ASEAN Workshop Budgets intro

Budgeting Basics

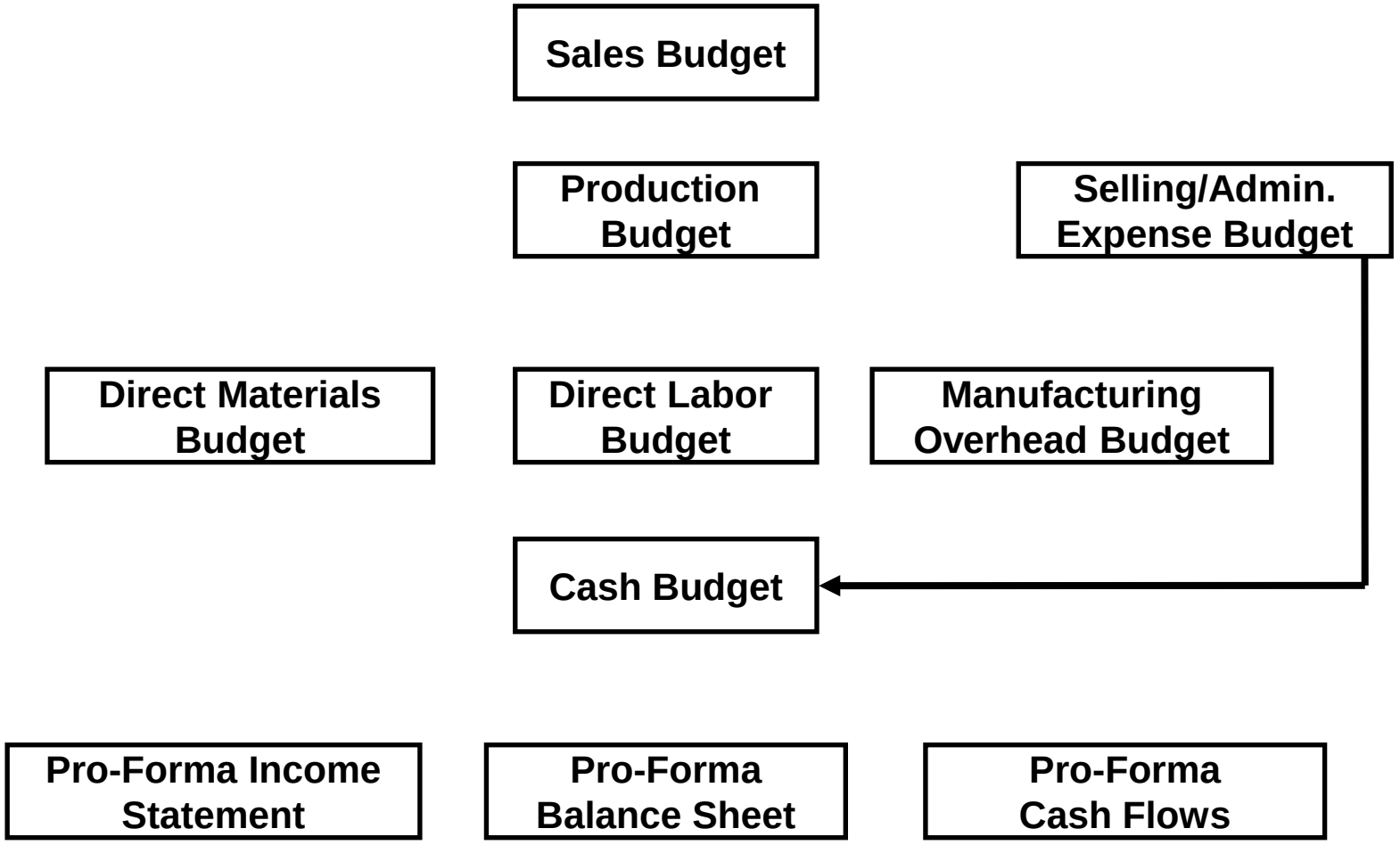
What is a budget

- A budget is the quantitative expression of an entity's plans
- Budgeting can assist in decision making by:
  - Putting into operation longer term plans
  - Assisting with short-term planning decisions, such as capacity utilisation
  - Assembling knowledge from managers in the organisation.
  - Communicating information.
- Budgets can assist in management control by:
  - Authorising managers to spend
  - Setting targets for managers
  - Comparing outcomes against initial budget, identify variances or gaps, which is a starting point for further investigations
  - Offering information for determining rewards

