STANDARDIZING CANADIAN FARM FINANCIAL STATEMENTS: COLLABORATION BETWEEN EDUCATORS AND PRACTITIONERS

Sub Theme: Knowledge & Information

Larry Martin[1], Jim Snyder[2] and Joerg Zimmerman[3]

[1]Principal, Agrifood Management Excellence, Inc., Ontario, Canada

[2]National Partner, BDO Canada, LLP, Ontario, Canada

[3]Principal, GlobalAgAdvisors Ltd, Manitoba, Canada

Abstract

Standardized operating statements producing comparably calculated financial ratios useful as performance benchmarks are used in CTEAM, a management training program for farmers in Canada. Their value in helping farmers understand and improve their management performance led to collaboration between AME the training company and BDO Canada to introduce the standardized statements and ratios to BDO's farm clients. This paper explains the collaboration between the two companies and extensions of the concepts to additional farmers in Canada and the US by GAA. The structure and rationale of the standardized statement are presented in this paper. The resulting ratios are defined and their management performance implications are examined. Their value in application is demonstrated by application to three BDO client farms. The applications identify areas in which the farms are performing well and those in which they have performance issues. Next steps for the collaboration are identified.

Key words: Financial Management; Benchmarking; Management Training.

Introduction

For 20 years, farmers in AME's CTEAM (Canadian Total Excellence in Agricultural Management) courses were consistent on two interrelated themes. First, "From my financial statements, I don't really understand where I am financially or managerially. Generally, the statements are about taxes, not management performance[4]". The second, "Since no two accountants, even within the same firm, use the same format for their clients' accounting statements, it's impossible to gauge my performance by benchmarking against others."

This non-standardization is a huge block to progress in farm financial management because it limits the ability of farmers to understand their performance, diagnose performance issues and focus on what needs improving.

While understanding this issue intellectually, observing several classes of CTEAM where a standardized operating statement for farms and attendant performance benchmarks were developed really caused appreciation of the power this has for[5] helping farmers improve their management practices. Moreover, improvements were in areas such as operations (production), human resource, and marketing management as well as finance because the resulting ratios are so closely tied to those aspects of the farm business. This led to our collaboration.

This paper's objectives are:

- Explain the standardized statement
- Illustrate how the statement's ratios can assist in improving management
- Explain how AME, BDO and GAA are implementing the standardized statements.

The Standardized Operating Statement

The standardized operating statement is based on two principles:

- Managing operations is different than managing capital/finances and the operating statement should be organized to reflect each of the two.
- *All farms*, no matter what commodities they produce, have five standard sets of costs.

The first principle means that we separate the cost components into operations and capital activities and use the concept of EBITDA (Earnings before interest, taxes and depreciation/amortization), a concept that is widely used outside of agriculture in Canada, but not so in agriculture. The components before EBITDA reflect operations. Those following it reflect capital and financing.

[4] Unless they are incorporated, their statements are usually on a cash basis without the managerial information provided in accrual statements.

[5] Much of our learning on this resulted from the participation in CTEAM of Agri-Solutions from Illinois, and Back Swath Management from Manitoba.

The second principle says that costs on the operating statement are organized into the five standard categories that fit all farms. Then margins are calculated at each level with attendant ratios that allow benchmarking across farms.

Revenue from Farming Operations

The five categories are explained below, but before doing so it is important to note that revenue used at the "top" of the operating statement is only revenue from farming operations. It does not include money from government programs (except crop insurance payments), earnings on investments, gains or losses on disposals, off-farm work, or other non-farm income. It includes sales from farm production, changes in inventories of marketable products, and crop insurance payments.

Income not from farming operations (and any associated costs) are at the end of operating statement in a category called "other income and expenses". This is important as the goal is to be able to measure the performance of and diagnose problems in the management of the farming operations.

The Cost Categories

Following from the first principle, there are three operating and two financing cost categories, as explained below.

