

# CONNECTING THE DOTS TO SUCCESSFUL FARM FINANCIAL ANALYSIS

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## Introduction

How do you get a true and consistent view of your farm business, using key performance indicators, to confirm you are on track to meet your farming goals?

A DairyBase analysis provides the information to measure and compare farm businesses against regional benchmarks, individual farm benchmarks, and your own business over time.

DairyBase data tells us that in the South Island in the 2013-14 season the top 10% of owner operated farms achieved an operating profit of \$6,596 per hectare, and operating return on dairy assets of 10.4%. How did you compare?

The Key Performance Indicators we are going to consider are:

1. Operating profit
2. Operating return on dairy assets
3. Operating profit margin
4. Debt to asset %
5. Discretionary cash
6. Equity growth.

## What makes a DairyBase analysis different?

A DairyBase report takes a management view on a set of farm financial accounts; it also consolidates all the financial entities that make up the business to give a clear picture of the business performance. Adjustments are made to standardise information to enable comparison within businesses and across businesses. These adjustments are non-cash and are as follows:

1. Changes in livestock numbers

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2. Depreciation
3. Unpaid labour and management inputs
4. Owned support block
5. Changes in bought in feed

The combination of cash and non-cash revenue and expenses leads to '**operating profit**'. This contributes to the calculation of financial key performance indicators.

## **Where do we start?**

### ***Operating profit***

Calculated as **Gross farm revenue – operating expenses**; Operating Profit enables comparison of operating performance between farm businesses and can be expressed on a per cow, per kgMS, or per hectare basis, indicating the profitability of the business.

An on-going study in the Bay of Plenty, which incorporates 40+ farms of different system types. Farm system types are based on level of feed imported, described as follows:

- System 1 – No supplement fed to the herd except supplement harvested on the effective milking area and no grazing off the effective milking area.
- System 2 – Approximately 4-14% of total feed is imported.
- System 3 – Approximately 10-20% of total feed imported.
- System 4 – Approximately 20-30% of total feed is imported.

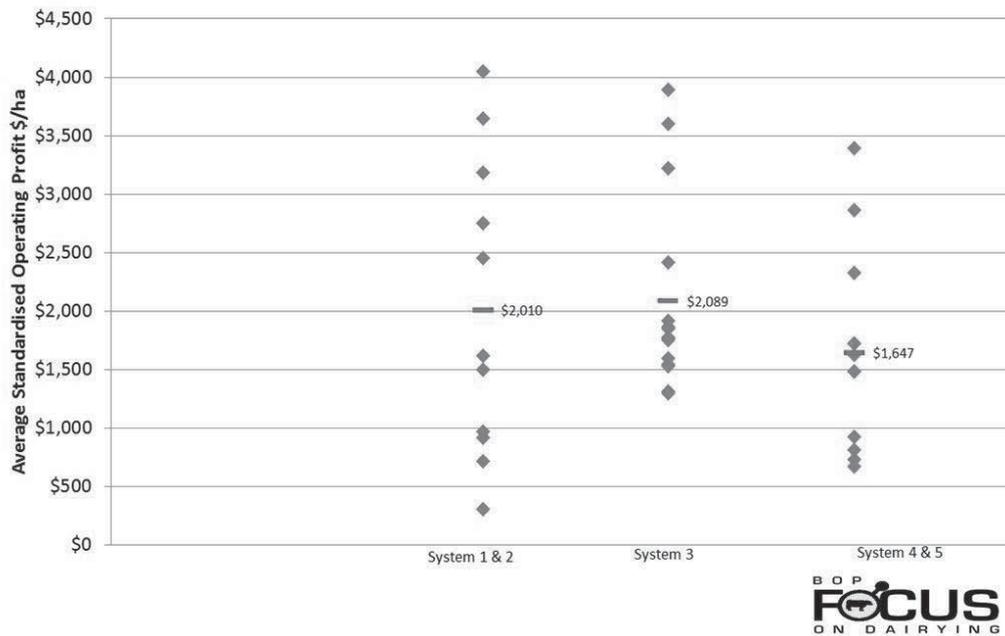
System 5 – Imported feed used all year, throughout lactation and for dry cows. Approximately 25-40% (can be up to 55%) of total feed is imported.

This study regularly demonstrates a wide range of profitability on a per hectare basis within each system type. The 2012/13 results are shown in Figure 1 - the average is denoted by the line in each system column.

