

I. (25 points total). Short Answers (5 points each)

1. Define “competitive advantage”. What is its significance in strategic management?

*A firm has a competitive advantage when it earns a higher rate of economic profit than the average of firms in the same industry. A competitive advantage reflects the relative ability of a firm to create value for its customers through either a benefit or cost strategy.*

2. What are the primary incentives for firm growth? Give examples from production agriculture or finance.

*Growth occurs in a firm when it has underutilized resources, misallocated resources and/or excess retained earnings and economic conditions create opportunities to grow. Two broad incentives to grow exist; a “push” incentive in which management can and does seek to manage a larger enterprise and a “pull” incentive in which the business grows in order to achieve economies of size. A farmer managing a 1500 acre farm could, without significantly more effort, also manage a 2000 acre farm. This is an example of the push incentive. A pull incentive might drive a small bank to grow to spread its overhead costs over a greater lending value.*

3. Describe the most common approaches to financing current assets. Give an example where each type of operating loan would be appropriate.

*There are three common approaches used to finance current assets -- operating inputs.*

- 1. A standard operating loan is used to finance a simple transaction and specifies the interest rate and repayment data. It might be used to finance feed for a single lot of cattle.*
- 2. A non-revolving line of credit specifies a limit on borrowing, but advances and repayment follows a cash flow budget. This approach works well as a cash grain operation where credit needs and repayment can be budgeted.*
- 3. A revolving line of credit specifies an upper limit but leave use and repayment of funds to the borrowers. It resembles a credit card. Any business with frequent credit needs -- a feedlot for example would find a revolving LOC to be advantageous.*

4. Can a farm business have negative net farm income and a positive cash flow? Justify your answer.

*Yes. Negative income could be the result of large depreciation expense. If depreciable assets were not financed, there would not be no principal payment -- a cash outflow, but not an expense. Also the farm could sell assets -- grain inventories, machinery, produce cash inflows that would not be included in operating income.*

5. Define “horizontal differentiation” and explain its relevance to agricultural lending.

*Horizontal differentiation occurs when a product has many attributes some of which are valued by some consumers or market segments and not valued by others. For example a high level of horizontal differentiation results in relatively inelastic firm level demand. Consumers in this situation might exhibit “brand loyalty” and would be less responsive to changes in the price of the product. Lenders who offer a wide range of products and services -- ag loans, personal loans, savings accounts, convenient locations, investment services would be operating in horizontally differentiated market compared to lenders who offer a single product -- say operating loans for cash grain expenses. Horizontal differentiation would allow lenders to widen their interest spreads if they were pursuing a benefit strategy or capture cost reductions in a cost advantage strategy.*

- II. (25 points total). Robert “Swede” McTavish and his wife Norma are customers of your bank. They have stopped by your office for their annual credit review. They also want to discuss their operating credit needs for the year ahead. They have prepared an accrual income statement for 2005 and their beginning balance sheet.

<b>Market Value Farm Balance Sheet, January 1, 2005</b>		
	<b>Assets</b>	<b>Liabilities</b>
Current	\$200,000	\$125,000
Noncurrent	\$600,000	\$150,000
Total	\$800,000	\$275,000
Net worth		\$525,000

<b>Accrual Farm Income Statement, 2005</b>	
Total cash receiptpoints	\$260,000
Inventory change	-5,000
Gross revenue	255,000
- feeder costs	35,000
- feed costs	40,000
Value of farm production	\$180,000
Operating expense	\$120,000
Interest	\$20,000
Depreciation	\$25,000
Total farm expense	\$165,000
Net farm income before taxes	\$15,000

Neither Swede nor Norma is employed off the farm and they have no investment earnings. The McTavish's family living expense for 2005 was \$40,000.

Swede's principal payments on term debt for the past year were \$6,000.

The McTavish's paid \$10,000 in income and self-employment taxes during 2005.

You have calculated the following benchmarks for farm borrowers in your area.

Current ratio	2.3
Debt-to-asset ratio	31.0%
Return on farm assets	5.2%
Return on farm equity	3.5%
Cost of farm debt	9.0%
Operating profit margin	14.0%
Asset turnover ratio	38.0%

- A. **(10 points)**. Prepare a comprehensive assessment of Swede and Norma's financial performance for the past year. Explain your answers – what, how, why.