Master Budget Illustration

- The following example illustrates how to design a master budget for a project that entails producing and selling 1,000 pancakes in 10 batches of 100.
- Players
  - The owner (salesman, organizer, entitled to profits)
  - His partner (shopper: procurement division)
  - The chef (baking: production)
  - The decorator
  - The bank (finance)
- We make the following budgets
  - For the owner: Sales Budget and Projected P&L, BS & CF statements
  - For the chef: Production Budget
  - To justify wage payments: Direct Labour Budget
  - For the partner: a Purchases budget
  - For the bank: Financing or Cash budget

The Master Budget: Illustration



The Sales Budget

- The Sales Budget is a “mission” for the sales department:
  - Mission incorporated in the master budget: “Sell 10 batches of 100 Pancakes. Earn revenues of £1,000”

Sales Budget		Revenue
Expected Sales	Pancakes: 10 batches of 100	10
Price		£ 100
Total		£ 1,000

Production Budget

- The Production Budget establishes the required production output.
- Beware of any starting and ending inventories

Production Budget (in Batches)

In Stock	Sales	Ending stock	Produce
0	10	0	10

- What if the budgeted ending stock would be 2 batches, how many batches to produce?

Standard Cost Calculation

- This is the “recipe” for the required output.
- We can calculate the standard cost of a batch of pancakes.
  - This is useful for planning and setting prices (Decision making).
  - Also useful to hold employees to account (Management control).
  - Make sure to develop standard costs carefully, see next lecture.
- The standard cost for a batch of pancakes is …. .
- Total Margin for this project?

Direct Materials

Ingredient per batch	Required		Price	Cost
Eggs	10	£	0.50	5.00
Milk	6 liter	£	1.00	6.00
Flour	3 kg.	£	3.00	9.00
				£ 20.00

Direct Labour

Required per batch	Required		Wage	Costs
Chef	7 hours	£	4.00	28.00
Decorator	3 hours	£	12.00	36.00
	10 hours			£ 64.00

Standard Costs per batch	
Sales Price	£ 100.00
Gross Margin per batch	

Direct Labour Budget

- In this case we assume that the chef is responsible for the direct labour budget.
- He will be given £ to cover the cost of direct labour.
- Generally, the chef can decide on how to spend it (budgets are an authorisation to spend), as long as he produces the required amount of pancakes.

Direct Labour Budget

Required Production	Type	Hours Required		Wage	Costs
10	Chef	70	£	4.00	280.00
	Decorator	30	£	12.00	360.00
		100			£ 640.00

Materials Usage & Purchases Budget

- The owner's partner can go out shopping now. (Procurement)
- This person will be given , and he/she can decide how to spend the money, as long as the required ingredients are delivered to the chef.

Materials Purchases Budget

Ingredient	For production	In Stock	Ending stock	Go Shop	Cost
Eggs	100	5	0	95	47.50
Milk	60	5 liter	0 liter	55	55.00
Flour	30	3 kg.	1 kg.	28	84.00
					£ 186.50

- Note, some ingredients are already in stock.

Financing or Cash budget

1. All materials / ingredients shall be paid in advance.
2. The chef requires payment in advance, the decorator is paid after the customers have paid.
3. Customers pay some days after delivery, via bank transfer.
4. Opening cash balance is £100.
5. Money can be borrowed via the bank's current account at zero interest cost.
6. The owner will pay himself any remaining cash balance (dividend).

- What is the maximum amount the owner should borrow from the bank?

Cash Budget	Cash Change	Balance
Current position		£100.00
Materials purchases	-£186.50	-£86.50
Chef's wage	-£280.00	-£366.50
Sales	£1,000.00	£633.50
Decorator's pay	-£360.00	£273.50
Dividend payment	-£273.50	£0.00

Pro Forma Profit and Loss Account

Projected Profits and Loss Account			
Sales			£ 1,000.00
Cost of Goods Sold			
Pancakes: 10 batches at cost of	£	84.00	840.00
Profit			£ 160.00

Pro Forma Balance Sheets

Opening Balance Sheet

Inventory			**Equity**	116.50
Eggs	2.50			
Milk	5.00			
Flour	9.00			
		16.50		
Cash		**100.00**		
		116.50		116.50

