Understanding the challenges of volatile seasons, markets and finance in beef production

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Paper presented to E. H. Graham Centre Beef Forum, Charles Sturt University, Wagga Wagga, August 2014

The Brief:

Beef farmers have many challenges: tell us how a farm economist thinks about seasonal, market and financial risks of running a beef business

Outline

1. Introduction
   - beef farm just purchased -how best to run it?

2. What are the significant risks of farming beef, and of these risks, which risks matter most?

3. How might the business perform running three different stocking rates of beef breeders plus followers and turning off yearlings, using supplementary feed as required

4. A closer look at business and financial risks of the farm running 1000 breeders at 80% equity

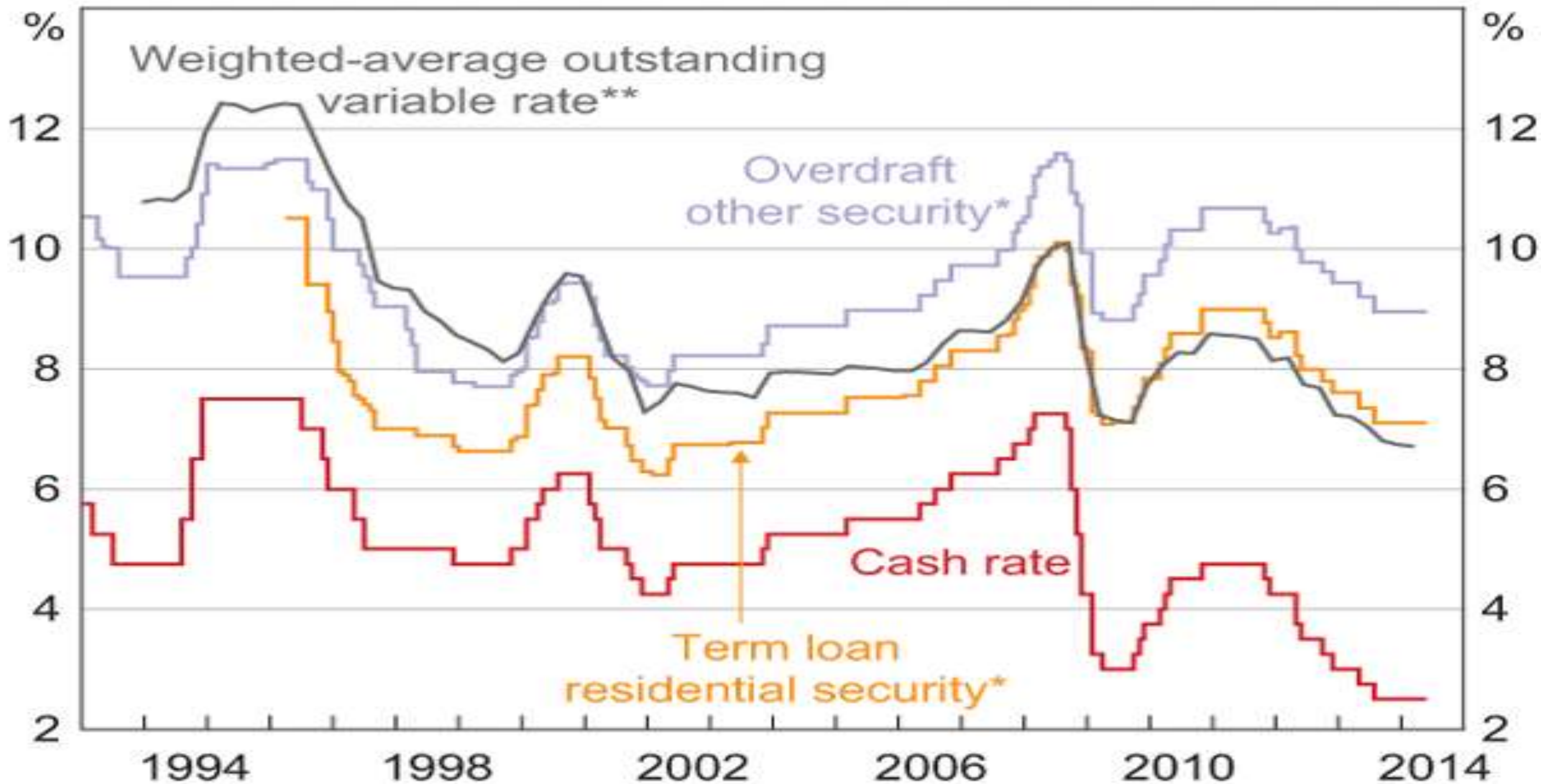
5. Conclusion: Managing the risks

Business and Financial Risk

Two Types of Risk:

- Business Risk (seasons, prices)
- Financial Risk (debt and servicing debt)