Operating cost categories are based on the fundamental nature of agricultural production. First, farms convert a set of raw materials into intermediate or final products, incurring the cost of those raw materials. Second, they use labour and equipment to produce and transport their inputs and products.

The two categories above are correlated with production: e.g. producing 500 tonnes of grain normally requires less fertilizer, seed, machinery use and operational labour than 1500 tonnes of the same grain. The third operating category is less directly related to production. Specific definitions are:

- ***Cost of Goods Sold (COGS***). In the case of crops, farms convert seeds (or use trees, bushes or vines), fertilizers, and pesticides into forage, grain, fruits or vegetables. In the case of livestock, they convert the offspring of parent animals, feed, and medicines into meat animals or dairy products for consumption. So COGS include things farms buy to transform into intermediate and final products. We also include crop insurance premiums in this category.

- ***Direct Operating Expenses (DOE).*** These include direct operating labour costs (as opposed to management, sales and administrative), machinery operating expenses (fuel & lubricants), custom work, repairs and maintenance, small tools and equipment, and transport costs.

  An important aspect of separating operations from financing occurs here: Often, rent or lease payments are treated as operating costs. However, leasing and renting are alternative ways to access machinery, equipment and/or land as opposed to owning these assets. Therefore, they are not expenses for those who own these assets outright. Hence, these expenses are placed in the capital component of the

operating statement. As a result, all farms, no matter how they access machinery, equipment and land have the same cost categories in this component: fuel, repairs and maintenance, transportation costs and operator labour are common costs for nearly all types of machinery access. Similarly, all the costs of access, whether depreciation, interest or leasing payments are included in the capital component.

- ***Operating Overheads (OH).*** This category is often called SG&A for many types of business, selling, general and administrative expenses. It includes costs not directly related to production and transportation. Common items are office expenses, management salaries, sales staff salaries and expenses, office support salaries, insurance, electricity (not associated with operations), professional fees, etc.

The capital cost categories were discussed above, but are outlined below in more detail.

- ***Depreciation/Amortization/Financing (Cost of Capital (CoC)).*** These are the costs of accessing machinery, equipment and land. They include depreciation/amortization of machinery, equipment, and buildings, property taxes, as well as land clearing costs. They are separated into depreciation and rental/leasing costs to facilitate more detailed analysis of costs.

- ***Interest Expenses*** **.** This is interest on short and long term financing.

Margins are calculated for each set of costs. With these definitions the standardized operating statement has the following format:

Figure 1.0: General Format

(+) Revenue from Farming (Sales)
(-) Cost of Goods Sold (COGS)
(=) Gross Margin (GM)
(-) Direct Operating Expenses (DOE)
(=) Contribution Margin (CM)
(-) Operating Overheads (OH)
(=) EBITDA
(-) Depreciation/Amortization/Financing (CoC)
(=) EBIT
(-) Interest Expenses
(=) EBT from Operations
(+/-) Other Income/Expenses
(=) Net Income before Taxes

Margins and Ratios

Margins and ratios are defined below as are their current benchmarks. Part of the project with BDO is to confirm the benchmarks because we have limited observations on some of them. In all cases, it is best to have multiple years of data to normalize for weather or market conditions.

Gross Margin Ratio (%GM)

Gross Margin is Revenue minus Cost of Goods Sold (COGS), and the GM ratio is GM/Revenue. GM is operating returns remaining after paying for costs of material. Three major factors underpin the ratio: product prices; input prices; and yields. If this ratio is consistently lower than the benchmark, then management can focus on issues in production or marketing.

Our observations indicate that the %GM benchmark for most farms %GM is 65% or more of revenue – i.e. Cost of Goods Sold is less than 35% of revenue. Literally, the most profitable farms have at least $.65 left of every dollar of sales after paying for the materials that are transformed into final products.

Consistent low ratios here over time likely mean that a farm has poor productivity or it needs to improve marketing, or consider whether there are other things it should produce with its resources. An obvious example is two dairy farms, one with %GM of 75% and the other at 58%. Since this industry in Canada has administered prices roughly equal for everyone, it's very likely that the second farm needs to improve its cow productivity.

