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THE EVALUATION OF SOME STRATEGIES TO ASSIST FARMERS EXPERIENCING SERIOUS LIQUIDITY PROBLEMS*

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ABSTRACT

Various financial aid measures can be applied to assist farmers experiencing serious liquidity problems. Five selected strategies (aid measures) were evaluated according to certain criteria in a simulation model. The results proved that there are relative advantages to the various strategies in terms of the liquidity and solvency of the farm business. Only a few strategies succeeded in bringing about a significant improvement in the financial position of the firm. The success of financial aid measures depends heavily on the addressing of external problems such as inflation and interest rates. Other assistance, of a non-financial nature, should also be made available.

INTRODUCTION

Since 1981 the agricultural sector in South Africa has experienced severe financial problems of varying nature. Owing to the high debt burden of farmers in South Africa and the relatively low levels of net farm income between 1982 and 1986 (Abstract, 1988), various farm businesses are unable to meet their debt obligations. The existence of serious liquidity problems was also emphasised on various occasions as early as 1984 (SAAU, 1984; LOUW, 1986).

The alleviation of financial pressure on farming enterprises is an implicit objective of farm policy. It is important that Government policy should be aimed directly at accommodating the change in financial trends in agriculture. This implies, among other things, that the following fundamental conditions should be taken into consideration:
- Probable duration of specific financial positions;
- General fiscal and monetary policy;
- Changes (upward and downward) in real farm assets; and
- The influence of inflation.

Farmers experiencing liquidity problems can be assisted according to various strategies. The aim of this article is to provide greater clarity by evaluating some aid measures or strategies which, based on existing assumptions and research, could potentially help farmers experiencing liquidity problems to survive in the short term. First, a model for the evaluation of aid measures is briefly elucidated. This is followed by the description of five selected aid measures for farmers experiencing liquidity problems and the results achieved. Attention is also given to non-financial aspects of assistance. Finally, certain conclusions are reached.

MODEL FOR THE EVALUATION OF AID MEASURES

No survival study should make use of only one criterion (financial ratio) to evaluate the success of an aid measure, as this could be misleading (Walker & Mapp, 1986). The arguments underlying this statement are that the effects of aid measures are not always immediately visible, that they could be influenced by initial debt burden ratios (Louw, 1979; Van Zyl, 1985; Janse van Rensburg, 1986), that inflation and interest rates influence their efficiency (Van Zyl, 1985) and that structural changes emanating from certain aid measures must also be reflected after a period of time.

The objectives of farming enterprises in survival situations should not always be the maximisation of profit or even an improvement in net value. The real improvement of the liquidity position, as measured against certain liquidity norms, all the while retaining a healthy solvency and at least a constant present value, are of much greater importance in such cases.

Very little is known of the reaction of farmers to changing risk levels and the influence of this on decisions concerning input and production. Furthermore, it appears as if risk research studies tend to accept risk as a constant during the planning period. This is largely attributable to the fact that the effect of change in the various risks, both inside and outside the enterprise, is difficult to quantify. It also varies substantially between enterprises. The indirect advantages and disadvantages emanating from Government aid measures are therefore easily not considered. The reason for the omission of the changing influence of risks is usually of a dual nature:
- The underlying theory of policy analysis determines that it is usually seen within a deterministic framework (Wallace, 1962: 65-86); and
- there is a lack of suitable methodologies and models that make provision for changes in risks.

Since a detailed sensitivity analysis is essential to test the comparability of various strategies, it was assumed in this analysis that aid measures should be aimed at granting assistance based on approximately 30 per cent of the value of the existing debt burden. This is in keeping with a norm determined by Walker & Mapp (1986) and Mapp (1986).

Simulation was used in this analysis as it provides flexibility in the establishment of the enterprise's goals, expectation criteria and decision-making rules.

The simulation model used is based on that of Eisgruber (1965), as adapted by Louw (1979) and Van Zyl (1985). The further changes in the model were primarily aimed at incorporating the specific requirements of this study, but also, to a lesser extent, at the potential development of a similar simulation model on IBM-compatible micro-computers with MS-DOS 3.x operating systems[1]. The original model is discussed fully in Louw (1979), Van Zyl (1985) and Van Zyl, Van der Vyver & Mostert (1987). Only changes introduced for the above reasons will next be explained briefly.

