

**Population dynamics and succession strategies
of rural industry producers**

by

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I, Roger Lindsay Wilkinson, declare that the PhD thesis entitled Population dynamics and succession strategies of rural industry producers is no more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

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Date

Abstract

Sheep farming in Australia has a long tradition, built up over several generations, of inheritance of the family farm, the occupation of sheep farming and the personal identity around being a sheep farmer. This tradition appears to be under threat, due to a combination of hard times and the long-term and inexorable decline in the terms of trade.

I examined this threat to the continuation of family farming in Australia's sheep industry by describing the demographic structure of the industry, documenting the structural changes and questioning whether the changes actually matter. The work involved demographic analysis of data from recent censuses of population and housing and in-depth interviews with sheep farming families.

The average age of Australia's sheep farmers is increasing, caused mainly by the decrease in entry of young people to the industry. This phenomenon is not confined to Australia's sheep industry but is widespread and long-term through the industrialised world. Also, as some areas focus on agricultural production and others on amenity consumption, the rural landscape is changing. The changes to the structure of Australia's sheep industry and the nation's rural landscapes are driven by substantial forces that cannot be resisted easily. This has implications for policy-makers, extension agents and farm families.

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List of Acronyms

AAC	Australian Agricultural Census
ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
CPH	Census of Population and Housing
EVAO	Estimated Value of Agricultural Operations
LGA	Local Government Area
SLA	Statistical Local Area
SSD	Statistical Subdivision

Chapter 1. Introduction

Tough times

Sheep farming in Australia has a long history. The industry has not only a long tradition of inheritance of both the family farm and the occupation of farming, but also a widespread personal identity based around being a sheep farmer that has been maintained and reinforced often over several generations (Anderson 1966). Both the tradition of inheritance and the identity developed around sheep farming now appear to be under threat.

The 1990s were not kind to sheep farmers in Australia. Wool prices throughout the decade remained at historically low levels, resulting in low farm incomes (Martin 1998, p. 13). Wool is the most important product for sheep farmers: although around 50 per cent of Australian sheep farms in 2000–2001 received some revenue from prime lambs, only 15 per cent of them received more than 30 per cent of their income from prime lambs (Connell *et al.* 2002, p. 12). The productivity growth of Australia's sheep farmers in the 1990s (0.6 per cent per year from 1977–78 to 1998–99) was lower than that of other broadacre industries (2.6 per cent per year over the same period for all broadacre farms — (Knopke *et al.* 2000, p. 13).

Several taskforces attempted to find the way for the wool industry to get out of the doldrums, with little success (e.g., Australian Wool Industry Future Directions Task Force 1999; Wool Industry Taskforce 1996). Australia's woolgrowers were not alone: New Zealand's woolgrowers also commissioned a report on ways to improve on their bleak future in the 1990s (McKinsey and Company 2000). Woolgrowers responded to the tough times by diversifying into other agricultural industries such as prime lambs, cropping, and even bluegum trees where they could. However, in the specialist woolgrowing areas, alternatives to wool are few, so diversification was often not a realistic option. Many woolgrowers were able to maintain their incomes only through off-farm work.

These pressures that were specific to the sheep industry added to generic, long-term, pressures on rural youth all over the world to seek greater economic and social opportunities in the city (e.g., Bowsfield 1914; Jackson-Smith and Barham 2000). The

result was a decreased likelihood of inter-generational transfer of sheep farms in some areas (e.g., Curtis *et al.* 2000). All this has led to a commonly stated concern that few young people are entering the Australian sheep industry and that the average age of farm operators in the industry is increasing.

Changes in the composition of Australia's sheep producers are best interpreted in the context of the marketing environment. The sheep industry has two main products, wool and meat, and in Australia wool is the more important of the two. The history of the wool industry since 1976 can be described in four periods:

- Reserve Price Scheme stability: During this period the real price of wool fell gradually.
- Wool price spike: For a brief period from late 1987 until mid 1988 the real price of wool rose well above the declining long term trend line. It then commenced a sharp fall.
- Depleting the stockpile: Following the dismantling of the Reserve Price Scheme, the price of wool remained subdued for much of the next decade while the wool stockpile was gradually sold.
- After the stockpile: The price of wool commenced a gradual rise with the final depletion of the stockpile, peaking in late 2002. During this period there was also a significant rise in the real price of sheepmeat.

This thesis uses data from six recent five-yearly Censuses of Population and Housing. The timing of these censuses in relation to wool and sheepmeat prices is shown in Figure 1. The first three censuses (1976, 1981 and 1986) are from the period of relative stability during the operation of the Reserve Price Scheme. The 1991 census was conducted just after the price spike of the late 1980s. The 1996 census was conducted in the midst of the stockpile depletion period. The 2001 census was conducted in the early stages of the post-stockpile period. By 2001, the partial recovery of wool prices and good prices for sheepmeat had already had a significant impact upon sheep farming family incomes. Annual sheep farm cash surpluses had risen to their highest level in a decade (Figure 2).

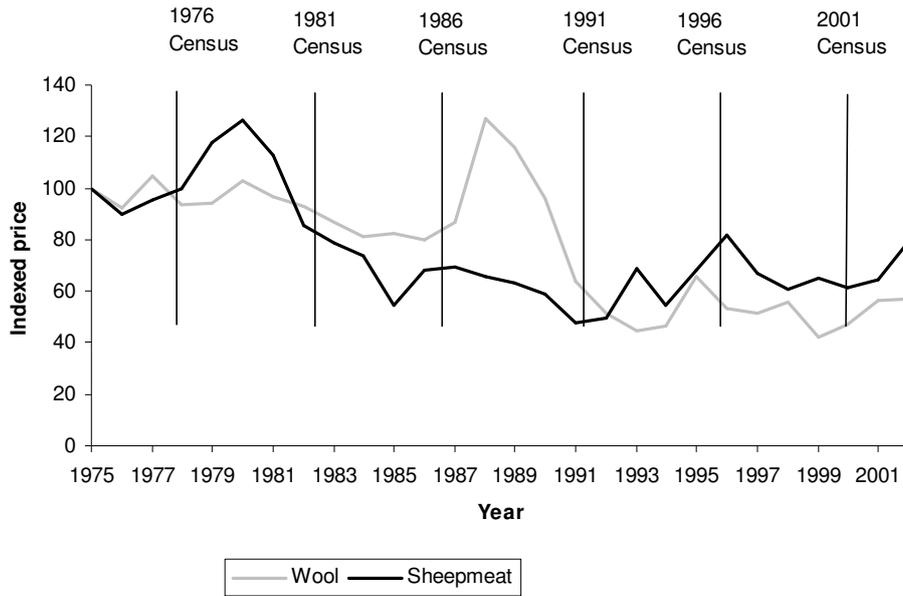


Figure 1 Indexed prices for wool and sheepmeat (base of 100 in 1975) and timing of population censuses 1976–2001 (Source: derived from ABARE data)

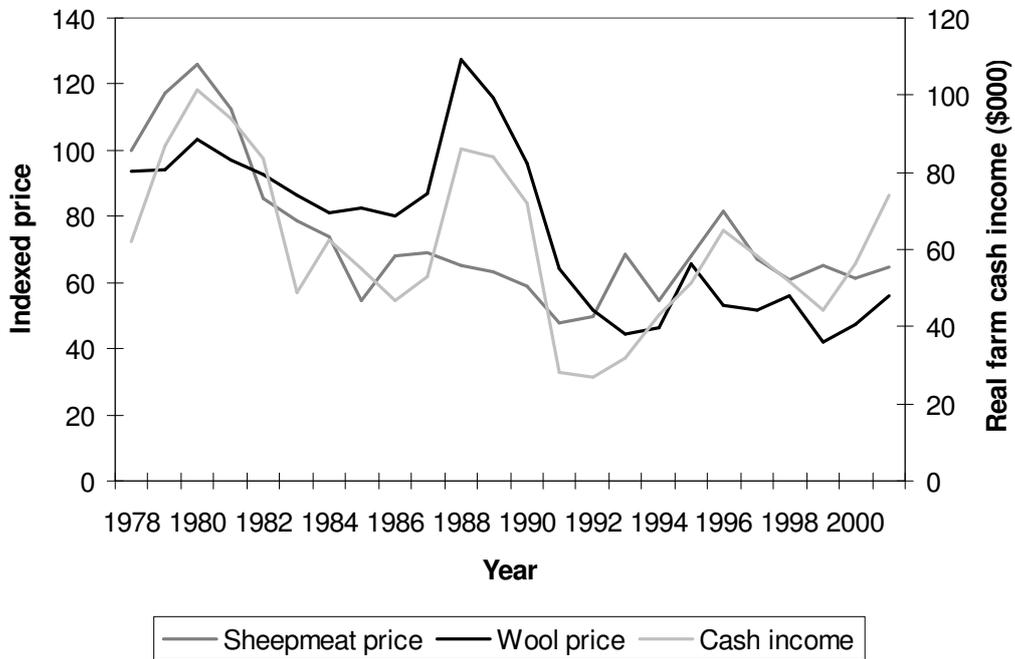


Figure 2 Real cash income on Australian sheep farms and indexed wool and sheepmeat prices (base of 100 in 1975) 1978–2001 (Source: derived from ABARE data)

The 1990s do not represent the first period of low wool prices in Australia, and this thesis is not the first piece of social research to investigate the phenomenon. Between 1969 and 1972 low wool prices created serious problems for many woolgrowers. The then Australian Wool Board financed a research group at the University of New England to investigate problems facing woolgrowers. This group called itself the Wool Adjustment Study Group. The theses, research reports, summary reports and progress reports from the seven projects conducted by members of the group represent the largest and most sustained effort to understand social issues in sheep farming in Australia to date. The work of this group was summarised in seven summary reports (Core 1974; Gregory 1975a; Gregory *et al.* 1976; Hughes 1974; Napier 1974; Watson 1974; Yates 1974a) and the entire endeavour summarised in a book (Makeham *et al.* 1979). Whilst I have found the work of the members of this group useful, my research approach is quite different from the various approaches they used.

The traditional expectation of adjustment in agricultural industries facing low incomes is that employment in the sector will fall as farmers change to other occupations. Jackson-Smith summarised this expectation thus: “A focus on competition in the market place as a key mechanism for structural change has led to the common, but largely untested, belief that most change occurs via the involuntary exit of farmers who could not compete, and the (inevitable) adaptations of those who remain in business” (Jackson-Smith 1999, pp. 67–68).

During difficult times the standard exhortation to producers, based on the traditional expectation of adjustment, is, “Get big or get out.” On the surface, such statements are simplistic (Barr *et al.* 1980), but they are often not quite as simplistic as they appear. Ronald Anderson, in his time arguably the most respected rural journalist in Australia, was proffered by Barr *et al.* (1980) as an example of one who made such a recommendation, but what he actually said was more complex: he described “the brutal realism of injunctions such as ‘Get big, get out, or live with what you’ve got’”, “the desirability of policies designed to promote farm amalgamations” and “the dangerous folly of our present preoccupation with propping up marginal or sub-marginal small farms” (Anderson 1972, p. 276). I recall the late Alan Lloyd, Professor of Agricultural Economics at the University of Melbourne, saying that the exhortation

should be, “Get big, get out, or get reconciled to a low income in your chosen profession.”

The picture of the sheep industry portrayed by Australian Bureau of Agricultural and Resource Economics (ABARE) and Australian Bureau of Statistics (ABS) income data during the period of stockpile depletion is one of generally low farm incomes, with families maintaining themselves by obtaining significant off-farm income. In the light of the low incomes of many sheep farming families through the 1990s, it is sensible to ask whether the industry saw an increase in the number of farmers exiting the industry. What happened to those who did not get big? Did they get out, did they get reconciled to a low income, or did they get another job to see them through the tough times?

My story

My own interest in the response of sheep farmers to tough times and to social and economic pressures generally is not only professional, it is also personal. I am a sheep farmer, my father is a sheep farmer, and my grandfather was a sheep farmer. For all three of us, sheep farming has not been our only economic activity.

My grandfather served in both world wars of last century. Between the wars, and until the mid 1950s when he retired, my grandfather also had various farms, producing wool, lambs, milk and grain. I am not sure how much he actually enjoyed being a farmer. He never seemed to make much money at it. I think he took up milking cows as a way to force himself into a routine after the second war. Unlike many farmers, he retired from farming at 60 and worked as a clerk in a wool store for a while. It was the future he set out for my father that was to have a profound effect on me.

When my father was 16, my grandfather announced that farming was no way for a young man to earn a living and obtained a clerical position for him with the City of Melbourne. My father had only one employer for his entire 43-year professional working life. Through diligent study and hard work he rose eventually to become one of the senior managers. All the while I think he was more interested in farming, but he had a family to support and no money to buy a farm. He bought a small lifestyle

property in the Yarra Valley, near Melbourne, and spent his weekends running sheep. This was where I learnt how to be a sheep farmer. My father retired from professional work at 60, his children grown up, and bought a larger sheep property near Warrnambool, in Victoria's famed Western District. He is still there, aged 85, his capacity for hard work now reduced and much of the farm leased out, but he still has his stud sheep flocks. He plans to stay there until he can no longer live on his own and I have no wish to drive him out.

My own story is different again. I have worked as a rural sociologist for 20 years now, but in that time I have had several jobs and worked in two countries. Like my father, I have always combined my professional work with a sideline of farming. Unlike him, I plan to combine the two on roughly equal terms. I am not a "frustrated farmer" and do not want to do it full time, as I think I would miss the intellectual stimulation of my research work. My father will not be able to stay on the farm for ever. At some stage in the next few years I plan to take it over. At 200 hectares, I think it might provide perhaps half a living, leaving me to work as a researcher half-time. I hope this combination will provide me with the best of both worlds. Meanwhile, I am curious to find out just what is happening to the people in the sheep industry that I hold so dear.

Research questions

Several overall research questions arise from the foregoing discussion:

- What is the demographic structure of the sheep farming industry in Australia?
- How has it changed?
- Do the changes matter?

To assist in answering these questions, more specific questions can be written:

- To what extent is the average age of Australia's sheep farmers increasing?
- What are the rates of entry and exit of people to the sheep industry at different life stages, how do they compare with those for other rural industries, and how have they changed over time?
- Is ageing occurring to a greater extent in some geographic localities than others?

- To what extent are farms operated by ageing sheep farmers likely to continue to be farmed by the present operator, be retained in the family and farmed by other family members, or be sold, over the next few years?
- What are the social and economic effects on the people in the sheep industry, on their communities, and on the sheep industry as a whole?

This thesis attempts to answer these questions, through analysis of the demographic structure of Australia's sheep industry and case study interviews with selected sheep producers. The term "demographics" means the characteristics or composition of a population. The most important demographic characteristic is age, but other demographic characteristics relevant to this research may include gender, education, location and stage in the family life cycle. Each individual producer in an industry possesses their own particular demographic characteristics, and the demographic characteristics of all the producers in an industry are aggregated together to give the demographic structure of the whole industry. Demographic changes or trends are changes in the aggregate demographic structure of the industry.

Research in the field of analysis of demographic structure of rural industries, particularly in Australia, has not yet progressed far enough to be able to set specific hypotheses to be tested. The problem of a lack of suitable hypotheses being suggested by the literature is not new, and is one that happened to Nalson (1968, p. 259), who said:

The approach to the mobility of farm people ... was developed mainly as a result of field observations. Originally, attempts were made to set up a theoretical framework within which mobility could be studied and tested by observation. It became clear, however, that much more factual data than was available from the literature was required before hypotheses could be made about the nature and character of the factors influencing the mobility of farm people.

The research is therefore structured as a series of research questions (the bullet points above). This is a thesis of exploration, rather than hypothesis testing. Rigour is ensured through the posing of specific research questions to guide the research.

Outline of thesis

Chapter 2 presents a review of relevant Australian and international literature. The research draws from and is related to the two fields of farm succession and farm adjustment. Farm succession is the process of inter-generational transfer of both the family farm and the occupation of farming. Farm adjustment is the process of farmer response to changed economic and social conditions in agriculture. Both of these fields are well represented in the literature, both within Australia and internationally. Literature on demographic analysis of rural industries, however, is sparse and generally confined to North America and Israel. Between all these fields, though, a picture can be built of the analysis of population dynamics and succession strategies of farmers.

Building on the findings from the review of literature, Chapter 3 describes the choice of research methods and how the methods combine to answer the research questions. Previous studies have involved either demographic analysis or case studies, but not both. This research is novel in that it combines demographic analysis to determine the trends and model the influences on those trends with case studies to explore the implications for individuals who are faced with decisions about how they cope with the outcome of those trends.

Chapter 4 outlines the changing demographic structure of the Australian sheep producing industry during the years 1976 to 2001. This includes both the woolgrowing industry and the lamb and sheepmeat industry. It is almost impossible to analyse the demographic changes in the two industries separately. This is because it is impossible to produce one of these commodities without producing the other as a by-product or even a co-product. Consequently, it is impossible to obtain demographic data for the two industries separately. The findings presented in chapter 4 will allow the first two research questions (on the demographic structure of Australia's sheep industry and its changes) to be answered.

Demographic analysis of census data presents an overall picture of the characteristics of the people who make up an industry but cannot describe the social issues affecting those people. To place the bare statistics obtained in the demographic analysis within

the context of decisions faced by real individuals and families, Chapter 5 presents the findings from case study interviews with selected sheep producers. This qualitative research allows exploration of the forces influencing demographic trends and mechanisms of farm transfer in the Australian sheep-farming industry. Findings from chapter 5 will allow the third research question (on whether the demographic changes matter) to be answered.

Finally, Chapter 6 discusses the findings from the quantitative and qualitative research, and Chapter 7 presents conclusions that answer the research questions and examines the implications for the individuals concerned, the sheep industry as a whole, and government.

Chapter 2. Research on farmer population dynamics around the world

Family farming

Agriculture is an unusual industry. It has in common with other industries the fact that many of its entities are small family businesses. Market signals are mediated not by managing directors and accountants, but by farm households (MacKinnon *et al.* 1991). One of the defining characteristics of family farms is that there is no separation of ownership and control (Gasson *et al.* 1988). This is true of agriculture to perhaps a greater extent than in other industries. The distinguished agricultural economist, Earl O. Heady (1952, p. 417) went as far as to say that, “In no other industry is the interdependence between the household and firm so strong as in agriculture”.