When looking at the physical key performance indicators (Table 1) that drive the profit outcome within this study, the farms were grouped as follows; System 2, System 3 and System 4 & 5. The metrics for the top farm in each grouping were removed and the remainder of the farms were averaged and compared against the top farm.

The top farms in each system type had lower cost structures per kgMS compared to the average, higher production both per cow and per hectare, higher stocking rates and consumed more home grown feed compared to the average.

## 2012/13 Standardised Operating Profit per hectare by Farm System



**Figure 1.** Standard operating profit per hectare by farm system type

*Key message:*

It's not the farm system type you operate, but **how** you operate it that drives profitability.

**Operating profit margin**

Calculated as **dairy operating profit as a percentage of dairy gross farm revenue**; Operating Profit Margin measures the businesses' ability to regularly generate revenues and control costs in such a way as to generate a profit. This has been described as a measure of business resilience, which is the ability to withstand volatile milk prices.

The larger the operating profit margin percentage, the better, as it means the business is more resilient and able to withstand milk price and/or input price shocks.

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**Table 1.** Physical Key Performance Indicators, Top Farm in each system type compared to average of rest of farms in 2012/2013

	System 1&2		System 3		System 4&5				
	Top Farm	Average of rest	Top Farm	Average of rest	Top Farm	Average of rest			
Std Operating Profit/ha	above	\$4,046	\$1,806	above	\$3,893	\$1,960	above	\$3,394	\$1,379
Operating exp /kg ms	below	\$3.16	\$4.47	\$3.94	\$4.68	\$4.50	\$5.36		
MS/cow	above	354	335	386	358	429	377		
MS/cow/day whole season	above	1.68	1.42	1.44	1.53	1.75	1.54		
10 day av peak/cow	above	2.11	1.79	2.01	1.95	2.21	1.92		
MS/cow % LW	above	77%	74%	86%	73%	89%	80%		
% cows lame	below	<1%	1.8%	1.1%	3.3%	2.5%	5.1%		
Stocking Rate cows/ha	above	3.2	3	3.8	3.3	4	3.5		
Kg MS/ha	above	1133	1002	1455	1168	1707	1312		
MS/ha to 31Dec	above	840	660	913	801	1135	897		
MJME/ha past+crop	above	155k	138k	172k	154k	153k	141k		
HG Feed eaten tDM/ha	above	14.1	12.8	15.6	14	13.9	12.8		
Bought In Feed eaten tDM/ha	above	1.08	0.87	2.58	1.22	6.07	3.88		

Std = standardised for milk price, HG = Home Grown Feed



South Island farms analysed through DairyBase in the 2013-14 season (Table 2) show there are significant opportunities to increase operating profit margin from the average farm versus the top 10%.

**Table 2.** Average South Island owner operator operating Profit Margin versus South Island top 10% 2013-14

	<b>South Island Average 2013-14 (196 farms)</b>	<b>South Island Top 10% 2013-14 (20 farms)</b>
Gross Farm Revenue /ha	10,517	13,868
Operating expenses /ha	6,671	7,272
Operating profit/ha	3,846	6,596
Operating Profit Margin	36.6%	47.6%

*Key message:*

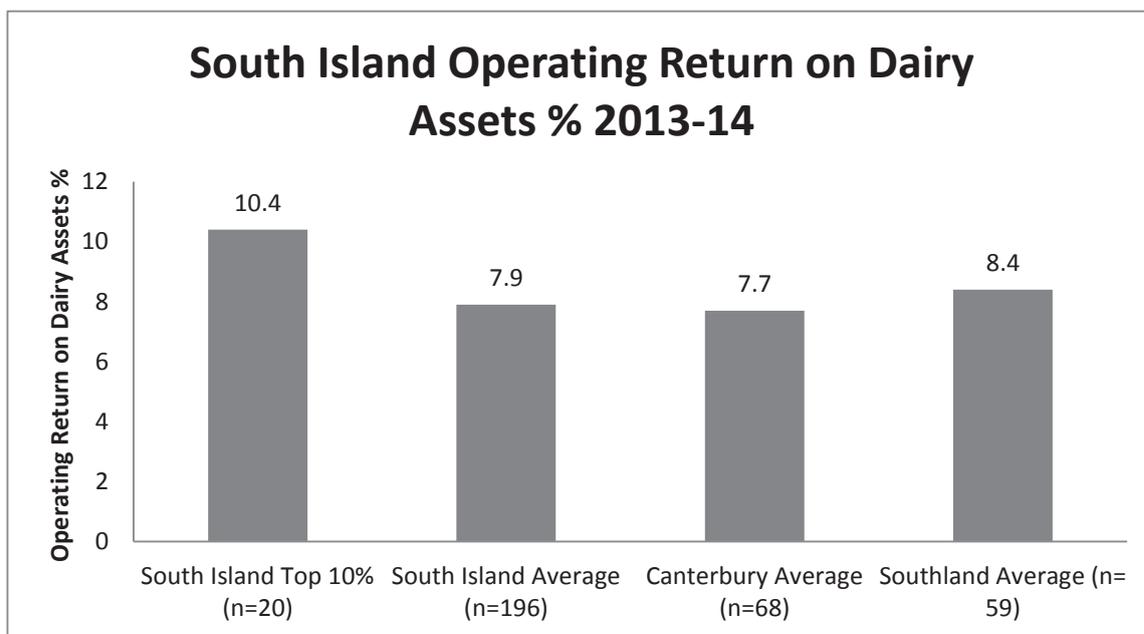
Mind the gap between revenue and expenses.

