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Sheep enterprises and their ability to service existing debt levels when faced with the continuation of drought feeding for 12 or 24 weeks

Geoff Casburn

Industry & investment NSW, Wagga Wagga Agricultural Institute, Pine Gully Rd, Wagga Wagga NSW 2650
geoff.casburn@industry.nsw.gov.au

Abstract: The ability of a sheep enterprise to service increasing levels of drought-related debt is directly related to the enterprise's ability to generate a large cash surplus after paying variable costs, living expenses, fixed costs and tax. Three typical sheep enterprises with gross margins (GM) ranging from \$15 to \$25 per DSE were analysed at 10 DSE/ha increasing to 12.5 and 15 DSE/ha. These enterprises were overlaid with various levels of debt, ranging from \$200,000 to \$2,000,000, and assessed using a 10-year 'cash flow' calculator. Interest rates were varied from 8.5% to 12.5% for the overdraft account and 7% to 10.5% for the term loan. The analysis included one-and-a-half years of Exceptional Circumstance assistance as a subsidy equalling 80% of the interest. Each enterprise was inflicted with a 12 and 24-week period of further drought feeding. Each analysis included \$50,000 of living expenses and overhead costs varied from \$30,000 up to \$50,000 to account for increased labour cost for higher stocking rates. The number of ewes ranged from 4,000 to 6,000 and the cost of increasing ewe numbers was included. The results indicated that a sheep enterprise with a GM of \$15/DSE at a stocking rate of 10 DSE/ha would have difficulty servicing a \$200,000 debt where as an enterprise with a GM of \$25/DSE at a stocking rate of 15 DSE/ha could possibly service a debt of \$2,000,000.

Keywords: gross margins, stocking rate, prolonged drought, bank debt servicing indicators, enterprise options.

Introduction

In many areas of New South Wales the drought has resulted in large debt levels and, for many, a loss of savings that were set aside for retirement. Many families are faced with hard decisions about the future of the business and their ability to recover after the drought.

These questions can really only be answered by each business sitting down and assessing their present financial situation, their future income generating potential and their motivation to keep going.

However, for an industry we can undertake some generalised financial analysis to gain a better understanding of the potential for sheep enterprises to recover. It is important to state that this analysis uses a number of assumptions and generalisations and cannot be used as a basis for decision making for any individual business. However, it can be used to inform readers about the potential benefits of change.

Materials and methods

Three sheep enterprise gross margins (GM) published in May 2007 on NSW Department of Primary Industries (NSW DPI) web site (www.dpi.nsw.gov.au/agriculture/farm-business/budgets) were used as a baseline for analysis of businesses with varying debt levels facing the prospect of full drought feeding for 12 weeks and 24 weeks.

The three (GMs) used were Merino ewes (21 micron) joined to Merino rams (\$15/DSE), Merino ewes (21 micron) joined to Merino rams with wether lambs sold as trade lambs

(\$21/DSE), and Merino ewes (21 micron) joined to terminal rams (\$25/DSE). This analysis is not a comparison between enterprises, it is a comparison between different levels of enterprise profit and thereby debt servicing ability.

The GMs during the drought year were altered to include the feeding costs for two drought periods and sheep sale values to more closely match market forces at that time. See Table 3 for a list of adjustments and assumptions. Following the drought year GMs returned to normal.

The gross margins were developed for three stocking rates 10 DSE, 12.5 DSE and 15 DSE per hectare with the cost of fertiliser being \$38, \$45 and \$52/ha respectively. Enterprise size was increased to 4,000, 5,000 and 6,000 breeding ewes to match industry practice.

The GM results were entered into a 'cash position spreadsheet' developed by Lloyd Davies Agricultural Economist NSW DPI. The spreadsheet calculates the financial position (including tax payable, interest on borrowings and overdraft account) of the business for each year of a 10-year period. For each analysis \$50,000 of living expenses and \$50,000 of overhead cost were included (approximately \$100 per hectare). For the sheep enterprise with a GM of \$15/DSE the overhead costs were reduced to \$30,000 to see what impact that would have on the business's ability to handle debt. For the sheep enterprises that were increased to 15DSE/ha, overhead cost were increased by \$20,000 to account for the extra labour required to run the animals.