*Financial performance is assessed by analyzing the farm business' profitability, in covering the costs of production; liquidity, meeting its cash obligations; solvency having assets that exceed its liabilities valued at current market prices; risk-bearing ability, having the capacity to withstand losses. I will examine financial performance in absolute and relative terms -- making comparisons to industry benchmarks. If performance in any of these areas is found to be low, I will examine the efficiency, scale and debt structure of the business for:*

**1. Profitability.**

*In 2005 the MCT's earned a small profit, \$15,000. Their ROFA was*

$$\frac{15,000 + 20,000 - 40,000}{800,000} = \frac{-5,000}{800,000} = .62\% \text{ well below the benchmark of } 5.2\%.$$

*The ROFA can be partitioned into the profit margin ratio and the turnover ratio.*

$$\text{PMR} = \frac{15,000 + 20,000 - 40,000}{180,000} = \frac{-5,000}{180,000} = -2.8\% \text{ (benchmark is } 14\%)$$

$$\text{TOR} = \frac{180,000}{800,000} = 22.5\% \text{ (benchmark is } 38\%)$$

*Both measures are well below the benchmarks, however the profit margin is clearly the worst. This suggests looking at basic productivity and cost control.*

*The return on farm equity is  $\frac{15,000 - 40,000}{525,000} = -4.8\%$*

*The cost of farm debt is  $\frac{20,000}{275,000} = 7.2\%$  – less than the benchmark*

## *2. Liquidity.*

*A balance sheet measure of liquidity is the current ratio. The MCT's CR is  $\frac{200,000}{125,000}$  or 1.6:1 compared to a 2.3:1 benchmark. Cash available for principal*

*payments (CF) is cash receipts – feeder costs – feed cost – operating expense – interest – family living – taxes.*

*CF = 260 – 35 – 40 – 120 – 20 – 40 – 10 = -5. They were \$5000 short of meeting their cash obligations. Plus they paid \$6000 on term debt principal. This suggests they increased borrowing or sold off inventory to cover the shortfall.*

## *3. Solvency.*

*The MCT's are solvent. Their net worth is \$525,000. Their debt-to-asset ratio is  $\frac{275,000}{800,000} = 34.3\%$  slightly higher than the benchmark.*

## *4. Risk-bearing Ability.*

*The MCT's have sufficient equity to collateralize additional borrowing due to a loss. However, they do not have the liquidity to service additional debt. Therefore their risk-bearing ability is extremely limited.*

*In general, the MCT's have an unprofitable and illiquid business. The fact that they has such poor performance in 2005 – a good year, is cause for concern. Solvency is good. But unless profitability and cash flow problems are addressed, this business will eventually fail.*

- B. (10 points). They have asked you to suggest some management areas that would strengthen their financial performance. How would you identify these areas from the available financial information? What would you suggest to them? Why?

*Based on the previous analysis, it seems that the MIT's basic financial structure is generally acceptable. They have ample equity – at the moment. Their debt-load is average and their cost of debt is below the average benchmark. Further since 2005 was a good year, we can rule out the impact of losses due to weather or price (including government payments). This suggests that scale and efficiency are the two*

*primary areas of concern. Their value of farm production is in line for a medium-sized commercial farm. For two people, particularly with a livestock enterprise this should offer full employment. The \$40,000 family living is possibly a little high. From this I conclude that scale of the operation is not the likely culprit. However, if there is some excess labor, an off-farm job would help with cash flow, particularly if it comes with fringe benefits.*

*Efficiency, as measured by the OPM or TO ratio is very low. The operating expenses and depreciation in terms of machinery investment would be places to carefully examine.*

- C. **(5 points)**. They have asked for a renewal of their \$125,000 operating line for the coming year. How would you respond to their request? Justify your answer.

*I would renew the line, but with the requirement that they work with a farm management specialist to improve the efficiency of the business. I would also urge them to consider finding off-farm work-even part-time to help with cash low problems. I believe this is an appropriate step to take. There is sufficient equity and scale in this business to achieve acceptable financial performance. If I do not renew, they will borrow from higher cost credit sources (credit cards) to get the crop in the ground. This will make things worse. It is in my best interest as a lender to try to improve the performance of this credit line rather end the relationship. I would need to establish strict performance standards and increase monitoring however.*

III. (25 points total). Using the financial statements in question II, illustrate the principle of increasing risk. Explain the significance of this concept for farm operators and agricultural lenders.

*The principle of increasing risk states that as leverage increases, the volatility of earnings and the magnitude of capital gains and losses also increases. Let's look at the MCT's income statement and balance sheet at two leverage positions (current and no debt with a change in revenue and asset values of -10%.*

**Income Statement**

	<u>Current</u>		<u>No Debt</u>	
VFP	180	162	180	162
Operating	120	120	120	120
Interest	20	20	0	0
Depreciation	<u>25</u>	<u>25</u>	<u>25</u>	<u>25</u>
	15	-3	35	17
	└──────────┘		└──────────┘	
	-120%		-51%	

**Balance Sheet**

	<u>Current</u>		<u>No Debt</u>	
Assets	800	720	800	720
Liability	<u>275</u>	<u>275</u>	<u>0</u>	<u>0</u>
Net Worth	525	445	800	720
	└──────────┘		└──────────┘	
	-15%		-10%	

