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**AGRICULTURAL POLICY :  
THE CASE OF THE VINE PULL SCHEME**

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## 1. INTRODUCTION

The dried vine fruit industry last experienced substantial adjustment pressures during the 1982, 1983 and 1984 seasons when a prolonged depression in world prices for dried vine fruit occurred. Although the marketing arrangements at the time already provided valuable assistance, the industry was successful in securing further assistance through the introduction of a vine pull program. The success of the industry in obtaining additional assistance suggests that a persuasive argument was mounted concerning adjustment difficulties in the industry.

Government intervention in the dried vine fruits industry has a long history dating back to the soldier settlement schemes that followed the First World War and, even earlier to the public provision of irrigation infrastructure at the turn of the century. By the thirties the regulatory structure which exists today was, largely, in place. Yet despite almost a century of government intervention and assistance a substantial fraction of the industry continues to experience severe economic difficulties (IAC 1984b, 82-83). The Industries Assistance Commission took the view that intervention itself was impeding the development of a more efficient industry (IAC 1989, x) and recommended the phased reform of the marketing arrangements that have protected the industry.

While the marketing arrangements that have protected the industry may well have impeded the development of a more efficient industry, it seems unlikely that they could be an important factor preventing the adjustment of enterprises which are currently not financially viable (as opposed to being simply inefficient). Yet the evidence suggests not only that a significant fraction of the enterprises in the industry are not viable, but also that the rate of departure of these enterprises from the industry is, apparently, insensitive to severe downturns in the market (IAC 1989, 6-6). If this is the case then the conclusion to be drawn is that some quite powerful forces must be impeding the adjustment of marginal enterprises in the industry. Consequently, although enterprises in the dried vine fruits industry may be judged to be experiencing similar adjustment pressures, per se, as those experienced by enterprises in other industries, enterprises in the dried vine fruits industry may be unable to respond to those pressures as easily as others. If this is correct then it may be equitable to provide preferential adjustment assistance to the industry. Providing such assistance may well be a difficult task, as the Commission noted (IAC

1989, 6-7), and would at least require a through understanding of the adjustment process in the dried vine fruits industry.

The purpose of the study that is reported here was to investigate structural adjustment in the dried vine fruits industry, using the 1985-87 Vine Pull Scheme as a case study (Gow and Kaine (in press)). By evaluating the formulation, implementation and outcomes of the Scheme the study would, hopefully, offer some insights that will be useful to those responsible for formulating and implementing policy in the industry.

## 2. FINANCIAL PERFORMANCE

In this section the financial performance of grape growing enterprises is briefly reviewed and statistics describing the income of grape growers are reported. Though a reasonably clear picture of the financial performance of enterprises, and to a lesser degree, of the income of farm households can be obtained, the same cannot be said with respect to the welfare status of farm households. Factors such as cash income variability, non-pecuniary benefits and asset accumulation attenuate the relationship between household income and welfare status (Vincent 1976). Consequently measures of the income of farm households can only be treated as indicative of welfare status.

Grapes are grown for one of three markets - dried vine fruit, winemaking and table consumption. While specialised varieties of wine and table grapes are grown, multi-purpose varieties are grown for dried fruit production. As these multi-purpose types can be used in winemaking or consumed as fresh grapes as well as processed into dried fruit, then conditions in all three markets are affected by the production of multi-purpose grapes. Also, conditions in each market relative to the other two will influence the pattern of disposal of multi-purpose grapes. In short the dried fruit, winemaking and table grape markets are interdependent and conditions in all three markets in aggregate determine the financial performance of multi-purpose grape growing enterprises.

Table 1 contains data on the average cash operating surpluses for dried vine fruit, multi-purpose and wine grape farms. Proceeding on the basis that dried vine fruit enterprises comprise the majority of multi-purpose grape farms, the data in the table shows that operating surpluses on multi-purpose grape farms have fluctuated around a quite low mean in nominal terms. In real terms there appears to be no significant trend either up or

down in the size of the operating surplus although the 1980-81 and 1983-84 seasons stand out as particularly poor seasons. An upward trend does seem apparent in the operating surplus of wine grape farms. Generally, wine grape farms appear to perform slightly better on average than multi-purpose grape enterprises.

While the financial performance of grape growing enterprises on average appears rather poor there is a great deal of variation in individual performance as the data in Table 2 indicates. In the seasons up to 1983-84, at least half of the multi-purpose grape enterprises in Sunraysia had an operating surplus less than \$7000 yet the upper quartile of farms had surpluses at least twice that amount. The data in the table suggests that the distribution of operating surplus across enterprises is highly skewed, the majority of farms performing quite poorly while a small proportion perform well, in relative terms. Overall the data paints a bleak picture of the profitability of multi-purpose grape enterprises.