### ***Operating return on dairy assets***

Calculated as **Operating Profit as a percentage of opening dairy assets**, this measures the profit generated from the dairy assets employed. This KPI can be compared to the return on putting money in the bank. If the rate of return on dairy assets is less than the interest rate on your bank debt you are losing cash equity. Figure 2 shows the operating return on dairy assets for the top 10% of farms in the South Island, the South Island average, Canterbury average and Southland average in the 2013-14 year. In the 2013-14 year there is a 2.5% difference between the average farm and the top 10%.

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**Figure 2.** Operating Return on Dairy Assets South Island 2013 -2014

*Key Message:*

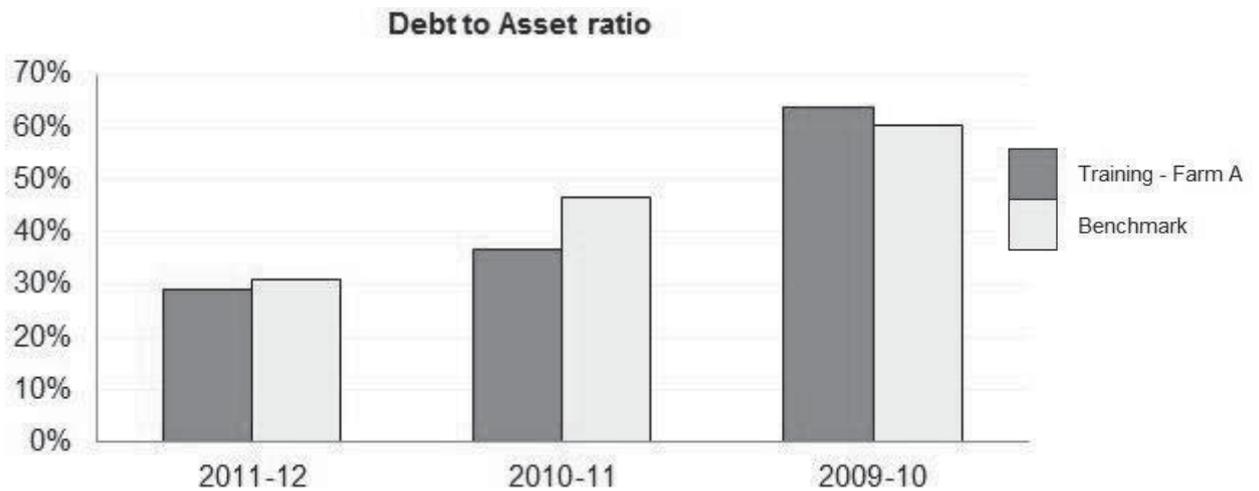
Rate of return on dairy assets should be higher than bank interest rate.

**Debt to Asset %**

Debt to Asset % calculated as **closing total liabilities as a % of closing total assets**. This ratio measures the total amount of external debt relative to the assets or simply put the proportion of the assets that have been funded by borrowing. (The counterpart to the debt to asset ratio is the equity ratio which is the proportion of assets funded by the owners and by profits retained in the business). Debt to asset % is an important indicator of business risk - the higher the ratio, the higher the degree of leverage and consequently financial risk.

Debt to asset percentages vary throughout the life of a business, higher ratios are common in new and expanding businesses (Figure 3). It is essential to consider the discretionary cash available to service debt and the profitability of the business.

The debt to asset % considers the total debt of the business but does not specify whether it is short, intermediate or long term debt. The type and mix of loans and interest rates will impact cash flow.



