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THE CAPACITY OF PRODUCERS TO SUCCESSFULLY VALUE ADD IN THE WOOL INDUSTRY

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Abstract

The value adding debate has captured the imagination of participants in the wool industry more so than any other. The call for producers to go beyond traditional selling arrangements and into the area of value adding has come from both industry and Government. This paper reviews the general thrust of value adding in the wool industry and models the returns from grower orientated schemes involved in the processing of greasy wool into top form. A range of returns from current value adding schemes is obtained using stochastic simulation based on historical wool top prices. It is believed that much of the interest in this area stems more from the depressed state of the wool industry following deregulation and the age old belief that marketing margins are too high, rather than any thought of competitive advantage or analysis of probable returns.

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The views expressed in this paper are those of the author and are not necessarily those of NSW Agriculture or the NSW Government.

1. INTRODUCTION

1.1 Background

The Australian wool industry has undergone dramatic changes in recent years with the removal of the Reserve Price Scheme and restructuring of key industry bodies. Within an environment of structural change, the efficiency of the traditional auction system and associated wool selling, processing and distribution system is under question. The call for producers to go beyond traditional selling arrangements and into the area of value adding has come from both industry and Government.

Industry proponents of value adding stress the complexity and inefficiency of the current wool pipeline¹ and advocate that growers should be selling direct to customers to minimise costs, increase returns and gain better product feedback. The recent major review of the Wool Industry strongly supported moves by grower orientated groups in value adding. *Forward moving producer groups have demonstrated that it is now possible to: substantially add value for the woolgrower, to the raw wool and any of its processed forms* (Garnaut 1993, pg 78).

The Federal Government, as part of a broader economic agenda, encourage the export of value added commodities across all agricultural industries due to favourable impacts on employment, export revenue and the balance of payments. In recent times particularly, the Government has been a strong advocate of value adding. *Since becoming Minister for Primary Industries and Energy, I have on numerous occasions stated my conviction that adding value to Australia's exports is an imperative, not an option, for Australia. It is essential not only for the future health of the Australian Economy in general, but also to ensure a sustainable and profitable primary industries and energy sector* (Crean 1992, pg 24).

In regards to the wool industry, the Federal Government has pursued its new found interest in value adding by providing special assistance to major investments in wool processing. Over the last two years approximately \$35 million worth of financial assistance in the form of direct grants and low interest loans has been provided to private companies to assist the construction and expansion of topmaking plants. The quantity of Australian wool that undergoes some form of processing prior to export is now around 33% compared to 15% in the 1970's. Much of the development within this sector has occurred in recent years.

Similarly, it appears many wool producers have caught onto the value adding philosophy and believe that higher returns can be achieved by taking a more active role in marketing of their product beyond the farm gate.

1.2 Previous studies

The majority of the discussion on value adding in the wool industry has focussed on two issues. Firstly, on whether Australia has a comparative advantage as a location for early stage wool processing, and secondly, possible benefits flowing to the Australian wool industry and the general economy from an internationally competitive local processing sector. Both these issues have been debated at great length in the literature² and are not entered into in this study.

With one exception, there has been a great deal of attention, but little analysis, conducted into the potential to value add from a wool growers perspective. Kaine, Tozer and Grace (1994) provided a strategic assessment of value adding by Australian wool producers in a report titled 'Where's the Value

¹ The wool pipeline refers to the wool marketing and processing chain from wool grower to final consumer.

² Werner International (1988), Department of Primary Industries and Energy (1989), Centre for International Economics (1990), Wool Processing Task Force (1993), Watson (1993).

in Value Adding'. The study used Porters (1985) framework of strategic analysis to explore four case studies of value adding initiatives in the Australian wool industry.

1.3 Study objectives

The success or otherwise of emerging value adding schemes has major implications for future marketing arrangements in the Australian wool industry. In the three years following deregulation, little research has been undertaken into evaluating the likely performance of value adding schemes involved in the further processing³ of wool from a growers perspective. The profitability and general approach of such schemes is the major focus of this study.

The major objective of this paper is to provide an assessment of the likely returns from grower based value adding schemes involved in the processing of wool to a top stage⁴. As part of this assessment the competitive advantage that wool growers may have in this area over existing participants in the wool pipeline is reviewed. The paper draws on: the practical experiences of growers who have processed and sold wool in a top form, responses of growers who have attended NSW Agriculture's workshop 'What does a topmaker want from my wool' and research into the operation of the wool processing sector.

In the past value adding has been closely associated with further processing and transformation of products. More recently value adding has taken on a much wider definition. Value adding should be viewed as all activities involved in making a product more attractive to consumers (Crean, 1992). This can, but does not necessarily involve processing. Taking the latter definition, value adding as applied to the wool industry incorporates many on farm practises such as grazing and pasture management, sheep husbandry and clip preparation. Consequently, this study only examines one of many forms of value adding⁵ opportunities available to wool growers.

2. VALUE ADDING FROM A WOOL GROWERS PERSPECTIVE

2.1 Early stages of the wool pipeline

If grower based groups are to successfully value add and compete with existing participants in the wool pipeline, an appreciation of the services provided by each participant is required. While growers fully recognise their existence, few realise the services provided by these intermediaries in the forms of product guarantee's, finance and risk bearing. An overview of the traditional selling system and the roles of intermediaries within the system is presented below.

Wool is often described as having a long and complex marketing chain that involves a number of intermediaries between the woolgrower and the ultimate consumer. Part of the complexity can be explained by the enormous task of efficiently handling, testing, selling and distributing the output from some 65,000 small scale woolgrowers. The fragmentation of production is illustrated by the fact that

³ Processing in this study refers to the worsted processing system. There are two broad systems for processing wool, worsted and woollen. The worsted system processes longer stapled wools with generally lower levels of vegetable matter in order to produce finer yarns for light weight, smoother fabrics. The wool top is the product of the worsted process and is used by spinners to produce yarn. Approximately 85% of Australia's wool production enters the worsted processing system (AWC, 1993).