Variable costs came directly from the revised gross margins. Opening debt levels ranged from \$200,000 to \$2,000,000 with interest calculated at 8.5% for the overdraft account while the term loan was calculated at 7%. The analysis included one-and-a-half years of Exceptional Circumstance (EC) assistance as a subsidy equalling 80% of the interest, starting in the drought year. Analysis also included an increase in interest to 10.5% and 12.0% for the term loan and overdraft respectively. See Table 4 for an example of the 'cash position spread sheet'.

Each analysis was compared to four risk assessment indicators used by lending institutions (T. Leske, pers.comm. 2008). These were debt/income ratio, interest as a percentage of income, costs as a percentage of income and equity.

Results – impacts on business viability

\$200,000 pre-drought debt, varying GM (\$/DSE) with a stocking rate of 10 DSE/ha.

Each sheep enterprise (\$15/DSE, \$21/DSE and \$25/DSE) was assessed on its ability to handle \$200,000 of pre-drought debt combined with a drought reduced GM, which included reduced sheep sale prices and increased feeding costs for a 12 and 24-week feeding period.

12-week drought. Each analysis was overlaid with an interest rate subsidy of 80% during the second half of the drought year and the following year.

Figure 1 clearly shows that the \$15/DSE sheep enterprise with or without an interest rate subsidy has an insufficient cash surplus to meet the interest repayments after a 12-week feeding period.

The \$25/DSE and \$21/DSE enterprises can quite clearly meet interest and principle payments to have zero debt by years three and five respectively.

Comparing the risk indicators used by lending institutions to these results suggests all three enterprises have 'good' risk profiles except for 'costs as a percentage of income' which is 'high' for the \$15 GM and 'moderate' for \$21 and \$25 GM enterprises (see Table 1).

24-week drought. Using the same analysis overlaid with an extended feeding period of 24 weeks, the results show a similar trend to 12 weeks feeding. The difference is due largely to increased debt in the drought year (see Figure 2).

The difference with and without a drought subsidy has widened slightly, however, it is proportional to the actual amount of interest subsidised.

The impact of reducing overhead costs to \$30,000 in the \$15/DSE enterprise results in the business being able to repay close to \$13,000 of loan principle each year.

Lending institution risk indicators are similar to the 12-week drought except the debt to income ratio is 'moderate' for the \$15/DSE enterprise and cost as a percentage of income is now 'moderate' instead of 'high' as a result of reducing overhead costs to \$30,000.

A large portion of total costs for each of the three sheep enterprises is made up of overhead costs and living expenses (totalling \$100,000). While the \$21 and \$25/DSE enterprises have a sufficient cash surplus to meet these costs, the \$15/DSE enterprise does not. One way of reducing the proportion of total costs is to increase the number of animals these costs are spread over.

To evaluate the impact of higher stocking rates the carrying capacity was increased from 10DSE/ha to 12.5DSE/ha and then 15DSE/ha (see Figures 3 and 4). The analysis includes increased fertiliser costs to balance the increased depletion of soil nutrients, as well as the cost of purchasing the extra animals.

\$200,000 pre-drought debt, \$15/DSE GM and a stocking rate of 12.5 DSE/ha

12-week drought. For a 12-week drought feeding period the debt level has reduced to about \$50,000 (with EC) and \$100,000 (without EC) from a peak debt of about \$300,000 and \$350,000 respectively in 10 years (see Figure 3).

24-week drought. While the absolute values are different for a 24-week feeding period, the trend is similar. The debt level after 10 years is about \$220,000 and \$280,000 with and without the EC drought subsidy respectively. This equates to about half the level of peak debt of \$440,000 and \$490,000 respectively in the year after the drought.

Lending institution risk indicators remain similar to the previous analyses of \$15/GM enterprises. Note the level of equity remains 'good'.

Varying levels of pre-drought debt at 15 DSE/ha.

\$200,000. By increasing the stocking rate to 15 DSE/ha the debt returns to zero after 10 years (Figure 4). To reflect the extra labour required to run 6,000 ewes, overhead (O/H) costs have been increased by \$20,000 to \$70,000. As a result the debt is about \$190,000 10years after the drought. However, if interest rates are increased to 10.5%, the debt level plateaus at about \$400,000.

Lending institution risk indicators remain similar to the previous analyses of 12.5 DSE/ha except interest as a percentage of income is now 'moderate' instead of 'good' with 10.5% interest.