**Figure 3.** The trend in Debt to Asset ratio for a farm business over time

Farm businesses, which are profitable and have high return on assets also have the ability to service higher levels of debt.

*Key message:*

Use leverage wisely to work for your business.

### **Discretionary Cash**

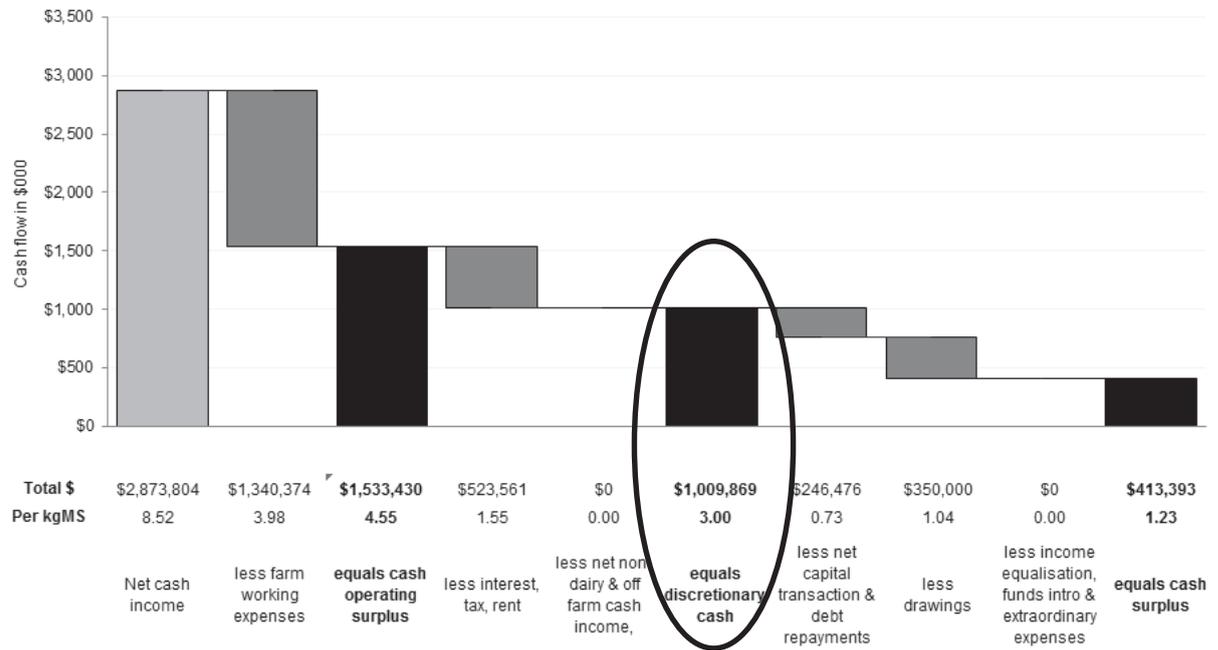
Discretionary Cash is calculated as **net cash income - farm working expenses – lease– interest – tax**. This represents the cash available to meet capital purchases, debt repayments, drawings and extraordinary expenses. The cash that as a business owner you decide where to spend, is your business delivering what you want from it?

Cash based KPI's can only be compared within a business year on year. Figure 4 displays how cash has been applied within an example farm business; is \$350,000 sustainable in terms of personal drawings?

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*Key message:*

Cash gives you choices.