⁴ A wool top is a combed sliver of wool that has undergone the following processes:

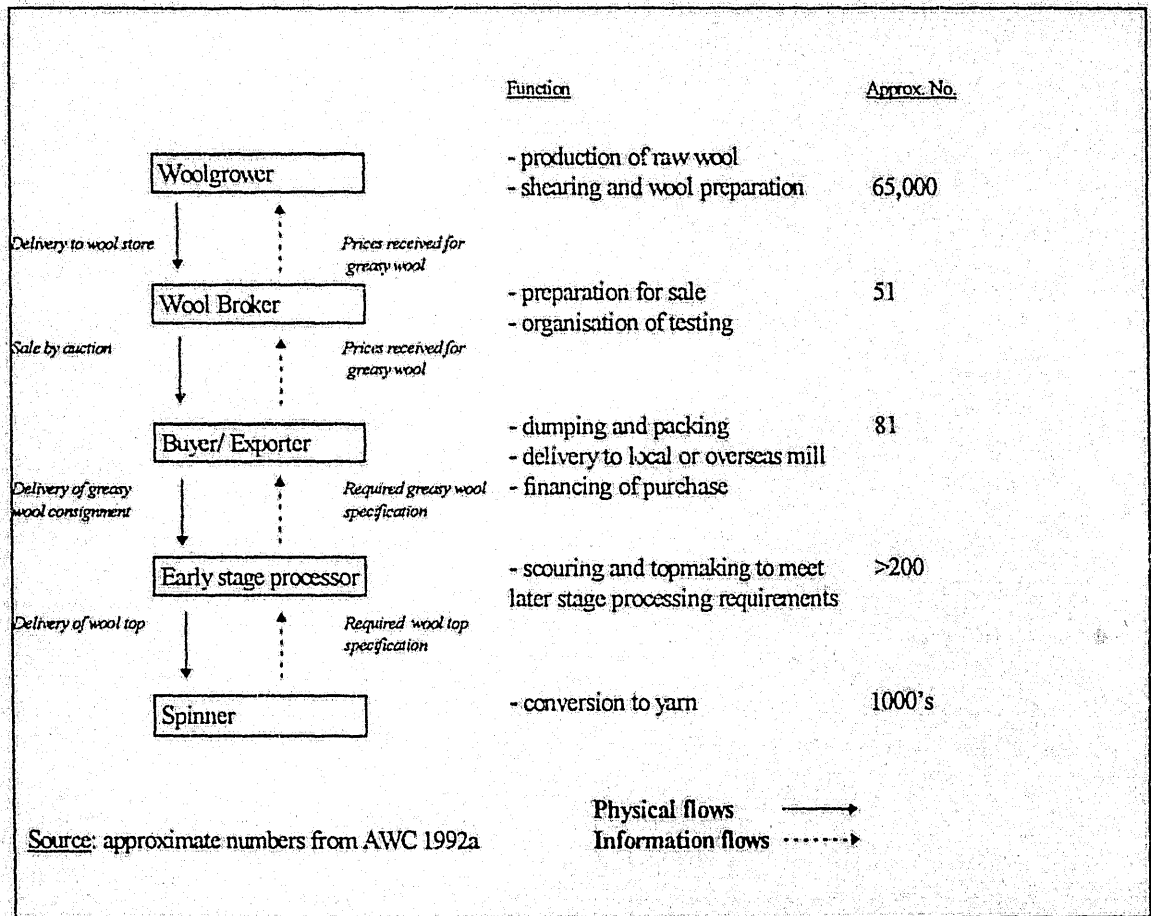
- i) Scouring - removal of dirt, grease and suint from greasy wool by washing in warm water and detergent
- ii) Carding - breaks open the entangled scoured wool, and removes burr and seed.
- iii) Gilling - aligns wool fibres parallel
- iv) Combing - continues fibre alignment and removes remaining vegetable matter and short fibres broken during carding.

⁵ The terms value adding and further processing are used interchangeably in this paper.

over half of total annual wool production is produced by non specialist wool growers. Analysis of the Australian woolclip indicates that 34% of growers produce less than 50 bales and 82% produce less than 100 bales (Garnaut 1993). These figures contrast considerably with other industries like cotton, with which the wool industry is so often compared to.

The auction has been the centre piece of wool selling in the industry for many years accounting for around 80% of annual wool sales. Using the auction system as a basis, a brief description⁶ of participants in the early stages of the wool pipeline is provided in Figure 1.

Figure 1: Structure of Early Stage Wool Pipeline



Wool growers - represents the start of the wool pipeline. At shearing wool is visually classed into different quality lines. Wool is transported from farm to the brokers warehouse.

Wool brokers - act as selling agents on behalf of growers and operate on either a commission or a flat rate basis. Upon arrival at the warehouse, wool bales are recorded and weighed. Brokers coordinate testing through the testing house and organise the growers wool into sale lots. The auctioneer sells each sale lot (generally 5-10 bales on average) in order of the catalogue. The wool is sold to the highest bidder provided the price meets the growers reserve that is set in consultation with the broker.

⁶ For a more complete description see AWC 1992, Kaine, Tozer and Grace 1994, and Hassall & Associates 1992.