Table 1: Nominal and real operating surplus of grape growing enterprises

Year	Operating Surplus			Adjusted Operating Surplus		
	Dried Vine Fruit	Multi-Purpose	Wine Grape	Dried Vine Fruit	Multi-Purpose	Wine Grape
1975-76	7 373			5 628		
1976-77	12 868			8 636		
1977-78	13 139			8 212		
1978-79	14 863			8 493		
1979-80	29 333			15 198		
1980-81	6 133			2 906		
1981-82	11 852			5 087		
1982-83	10 503	12 231	12 168	4 055	4 832	4 807
1983-84	8 346	7 626	11 357	2 928	2 821	4 202
1984-85		19 250	20 121		6 829	7 138
1985-86		19 577	19 836		6 406	6 491
1986-87		20 660	19 016		6 187	5 693
1987-88		28 371	28 129		7 916	7 848
1988-89		26 030	46 260		6 763	12 019
<b>AVERAGE</b>	<b>12 714</b>	<b>19 016</b>	<b>22 412</b>	<b>6 794</b>	<b>5 965</b>	<b>6 885</b>
<p><b>Source:</b> Industries Assistance Commission (1984, p.178) A.B.A.R.E. (various) <i>Farm Surveys Report</i></p>						

**Table 2: Distribution of Sunraysia multi-purpose grape farms by operating surplus.**

Proportion of farms at or below the values specified	1981-82	1982-83	1983-84	1984-85	1985-86
	(\$)	(\$)	(\$)	(\$)	(\$)
25 per cent	-1 191	-3 011	-5 021	2 366	-3 293
50 per cent	6 642	6 659	2 740	15 765	13 821
75 per cent	13 976	12 774	8 285	22 981	26 854
100 per cent	27 424	31 607	20 681	42 128	56 015
Average	11 852	10 503	6 429	20 805	23 577

Source: B.A.E. (1985, p. 28-29)  
A.B.A.R.E. (1988, p. 21-23)

**Table 3: Equity ratios of Sunraysia multi-purpose grape farms.**

<b>1983-84</b>					
FCOS	Less than \$40	\$40 to \$4913	\$4913 to \$11907	Over \$11907	Average
	0.73	0.86	0.72	0.82	0.78
<b>1984-85</b>					
FCOS	Less than \$11 497	\$11 497 to \$19 514	\$19 514 to \$28 712	Over \$28 712	Average
	0.72	0.90	0.81	0.73	0.80
<b>1985-86</b>					
FCOS	Less than \$8 686	\$8 686 to \$20 036	\$20 036 to \$33 207	Over \$33 207	Average
	0.69	0.87	0.74	0.88	0.81
<b>1986-87</b>					
FCOS	Less than \$7 703	\$7 703 to \$16 806	\$16 806 to \$27 270	Over \$27 270	Average
	0.69	0.89	0.90	0.85	0.84

Each group represents 25 per cent of the farm population.

Source: B.A.E. (1985, p. 28-29)

In Table 3 data on the business equity of multi-purpose grape farms in Sunraysia are presented. Business equity indicates the exposure of the enterprise to debt and strongly influences the ability of an enterprise to adjust to changing circumstances. The equity ratios presented in the table are fairly uniform, averaging 0.8 across farms categorised according to operating surplus. The uniformity of the ratios implies that farms returning low cash surpluses must, on average, be off-setting non-cash provisions such as family labour with other income. Enterprises falling in the lowest quartile of operating surplus are likely to possess little capacity to adjust to deteriorating economic circumstances despite their high level of equity. The low or negative cash surpluses returned by these enterprises would severely limit their capacity to attract and service the additional loans required to fund the upgrading of production.

The average rates of return to multi-purpose and wine grape farms are shown in Tables 4 and 5 respectively. The rate of return measures the return on resources invested (land, labour and capital) in an enterprise. Generally the average rate of return to both types of grape enterprise has been quite poor and below the rate for agriculture as a whole. Multi-purpose grape enterprises recovered a positive rate of return, on average, in only two of the six years recorded in Table 4 while the performance of wine grape enterprises was only marginally better.

Table 4: Rates of return from multi-purpose grape enterprises

	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
Rate of return (%)	-11.2	-0.3	3.0	1.3	12.2	10.2
Real rate of return (%)	-18.1	-4.6	-5.4	-8.0	4.9	2.8

Source: A.B.A.R.E. (various issues) *Farm Survey Reports*.

Table 5: Rates of return from wine grape enterprises

	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
Rate of return (%)	-0.4	6.7	-6.6	0.4	8.4	21.1
Real rate of return (%)	-7.3	2.4	-15.0	-8.9	1.1	13.7

Source: A.B.A.R.E. (various issues) *Farm Survey Reports*.

