

KEY

I. Short Answers (5 points each)

1. As part of a cost-cutting move at Iowa State, it has been proposed that the course in agricultural finance be eliminated. Supporters of this proposal argue that there is no difference between agricultural finance and corporate finance. Do you agree with this argument? Explain your reasoning.

The fundamental topics of finance – asset allocation when risk and time are important, management of funds, financial intermediation, financial markets are the same. However financing farms and farmer-owned businesses introduces a number of issues that warrant special attention. Farms differ from corporations because they are small, privately-owned businesses. Land is a primary asset and has a strong influence on profitability and liquidity. Farms have limited control on price. They are subject to weather risk and can face a high level of price volatility due to inelastic demand. As a consequence, the content of an agricultural finance course differs significantly from corporate finance.

2. What is a competitive advantage and why would a business want one?

By definition, a firm has a competitive advantage when it outperforms – in terms of return on assets or rate of profit than its industry average. A sustained competitive advantage is an important indicator of success and reflects the firm's ability to continually create and capture values.

3. Briefly describe two types of loans that a lender might use to finance operating inputs for a farm business. In what situation (or for which type of farm business) would each loan type best be used?

There are three basic types of loans available to lenders to finance operating inputs for a farm business. They are:

1. *Standard operating loan where funds are advanced using separate notes that specify a purpose, loan amount, interest rate and repayment date. This type of loan is best suited for small farm businesses or those that require a significant level of control and monitoring.*
2. *A non-revolving credit line advances funds throughout the year in accordance to needs projected by a cash flow budget. Repayment can occur throughout the year – but the loan is paid off at the end of the year. This loan type can be used with most farming operations – but is ideal for cash grain or smaller livestock businesses with significant seasonality in cash flows. This loan type also allows lender monitoring.*
3. *A revolving credit line specifies an upper bound on funds and the contractual rate. However the borrower can draw on the credit line and repay as needed. Lender oversight is limited for a revolving credit line. A revolving line of credit works best with operations with significant ongoing cash flows such as larger feedlots or dairy operations. The borrower must be reliable and have excellent financial management skill and discipline.*

4. One of your loan customers has a return on farm assets of 5% and an asset turnover ratio of 40%. What is her operating profit margin ratio? What advice would you give her on improving her financial performance?

We know that $ROFA = PMR \times ATOR$

$$\text{Therefore } PMR = \frac{ROFA}{ATOR} = \frac{.05}{.4} = 12.5$$

From the benchmarks used in class, we note that the return on farm assets is relatively low, but the asset turnover is high. The profit margin is quite low and indicates an opportunity for improvement. My client needs to examine cost control in particular. Overall output per dollar of investment seems quite good. However, she is not making much on each unit of output sold. One place to look might be on the amount and cost of cash rented land.

5. Define horizontal differentiation. Describe a situation in which horizontal differentiation would be high in an agricultural credit market. How would competing lenders in this agricultural credit market manage their loan pricing?

Horizontal differentiation in a market occurs when products have characteristics or attributes that are viewed as beneficial to some consumers and not beneficial to others. If horizontal differentiation is high, then the firm level demand elasticity is low. In this situation competing firms could pursue a margin strategy – increasing margins either by reducing costs, holding price constant, or by charging a price premium in the case of a benefit strategy. In agricultural credit markets, product attributes that could create a high level of horizontal differentiation might include the location of the lender's office, the knowledge and level of service offered by loan officers and types of financial services or products available.

- II. Pete Dugood is a farmer in your bank's trade area. Pete currently is a customer of a competing lender -- but has been dissatisfied because of high loan officer turnover and his current bank's lack of interest in agriculture.

Pete wants you to help him review the current financial status of his business. He is hoping that you will take him on as a customer. He provides you with the following information: **(all values are in \$1000)**.

Balance Sheet, January 1, 2004 (market value)

<u>Assets</u>			<u>Liabilities</u>	
Current	\$196			\$123
Noncurrent	<u>579</u>			102
		Net Worth		<u>550</u>
Total	\$775			\$775

Income Statement, 2004

Total Cash Receipts	\$250		
Change in Inventory Value	<u>5</u>		
Gross Revenue	255		
Less purchased feed	36		
Less purchased feeders	<u>38</u>		
Value of Farm Production			\$181
Operating Expense	118		
Interest Expense	18		
Depreciation	<u>20</u>		
Total Farm Expense			<u>156</u>
Net Farm Income (before taxes)			\$25
Other Financial Information			
Principal paid on farm debt	6		
Off-farm income	7		
Income tax paid	12		
Family living expense	\$40		

Pete also has collected some financial benchmarks from the local Extension office for average farm businesses in Iowa for 2004.

	<u>Average Value</u>
1. Current ratio	2.9
2. Debt-to-asset ratio	28.0%
3. Return on farm assets	4.7%
4. Return on farm equity	3.9%
5. Cost of farm debt	6.1%
6. Operating profit margin	14.0%
7. Asset turnover ratio	37.0%

1. Carefully evaluate Pete's financial performance in terms of profitability, liquidity and solvency. Clearly indicate what financial measures you are using in making this assessment and what they tell you about Pete's business and financial management performance.