Consistently poor performance here, when there are no clear production problems, sometimes leads to the decision to change products because market returns are inadequate in the one chosen, in spite of all efforts to improve yields.

This standard is too low for horticultural operations, perhaps for cow-calf operations, and too high for beef feedlots of swine farms that finish weaners. Horticultural operations tend to have relatively high value production (eg wine grapes) compared to the cost of seed, seed stock, fertilizer and chemicals. Feedlots have very high purchasing cost of feeders, along with feed, leading to much lower margins and higher turnover.

Contribution Margin Ratio (%CM)

Contribution margin is calculated by subtracting Direct Operating Expenses from Gross Margin – accordingly CM ratio is CM/Revenues. It is what remains from each dollar of sales after paying all variable input and operating expenses. For farms with Gross Margins of 65%, % CM should be 45-50%. Conversely, Direct Operating Expenses should be 15-20% of revenue or less. If the latter are higher, there are generally three potential problems. One is that labour costs are too high, either because of too much labour, not enough efficiency of the capital stock with which labour has to work, or not enough revenue is being generated by the labour.

A second potential contributor is over use of machinery and equipment, thereby making operating costs too high. This may be a sign of over (or under) investment in this category, though over investment will be more obvious on the balance sheet ratios.

Again, the benchmark is helpful in diagnosing and managing problems. For example, if DOE is 30% for a farm, it suggests there is a problem. Often, especially in DOE, it's not difficult to isolate the potential source of the problem because the likely culprits will be those with the largest expenses in the category. So, if small tools and equipment are 1%, it's obvious that cutting it by half won't fix the problem. But if repairs and maintenance or operating labour are each 12% of revenue, they are clear candidates for improvement.

Again, this benchmark is likely different for horticulture. Limited samples for horticulture suggest that, because of their much higher labour requirements, the range should likely be 25-30% for DOE. If that is correct and %GM should be 75%, then the %CM should be the same at 45-50%, but the costs would be redistributed differently between the two categories.

Operating Efficiency Ratio (%EBITDA)

EBITDA is calculated by subtracting Operating Overheads (OH) from contribution margin. Operating Efficiency Ratio is EBITDA/Revenue. It is what's left after paying all operating costs (remembering that we count rental and leasing costs as capital costs).

For most farms this should be 35%, or $.35 for every dollar of revenue. Therefore, OH should be 10-15%, and the cost analysis should proceed as above with DOE when OH is too high. In our experience, this category is not usually a problem. But when it is, the specific numbers will show its source.

%EBIT Ratio and %EBT Ratio

EBIT is calculated by subtracting financing costs (CoC) from EBITDA. Then interest expenses are subtracted to get EBT. The ratios are then found by dividing earnings before interest and taxes (EBIT) and earnings before taxes (EBT) by revenue. Having had limited experience with these two ratios in this format, the benchmarks are not finalized, though %EBIT likely should be in the 20% range. This suggests that financing capital should be in the neighborhood of 15%.

Additional Ratios

Space limitations for this paper prevent detailed explanation of the balance sheet, though there is less variation among their structures by Canadian accountants. Therefore, the standardization changes are minor.

Two sets of ratios that include the balance sheet are important in judging performance.

Current Ratio (Current Assets/Current Liabilities)

This is the standard measure of liquidity, along with working capital (Current Assets – Current Liabilities), for most types of business. We believe values under 1.5 show potential liquidity problems, especially if it is a relatively low percentage of annual operating costs. Producers in Canada's dairy and poultry industries probably can go to 1.2 because of the low risk of product price reductions.

Debt/EBITDA

Debt/EBITDA is a measure of solvency risk. It can be calculated as either Total Liabilities/EBITDA or Bank Debt/EBITDA. The literal interpretation of the ratio is that if the operation uses all of its annual operating earnings to do nothing but pay debt principal, it will require the calculated number of years to pay off the principal. So, if the ratio is 6.3:1, then it will take 6.3 years of operating earnings to pay down principal. This means paying no interest, no taxes, no profits to owners and no new investment for 6.3 years.