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In brief, the evidence presented in this section leads to the conclusion that the financial performance of a substantial proportion of multi-purpose and wine grape enterprises is very poor indeed. Many enterprises are not viable and are subsidised by income from other sources. They would appear to lack the financial capacity to support redevelopment

### 3. THE VINE PULL SCHEME

In response to persistently poor incomes in the dried vine fruit industry the Federal Government instructed the Industries Assistance Commission to conduct an inquiry into the industry in 1983. In the resulting report the Commission argued that assistance arrangements were hampering restructuring by distorting market signals and recommended modifications to the arrangements (IAC, 1984b). The Commission also recommended the provision of special adjustment assistance to the industry to enable uneconomic producers to leave the industry and encourage more efficient production (IAC, 1989). In recommending special assistance, the Commission was less than enthusiastic in endorsing a Vine Pull Scheme, even though such assistance was primarily intended to facilitate such a program. The Commission stated:

*Many witnesses requested that funds be made available for a Vine Pull Scheme. Such a Scheme could not be funded under the existing RAS. It would not be inappropriate, however, for the States to consider whether any of the additional \$5 million adjustment assistance, which the Commission recommends be made available if full equalisation were considered during the 1985 to 1989 period, could be best spent on Vine Pull Schemes.*

(IAC 1984, 26)

When announced the Scheme was focused upon dried vine fruits. Poor market prospects for dried vine fruits in the 1985 season resulted in the transfer of about 100,000 tonnes of sultanas, mainly from Victoria, to the wine industry, at very low prices. In response to the subsequent disruption in the winegrape industry the Federal Government instituted a broader inquiry into the grape and wine industries. This inquiry, the McKay Committee (1985), recommended that the Vine Pull Scheme be extended to all grape growers in recognition of the close relationship between the dried fruit and winegrape industries. This recommendation was adopted.



When conceived, the Scheme was intended to address two aims. First, the Scheme was to reduce a perceived over-supply of grapes, especially multi-purpose varieties, as this over-supply was believed to be depressing incomes in the dried vine fruit and winegrape sectors of the grape growing industry. Second, the Scheme was to facilitate the adjustment out of the industry of low income and presumably inefficient growers. These two aims are not necessarily complementary. Depending on the operational parameters of the Scheme and the nature of the industry, the Scheme may address one aim without effectively addressing the other.

The Vine Pull Scheme was implemented in Victoria, South and Western Australia and Queensland. As over 95 per cent of the funds distributed through the Scheme were expended in Victoria and South Australia, the evaluation of the Scheme was confined to only those two States. The funding of the Vine Pull Scheme was shared between the Federal and State Governments on a 2:1 ratio. However, administration and implementation were the preserve of the States, although the Federal Government retained the right of veto over the States' actions in principal, via the funding agreements which described the terms and conditions under which assistance were provided.

The States were responsible for all aspects of administration, including the development of eligibility criteria, and thus were responsible as to whom, and to what extent, assistance was provided up to the funding limit. Administration of the Scheme in South Australia was the responsibility of the Rural Assistance Branch of the State Department of Agriculture. In Victoria this role was filled by the Rural Finance Corporation, an autonomous government body involved in rural finance in Victoria. The Government Schemes Division of the Queensland Industry Development Corporation, a semi-autonomous government organisation was responsible for administration and implementation of the Scheme in that State.

The combined expenditures by the Federal and State Governments on the Vine Pull Scheme amounted to \$8.8 million. Although the Scheme was initially implemented to assist dried fruit growers only 22 per cent of the assistance provided went to dried fruit adjustment. The bulk of the assistance was expended on winegrapes adjustment, and the greater part of this (82 per cent) was expended in South Australia.

Some 802 hectares of vines were removed from dried fruit production. This is equivalent to around three per cent of the fresh weight equivalent of packing shed intake of dried

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vine fruit in an average year. In contrast over 2700 hectares of winegrapes were removed which is equivalent to around eight per cent of winery intake in an average year.

As already mentioned, most of the assistance provided under the Scheme was received by South Australian growers. Approximately 70 per cent of Scheme funds were expended in that State. About 26 per cent of expenditure occurred in Victoria, the remainder in Queensland. In South Australia, the rate of assistance averaged \$2400 per hectare. The rate of assistance in Victoria was substantially higher at an average of \$3070 per hectare, 30 per cent above the rate in South Australia.

The Vine Pull Scheme was originally intended to assist in the removal of multi-purpose varieties. However, the majority of the funds expended under the Scheme were employed to remove winegrape varieties in South Australia. Only 22 per cent of the assistance provided through the Scheme was distributed to declared dried vine fruit producers. The low participation of dried fruit producers in the Scheme may be attributed in large degree to the fact that the over supply crisis that precipitated the Scheme had passed before the Scheme commenced operation.

#### 4. ANALYSIS OF THE SCHEME

The two principal objectives of the scheme were to reduce the over-supply of grapes for production of dried fruit, and to assist non-viable producers to withdraw from grape production. In this section the potential of the Scheme to meet these objectives is evaluated.

Perhaps the key issue to be addressed in judging whether or not a pull program might be an appropriate and effective mechanism for reducing oversupply is the nature of the oversupply problem. The nature of the oversupply problem determines the degree to which a pull program is an appropriate mechanism while the nature of the problem, and the scale and manner of implementation of the program, determine the effectiveness of the program. Clearly, if the Vine Pull Scheme was an inappropriate mechanism for addressing the oversupply problem that existed in the dried vine fruit industry, then it was less likely to be effective.