Australian Small Business Interest Rates



*   Indicator rates

**   Including risk margins

Sources: APRA; RBA

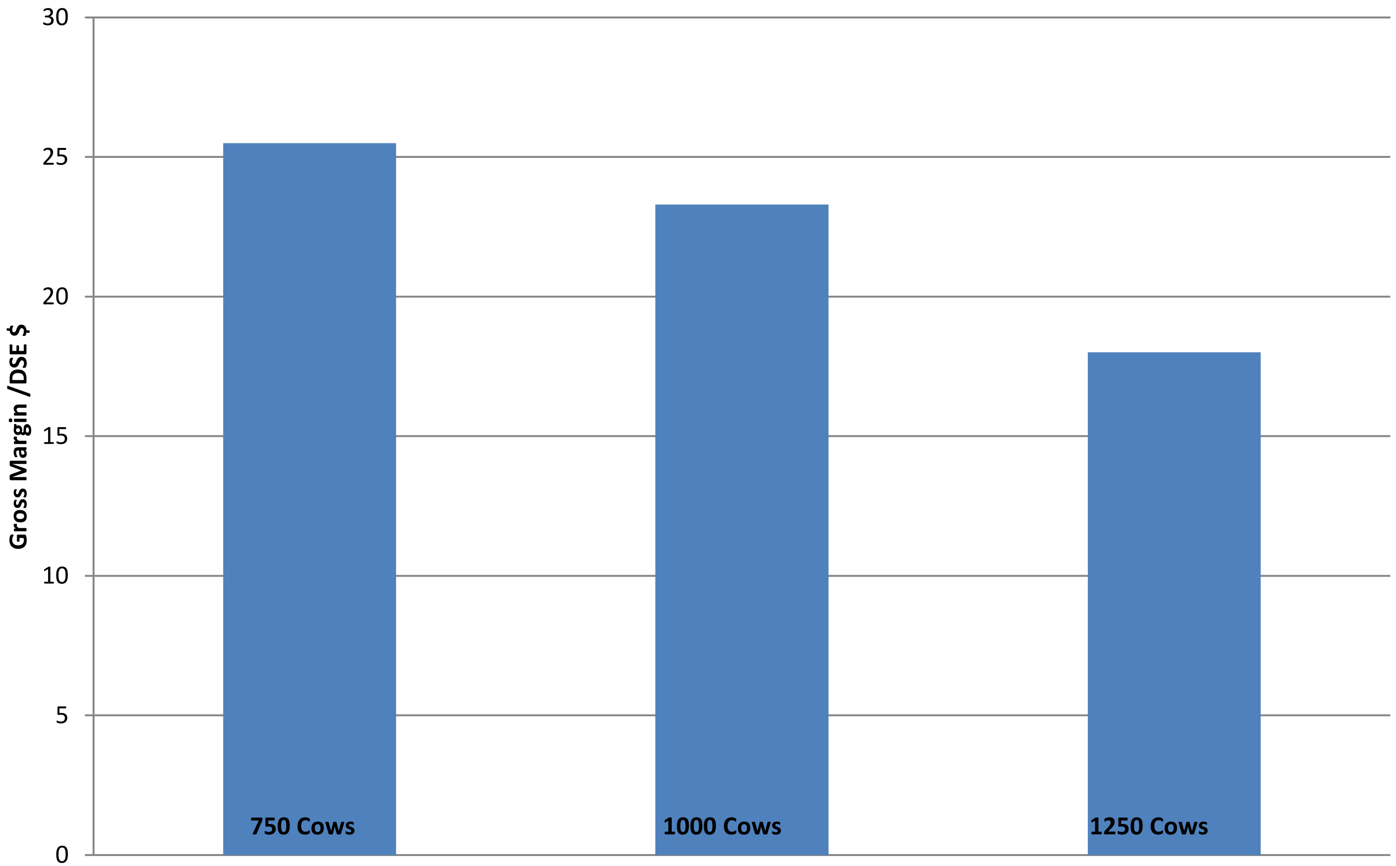
Principle of increasing financial risk

Proportion of Debt in Total Capital	0	50%	0	0.5
	Profit Made		Loss Made	
Rate of return on total capital	10%	10%	-10%	-10%
Interest rate on debt	8%	8%	8%	8%
Tax	0	0	0	0
Consumption	0	0	0	0
Total Capital	10,000,000	10,000,000	10,000,000	10,000,000
Debt	0	5,000,000	0	5,000,000
Equity	10,000,000	5,000,000	10,000,000	5,000,000
Operating profit	1,000,000	1,000,000	-1,000,000	-1,000,000
Cost of Interest on Debt	0	400,000	0	400,000
Net Profit (operating profit minus interest)	1,000,000	600,000	-1,000,000	-1,400,000
Minus Tax	0	0	0	0
Minus Consumption	0	0	0	0
Equals Growth in Equity (Net Worth, Wealth)	1,000,000	600,000	-1,000,000	-1,400,000
Growth Rate ((% change in equity. Growth/Starting equity)	10%	12%	-10%	-28%

The Questions:

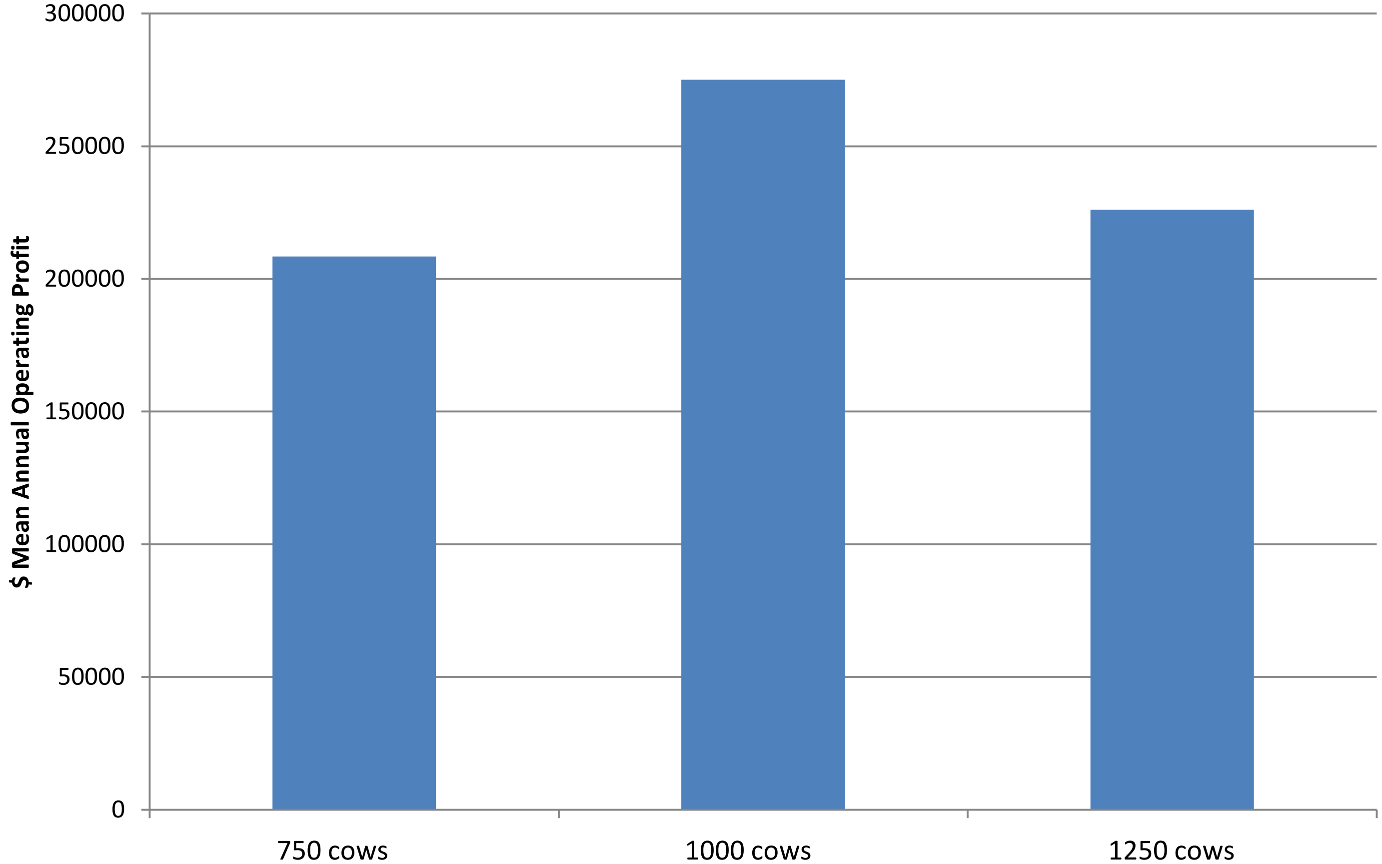
- How many breeders?
- How Much Debt?