It is very useful from a management perspective to separate bank debt from other debt, especially things like shareholders' loans, or other "softer" debt such as family debt that is more easily extended or forgiven. This allows ratios to be calculated with only bank debt and/or with total liabilities, giving a more complete picture of true obligations. In our experience, items like shareholder loans are often more like equity than debt in the sense that banks are usually ahead of owners in the event of insolvency: Banks usually get their money, but shareholders may not. With bank debt in the numerator, the risk of loans being called is more evident when the ratio is high.

Outside of agriculture lenders often impose covenants on credit facilities above Debt/EBITDA of 3.5:1. Previous research suggests that the **average** for Canadian farms is 5:1. Agriculture receives more tolerance because of its high "off-balance sheet" value resulting from land and/or quota appreciation. Obviously, anything above 5.0 is highly leveraged from an operational perspective: farms in this range are living on their equity and/or on hopes of improved future earnings.

In our experience, good managers keep this ratio under about 2.5. Some excellent operations keep it even lower until they are ready to make a major investment. At that point they may push it much higher, but don't make additional major investments until they pay down enough to bring the ratio below a target number such as 2.5.

The AME/BDO Collaboration

Conversations between the two senior authors paper over approximately two years focused on the standardization concept and on the improvement shown by CTEAM participants in their management after using their standardized financial statements to focus on clear problems. BDO was searching for ways to add value to their farm customers during this period.

This led to two presentations to BDO's National Agricultural Committee describing the standardized statement and pointing out how it can be used to improve management decisions. The National Committee saw the potential benefit and committed initially to developing a template that extracts the line items from 2014 and 2015 farm statements so they can be summarized in the proper order.

This was used to test the viability of the spread sheet by drawing a sample of client farms from the past two years – ie just to test whether the template functions accurately.

Starting with the 2016 tax year, a set of the company's clients from a number of BDO's agricultural offices will have their financial statements done in the format discussed. The ratios will be calculated, including from the two previous tax years so that arbitrary events in a given year can be avoided, and to start providing the clients with trends on the various ratios.

These clients will receive a summary of their ratios, with definitions and directions on how to understand their performance and how to diagnose problems. In subsequent years, clients will receive the foregoing as well as an analysis of their trends on the various ratios to help them assess progress. AME is providing support in developing the material and procedures for the project.

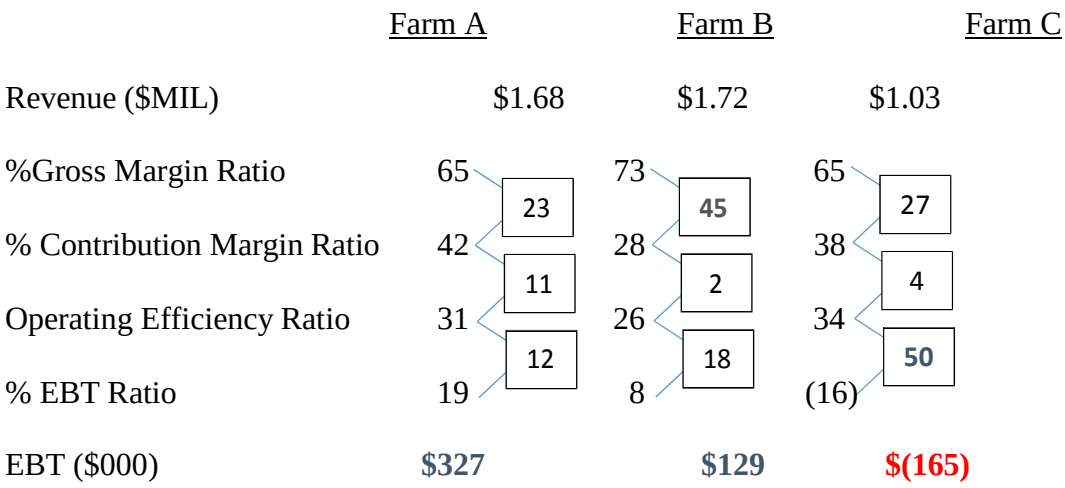
Over time, the project has a number of objectives, including:

- Most obviously, improve information to BDO's farmer clients to help them with their management performance.
- Test the benchmarks for the majority of farms that were discussed above.
- Determine the benchmarks for horticulture, feedlot operations and other enterprises, where warranted.

These will be completed after processing at least two years of data that represent a significant sample of farms.

Applying the framework to BDO's clients using their past data reveals its power to diagnose. Three of the farms had sales and ratios for 2015 shown in Figure 2.

Figure 2. Performance Ratios, Three BDO Farms 2015



The three farms each had over $1 million in revenue. Farm A had net earnings of $327,000, Farm B earned $129,000, while Farm C lost $165,000. What caused the differences?

The answers become apparent by examining the ratios:

- All three achieved the benchmark performance on gross margin, though Farm B outperformed the other two.
- None of the three achieved the benchmark on contribution margin: subtracting their %CM's from %GM's gives 23%, 45% and 27%. A is closest to the benchmark of 15-20%, B has a major problem, and C's performance exceeds B's. B's 45% DOE flags a problem, less so for C. Delving deeper into their financial statements, we find that repairs and maintenance for Farms A and B are 7% and 6% of revenue, while for Farm C, they are 10%. This contributes to C's performance issue. Similarly, while A and C spend 5% and 4% of revenue on labour, Farm B's labour expense is 23%. While there may be a logical explanation for this, it certainly raises a flag about where to focus.
- Operating overheads at 12%, 2%, and 4% of revenue for the three are reasonable, though A could examine this area for improvement.

- Total financing costs are 12% and 18% of revenue for Farms A and B, but an extremely large 50% for Farm C. Looking deeper at Farm C's statement reveals that it invested substantially in land clearing, which will likely have a pay off in the future. But the farm lost money even without this expenditure. Interest, land rent and amortization are the largest entries in the capital cost component. This suggests, without more specific information, that Farm C may be over capitalized for the amount of revenue it is generating.

In summary, Farm A is the best overall performer with net earnings at 19% of revenue. No cost category stands out as an obvious problem; so operationally A needs to tweak all areas to find small improvements. B clearly has an issue with Direct Operating Expenses: the obvious question is whether there are ways to either reduce labour costs or generate more revenue from the existing labour. C is a little weak on the direct operating category, and incurred land clearing expenses that may improve profits later. C's big issue is that the farm appears to be overcapitalized at its current level of sales.

These examples illustrate how the standardized ratios and benchmarks can be used to potentially identify issues and lead to solutions about how to correct them.

Next Steps and Extensions

Next steps on the project follow from the foregoing. As BDO moves into tax season they will isolate a sample of at least 10 farms from at least 10 key offices. These will be analyzed and summarized along with two previous year for each farm and feedback will be provided to the farm owners. AME will analyze the data to begin verification of the benchmarks.

Our third author, Joerg Zimmerman, provides input on the ratios and their practical application. In addition, he manages a peer group of farmers in Western Canada and the Western US. He uses the methodology described above for the operating statement and the ratios with his peer group to analyze their past three years of financials. An additional extension is Joerg has begun investigating a variety of formats to present the results so they are communicated most effectively and drilling down in to details provides problem solving approaches

Concluding Comment

This standardized financial structure has been featured in a series of articles in Canada's Country Guide magazine. The authors plan a series of publications on its structure and effectiveness as the AME/BDO project unfolds. It has already helped a number of farmers improve their focus and management. The authors are engaged on a national advisory board to develop agricultural accounting standards.

Acknowledgement:

The authors acknowledge financial support for this project from Farm Management Canada