Buyers / Exporters - purchase wool both at auction and privately to fulfil orders from early stage processors. Exporters finance the wool purchase, arrange transportation and documentation, and provide product guarantees. Their role can differ significantly depending on whether they operate on a commission or a merchanting basis. When operating on a commission basis the order is fully specified in terms of quantities, wool types and price limits and the return from the service is known with certainty at commencement of the operation. When acting on a merchanting basis, forward contracts are entered into for specific wool types or for customised combing blends at a fixed price by a fixed date. The profit made from the service is the difference between buy and sell prices and the client only takes ownership upon delivery. In the latter case the exporter takes on not only the risk of an unfavourable shift in greasy wool prices between contract agreement and delivery but also failure of the product to process as specified.

Early Stage Processors - process greasy wool into scoured wool and wool top and can act on either a commission or merchanting basis. Taking wool top production as an example, there is a crucial distinction between a commission comber (commission basis) and a topmaker (merchanting basis). A commission comber is a processor that owns the facility, has no ownership of the wool and processes the consignment for a fixed fee. The objective is to maximise throughput in order to minimise per unit overhead costs. A topmaker on the other hand is a processor that makes up the wool blend for combing into the top that usually is being produced to fulfil a specified order from a spinner. The topmaker must ensure that the product meets the specifications of the spinner otherwise the wool top may be rejected or a financial claim made.

Spinners - produce yarn to client specifications. Yarn production is affected by customer specifications, volume of orders, stock levels and availability of wool top (McCann, Egan and Rollinson 1992). Most orders for yarns are based on samples provided by spinners to knitters and weavers.

It is important to realise that the roles of each sector outlined above are considerably blurred due to the degree of vertical integration that occurs within the pipeline and the different basis that participants trade on. The open cry auction system has been established in Australia since the mid 1840's. Its past popularity is an indication of support from growers, brokers, exporters and processors over a long period of time. However, recent developments in the wool market have seen growers question the suitability of the auction system and value adding has been one of the alternatives promoted.

2.2 Perceptions of value adding

In the wake of the collapse of the Reserve Price Scheme a number of grower based marketing and processing schemes have emerged. These groups have sought higher returns, a greater degree of control over prices and greater product feedback. The perception that such benefits may arise and that the current selling system is less than ideal is supported by a significant bulk of literature condemning the dominate auction based system as archaic, inefficient and a barrier to important information flows. One report into greasy wool marketing concluded:

There is a general division and lack of knowledge between the buying and selling part of the marketing chain. This was not seen as conducive to: the improvement of quality of wool, the acceptance and innovation in the marketing of wool and leads to inefficiencies because of the lack of understanding between different channel participants (AWC 1992).

Recent research by Chant Link and Associates into the marketing of greasy wool confirmed that many wool growers also viewed the auction system as less than ideal. Growers believed that the current selling system was at least partly responsible for the low wool prices received. *The only group that strongly believed change in the current auction selling system for greasy wool was necessary was Australian wool growers. As might be expected, the growers were very concerned about their current*

economic predicament, and believed that selling reform was necessary to address this predicament (Chant Link and Associates 1992, pg 2).

The research also highlighted that wool growers were considering value adding, various branding approaches and dealing direct with overseas processors to lift prices. The interest in value adding was particularly evident from feedback obtained from wool producers attending the NSW Agriculture's 'What does a topmaker want from my wool' workshop. During the workshops, woolgrowers were asked the question 'why turn your wool into tops'. The responses are given below in order of frequency:

- increase farm profits
- value add
- obtain feedback from spinner which can be related to changes in farm management
- cut out the middleman - therefore increase returns
- another selling option
- a form of risk management
- send clean wool overseas and save on freight
- saving dollars in clip preparation
- create jobs in Australia.

This list covers a range of issues but by far the most frequent point raised was increasing profit on the farm. Central to perception that value adding would increase farm returns was the belief that marketing margins were too high.

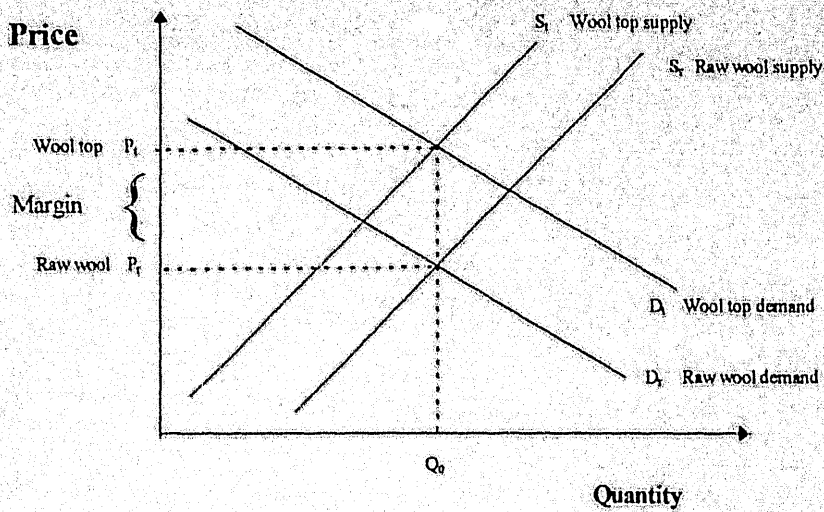
2.3 Marketing margins

Marketing margins can be defined in either of two ways. Firstly, as simply the difference in price between what the consumer pays and what the producer receives, and secondly, the value or price of a collection of marketing services. Explanations of marketing margins use the term 'derived demand' to describe the demand function for inputs into final products. In this context the demand for raw wool is derived from the primary (final) demand for processed products.

The concept of a marketing margin, as it applies to further wool processing schemes operating at the top stage is given in Figure 2. The marketing margin is illustrated as the difference between the wool top price (P_t) and the raw wool price (P_r). Using the first definition, the wool top price is established at the point where the primary (D_t) and derived supply (S_t) curves intersect. Similarly the raw wool price is determined by the intersection of the derived demand (D_r) and primary supply (S_r) curves.