The simulation program was adapted to determine the following yardsticks:

- Liquidity
  The establishment of liquidity is the most important criterion in short-term survival studies (Just, 1975). The *current ratio* (expressed as the ratio of current assets to current liabilities) was used as primary indicator for the measurement of liquidity. On account of its operating activities, the current ratio is a suitable indicator of the liquidity position of the enterprise. Furthermore, aid from the authorities normally has a direct impact on this ratio because it influences the cash flow of the firm.
- Coverage
  Survival studies require a criterion that will reflect the actual availability of cash after provision has been made for personal income tax, rectification of depreciation and domestic consumption. Although *net disposable income* is therefore also a general criterion of liquidity, it is especially suitable to indicate the actual credit needs (or cash availability) of the firm. If cash is available, this is an important criterion for determining to what extent a firm can make use of opportunities and also what provision can be made for unfavourable years.
- Solvency
  Solvency, as reflected in the *net capital ratio*, is used as criterion. The maintenance of a solvency ratio larger than 1 is consistently a prerequisite in this analysis. However, the improvement of the ratio is not necessarily required as liquidity problems are being primarily researched.
- Profitability
  Although profitability can be expressed in various ways, it was decided that the *annual change in net value* of the enterprise would be a more suitable indicator of the profitability of

the firm (Janse van Rensburg, 1985). The average profitability of any enterprise over a period of time is important. Although setbacks may occur in some years, an enterprise must be able to survive in the long term. This can only be achieved if profitability is inherent in the enterprise.

A representative enterprise in the Western Transvaal was set up for purposes of analysis (Mostert, 1988: 98-131). The main enterprise is maize, but sunflower, wheat under irrigation and beef cattle constitute the other farm enterprises. The calculated net value of the enterprise (Year 0) is R511 432, the debt burden is 43 per cent and the current ratio is 0,545. Market interest rates were distinguished for long, medium and short-term debt. Rainfall and yield statistics for the past thirty years in the Potchefstroom/Ventersdorp area were used.

STRATEGIES

The simulation program was used to determine the results of five different strategies for possible assistance:

Strategy 1 - Income aid
  Strategy 1 entails a cash injection without commitment, payable over a period of three years. The assistance is taxable and is intended for the acquisition of production inputs and the payment of short-term debt only. This assistance constitutes approximately 30 per cent of the total debt and is payable in diminishing payments over three years.

Strategy 2 - The withdrawal of marginal agricultural land and conversion to cultivated pastures
  Strategy 2 entails the withdrawal of marginal agricultural land and the State subsidised establishment of cultivated pastures over a five year planning horizon. The conversion is based on compensations and subsidies provided by the Department of Agriculture and Water Supply in January 1988.

Strategy 3 - Interest subsidisation
  Strategy 3 entails a subsidy of 30 per cent on the market interest rate payable on all long-term, medium-term and production loans from co-operatives and commercial banks.

Strategy 4 - Debt standstill and debt rescheduling
  Strategy 4 entails an overall standstill of debt repayment and interest for three years on all medium-term and long-term loans with accompanying rescheduling of the debt over the original term of the respective loans.

Strategy 5 - Debt reduction
  This strategy entails a reduction of 30 per cent on all medium-term, long-term and production loans, with rescheduling of payments according to the remainder of the loan period.

The influence of each strategy on the enterprise is determined individually and independently of one another over a period of five years. Each aid measure was repeated fifty times to obtain a

distribution of results.

To determine the success of the strategy under various kinds of inflation conditions, the following three inflation conditions were used:

- Inflation 0: Constant terms of trade. This is analogous with a situation where the prices of inputs and outputs increase equally fast. An example is the situation that prevailed before 1967 - 68.
- Inflation 1: Output price inflation. The prices of the producer's products increase faster than the prices of inputs of the firm. Output price inflation was experienced during the period 1967/68 to 1972/73.
- Inflation 2: Input price inflation. The prices of inputs for the enterprise increase faster than the product prices. This situation was experienced with most products from 1973/74.

