EconS 450

Assignment #2 (200 points)
Personal Enterprise Budget and Sensitivity Analysis
Due February 17, 2012

In Assignments #1 you selected a crop or livestock enterprise which you want to work with in EconS 450. You may have chosen these enterprises because you wish someday to produce the commodity or service, because a family member or friend is in the business, or simply because the enterprise appeals to you. You will do a complete budgeting and sensitivity analysis for your enterprises in this assignment.

You will be using CEBW or LEBW (Crop or Livestock Enterprise Budgeting Worksheet available from UI) to develop your budget. C/LEBW are available in the Hulbert computer labs.

Hopefully, the primary source of data for your budget will be your personal knowledge, research among family, friends, and/or other local sources. You may also use published enterprise budgets and enterprise budgets from the Internet as a source of preliminary data for this assignment (see Web addresses on your reading list). *You should tailor the data in your budget to your particular situation and production location to earn full credit.* For example, we would expect you to adjust machinery sizes in your budget to correspond with the size of your enterprise and farm. Practices, prices, yields and costs should also reflect your particular situation and expectations for the current time period.

One other reminder: EBW is just a spreadsheet. If you change a price, yield, or input rate it will correctly change all the corresponding arithmetic. However, you are responsible for selecting the appropriate operations and sizes of machinery or buildings.

1. Submit a printout or typed copy of your enterprise budget. Be sure to precisely title your budget (e.g., One 137-Ac Circle of Irrigated Russet Potatoes in Othello, WA). Also describe the size and type of the whole farm where you are conducting your enterprise. Include your name. Use easily understood names for costs and returns categories and *specify all units of measurement*. You have received sample crop and livestock budgets in class and dozens of others are available on the Internet. In an appendix, please submit any UI, other published, or Internet budgets you used extensively as general background information. **Do not just copy or minimally modify a published budget.** If you obtained some data from another budget, point out where you did so.

2. Use EBW or your own calculations to compute at least **two sensitivity analyses** and at least **two break-even price and/or yield analyses** for your enterprise budget. Submit summary tables of the results of these sensitivity and breakeven analyses. These analyses should examine significant items like price of output, crop yields, livestock sale weights, or prices of important inputs (i.e., do not do sensitivity analysis on the price of soil tests or brand inspections or other factors that play small roles in your enterprise's total costs).

3. Submit appropriate schedule of operations for your enterprise (see attached crop example in Table 1). This should include the timing and machinery used for all of the operations involved in your enterprise, or a listing and timing of all livestock operations throughout the year. Breeding, replacement, and cull schedule would also be appropriate.

4. You may use MACHCOST, your own spreadsheet or hand calculations to develop the machinery operating costs for your budget, or if you are doing budgets for an actual agricultural operation, you may use their actual annual operating costs and allocate them across your enterprises. You have already done this in Assignment # 2 for a couple machines. In using MACHCOST, you will have to determine machine size (width or PTO horsepower), purchase and list price, total annual use, age when purchased, your ownership period, field speed, field efficiency, THI%, and (if a power unit), fuel use/hour and repair costs . Your cost of producing a crop will include the cost of all operations and other costs. You need not turn in your MACHCOST printouts for each operation. Report the machinery costs in an aggregated form as in the UI budgets, or on an operation-by-operation basis. Whatever process you use to determine machinery operating costs, make sure you explain and document your procedure completely in the main body of the paper.

5. Machinery, equipment, and building ownership costs should be determined using the OPTIONS tab in C/LEBW. Be sure to create a complete listing of all depreciable assets used by your enterprise (including fences).

6. If you are doing a **livestock enterprise,** like the UI cow-calf budget in your notes, you can use the spreadsheet feature of LEBW to compute gross revenues based on price/unit and units sold. You may also use LEBW to compute costs of feed, etc, on a price/unit times units required basis like the sample UI cow-calf budget. Be sure to account for all costs, including annual fixed costs ("DIRTI Five") for owned barns, corrals, land and other facilities. At the outset, you will have to decide on a unit for your livestock budget (per 100-cow herd, per cow, per cwt. milk, etc.). Review some sample livestock budgets. Most importantly, livestock budgeting requires knowledge of the biology of the species under a given management plan. Birth rates, death rates by age group, weaning rates, production or gain rates, feed requirements, male to female ratios, and other biological or production factors are the core knowledge underlying a livestock budget. Only you can estimate these accurately for your personal operation.

7. Write a **three to four page double spaced (12 point font, 1 inch margins) paper** on your assumptions and results. Tables and computer printout are excluded from the page limit. Briefly describe your enterprise. Use the results from your enterprise budget and from your sensitivity analyses and break-even analyses to discuss the economic prospects for the enterprise in your location. Be specific, **mention important costs and returns numbers from your results**. Highlight the expected profitability figures printed in your budget. Also, go beyond expected profitability and **discuss the potential riskiness of the enterprises.** Your sensitivity and breakeven analysis, and your own personal knowledge, should be cited in discussing riskiness of the enterprise. Also, discuss the possible limitations of your analysis. These limitations might include weaknesses in certain data,

assumptions, omitted factors, and other issues. Please list input suppliers, market reports, friends, or relatives who provided data, as well as any publications or Internet sites you relied on.

GRADING

This is a 200-point assignment: 120 points for the quality of your budgeting, 50 points for the content of the paper; and 30 points for the quality of communication in the paper.

REMEMBER: A February 23^{d} deadline may seem like a long time, but this assignment involves a lot of work with data collection, analysis, and writing up the results. If you happen to be visiting your home for other reasons over the next couple weeks, be sure to take the opportunity to interview your parents, friends, past employers or others about input requirements, expected prices, and other information required to complete the assignment. Alternatively, you may use the Internet, library, telephone or email to collect information.

Table 1. Example Schedule of Operations for No-Till Spring Wheat:

Operation	Tooling	Month
Fertilize	180 HP-WT, 27’ rippershooter	October
Herbicide	180 HP-WT, 80’ sprayer	March
Planting	180 HP-WT, 30’ no-till drill	March
Haul Seed	2 ton truck	March
Herbicide	180 HP-WT, 80’ sprayer	April
Harvest	25’ combine	August
Haul Crop	2-ton truck	August

[Note: Many enterprises will have more operations.]