Agriculture differs from other industries, though, in the way in which it reproduces itself. Unlike other industries, many farmers operate farms that have been in their family for at least two, and often several, generations. Many farm families desire to bequeath to their children both the family farm and the occupation and lifestyle of farming (Stayner 1994). Farm succession within a family farm is a process whereby a family remains in farming while the older generation leaves farming and the younger generation enters. Traditionally, this has been the method by which most farmers have entered the industry.

What, then, is a family farm? The most logical attempt to define a family farm was that of Gasson and Errington (1993, p. 18). They were actually defining a farm family business and it had six elements:

1. “Business ownership is combined with managerial control in the hands of business principals.
2. These principals are related by kinship or marriage.
3. Family members (including these business principals) provide capital to the business.
4. Family members including business principals do farm work.
5. Business ownership and managerial control are transferred between the generations with the passage of time.

6. The family lives on the farm.”

They recognised that their definition represented an ideal type rather than a strict operational definition. One could argue about the details, but essentially a family farm is one in which the business principals, their potential successor and heirs are related by kinship or marriage, with the farm family engaged in business activity as a unit (Kaine *et al.* 1997).

The point of constructing such a definition is for the purposes of theoretical debate, as Gasson and Errington (1993) recognised. Such definitions likely have little relevance to family farmers, who are less interested in family farming as a concept or in its boundaries than in understanding the nature and operations of their family farms so that they can reproduce them in their everyday activities and across generations (Gray 1998). Even policymakers may be best served by understanding what a family farm is to a farm family.

If you asked farm families what they thought was the essence of family farming, I think they would find it difficult to put into words. I have found that farmers think about complex ideas and make complex decisions but often find it difficult to express complex ideas verbally. In 20 years of rural social research I have heard many farmers express seemingly simplistic views about their farms (wanting to leave their land in better condition than they found it is the classic statement); frequently I have formed the impression that they wished they could explain it better.

Gray (1998; 1999) spent time on family farms in the hill country of southern Scotland, to record not just what farmers said but what they did. These hill country sheep farmers' concept of the family farm was not created consciously and self-reflexively with the aim of defining it. Rather, it was a by-product of their daily activities through which they gained knowledge of family farming. Their aim in gaining knowledge of family farming was to produce quality lambs so they could maintain their family farms over generations (Gray 1998).

To the hill country sheep farmers, the family and the farm were inextricably linked. They used the name of their farm to refer to their family and the name of their family to refer to their farm, as though the two were if not the same then at least different refractions of the one phenomenon (Gray 1998). I have observed a similar tendency in my own home district of Wangoom. The farm and the family were, in Gray's terms, 'consubstantial', which means (according to the Oxford English Dictionary, 2nd ed., vol. 3, p.797) "of one and the same substance or essence; the same in substance". Gray (1998) argued that the essence of family farming lay in the notion of 'consustantiality', "a spatial relation between family and farm, between beings and a place, such that the distinct existence and form of both partake of or become united in a common substance" (Gray 1998, p. 345).

The common substance can be transmitted over generations. As a form of cultural transmission, it is a kind of meme (Dawkins 1989, p. 192). For farm families, particularly those who view farming as a way of life, the farm property itself exists beyond its transient occupants (Bouquet and de Haan 1987). It provides both a stimulus and physical location for a farmer's sense of place (Johnsen 2003). A farm may be anthropomorphised by naming it and its paddocks (Sullivan *et al.* 1996). The farm name provides family members with shared meanings (Burton 2004). Meaning is embodied not only in land but also in livestock (Yarwood and Evans 2000) and machinery (Saugeres 2002). Through consubstantiation, the farm becomes not simply an object but the very part of the farm family that is used by them to express their identities, both to other members of the farming community and to the world in general (Burton 2004).

On Gray's (1998) hill farms, the consubstantiality of family and farm was produced through the sheep, as it was the sheep that connected farmer with land, through husbandry practices. Although a mob of ewes ran on the same piece of ground all their lives, rams were rotated around mobs and were therefore linked not to any particular mob of ewes or its shepherd but to the whole farm. Through the breeding program family, sheep and farm became consubstantial. Moreover, the farmers used a breeding analogy based on the sheep to observe the way that farming was bred into their own families. One could say this also of Australian merino properties.

The hill farms studied by Gray contained both easy-to-work flat land and rougher hilly land. Rough, hilly land is more differentiated than easy, flat land. It is less domesticated, less industrialised. The sheep are wilder and harder to control. The farmer has to learn the lay of the land. You can name the places on the farm, and thus attempt to domesticate them, but you can't tame them completely, you have to adapt to them through experience. In this way, rough country can be more symbolic and more capable of generating meaning than easy country (Gray 1999).

The family is not a natural unit but is socially and culturally constructed. There is no one kind of family. They come in all sizes so one cannot talk about 'the family farm' as though there is only one kind (Gasson *et al.* 1988). The form of farm families and the relationships among them are diverse and often flexible (Kaine *et al.* 1997). Farm families are also temporary: any given family does not remain constant (Nelson 1968, p. 38).

Decisions made by family farm businesses may involve several people, each of whom may have different priorities. The husband may want stability of the operation, the son may favour development of the farm, whilst the wife may desire to maintain family harmony (Gasson *et al.* 1988). Blanc (1987, p. 301) went further, arguing that "the farm family can no longer be regarded as an entity pursuing their own objectives but rather as a group whose members try to increase their own autonomy". There is a paradox, whereby farm children are socialised toward independence and the control of their own enterprise, yet in two-generation farm families are often still under the control of their parents (Weigel and Weigel 1987). Despite the rhetoric of being one's own boss, it is the family that is independent, not the individual.

The family farm has widespread appeal, and spirited defences of it are mounted frequently (e.g., National Farmers Union 2003). In some parts of the world, particularly the European Union and the United States of America (USA), the concept of a family farm is viewed as a key embodiment of national identity (Gibbard 2001; National Commission on Small Farms 1998). The social heredity and occupational immobility of family farming, through the transfer of agricultural proprietary rights between generations, is a major element in the replication of European farming

(Gibbard 2001). Within families, land that has been in the family for several generations is often regarded with reverence. Salamon and O'Reilly (1979) described a part of the USA settled by immigrant Germans in the 1860s. In many cases, land bought by the original settlers was still farmed by the same families. These families considered their original land (called the 'homeplace') the most important part of their farm to pass on to their kin and preserved it at all costs in the land transfer process. While the family farm is not regarded in Australia with the same reverence as in the USA, it is still regarded by many as something to be valued (Lees 1997).

The continuity of family farming has multiple meanings:

- Keeping the name on the land;
- Keeping farming in the family;
- Maintaining farming on a family scale, rather than increasing or decreasing scale (Gasson and Errington 1993, pp. 260–261).

The family farm is extremely flexible (Errington and Gasson 1994). One example of the flexibility of family farming lies in the Australian processing-tomato-growing industry. In 1994 this industry consisted of 32 growers, a reduction in numbers of 90 per cent in 20 years, yet all but one of them were still family-owned businesses. Can they still be regarded as family farms? In a way, yes. Pritchard *et al.* (2007) documented the transition of these farm families into what they called "farm family entrepreneurs", where the family business utilises land and labour outside the close family unit to fulfil contracts that are too large for a single traditional family farm to handle.

The virtually universal appeal of the notion of family farming has led many people to see family farming as an end in itself, instead of focusing on the needs of farming families and how those needs might be met (e.g., Ramos 2005). Buttel (1983) argued that, if the traditional family farm is dying, there may well be ways other than through the family farm to satisfy the ends that were supposed to be met by family farming.

Personal identity

Engrossed as we sometimes are in statistics and efficiency, there is often a tendency to forget that the farmer is a person surrounded by social and economic constraints common to most of us. It is at times easier to plug him into the models we build and assume he should function 'rationally' than to see him as a social being in his social context. (Yates 1974a, p. 1)

One aspect of the social context of farming is that it is a highly visible occupation pursued by individuals within a judgemental peer group. Aesthetics and the approval of neighbours are important to farmers (Egoz *et al.* 2001). Roads and boundaries with other farms provide plenty of opportunities for peers to assess one's success as a farmer (Higgins and Seabrook 1986). One consequence of the visibility of farming is productivism, a desire to produce as distinct from to be profitable, a desire to have the best crops and livestock and the best looking farm. Productivism reflects a commitment to the farming way of life rather than profitability (Burton 2004). Through the desire to be a good farmer, farming for some takes on a spiritual significance (Burton 2004, p. 210; Powell 1960). Some farmers anthropomorphise their land, speaking of it almost as a member of the family (Sullivan *et al.* 1996). Self-identification as a farmer is pervasive: Kennedy (1991) noticed that even the tiniest scale landholders, some with as little as one acre, defined themselves as farmers when filling in the 1911 Irish census form.

Related to productivism is agrarianism. Agrarianism is an agricultural fundamentalist doctrine that holds that agriculture is unique and thus, set apart from the rest of society. Various forms of agrarianism hold slightly different tenets. Some of these are: that farming is the basic occupation on which all other economic pursuits depend for raw materials and food; that agricultural life is the natural life for mankind and that, being natural, it is good, while city life is artificial and not good; that the farmer is completely economically independent; and that the farmer should work hard to demonstrate virtue, which is made possible only through an orderly society (Flinn and Johnson 1974). Agrarianism in Australia takes a similar form to that in the USA (Craig and Phillips 1983). Santamaria (1945) was a strong advocate of agrarianism in Australia. Several irrigation settlements in the Murray Valley were developed as a

result of agrarian beliefs (Barr and Cary 1992). The modern Australian form of agrarianism has been called ‘countrymindedness’ (Aitken 1985).

The family farm can become so tied up with personal identity that its maintenance by following generations preserves that identity and provides a living memorial to the generations that went before (Gasson and Errington 1993, p. 185). The transfer of family farm resources from one generation to the next is seen by some farm families as essential to continuing family identity in farming (Rogers and Salamon 1983). This sense of identity can be associated with the land as much as with the family business. The ‘homeplace’ described by Salamon and O’Reilly (1979) is an example of this phenomenon. Property does not need to be in the family for long to evoke this sense of identity (Burton 2004). Even young people who have left a family farm and do not see themselves as farmers may still have a strong and complex commitment to the family farm (Geldens 2007).

The grip of productivism and agrarianism on farmers’ identities is being shaken. Agriculture has been losing its uniqueness as it becomes incorporated into the wider economy (Paarlberg 1978). A new identity is forming of ‘progressive’ farming as a white-collar management activity, through what Bryant (1999, p. 252) called “the centrality of the market in constructing the self”. Villa (1999, p. 331) described the changes as moving “from a society of duty to a market-place of opportunity”. She interviewed three generations of Norwegian farmers to determine how these changes influenced their life choices. The older generation reported feeling that farming was an obligation: they were born to be farmers and subordinated themselves to farm and family obligations. The middle generation had had the opportunity for further education and a consequent increase in life choice. The younger generation still had emotional ties with the family farm but their interest in farming and the challenge of making it work seemed to be more important than any sense of duty. The incorporation of agriculture within the wider economy thus threatens the centrality of inheritance in maintaining a seemingly stable farming social system (Symes 1990).

Agrarianism has not yet disappeared. O’Keeffe and Fletcher (1998) observed that there were two main groups of woolgrowers: those focused on woolgrowing as an

occupation, who believe that reducing costs is the only way they can increase profitability; and those with a business focus, who recognise that all aspects of the business are within their control. They claimed that the two groups neither understand nor talk to each other.

The decision to enter farming

Occupational inheritance

Most farmers are themselves the children of farmers. High levels of occupational inheritance are generally found where there is significant proprietorship (Ganzeboom *et al.* 1991), autonomous work (Hout 1988), specialist occupations (Hout 1988) and where children say that they have a significant influence in family decision-making (Laband and Lentz 1983).

From the perspective of the industry as a whole, those entrants who possess the highest skills, knowledge, training, motivation and attitudes are likely to contribute most to the efficiency and sustainability of the industry (Stayner 1997b). Yet, in the past, the likeliest entrants to farming have often been farmers' sons who have entered farming by default, in the absence of making any other occupational decision, and who may not necessarily make the most efficient farmers (Gasson 1969).

Using data collected in 1965, Laband and Lentz (1983) found that sons of American farmers were 30 times more likely to follow their parents into farming than the children of the average worker, and nine times more likely to follow their parents than the children of other self-employed people. Later, using more recent data from 1979, Lentz and Laband (1990) reported that the rate of occupational inheritance among farmers was five times that of other business proprietors, even though farm and non-farm proprietors receive similar endowments of business assets from their parents.

Family succession is not the only business succession model. Blanc and Perrier-Cornet (1993) described a study reported in the French language of artisan bakers in France, showing that retiring bakers often sell out to former bakery assistants who then set up in business on their own account.

There are two main explanations for the high prevalence of occupational inheritance within family firms, particularly farms. The economic explanation is that the value of the farm within the family is higher than its market value (Kimhi 1994), perhaps because the two generations can share risks (Pesquin *et al.* 1999), or because of intergenerational transfer of knowledge (Laband and Lentz 1983). The social explanation is that the family farm is an embodiment of personal and national identity and pride, and parents naturally wish to perpetuate that identity (Gasson and Errington 1993; Gibbard 2001). Farm families are concerned to transfer to the next generation not only the material resources required to practise farming but also the skills and values they associate with farming (Rogers and Salamon 1983).

To the farm family, particularly the child who inherits the occupation of farming, there are several advantages in occupational inheritance. A child growing up on a farm has virtually complete access to the parental workplace. Through receiving continued exposure to the family business, the child can pick up, almost without realising it, a working knowledge of how to run the business (Lentz and Laband 1990). As well as learning about farming in general (Laband and Lentz 1983), they learn about the specific characteristics of the parental farm (Blanc and Perrier-Cornet 1993). This gives the child growing up on a farm a head start on non-farm children in the occupation of farming, but may also act as a disincentive to trying a different occupation (Lentz and Laband 1990).

One could inherit the occupation of farming without inheriting the farm property itself (Gasson and Errington 1993). Yates (1974b, p. 82), in his large survey of New South Wales and Queensland woolgrowers, found that, whereas 75 per cent of respondents had occupationally succeeded their fathers, only 40 per cent had succeeded their fathers on their present properties. It was common for parents to try to set up their sons on another property. Approximately 72 per cent of respondents to a survey conducted by Kaine *et al.* (1997) had entered farming with some form of assistance from their parents (or parents-in-law). Many had been brought into the parental business, but some had been helped to purchase land so they could farm on their own account. Gasson *et al.* (1988, p. 21) observed a similar phenomenon in England. There is considerable variation in inheritance patterns across Britain. In the highlands

the pattern seems to be one of maintaining the family name on the land. In the lowlands the approach often involves maintaining access to farming as an occupation, which may occur through means other than inheritance of land (Symes 1990, pp. 284–285).

For the most part, occupational inheritance in farming happens to sons, not daughters. In the Kaine *et al.* (1997) survey, 43 per cent of the families who had only daughters regarded the question of encouraging their children to take over the farm as not applicable to them, compared with 15 per cent for those who had only sons. Almost 40 per cent of families with only sons had discussed succession with their children, compared with less than 10 per cent of families with only daughters. A similar pattern has been observed in England (Errington and Tranter 1991, p. 110). Mann (2007) surveyed the children of Swiss farmers and suggested that the mostly negative attitude of the female respondents to his survey towards farm succession was the result of parental discouragement. Errington and Tranter (1991, p. 136) went further, concluding that “our farmers’ daughters may be the single most neglected resource in English farming”.

There is a substantial literature on the invisibility of women in farming (e.g., Alston 1995; Brandth 2002; Pini 2002; Saugeres 2002). Sometimes government incentives can distort the statistics: in Greece, a country with a strongly male-dominated agriculture, most young female farmers exist because of the peculiarities of the government incentive system (e.g., their husbands are too old to claim young farmer incentives) and only some of them are seriously interested in farming (Kazakopoulos and Gidirakou 2003).

Some countries have a policy of encouraging farm children to take up farming. Many European Union member states have barriers that limit (and in some cases prohibit) entry to farming by those from non-farming family backgrounds, and any government intervention tends to favour established farming families (Gibbard 2001). Under the formalised succession system in Israel, a farm can be transferred only in its entirety, and to one child only (Kimhi and Nachlieli 2001).

Occupational inheritance in farming is not universal. The dairy farming industry on the north coast of New South Wales declined dramatically in the 1970s and family succession almost disappeared (Bell and Nalson 1974). In a more recent survey of new entrants to Wisconsin dairy farming, Buttel *et al.* (1999) found that only 18 per cent were farming land that had been farmed by their parents. Further, some farmers have no children or other relatives to pass their farm on to anyway. It has been suggested that the community ties that encourage farm succession are breaking down (Gray *et al.* 1999).

Intergenerational adjustment

Several American studies have observed a sharply reduced entry of young people into farming (Buttel *et al.* 1999; Gale 2000; Hoppe 1996; Smith 1987). This is not solely a recent phenomenon. Tolley and Hjort (1963, p. 32) observed that, “Adjustment comes primarily through reduction of entry of youths into farming.” Kanel (1961) drew similar conclusions. Even further back, in 1914, Bowsfield (1914, pp. 9–10) wrote:

The average land owner ... follows a method which turns agricultural work into drudgery, and his sons and daughters forsake the farm home as soon as they are old enough to assert a little independence ... The farmers are deprived of the earnest, intelligent help which naturally belongs to them, rural society loses one of its best elements, the cities are overcrowded and all parties at interest are losers. The nation itself is injured.

And (Bowsfield 1914, p. 57):

One of the problems that is all the time tugging at the heart of the farmer of this country is the absence from the farm of the young man. There are many neighbourhoods in which not one in ten of the male members of the community may be truthfully called a young man ... The shops, the factories, the stores and the offices are swallowing up sturdy young fellows everywhere.

Reduction in entries to farming may be caused by entry barriers (such as lack of capital or knowledge) or occupational choice (potential entrants decide there are better opportunities elsewhere). In the USA, reduced entry has occurred despite government programs that attempt to overcome entry barriers, so it is likely that occupational choice is the major contributor (Gale 2003). The traditional pool of replacement farmers, young people raised on farms, has declined, partly due to off-farm migration of farm children, but also because of a declining number of children born to farm women (Hoppe 1996). This has resulted in less competition for the right to inherit the family farm (Symes 1990).