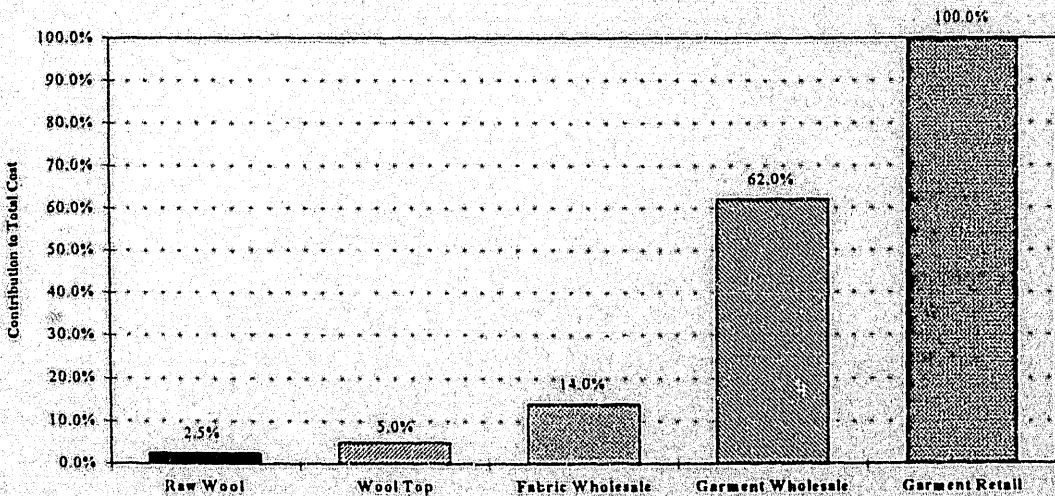
Alternatively, marketing margins are prices paid for a collection of marketing services that are determined by the demand and supply of these services. In this context, such services may include testing, transportation, processing, quality assurance, packaging and financing. In practise both these definitions are correct. Tomek and Robinson (1981, pg 120) state *Primary demand is in some sense a joint demand for all of the inputs in the final product*. Therefore, the demand for wool can be broken into on farm and marketing based components making the definitions analogous.

Figure 2: Wool Marketing Margins



In times of depressed commodity prices, such as the two years following the collapse of the Reserve Price Scheme, farmers often blame the inefficiency of the market system as the cause of depressed returns rather than fundamental supply and demand conditions. The perception that marketing margins are too high and that middlemen are making all the profits becomes rife. Producers fail to realise that the absolute size of the marketing margin is no measure of efficiency of a marketing system or the profitability of participants operating in that system. To illustrate, Figure 4 graphically depicts the contribution of costs at various stages of production to the final price of a typical worsted garment. Based on this information raw wool contributes a lowly 2.5% to the total costs of a finished garment.

Figure 3: Contribution of costs to final wool product price



Note: Worsted woven garment

Source: AWC (1993)

The relative size of these margins is supported by examining prices at different points in the marketing chain which have been estimated by the Australian Wool Processors Council⁷:

| | |
|------------------------------|-------------------------------|
| From a base of greasy wool | = 1 |
| greasy wool to scoured | 1.14 |
| greasy wool to top | 1.6 |
| greasy wool to white yarn | 2.9 |
| greasy wool to dyed yarn | 3.8 |
| greasy wool to wool fabric | 10.7 |
| greasy wool to wool garments | 39.4 (wholesale) ⁸ |
| greasy wool to wool garments | 78.9 (retail) |

Source: Wool Processing Task Force (1993)

Consequently, it is understandable for growers to reach the conclusion that they receive an unjust share of the consumers dollar and that there is considerable scope for profit in the processing sector. However, such conclusions are based on only half the picture, the significant costs and risks involved in the intermediate stages being the other half. *Individuals wishing to participate in the wool textile production process must be aware that while there are profits to be made in the industry, these profits are not risk free and that considerable costs must be incurred at each stage of the pipeline* (McCann et al, 1992). In summary, measures of the farmers share on the consumer dollar or of value adding indices are not indications of profitability. The real value added logically depends on whether the added value exceeds the added costs incurred.

3. CASE STUDY VALUE ADDING SCHEMES

3.1 Description

A number of value adding initiatives involving some degree of processing have emerged in recent years. The majority of these initiatives have attempted to supply later stage processors with wool tops. This section analyses the returns from two schemes that are involved in this form of value adding. For confidentiality, the two initiatives will simply be referred to as Scheme A and Scheme B.

Both schemes are examples of forward integration. Forward integration involves woolgrowers retaining ownership of the product through to a scoured or top stage and having the wool processed on a commission basis⁹ (Hassall and Associates 1992). Scheme A is operated by a private grower based company and Scheme B is organised by a merchant in collaboration with a domestic processor. In both schemes processed tops are offered on the open market and spinners purchase these tops if they meet their desired specifications at that point in time. Table 1 compares attributes of the two schemes.

⁷ Based on 22.5 micron wool with a nominal value of \$5.50/kg clean.

⁸ Based on a lightweight men's suit (220 grams per square metre) which would use approximately 1.15 kg of wool. Mark up retail is assumed to be 100%.

⁹ Commission combing refers to the processing of wool at a fixed charge whereby the topmaking plant owns no portion of the wool.