RESULTS

Analysis of strategies

The various strategies that were evaluated with the aid of the simulation model were each compared with a "no assistance" situation that was reflected in the results as "strategy nil". The results are indicated in Tables 1 and 2.

Strategy 0 (no assistance)

Tables 1 and 2 indicate that without additional assistance a continuous deterioration in solvency would inevitably lead to the insolvency of the enterprise. At the prevailing rate this would take place after eleven years, although the enterprise would no longer have sufficient operating capital with which to operate long before this time, as the enterprise's bank balance would become increasingly negative each year and its poor ability to repay would make additional credit improbable. Table 2 indicates a 22 per cent probability of bankruptcy within the first five years of the evaluation period. It can therefore be concluded that there is only a small probability of eventual survival if the firm receives no external financial assistanc.

Strategy 1 (income assistance)

Strategy 1 involves the use of direct income assistance to farmers. The inflow of cash to the

TABLE 1. Average ($\bar{x}$), standard deviation ($S\bar{x}$) and coefficient of variation (CV) for the current ratio; net disposable income; change in present value of net worth and solvency for the selected strategies after 5 years

		Current ratio			Net disposable income			Change: Net worth[3]			Solvency		
Initial situation: Year O		0,54						NW = R511 432			2,31		
Stra-tegy[1]	Infla-tion[2]	$\bar{x}$ R	$S\bar{x}$ R	CK %	$\bar{x}$ R	$S\bar{x}$ R	CK %	$\bar{x}$ R	$S\bar{x}$ R	CK %	$\bar{x}$ R	$S\bar{x}$ R	CK %
0	0	0,97	0,67	69,0	- 16 804	68 125	-405	- 131 127	130 189	- 99	3,21	1,20	37,6
0	1	0,94	0,58	60,8	- 15 403	74 042	-480	+107 976	117 956	109	3,65	1,02	28,0
0	2	0,57	0,39	68,1	-112 551	134 796	-119	+ 20 208	159 149	787	2,59	0,71	27,4
1	0	1,44	1,63	112,6	- 13 918	66 988	-481	- 83 526	118 401	-141	3,63	1,23	33,8
1	1	1,33	1,29	96,6	- 12 661	72 669	-573	+156 647	113 112	72	4,11	1,03	25,2
1	2	0,76	0,56	74,2	-101 512	130 494	-128	+ 94 767	147 851	156	3,02	0,83	27,5
2	0	1,03	0,68	66,0	- 11 662	65 177	-558	- 105 550	117 871	-111	3,36	1,20	35,7
2	1	0,99	0,57	57,3	- 9 588	70 218	-732	+137 947	104 700	76	3,82	1,01	26,4
2	2	0,63	0,42	66,0	- 97 159	126 994	-130	+ 66 462	145 041	218	2,76	0,73	26,6
3	0	1,17	0,91	77,7	- 6 985	64 209	-919	- 95 289	121 608	-127	3,52	1,23	34,9
3	1	1,12	0,80	71,4	- 3 406	69 034	-202	+144 455	112 588	77	4,00	1,05	26,3
3	2	0,73	0,50	68,3	- 74 242	120 994	-162	+ 95 351	148 675	155	3,02	0,83	27,7
4	0	1,18	0,90	76,4	- 16 088	68 064	-423	- 120 814	119 300	- 98	3,08	0,97	31,7
4	1	1,11	0,75	67,9	- 15 632	74 436	-476	+102 345	110 946	108	3,42	0,81	23,7
4	2	0,81	0,58	71,5	-106 082	131 162	-123	+ 51 405	139 885	272	2,64	0,60	22,9
5	0	1,04	0,72	69,2	- 13 130	65 936	-502	- 139 114	124 827	- 89	4,35	1,95	45,0
5	1	1,00	0,62	61,6	- 11 859	71 257	-600	+112 234	114 144	101	4,96	1,68	34,0
5	2	0,68	0,47	69,3	- 90 738	126 445	-139	+ 73 268	150 802	205	3,61	1,24	34,3

Notes

[1]
- Strategy 0 = "No assistance" strategy
- Strategy 1 = Income assistance
- Strategy 2 = Conversion to cultivated pastures
- Strategy 3 = Interest subsidisation
- Strategy 4 = Debt standstill and debt rescheduling
- Strategy 5 = Debt reduction

[2]
- Inflation 0 = Constant prices
- Inflation 1 = Output price inflation
- Inflation 2 = Input price inflation

[3]
Change in net worth with Inflation 1 and 2 is higher than Inflation 0 because of an increase in the value of assets. Although price ratios can be negative, inflation still increases the value of assets.