The dried vine fruit market was characterised as being oversupplied because of the three successive seasons of low returns due to depressed export prices. This suggests that, at

least in a welfare sense, the supply of dried vine fruit is not sufficiently responsive to market signals. Theoretical analysis leads to the conclusion that supply response in the dried vine fruit (and wine grape) markets is particularly slow in both the short and long term. Consider Figure 1. The curve  $Z(t)$  describes the net revenue from a vine during its life, assuming a constant price. Vines reach commercial yields within two to seven seasons depending on the variety and whether production is from new root-stock or new graftings. Assume commercial yields are reached in the fourth year on average and continue for forty years or more. Assume also that maintenance costs are reasonably fixed for much of the life of the vine. On these assumptions the net revenue earned from the vine each season over its life time will follow a path similar to  $Z(t)$ .

The curve  $F(t)$  describes the impact of the length of the commercial life of the vine on average fixed costs. Overheads incurred in planting the vine are spread over the life of the vine. The longer the vine continues producing, the longer the period over which fixed costs are spread. The optimal commercial life of the vine occurs at the point where the two curves  $F(t)$  and  $Z(t)$  intersect where expected profit is maximised. In the figure this intersection indicates a commercial life of forty years, which is typical. The hatched area represents the total profit earned over the life time of the vine.

The essential point of the analysis is that the grape producer is confronting a planning horizon of forty years or more when investing in new root-stock or graftings. Since preferences for wine, and so the demand for grape varieties, can alter substantially within the course of a decade, and as conditions in the export market for dried fruit can vary from season to season, grape production represents a quite risky long-term investment. That imbalances occur between supply and demand for grapes, both in aggregate and by variety, should not be surprising.

Once the investment is made, the incentive to adjust to short term price movements depends on the cost structure of the grape enterprise net of the overheads associated with the vine itself. Usually fixed costs average 20 to 30 per cent of production costs. When a short run fall in price occurs, provided the variable costs of production are met, the economically rational action is to continue production even though fixed costs cannot be fully covered. In principal, grape producers may be acting rationally by remaining in the industry, even though returns may be 20 to 30 per cent below production costs for one, two or even three seasons.

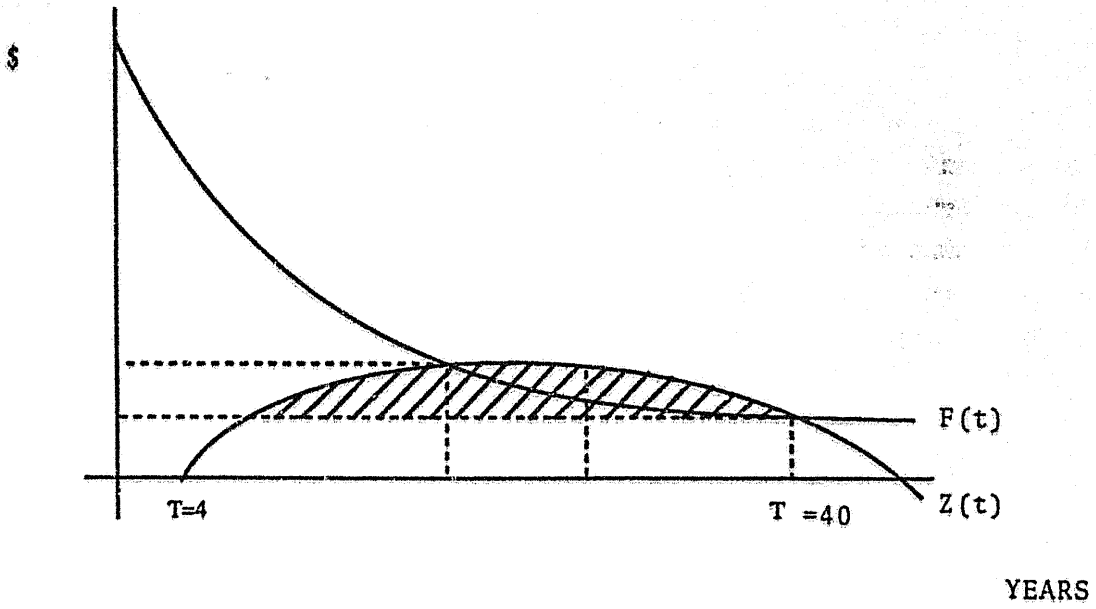


Figure 1 : Hypothetical Profile of Returns to Grape Producers

In brief, the supply of dried vine fruit or wine grapes is quite unresponsive to market signals in the short term. In the long term, the extended planning horizon and the cost structure of grape growing enterprises represent powerful forces preventing rapid adjustment in the dried fruit and wine grape industries.