Average Gross Margin/DSE



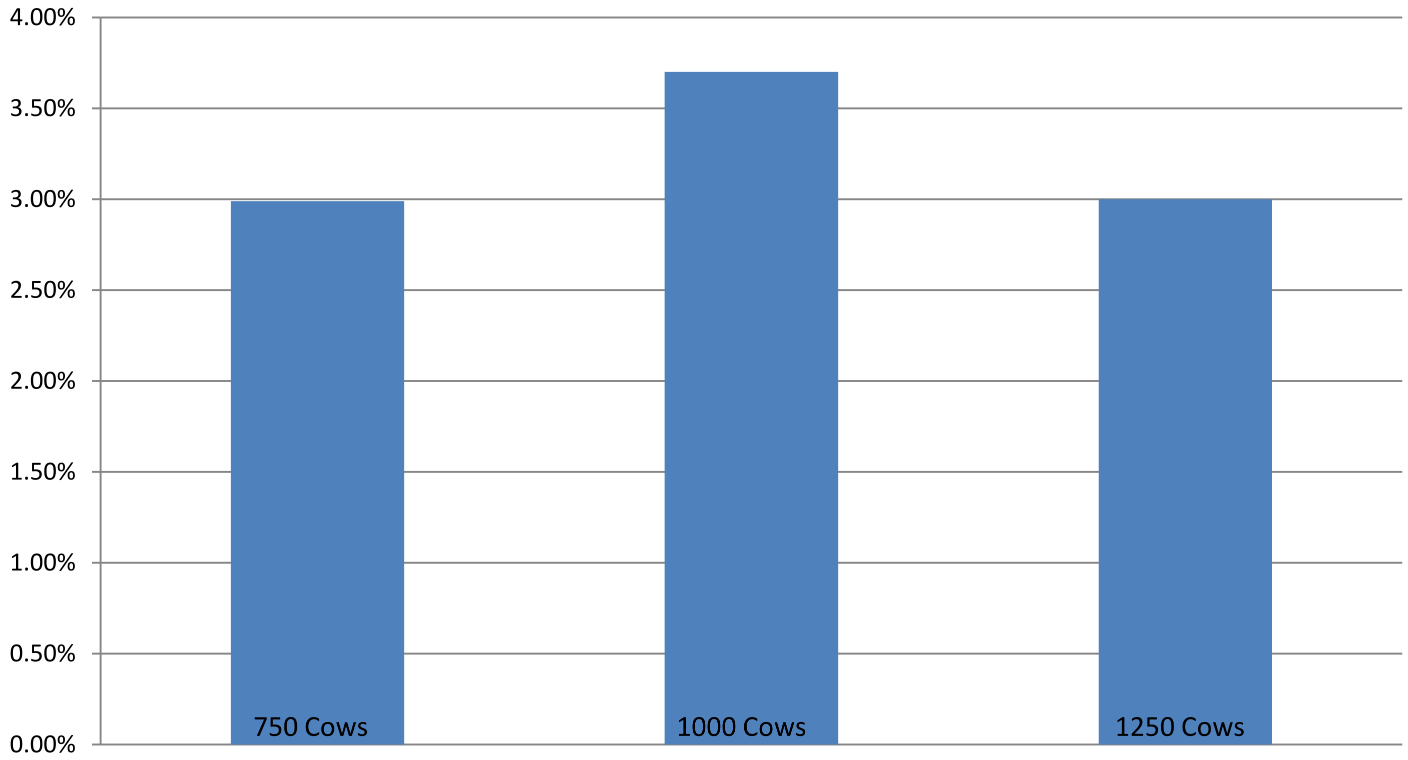
Average GM/DSE does not tell us how profitable farm is, nor anything about financing it, nor anything about how risky (business and financial risk) it might be