Strategy[1]	Inflation[2]	Minimum debt burden ratio			
		1,00	0,75	0,50	0,25
0	0	0,16	0,26	0,52	0,92
0	1	0,02	0,04	0,32	0,86
0	2	0,22	0,40	0,74	1,00
1	0	0,06	0,16	0,38	0,80
1	1	0,02	0,02	0,18	0,74
1	2	0,10	0,22	0,54	1,00
2	0	0,08	0,22	0,46	0,86
2	1	0,02	0,04	0,22	0,84
2	2	0,18	0,28	0,68	1,00
3	0	0,06	0,18	0,44	0,84
3	1	0,02	0,04	0,18	0,76
3	2	0,10	0,22	0,56	1,00
4	0	0,16	0,26	0,54	1,00
4	1	0,02	0,06	0,40	1,00
4	2	0,16	0,34	0,70	1,00
5	0	0,06	0,14	0,34	0,66
5	1	0,02	0,02	0,12	0,58
5	2	0,06	0,16	0,38	0,88

Notes

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[2] Inflation 0 = Constant prices
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enterprise is reflected directly in the current ratio, net disposable income and net value of the enterprise (Table 1).

The most important criterion for liquidity in this study, viz the current ratio, increases from 0,54 in year 0 (initial situation) to 1,44 under conditions of constant terms of trade and to 1,33 and 0,76, respectively, under output and input price inflation. This improvement is shown in Table 1 (after Year 5). This compares favourably with the results of the other strategies.

Since coverage is also an important criterion of liquidity, net disposable income is relatively poor compared to the other strategies after Year 5. The influence of factor costs again increases in importance after Year 3 and since aspects such as a favourable bank balance in a preceding year are not reflected in net disposable income, this criterion could therefore be misleading.

Strategy 1 also performs well if the comparison is based on the final assets:liabilities ratio. According to this, Strategy 1 was the second best and realised an average value of 3,63, 4,11 and 3,02, respectively, for the three inflation rates. The coefficient of variation is also the second best of the strategies.

Strategy 2 (the withdrawal of marginal agricultural land and conversion to cultivated pastures)

Strategy 2 entails the withdrawal of marginal crop land and its application for cultivated pastures with the intention of increasing the existing livestock enterprise. Strategy 2 showed the poorest achievement of all the strategies. In view of the publicity given to this strategy in the popular media recently, this poor achievement was indeed surprising.

From a liquidity perspective, land conversion as a strategy showed the poorest achievement of all strategies as the current ratio increased only slightly from 0,54 to 1,03; 0,99 and 0,63, respectively, for the three inflation types after five years.

It is important to note that the liquidity position deteriorated slightly during the first two years and started to show an improvement only after Year 3. The initial deterioration in liquidity is largely related to the high costs of purchasing livestock. However, as the conversion proceeds over the five years, net farm income rises and increases in stability, as is reflected in the calculated standard deviation and coefficient of variation (Table 1).

The solvency ratio starts to improve more rapidly after Year 3 as the advantage provided by the capital appreciation of the livestock herd becomes increasingly important. The stabilising effect of the livestock branch with its more regular cash flow then gains importance (Table 1).

The liquidity advantage in the medium-term can primarily be attributed to the following factors:
- The net savings in the operating costs of maize compared with the establishment of pastures as more pastures are established;
- the higher income from livestock; and
- the greater stability of income from livestock.

It can be concluded from the results that there is a critical balance between the costs of cultivated pastures and the carrying capacity of such pastures. Under these circumstances herd expansion as an objective does not seem to be easily justifiable in financial terms and quality improvement as an alternative objective will have to be investigated.

The relatively poor performance of this strategy indicates that unless the authorities pay a sizeable subsidy on the conversion of land, farmers experiencing liquidity problems will hardly be able to afford such a conversion[2]. If input price inflation can be controlled, the performance of this strategy will be greatly improved as it is relatively more successful under conditions of the other inflation conditions.