Much of the reduction in farmer numbers observed in several Australian studies in the 1970s also appears to have come from the reduced entry of young farmers into the industry (Bell and Nalson 1974; Hawkins and Watson 1972; Salmon *et al.* 1973). In one large-scale Australian study, 90 per cent of farmers said they intended to continue full-time work on the farm, yet only 60 per cent considered that any of their dependents would take over the property full-time (Salmon *et al.* 1973).

Ganzeboom *et al.* (1991) suggested that the sons of farmers who leave farming tend to be concentrated in low-status and low-prestige unskilled or semi-skilled jobs. However, there appears to be a link between education and mobility. Hout (1988) showed that the influence of the father's occupation on the son's occupation is greater for the less educated. Further, Yates (1974a, p. 16) found that the higher the education of the son, the more likely he was to go into other occupations. In Yates' study, only 17 per cent of farmers' sons working at home in 1971 had no formal educational qualifications, compared with 42 per cent for their fathers. These findings suggest that increasing levels of education of the children of farmers may encourage their mobility out of farming.

Where farms are small and viability is marginal, farming parents appear to deliberately equip their children with the education required for them to obtain remunerative city-based employment. In a study of an area in south west Victoria of predominantly small farms with low equity that had been taken up by soldier settlers about 20 years previously, 70 per cent of the children of respondents had left the

district, mostly to go into ‘white collar’ jobs (Hawkins and Watson 1972). Education levels of the children who had left school were much higher than their parents. The level of education desired by parents for their children who were still at school was even higher still, and most of these parents desired non-rural employment for their children (Hawkins and Watson 1972). Napier (1972), who studied New England woolgrowers at a time of low wool prices, noted that parental insistence on the son’s obtaining training for an off-farm career in difficult times for farming may well delay the son’s return to the farm or, perhaps even result in the son not returning at all.

The respondents in another study went even further (Bell and Nalson 1974). These dairy farmers on the north coast of New South Wales were under pressure from several sources, and 90 per cent of them said they wanted to see their sons leave the industry. They not only provided their sons with education, but also deliberately socialised them against the dairy industry and inculcated them with the notion of seeking more lucrative employment away from the farm. To give their sons time to study, parents often did not require them to work part-time on the farm. In some cases, the lack of the son’s labour jeopardised the parents’ own future in dairying. “Parents premeditatedly set out to break the traditional father-son dairy farmer occupational continuity” (Bell and Nalson 1974, p. 62). These examples are now a generation old, but the processes they describe still have some currency. Such inter-generational adjustment may well be occurring in the sheep industry at present.

Given that declining terms of trade means that there is room for fewer and fewer farmers, entering farming involves trying to beat the odds (Stayner 1997b). Fennell (1981) suggested that there is plenty of evidence that many farmers do not want any successors, often because they do not want their children to have to endure the same struggle as themselves on a small marginal farm where living standards have fallen below that of the rest of society. The potential successor might not want to become a farmer, either, particularly if the wider economy is healthy and there are plenty of good jobs available outside farming (Fennell 1981, pp. 34–35). The problem of family farm continuity is being transformed from one of choosing which of several children is to be the successor to one in which it is becoming harder to find a willing successor (Mann 2007; Symes 1990).

Economic marginalisation is more likely to reveal itself in a failure of succession than through abrupt extinction due to bankruptcy or illiquidity (Marsden *et al.* 1992). Put another way, the difficulty of recruiting successors on small farms is a long term indicator of unviability (Kennedy 1991). Kennedy (1991) noticed a tendency toward failure of succession on small Irish farms in the 1911 Irish census that was not fully manifest until the 1960s. The seeds of unviability indeed take a long time to show fruit.

The decision to exit farming

The classical view of farm adjustment is that when, periodically, the inevitable decline in farmers' terms of trade places farmers under economic pressure, the already efficient get more efficient and the inefficient leave the industry. This would hold if the decision about whether or not to leave farming were purely a business decision. It is not: such decisions are made by households and families. They rest on more than just issues of interest to businesses, such as unit costs and rates of return to labour and capital. Households and families have much wider concerns, such as lifestyle and other intangible benefits of farming, the availability of off-farm work and personal enjoyment of farming (Jackson-Smith and Barham 2000).

Farmers, when faced with similar economic conditions, will undertake markedly different adjustment strategies. Generally, younger farmers tend to be mobile, middle-aged farmers tend to stay put, while older ones may consider retirement (Barr *et al.* 1980; Tolley and Hjort 1963). In the 1960s, the American agricultural economist, Marion Clawson, succinctly summed up the place of family life cycle in decisions to enter and leave farming: "Farmers in the United States are growing old, largely because men once fully committed to farming leave it reluctantly and slowly; but also because young men refuse to enter farming in past numbers as long as income prospects are so poor" (Clawson 1963, p. 13)

Mobility of the young

Three Australian studies in the 1970s, two of them with woolgrowers, demonstrated the mobility of young farmers. The most extreme form of mobility displayed by young farmers — leaving the farm without even entering farming — has already been described.

Core (1972; 1973; 1974), a member of the Wool Adjustment Study Group, surveyed a small (n=27) random sample of Wilcannia, New South Wales, district woolgrowers in December 1971, in the midst of the wool price recession. None of them had permanent off-farm employment. About one-quarter of them had obtained part-time or seasonal employment as a short-term adjustment to the low wool prices (Core 1973, p. 137). Those (generally younger farmers) with dependent children had the highest farm debt levels and the greatest incidence of off-farm work (Core 1973, p. 140). They were also the most willing (more realistically, the least unwilling) to retrain for another occupation (Core 1973, p. 146). This was the group that stood to gain the most from retraining, as the younger farmers in the survey were better educated and had more years remaining in which to enjoy the benefits of their new occupation than the older farmers. They also had the most pessimistic outlook for wool. Even so, only one-third of this group of farmers expressed any interest in retraining (Core 1973, p. 147).

Core's findings were confirmed by Yates (1972; 1974a; 1974b), another member of the Wool Adjustment Study Group, who conducted a mail survey of 380 woolgrowers in seven areas of New South Wales and Queensland: the high rainfall area of Walcha in the northern tablelands of New South Wales, the pastoral districts of Bourke and Brewarrina in Western New South Wales, and the shires of Winton, Ilfracombe, Longreach and Isisford in western Queensland. The majority of woolgrowers Yates surveyed felt that the upper age limit for retraining was about 40 years, meaning that any retraining scheme would apply only to a maximum of 30 per cent of woolgrowers in his study (Yates 1974a, p. 5).

A similar pattern was found among younger dairy farmers in northern Victoria (Barr *et al.* 1980). Younger dairy farmers were more likely than older farmers to respond to the downturn in dairy prices by selling their farm and taking another job.

In an analysis of census data in the USA, Gale (2003) suggested that occupational mobility was greater in younger farmers and that many of them leave farming voluntarily as a result of a career or lifestyle change or financial decision.

The mobility of young farmers stems from several factors. They will generally be at an early stage of their working life and have a greater number of working years than older farmers in which to capture the benefits of a career change (Topel and Ward 1992). They are less likely than older farmers to have dependents, enabling them to be both more mobile and to take greater risks. They are also unlikely to have a significant investment in farm equity that may constrain the timing of any property sale. Further, they are more likely than older farmers to have been exposed to the economic and lifestyle opportunities offered by the city. As far back as 1967, young farmers suggested in a survey that they judged status on consumption rather than land ownership (Gasson 1969).

Stability of the middle aged

Middle-aged or mid-career farmers are stable. Once they are settled in farming, they tend to stay. There are several reasons for their stability in farming. They don't need to sell the farm, they don't want to leave the farm and take another job, and even if they did want to leave there are barriers to leaving. They can make adjustments to cope with difficult times without selling their farm and without leaving agriculture.

The first reason for the stability of mid-career farmers is that they don't need to sell. They have options for adjusting to low incomes or poor prospects without having to go to the extreme of selling up. They can change enterprise, work harder, or just tighten their belts and hang on. Gregory (1972; 1975a; 1975b), a member of the Wool Adjustment Study Group, surveyed farmers in the Mudgee district of New South Wales and the Kojonup district of Western Australia to determine the nature and

extent of adjustment they had made because of the low wool prices in 1971. He chose Mudgee because it had a lot of small scale woolgrowers, many of whom had off-farm jobs, whereas Kojonup had mostly larger scale growers who worked full-time on their properties. Gregory also analysed land transfer trends for the two areas. He made the point that “adjustment is a continuing process, a series of daily decisions rather than a once-and-for-all change” (Gregory 1975b, p. 137). Gregory classified the range of adjustments available to a farmer:

1. “Adjustments causing physical structural change. These can only result from land turnover, the passing of land from one party to another.
2. On-farm adjustments causing other structural changes. These include changes in enterprise mix and development plans, and alterations to the amount of capital or labour utilised.
3. On-farm adjustments leaving structure unaltered. These include cuts in domestic expenditure, postponement of holidays and changes in attitudes, goals or plans” [underlining in original] (Gregory 1975a, p. 18).

There was a definite ranking of adjustment decisions by the farmers Gregory studied. Some adjustment decisions were more commonly made than others.

The most common decisions made in order to ‘tighten the belt’ were postponement of development plans, greater efforts to carry out all necessary repairs and maintenance at home, less money spent on private social activities, and attempts to replace hired casual labour with unpaid family labour. The decision for one or more of the household to obtain an off-farm job was a medium-order adjustment. And the sale of land was an ultimate adjustment carried out by the very few graziers under severe economic pressure (Gregory 1975b, p. 32).

The woolgrowers generally worked harder and cut back on non-essential expenditure (including casual labour, hence the need to work harder) before they made any other adjustment.

Mowbray (1972, p. 13), another member of the Wool Adjustment Study Group, noted the widespread attitude among woolgrowers that, even deep within a period of depressed prices, things would come good: “Other workers engaged in the Wool

Adjustment Study have commented on the regularity with which they have struck a ‘she’ll be right, mate’ attitude.” Such an outlook is a reason for deciding to sit out a period of low prices by undertaking as little adjustment as is necessary. Sure enough, the market for wool did improve.

The second reason for the stability of mid-career farmers is that, not only do they not need to sell the farm, they also don’t want to leave it. There are four reasons for this. Firstly, to leave the farm they have to obtain another job, and most do not have the right skills to offer the job market. Yates (1974b, p. 93) defined a variable he called “negotiable skill”, which was “a skill obtained from formal education, or employment experience, which would enhance a person’s chance of obtaining alternate employment out of wool production, bearing in mind entry demands made by the labour market”. Fully two-thirds (67 per cent) of Yates’s respondents had no negotiable skill that they could sell in the labour market: all they had was their labour and personality (Yates 1974b, p. 95). Further, 55 per cent of sons who had left school had no negotiable skill (Yates 1974b, p. 136).

Given their general lack of negotiable skills, woolgrowers would have faced difficulties obtaining a job. Core (1973) presented data to show that the only real employment opportunities in rural areas were for skilled workers and required skills not possessed by most woolgrowers. He went on to analyse the economics of retraining and found that they were such that the only financially rewarding retraining options were for low-skilled jobs, the kind of jobs that did not exist in rural areas. Core (1974, p. 1) summarised the dilemma in these terms: “employment possibilities for farmers moving to non-farm occupations are severely limited. Without the necessary educational qualifications many farmers would be restricted to unskilled off-farm occupations. In rural areas it is these unskilled occupations which tend to have highest unemployment levels in times of recession.”

Many farmers have family ties with farming and personal ties with their district, so their search for work would be confined mainly to their local area (Barr *et al.* 1980). Their immobility is both occupational and personal (Gasson 1969). The experiences

of a New South Wales farm adviser and rural counsellor dealing with insolvent farmers are relevant here:

What can you advise a 50-year old bankrupt farmer, who has little education, no skills other than farming, a family to support, and a dislike for cities, to do? It is facile to suggest that all can become tractor drivers or employees on the land, or work for a local agent. Most do not want to employ a man of that age. He is insolvent, and knows that the relatively small income he could derive from the alternatives would probably be reduced by amounts needed to service outstanding debts after property sale. People are reluctant to voluntarily accept what seems to be a drop in their standard of living ... It is not surprising that the vast majority decide to “stick it out”, and stay on the farm until absolutely forced off (Kennedy 1972, p. 209).

Kennedy was not the only person to make this observation. Among the respondents to Hawkins and Watson's (1972) survey of a soldier-settler area in Victoria, half of them had never considered the possibility of having to seek another occupation. The few who were interested in being retrained nominated rural occupations that would allow them to maintain close ties to farming, such as woolclassing and working for a pastoral house (Watson and Vincent 1973).

Secondly, woolgrowers have traditionally perceived that their occupation had high status and would have been unlikely to contemplate a low-status alternative occupation anyway. For many farmers, leaving farming means a loss of prestige and identity (Ginnivan and Lees 1991). According to Core (1973, p. 141),

Whilst the perceived status position of the grazier vis-à-vis other occupations did vary within the survey group, those surveyed tended to identify their occupation with the professional and self-employed occupational groups ... Such status identification will reduce the willingness of these farmers to accept skilled or semi-skilled manual non-farm occupations ... It is unlikely that many off-farm migrants will possess or ever acquire the skills necessary for entrance into professional or semi-professional occupations. Unless bankrupt farmers re-adjust their

perceived status divisions, they are unlikely to look favourably upon alternative employment possibilities.

Despite the publication of reports that try to show farmers that leaving the land can be a positive experience (e.g., Stephens and McGuckian 1995; 2004), case studies of families that have left farming often show that the families find it difficult to adjust to life after farming (Bryant 1989). One explanation for this lies in an exploratory study of farm families who had left farming (Ginnivan and Lees 1991). Some felt they were better off financially than they were on the farm, but not better off in other respects. This suggests that they gained some non-financial satisfaction from farming, and may never consider themselves better off than when they were farming, regardless of their circumstances. Large-scale farmers tend to have instrumental values around their farming business, whilst small-scale farmers (the ones assumed to be most likely to sell up) tend to have intrinsic values around the lifestyle and independence of farming and are unlikely to respond to adjustment incentives (Kerridge 1978). Some farmers have claimed that life on the land was worth more than money can buy (Hawkins and Watson 1972).

Thirdly, the personality of many farmers is such that they are temperamentally more suited to farm work than other work. In a study of the personalities of central Queensland graziers, Marilyn Shrapnel, a psychiatrist with a farming background, found that they were “*a special breed*, with characteristics that set them apart from members of an urban population” [italics in original] (Shrapnel and Davie 2001, p. 86). Of the 14 main personality styles, the individuals interviewed from 30 families exhibited one of only five styles, which shared the characteristic that they were uncomfortable in group situations. Their personality characteristics, particularly those around independence, allowed them to cope with the challenges of an isolated rural lifestyle, but would be less useful to them in an urban environment (Shrapnel and Davie 2001). Powell (1960) bore witness to the solitary nature of the farmer.

Fourthly, a farmer who has to leave the land is likely to experience social loss. Government adjustment policies may offer financial incentives to entice farmers to leave agriculture, but they tend to provide compensation only for economic losses, not

social losses. It is the social losses that are likely to prevent farmers from leaving their farm (Burton 2004). The nature and extent of this loss is further explained by Burton (2004, p. 211), in a British context: “Essentially, many farmers are being asked to revise their self-perceptions, their systems of status transfer, the meanings of individual farm acts, and lose — in cases where the family have been ‘good farmers’ for generations — not just the status accumulated by an individual farmer, but that built up by his/her family over decades or even centuries.” Social losses incorporate more than just the lowering of perceived occupational status associated with taking another job, as already discussed. Core (1973, p. 159) explained that, “The restriction of adult retraining schemes to unemployed persons, persons made redundant by technological change and to those farmers defined as non-viable by a State reconstruction authority is likely to suggest to interested persons that retraining is a result of social failure.” In a much more recent study than those of the Wool Adjustment Study Group, Webb *et al.* (2002), after interviewing Western New South Wales pastoralists who were contemplating leaving (and in some cases had already left) the land, found them to have a strong sense of identity as a pastoralist and place attachment to the property, both of which made it difficult for them to leave the land. According to Gregory’s (1972, p. 8) British research, once farmers reach 35 or 40 years of age, “the chances of removing them voluntarily at any reasonable level of government expense are quite remote.”

The third reason for the stability of mid-career farmers is that, when they are under most pressure to sell, they can’t sell. Gregory (1975a, p. 20) reported that the proportion of land turned over in both Mudgee and Kojonup fell considerably during the wool price recession. This was due to lack of demand for wool-producing land. The lack of demand meant that the market price of land was reduced, which in turn meant that those who wanted to sell could not obtain the price they wanted, so they refused to sell while they could possibly hang on. “At Mudgee, as at Kojonup, the period of wool price recession itself brought reduced rates of structural change” (Gregory 1975a, p. 5).

Watson (1974), another member of the Wool Adjustment Study Group, conducted a small survey of woolgrowers around Glen Innes in northern New South Wales in

1971. The wool market had been depressed since 1968 and Watson assessed the willingness of the woolgrowers in his sample to leave farming. Those who indicated a willingness to leave, nevertheless had not left, mostly because the land market was depressed and they were unable to obtain either what they thought their property was worth or what they felt they needed to be able to re-establish elsewhere.

Difficulties in finding a buyer for the property were felt hardest by those with the largest debts. The existence of substantial debts often acted not as an incentive to leave but as a restraining force. Yates (1974a, p. 12) found that, "In general, creditors did not take active steps to recover debts as there was little point in foreclosing and being stuck with an empty and deserted property which could not be sold." Only one family in the two areas studied by Gregory (1975b, p. 28) was forced to sell up and leave the land completely.

The situation for mid-career woolgrowers was best summarised by Yates. Given the combined effects of drought and low wool prices at a time when the industrial and service sectors of the economy were booming, many observers expected a rapid exit of many wool producers from the industry. Yates' (1972, p. 23) initial hypothesis was that, "under the effects of economic depression the woolgrower would tend to lower the rank order position of his own occupation and narrow the social distance between it and possible alternate occupations, thereby facilitating mobility". However, "the forces at work did not always act to facilitate mobility and, in fact, some at times acted as a restraint on it" (Yates 1974a, p. 3). Yates (1972, p. 8) found that, "The evidence does suggest that contrary to the idea of family farms being the main sufferers of economic depression, some family farms have survival qualities which negate all the push or pull out forces." Many of Yates' survey respondents lived in isolated areas and sent their children to boarding school. His findings indicated that the one thing that would force growers off their properties was the prospect of not being able to afford to give their children a good education (Yates 1972, p. 8).