- a. Profitability (10 points)

Profitability measures the extent to which the firm is able to cover all costs of production. Net farm income (NFI) is an absolute measure of profitability. It is the return over production costs available to pay operator labor, management, risk and equity. Pete's NFI is \$25,000 – his operation is profitable. Comparing his business with the benchmarks provides information on his relative profitability. Pete's ROFA is 0.39% $[(25 + 18 - 40)/775]$ well below the benchmark 4.7%. Pete's profit margin is 1.67% $[(25 + 18 - 40)/181]$ whereas his turnover ratio is 23.3% (181/775). Again both of these measures indicate below average profitability – however the low profit margin seems to indicate a problem with production or cost control.

- b. Liquidity (10 points)

The liquidity of a business reflects its capacity to meet outstanding cash obligations from all available sources. Pete's cash flow is approximately \$-11,000 (NFI (25) + depreciation (20) – inventory change (5) + off farm income (7) – principal payments (6) – family living (40) – taxes paid (12)). Consequently Pete cannot meet his cash payments. Even if principal payments were deferred, Pete still shows a negative cash flow of \$5,000. This shortfall must be covered by additional borrowing. Interestingly, Pete's liquidity problem is not that apparent from the balance sheet. His working capital is \$73,000 and his current ratio is 1.6:1. This demonstrates that balance sheet measures of liquidity are not always reliable.

- c. Solvency (10 points)

Solvency measures the extent to which all liabilities could be paid following liquidation of the firm's assets. Net worth provides one measure of solvency, however in Pete's case it does not take contingent tax liabilities into consideration. Pete's apparent net worth is \$550,000. His debt-to-asset ratio is 29% slightly above the benchmark of 28%. This indicates Pete has sufficient solvency.

2. Would you recommend that your bank take on Pete's credit line? Why or why not? Are there some changes that Pete might consider that would make his credit application more acceptable? (20 points)

I would recommend that the bank decline to take on Pete as a borrower. Based on this credit analysis it is apparent that although Pete is generating positive income, his efficiency is quite low. This translates into a negative cash flow with, in all likelihood, increasing debt loads unless the farm's performance or economic conditions significantly improve. Pete is not heavily in debt. Consequently he has the capacity to borrow additional funds if his liquidity and profitability problem could be resolved.

NB: Your answer should be consistent with your credit analysis.

- III. You are the CEO of a small (\$50 million) community bank. Your loan portfolio consists of agricultural loans (60%) and consumer loans (40%) — primarily car loans and home equity loans. Your main competitor for ag and consumer loans in your trade area is a branch office of a humongous bank with a stagecoach logo.

Your years of experience have taught you that your consumer loan customers are a fickle lot who will take their business elsewhere for a slightly lower rate of interest. Your ag loan customers tend to be much more loyal and value your loan officers' expertise and familiarity with their businesses as well as the convenience your bank offers them.

Given the realities of your competitive situation, how would you price loans for these two market segments? Carefully explain why you feel your positioning strategy is appropriate. Would your pricing decision require changes in your bank's staff or facilities? Finally what impact will this strategy have on revenues and profitability for your bank? Again, justify your answer. (15 points)

The key issue in this situation is the degree of horizontal differentiation in the two market segments. Consumer loans are simple and relatively undifferentiated products. We would expect a low level of horizontal differentiation and relatively high firm-level price elasticity of demand. This is borne out by your bank's experience – consumer loan customers walk for a few basic points. The ag loan market probably exhibits a higher level of horizontal differentiation and consequently the bank faces a lower price elasticity of demand. This results from the fact that convenience and loan officer knowledge are highly valued by some ag loan customers (the ones you have) and not valued by others (the ones banking at the bank down the street). Your competing bank – given its size, probably has a significant advantage over your bank in cost of funds.

In this case, you might increase rates on ag loans – change a premium for your superior service. This is a benefit strategy. Consumer loans are a more difficult problem. You probably cannot under price your competitor – you don't have a cost advantage. You might try to match the rates offered by the big bank. But it might also be reasonable to let your competitor have the consumer loan segment if you can't make money. Using this pricing strategy, we would expect earnings from ag loans to increase. Earnings from consumer loans would remain the same or could decline somewhat.

- IV. In class we reviewed the Larry and Carol Peterson case. I asked you, as a homework assignment, to review the Peterson's business plan proposal. In our class discussion, we agreed that the information included in the Peterson's proposal was incomplete. If you were their lender, what additional information would you request in order to make a financing decision? Why? (10 points)

The proposal was just that -- it was not a business plan. Additional information would be required on:

- *The assets being liquidated, expected after-tax funds that would be generated.*
- *How funds from liquidated assets would be used.*
- *Exact costs, including transition financing for remodeling of swine facilities.*
- *Financial information and references for the contracting firm.*
- *Clear evidence of employability, wages, fringe benefits.*
- *Exit plan in case shift to nursery operating does not succeed.*
- *Clear statement of loan request and repayment plans, collateral.*
- *Others.*