Strategy 3 (interest subsidisation)

Strategy 3, which entails an interest subsidisation of 30 per cent of the interest rate on medium-term, long-term and production loans, performed very well in respect of liquidity. The current ratio increased from 0,54 to 1,17, 1,12 and 0,73, respectively, for the various inflation conditions. The improvement of this after five years proved to be the best and the most stable of all the strategies that were evaluated.

The improvement in the enterprise's balance statement, as reflected in the solvency ratio and the change in net value, was moderate and the third best of all five strategies. This moderate improvement was as expected, as the strategy does not have a direct

influence on the balance statement, but a direct influence through the reduction of, in particular, current liabilities emanating from the improved cash flow.

The improvement in almost all the criteria can be explained, among other things, by the direct cash effect brought about by interest subsidisation and also by the fact that this remained effective over the entire evaluation period of five years. However, if the interest subsidy is stopped, the financial position of the enterprise will deteriorate again. This emphasises the problem that interest subsidisation tends to assume a form of "permanence".

Strategy 4 (debt standstill and debt reduction)

Strategy 4 entails a complete standstill of debt repayments on all medium and long-term loans for three years. Interest payments on loans is also frozen during this period of standstill.

Strategy 4 shows an improvement in all criteria except one as against the "no assistance" situation (Strategy 0). This specific criterion is where the solvency of the firm drops at input price inflation (Table 1), primarily as liabilities remain constant and farm assets in the model increase more slowly than the net effect of inflation. However, the solvency position of the firm does not differ significantly under the other two inflation conditions.

This strategy resulted in the second-largest increase in the current ratio of the firm, with an increase from 0,54 to 0,81 under price input inflation and even greater increases under constant terms of trade and output price inflation, viz to 1,18 and 1,11, respectively (Table 1). This increase was expected in view of the direct availability of cash that would normally be applied for the payment of the foreign factor cost component in the medium-term and long-term.

Average net disposable income increased under all three inflation conditions (Table 1). This result is also in keeping with the results of a similar study undertaken by Walker and Mapp (1986).

The coverage of the firm, as expressed in the net disposable income ratio, was the poorest of all the alternatives in Year 5. The reason for this is that a debt standstill is valid only for a fixed period during which even positive net disposable incomes are realised. Once this period has expired the firm must deal with the full impact of the high debt burden and the net disposable income is once again subject to the influence of "no assistance".

Strategy 5 (debt reduction)

Strategy 5 entails an unconditional debt reduction of 30 per cent of the value of all medium-term and long-term debt. The various payments are adjusted accordingly over the existing period.

The result of this measure shows that the current ratio improved from 0,54 to 1,04, 1,00 and 0,68, respectively, for the three inflation rates (Table 1). For input price inflation this is the second-lowest improvement of the five strategies.

However, the assets:liabilities ratio increased to 3,61 with input price inflation, which was the best of all the strategies (Table 1). The change in net value is also the best of all the strategies (Table 1).

The coverage, as reflected in net disposable income, showed the second-best improvement of all the strategies.

It can therefore be concluded that debt reduction has only a moderate influence on the improvement of the immediate liquidity of the firm, but that it makes an important contribution towards the improvement of the solvency and specifically the owner's interest of the enterprise in the medium-term and long-term.

It would seem that if the extent of the debt reduction is not large enough to restructure the debt burden at a reasonable level, the enterprise is still crippled by interest obligations. This measure is therefore suitable for helping efficient farmers to reduce a slightly high debt burden to more manageable levels, in the process ensuring the long-term survival of the firm.

Analysis of variance

As it is important to determine the effect of the various factors that simultaneously influence certain final values, an analysis of variance can be applied to facilitate the interpretation of the results (Feldstein, 1969), because it is based on the sum of the squares of the averages (STSC, 1986).

The results of the analysis of variance, namely the effects and their interactions on strategy and inflation, are indicated in Tables 3, 4 and 5 for the present values of the current ratio, net value and debt burden ratio after Year 5.