Table 1: Description of two value adding schemes

| | SCHEME A | SCHEME B |
|------------------------------|--|---|
| <i>Processing location</i> | Overseas | Australia |
| <i>Marketing of top</i> | Sold on a spot basis with no prior order through a separate marketing agent. | Sold on a spot basis with no prior order through resources within the group. |
| <i>Growers equity</i> | Based on the value of theoretical top if each growers wool was combed on its own. | Based on the value of the greasy wool with all batch wool valued on the same day. |
| <i>Payment</i> | An advance is forwarded when greasy wool arrives at mill with final payment dependant on sale of the wool top. | Total payment is dependant on the sale of the wool top |
| <i>Scheme costs</i> | Commission % of top price received | flat rate |
| <i>Quality assurance</i> | Shearing shed standards and compulsory crutching and pizzle ring | shearing shed standards and compulsory crutching and pizzle ring |
| <i>Currency fluctuations</i> | Minimised but not totally removed | not applicable |
| <i>Fibre diameter</i> | Less than 23 micron | Less than 23.5 micron |

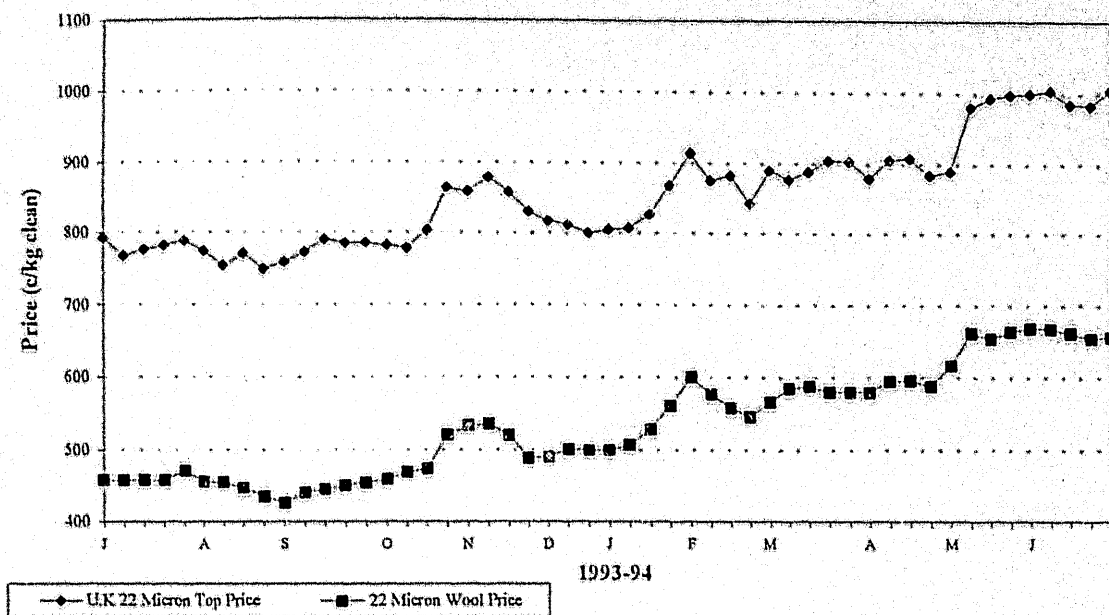
3.2 Budgeting approach

A stochastic budgeting model has been constructed to estimate likely returns from the two schemes and the traditional auction system over 1992-93 and 1993-94. The structure and costs involved in the two schemes and the auction system have been used to calculate returns. Top prices received are understandably confidential. To approximate these prices, historical Bradford wool top price data is used.

Bradford wool top prices have been collected from combers since the 1960's and are the only prices publicly available. Because no formal top market exists, Bradford top prices are simply quotes obtained from combers and supplemented with anecdotal information from top buyers. In supplying these quotes combers take into account current and expected future raw wool prices, existing raw wool and top stock levels, as well as downstream order levels (pers comm Richard Clarke 1994, IWS, U.K). The degree to which combers have entered into forward contracts for the supply of top at fixed dates and prices combined with the amount of downward pressure coming from spinners and weavers will obviously impact on price levels. The following analysis has been conducted on the basis of available wool top prices over 1992-93 and 1993-94 converted back to Australian dollars. It is difficult to assess how accurate wool top prices reported are to actual commercial values. We have used the available data but highlight the accuracy issue.

Bradford wool top prices exhibit a very close relationship to raw wool prices with correlation coefficients of around 90%. Such a close relationship is consistent with anecdotal information from those involved in the wool trade and is depicted in Figure 4.

Figure 4: Comparison of Physical Wool Prices and Top Prices



The returns from the different selling alternatives are analysed in both deterministic and stochastic terms. Deterministic analysis involves pre determining the level of raw wool prices and wool top prices. Average weekly auction prices and lagged wool top prices were used for each year analysed.

For the stochastic analysis, raw wool prices and wool top prices are defined as stochastic variables with uncertainty represented by probability distributions. Stochastic simulation is used to generate the range of returns for the three alternatives over the two time periods analysed. Probability distributions of historical prices for a 22 micron Bradford wool top¹⁰ and the respective Australian 22 micron indicator were entered into the model with the derived correlation coefficient between the two distributions. The most appropriate distributions for these variables are identified by Bestfit distribution fitting software. The fitted distributions with their defined parameters are entered into the model which are subsequently sampled from by @Risk software during the simulation process.

3.3 Results

The results given below are indicative only of the likely returns from the schemes analysed. Actual returns from the schemes will depend on many factors such as marketing contacts with later stage processors, timing of sales and currency fluctuations. For an individual grower the additional returns over the auction system will also depend on which lines from the clip are selected for processing. Deterministic and stochastic results are presented below together with a brief discussion on product feedback which is a non monetary outcome that has been ranked highly by growers as a reason for involvement in further processing schemes.

3.3.1 Deterministic results

The results of the analysis for the 1992-93 and 1993-94 seasons are given in Table 2. The average prices used to calculate returns equated to a wool top price premium of 67% for 1992-93 and 70% for

¹⁰ Top 66's, 22 micron, 65mm Hauteur.