Clearly, the investment involved in planting grape vines is an investment in a long term asset. As the withdrawal of long term assets from production can only be justified, in economic terms, if the anticipated return from such assets is unprofitable in the long term, then a pull program is not an appropriate response to a short term fall in returns. Consequently, given that the decline in export prices for dried vine fruit was a temporary phenomenon brought about by three successive seasons of particularly favourable growing conditions in the northern hemisphere, the Vine Pull Scheme was, in the view of the authors, an inappropriate policy response. A policy measure offering temporary income support would have been a more suitable form for delivering welfare relief. In the season preceding the implementation of the Scheme export prices for dried vine fruit recovered. Consequently, and perhaps fortuitously, the rate of participation of dried fruit producers in the Scheme was substantially lower than had been anticipated.

If a long term fall in returns is anticipated a pull program might be justified. In the case of wine grapes, the demand for some varieties certainly appears to be in long term decline. Evaluating the degree to which the Scheme promoted the adjustment of resources away from the production of these varieties proved a difficult task, principally because of data limitations. However, an attempt was made to identify whether or not assistance distributed to wine grape producers was employed to remove those varieties of grapes for which long term market prospects were poor.

Browett (1988, 20) notes that:

*....a contraction in the domestic and export market for fortified wine from the early 1960s was followed by the red table wine boom of the late 1960s/early 1970s, by the white table wine boom of the mid/late 1970s and then by the sparkling wine boom of the 1980s.*

Consequently, the varieties removed under the Scheme would be expected to be predominantly composed of those used in fortified wine production and red table wine, as well as multi-purpose types. Some removal of varieties used in white table wines might

be expected if plantings of sufficient age exist. Data on the age profiles of the principal grape varieties in South Australia were evaluated using cluster analysis in order to test these expectations.

The age profile of each variety in the year preceding the introduction of the Scheme was characterised by three ratios. These were the 'area of vines not yet bearing', 'intended and actual grubblings', and 'area with vines over forty years old' expressed as a percentage of bearing area. The Density clustering procedure (Wishart 1987), was then employed to group varieties together which were similar in their age profiles as described by the three ratios. The cluster analysis should separate varieties with ageing profiles from those with younger profiles, and those varieties with ageing profiles should correspond with those pulled under the Scheme.

The results of the clustering procedure are summarised in Table 6 and Figure 2. Four clusters were generated by the procedure. In Table 6 the composition of each cluster is presented together with statistics on areas pulled. The procedure produced a classification quite different from the usual split into red, white, premium, quality and other types. Varieties appear to have been classified into groups with a low percentage of area pulled (clusters one and two) and a high percentage of area pulled (clusters three and four). The profiles in Figure 2 provide an understanding of the formation of the groups. The profiles consist of the mean score for each cluster across the three ratios - immature (not yet bearing), culls (grubbing) and aged (over 40) respectively. The scores have been standardised to aid interpretation. Clusters one and two have above average areas of immature vines and insignificant areas of vines over forty years (on average). Cluster two clearly comprises varieties undergoing rapid expansion. Cluster one also comprises varieties which are in an expansion phase but the lower proportion of immature vines relative to cluster two suggests that these varieties are perhaps at a later phase of development.

The varieties in the third cluster appear to be in a fairly stable equilibrium. The proportions of immature vines and grubblings are roughly consistent with maintaining a steady bearing area. The varieties in the fourth cluster are in decline. The area of immature vine is insignificant and the culling rate is relatively high. In general, the varieties that were pulled under the Scheme would be expected to be those in the third and fourth clusters. A higher proportional rate of pull would be expected of those varieties in the fourth cluster as, on average, these varieties are in greatest decline.

Furthermore, the varieties used in fortified wines should appear in the fourth cluster given the recent history of market preferences. Returning to Table 6 the fortified wines do appear in the fourth cluster and the varieties in the fourth cluster were, for the most part, those with the highest rate of pull.

Table 6 Cluster analysis of varieties

South Australia			
Cluster	Variety	Actual	Area Pulled % of bearing area
1	Cabernet Sauvignon	72	3.5
	Chenin Blanc	24	11.3
	Traminer	-	<u>0.0</u>
			4.9
2	Pinot Noir	-	0.0
	Chardonnay	25	4.0
	Colombard	-	<u>0.0</u>
			1.3
3	Muscat Blanc	30	8.1
	Muscat Gordo Blanco	109	5.6
	Semillon	100	15.0
	Waltham Cross	12	<u>10.5</u>
			9.8
4	Currant	40	7.7
	Grenache	417	14.7
	Mathro	125	16.4
	Shiraz	394	10.9
	Crouchen	117	14.7
	Doradillo	104	10.3
	Muscadello	66	19.7
	Palomino and Pedro Ximene	266	16.2
	Reisling (Rhine)	310	8.9
	Sultana	194	8.9
	Trebbiano	37	<u>7.5</u>
			12.4

