4.0 FINANCIAL MANAGEMENT

Good farm management is much more than just achieving your production and mating targets. The best physical farm management decisions count for nothing if they do not also consider the financial impacts. It is common for farmers to discuss milk production or carcass weights as a measure of how well they are performing, unfortunately it is much less common for farmers to compare economic performance which is the far more important measure of a successful farming business. Successful financial management involves making the right physical farm management decisions to maximise profitability, and managing the operation of the farm within any budget constraints that exist.

Controlling farm working expenses is one of the most important factors contributing to profitability as explained in the 'drivers of profitability' section. Farm managers have a daily influence over expenses and know the farm and stock best, so are in the best position to help make decisions around unnecessary spending.

Effective financial management will include an annual budget and monthly cashflow budget being completed before the start of the season. The annual budget gives the total income, expenses and cash surplus for the year. This information allows the farm manager to plan ahead, i.e. reduce R&M spending or not buy that new tractor to balance the budget. The monthly cashflow budget shows the flow of cash throughout the year and can help with planning overdraft requirements. For example, even though the farm's annual budget may be showing a $90,000 cash profit, the farm account may drop down to -$100,000 in overdraft August when expenses are greater than income.

Annual Farm Budget

This involves a number of steps:

(i) Usually the first is to carry out a stock reconciliation to determine numbers of stock to be sold or retained, and the value gained from sales, and cost involved with any purchases.

(ii) Next step is to determine the income from your main product, namely milksolids of livestock sales. This is a calculation of:

(a) This year's production
   i. Dairy - total kg MS
   ii. S&B - number and type of animals to be sold, e.g 50 store R2 cattle, 700 prime lambs
   iii. Both – number of cull animals from flock/herd

(b) Multiplied by the unit price
   i. Dairy - advance payout
   ii. Sheep and Beef – estimated of per head price based on slaughter or store schedule prices and livestock weights e.g. 17.5 kg carcass weight lamb x $5.50/kg = 96.25/hd)

(iii) Last year's production x the deferred payout (dairy only)

(iv) Other income (eg calves reared for sale, grazing income, or supplements sold)

(v) Estimation of farm working expenses, which will also involve a number of sub-calculations around such items as supplementary feed (type and amount made on-farm, types and amounts purchased in) and fertiliser (types and amounts).

(vi) Assessment of debt servicing and/or lease costs

(vii) Estimate of tax payments due

(viii) Estimate of personal drawings

(ix) Estimates of capital and development expenditure

(x) Allowance for any principal debt repayments.

This then gives the net cash position for the farming business for the year.

To this is added any net non-farm income, but is part of the wider business income and/or personal income. This would include:

- Dividends (especially Fonterra share dividends)
- Off-farm income
- Any funds to be introduced into the business over the year

An example of an annual budget (from the AgFirst Waikato/BOP Dairy Financial Survey 2014/15):

	Whole farm ($)		Whole farm ($)
Revenue		**Farm working expenses**	
Milksolids	705 233	Permanent wages	84 525
Capacity Charge	33 421	Casual wages	10 350
Cattle	52 814	ACC	3 385
Other farm income	2 000	**Total labour expenses**	**98 260**
Less:		Animal health	33 248
Cattle purchases	5 412	Breeding	19 497
Net cash income	**788 056**	Dairy shed expenses	10 374
Farm working expenses	**522 563**	Electricity	16 215
Cash operating surplus	**265 493**	Feed (hay and silage)	26 000
Interest	154 097	Feed (feed crops)	24 000
Rent and/or leases	0	Feed (grazing)	35 948
Stock value adjustment	- 8 275	Feed (other)	79 060
Minus depreciation	24 289	Fertiliser	42 605
Farm profit before tax	**78 832**	Lime	0
Income equalization	0	Freight (not elsewhere deducted)	5 313
Taxation	11 836	Regrassing costs	5 279
Farm profit after tax	**66 996**	Weed and pest control	3 278
		Fuel	13 041
Allocation of funds		Vehicle costs (excluding fuel)	13 283
Add back depreciation	24 289	Repairs and maintenance	38 123
Reverse stock value adjustment	8 275	**Total other working expenses**	**365 261**
Drawings	74 175	Communication costs (phone and mail)	3 140
Farm surplus for reinvestment[1]	**25 386**	Accountancy	4 899
		Legal and consultancy	4 554
Reinvestment		Other administration	6 831
Net capital purchases	22 230	Water charges	0
Development	15 525	Rates	14 490
Principal repayments	0	Insurance	10 350
Farm cash surplus/deficit	**- 12 370**	ACC Employer	4 682
		Other expenditure[1]	10 098
Other cash sources		**Total overhead expenses**	**59 043**
Dividend on wet shares[2]	17 308	**Total farm working expenses**	**522 563**
Dividend on dry shares[2]	0		
Introduced funds	0		
New borrowings	0		
Off-farm income	0		
Net cash position	**4 939**		