1993-94. The figures are consistent with the 60% premium estimated by the Australian Wool Processors Council. The 1992-93 results indicate that the auction system yielded slightly higher returns. The generally downward movement in the greasy wool market contributed to this result. Because of the delay in processing, shipping and sale of the top, returns reflect not only different cost structures but also underlying price movements.

In 1993-94 the return from processing schemes were above those of the auction. Similarly, the upturn in the general wool market over this period has benefited any strategy resulting in a delay in sales such as further processing.

Table 2: Results

| Sale Method | 1992-93 | 1993-94 |
|-------------|---------|---------|
| Auction | \$4.32 | \$4.49 |
| Scheme A | \$4.14 | \$4.55 |
| Scheme B | \$4.21 | \$4.65 |

The ability of schemes to obtain a higher wool top price premiums than the averages used in this analysis would significantly improve returns. The attainment of higher premiums in the short term due to superior quality wool tops are most unlikely given that spinners will need to be convinced that the new product performs better than the product of existing suppliers. In addition, it is likely that the product will need to establish a consistent advantage over a trial period before such premiums are derived. Even if higher price premiums in the short term were attained, premiums over the longer term should revert to industry averages as successful programs are copied by rival suppliers. In fact, many would argue that producer groups are more likely to achieve lower wool top prices due to their small size and lack of contacts in the wool textile industry. These factors put producer groups in a poor negotiating position compared to established participants.

Overall, the returns of the options are not significantly different. The average returns for 1992-93 and 1993-94 are consistent with anecdotal information from growers. Some growers who have sold their wool in a top form have provided us with an analysis of their returns. They averaged around \$0.30/kg and ranged from a loss of \$0.40/kg to a profit of \$1.00/kg during 1993-94 relative to the auction system. The range of returns reflects the structure of different schemes and movements in the general price level between when the wool would have been sold at auction and the sale time of the top. We suggest similar results to those given could have also been achieved by holding onto their wool for a similar length of time as the processing alternative.

3.3.2 Stochastic results

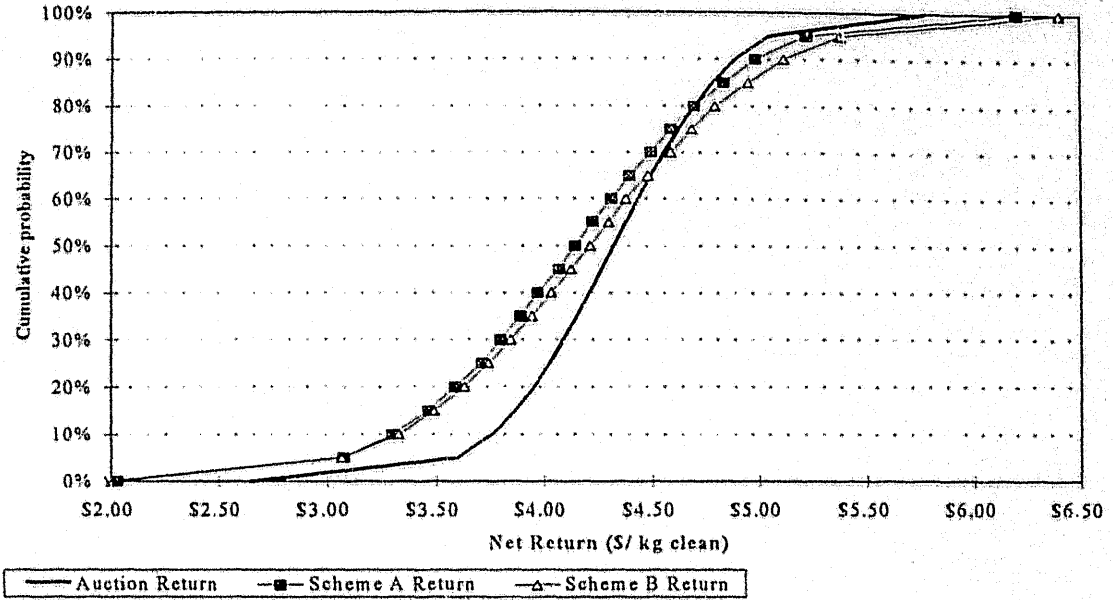
Results of the stochastic simulation for 1992-93 and 1993-94 are given in Figure 5 and 6, respectively. Stochastic results for the 1992-93 period indicate that no cumulative distribution function (CDF) curve lies totally to the right of all other CDF curves. Consequently no sale method dominates in terms of first degree stochastic dominance¹¹ (FSD). However, in terms of second degree stochastic dominance¹² (SSD) the auction method was found to dominate both Scheme A and B. The additional assumption of risk aversion used by SSD seems reasonable given that previous studies such as Bardsley and Harris

¹¹ FSD is based on Bernoulli's principle than decision makers prefer more to less of a consequence such as profit (Anderson, Dillon and Hardaker 1977).

¹² SSD is based on the additional behavioural assumption that the decision maker is averse to risk.