\$500,000. With a pre-drought debt of \$500,000 the debt level peaks at \$800,000 the year following the drought and by year 10 has reduced to about \$470,000. During the first five years the enterprise paid off about \$210,000, and \$120,000 in the second five as the business began to pay tax.

With increased labour cost, the principle repayments are reduced to about \$11,000 per year after the tax credits ceased in year six. If we include a rise in interest rates to 10.5% the business is unable to meet interest payments and debt increases dramatically.

Debt-to-income and costs as a percentage of income are 'high' risk, while interest as a percentage of income and equity are 'moderate' for all but the 10.5% interest which is 'high' (see Table 2).

\$700,000. With a pre-drought debt level of \$700,000 the business is able to repay about \$17,000 of principle each year. With increased labour costs the business is likely to struggle to meet interest payments of 7.5% by year 10. All lending risk indicators are 'high' except for cost as a percentage of income, which is 'moderate'.

\$900,000 pre-drought debt, varying GM (\$/DSE) with a stocking rate of 10 DSE/ha.

Keeping the stocking rate at 10 DSE/ha and changing enterprise to \$21/DSE and \$25/DSE increases the level of debt the business can handle (see Figures 5 and 6).

\$21/DSE. With an enterprise GM of \$21/DSE the debt level after 10 years is approximately \$820,000 (with EC) and \$950,000 (without EC) after peak debt of \$1,080,000 and \$1,120,000 during the drought, respectively. With an increase in interest rates to 10.5% the debt is too great as interest payments cannot be met after the drought subsidy ceases.

\$25/DSE. With a GM of \$25/DSE and a pre-drought debt of \$900,000 the debt level after 10 years is reduced to approximately \$460,000 and \$580,000 with and without an interest rate subsidy respectively. This is close to half the level of peak debt reached during the drought. With an increase in interest rates to 10.5% and including a drought subsidy the debt level after 10 years is approximately \$565,000 (see Figure 6).

Both \$21 and \$25/DSE GM enterprises have 'high' debt to income ratios and all except for the \$25/GM with 7.5% interest rate has 'high'

interest as a percentage of income. All have 'moderate' costs as a percentage of income. Equity is 'high' risk for \$21/GM enterprise and 'moderate' for \$25 GM.

Higher GM returns, varying debt levels running 15 DSE/ha

Combining better performing enterprises (\$21/DSE and \$25/DSE) and a higher stocking rate of 15 DSE/ha greatly increases the amount of debt that a business can handle (see Figure 7).

\$21/DSE and pre-drought levels of \$1,200,000 and \$2,000,000. With an enterprise GM of \$21/DSE and a pre-drought debt level of \$1,200,000 the debt remaining after 10 years is reduced to approximately \$728,000 after peak debt reached about \$1,380,000 during the drought. By year 10 the business is paying \$72,000 off the principle. Increasing the interest rate to 10.5%, the debt level at 10 years is approximately \$905,000 and the business is only able to pay \$56,000 off the principle.

With a pre-drought debt level of \$2,000,000 the debt remaining after 10 years is \$1,960,000 after a peak debt of \$2,200,000 during the drought. The business is able to repay \$20,000 off the principle. However, if the interest rate increases to 10.5% the business is unable to meet interest payments.

\$25/DSE and a pre-drought debt of \$2,000,000. In an enterprise with a GM of \$25/DSE and a pre-drought debt of \$2,000,000, the level of debt remaining after 10 years is approximately \$1,400,000 after a peak debt of about \$2.1 million during the drought. The business is able to repay around \$76,000 in principle by year 10. Increasing the interest rate to 10.5% the debt level at 10 years is about \$1.6 million and the business is only able to repay about \$50,000 in principle.

All three systems have the same level of risk for all four lending institution indicators. The indicators are all 'high' except for cost as a percentage of income, which is 'moderate'.

Discussion

The ability of sheep enterprises to handle debt is primarily driven by their ability to produce large 'cash' surpluses after paying variable costs. The variable costs ranged from \$146,000 (\$15/DSE GM for 4,000 ewes) to \$308,000 (\$25/DSE GM for 6,000 ewes), while income ranged from \$238,000 to \$657,000 respectively.

This equates to a cash surplus of \$92,000 and \$349,000 respectively to cover fixed costs, living expenses, tax and interest. Given that overhead costs are often similar between enterprises, even those running

different stocking rates, increasing stocking rates may be a feasible way of increasing the level of cash to repay debt. However, increasing stocking rate may increase the level of debt as a result of purchasing extra animals. It may also increase variable cost such as fertiliser and supplementary feed costs.