An example of a sheep and beef budget from the Beef + Lamb Farm Survey

Beef + Lamb New Zealand Economic Service

Sheep and Beef Farm Survey - $ Per Hectare Analysis

Class 4 N.I. Hill Country - New Zealand

	2014-15	Provisional 2015-16	Forecast 2016-17
Revenue Per Hectare			
Wool	101.28	106.50	89.10
Sheep	437.38	372.85	358.93
Cattle	382.97	347.10	349.19
Dairy Grazing	49.91	55.68	38.75
Deer + Velvet	5.63	6.92	7.89
Goat + Fibre	0.08	0.07	0.09
Cash Crop	5.78		
Other	40.69	29.90	30.30
Total Gross Revenue	**1023.71**	**919.03**	**874.25**
Expenditure Per Hectare			
Wages	53.50	53.58	53.83
Animal Health	43.98	46.53	44.89
Weed & Pest Control	13.47	13.65	13.87
Shearing Expenses	41.14	40.78	41.28
Fertiliser	117.03	109.16	98.52
Lime	8.90	6.11	7.35
Seeds	6.94	6.97	6.93
Vehicle Expenses	25.63	26.31	26.96
Fuel	17.24	16.74	17.14
Electricity	7.58	7.76	7.91
Feed & Grazing	35.92	36.62	36.37
Irrigation Charges	0.05	0.04	0.04
Cultivation & Sowing	9.87	9.63	9.61
Cash Crop Expenses	0.87	0.74	0.59
Repairs & Maintenance	70.88	70.53	67.82
Cartage	10.99	10.99	11.14
Administration Expenses	26.91	27.00	27.18
Total Working Expenses	**490.91**	**483.13**	**471.44**
Insurance	13.16	13.29	13.54
ACC Levies	5.93	6.73	6.47
Rates	26.68	27.43	28.11
Managerial Salaries	12.45	12.55	12.67
Interest	122.28	112.00	99.90
Rent	29.10	29.22	29.52
Total Standing Charges	**209.61**	**201.23**	**190.21**
Total Cash Expenditure	**700.52**	**684.36**	**661.65**
Depreciation	40.01	40.48	39.55
Total Farm Expenditure	**740.52**	**724.83**	**701.16**
Farm Profit before Tax	**283.19**	**194.20**	**173.09**

Monthly Cashflow Budget

A cash flow budget indicates the timing of income and expenditure. Cashflow should be regularly monitored to ensure there is sufficient cash to pay the bills. It is good practice to update the cashflow budget with actuals on a monthly or bi-monthly basis, this will indicate where expenses have been higher than budgeted for, and allows for timely changes in management if required. Updating the cashflow regularly will also help keep the projected annual financial outcome as accurate as possible.

Cash flow budget example:

CASHFLOW BUDGET														
		Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Total
Milk:	Advance	$0	$900	$19,350	$31,250	$40,250	$32,400	$29,250	$19,998	$20,090	$22,960	$22,960	$2,050	$241,458
	Retro	$4,485	$35,880	$4,485	$4,485								$4,450	$53,785
	Total													**$295,243**
Dividend					$11,133				$11,133					$22,266
livestock		$750	$3,500	$2,000		$6,750		$4,500	$13,500					$31,000
Total Income														**$348,509**
OPEX														
Animal Health		-$2,050	-$2,050	-$2,050	-$2,050	-$2,050	-$2,050	-$2,050	-$2,050	-$2,050	-$2,050	-$2,050	-$2,050	-$24,600
Breeding Expenses				-$3,000	-$6,000	-$5,500			-$3,000			-$3,000		-$20,500
Pasture Renewal										-$5,500				-$5,500
Feed		-$6,000	-$8,000	-$10,000	-$11,000	-$13,500	-$9,500		-$3,500	-$7,000	-$7,000	-$6,000	-$6,000	-$87,500
Fertiliser		-$3,000	-$3,000	-$22,000	-$3,000	-$3,000	-$3,000		-$2,500	-$18,000	-$3,000	-$3,000	-$3,000	-$66,500
Freight General							-$1,000		-$1,000		-$1,000			-$3,000
Farm Working		-$1,000	-$1,000	-$1,000	-$1,000	-$1,000	-$1,000	-$1,000	-$1,000	-$1,000	-$1,000	-$1,000	-$1,000	-$12,000
Weed & Pest		-$1,000		-$1,000		-$2,000				-$2,000				-$6,000
Repairs & Maintenance			-$1,000		-$1,000				-$27,000	-$1,000			-$1,000	-$31,000
Vehicle Expenses		-$800	-$800	-$800	-$800	-$800	-$800	-$800	-$800	-$800	-$800	-$800	-$800	-$9,600
Administration		-$1,450	-$1,450	-$1,450	-$1,450	-$1,450	-$1,450	-$1,450	-$1,450	-$1,450	-$1,450	-$1,450	-$1,450	-$17,400
Rates & Insurance		-$1,160	-$1,160	-$1,160	-$1,160	-$1,160	-$1,160	-$1,160	-$1,160	-$1,160	-$1,160	-$1,160	-$1,160	-$13,920
Shed Expenses		-$500		-$500		-$500		-$500		-$500		-$500		-$3,000
Calf Rearing								-$1,000	-$2,000	-$2,000	-$2,000			-$7,000
Total OPEX		**-$16,960**	**-$18,460**	**-$42,960**	**-$27,460**	**-$30,960**	**-$19,960**	**-$7,960**	**-$45,460**	**-$42,460**	**-$19,460**	**-$18,960**	**-$16,460**	**-$307,520**
Surplus/Deficit														**$40,989**