Retirement of the old

The reasons already given for the stability in agriculture of the middle-aged farmer would apply equally to the older farmer, if it were not for one crucial and inescapable fact: farmers are not immortal. Sooner or later they will die or lose their capacity for work. Some may even wish to retire. “There is an old tradition that farmers never leave the land until they die, go broke or retire” (Anderson and Hepworth 1980, p. 1).

The idea of retirement as “giving up work” is the product of an urban industrial culture that has little meaning to the farm family business. To a farmer, retirement may take several different forms. For a farmer, “retirement” may involve selling the farm and giving up work, withdrawal from some aspects of farm work such as milking cows, changing to a less intensive, less demanding enterprise, such as from dairy to beef cattle, or moving off the farm but still providing some help to the successor (Gasson and Errington 1993, p. 220). Gasson and Errington (1993) identified three states or stages of retirement in farming: semi-retirement in farming, retirement from farming, and retirement out of farming.

Building on the work of Gasson and Errington (1993), Foskey (2001; 2005, pp. 62–66) identified three different types of retirement patterns that were evident in Australian farm families: retirement *in* farming, retirement *to* farming and retirement *from* farming. Retirement in farming can take two forms. Some farmers remain involved with the farm in retirement while gradually transferring control and eventually ownership to a successor. Others, with no successor, may reduce the scale of their farming operations or take up a less labour-intensive farming industry, such as beef cattle. Retirement from farming involves either the sale of the farm and movement away from it, or gradual downsizing and partial sale. Retirement to farming is where someone retires from another career and takes up farming (Barclay *et al.* 2007, p. 5). Foskey’s three categories are related and a single farm family may exhibit different categories at different times. The fluidity of the three categories and the complexities of retirement for a farm family are shown by the fact that each of her three writings on the subject describe the categories slightly differently (Barclay *et al.* 2007; Foskey 2001; 2005).

Exit rates among the oldest age cohorts of farmers are falling. This may be caused by improved health and longevity, which allow people to keep active at an ever-increasing age. Demographic analysis of American farmers done in the 1960s used as its oldest age cohort the group aged 65 and older (Kanel 1961; Tolley and Hjort 1963). My own analysis in chapter 4 uses as its oldest age cohort the group aged 80 and older. If I were to re-do my analysis using later data I would make my oldest cohort that aged 85 and older.

Although the number of very old farmers is growing, there is unlikely to be a sudden mass retirement of farmers. Such mass retirements have been predicted in the past (Gale 1996) and have not occurred (Gale 2002). Today's retirement-age farmers would have been just beginning their farming careers when Clawson wrote about ageing farmers and migration of young people off farms in 1963. They were the ones who chose farming as a career when their neighbours were leaving farming in unprecedented numbers. They have thus exhibited a strong commitment to farming and can be expected to exhibit the same reluctance to leave farming that Clawson observed in 1963 (Gale 2002).

Exits from agriculture by older farmers (in other words, retirements) are often triggered by life events, rather than economic conditions (Gale 2003). Ill health is a common trigger (Foskey 2005, p. 65). Some farmers have been observed to delay their retirement until a grandchild is ready to take on farming or until a child is ready to leave another career to return to the farm (Foskey 2001).

Some farmers just do not want to leave their property no matter how old or how infirm they are. My own father is one of them: at 85 he has recently said that he wants to stay on the farm for as long as he can look after himself. He can no longer do a full day's work, and much of his farm is leased out, but the half day's light work that he can still do offers him an identity and reward that he would not be able to obtain anywhere else.

Farmers with no children tend to retire later than farmers with children, perhaps because they have no successor to encourage them out (Naylor 1982). Those whose

children are not returning to the farm may well also retire later than those whose children are returning. About 10 per cent of Australian farmers live alone (Garnaut and Lim-Applegate 1998). Almost one-third of these farmers who live alone is aged 65 or older (Garnaut and Helali 1999). Older farmers, particularly those without successors, often contribute little to agricultural production (Hoppe 1996). Many of them reduce the intensity of their operations to ease their workload (Potter and Lobley 1992). Semi-retired farmers who extensify their operations immobilise their farmland, making it temporarily unavailable to younger farmers (Meert *et al.* 2005). This is the phenomenon referred to by Künnecke (1974) as ‘social fallow’. There is often a substantial time lag between the decision or realisation that there will not be a family successor and the eventual sale of the property and retirement of the farmer.

Pluriactivity

For many farm families, farming is not their only income-earning activity. The farm family may be seen as a corporation involved in a variety of business interests, only one of which is farming (Gasson 1983; Hutson 1987). Various terms have been used for the multiplicity of income-earning activities undertaken by farm families, including part-time farming, off-farm work and diversification. None of them capture the totality of the phenomenon. Perhaps the term that comes closest is the French “pluriactivity”, which describes farming in combination with other income-producing activities, whether on- or off-farm (MacKinnon *et al.* 1991).

Pluriactivity is common, and Barlett (1986) quoted several studies that showed how common it is around the world. In some parts of the world pluriactivity has a long history (Kinsella *et al.* 2000). Pluriactivity is important in Europe. In their survey of Western European farm households, MacKinnon *et al.* (1991) found that an off-farm job was by far the most important income earning activity apart from farming for farm households. Across all farm households in their survey, farming accounted for only 48 per cent of total income. The existence of small farm businesses does not necessarily imply a household income problem: low-income farm households were generally those with small farms and low diversification of income outside agriculture. Income vulnerability may just as easily result from the lack of a farm family member having a

job outside agriculture as from the small size of the farm business. Potter and Lobley (2004) have argued that, rather than being seen as passive victims of a harsh marketplace, pluriactive farm households should be seen as having shrewdly found a new form of farming identity.

There is disagreement around whether part-time farming is a transitional state or a steady state (Barlett 1986; Kinsella *et al.* 2000). It can be both, but for different families and for different reasons. People undertake commercial part-time farming for a range of reasons. Barr and Almond (1981) developed a typology of several forms of commercial part-time farming that included young establishing part-time operators, older part-time operators, periodic part-time operators, deferring leavers, expanding family partnerships, non-economic off-farm work and hobby part-time operators. In some of the forms, off-farm work is a steady state; in others it is a transitory state. In their study, there was no significant difference in the value of output per given area on full-time and part-time farms (Barr and Almond 1981). Barlett (1986) also identified different forms of, and reasons for, part-time farming.

As a transitional state, part-time farming has been described as a stepping-stone out of farming (Ginnivan and Lees 1991; Steeves 1979), a means to allow occupational migration without residential migration (Kimhi 2000), and a way to link the farm household to other opportunities in the community (Jackson-Smith and Barham 2000).

MacKinnon *et al.* (1991) found that pluriactivity was usually a steady state, associated with the stable reproduction of holdings rather than a holding's trajectory out of farming. For marginal farmers in a Belgian study, off-farm employment rarely led to the cessation of farming. Sometimes it was done to fund the maintenance of a high level of expenditure on farm inputs, and was justified by farmers because of their attachment to the farm lifestyle (Meert *et al.* 2005). For part-time farmers near Melbourne in a 1974–75 survey, their part-time farming was a continuing work arrangement, not part of a transition into or out of full-time farming (Wills 1978). Most of them were farming for predominantly lifestyle reasons, rather than economic reasons. Even so, they were no less productive per unit area than full-time farms

(Wills 1978). A farm may be run part-time by successive owners. Small farms often contain infrastructure such as a house and sheds, so a small farm that is sold may well be purchased by an incoming part-time farmer rather than incorporated into a larger holding (Potter and Lobley 1993).

Pluriactivity has its pluses and minuses. Gasson *et al.* (1988, p. 22) argued that large farms that can absorb all children wanting to farm, and where the farming children often have no experience of working off the farm, either on another farm or in a non-farming occupation, tend to maintain a relatively closed and clannish social system. In contrast, on small farms, where children must obtain employment off the farm, a more diverse culture may be maintained (Gasson *et al.* 1988, p. 23). However, taking off-farm work can change the identity relationship of farm and family (Johnsen 2004). Pluriactivity may reduce not only the significance of the farm to its family's income but also may diminish the farm's social role in defining the identity and behaviour of the family (Marsden *et al.* 1992). Nalson (1968, p. 118) made the point four decades ago that while it may offer "a higher income than that of many full-time farmers", "part time farming does not confer a high prestige upon the person practicing it". Blanc and Perrier-Cornet (1993) argued that break-up of holdings through equality of inheritance by children fosters the development of pluriactivity, retirement farming and even survival agriculture for the unemployed. The farm is no longer central to the working life of the succeeding generation, and the result is a weakening of the social identity of farmer among that generation.

The findings of two studies are worth describing in some detail. One (Watson 1974) investigated the response of New South Wales woolgrowers in a depressed market. The other (Barlett 1986) described a more diverse group of American part-time farmers. In 1971, Watson (1974) conducted a small survey of woolgrowers around Glen Innes in northern New South Wales. The wool market had been depressed since 1968 and Watson assessed the adjustments they had made. Sixty per cent of growers had taken off-farm jobs. Many of these graziers who had taken off-farm work had small farms. They had reduced stock numbers to ease the farm workload, because they were now spending time off the property but, given their chronic shortage of funds, had not been able to quarantine the funds realised through stock sales. Watson

expected that they would find credit for restocking difficult to obtain. Although their off-farm jobs allowed these graziers to keep their properties in the short term, the taking of these jobs may have been harmful in the long term.

Watson (1974) also assessed the willingness of the woolgrowers in his sample to leave farming altogether. Those under 45 years were less willing to move than older growers. Those who already had off-farm jobs were less willing to move than those who did not. Those already with off-farm jobs may well have made their choice between staying on the farm while getting a job and leaving the farm to get a job, and chose to stay. Those who indicated a willingness to leave, nevertheless had not left, mostly because the land market was depressed and they were unable to obtain either what they thought their property was worth or what they felt they needed to be able to re-establish elsewhere.

Watson (1974, p. 8) summarised the position of the growers thus:

The evidence presented above suggests that the graziers' low disposable income after debt repayments will continue into the foreseeable future. The lack of a market for land was halting those wishing to leave from doing so. Many of the adjustments forced on graziers by the slump in wool prices were aimed at providing immediate ease often at the expense of the future of the property. The increased disposable income resulting from the adjustments made still did not cover the debt obligations of graziers.

Barlett (1986), in her qualitative study of a county in Georgia, USA, found that for the majority of part-time farmers their situation was stable, income-oriented and long-term. She argued that, whilst conventional views of part-time farming present it as either a temporary response of struggling, marginal full-time farmers to a downturn in farming fortunes or as a lifestyle activity that emphasises the consumption of landscape amenity rather than the production of agricultural produce for sale, these two forms of part-time farming were in a minority among the part-time farmers she studied.

Barlett (1986) observed that the decision to farm part-time was complex, involving considerations of income, lifestyle, risk management and long-term planning. Further, there were often differences in attitudes towards part-time farming between husbands and wives. The benefits of part-time farming appeared to accrue more to husbands rather than wives. None of the wives in her study expressed any of the strong positive sentiments about farming that were expressed by the husbands (or by single female part-time farm operators).

Barlett (1986) identified three types of part-time farmers in her study. A small group of what she called *transitional* part-time farmers had been full-time and were forced (usually with reluctance and bitterness) to take off-farm work to keep the farm afloat. Some hoped to return to full-time farming but most were pessimistic about their future. This group comprised eight out of 46 (17 per cent) of the part-time farmers Barlett studied. Another small group of part-time farmers was the *investors* (17 per cent). Most of this group had inherited their farm and were continuing a family tradition, often employing the same staff as their parents. By far the largest group of part-time farmers in Barlett's study (30 out of 46) was what she called the *standard* part-time farmers. People in this group had always held a full-time off-farm job but at some stage had added a part-time farm. Most of them never intended to be full-time farmers. They had deliberately acquired the education necessary for obtaining a good job.

When the part-time farmers in Barlett's (1986) study were asked why they chose to farm, economic reasons were more central than lifestyle reasons. Barlett described the reasons given to her as "an interrelated series of benefits that offset the risk, worry, expense, and hard work of farming" (p303). The reasons catalogued by Barlett included: extra income, in a business whose tasks they learned as children; an investment for their own retirement or to provide for their children; a means of gearing-up for full-time farming in retirement, to provide themselves with healthy work and satisfaction; a means of recreation and rejuvenation through the contrast between the nature of farm work and their primary job; the autonomy of being your own boss; and the lifestyle benefits of raising children in a wholesome environment and eating healthy food. Part-time farmers were also able to indulge in the farmer's

gamble of prices and seasons without the burden of risking the entire family income. Barlett (1986, p. 304) encapsulated the interrelated income and lifestyle benefits of part-time farming thus:

What other evening and weekend activity gives outdoor exercise, provides a healthful contrast to weekday job conditions, (sometimes) makes money, builds up a savings account for the future, provides children with meaningful responsibilities, enhances daily meals, provides the excitement of gambling, and lays the foundation for a secure and profitable retirement? Add to this a preference for rural residence and a means of continuing a valued parental tradition, and the part-time farming package becomes virtually unbeatable for people who were brought up on farms.

Putting entry and exit together: farm succession

Succession in principle

Farm succession has been studied extensively. Gibbard (2001) reviewed how it works in different countries. In Australia, treatises on how to manage it successfully have been written by farmers (e.g., Stanich 1996), academics (e.g., Gamble *et al.* 2001) and agricultural consultants (e.g., McGuckian *et al.* 1995). I do not propose to review the farm succession literature in detail here because my focus is on farmer population dynamics. Farm succession issues do, however, impinge on the population dynamics of family farming, in that they influence the nature and timing of entry and exit of farm family members from farming, so I want to discuss some relevant research briefly.

Succession is so central to the family firm that Ward (1987, p. xxiv) chose to define family firms (he was referring to all family firms, not only family farms) in terms of their potential for succession: “The goal of this book is to present skills and ideas crucial to revitalizing the family business so that it may continue generation after generation.” Inheritance is a form of social reproduction. Inheritance of a farm is not just a means of transferring a piece of property, it is a means of reproducing property relations and social relationships (Goody 1976; Voyce 1994). Inheritance is not simply a transfer of goods. It is a complex web of exchange relationships, governed

by long-term familial considerations, forming in effect a contractual relationship that binds different generations of the same family. It is a web so complex, so long-term, so characterised by shifting asymmetries of power relations, and so requiring of mutual obligation and trust, that it could not be conducted on the open market and indeed requires for its successful negotiation the organisational and social structure of the family (Kennedy 1991)

There are two basic models of inheritance. In single-heir succession, the farm is kept entire, one child is chosen to continue the family line on the land, and the other children do not inherit the farm. In multiple-heir succession, all property is divided equally among the children and the farm may or may not remain in one unit. Both multiple-heir (partible) and single-heir (impartible) succession can be made to work. Rogers and Salamon (1983) described in some detail how the succession norms in two American and two French farming districts operate effectively. It was not the case that there was one norm in France and one in America: each of the two succession strategies was the norm in one American and one French district. Further, Bohler and Hildenbrand (1990) described traditional customs in different parts of Germany: in some areas the eldest son inherits the farm; in other areas all heirs inherit equal shares. The two extremes described here are ideal types: individual family circumstances may well require deviation from the ideal.

When only one child inherits the farm, the inheritance transaction may be only a subset of the total of intergenerational transactions among the farm family. There may be various forms of compensation for the children who don't inherit the farm, such as investment in education and help with the purchase of houses, all of which serve to place the inheritance transaction within a wider web of intergenerational interdependencies (Kennedy 1991). It is, however, in the donor's interest to ensure that the viability of the farm is not endangered by too much provision for the siblings of the inheriting child, for if the farm is rendered unviable the pension and other rights negotiated by the donor might be jeopardised (Kennedy 1991).

Family farming combines a farm, a family and a business in such a way that it is almost impossible to disentangle them. The interaction of the family unit with the farming business involves distinctive behaviours that set the family farm apart from other business forms and offer both advantages and disadvantages (Errington and Gasson 1994). Families have a life cycle, as people partner, raise children, and the children eventually become independent. The match between the life cycle of the farm family and the development cycle of the farm business is critical to the ongoing existence of a family farm (Stayner 1994).

In the context of the family farm, the term “family” encompasses a wider range of structures than the stereotypical nuclear family comprising two adults and their dependent children. Farming families often span multiple households and generations, some of which may be located off the farm, perhaps some distance away, whose members have varying degrees of involvement in and dependence on the farm business. Various family members may hold land titles, sometimes in different combinations. Complex arrangements may exist for the sharing of land, labour, capital and income in cash or in kind. Each household may have one or more members who receive off-farm income from various sources, including wages or salaries, investments, dividends and welfare payments. None of these arrangements are static: they are often re-evaluated in the context of changed family circumstances or external conditions (Stayner 1997a).

Family labour is used almost exclusively in a family farming business, so the labour force will vary in quantity and quality over the course of the family life cycle (Errington and Gasson 1994). Family income needs will also vary over the course of the family life cycle (Stayner 1994). For example, during child-rearing years, some labour will need to be diverted from paid work (whether on- or off-farm) to child-rearing and money that may at other times be used as an input to farm production will need to be used for consumption. (Of course, this “consumption” expenditure could instead be seen as a long-term investment in the reproduction of the farm family, and thus the family farm (Errington and Gasson 1994).) As children age, they make greater financial demands on the parents until they become independent. At the same time, they can make greater labour contributions to the family farm (Barr *et al.* 1980,

p. 18). Yates (1972) suggested that stages in the family life cycle represented levels of vulnerability to economic depression and that the most vulnerable stage was when all children were young and at home or school.

If succession is to occur, the family farm and business generally must meet, for a time at least, the needs of two generations for income, productive work and sometimes even affirmation of identity. The new generation needs to enter the business at some point, and the current generation needs to provide for its retirement. The optimum timing for each generation may not match (Keating and Little 1994; Napier 1972). The mismatch may be as simple as the successor wanting to take over before the current generation is ready to relinquish control, or perhaps accident or illness in the current generation at a time when the successor is not yet ready to take over the farm. Or it may be more complex, involving multiple families or multiple potential successors of different ages. Whatever the size or nature of the mismatch, stress may result (Stayner 1994).