Average Annual Farm Operating Profit

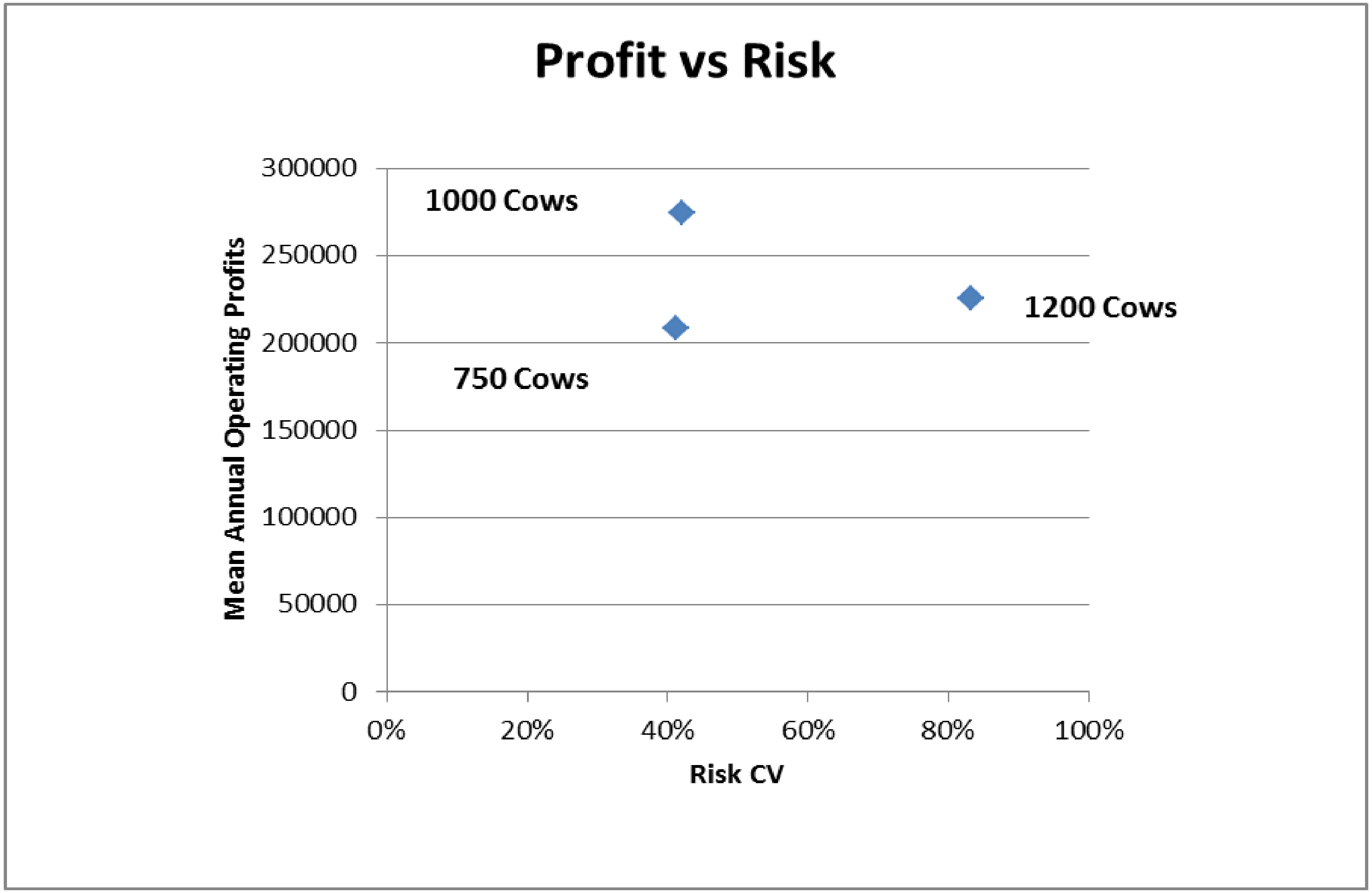


Average farm profit does not tell us if it's a good investment, nor anything about financing it, nor anything about how risky (business and financial risk) it might be

Average Annual Return on Capital



Average annual return on capital tells us it’s a good use of capital (economic efficiency), and 1000 cows is the best option, but what about risk. And, is it financially feasible?

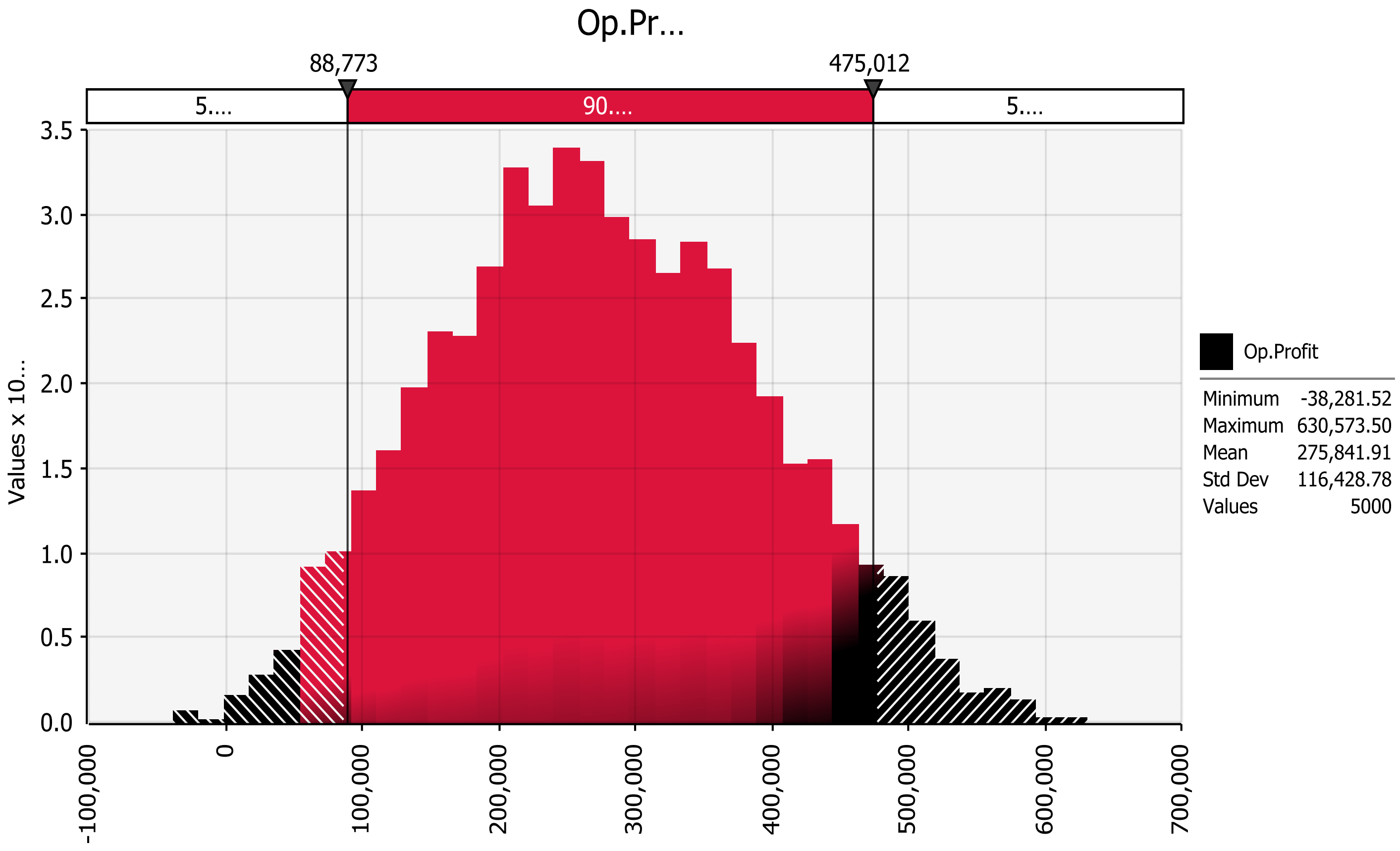


Now we are talking – need to think about both profit and risk together.