Partial Budgeting

Partial budgeting is a tool that can be used to decide on alternative uses of resources, where only the income and expenditure relating to the particular change is assessed – all other aspects of the business income/expenditure remain as is. Examples of such incremental change include adding land, expanding or reducing an enterprise or changing how an enterprise is managed, i.e. buying in feed. As such, a partial budget helps evaluate the financial impacts of incremental change.

The partial budget has four components:

- Increased income and/or decreased costs, and
- Increased costs and/or reduced income.

Example

A beef farmer, who is deciding whether to rear calves instead of buying in weaners:

Increases in Net Income		Decreases in Net Income	
Increase in Income		*Decrease in Income*	
None	$0	None	$0
Total Increase	$0	*Total Decrease*	$0
Decrease in Cost		*Increase in Cost*	
Buy in weaner	$350	Buy 4 day calf	$80
	$0	1 bag milk powder	$75
	$0	1 bag calf meal	$75
	$0	Labour	$50
Total Decrease	$350	*Total Increase*	$280
Increase in Net Income	$350	Decrease in Net Income	$280
Change in Net Income	**$70**		

This shows that:

(a) There is no change in income relative to either system (both systems produce a weaner animal which is grown through to prime);

(b) There is a decrease in cost of $350 by **not** buying in weaners; and

(c) There is an increase in cost of $280 with calf rearing

Overall, in this example there is a net benefit of $70 to calf rearing versus buying in weaners.

The use of partial budgeting quickly shows the net benefit, or cost, of alternatives. It also readily allows for sensitivity analysis. In the above example, if it took two bags of milk powder per calf, then the net result would be a loss of $5, indicating that buying weaners is a better proposition. When undertaking a partial budget it is also important to take into account non-financial factors, both positive and negative. For example, in the above example of calf rearing vs buying in weaners, what is the impact of impact of introducing animals to your herd versus keeping a closed herd (e.g. risk of introducing diseases, impact on BW).

DairyNZ have budget templates available on their website:

http://www.dairynz.co.nz/farm/financial/budgets/annual-cash-budgets/

http://www.dairynz.co.nz/farm/financial/budgets/monthly-cashflow-budget/

http://www.dairynz.co.nz/farm/financial/budgets/partial-budgeting/

For sheep and beef most farmers wanting to use a template, the best option is to use an online accounting package:
http://www.crssoftware.co.nz/
https://www.figured.com/

Sensitivity Analysis

Farmers operate in a volatile environment where external factors such as the weather and milk payout can have major implications on profitability. The construction of a sensitivity analysis involves preparing a number of 'what if' scenarios based on various inputs and outputs. The sensitivity analysis can measure the impacts of these variables on profitability and assess risk to the farm system if there is a deviation from the 'plan'. Common variables that are tested in a sensitivity analysis are milk prices, livestock sale/purchase prices, pasture growth, milk production, liveweight gains, feed prices and interest rates.

Example

Rearing R1 heifers on farm until 1 May

		Grazing Price ($/hd/wk)		
		$6	**$7**	**$8**
Milk Price ($/kg)	**$4**	-$22/ha	-$2/ha	$10/ha
	$5	-$16/ha	-$6/ha	$4/ha
	$6	-$20/ha	-$10/ha	$0/ha

The example above shows the change in operating profit when the R1 heifers are grazed on the milking platform until 1 May at different milk prices and grazing costs. The analysis shows that at an $8/wk grazing rate and $4/kgMS milk price, keeping the R1 heifers on farm is $10/ha/wk more profitable, and at an $8/wk grazing rate and $6/kgMS milk price it is breakeven. The reason for this is that extra feed has to be purchased OR milk production will decrease to compensate for the R1 heifers consuming milking cow feed.

Completing a sensitivity analysis is simple, requires very little time or data and provides valuable information when prices are volatile.