenders. Other sources of agricultural credit are agricultural suppliers and small loan companies. Many suppliers provide short-term (30-day) consumer credit at no cost. Some may provide credit for even longer at no charge. But most charge fairly high rates of interest (e.g., 18% per year) beyond some period. Loan companies usually charge higher rates than do other lenders and are less flexible in the time required for repayment. For any loan, it is wise financial management to compare loan sources and their terms.

## SUMMARY

Successful financial management involves several considerations. A first step towards successful financial management is to be an above average producer. Production ability has a major influence on the amount of debt that an individual will want to consider using. And the return to carrying debt levels larger than 60 percent of the value of assets appears to be quite small. In all cases, the rewards from using credit must be compared with the risks.

Successful financial management also requires that the farm business be large enough to allow for financial growth. The farm size that is necessary to achieve financial growth will vary from individual to individual, but in most cases gaining a business large enough to survive involves persuading someone else to help you acquire the needed resources. This means that you must convince a lender that your business is a profitable and secure venture. It will be important to demonstrate a reasonable degree of ability and prior success plus some evidence that the planned use of borrowed funds is sound. Presenting your lender with profit and loss statements (also called income statements) and balance sheets (also called financial statements) for the past several years is a good method of demonstrating past

success. Developing a projected cash flow budget for the lender is another method of demonstrating to your lender that careful consideration has been given to planning for the use and repayment of borrowed funds. Cash flows, projected income statements, and projected balance sheets for a proposed change can be easily developed using computer models, such as the C4 Farm Planning Model. In Indiana, this model is available through your county Extension office.

Successful financial management also requires monitoring the results of using borrowed capital. Farm receipts and expenses are often affected by factors beyond the operator's control. Comparisons should be made between your expected cash flow budget and the results actually achieved.

As your situation changes, make the needed adjustments and keep your lender posted. Be sure to let him know when things are going better than expected, as well as when things are going less than expected. Also, keep him posted on your future plans.

Given the various sources of funds available, farm operators can generally find the borrowed capital that is needed to operate a modern farm. As in all other aspects of farming, the successful use of these funds requires careful judgment.



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