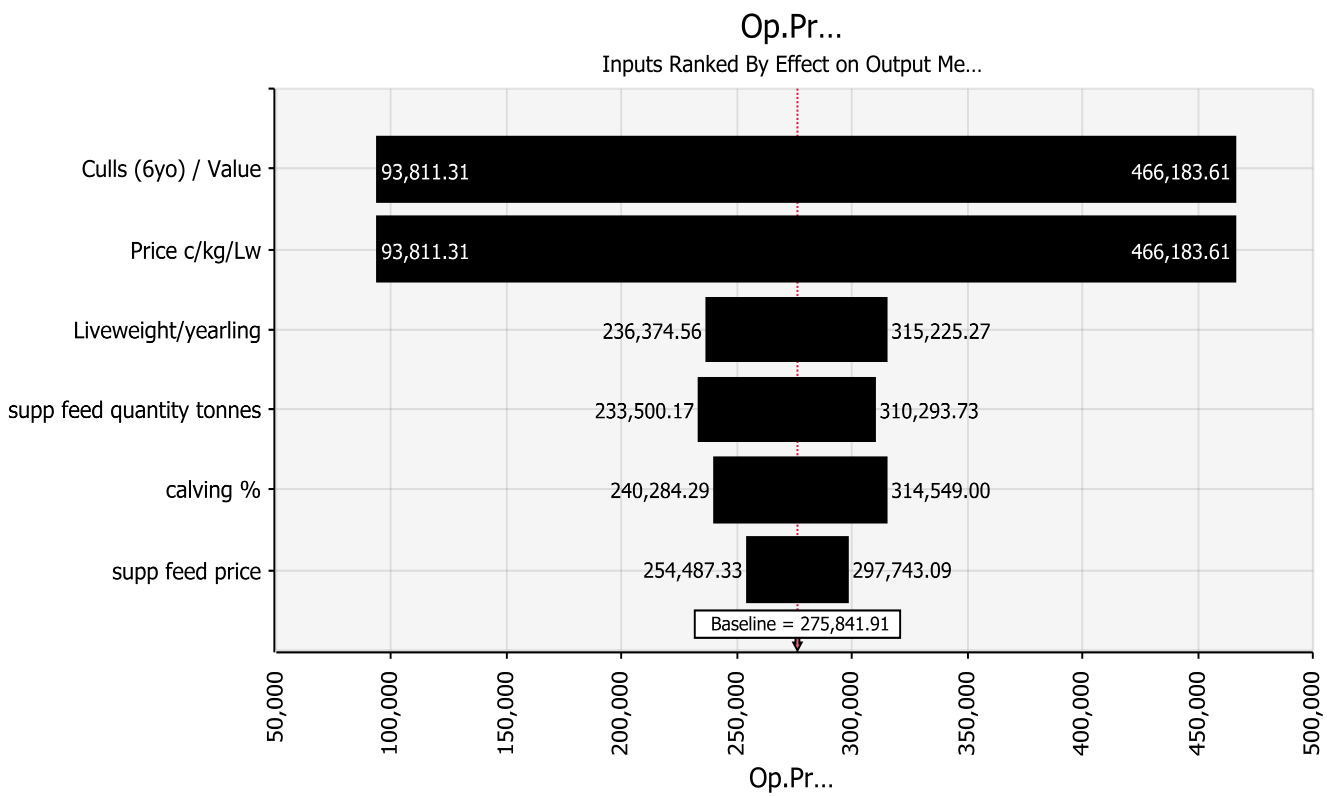
1000 cows-higher return, same risk as the 750 cow option, higher return and less risk than 1200 cow option

The 1000 cow option - a closer look at business and financial risk

Business Risk: Distribution and volatility of potential annual operating profits (CV 43%)