The farm business development cycle needed to accommodate the needs of succession may not match the family life cycle. To accommodate the changes in labour supply and income needs at a certain point in the family life cycle, a farm family may need to expand or contract the family farming business, intensify or extensify it, diversify, or even move into or out of an alternative enterprise such as contracting (Errington and Gasson 1994). The farm development cycle is dependent on the macro-economic cycle. If a farm family invests in farm expansion at the wrong time in the macro-economic cycle, the consequences can be catastrophic even if it was the right time in the family cycle (Marsden *et al.* 1992). The problem here is that families cannot control the timing of their farm expansion opportunities. The opportunity to acquire a neighbouring property may occur only once in a farmer's lifetime. It would be hard to resist, even if the timing of the opportunity may not be prudent given the farm's stage in the business life-cycle or the family's stage in the family life-cycle. Land purchase at the wrong time (perhaps for farm expansion to settle a child on the land at short notice) can lead to financial difficulty, perhaps even the loss of both farms (Reeve and Kaine 1996, p. 74). Families lucky enough to not only synchronise their business and family cycles, but also to have opportunities for

expansion that occur at the right time in these cycles, are fortunate and are likely to displace those farm families that are unlucky or less capable in their synchronisation (Gasson and Errington 1993, p. 253).

The real problem is adjusting the scale of the farm business up to accommodate the physical capacity of both generations when working together, give both some managerial control, and provide income for the two generations of households, then down again when the older generation withdraws (whether gradually or suddenly). The problem itself has not changed over the years, but as the nature of family farming changes, so too does the farm family's ability to adjust its scale of operation. "The family farms of today are radically different from those of fifty years ago — so much so that in philosophical, social, and political terms the concept of family farming has lost much of its meaning implicit in that term throughout the nineteenth century" (Dorner 1983, p. 85). Changes in the nature of the family farm are illustrated by dairying in Wisconsin. The Wisconsin family dairy farm in the 1940s was a place where labour was all-important and the scale of the business was closely tied to the physical capacity of the farm family. If a son was going to come home on the farm, his father would build up cow numbers in anticipation, otherwise, he would let cow numbers decline as he aged (Dorner 1983). Since that time, the increasing importance of capital and machinery has made it not so easy for a farm family to change the scale of its operation, as varying the input of capital and machinery is more difficult than varying the input of labour (Dorner 1983). One development that Dorner (1983) saw as at least partly compensating for the difficulty of changing scale of the farming operation was the increased incidence of part-time farming by some or all members of different generations of the farm family.

One manifestation of the centrality of succession to the family farm is the way in which succession, or even the prospect of succession, can change the nature of the farm. According to Potter and Loblely (1996b), there are three related effects of succession:

1. Succession effect: the effect the expectation of succession has on the development of the farm business;
2. Successor effect: the impact the successor has on assuming control;

3. Retirement effect: the run-down, extensification or partial leasing out of farms without successors, as the farmer moves into semi-retirement.

Potter and Lobley (1996b) found that the presence of a successor was strongly associated with an expanding and ‘professionalising’ pattern of farm business development. The direction of causation was not clear: farms may lack successors because they are too small to be viable so a potential successor pursues a career elsewhere; alternatively a farmer with an identified and willing successor is likely to invest in the continued viability of the business. For many farmers expansion is linked to the need to provide for children. Children provide both an incentive to expand and the means to achieve expansion (Hutson 1987). Why and how else would an ageing couple expand their farming operation? Paradoxically, the demands of farm expansion may mean that a farmer works as hard, under as much financial pressure, in his fifties and sixties as he did when establishing himself in farming (Kaine *et al.* 1997, p. 9).

The converse of the succession effect is what happens when there is no successor. Elderly Queensland dairy farmers without successors were found to have no intention of selling out and were slowly reducing their effort and their production with time (Hannibal 1991, p. 25). Potter and Lobley (1992, p. 327) observed that the run-down of farms without successors is not sudden, but gradual: “The process is not so much one of elderly farmers deliberately switching to extensive methods as of gradual loss of incentive (and energy) to continue along the intensification route. Adjustments are small-scale and incremental.” A succession effect is apparent even among younger farmers, though it is not as large as among older farmers. Potter and Lobley (1992, p. 321) described the long-term build-up of a succession effect in these terms: “elderly farmers without successors do not simply behave differently, they manage businesses that have developed along a different trajectory compared to those managed by their counterparts with successors”. They argued that such long-term trends in the farm business were a better predictor of the future trajectory of a farm than current management practices (Potter and Lobley 1996a).

There is another paradox in the succession effect. On one hand a farmer with an identified successor will want to build up a farm business worth handing on as a legacy to their children; on the other hand a farmer without a successor has an

incentive to build up a business that is big enough to provide for their retirement and old age, and without a successor they might well be more venturesome and willing to take risks (Hutson 1987).

One problem in assuming that a succession effect would exist in Australia is that conditions in Australia may not be the same as those in Europe. The Europe in which Potter and Lobley obtained their strong correlations between farm succession and farm development is a Europe of a long family farm tradition. Glauben *et al.* (2004), in German research, used as a dummy variable whether the farm had been in the family for five generations or more, and more than one quarter of the 272 farms had! Although Australia draws its farming traditions from Europe, it does not have the same peasant mentality identified by Bohler and Hildenbrand (1990), nor does it have the stability of government incentives. Analysing family manufacturing firms (not farms) in Austria, Diwisch *et al.* (2005) found no significant difference in employment growth and investment behaviour between family firms that planned to transfer the firm in the next ten years and those that did not.

It has been hypothesised that the presence or even just the prospect of family successors on a farm increases the likelihood of a farmer using improved resource management practices (Curtis *et al.* 2000). Evidence for this is, however, not clear. Gray *et al.* (1999) pointed out the potential for irony in Potter and Lobley's (1992; 1996b) findings. Providing a productive farm for a successor means one that is not degraded. Yet Potter and Lobley (1992) found that farmers with successors were more likely to exploit their farms to obtain higher production, while farmers without successors were more likely to conserve their farms. The dilemma for Australian farmers with successors, then, is to ensure their farm remains sufficiently productive but without degrading it. Perhaps this balancing act is more difficult in Australia, with its ancient, fragile soils, than elsewhere.

Succession in practice

Farm succession is a staged process involving the transfer to the next generation of three aspects of the farm: labour, management and ownership (Keating and Little

1994). Based on earlier English work, Errington and Tranter (1991) surveyed a large sample of English farmers and identified a pattern to the succession process that was akin to a ladder up which the average successor climbed. Operational tasks and decisions were toward the bottom of this ladder, whilst financial decisions were at the top. The ladder concept was later confirmed through surveys in France and both English- and French-speaking parts of Canada (Errington 1998).

A farm family is not a homogenous unit: individuals, genders and generations differ in their motivations, concerns and values, and these differences complicate the transfer (Gamble *et al.* 2003). In many cases, the older generation (in particular the men) assume that succession involves mainly ownership, and occurs when assets are transferred in a will (Blunden *et al.* 1993). By that time the son may have worked for little monetary reward for years, perhaps not knowing whether the farm will one day be his. Practical advice on how to manage succession often concentrates on how to avoid this lack of communication, along with practicalities such as the need to balance the equitable treatment of all children with the continued existence of the family farm and ensure a comfortable retirement for the older generation (e.g., Blunden *et al.* 1993; Gamble *et al.* 2002; Stanich 1996).

Gasson and Errington (1993, pp. 204–205) identified four ideal types for the transfer of managerial control:

1. Stand-by holding, where the successor is set up on another farm, working for a number of years to develop husbandry and managerial skills. There may be some sharing of machinery and labour with the home farm. The successor and their family may eventually swap with the parents when they retire, or the farms may be amalgamated. In either case, the successor has the opportunity to accumulate capital to pay out siblings.
2. Separate enterprise, where the farm is large enough that the successor can establish a separate enterprise on it, for which they take management responsibility. As with the stand-by holding, the successor acquires husbandry and management knowledge, and may also build up capital.
3. Partnership, where the successor works on the farm with their father, but gradually acquires responsibility for particular aspects of the farm. A successor with

particular expertise in machinery may be given responsibility for machinery purchases.

4. Farmer's boy, where the successor works for the father with little pay and without management authority, but on a promise that he will succeed to the farm when the father retires or dies.

In practice, succession often occurs late. Errington and Tranter (1991) found that the average English successor was never allowed to decide when to pay bills during his father's lifetime. Succession late in the life of the successor can occur for two main reasons. One is that the father does not want to hand over control to the successor, perhaps because of a fear that the successor's marriage may break up. When the successor marries, the character of the farm family changes from 'nuclear' to 'extended', with two generations of families. This confounds the singular relationship between family and farm and it is during this period that the relation between family and farm is in greatest danger. The successor's marriage is two-edged. On the one hand, it is the basis for forming the next generation and thus necessary for keeping the farm in the family. On the other hand, the daughter-in-law becomes a claimant on the farm's assets and represents a threat to the future of the farm-family relationship if the son's marriage fails (Gray 1998). In Weigel and Weigel's (1987) study, daughters-in-law reported the highest frequency of stressors of all family members, and were clearly vulnerable. Parental paranoia about their daughter-in-law divorcing their son may be a self-fulfilling prophecy (McGuckian *et al.* 1995).

The other reason for late succession is that the farm is too small to support both generations, so the successor stays off the farm, perhaps helping out occasionally, waiting until the death or incapacity of the father before taking over the farm, perhaps part-time. In Potter and Lobley's (1996b) study, these farms (where a successor was identified but was not present on the farm) were the most stable and least dynamic. Lacking both the incentive and ability to expand operations, but needing only to keep options open for the time the successor eventually returns, these farms were the least likely to have invested in major development or bought or sold land over recent years.

While the first form of late succession can occur on any size farm, the second form generally occurs on small farms that are often economically marginal. When the successor eventually takes ownership and control of the farm at the moment of inheritance on the death of the farmer, they are unlikely to be able to earn a full-time living from the farm. If the farm has been run down while the successor was not present, it may take more money or time to put right than the successor is willing to invest. The result is likely to be an even more pluriactive small farm sector (Potter and Lobley 1996b).

The inclusion of a new family member in the farm workforce tends to cause a fall in the average productivity of labour, because the other factors of production, in particular land, are not very flexible. The result is often under-payment of the extra worker and economic dependence on the parents. This is a common problem on small farms, and Blanc and Perrier-Cornet (1993) described common Irish practices of farmers marrying late and choosing their successor from among their younger children, both of which widen the age gap between farmer and succeeding child and thereby shorten the transition period.

Another way around the transition problem is for the succeeding child to take a job off the farm for a time, perhaps even until the parents give up farming. This 'occupational by-pass', as Blanc and Perrier-Cornet (1993) called it, represents a fifth ideal type for the transfer of managerial control, in addition to Gasson and Errington's (1993) four quoted above. Obviously, it requires both occupational and locational mobility on the part of the child, who needs both the education and skills required to obtain and succeed in the other job, and the willingness to work (and perhaps even to live) elsewhere. There is a risk that the child may become settled in the other job or place (Blanc and Perrier-Cornet 1993).

Generally, the larger the scale of the farm operation, the greater the chance of successful succession. Although labour use efficiency is relatively constant over a wide range of scales of operation (Napier 1972; 1974), large farms may benefit from better machinery utilisation, which would afford easier succession (Potter and Lobley 1996b). Wealthy parents with diversified property can meet the needs of both the

principle of equity among children's inheritance and the desire to maintain the family farm as a viable unit (Blanc and Perrier-Cornet 1993). In Salmon *et al.*'s (1973) national survey of Australian farmers, farmers with smaller properties were less likely than those with larger properties to think that their dependents would take over. In an English study, areas where farms were less secure and less viable tended to have lower expectations of succession (Marsden *et al.* 1992).

In discussing the economic viability of farms, the hill farmers studied by Gray (1998) talked about the number of families they could support, rather than the kind of measures that might be used by an economist. By "family", they meant a nuclear family of a couple and their (not yet independent) children. Once a child became independent (usually by marrying) they needed to exert their independence by running another farm. The newly married couple became a separate family from the parents. Whatever the scale of a farm economically, it may still have been too small socially because it offered insufficient space for the exercise of authority by two farmers with separate familial interests. A single farm could not represent the distinct identity of more than one family. A family needed to be associated with a distinct place for it to have a separate existence and identity (Gray 1998).

Succession involves negotiation between the two generations. The acquisition of valued assets is an obvious benefit to the successor, but there may also be intangible benefits such as the public show of the esteem in which the recipient is held by the donor. The benefits to the donor are less obvious. They may include power over offspring, cheap labour, the opportunity to negotiate care in old age, and even the form of immortality that arises from having one's name and offspring established on the land (Kennedy 1991). It may well be in the interests of the older generation to retain ownership and control of the farm for as long as possible, to secure their life's work and maintain their authority and power in the family (Kaine *et al.* 1997, p. 2). However, it is in the successor's interests to obtain control early in life, to have sufficient time to devote to development work while in one's prime (Kaplan 1978; Salamon and O'Reilly 1979). Bargaining over control of the farm between the two generations is complicated by intergenerational differences in attitudes and priorities (Coughenour and Kowalski 1977). Even the choice of successor can be seen as a form

of bargaining between parents and the various children, and this bargaining can be destabilising (Kimhi 1995).

Other trends

Amenity

There are regional differences in demographic change in rural areas. Against the downward trend in farm numbers for most commercial farming areas, those areas with high amenity value tend to have experienced an increase in farm numbers (Gale 2000). Because of the proliferation of lifestyle or hobby farms in high amenity areas, farms in these areas have many of the characteristics of consumption goods or residential real estate (Gale 2000).

People are happiest in places with mild, equable climates (Rehdanz and Maddison 2005). In rural counties in the USA, population change and employment change are positively correlated with the natural amenity of the county (McGranahan 1999). This is true on a national scale (e.g., mountainous areas have experienced growth in population and employment compared with the plains) and regionally (e.g., plains areas with water bodies have grown relative to their waterless neighbours). The average population change between 1970 and 1996 was one per cent among counties low on McGranahan's index of natural amenities, and 120 per cent among counties high on the index. Most retirement counties and recreation counties scored in the top quartile of the amenities index (McGranahan 1999).

As long ago as 1972, Smith and Martin (1972) recognised that cattle ranching in Arizona was no longer a production activity that operated according to commercial economic principles, but was instead largely a consumption activity, in which ranchers consumed intangible goods such as 'love of land' and 'love of rural values'. They observed low returns to capital and management ranging from negative to one or two per cent (similar values to those often observed in Australian agriculture for all but the largest and most efficient farms), and noted market prices for land well above those that could be computed from a capitalisation of the ranch's earning potential. For the Arizona ranchers, their major goal appeared to be "to maintain the ranch as a

business, home and way of life” (Smith and Martin 1972, p. 218). In these circumstances, ranching on its own may not provide enough income to support a family. Smith and Martin (1972, p. 224) observed that “the availability of jobs in the local area may well have stronger impact on the survival of current ranchers in the area than the ranchers have on the viability of the local community.” At the time, Smith and Martin (1972) assumed that the consumer of what Gosnell and Travis (2005) called the “amenity increment” (the component of land prices above their value for agricultural production) was a traditional rancher who obtained non-monetary benefits (including amenity, but also prestige) from ranch ownership. It is clear nowadays that many new ranchers obtain the greater part of their income from non-ranch sources. Gentner and Tanaka (2002) used cluster analysis to classify ranchers into segments, four professional and four hobbyist, one of which was “trophy ranchers”. All eight segments (even the professionals) rated consumption objectives above profit maximisation.

This effect is occurring all over the high amenity areas of the USA. Buyer interests in natural amenities and investment opportunities, rather than in livestock production, guided more than half of the purchases of ranches in the Greater Yellowstone Ecosystem in the 1990s (Gosnell *et al.* 2006). The American mountain west is simultaneously rural and urban (Otterstrom and Shumway 2003).

Similar effects have been observed in Australia. In areas with high amenity value, land prices tend to be higher, relative to their agricultural productive value, than in areas with low amenity value (Ha and Chapman 2000). At about the same time Smith and Martin were observing the behaviour of Arizona cattle ranchers, Gregory (1975b, p. 103) described the situation in Mudgee, an attractive area reasonably close to Sydney:

Although Mudgee is 180 miles from Sydney, city buyers have shown a willingness to travel this distance even for a weekend. During 1973 the NSW State Planning Authority issued to all shires an Interim Development Order that a one hundred acre minimum should be imposed on all new rural subdivisions ... The reasons were to protect valuations, to protect the viability of agricultural holdings, to control ribbon

development and for aesthetic (quality-of-life) reasons ... All shires, including those nearer Sydney, adopted this as their policy, with the exception of the Cudgegong Shire Council at Mudgee.

Barr (2003) has argued that such a policy of restricting subdivision is counter-productive, because it often results in lifestyle residents buying a larger piece of land than they need and leaving most of it fallow. Gregory (1975b, p. 103) quoted a personal communication in June 1972 from the Clerk of a neighbouring shire to Mudgee describing the purchasers of small lots in the Mudgee district:

These lots are being bought by city dwellers of means who want a country home where they can sit at the weekend and look at the view. These are not Pitt Street farmers ... They are offering \$50 to \$100 per acre [at a time when local farmers were paying about \$30 per acre] ... What they usually want is a rock, a tree and a wombat.

In a recent Victorian survey, landholders with frontage to the Goulburn and Broken rivers valued the river frontages more highly for their environmental and social attributes than their economic attributes (Curtis and Robertson 2003). Farmers were a minority occupation group among river frontage owners (37 per cent of respondents), although they did own a majority of the river frontages (59 per cent). Non-farmers tended to be interested in the environmental, aesthetic and recreational advantages of river frontage (Curtis and Robertson 2003).

In the Corangamite catchment of south west Victoria, an area with a mix of low and high amenity landscapes, a recent study has shown that land turnover has been increasing and has predicted that it will continue to increase, with amenity-oriented people from outside the local district being the main purchasers (Mendham and Curtis in press). In the study, new property owners were more likely than established owners to not be farmers by occupation, more likely to live off the property, and more likely to be motivated by conservation than production (Mendham and Curtis in press).

Where does this leave the farmer in a high amenity area? Expansion of the farm to increase efficiency is difficult in these areas. One alternative is to get a job off-farm, as they are more available in high amenity areas than elsewhere. As Yates (1974b, p.

114) explained, “Off-farm employment without off-farm mobility is only possible where farming takes place near an industrial centre, or a place where jobs are available, and these are few and far between in Australia, particularly in western districts.” Another possibility is to sell up and move elsewhere. Gregory (1975b, p. 104) described how at least the flurry of subdivision around Mudgee in the early 1970s did allow some farmers who had been stuck in agriculture to subdivide and leave.