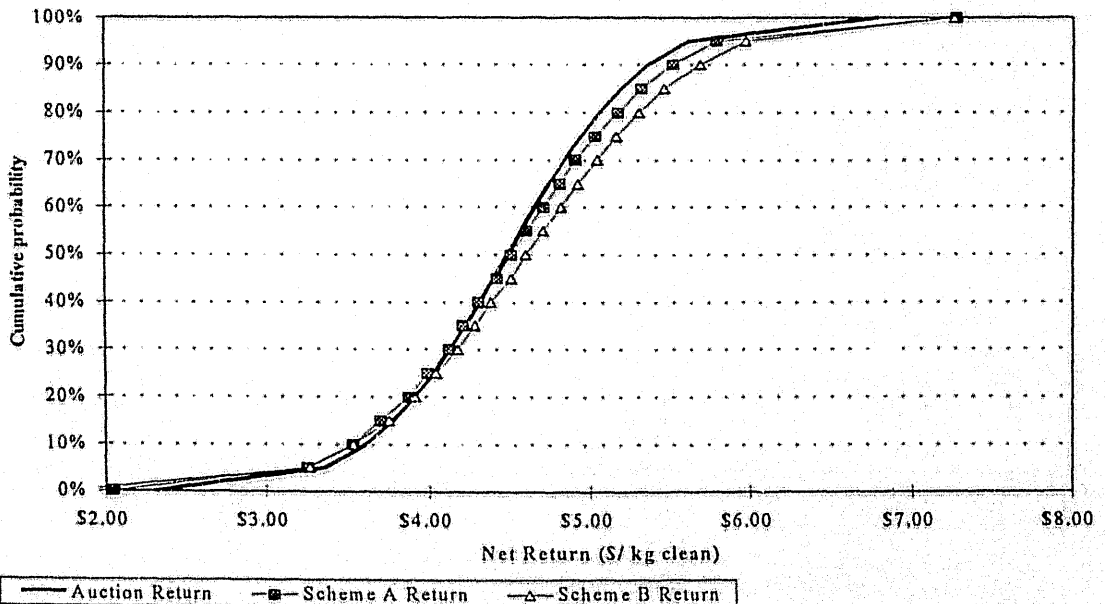
(1987) have found Australian farmers to be risk averse. Consequently the auction method is the preferred selling strategy for the 1992-93 period.

Figure 5: Comparison of Cumulative Distribution Functions for 1992-93



The 1993-94 results indicate that no method dominates on the basis of FSD. However, the auction method and Scheme B are found to dominate Scheme A in terms of SSD. Consequently, Scheme A will never be preferred to either the auction method or Scheme B by risk averse decision makers.

Figure 6: Comparison of Cumulative Distribution Functions for 1993-94



3.3.3 Product Feedback

Receiving product feedback was identified by wool growers as a major issue in favour of further processing schemes. The need for such feedback rests on the assumption that the quality of the greasy product can be modified to better suit customer needs if processing performance is known. In practice this has not occurred. Those growers who have processed their wool into wool tops have commented that they have received little feedback except the final specification of the wool top. Even if this information is provided it is very difficult to interpret back to an on farm level. The necessity of blending to meet technical parameters and price constraints, and the variation in processing performance between individual mills limits the effectiveness of this information. Scouring and carding operations in the top making process can have major effects on fibre performance and thus make it difficult to translate top parameters into meaningful raw wool values for on farm management decisions (pers comm Couchman, IWS, 1994).

In any case computer programs utilising the TEAM¹³ formula can supply some of this information using greasy wool measurements. In addition, some wool broking companies are now reporting hauteur predictions on the account sales of wool sold through auction. Information from these two sources is in fact likely to be more meaningful than actual processing results because the information refers specifically to an individual's wool rather than a blended consignment that contains wool from a number of growers.

4. ADDITIONAL CONSIDERATIONS FOR GROWER BASED SCHEMES

This section critically assesses the competitive advantage that grower based schemes may have in supplying wool tops to spinners. In order to compete with existing suppliers, in the view of Kaine, Tozer and Grace (1994) value adding will only prove successful if the resulting product can be offered to customers more cheaply than similar products currently available, or the product is better suited to the needs of the buyers. Some factors worthy of consideration are outlined below.

4.1 Position within the world textile trade

A key factor in the success of any marketing venture is knowing customer needs and producing a product to fulfil these needs. In this regard grower based processing schemes are at a distinct disadvantage to established industry players. In general, growers do not have a relationship with the customers they are targeting (spinners). This is understandable given the sheer dynamics of the wool textile industry with 65,000 small scale Australian woolgrowers and around 1000 predominantly Northern Hemisphere spinners.

This lack of contact and general knowledge of the world wool textile industry has resulted in many grower based groups producing a wool top in the hope that it meets the needs of spinners. This practice is contrary to normal industry convention. Specifically, growers convert their clip from greasy to top without an order or specification and then try to sell it on the spot market. In practice very little wool top is produced without a forward order from a spinner.

Speculative topmaking does occur, but it is extremely limited and generally restricted to topmaker/combers who have a long association with particular clients. They know what and when the client is likely to require a particular type of top. (Couchman 1994).

Wool tops produced by growers are in direct competition with the product of established processors and merchants, which under the conventional auction selling system are actually the growers customers.

¹³ TEAM formulae (Trial Evaluating Additional Measurements)

The product from these players has been produced to an exact specification for particular price points. Obviously, such knowledge provides existing topmakers and merchants with a distinct advantage over new entrants, particularly over those who cannot devote a considerable amount of time to establishing market contacts such as wool growers.

Evidence from grower groups confirm that producing to specification is an essential element of a successful strategy. *Growers should only participate in processing ventures on the basis of a firm specification at a contracted price* (pers comm Hayter, New England Wool Marketing and Promotion, 1994). Failure to recognise this factor has contributed to the demise of some groups in recent times.

4.2 Marketing, technical and financial resources

Despite well intentioned efforts to improve the marketing skills of producers through Federal Government programs, it is doubtful that these programs will provide enough skills for producers to compete with existing market players. The ability of producers acting on their own behalf, to firstly access market requirements and act accordingly with appropriate strategies, would appear to be beyond elementary marketing training. This view is supported by anecdotal evidence from grower groups. A major impediment to the development of grower based groups is the financial resources and marketing skills required to develop markets (pers comm Wythes, Egelabra Wool Marketing Association, 1994).