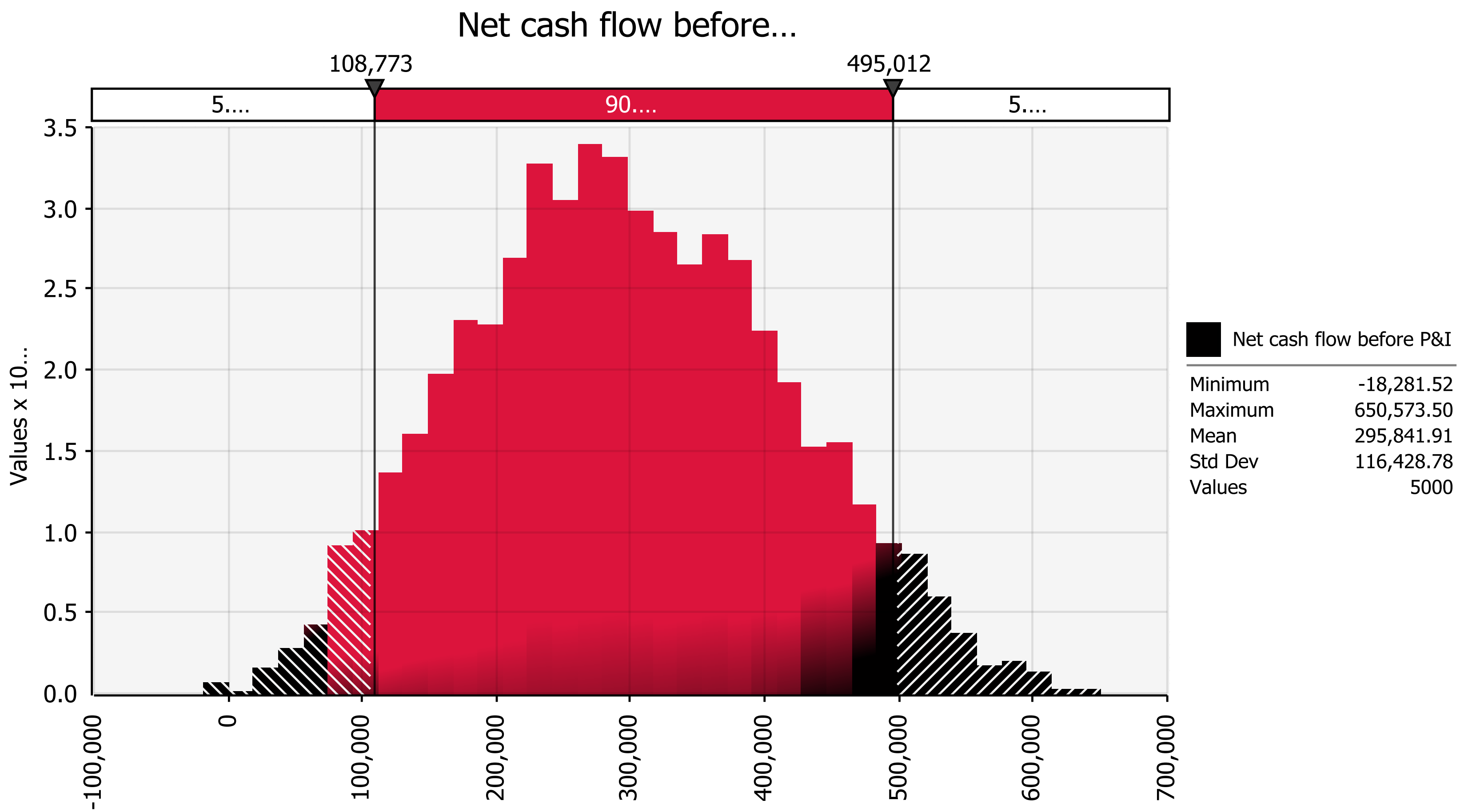


Factors Affecting Volatility of Potential annual Operating Profits

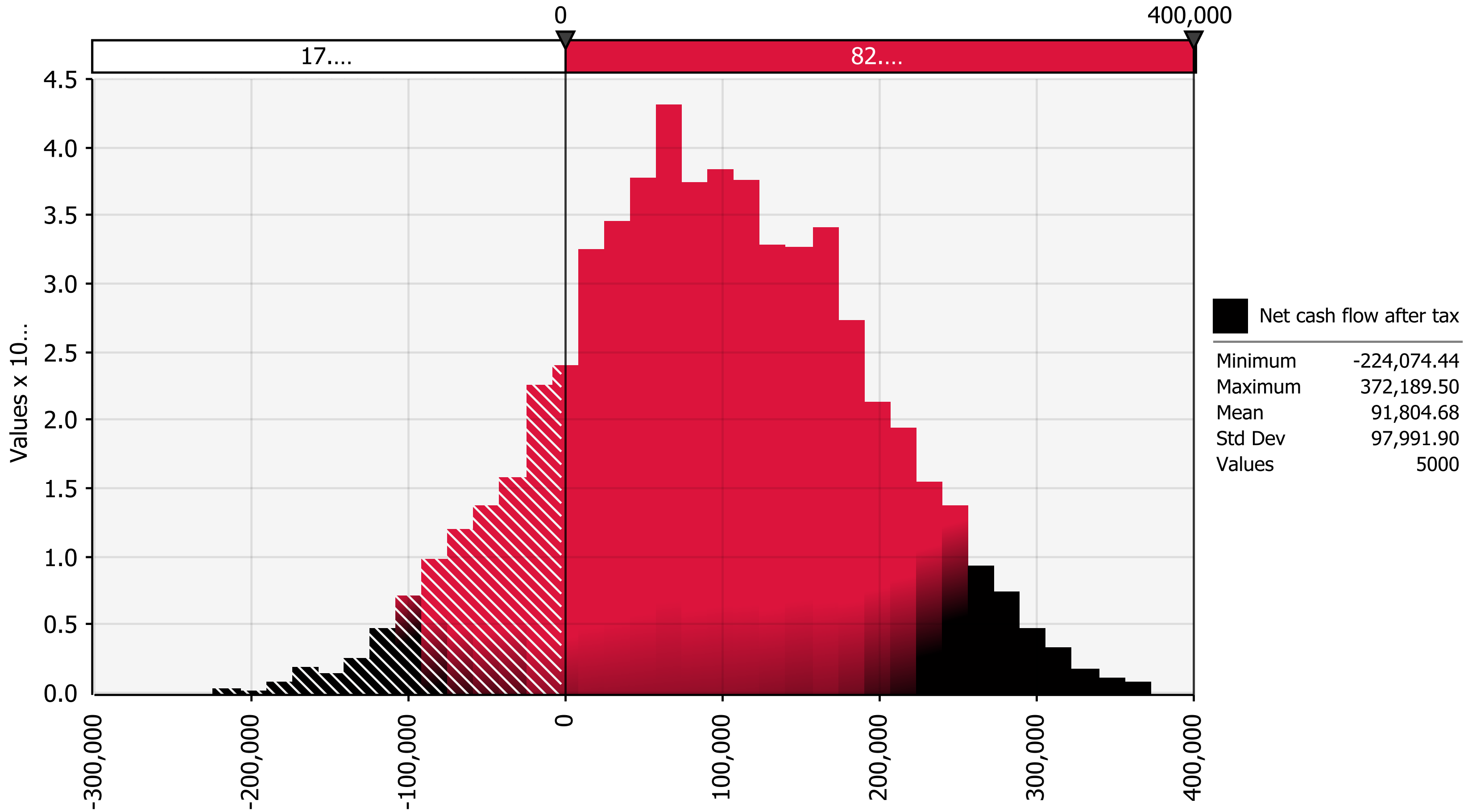


Volatility of price contributes most to volatility of operatiing profit

Business Risk: Volatility of potential annual net cash flows *before* meeting financial meeting obligations at 80% equity (CV 39%)