For all grazing enterprises, it is important to closely match the animal production system with the pasture production system. This ultimately means matching lambing with the period of most reliable pasture growth while taking into consideration the time needed to finish lambs as much as possible on pasture.

The ideal date of lambing is likely to be different for store lamb and finishing enterprises as well as for wool enterprises. As a general rule, store lambs should lamb four months before the end of the pasture growing season, finishing lamb enterprises about five months and wool enterprise around three months (Warn et al. 2006).

Improving the gross margin by either changing enterprise or improving the current enterprise dramatically increases the level of debt a business can handle. One way of making an improvement in gross margins is by selecting better performing rams.

In a meat enterprise, purchasing meat rams with estimated breeding values in the top 20% can increase GM by approximately \$2 per DSE. Further to this, if supplementary feed costs are reduced by \$3 per lamb (10kg of grain/lamb at \$300/ton) as a result of turning lambs off earlier, the GM increases by another \$1.50 per DSE.

Improving reproduction rate by 10% adds a further \$3 per DSE to the GM. If the benefits from improved genetics and reproduction are added together, they come to \$6.50 per DSE.

The same principles apply for wool enterprises, except the major focus will be on wool rather than meat production and the change in wool production over the whole flock will take several generations. For example, an increase in clean fleece weight of 0.5 kg per head (21 micron wool) can potentially increase GM by about \$1.5 per DSE.

Combining higher gross margins and stocking rates had quite large impacts as demonstrated by the \$15/DSE GM enterprise running 10 DSE/ha not being able to repay \$200,000 of pre-drought debt, while the \$25/DSE GM running 15 DSE/ha could eventually repay \$2,000,000 of pre-drought debt.

The lending institution risk indicators are all 'good' for the \$200,000 analysis except for the costs as a percentage of income, which

was 'high', yet for the \$2,000,000 analysis they are all 'high' except for costs as a percentage of income, which was 'moderate'. The latter also has only 31% equity.

This goes to show why lending institutions use a range of indicators to assess the need for a more detailed demonstration of the business's ability to repay the debt. For example, if equity alone was used, there would be no problem lending the \$200,000 even though the business could not repay the debt.

Graphs expressing the difference between enterprises with and without EC interest rate subsidies indicate no real difference to the viability of the businesses. The absolute debt values differed slightly, however, it was the business's ability to generate a large cash surpluses that drove debt reduction not EC subsidies. The interest subsidy only really changed the debt level at any one time by the actual amount of subsidy. Further analysis is required to evaluate the impacts of a longer period of interest rate subsidy.

Interest rates are likely to either rise or fall during a 10-year recovery period and as a result can greatly influence a business's ability to handle debt. Increasing the interest rate to 10.5% resulted in a number of analyses being unable to handle existing debt levels. Careful consideration of the potential direction of interest rates is vital when assessing the business's ability to handle debt and also to develop strategies to reduce negative impacts on current debt levels.

It is likely that sheep enterprises will experience more than one drought period within a 10-year drought recovery period. This study did not evaluate the impacts of further drought. While many examples appeared to indicate that the businesses were able to handle a particular debt level, further drought periods may result in many businesses being unable to repay their current debt.

Acknowledgements

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References

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Appendix

Table1. Risk assessment of peak debt levels resulting after drought using four financial indicators used by lending institutions. Calculations include EC interest subsidy.

Pre-drought Debt	Debt /income ratio	Interest (% of income)	Cost (% of income)	Equity (%)
Good level of risk	1:1	10	50-55	>75
Moderate risk	1.5:1	15	55-65	>65
High risk	2:1	20	>65	<65
\$200,000				
<u>4,000 ewes</u>				
12 weeks \$15	1.04:1	7.76	71.38	89.47
12 weeks \$21	0.54:1	3.21	58.99	92.51
12 weeks \$25	0.45:1	1.69	59.14	93.03
24 weeks \$15	1.53:1	9.46	71.38	82.27
24 weeks \$15 - \$30,000 O/H	1.45:1	8.94	64.11	83.12
24 weeks \$21	0.99:1	4.88	58.99	86.30
24 weeks \$25	0.57:1	2.60	59.14	91.28
<u>4,000 - 5,000 ewes</u>				
12 weeks \$15	0.91:1	5.40	67.13	87.04
24 weeks \$15	1.29:1	7.86	67.13	82.05
24 weeks \$15	1.18:1	7.47	69.14	80.19
<u>4,000 - 6,000 ewes</u>				
24 weeks \$15 \$70,000 O/H	1.23:1	8.24	69.14	79.38
24 weeks \$15 \$70,000 O/H 10.5%	1.25:1	12.61	69.14	79.16

Table2. Risk assessment of peak debt levels resulting after drought using four financial indicators used by lending institutions. Calculations include EC interest subsidy.