Producing a wool top to fall within standard industry specifications requires technical knowledge of topmaking. In practise a wide variety of wool lots are blended to meet specifications at particular price points. Although there are computer programs and formulae to assist in predicting how different combinations of greasy wool will process, their use still involves a significant level of processing knowledge. For this reason schemes have employed specialists to fulfil this key role.

In terms of financial skills and resources, it would appear that grower based groups are not in a position to compete with existing exporters, processors and merchants. Growers are generally not conversant with foreign exchange transactions and financing operations and lack capital to provide credit to clients (common in the textile trade).

Existing processors and merchants have considerable financial resources used to operate the business. Such resources allows large organisations to absorb losses when margins are tight, when trade deals unexpectedly fail or when a financial claim is made due to contamination. In contrast, wool growers do not have access to the same financial resources and any narrowing of margins or financial claims due to the quality of the product can quickly jeopardise the whole operation.

In the case of contamination, growers under the traditional auction system do not face the risk of a claim from processors because of the extensive blending that wool goes through to make up a processing batch. However, when contamination is found in a product supplied by an identifiable source, such as a wool marketing group, such a claim can be made. The size of the claim may be considerable given that quality faults are often only found at the later stage processing end of the pipeline. The cost of such a claim can easily exceed the greasy wool value that went into the product in the first place. In essence, growers cannot absorb the same level of risk as established participants in the pipeline.

4.3 Cost effectiveness

The lack of marketing, technical and financial resources mentioned above has resulted in most groups employing agents and the assistance of merchants to successfully operate schemes. While not doubting that their involvement is required, one of the original aims of growers was to cut out the so called

'middlemen' to increase profits. Their re-employment results in additional costs to the venture but it also demonstrates that the role they play in the traditional auction system is warranted.

While there may be small savings in clip preparation and handling from some schemes, savings in other areas are doubtful. In terms of processing, many plants act as both a commission processor and a topmaker. It seems logical that the processor would offer the service to a competitor (the grower scheme) at a higher price than the wool which they have ownership of. This reduces the price competitiveness of the wool tops produced by growers. In addition, in times of tight margins topmakers continue to operate because the excessive overhead costs of having the plant not operating. Under such conditions growers will find it very difficult to compete and will be forced to take a lower price for the wool top than expected, or alternatively delay sales. Some growers have reported sale delays up to six month duration with obvious cashflow implications.

4.4 Product Differentiation

Kaine et al believe that a focus differentiation is the most feasible route to adding value on-farm in the wool industry. Focus differentiation, as applied to this case, involves a strategy to supply a particular quality wool top that fulfils the specialised needs of a particular spinner. The spinner will be willing to pay a premium to cover the additional costs of supplying a top that is more suited to their requirements. The success of this strategy depends on the degree to which the standard product available does not fully meet the buyer's needs and the ease with which rival suppliers can counter the offer of the specialised product (Kaine et al 1994). A number of groups have pursued this strategy based on:

- a low risk of contamination
- area or bloodline grouping

Each group is trying to obtain a premium via differentiation, either through improved processing performance because of the wools in the batch or lower costs to the mill because of a lower risk of contamination. A scheme based on a strategy of low contamination risk is unlikely to be profitable in the long term as existing suppliers are in a position to offer a similar differentiated product. With increasing volumes of wool under Total Quality Management such as 'Clipcare' and 'Dalcare', exporters will be able to supply consignments which also have 'low risk' of contamination. Small groups are likely to find it difficult to obtain international recognition for quality through the ISO 9000 series¹⁴ that some of the larger quality assurance schemes have already achieved¹⁵.

Similarly, if there are advantages in processing from particular geographical areas or bloodlines, existing exporters could supply consignments of these wools now from the auction system. Processing on the basis of a geographical area has previously encountered technical problems in the quality of the top produced¹⁶.

¹⁴ International Standards Organisation.

¹⁵ Elders Ltd has ISO 9002 accreditation.

¹⁶ 'A large proportion of the tops made by growers produce a bimodal fibre length distribution. The spinning sector of the industry looks at such distributions as undesirable' (Couchman 1994).

CONCLUSION

Much of wool grower interest in value adding has arisen at a time of major market upheaval and on the false basis of excessive 'middle men' profits. During successive years of low wool prices much attention has been focussed on the way in which wool prices are determined rather than on the fundamental supply and demand conditions which ultimately determines absolute price levels.

On the basis of the two case study schemes analysed and feedback from producers who have participated in further processing schemes, returns from this form of value adding appear limited. Deterministic results from the two processing schemes were found to be comparable with the auction system while the stochastic analysis ranked the auction method first in 1992-93 and equivalent to Scheme B in 1993-94.

The general competitive position of growers participating in further processing has been critically assessed. It is argued that growers have little basis on which to compete with existing suppliers largely due to their position within the wool textile trade combined with their lack of marketing, technical and financial resources. It is argued that wool tops produced by growers are unlikely to be price competitive and it seems unlikely that product differentiation will be successful long term strategy.

While it is encouraging to see growers take the initiative into the development of alternative selling arrangements, it is clear that there is more to successfully value adding than what industry proponents may realise. Growers need to clearly understand the structure, potential return and risks prior to the commitment of wool to any particular selling method. Value adding through the production and sale of wool tops is no different in this regard.

Without doubt there will be successful and innovative value adding strategies developed in the wool industry. These strategies are more likely to be focussed towards the production of speciality niche market wool products, with associated greater risk exposure, rather than an intermediate industrial product such as wool tops. Value adding should not be put forward as a generic strategy to increase returns. Such a view implies considerable inefficiency in the current pipeline which in the opinion of the authors simply does not exist. The study suggests that more traditional areas of value adding on farm, which growers have greater knowledge and control over, are more likely to receive higher long term returns.

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