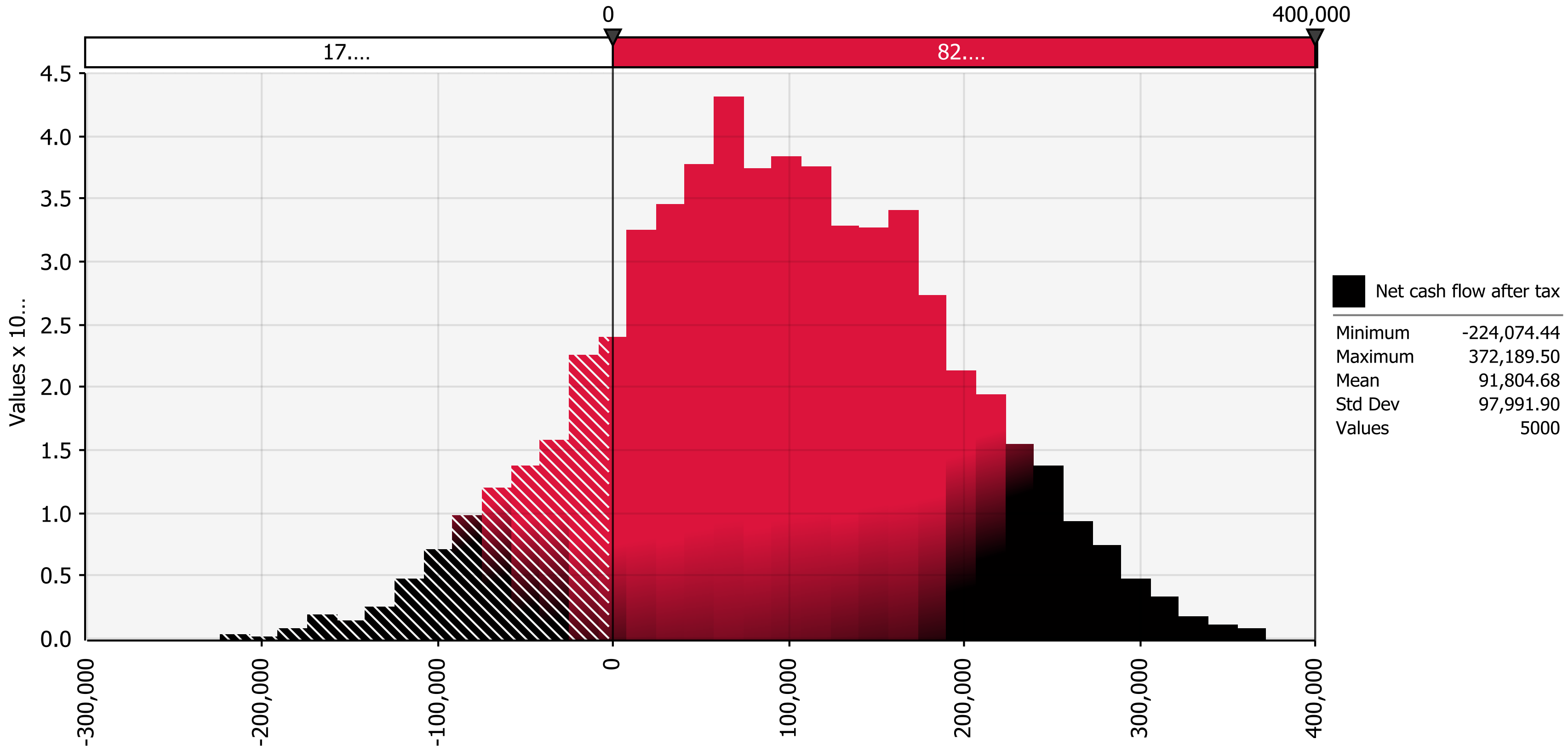


Total Risk: Includes Both Business and Financial Risk. Volatility of Potential Annual Net Cash Flows After Servicing Debt at 80% Equity (CV 107%)

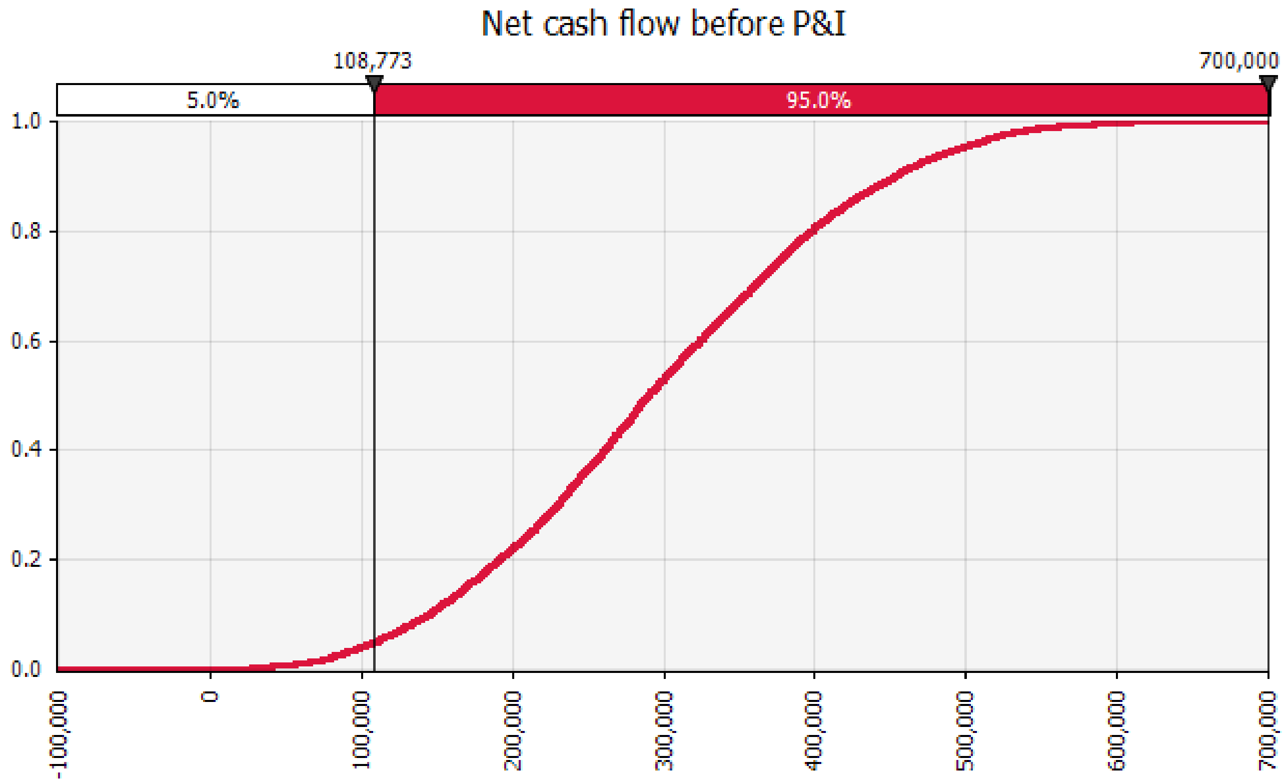


Financial risk adds to business risk. At 80% equity, total volatility of NCF increases to 107%