Pre-drought Debt	Debt /income ratio	Interest (% of income)	Cost (% of income)	Equity
Good level of risk	1:1	10	50-55	>75
Moderate risk	1.5:1	15	55-65	>65
High risk	2:1	20	>65	<65
\$500,000 4,000 - 6,000 ewes				
24 weeks \$15	1.93:1	13.09	69.14	67.72
24 weeks \$15 \$70,000 O/H	1.98:1	13.34	69.14	66.91
24 weeks \$15 \$70,000 O/H 10.5%	2.00:1	21.10	69.14	66.51
\$700,000 4,000 - 6,000 ewes				
4,000-6,000 24 weeks \$15	2.43:1	16.73	64.29	59.41
\$900,000 4,000 ewes				
24 weeks \$21	2.91:1	18.69	58.99	61.18
24 weeks \$21 without EC	3.06:1	21.40	58.99	59.13
24 weeks \$21 10.5%	2.93:1	28.95	58.99	60.93
24 weeks \$25	2.19:1	13.24	59.14	67.66
24 weeks \$25 10.5%	2.20:1	17.12	59.14	67.53
\$1,200,000 4,000 - 6,000 ewes				
24 weeks \$21 \$70,000 O/H	2.49:1	16.79	57.20	50.20
24 weeks \$21 \$70,000 O/H 10.5%	2.49:1	21.85	57.20	50.20
\$2,000,000 4,000 - 6,000 ewes				
24 weeks \$21 \$70,000 O/H	3.95:1	27.62	57.20	20.93
24 weeks \$21 \$70,000 O/H 10.5%	3.99:1	36.11	57.20	20.16
24 weeks \$25 \$70,000 O/H	3.15:1	21.30	57.64	30.08
24 weeks \$25 \$70,000 O/H 10.5%	3.12:1	27.39	57.64	30.85

Debt to income ratio = Total debt/Total income:1

Interest as a % of income = Interest/total business income*100

Costs as a % of income = (O/H + variable excluding operators allowance and finance)/total income*100

Equity = ((\$land value + \$livestock value + \$plant and machinery) - debt)/(\$land value + \$livestock value + \$plant and machinery)*100

Table 3. Adjustments and assumptions used in analysis.

Assumptions	Merino/Merino Web	adjusted	Merino finish wethers Web	adjusted	Merino- Terminal Web	adjusted
Sheep Price						
CFA ewes	\$42.80	\$25.00	\$42.80	\$25.00	\$42.80	\$25.00
CFA rams	\$60.92	\$35.87	\$60.92	\$35.87	\$60.92	\$35.87
wether weaners	\$27.00	\$25.00				
Ewe Hoggets	\$65.00	\$40.00				
mixed sex lambs			\$64.50	\$48.50	\$75.50	\$58.00
mixed sex lambs			\$65.00	\$40.00	\$88.70	\$67.60
Feeding 6 months	\$	Per head	\$	Per head	\$	Per head
Ewes	\$41	104.0kg	\$41	104.0kg	\$42	104kg
Rams	\$59	149.4kg	\$59	149.4kg	\$240	330.2
Ewe Hoggets	\$40	97.2kg	\$40	97.2kg		
Lambs	\$32	81.0kg	\$32	81.0kg		
Feeding 3 months						
Ewes	\$21	52.0kg	\$21	52.0kg	\$25	63.9kg
Rams	\$30	74.4kg	\$30	74.4kg	\$30	74.4kg
Ewe Hoggets	\$20	48.6kg	\$20	48.6kg		
Ewe Lambs	\$16	40.5kg	\$16	40.5kg		
Wool price same as Web						
\$50,000 tax credit at start of drought year						
\$50,000 fixed cost						
\$50,000 living expenses						
10 DSE /ha	840 Ha		960 Ha		1040 Ha	\$38 fert/ha
12.5 DSE/ha	840 Ha		960 Ha		1040 Ha	\$45 fert/ha
15 DSE/ha	840 Ha		960 Ha		1040 Ha	\$52 fert/ha
No fertiliser applied during drought year						
Land value \$1000 per acre or \$2,470 per hectare						
Pay loan off as fast as can (ie all surplus goes into loan repayment)						
Calculations include tax						
As required fixed loan increased to prevent overdraft exceeding \$50000						
\$80,000 ewe purchase in year after drought to increase to 5000 ewes or 12.5 DSE (from 4,000)						
\$160,000 ewe purchase in year after drought to increase to 6000 ewes or 15 DSE (from 4,000)						
Average Livestock value = \$50 to calculate equity						
Plant and equipment = \$100,000 to calculate equity.						