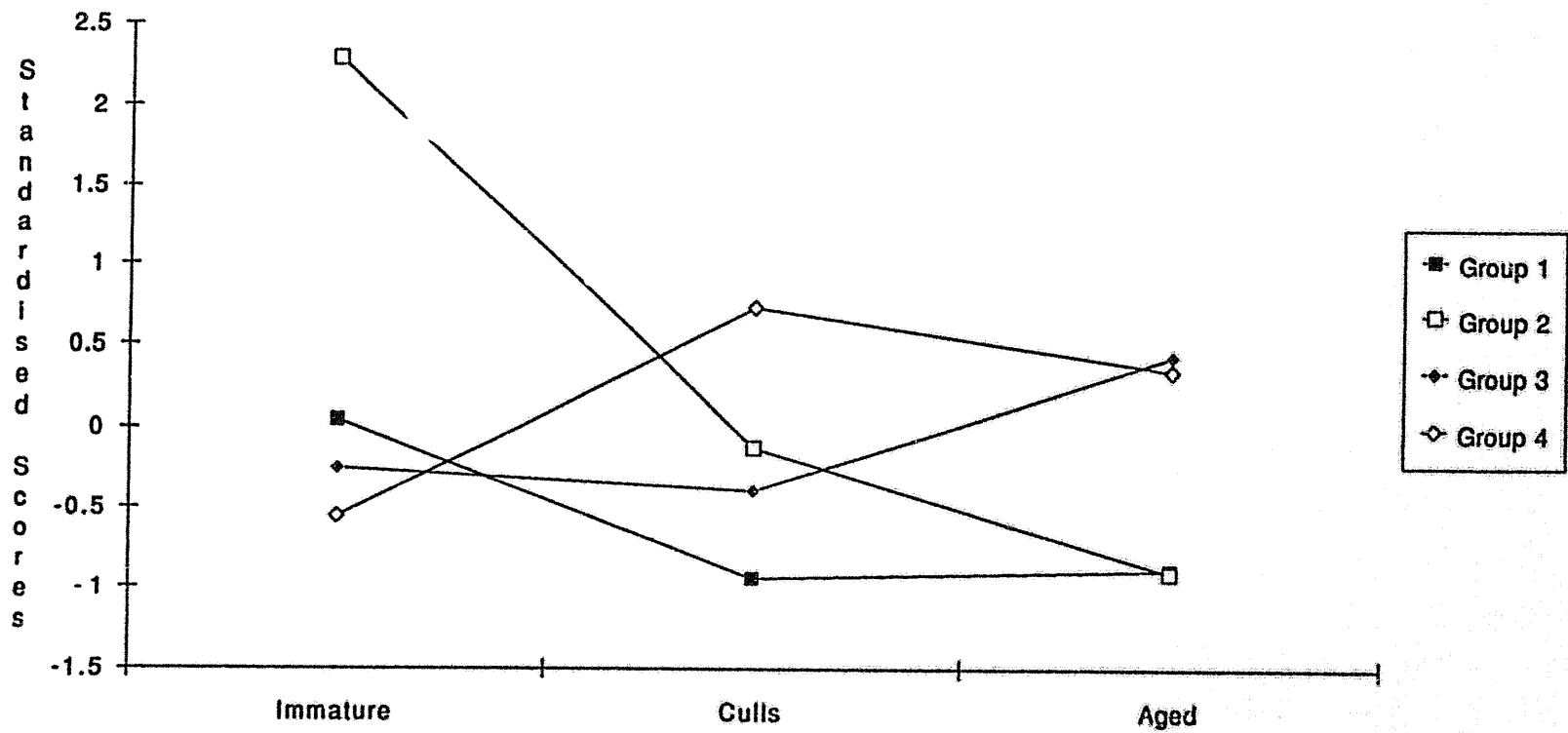


Figure 2 : Cluster Profiles



On this evidence the Scheme was successful in reducing the supply of those varieties of wine grapes which were in surplus. That is, the analysis indicates that assistance was mainly employed by producers of wine grapes to remove varieties with poor market prospects. For those varieties that the cluster analysis characterised as being in long term decline, the ratio of area pulled to grubblings was found to be quite high. This indicates that the Scheme significantly accelerated the rate with which resources were withdrawn from the production of those varieties. As data is not available regarding the prices paid for these varieties when crushed, the impact of the Scheme in terms of returns to producers cannot be determined.

In summary, the Vine Pull Scheme was employed to alleviate the impact of the fall in export prices for dried fruit upon the equalised return received by producers. As the 'over-supply' problem in the dried vine fruit industry was of a temporary nature however, the provision of assistance for the removal of such long term assets as vines would appear in the circumstances, to have been inappropriate.

The Scheme appears to have encouraged the removal of wine grape varieties that can be characterised as in medium or long term decline rather than short term decline. The removal of vines under such circumstances was considered to be more appropriate, as an objective for a pull program, than was the case for dried vine fruit.

## 5. THE ADJUSTMENT OBJECTIVE

Although the Scheme appears to have assisted adjustments in the varietal mix of wine grapes, the degree to which the Scheme promoted the adjustment of unprofitable producers remains to be assessed.