*In both cases, increasing leverage increases the magnitude of loss. The reverse would hold with sufficient increases in earnings or assets. The significance of this principle is that the leverage firm, even with adequate rate earnings must manage a higher level of volatility in income and equity.*

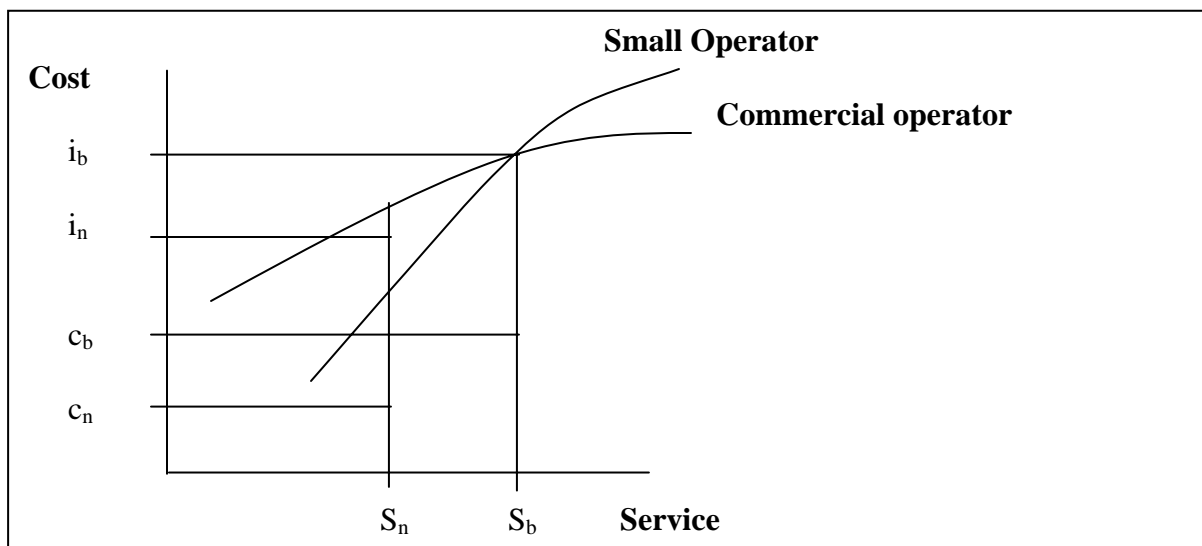
IV. **(25 points total).** Two years ago a finance company (NLB) headquartered in the Netherlands entered your bank's trade area. NLB targets large cash grain businesses. NLB specializes in selling and financing crop inputs – seed, fertilizer, chemicals and fuel. Their sales staff are all certified crop advisors. They assist farm customers with crop planning and arrange for input purchases and financing. NLB requires borrowers to purchase crop insurance and participate in the farm program. They will lend up to 75 percent of the insured value of the crop – which is usually adequate to finance operating inputs. Interest rates are 1 percent below what your bank charges.

Your bank's CEO has asked for suggestions on how you can counter NLB's competitive threat. It appears that NLB is currently cherry picking your large farm customers. Your bank is a full service lender and has held the largest share of the agricultural loan market in your trade area for over 25 years. What would you recommend? Justify your recommendations.

*Let's gather a few facts:*

1. *The bank is the dominant lender. It apparently serves the entire ag market -- small farms, large commercial operations.*
2. *Market shares have been stable for some time.*
3. *NLB is offering convenience credit on part of crop production expenses -- does not finance cash rent, family living or other production costs.*
4. *Larger commercial operators are responding to lower interest rates.*
5. *NLB sells inputs with credit -- may be difficult to separate interest costs from input costs.*
6. *It would appear that horizontal differentiation is low in the commercial farm segment and higher in the remaining segments.*
7. *NLB probably has lower cost of funds than you do.*

*Value map may look like this:*



*Suppose bank charges the same rates and offers some services to both segments ( $i_b, c_b, s_b$ ). NLB enters and offers a new loan product at ( $i_n, S_n$ ) with cost of  $C_n$ . This creates value for larger operations but is not value-creating for smaller, service-oriented segment.*

*Options:*

- 1. The bank could lower its rate of interest for large borrowers sufficiently to make the higher service package more attractive. This would reduce profits from current levels, but would retain market share.*
- 2. Since horizontal differentiation is higher, the bank could raise rates on smaller customers to replace earnings lost through attrition of large farm segment.*
- 3. NLB only funds part of the large farms' credit needs. Therefore the bank could let NLB have the input segment and then raise rates on remaining credit.*
- 4. Challenge the notion that NLB is creating value. The bank could form an alliance with local ag supply firm and offer inputs, advice and lower financing costs and competitive rates.*