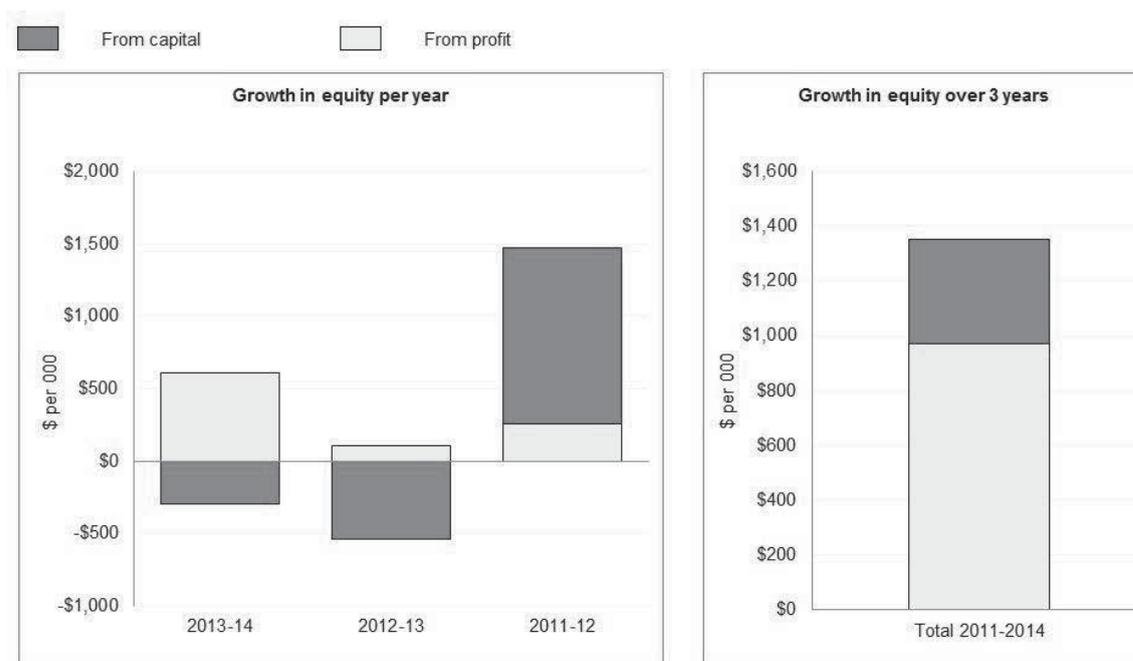


**Figure 4.** ‘Cash Waterfall’ demonstrates where cash has been applied

### **Equity Growth %**

DairyBase provides an equity growth key performance indicator and compares this to a benchmark this is calculated as **closing equity – opening equity as a % of opening equity**. A business can grow equity via business profits or capital growth on the assets it owns, Figure 5 shows the breakdown of equity growth for a business over a three year period. To use this key performance indicator effectively it needs to be assessed over at least 3 to 5 year time frames. It is also essential to understand how the equity growth has been generated.

Equity growth over time is the ultimate measure of business performance. It is the combination of high operating profit, sensible leverage and re-investment of cash surpluses into high return areas. Get these three things right and you will have equity growth.



**Figure 5.** Breakdown of how equity growth has been generated

*Key Message:*

Equity growth from profit is yours to keep.

### Using DairyBase data in practice - Hayden and Robyn Williams

Hayden and Robyn Williams are in their 7<sup>th</sup> season as 50:50 sharemilkers, milking 730 cows in North Otago for Chris and Kay Dennison. They also own a dryland block, which they are currently converting. Their farm business goals have been to grow their equity to \$2.5 million by the end of the 2014/15 season.

This has been achieved with the farming philosophy of maximising pasture grown and harvested (10-15% of total feed bought in as supplement), maintaining farm working expenses/kgMS no greater than \$2.00 with any spare cash spent on appreciating assets rather than depreciating assets.

Notes:

## ***Farming Goals***

1. To control the cost of production to achieve a system that is profitable and sustainable at all payout levels.
2. To ensure the systems in place are being utilised by our team to ensure it is business as usual in our absence.
3. Maintain a high level of job satisfaction and camaraderie within our business.
4. Encourage ongoing training for employees to achieve their own personal and farming goals.

## ***How does DairyBase support these goals?***

Hayden and Robyn highlight the following areas that DairyBase has added to their farming operation:

- ‘A DairyBase analysis is our actual figures - it’s based on facts and a trusted source of information, giving the option of a snapshot or a more in depth view of our business over a financial period.’
- ‘Getting out of bed to milk cows every morning for the love of it could wear thin so by analysing and benchmarking our business KPI’s we can identify areas of inefficiencies and make changes. This enables us to focus our attention on the areas which will help us reach our goals.’
- ‘At the start of our farming career the focus was on benchmarking operating profit and relating our profit back to the physical performance of the farm. This is still important though as we move to convert a property it is great to have the ability to access the cost structures of top performers through individual benchmarks to compile budgets.’
- ‘If you benchmark, analyse and therefore fully understand your business and its drivers, you are more in control. This better understanding also enables you to use your rural professionals more effectively by fully engaging in robust discussions.’

## **Conclusions**

- Key performance indicators are metrics driven by your decision making.
- Regular DairyBase analysis will provide a consistent view of business performance over a number of financial periods.
- Understanding how to use KPI’s as signposts helps you track how your business is performing along the journey to reach your goals.
- Ultimately **you** are the **Key Person of Influence** who decides what you want out of your business and how you are going to achieve it.