TABLE 3. Analysis of variance: Current ratio

Source of variance	Degrees of freedom	F-value	P < F
Main effects	7	10,923	,0001
Inflation	2	28,559	,0001
Strategy	5	3,868	,0018
Two-factor interaction	10	,353	,9657
Inflation with strategy	10	,353	,9657
Residuals	882		

TABLE 4. Analysis of variance: Net worth

Source of variance	Degrees of freedom	F-value	P < F
Main effects	7	175,599	,0001
Inflation	2	586,265	,0001
Strategy	5	11,333	,0001
Two-factor interaction	10	,707	,7186
Inflation with strategy	10	,707	,7186
Residuals	882		

In the interpretation of a variance analysis the emphasis should fall on the most significant set of highest-order inter-actions (Louw, 1975). According to Van Zyl (1985), a significant interaction indicates that the factors and their side-effects are dependent

TABLE 5. Analysis of variance: Debt burden ratio

| Source of variance	Degrees of freedom	F-value	P < F
Main effects	7	13,606	,0001
Inflation	2	33,374	,0001
Strategy	5	5,699	,0001
Two-factor interaction	10	,207	,9957
Inflation with strategy	10	,207	,9957
Residuals	882		

on one another and that the effect of the one differs at the various levels of the other factors. Highest-order inter-actions should be emphasised and their significance, if any, determined. References back to lower-order interactions could serve as a guide-line.

It is apparent from Tables 3, 4 and 5 that only the main effects are significant and that there is no meaningful interaction between the two main effects, viz strategy and inflation. This means that the factors and their effects are independent of one another and that the effect of one factor is not influenced by the various levels of the other factors. However, each individual factor has a highly significant effect on the current ratio (Table 3), net value (Table 4) and debt burden (Table 5). The effect of the various strategies tested is therefore independent of the various inflation levels in the mode.

Riskiness of alternatives

The use of averages and their standard deviations is an indication of the riskiness of specific alternatives (Louw, 1979). The variability of the distribution of the 50 iterations (observations) accompanying each analysis can therefore be analysed. This serves as an indication of the tendency to risk that is associated with every combination of variables. According to Louw (1979) the rational decision-maker will choose an alternative that has a smaller variation at the same average value (e.g. yield or profit).

If the upper and lower limits of the intervals for factorial averages for the various strategies against inflation are calculated, Figure 1 can be compiled for the current ratio.
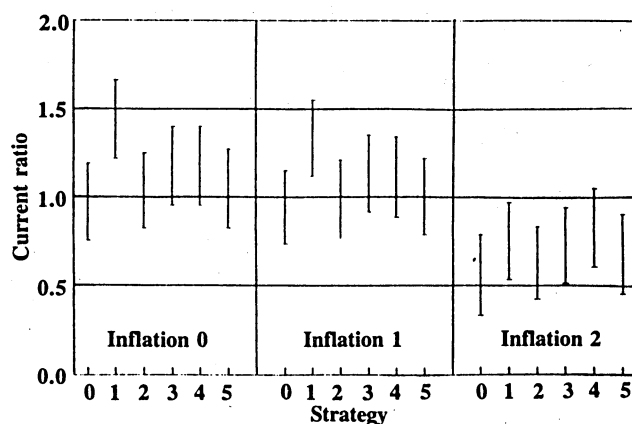
FIG. 1. Intervals for factorial averages (p < 0,05)

Strategy 0 in Figure 1 shows the position after five years if no additional assistance is granted and must be compared with Strategies 1 to 5. The number of observations (n) for each analysis is 50 and the analysis was made at a 95 per cent level of significance.

It appears from Figure 1 that the various strategies do not react consistently for the various ratio classes that have been defined. This confirms earlier observations where the strategies display relative advantages in terms of short-term and medium-term liquidity and solvency.

NON-FINANCIAL ASPECTS

It is apparent from various reports by the United States Department of Agriculture (1985a, 1985b) that financial assistance to farmers with liquidity problems is not the only problem that is part of their financial survival and particularly their financial rehabilitation. The absolute necessity of intensive personal assistance and extension services is emphasised.