Probability of servicing debt in any year, 80% equity



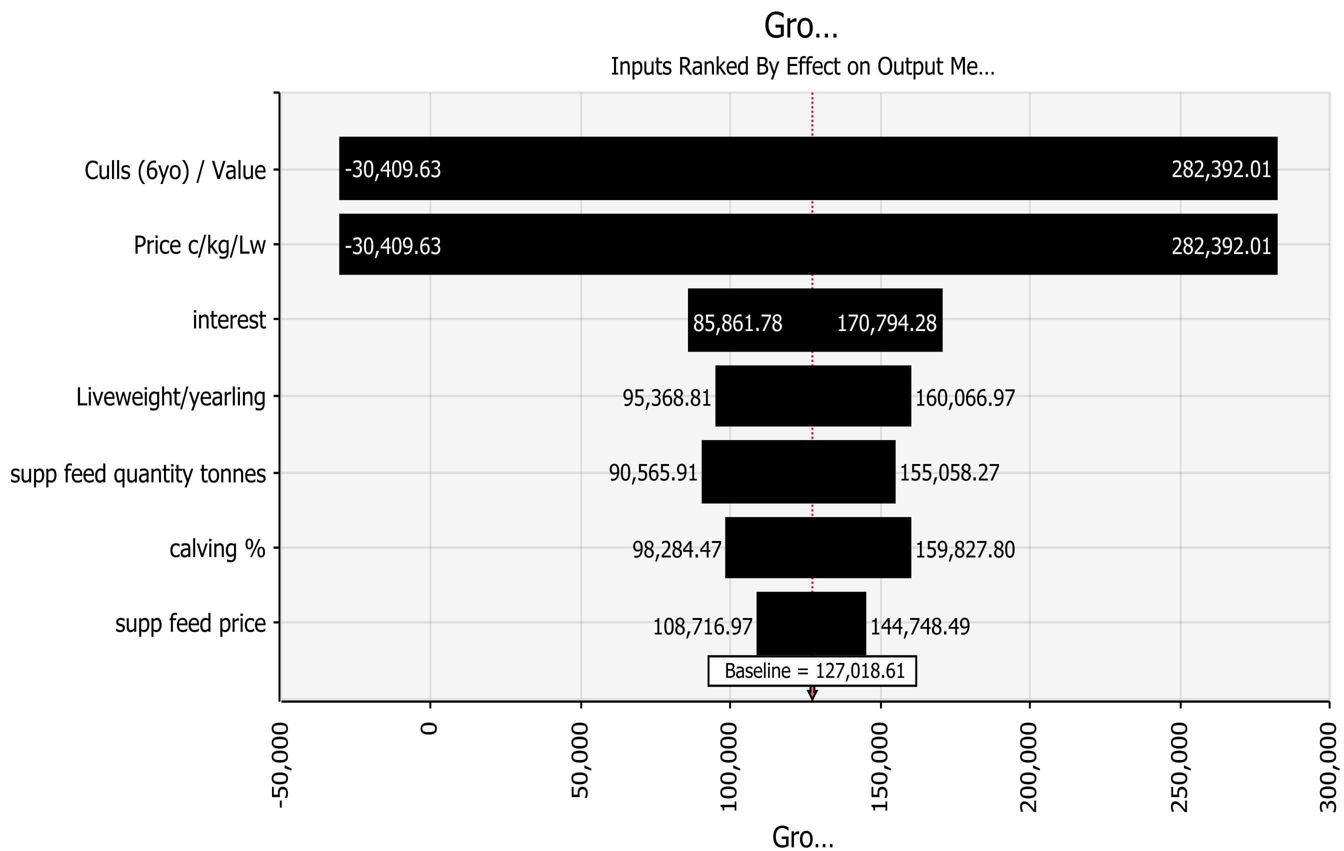
Probability of servicing debt in any year



Statistics

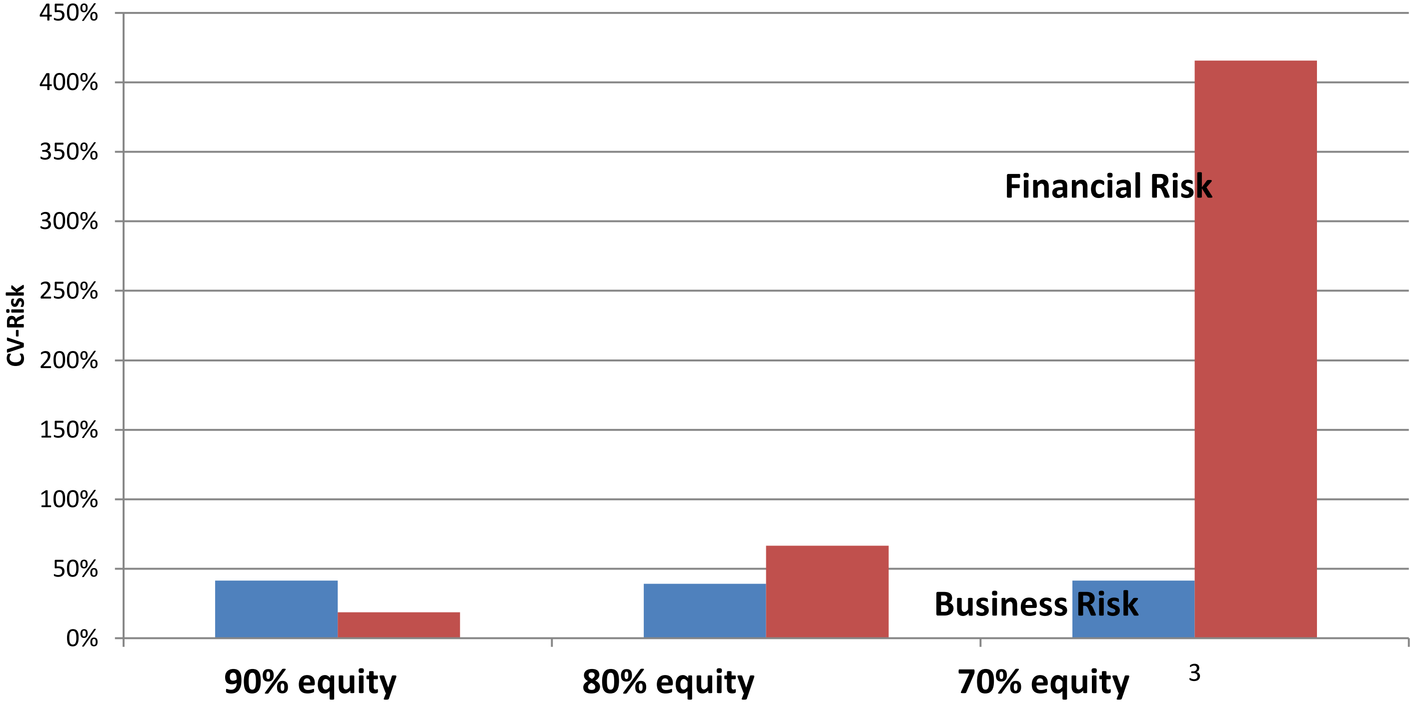
	Net cash flow before P..
5%	108,772.58
10%	145,050.77
15%	169,095.30
20%	191,506.89
25%	212,470.60
30%	229,945.60
35%	244,684.25
40%	261,016.24
45%	276,157.97
50%	289,945.75
55%	306,810.87
60%	324,294.91
65%	341,622.87
70%	360,536.59
75%	378,625.96
80%	398,071.73
85%	422,820.73
90%	453,106.86
95%	495,012.05
99%	557,834.56

Factors Affecting Volatility of Potential Annual Growth in Equity



Price matters most, followed by interest payments

How much debt to have?



Conclusion: Managing the risks

- Price risk
- Feed Cost
- Interest and principal
  - Most important: respect the operation of the principle of increasing financial risk.
- Be technically very good at farming, especially timing and quality of key operations
- Have the portfolio principle working for the business. That is, activities and investments whose performances are not affected in the same way by the same risky phenomena (i.e. perfectly correlated as seasons and markets change).
- Use insurances for the potentially big losses
- Act counter cyclically, setting up the business to be able to strike when the inevitable opportunities arise as a result of the volatility of prices, yields, interest rates.
- Don’t pay too much for land, nor have high debt to equity ratio – that is the path to ruin.