Balance Sheet before Profit Distribution

Inventory			**Equity (opening)**	116.50
Eggs	0.00		Retained Earnings	160.00
Milk	0.00		Total Equity	276.50
Flour	3.00			
		3.00		
Cash		**273.50**		
		276.50		276.50

Pro Forma Balance Sheets

Balance Sheet after Profit Distribution

Inventory		**Equity (before)**	276.50
Flour	**3.00**	Dividend	-273.50
Cash	**0.00**	Total Equity	3.00
	3.00		3.00

Pro Forma Cash Flow Statements

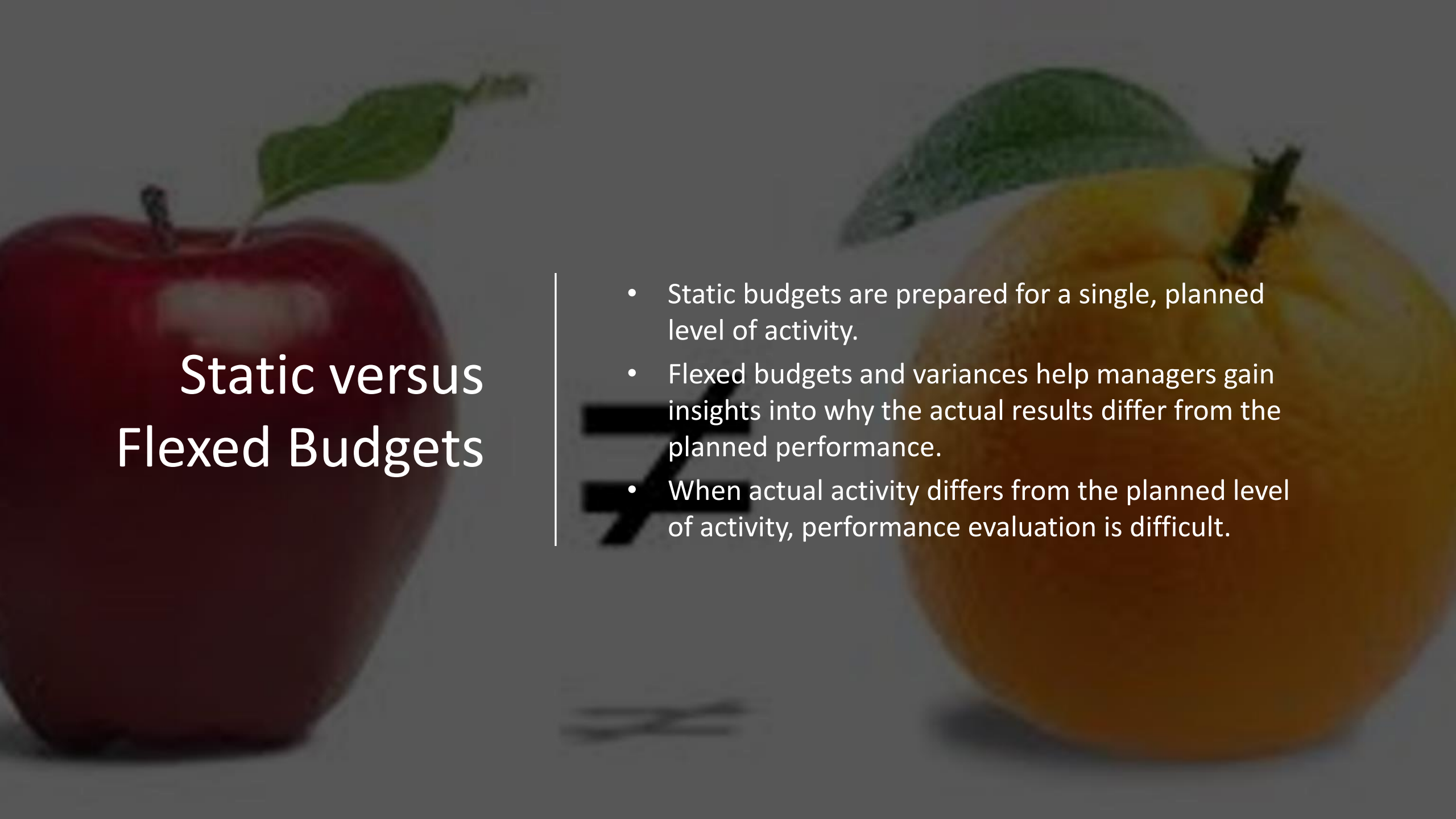
Cash flow from operations:				
Sales revenues received in cash:			£	1,000.00
Cash paid for				
Materials purchases	£	186.50		
Chef's wage		280.00		
Decorator's pay		360.00		
			£	826.50
Cash flow from operations:			£	173.50