One can therefore conclude that the chances of success diminish considerably if the rehabilitation process is not based simultaneously on the following aspects:
- financial assistance;
- technical assistance;
- social assistance; and
- legal assistance

CONCLUSION

It is obvious from the results of this article that only some strategies brought about a significant improvement in the financial position of the enterprise according to the set criteria. The strategies that were evaluated did lead to reasonable improvements in the current ratio, but net disposable income for the farming enterprise, which as coverage is also an indicator of liquidity, still performed badly. In most cases the strategies could only succeed in alleviating the poor financial position. It can therefore be concluded that if the debt position of a farming enterprise has surpassed certain critical levels, it would be difficult to ensure the survival of the farming enterprise in the long-term.

The results of the study show that the strategies hold relative advantages for the firm. The specific objectives of the aid measures in terms of immediate and medium-term liquidity, income stability and solvency will determine which specific strategy is recommended. Table 6 shows the relative achievement of the various strategies in respect of the set criteria, viz liquidity, coverage, profitability and solvency. The results are subject to the specific limitations and assumptions of the analysis.

Income assistance achieved the best result of the strategies that were evaluated and makes an important contribution towards the improvement of the immediate liquidity (current ratio and net disposable income) of the enterprise. The coefficient

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Criterion	Liquidity	Coverage	Profitability		Solvency
	Current ratio	Net disposable income	NFI	Present value	Assets: liabilities ratio
Strategy[1]	Degree of success[2]				
0	C	C	C	C	C
1	A	B	B	A	B
2[3]	C	B	B	B	B
3	B	B	C	A	B
4	A	A	C	C	B
5	B	B	C	B	A

Notes
[1] Strategy 0 = "No assistance" strategy
Strategy 1 = Income assistance
Strategy 2 = Conversion to cultivated pastures
Strategy 3 = Interest subsidation
Strategy 4 = Debt standstill and debt rescheduling
Strategy 5 = Debt reduction

[2] Degree of success: A = Good; B = Reasonable; C = Poor

[3] Withdrawal of marginal land and conversion to cultivated pastures initially reduce liquidity and only start to increase after Year 3.

of variation of the strategy was stable, especially under input price inflation conditions. The favourable effect of the availability of production inputs lent flexibility to the firm and also led to positive changes in its real value. The success of the income assistance strategy shows that the effect of current liabilities exercises a greater influence on the survival of the firm than is generally accepted and it emphasises the necessity of income stability as the objective of the enterprise.

The conversion of marginal land to cultivated pastures showed the weakest performance as a strategy, since this initially reduces liquidity. However, it increases income stability and liquidity in the medium and long-term and the stable coefficient of variation of the various criteria increase in importance. One cannot summarily support this strategy as an aid measure for the improvement of liquidity because it could, in the short-term, be detrimental to the firm.

Interest subsidisation achieved fairly good results. It is especially the relatively stable coefficient of variation for all the criteria that lent greater stability to the firm. There is, however, a strong conjecture that the distortion of financial markets in particular, and the erroneous financing decisions taken as a result of this, do more harm to the farming community in the long-term than its apparent advantages. Furthermore, interest subsidisation is of a discriminatory nature as it is more to the advantage of farmers with large debts rather than cash farmers who probably applied better financial discipline in the past.

Debt standstill and debt rescheduling as a strategy have considerable advantages, as they increase the liquidity position of the firm in terms of the current ratio and net disposable income. However, it has a relatively small influence on the net value of the firm. A debt standstill entails

relatively high costs for its financier. This strategy should therefore be used only if there is a reasonable degree of certainty that the unfavourable financial position is of a temporary nature.

Debt reduction as strategy improved the solvency of the firm to a relatively larger extent than the liquidity. However, it is to be doubted whether the limited improvement of liquidity could justify the large costs of debt reduction.

Farmers will therefore have to pay increasing attention to logical and structured enterprise compositions which, bearing in mind the climatic conditions and availability of resources, should be aimed primarily at stabilising the farm's income position and, more specifically, the maintenance of liquidity. This will make financial assistance during periods of financial stress much more effective.

NOTES

[1] It should be mentioned in retrospect that although the micro-computor simulation model has been successfully developed, the extent of the model and its application possibilities are occasionally circumscribed by its limited memory

[2] The subsidy on conversion was further increased in 1988

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