Over time, enterprises may become uneconomic because of poor management, resource constraints such as the size and quality of holdings or declining market prospects. As mentioned earlier, the extended commercial life of grape vines and the cost structure of grape enterprises tend to inhibit adjustment in the short run. When demand can shift dramatically from season to season, and across a range of varieties within a decade, and the individual grower has invested in an asset with a productive life of forty years or more, restructuring is fraught with uncertainty. Consequently enterprises may perform

poorly for some period of time before the need to adjust becomes clear. If, as is often the case, few attractive alternatives are available and substantial debts have been incurred then the rational decision may be to remain in the industry. Much of the time this may be the only course of action available particularly if the decline in the equity base of the grape enterprise may be reduced or even reversed in the short term when off-farm income is available.

This line of reasoning suggests that, apart from those that simply do not possess the appropriate skills, producers most likely to require assistance on welfare grounds will operate enterprises that have some or all of the following characteristics:

- relatively small scale;
- an aged plantation;
- poor market prospects for output;
- lack of attractive alternatives to grape production;
- accumulated debt; and
- low off-farm earnings.

The Scheme did, in principle, represent an attractive proposition to producers managing enterprises with these characteristics. The effectiveness of the Scheme in this respect depends, to a significant degree, on administration and implementation. The eligibility requirements for assistance under the scheme would be particularly crucial in directing funds toward the target group of producers.

In Victoria, assistance was restricted to clear-fell in the first year of the Scheme. This restriction did not entail the employment of additional administrative resources yet neatly targeted assistance. This is because the clear-fell restriction rendered the Scheme unattractive to viable producers. In contrast, South Australian assistance was available virtually without restriction in the first year. All applicants for assistance were successful. Since viable and non-viable producers were eligible to receive assistance to remove vines, and the partial-pull provision allowed selective grubbing, the Scheme must have represented a tempting proposition to many financially sound producers. The differences in the number of applications for assistance received and level of funds advanced in Victoria and South Australia would suggest that this was the case.

The McKay inquiry (1986, 37) believed that two conditions were essential to the successful performance of the Scheme. They were:

- assistance should be provided for clear-fell,
- that there should not be a means test.

While these conditions were adhered to in Victoria, in the first year of the Scheme at least, a different approach prevailed in South Australia. The impacts of the Scheme in the two States reflected the resulting differences in implementation. From discussions with Department of Agriculture staff in South Australia it seems unlikely that more than 50 per cent of applicants in the first year of the Scheme would have met the means test that was introduced in the second year of the Scheme. The McKay inquiry recognises that applicants who were not in need of financial assistance would receive support, in the absence of a means test. The omission of a test was justified on the grounds that there was a lack of alternative assistance measures available to farmers, such as social security. That this is sufficient justification for excluding income and equity eligibility requirements from the Scheme is debatable.

Criteria for identifying low income growers were incorporated into the Vine Pull Scheme in its second year of operation in South Australia. It would seem that this was done not to correct the earlier oversight but more to limit demand for assistance under the Scheme which, in South Australia at least, had outstripped available funds. The revised criteria for assistance in South Australia included:

- applicants must have achieved at least 50 per cent of farm income from grapes during at least one year since 1983; and
- applicants must not have averaged more than \$15 000 in off-farm income in the three years since 1st July 1983.

The subsequent impact of these criteria on the rate of success of applicants for assistance, indicates that the initial inclusion of even quite generous criteria would have dramatically improved the effectiveness of the Scheme. In Tables 7 and 8, estimates of income by region for multi-purpose and wine grape producers are presented. Comparison of the criteria introduced in South Australia with the estimates in the tables suggests that the criteria were far from stringent. Had some earlier attention been paid to including a

Table 7: Multi-purpose grape growing industry: Estimates of income by region, Australia.

	Average per Farm			All Regions
	Riverland S.A.	Sunraysia Vic.	Sunraysia N.S.W.	
<b>1983-84</b>				
Farm Cash Operating Surplus	9 135	6 421	12 702	8 200
Farm Income	2 570	-746	660	718
Off-farm Income	5 149	7 059	2 494	5 826
Total Income	7 719	6 313	3 154	6 544
<b>1984-85</b>				
Farm Cash Operating Surplus	16 452	22 204	19 347	19 788
Farm Income	10 045	14 866	10 443	12 610
Off-farm Income	5 033	8 376	5 518	6 806
Total Income	15 078	23 242	15 961	19 416
<b>1985-86</b>				
Farm Cash Operating Surplus	12 850	28 382	21 677	21 666
Farm Income	6 661	21 923	13 251	15 097
Off-farm Income	8 042	9 146	6 605	8 443
Total Income	14 703	31 069	19 856	23 540
<b>1986-87</b>				
Farm Cash Operating Surplus	18 062	23 121	17 527	21 406
Farm Income	11 481	16 612	10 490	14 109
Off-farm Income	6 604	11 134	7 497	8 519
Total Income	18 085	27 746	17 987	22 628
<b>1987-88</b>				
Farm Cash Operating Surplus	16 747	34 820	32 225	29 710
Farm Income	10 966	26 791	24 013	21 310
Off-farm Income	7 900	12 972	7 592	8 040
Total Income	18 866	39 763	31 605	29 350
<b>1988-89 (p)</b>				
Farm Cash Operating Surplus	19 454	24 223	31 343	26 030
Farm Income	10 505	17 407	25 831	17 890
Off-farm Income	9 833	7 527	7 666	8 520
Total Income	20 338	24 934	33 497	26 410

Source: Australian Bureau of Agricultural & Resource Economics, *Farm Survey Reports* (various issues).