Table 4. Cash position spreadsheet

Possible addition to Impack												
Working account balance												
Interest rate on deficits (overdrafts)	8.50%											
Interest rate on positive bank balance	4.50%											
Amount owing in term loans	200,000											
Taxable income for previous year	-\$50,000											
	Drought	1	2	3	4	5	6	7	8	9	10	
Total Sheep and Cattle Income	238,340	274,873	274,873	274,873	274,873	274,873	274,873	274,873	274,873	274,873	274,873	274,873
Purchase costs for sheep and cattle	0	0	0	0	0	0	0	0	0	0	0	0
Variable+feed costs (sheep and cattle)	227,739	146,216	146,216	146,216	146,216	146,216	146,216	146,216	146,216	146,216	146,216	146,216
Annual Gross Margin (sheep + cattle)	10,601	128,657	128,657	128,657	128,657	128,657	128,657	128,657	128,657	128,657	128,657	128,657
Other enterprise income (not sheep or cattle)												
Other enterprise costs												
Total Farm Gross Margin	10,601	128,657	128,657	128,657	128,657	128,657	128,657	128,657	128,657	128,657	128,657	128,657
Off farm income	0	0	0	0	0	0	0	0	0	0	0	0
Overhead costs (excl interest & tax)	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Living Expenses	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Income tax	0	0	0	6,354	12,805	12,833	12,782	12,726	12,667	12,604	12,538	
Principal repayment		0										
Interest paid on term loans	3,150	3,500	17,500	17,500	17,500	17,500	17,500	17,500	17,500	17,500	17,500	17,500
Additional Term Loans	50,000											

Insert estimated interest for term loan and overdraft

Working account balance before interest	-42,549	25,157	11,157	4,803	-1,648	-1,676	-1,625	-1,569	-1,510	-1,447	-1,381
Estimated interest on overdraft account	-957	-2,564	-1,064	-474	-379	-551	-737	-934	-1,143	-1,365	-1,600
Cash balance at end of year	-42,740	-18,096	-8,003	-3,674	-5,701	-7,928	-10,290	-12,793	-15,446	-18,258	-21,239

Amount owing on Term loans	250000	250000	250000	250000	250000	250000	250000	250000	250000	250000	250000
Estimated interest on Term loans	3150	3500	17500	17500	17500	17500	17500	17500	17500	17500	17500

Estimated taxable income	-93,506	-20,913	39,180	60,683	60,778	60,606	60,420	60,223	60,014	59,792	59,557
Tax on this year's income	\$0	\$0	\$6,354	\$12,805	\$12,833	\$12,782	\$12,726	\$12,667	\$12,604	\$12,538	\$12,467
Tax payable in year before drought but paid drought year	\$0										
Tax paid after 10years	95,309										

Figure 1. After tax liability/savings for three sheep enterprises running 4,000 breeding ewes, with a pre-drought debt of \$200,000 and a full drought feeding period of 12 weeks

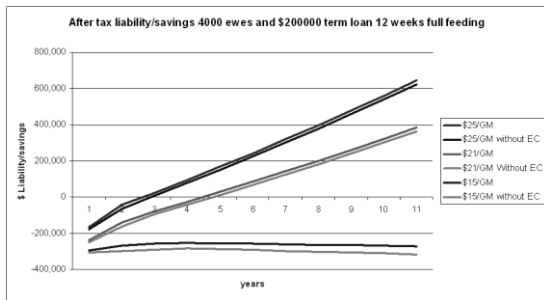


Figure 2. After tax liability/savings for three sheep enterprises running 4,000 breeding ewes, a pre-drought debt of \$200,000 a full drought feeding period of 24 weeks