Scale

Another farm adjustment trend observed in the USA is the phenomenon labelled as the “disappearing middle”, where middle-sized farms disappeared at a faster rate than small or large farms (Salamon and Davis-Brown 1986). The explanation given for this effect is that farmers with different sized operations use different strategies to cope with financial difficulty. Small-scale farmers cut back on expenditure and get off-farm work, while larger-scale farmers expand their farms. Those with middle-sized farms who are too busy with farm work to take off-farm work, but who incur extra debt to expand their farm operations, are thus more vulnerable financially than small-scale farmers (Buttel 1983).

Such a trend has also been observed in Australia (Barr 2001). In an analysis of broadacre farms over the seventeen year period from 1977–78 to 1993–94, Knopke *et al.* (1995) found that productivity growth on medium scale farms was well below the level needed to counteract the effect of falling terms of trade on their rates of return. In contrast, productivity growth on the largest farms was substantial. On the smallest farms, off-farm income averaged around double that of medium and large scale farms, which provided a buffer against falling terms of trade.

There is some recent evidence that the trend toward a disappearing middle may have passed in the USA. In a county-by-county analysis of data from the 1982 and 1992 Censuses of Agriculture and the 1980 and 1990 Censuses of Population and Housing, Albrecht (1997) concluded that the “disappearing middle” was a 1970s phenomenon, as in the 1980s both medium and small farms disappeared in America. In their study of Wisconsin dairy farms in the 1990s, Jackson-Smith and Barham (2000) observed

that the large family farms had a technology adoption pattern like that of the corporate farms, yet were still managed and worked by family members, usually from two families.

Whether there is still a disappearing middle in Australia has not yet been determined. It is possible that the two trends based on amenity and scale are related, in that high land prices in areas with high amenity value may limit the expansion of small farms in these areas. Sheep farming is concentrated in the high rainfall zones. These areas have relatively low productivity growth for three reasons (Ha and Chapman 2000). First, the nature of the zone restricts the choice of production alternatives. Higher rainfall, steeper topography and higher humidity make the high rainfall zone less suitable than other zones for cropping, which has enjoyed relatively greater productivity gains. It is more difficult to move out of woolgrowing in the high rainfall zone than in other zones. Second, small farms achieved lower productivity gains than large farms (Knopke *et al.* 1995), and most small farms are in the high rainfall zone. Small farms cannot exploit economies of scale. Third, land prices in the high rainfall zone are generally higher, for their agricultural productive value, than in the wheat-sheep and pastoral zones. This reflects their landscape amenity value, proximity to services and off-farm work, and other non-agricultural values. These high land prices limit prospects for farm expansion in high rainfall areas. Further, because land is included as an input to ABARE's productivity growth calculations, increases in its price require corresponding increases in production to achieve even zero productivity growth (Ha and Chapman 2000).

Main themes

Several main themes emerge from this review of the literature. The identity of sheep farmers is strong and complex. It is difficult to separate the various components of individual, family farm and business. For many family farmers, family and farm become consubstantial and unable to be disentangled, which can make leaving farming difficult. Leaving farming requires disentangling the consubstantiality.

Many sheep farmers have inherited both the occupation of farming and the farm: they have considered nothing else and they know nothing else. Farm family businesses are

often built up over several generations, particularly in parts of the world with a long history of agriculture, but also to some extent in Australia. Farmers may feel pressure to not be the last generation of a farming dynasty.

Succession is central to the continuity of a farm family business. In an economic sense it is easier to achieve succession on a large farm because the scale of the business allows adequate financial provision for all family members, yet financial matters are ultimately less important to the farm succession process than social matters. Because of the complex entanglement of consubstantiality, often built up over several generations, entry and exit decisions involve consideration of many social factors, some of which an outside observer might think irrelevant. Each member of an extended farm family may have different perceptions and different needs. Everything is connected, and a seemingly irrational succession decision may make sense only once you consider all factors.

A major influence on adjustment decisions, in fact on entry and exit generally, is stage of life. Once a person has settled into sheep farming it becomes hard to leave, for all kinds of reasons. So the best time to leave the industry is before they even start, or at least before they have settled into it, lest they become tied until the end of their life. Indeed, much of the reduction in the number of farmers seems to occur at the point of inter-generational transfer. Some farm parents deliberately equip their children with education and attitudes that encourage the children to leave farming.

A farm is particularly vulnerable to being lost from family hands during the intersection of age and youth, and at the time of transfer between generations. There may be a mismatch between the farm development cycle and the family cycle, or the opportunities for expanding the farm may not come at a suitable time.

Several themes arise from this review of the literature, to be explored in the following empirical research. The idea of the importance of the timing of entry, exit and adjustment decisions can guide exploration of the first two research questions, on the demographic structure of the sheep farming industry in Australia and how it has changed. This is something best studied using quantitative analysis, where

demographic changes can be placed in the context of historical trends. The social factors that influence entry, exit and adjustment decisions will help guide exploration of the third research question, on whether the demographic changes matter. These issues are best studied using qualitative analysis, where they can be explored in detail with farming families. In the following chapter I describe the quantitative and qualitative methods I used to explore these issues.

Chapter 3. Research methods

Rationale for multiple methods

The demographic structure of an industry is shaped by many individual decisions (Jackson-Smith and Barham 2000). Understanding the demographic structure of an industry, as well as any changes in that structure, thus requires an understanding of the processes of entry and exit to the industry and the decisions made by farm families and the individuals within them about entering, staying in, and exiting, the industry.

Complexity of demographic structure

Entry and exit processes are complex in several ways. Net changes in farmer numbers are a simplification of the processes at work. A net loss (or gain) of farmers is the result of subtracting those exiting and adding back entrants (Jackson-Smith and Barham 2000). For example, a small net loss in the number of farmers may be caused by an unchanged number of entrants and a small increase in the number of exiters. It may also be caused by a large decrease in the number of entrants and a slightly less large decrease in the number of exiters. Thus, small changes in the number of farmers in an industry, whilst seeming to imply relative stability in numbers, might mask the presence of large-scale movements of individuals into and out of the industry.

Not only is the number of farmers in an industry the net result of exits and entries, but also the age structure of the farmers is the result of the age structure of exiters and entrants. Farmers of different ages enter and exit farming at different rates, and these different entry and exit rates affect the age structure of the farmers in an industry. If, for example, fewer young people are entering the sheep industry than in the past, other things being equal, the age structure of the industry will become older.

Further complexity is introduced by geographic differences in entry and exit rates. Some areas possess natural advantages for a particular agricultural industry, and entry and exit rates in these areas may differ from those in less favoured areas. The natural and social amenity of a particular area influences entry and exit rates (McGranahan 1999). Even districts in close proximity may exhibit very different farmer

demographic patterns (Barr 2001; Gale 2000). Farm consolidation, urbanisation and retirement patterns are all affected by geography and in turn influence demographic trends (Gale 2000).

Moreover, the characteristics of farm entrants, those exiting and continuing farmers may differ. Aggregating all of them together and analysing the characteristics and changes among all farmers may mask diverse trends among each of the three subgroups (Jackson-Smith 1999).

All these complexities can be accounted for in the quantitative analysis of demographic trends. But behind the numbers lie real people, real families and real family businesses. Their responses to pressures, even economic pressures, may be not simply economic responses but social and psychological responses. Predicting the likely future demographic structure of an industry requires an understanding of the factors influencing people's decisions. The circumstances of individual families cannot be determined from demographic analysis. You have to go out to them and talk to them. This adds another layer of complexity.

Available research methods

Several methods can be used to help unravel the diverse threads that constitute the complexity of demographic structure of an industry. Analysis of data from population censuses can be used to monitor demographic trends. Government statistical agencies in many countries conduct regular censuses and surveys of the population and of farms. These have been analysed since the 1960s by researchers seeking to quantify the key role of the family life-cycle in adjustment processes (e.g., Gale 1996; Kanel 1961; Tolley and Hjort 1963). The main tool used, cohort analysis, has involved dividing the population into "cohorts" of people within a particular age band, and comparing the number of people in given cohorts at a particular time with the number at another time. If a census is conducted every five years, those aged from say 40 to 44 in one census will be the same people as those aged 45 to 49 in the next census, because they will have aged by five years in the meantime. Two trends can thus be

monitored: the number of people in a given age group over time, and the number of people in a particular cohort as it ages over time.

A major problem with cohort analysis is that, although it can enumerate those of a particular age in a particular industry, it cannot be used to measure entry to or exit from that industry. People can be counted while they are in an industry, but not before they enter it or after they leave it. The creation of panel data from the Canadian Agricultural Census and the Israeli Farm Census (along with some non-Census panel data in the USA) allowed researchers to track the movement of individuals into and out of agriculture (Jackson-Smith 1999; Kimhi and Bollman 1999). In one study, using a longitudinal census match file, a net annual rate of decline in farmer numbers in Canada of two per cent was found to be an outcome of an entry rate of five per cent and an exit rate of seven per cent (Steeves 1979).

In Australia, the Australian Bureau of Statistics (ABS) conducts a Census of Population and Housing (CPH) every five years and conducts regular agricultural censuses and surveys. Special tables can be purchased from the ABS of the characteristics of those who report their occupation as “sheep farmer” in the CPH. There is, however, no longitudinal census match data available for either the population or agricultural census, so individuals cannot be tracked. Further, the Australian Agricultural Census contains no social or demographic information, and data from it cannot be matched with data from the CPH. This means that, at present, demographic and production information cannot be combined. Even if the number of individuals entering or leaving an industry can be estimated, their characteristics cannot be determined from census data. Despite these limitations, cohort analysis of census data remains a powerful tool for understanding demographic structure.

Aside from cohort analysis, a number of other quantitative approaches and some qualitative approaches were evident in the research literature. A quantitative survey was a possibility. Several large-scale quantitative surveys have been conducted in Australia and overseas on farm succession and adjustment issues (e.g., Kaine *et al.* 1997; Potter and Lobley 1992; Salmon *et al.* 1973). Small-scale quantitative surveys have also been conducted. The research by Barr *et al.* (1980) had the advantage of a

repeated measures design, where the respondents were interviewed on two separate occasions to follow the adjustment processes they first considered and then acted upon.

Several intensive, small-scale surveys involving a combination of open and closed questions have also been used (e.g., Bryant 1989; Kaplan 1978; Nalson 1968). Finally there were qualitative approaches, such as the ethnographic study conducted in the Scottish borders by Gray (1998).

Several studies have used multiple methods. Members of the Wool Adjustment Study Group at the University of New England used a range of methods. For example, Gregory (1975b) conducted a mail survey and analysed land transaction data, whilst Core (1973) used secondary data and a small quantitative survey. Potter and Lobley (1996b) combined a large scale quantitative survey with qualitative interviews. Finally, Burton (2004) used qualitative and quantitative interviews in a grounded theory approach.

Methods used

The research reported in this thesis is part of a larger program of research into the demographic structure of Australia's rural industries. The use of cohort analysis has already been demonstrated in a preliminary study of the demographic structure of Victoria's sheep farmers, along with a method of imputing entry and exit rates in the absence of panel data (Barr *et al.* 2002). Basic modelling of adjustment trajectories in rural industries has also been demonstrated (Barr 2001). The methods used are explained most comprehensively in Barr (2004) and much of the detailed explanation of the cohort analysis and modelling in this chapter is based on that described by Barr (2004).

As I have already explained, quantitative research alone is not enough to understand farmer decision-making and behaviour. Qualitative research is needed to provide a deeper understanding of the phenomena under consideration. As Burton (2004, p. 212) argued, "Measuring attitudes to objects when we fail to first understand what

they represent is unlikely to provide significant enlightenment.” A further example of the need to combine quantitative and qualitative approaches was provided by Smith and Martin (1972, p. 224), two agricultural economists who had just completed a quantitative study of cattle ranchers in Arizona:

The authors are currently planning a study in Arizona to ... explain the viability or lack of viability of small rural communities and the ranches nearby. In doing so, the authors do not feel they can use aggregate methods such as input-output analysis or economic base analysis, traditionally used by economists in impact studies. Such methods are too mechanical and gloss over the complex social interrelationships so important in the business of small rural communities. The authors feel they must take an almost anthropological view of the communities' inhabitants in order to examine the detailed interactions involved. It is the interaction of the goals and attitudes of the people with specific types of economic opportunities that will explain the viability or decline of particular rural communities.

In the past I have conducted fruitful research that combined quantitative methods (usually surveys) to assess the prevalence of a phenomenon with qualitative methods (usually focus groups or personal interviews) to assess the nature of the phenomenon and its effects on the individuals who experienced it (e.g., Jarvis and Wilkinson 1998; Wilkinson and Fitzgerald 1997; 2006). This experience led me to combine the cohort analysis and quantitative modelling with a qualitative study of farming families that were facing or had recently faced decisions about the future of their sheep farm and the future of various family members. The quantitative modelling will be used predominantly to answer the first two research questions, on the demographic structure of Australian sheep farmers and how it has changed. The qualitative study will be used predominantly to answer the third research question, on whether the changes matter.

Quantitative methods

Data sources

The research presented in this thesis is based upon national data collections by the ABS. Standard tabular information published by the ABS normally provides little detail of industries such as the sheep industry. The analysis is based upon 'custom tables' produced by the ABS specifically for this research. I have used data from two ABS sources as well as other data.

Census of Population and Housing (CPH): The Census of Population and Housing is conducted Australia-wide by the ABS at five-yearly intervals. This thesis utilises data from the 2001, 1996, 1991, 1986, 1981 and 1976 censuses. These censuses provide information about individuals who describe themselves as farmers, and about their families. I analysed the CPH data in 2005, before the 2006 CPH was conducted.

Australian Agricultural Census (AAC): The ABS conducts a census of Australian agricultural businesses or 'establishments'. Until 1997, this census was conducted annually. Another census was conducted in 2001. The focus of the AAC is on production information. It is not possible to link AAC data for an establishment with corresponding CPH data for the household, family or individual that manages or works on that establishment. Thus, data from each of the two censuses are presented separately in this thesis.

Australian Farm Survey: Some background information was derived from the annual farm survey reports produced by the Australian Bureau of Agricultural and Resource Economics (ABARE 2001).

Data processing

Data from the ABS are not made available in a manner that enables the identification of individuals or single families. They are normally published in aggregated format. Much of the data presented here have been processed at a national level. Where there is significant geographic variation, maps have been produced to display this variation. These maps have been based on customised regions that I developed in consultation with sheep industry contacts. These customised regions separate Australia broadly into pastoral, wheat-sheep and high rainfall areas, and those major regions are

subdivided further based on patterns of sheep production. The custom regions were created by aggregating data for Statistical Local Areas (SLAs). SLAs are geographic regions used by the ABS to report summarised aggregate data. They are based upon Local Government Areas (LGAs), with one Local Government Area encompassing from one to five or sometimes more SLAs. Statistical Subdivisions (SSDs) are also mentioned in this thesis: they generally wholly encompass two or more SLAs. SLA and SSD boundaries are changed by government in response to changing population distribution and changing administrative boundaries. Major changes in Victorian LGA boundaries in the past decade have caused major changes to Victorian SLA boundaries. Changes in other states have been much less dramatic. All spatial analysis conducted for this thesis has used 2001 SLA boundaries.

CPH data are available in two forms, 'place of enumeration' or 'place of usual residence'. Enumeration data counts persons according to their location on census night. Usual residence data counts persons according to their stated location of usual residence. The study of migration patterns at an SLA level is best undertaken with usual residence data, because migration involves a change in the place of usual residence. The ABS is able to provide enumeration data for past censuses aggregated to 2001 geography. It is unable to do this for usual residence data. Where data are reported for custom regions made up of many SLAs, or for the whole country, as in this project, the benefit of using usual residence data is reduced, because there is less difference between usual residence and enumeration data. The proportion of people who are in a different region on census night is very small. I have used enumeration data in this research.

Data for specific establishments gathered by the AAC cannot be matched with data for specific individuals gathered by the CPH. In part this is because the relationship between individuals and establishments is complex: although the number of farmers is similar to the number of establishments, there may also be one-to-many and many-to-one relationships. Another reason is the possibility of identifying individuals, something that the ABS goes to great lengths to prevent.

Counting sheep producers in the ABS Population Census

The ABS Census of Population and Housing provides data about the occupation and industry of Australians. Occupational coding is based upon answers to questions 32 to 35 in the census form (question numbers from 2001 CPH). Question 34 asked:

In the main job held last week, what was the person's occupation?

Question 35 asked:

What are the main tasks that the person himself or herself usually performs in that occupation?

The 'main job' is defined in the form as the job in which the person usually works the most hours. This definition appears to be interpreted with some flexibility by farmers. It appears that at least 10 per cent and possibly as many as 20 per cent of persons coded as farmers allocated the majority of their working hours to a non-farm job in the week prior to the 2001 census (Barr 2004).

Industry coding is based upon questions 38 and 39. Question 39 asked:

What are the main goods produced or main services provided by the employer's business?

Describe as fully as possible, using two words or more.

For example: wheat-sheep, bus charter, health insurance, primary school education, civil engineering consultancy service, house building, steel pipes.

The word 'sheep' receives a prominent mention, but there is no hint that it might be split into wool and meat.

Industries are coded using the Australian and New Zealand Standard Industrial Classification (ANZSIC). ANZSIC has no industry code for wool or sheepmeat production, only a number of codes that include sheep farming:

- 0122 Grain-sheep and grain-beef farming
- 0123 Sheep-beef farming
- 0124 Sheep farming

The census category of 'Sheep farming' means sheep only, and not sheep in combination with other industries such as cropping or beef. Most specialist sheep

producers are likely to be woolgrowers, for several reasons. First, 86 per cent of the national adult sheep flock is made up of merino sheep, whose main produce is wool (Curtis and Croker 2005). Second, most lamb and sheepmeat production is a by-product of (or co-product with) other types of farming, rather than a specialist enterprise. In 2001–01 only 15 per cent of farms in Australia that produced some prime lambs received more than 30 per cent of their income from prime lambs (Connell *et al.* 2002, p. 12). Third, despite anecdotal evidence of increasing numbers of merino ewes being joined to meat breed rams, in the 2004–05 joining season 73 per cent of merino ewes were joined to merino rams nationally, a figure probably just sufficient to maintain a self-replacing merino ewe flock (Curtis and Croker 2005).