(p) — preliminary estimate

Table 8: Wine grape growing industry: Estimates of income by region, Australia.

	Average per Farm					All Regions
	Dryland Grapes, S.A.	Riverland S.A.	Sunraysia Vic.	M.I.A. N.S.W.	Sunraysia N.S.W.	
<b>1983-84</b>						
Farm Cash Operating						
Surplus	7 998	11 470	6 022	18 057	17 369	11 269
Farm Income	1 131	4 436	-5 032	9 530	-765	3 028
Off-farm Income	8 107	3 619	9 081	4 428	4 860	5 612
Total Income	9 238	8 055	4 049	13 958	4 095	8 640
<b>1984-85</b>						
Farm Cash Operating						
Surplus	14 936	17 058	28 431	27 862	11 136	19 493
Farm income	7 833	10 099	19 247	20 261	10	11 982
Off-farm income	5 757	3 836	15 539	4 720	873	5 830
Total income	13 590	13 935	34 786	24 981	883	17 812
<b>1985-86</b>						
Farm Cash Operating						
Surplus	13 809	15 434	43 047	26 910	31 656	20 897
Farm Income	2 423	8 624	34 663	17 383	21 705	12 509
Off-farm Income	6 260	6 188	20 154	7 123	5 341	8 010
Total Income	8 683	14 812	54 817	24 506	27 046	20 519
<b>1986-87</b>						
Farm Cash Operating						
Surplus	17 401	20 138	17 302	16 792	-	20 687
Farm Income	6 408	13 328	11 212	8 527	-	11 229
Off-farm Income	6 899	5 498	12 617	9 295	-	7 325
Total Income	13 307	18 826	23 829	17 822	-	18 554
<b>1987-88</b>						
Farm Cash Operating						
Surplus	43 330	17 180	37 029	35 352	-	26 250
Farm Income	32 684	11 355	25 468	23 270	-	15 730
Off-farm Income	8 918	7 024	17 404	9 157	-	6 670
Total Income	41 602	18 379	42 872	32 427	-	22 400
<b>1988-89 (p)</b>						
Farm Cash Operating						
Surplus	100 405	26 115	68 860	64 540	-	46 260
Farm Income	98 251	13 829	52 181	54 487	-	36 670
Off-farm Income	6 246	9 073	2 511	11 100	-	8 070
Total Income	104 497	22 902	54 692	65 587	-	44 740

Source: Australian Bureau of Agricultural & Resource Economics, *Farm Survey Reports* (various issues).

(p) — preliminary estimate.

reasonable equity requirement as an eligibility condition the performance of the Scheme in targetting uneconomic producers could have been further improved.

In summary the effectiveness of the Scheme might have been substantially improved if the income restrictions employed in the second year of the Scheme in South Australia had been adopted in both states at the commencement of the Scheme. The targetting of assistance may also have been improved if some consideration had been given to a restriction based on measures of farm equity. Such a restriction need not have been ungenerous to have had a significant impact.

## 6 CONCLUSIONS

In this paper an evaluation of the 1985-87 Vine Pull Scheme has been reported. The objectives of the scheme were to reduce an over-supply of grapes used for dried fruit production and to facilitate the adjustment of low income producers. Following the recommendation of the McKay Committee (1985) the Scheme was extended to include wine grape production.

The Scheme was judged to be inappropriate as a policy initiative to redress the over-supply problem in the dried vine fruit industry. The over-supply was a temporary phenomenon resulting from a short term fall in export prices. Consequently, the removal of such long term assets as vines was not warranted. As events turned out, export prices recovered prior to the implementation of the Scheme and the participation of dried vine fruit producers in the Scheme was substantially reduced as a consequence.

The provision of assistance for the removal of vines may be warranted when the prospect of a return to profitable production seems unlikely over the longer term. Some wine grape varieties, which appear to be experiencing a long term decline in market prospects, could be characterised as meeting this condition. On the evidence available, the majority of the funds distributed to wine grape producers through the Scheme were employed to remove these varieties.

With respect to promoting the adjustment of uneconomic producers the impact of the Scheme was diminished by the fact that assistance was distributed to producers not

requiring welfare relief due to the employment of quite broad eligibility criteria. The effectiveness of the Scheme might have been substantially improved if the income restrictions employed in the second year of the scheme had been adopted at the outset.

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