Cash flow from operations:		
Profit:	£	160.00
Liquidation of opening inventory (16.50-3.00)	£	13.50
Net CF from operations	£	173.50

Recap I

- The example shows how to create a master budget.
- The master budget generally consists of:
  - Sales and Sales related budgets:
    - these are almost always the starting points of the budgeting process
  - Production related budgets
  - Cash and Financing related budgets
  - When appropriate: a budget for non-manufacturing overhead

  - These budgets all aggregate into:
    - A projected Profits and Loss Account
    - A projected Balance Sheet
    - A projected Cash Flow Statement



Static versus Flexed Budgets

- Static budgets are prepared for a single, planned level of activity.
- Flexed budgets and variances help managers gain insights into why the actual results differ from the planned performance.
- When actual activity differs from the planned level of activity, performance evaluation is difficult.

Brehm Vineyards

Brehm Vineyards grows a unique white pinot noir grape that they use to produce a white wine that is in high demand. Brehm uses all the grapes they can grow to produce their own white pinot noir wine. Brehm pinot noir wine contains 100 percent Brehm-grown grapes. The company neither buys nor sells grapes. Because of the uniqueness and difficulty of growing white pinot grapes, Brehm can only produce 8,000 cases (12 bottles per case) in a normal year. A good growing season might yield 10,000 cases, whereas bad weather can cut production to 5,000 cases. In a normal year Brehm expects to sells its wine to wholesalers for $120 per case.

The following table summarizes how Brehm managers expect their costs to vary with the number of cases produced.

	Fixed Cost (per year)	*Variable Cost (per case)*
Grape costs	$240,000	$2.10
Labor	75,000	2.15
Packaging		14.00
Selling and administrative costs	36,000	
Utilities	4,000	0.75

Required:

a. Prepare a flexible budget (including budgeted net income) assuming Brehm produces and sells 8,000 cases of wine.

b. Calculate the breakeven number of cases.

Flexed budget	**8,000**
Revenue (@ $120 / case)	960,000
Fixed + Variable Cost	
Grape costs	
Labour	
Packaging	
Selling and Admin	
Utilities	
Total costs	
Profit (revenue - tot. cost)	453,000

Break even	
Price	120.00
Var Cost	19.00
Contribution Margin	101.00

Fixed cost	355,000	**3,515**
Contribution Margin	101.00	

c. How many cases does Brehm have to produce if they want an after-tax profit of $300,000 and the income tax rate is 40 percent?

d. Bad weather this year cut Brehm's production and sales to only 6,000 cases. The low yield drove up wholesale prices of the white pinot wine from $120 to $140 per case. Brehm's actual expenses for the year were:

Actual Costs for the Year

Grape costs	$260,000
Labor	98,000
Packaging	83,000
Selling and administrative costs	39,000
Utilities	8,800

Design and prepare a table that reports the performance of Brehm for the year.

e. Write a short memo summarizing Brehm's performance during the past year. Did management do a good or bad job?

Output for $300k profit

Post Tax profit	300,000	
Pre tax profit	500,000	
Fixed cost	355,000	
Required C.Margin	855,000	
FC + Profit	855,000	**8,465**
Contribution Margin	101.00	

Brehm vineyard

Flexed budget	**6,000**	**Actual**		**Variance**	**F**	**U**
Revenue (@ $120 / case)	**720,000**	@ $140 / case	**840,000**	120,000	❑	❑
Grape costs	252,600		260,000		❑	❑
Labour	87,900		98,000		❑	❑
Packaging	84,000		83,000		❑	❑
Selling and Admin	36,000		39,000		❑	❑
Utilities	8,500		8,800		❑	❑
Cost	469,000		488,800		❑	❑
Profit (revenue - tot. cost)	251,000		351,200		❑	❑