A lot of grazing country that can be used to run sheep can also be used to run beef cattle. It is easy enough to move between running sheep only and running both sheep and beef cattle. I suspect there may have been some important movement between these two categories over recent censuses that would be missed if analysis were limited to ‘sheep farmers’ alone. The mixed cropping category of ‘Grain-sheep and grain-beef’ includes farmers who run few or no sheep, and to include them may distort the data. In this thesis, therefore, I have analysed combined data for the two groups, ‘Sheep farmers’ and ‘Sheep-beef farmers’. Sheep-beef farmers in Australia numbered 12,798 in 2001 compared with 14,807 sheep farmers. There was no difference in the age profile of the two groups. In this thesis, where the term ‘sheep farmer’ is used, it means ‘sheep or sheep-beef farmer’.

A farm family is defined here as any family with at least one member describing their major occupation as farming. A sheep or sheep-beef farming family is a family in which at least one member describes his or her main occupation as farming and their industry is listed as sheep or sheep-beef farming. In the occupational classification ‘farmers’, ABS counts only farm owners, owner-managers and managers. Stationhands, jackaroos, labourers and other farm workers are not counted.

The data I obtained consisted of the number of farmers in five-year age cohorts, which meant that mean ages could not be calculated. I estimated median ages by assuming a uniform distribution of ages in the cohort that contained the median.

Impact of changes in ABS industry coding methods

In coding industry data for censuses before 2001, the ABS used a conservative set of coding rules. Where there was any doubt about the agricultural industry to which a person should be coded, 'undefined' codes were used. This presented a particular problem for coding mixed farmers, many of whom run sheep, and resulted in the code 'Agriculture undefined' being used for a quarter of all employed persons coded to Agriculture in 1996. In some SLAs this conservative set of coding rules resulted in up to 30 per cent of farmers not being allocated to an industry. In preparation for the 2001 census the Australian Bureau of Statistics introduced new procedures for implementing the ANZSIC code for agricultural industries. As a result, the number of agricultural workers coded to indeterminate codes, such as 'Broadacre Undefined', was substantially reduced (Table 1). Overall, the number of persons coded to 'Agriculture undefined' dropped tenfold. In SLAs where sheep farming is the dominant agricultural industry, the proportion of farmers allocated to undefined codes has now reduced to less than three per cent. Whilst this seems at first glance like an improvement, it has come at a cost. According to my conversations with several ABS officers and managers, where previously a farmer who nominated multiple broadacre industries in a combination that did not have a specific code was coded as 'Broadacre Undefined', in the 2001 census they would have been coded to the first industry they mentioned. This may or may not be their main industry: there is no way of knowing.

Table 1 Number of agricultural workers in various agricultural industries, 1996 and 2001 (includes all levels of agricultural workers)

Industry	1996	2001	change	% change
Grain	7,086	18,030	10,944	154
Grain-Sheep and Grain-Beef	23,849	39,832	15,983	67
Sheep-Beef	12,069	18,114	6,045	50
Sheep	13,688	23,897	10,209	75
Beef	22,247	47,150	24,903	112
Grain Sheep Beef undefined	13,683	2,036	-11,647	-85
Total Grain Sheep Beef	92,622	149,059	56,437	61
Other livestock farming	45,288	41,614	-3,674	-8
Other livestock farming undefined	3,728	2,225	-1,503	-40
Total other livestock farming	49,016	43,839	-5,177	-11
Other crop growing	57,639	82,551	24,912	43
Other crop growing undefined	12,058	4,890	-7,168	-59
Total other crop growing	69,697	87,441	17,744	25
Agriculture undefined	69,209	7,250	-61,959	-90
All defined	181,866	271,188	89,322	49
All undefined	98,678	16,401	-82,277	-83
Total	280,544	287,589	7,045	3

(Source: ABS CPH data)

This change in coding method has introduced some difficulties in analysing the results of the 2001 census. There was a significant increase in the count of farmers in most broadacre industries. In contrast, the change in coding appears to have had little impact on the count of dairy farmers. The reason is likely to be that, for most dairy farmers, dairy farming is clearly their predominant industry. Trend analysis of specific agricultural industries based upon raw data for broadacre industries may be unreliable. To overcome this difficulty as much as possible, I attempted to estimate the impact of recoding on counts of sheep and sheep-beef farmers. I chose the twelve SLAs across Australia in which sheep and sheep-beef farming were the most dominant agricultural industries. The selection criteria that resulted in the selection of these SLAs were that they contained 100 or more sheep and sheep-beef farmers in

2001 (raw figures) and that at least 75 per cent of the farmers in them were sheep and sheep-beef farmers. The SLAs were Unincorporated Far West, NSW (90% sheep and sheep-beef), Bombala, NSW (88%), Paroo, QLD (86%), Snowy River, NSW (85%), Central Darling, NSW (84%), Crookwell, NSW (83%), Bourke, NSW (82%), Southern Grampians — Wannon, VIC (82%), Gunning, NSW (80%), Southern Grampians — Balance, VIC (77%), Guyra, NSW (76%), and Cooma–Monaro, NSW (75%). The per cent change in the total count of farmers in these twelve SLAs between 1996 and 2001 was applied to 1996 counts of sheep and sheep-beef farmers. Adjustment factors were then calculated as a ratio between these estimated sheep industry counts and the actual counts in 2001. Pro-rata allocation of coding changes between 1996 and 1991 indicated an adjustment factor of 0.75 should be applied to 2001 counts to allow a comparison with 1996 counts (Figure 3). (A similar exercise conducted using SSDs instead of SLAs arrived at a adjustment factor of 0.74.) All counts of sheep and sheep-beef farmers for 2001 were multiplied by the adjustment factor.

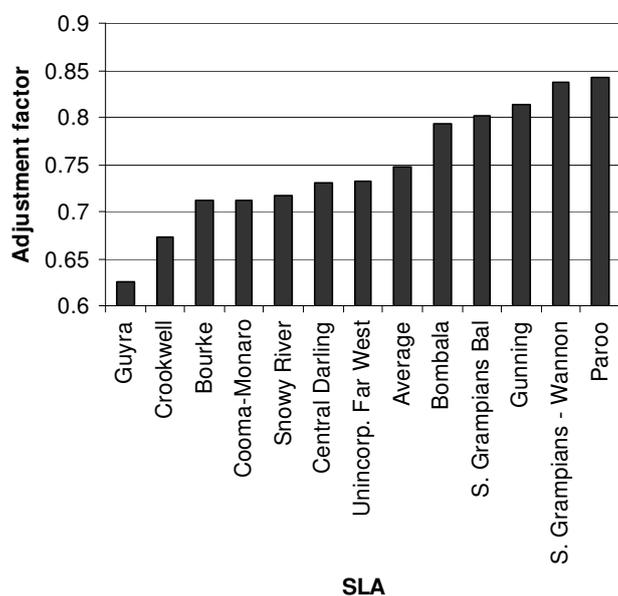


Figure 3 Estimates of adjustment to 2001 counts to overcome impact of changed ABS coding method on counts of sheep and sheep-beef farmers for sheep-intensive SLAs (Source: calculated from ABS CPH data)

To generate the adjustment factor I had to assume that the impact of ABS's coding change was felt equally across all the sheep farming SLAs in Australia. The fact that the adjustment factor varied between 0.63 and 0.84 across just the 12 sheep-dense SLAs used to generate the average adjustment factor suggests that this assumption is questionable. As with all assumptions, it was necessary to allow analysis to proceed.

Changes to Australian Agricultural Census data collection

During the period from 1983 to 1997, the Australian Bureau of Statistics conducted an annual census of all Australian farming businesses meeting a minimum gross income criterion. The next census was conducted in 2001. All farm business operators are required by law to complete and return the Agricultural census form. The Australian Agricultural Census (AAC) contains a series of questions on farm production and management techniques.

Data from the AAC are reported by farm establishment. In the AAC the establishment is the smallest unit of analysis within an SLA. In general an establishment covers all operations at a physical location, but may consist of a group of locations provided they are within the same SLA. The majority of establishments enumerated in the AAC operate at one location only and can generally be assumed to correspond with what is generally seen to be a farm business.

The ABS uses production data to measure of the relative size of agricultural activity of each establishment. The ABS developed the concept to make a distinction between holdings that should or should not be included in its agricultural collection and to classify establishments into industries. The measure itself is called the Estimated Value of Agricultural Operations (EVAO). Prices used to create the EVAO are derived from many sources. The EVAO is created using a three-year weighted average to minimise volatility in the measure.

Between 1984 and 1997 the minimum EVAO required for inclusion within the census has varied inconsistently from \$2500 to \$22,500 according to budgetary pressures on the ABS. A higher cut-off reduces the number of census forms that need to be

circulated in the following census. The minimum value for inclusion in the AAC has remained at \$5000 (nominal) since 1993–94.

Analytical difficulties caused by the variable EVAO cut-off are complicated by the impact of inflation and changing commodity prices on farm EVAO. As an example, the fall in wool prices in the late 1980s resulted in the exclusion of many small wool properties from the AAC when the gross value of their farm production fell below the EVAO cut-off. Further, between the 1993–94 and the 2001 AAC, inflation reduced the purchasing power of an Australian dollar by 18 per cent, effectively changing the real value of the cut-off EVAO. This implicit change in the cut-off EVAO would have little impact on estimates of the total amount of production. It will have a greater impact upon the less frequently used count of establishments.

The reduced census frequency since 1997 has necessitated changes in the methods used by the ABS to maintain an accurate list of agricultural establishments. Establishments are now identified by taxation records, rather than through tracing reported land sales. The impact of this change on establishment counts is unclear, and caution needs to be exercised in comparing establishment counts in 1996 and 2001. In 2001 the ABS also introduced a small number of demographic questions to the AAC. One of these was designed to determine the occupational status of establishment managers.

I purchased data on the distribution of EVAOs for farm establishments that were classified as ‘sheep farms’ or ‘sheep-beef’ farms for selected years between 1983 and 2001. The categories for each year’s EVAO distribution breakdown were adjusted for inflation to allow for comparisons based upon consistent 1997 real dollar values.

Entry to sheep farming

I estimated entry to sheep farming using data derived from the ABS Census of Population and Housing. Respondents to the census are asked whether their home address has changed since the last census. I assumed that those who reported living at a new address and who described themselves as sheep farmers or sheep-beef farmers

were new entrants to farming. There are three methods of entry to sheep farming that may be under-counted and one potential method of entry that may be over-counted.

- Transition from farming as a minor occupation to farming as a major occupation: Entry to farming through a decision to stop working in off-farm employment and increase reliance on existing farm income will not be detected by this indicator. These farmers are counted in the census as farmers who have not changed address of usual residence since the previous census. Significant numbers of farmers entering by this method will become apparent in anomalies in the measure of exits from farming.
- Family apprenticeship: Entering farming through inter-generational transfer may not involve a change of address in the case of younger farmers. A recent comprehensive study of new entry to farming concluded that inheritance of property at the point of entry to farming is uncommon (Garnaut and Lim-Applegate 1997). I used the ABS indicator of household mobility to identify persons who entered farming by entering an existing farm household. This form of entry will generally involve either return to farm from schooling or marriage. The extent of this form of entry was quite low. In those cases where younger persons enter farming through inter-generational transfer, their initial entry after schooling will be detected through basic population counts of young farmers. Their entry will again be detected when they change address to establish their own household.
- Change in major farm enterprise: This estimate will not identify those who have reduced the diversity of their farm business by shifting from mixed farming to solely sheep farming or to sheep-beef farming. The extent of this shift is unlikely to be significant given the higher returns from cropping over much of the period assessed in this study. This shift is most likely to be linked to a retirement-based strategy of reducing workload.
- Change of residential address unrelated to change in farm establishment. This indicator counts as new entrants to farming those who have continued farming but moved to a new address (whether to another farm or into town while still running the farm).

An example of the data purchased is given in Appendix 1. The data shown are for all Australian sheep farmers. The numbers themselves were taken directly from the tables obtained from the ABS but the layout has been changed to make it easier to understand. Similar tables were purchased for males and females, and the regions.

Exit from sheep farming

Use of data from the Census of Population and Housing to calculate farm exit rates is problematic. There is no means of identifying persons who described themselves as farmers in the previous census and who now are coded into another occupational category. A proxy measure of exit rates was calculated based upon the change in the number of persons calling themselves farmers between successive censuses and the number of in-migrants who identified themselves as farmers according to the following formula:

$$EXITS_T = FARMERS_{T-5} - CONTINUING_T$$

where

$EXITS_T$ = Number of sheep farmers exiting farming between year T-5 and year T.

$FARMERS_{T-5}$ = Number of persons describing themselves as sheep farmers in the census of year T-5.

$CONTINUING_T$ = Number of persons describing themselves as sheep farmers who did not change their usual address between year T-5 and year T.

This method of calculating exits is equivalent to the following method, which was used in an earlier report by our research group (Barr 2001) and is used to create estimates of exit from United States agriculture (Gale 2003).

$$EXITS_T = FARMERS_{T-5} - FARMERS_T + ENTRANTS_T$$

where

$FARMERS_T$ = Number of persons describing themselves as sheep farmers in year T

$ENTRANTS_T$ = Number of persons describing themselves as sheep farmers who changed their usual address between year T-5 and year T. These sheep farmers are assumed to be new entrants to farming.

For the oldest age group, sheep farmers aged 80 or more, the exit rate is calculated using the following formula:

$$EXIT_{80T} = FARMERS_{75(T-5)} + FARMERS_{80(T-5)} - CONTINUING_{80T}$$

where

$EXIT_{80T}$ = Number of sheep farmers aged 80 or more exiting farming between year T-5 and year T

$FARMERS_{75(T-5)}$ = Number of persons aged 75 to 79 in year T-5 describing themselves as sheep farmers in year T-5

$FARMERS_{80(T-5)}$ = Number of persons aged 80 or more in year T-5 describing themselves as sheep farmers in year T-5

$CONTINUING_{80T}$ = Number of persons aged 80 or more in year T describing themselves as sheep farmers who did not change their usual address between year T-5 and year T.

This method of estimation has a number of potential shortcomings, listed below. Because of these shortcomings, estimates of exit rates from this method must be treated with caution and used for relative comparisons rather than as nominal measures.

- Exit calculations are based upon data from two censuses. This increases the potential for error and is particularly significant because of the changes to the coding of industry data in the 2001 census. I have adjusted the 2001 data, as previously explained, but the estimate of exits is still likely to be less reliable than for earlier inter-censal periods.

- There is no estimate for the youngest age cohort due to data and methodological limitations.
- Estimates of exit rates for the age cohorts 20–25 and ages greater than 80 are characterised by instability because of the low counts of sheep farmers. Where cells in ABS data tables contain three or fewer individuals, ABS randomly scrambles the data to protect individuals from being identified, by changing values of 0, 1, 2 or 3 to either 0 or 3.
- The estimate will include in its count those who have taken an off-farm job or changed agricultural industry in the inter-censal period and changed their occupation response to reflect this, even though they still continue to operate their farm. Thus, some former sheep farmers may have changed their commodity mix or diversified into other agricultural industries (in particular cropping) and, because they are no longer classified as a ‘sheep farmer’, would be counted in this analysis as having left the sheep industry. Likewise, those who have ceased non-farm employment but continued to work their farm will reappear in the count of farmers and reduce the estimated exit rate. The estimate of exit should be viewed as a combination of permanent exit from farming and the net outcome of change in occupational status between sheep farming as a major or minor occupation.

Building the model

Our research group has used the historical measures of entry to and exit from farming to build a simple model of the future demographic structure of Australian sheep farmers. This model is based on observations of the tendency for decisions to leave farming to be driven by life cycle, except in periods of great external change. The most succinct statement of the place of family life cycle in decisions to leave farming is that of Clawson (1963, p. 13) that I have already quoted: “Farmers in the United States are growing old, largely because men once fully committed to farming leave it reluctantly and slowly; but also because young men refuse to enter farming in past numbers as long as income prospects are so poor.” Clawson was explaining the basis for his use of demographic data to model future farm populations. The present modelling draws on the work of Clawson and other farm demographic researchers in

the USA and Canada that has showed the patterns of exit for each age group remain relatively fixed over time (Gale 1996; 2003; Kanel 1961; Smith 1987; Tolley and Hjort 1963). This assumption is perhaps problematic for sheep farming, as the analysis reported later will show, but this limitation can be at least partially overcome by building several models based on different exit rates over different historical periods and comparing the resulting projections.

The model is built on a simple stock and flow structure (Figure 4). The key parameters of the model are set out below:

- The rate of exit from farming for each age group from 20–24 to 80 years or greater is based on historical exit rates for that age group. Different models are based on exit rates in different historical periods.
- The number of entrants to farming in each five-year age group from 20–24 to 80 years or greater is calculated as a ratio of the number of farm exits in the same period. This is because entry to farming is not a function of the existing population of farmers. A more important factor is the number of farm properties available for purchase. If a greater number of properties is made available for purchase then, given no change in the relative competitive position of new entrants and existing farmers in the land market, there will be a greater number of new entrants.
- The number of teenage entrants to farming is calculated as a function of the number of farmers aged 40 to 54.

The model is calculated for the different regions using parameters derived from historical farmer entry and exit behaviour displayed in each region. A more detailed description of the model can be found in Appendix 2.



Figure 4 Adjustment model based on 5-year age cohorts

To operationalise this model I needed to use estimates of exit and entry rates derived from previous inter-censal periods. This led to the question of whether these parameters are stable and, if not, whether they are subject to cyclical variation or longer-term changes. Figure 5 shows the ratio of exits to sheep farmer population. Over the five inter-censal periods it has varied from a high of around eight per cent in 1976–81 to a low of around two per cent in 1996–2001. This is a much wider fluctuation than that for the Australian farmer population as a whole (Barr *et al.* 2005). The other major parameter for the model is the ratio of farm entries to farm exits. Figure 6 sets out the historical values for this parameter. Again, there is substantial fluctuation, more than that shown by the whole population of Australian farmers (Barr *et al.* 2005). Given the degree of fluctuation in entry and exit rates in the recent history of Australian sheep farming, it is difficult to choose the entry and exit rates of any one inter-censal period as the basis for projecting future farmer behaviour. One possibility is to average the rates across two or more inter-censal periods.