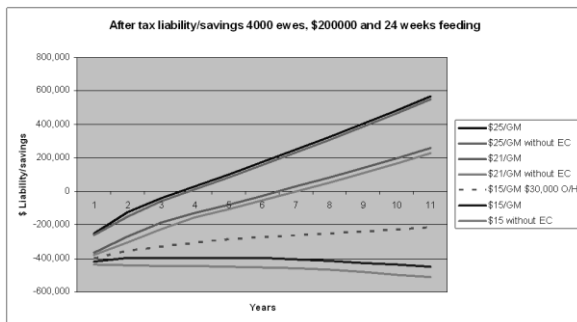


Figure 3. After tax liabilities/savings of sheep enterprises with a gross margin of \$15/DSE, increasing the stocking rate from 10DSE/ha (4,000 ewes) to 12.5 DSE/ha (5,000 ewes), with a pre-drought debt of \$200,000 and a 12 and 24-week drought feeding period

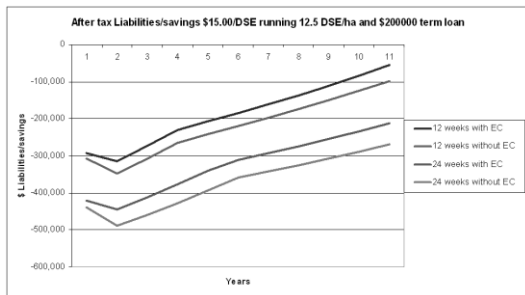


Figure 4. After tax liabilities/savings for a sheep enterprises with a gross margin of \$15/DSE, increasing the stocking rate from 10 DSE/ha (4,000 ewes) to 15 DSE/ha (6,000 ewes), with a pre-drought debt ranging from \$200,000 to \$700,000 and a 24-week drought feeding period

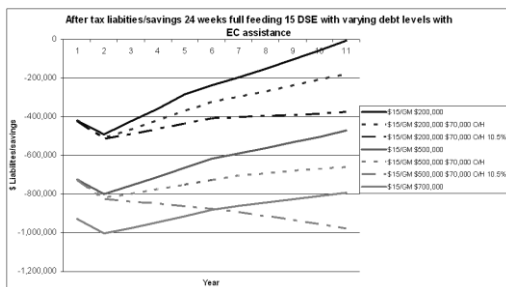


Figure 5. After tax liabilities/savings for a sheep enterprises with a GM of \$21/DSE running 10DSE/ha (4,000 breeding ewes), a pre-drought debt of \$900,000, full drought feeding period of 24 weeks with and without a EC drought subsidy and interest rates of 7.5% and 10.5%

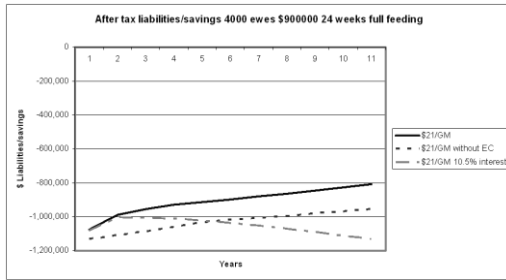


Figure 6. After tax liabilities/savings for a sheep enterprises with a GM of \$25/DSE running 10DSE/ha (4,000 breeding ewes), a pre-drought debt of \$900,000, full drought feeding period of 24 weeks with and without an EC interest subsidy and interest rates of 7.5% and 10.5%

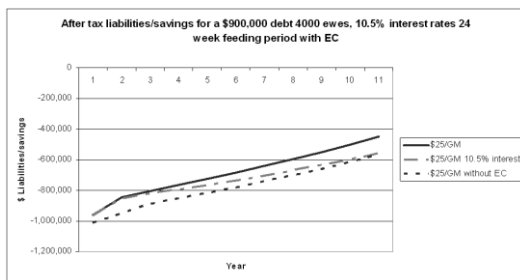


Figure 7. After tax liabilities/savings for two sheep enterprises running 15 DSE/ha (6,000 breeding ewes), a pre-drought debt of \$1,200,000 and \$2,000,000, full drought feeding for 24 weeks, an EC drought subsidy, \$70,000 O/H costs and interest rates of 7.5% and 10.5%