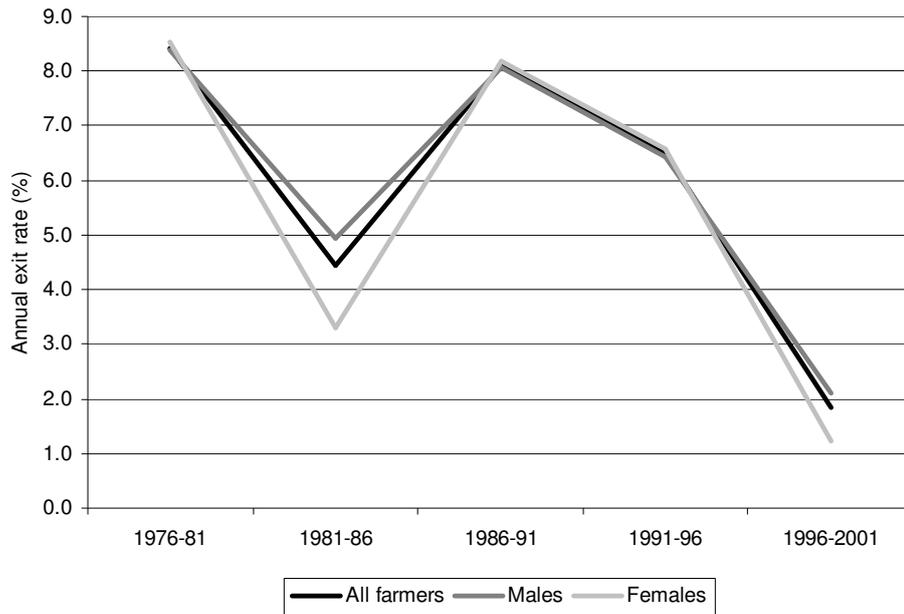


Figure 5 Estimated annual exit rate from sheep and sheep-beef farming, 1976–81 to 1996–2001 (Source: derived from ABS CPH data)



Figure 6 Entrants to sheep and sheep-beef farming as a percentage of exits in the same inter-censal period (Source: derived from ABS CPH data)

A further complication is introduced by the limited availability of data. While CPH data for Australia as a whole are available back to 1976, regional analysis by time series requires each census year's data to be coded according to consistent geographic

boundaries. Data for 2001 boundaries are available back only as far as 1991. This provides three census years (1991, 1996 and 2001) or two inter-censal periods of data (1991–96 and 1996–2001), and does restrict the options for specifying the main parameters of the model. Whilst it is not essential for the national and regional projections to be based on data for the same period, it is certainly desirable.

Previous modelling of the projected future demographic structure of all Australian farmers involved two separate models, using parameters derived from the 1996–2001 inter-censal period and the average of the three inter-censal periods between 1986 and 2001 respectively (Barr *et al.* 2005). The reason for this approach is that the two models made different assumptions about the adjustment patterns in agriculture: one that adjustment was fast; the other that it was slow. However, the historical entry and exit rates for the sheep industry do not display the same clean pattern as those for all Australian agriculture (compare Figure 5 and Figure 6 with corresponding figures in Barr *et al.* (2005)). The adjustment patterns in a single industry sector may well be different from the farming industry as a whole, so I considered using four different models. These used the entry and exit rates from the periods 1986–91, 1991–96, 1996–2001 and the average of the three periods between 1986 and 2001. The choice of period depends on data quality and beliefs about future product prices and likely adjustment rates.

The 1996–2001 model can be discounted immediately because of the coding problem that makes 2001 data difficult to compare with 1996 data. The other three models have some claim to validity. Each is based on a period in which different things happened in the sheep industry. The 1986–1991 model is based on a period of historically high wool prices and great optimism about the future of wool (although sheepmeat prices were relatively low), in which an unusually large proportion of sheep farmers took the opportunity to leave the industry. This period also included the dismantling of the reserve price scheme. These times were not typical of the past 30 years for the sheep industry. A model based on this period can be expected to project high and possibly unrealistic adjustment rates. Further, for this model to be realistic, one would have to expect a future of high prices for wool. The 1991–1996 model is based on a period of relative stability but low prices for wool and sheepmeat. The

1986–2001 model includes both these periods, as well as the 1996–2001 period for which the data are unreliable. The validity of this model is thus weakened, but perhaps not greatly since the entry and exit rates of the problematic periods tend to oppose each other so that any deleterious effects are diluted by averaging.

Regional analysis

To plot the location of Australia's sheep and sheep-beef farmers a set of 'sheep regions' was developed for this thesis (Figure 7). The regions were built up by aggregating SLAs. Individual SLAs are generally too small a geographic unit when data for people of only one occupation and industry are being analysed. Using individual SLAs would have resulted in many cells in the data tables containing three or fewer individuals. In such cases ABS randomly scrambles the data to protect individuals from being identified, by changing values of 0, 1, 2 or 3 to either 0 or 3. This decreases the accuracy of modelling algorithms for projecting future numbers and ages, so it is best to aggregate SLAs into larger areas to increase cell sizes in the data tables. It would be possible to use SSDs, but their boundaries often do not match well with sheep producing regions. Therefore I developed a customised set of regions.

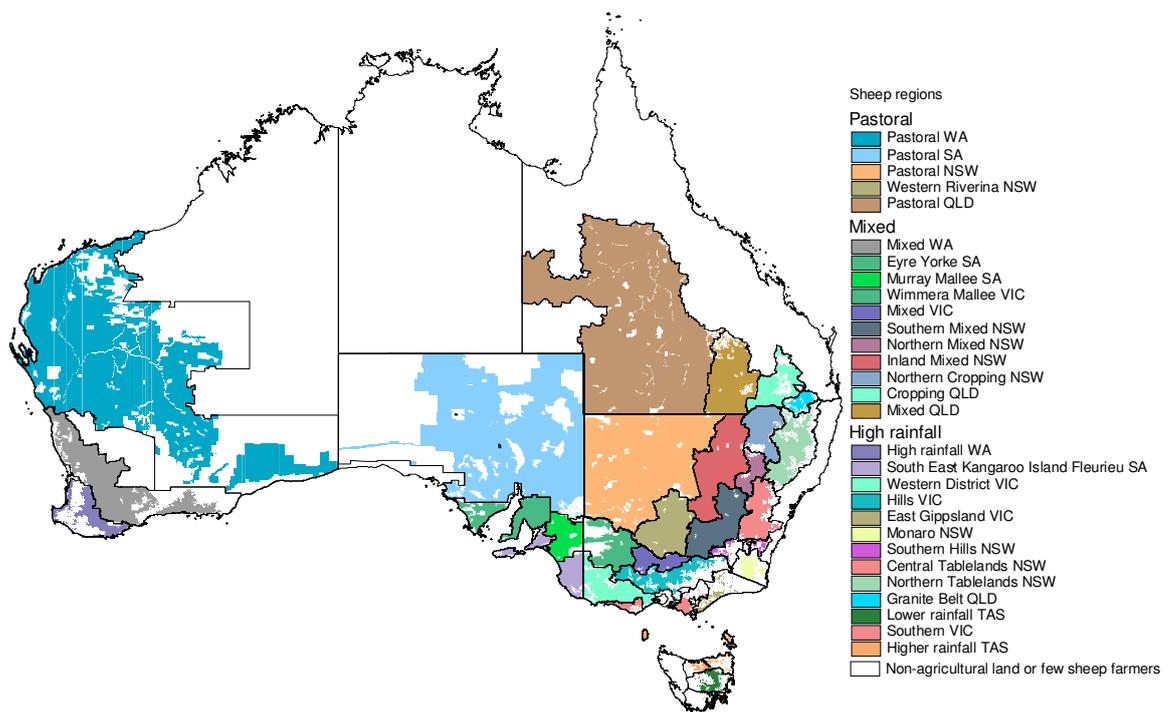


Figure 7 Sheep regions

Several factors were considered in setting the boundaries of the sheep regions, both quantitative and qualitative. Quantitative factors included the number of sheep farmers and sheep-beef farmers in each SLA, the proportion of sheep and cattle farmers among the broadacre farmers in each SLA, and the proportion of sheep farmers among the sheep and/or beef farmers in each SLA. Qualitative factors included climate, topography, my knowledge of the different sheep production systems in different areas, our research group’s observations of social trends in different rural landscapes, and the advice and assistance of departmental officers and leading sheep farmers and sheep industry professionals in various states.

Some of the regions have been given traditional names, such as Western District (VIC) and Granite Belt (QLD). Others have self-explanatory names, such as Pastoral (QLD) and Northern Mixed (NSW). Sometimes the sheep regions I wanted to use had boundaries that did not match with the boundaries of generally understood regions, so I had to invent my own names. For example, the Southern Hills region (NSW)

contains parts of the regions traditionally known as southern tablelands and south west slopes.

I do not suggest that the regions I have developed are in any way definitive, just that they are useful for the purposes of this thesis. For example, in the high rainfall zone, hill country and tablelands are separated from plains country. The wettest parts of southern Victoria and Tasmania are also separated because these areas have a higher concentration of meat sheep production than other areas. One small area of northern Tasmania (around Hagley and Whitemore) was once reputed to have the highest concentration of British Breed sheep studs in the world.

None of the individual regions cross state boundaries. Each region contains at least 100 sheep and sheep-beef farmers (as at the 2001 census), most contain at least 500, and some at least 2000. Our research group purchased custom tables of CPH data by region from ABS for 1991, 1996 and 2001. The 1991 and 1996 data were broken down by 2001 census boundaries to avoid any effects of boundary changes between censuses. Data for 1986 and earlier were not available by 2001 boundaries.

Areas with low numbers of sheep and sheep-beef farmers (fewer than about 10 per SLA) were expressly excluded from the analysis. These areas include: city and suburban areas; the coastal areas of New South Wales and Queensland; the cattle country of North Queensland; the entire Northern Territory, the Kimberly, Pilbara and Interior of Western Australia; the specialist cropping area of Western Australia (part of the central wheat belt); and western Tasmania.

Projections of the future demographic makeup of Australia's sheep farmers could not be made using the 29 regions, as some age cohorts (particularly the youngest ones) in some regions contained no sheep farmers. In these cases entry and exit rates cannot be calculated because it is not possible to divide by zero. The 29 regions were therefore amalgamated into seven model regions (Figure 8). The Pastoral region includes pastoral areas in all four states with pastoral country, and includes the Western Riverina. The Northern Mixed region includes cropping and mixed farming areas in Western Australia, New South Wales and Queensland. The Southern Mixed region

includes cropping and mixed farming areas in South Australia and Victoria. The Southern Hills region includes the high rainfall area of Western Australia, the hill country of Victoria and southern hills of New South Wales, East Gippsland and the Monaro. The Southern Plains region includes the South east of South Australia, Victoria's Western District and the lower rainfall part of Tasmania. The Highest rainfall region includes southern Victoria and the higher rainfall part of Tasmania. The Tablelands region includes the Central and Northern Tablelands of New South Wales and Queensland's Granite Belt.

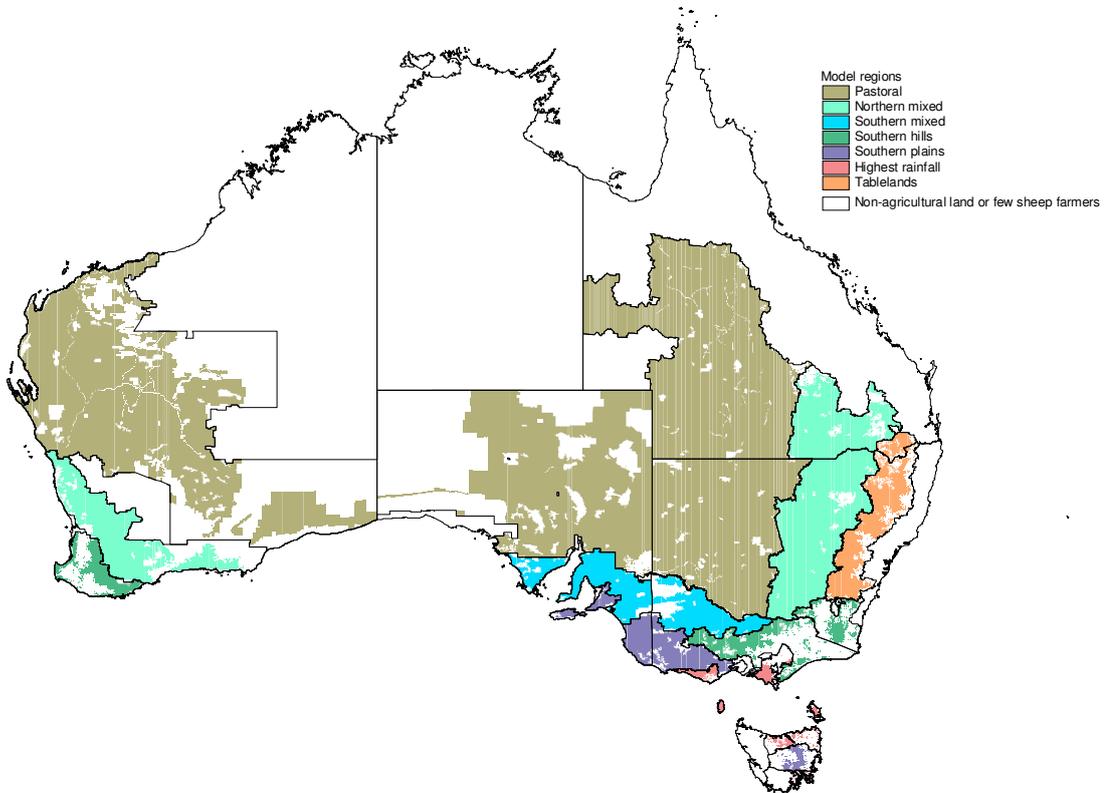


Figure 8 Model regions

Qualitative methods

Research design

I set out to identify social issues affecting succession patterns and explore the forces influencing demographic trends and mechanisms of farm transfer in the sheep industry. To do this I documented the experiences of members of selected sheep farming families. The method used was in-depth personal interviews with farm individuals and families.

The goal of this component of the research was a description of the situation of the interviewees, based on their responses to my questions, so it can be classed as qualitative descriptive research (Sandelowski 2000). This type of qualitative research is not strongly driven by theory or used to develop theory, nor need it follow a prescribed methodology. It seeks simply to describe the interviewees' perceptions of their circumstances. It does involve interpretation of the data, but to a lesser extent than other qualitative methods (Sandelowski 2000). In Sandelowski's words (2000, p. 336):

Researchers conducting qualitative descriptive studies stay closer to their data and to the surface of words and events than researchers conducting grounded theory, phenomenologic, ethnographic, or narrative studies. In qualitative descriptive studies, language is a vehicle of communication, not itself an interpretive structure that must be read.

Sampling

For the qualitative research I concentrated on woolgrowing families specifically rather than sheep farming families generally. There were several reasons for this decision.

- I did not have a large budget of time or money for the research, so focusing on woolgrowing families made for a more tightly specified piece of research.
- Woolgrowing as an industry has a well documented tradition in Australia (e.g., Anderson 1966; Garran and White 1985; Massy 1990), a tradition that the lamb and sheepmeat industry does not appear to have (Heazlewood (1992) is one of the few histories of meat sheep in Australia). Whilst it may have made

for a novel piece of research to study meat producers, I felt that I could achieve an adequate contrast by including in my sample some wool producers without the long tradition.

- I was able to select only woolgrowing interviewees and exclude lamb and sheepmeat producers, in a way that I could not with the quantitative research.

The other major boundary I set for the sample was a geographic focus on the state of Victoria. This was mostly for budgetary reasons. In hindsight, the only real disadvantage of this choice was the lack of interviewees from the pastoral zone, the only sheep producing zone not present in Victoria. Two or three pastoral interviewees would certainly have added diversity to the sample, but I had to set limits somewhere.

The interviewees were chosen using purposive sampling, a form of non-probability sampling (Sarantakos 2005, p. 164). The names of potential interviewee families were obtained from local informants (both farmers and government officers) who were either known to me or suggested by people known to me. Local informants were asked to suggest a variety of potential interviewees for whom entry, exit or succession would be likely to be a salient issue. Interviewees were selected to provide a broad spread of family circumstances, life stage, farm size, district and succession experiences. It may not have been quite the 'maximum variation' sampling described by Flick (2006, p. 130), but I tried to make it at least a 'large variation' sample by selecting typical cases from each of several circumstances.

Interviews were conducted with members of 22 woolgrowing families in three woolgrowing areas of Victoria: East Gippsland (8 farmers between Sale and Bairnsdale), Western District (3 farmers around Hamilton) and Central Victoria (11 farmers between Maryborough and Heathcote). In the areas selected around Sale and Hamilton woolgrowing is the predominant land use. The Central Victorian farmers interviewed were spread over a wide area, ranging from woolgrowing country, to mixed cropping and grazing land, to areas where broadacre farming is under threat from lifestyle settlers migrating from Melbourne. The East Gippsland study area lies within the East Gippsland sheep region, the Western District study area lies within the

Western District sheep region, and the Central Victoria study area lies within the Hills sheep region.

The first nineteen of the interviews were conducted over a two month period. During preliminary analysis I felt that there were not enough interviewees who had entered woolgrowing later in life, so then I interviewed two more farmers in that situation plus one who had been farming part-time. Much later I realized that although I had interviewed people who had entered woolgrowing in late middle age, I had not interviewed anyone who had entered it on retirement. That limitation aside, I feel that I achieved sufficient saturation of sampling for the conclusions that I have drawn (Llewellyn *et al.* 1999, p. 192).

The following list is a brief, general description of the interviewees. It indicates the family members who were present at the interview. It is arranged roughly in order of the age of the oldest interviewee present in each interview:

- Man in his 70s with adult children working on farm. Family been in district several generations. Trying to provide work and income for several people.
- Man in his 70s. Unmarried. Bought farm. Has relatives in district.
- Couple in their 70s with adult children working on farm part-time. Family been in district several generations.
- Couple in their 70s with adult child working on farm. Family been in district several generations.
- Couple in their 70s. Father purchased farm. Adult children with lives away from farm.
- Couple in their 70s. Bought farm. Adult children, one of whom had worked on the farm but it was not big enough. Intend to sell farm soon
- Man in his 70s and adult son. Both work on farm. Large farm, been in family several generations.
- Man in his 60s. Unmarried. Inherited small area and built up a large farm on his own. Lived in the one house all his life.
- Man in his 60s, inherited small farm. Farm probably too small for adult son, already working on it part-time, to earn a full-time living.

- Man in his 60s and adult son, both work on farm. Part of farm been in family several generations.
- Woman in her 60s. Husband works off-farm. Neither grew up on a farm. Purchased farm recently. Adult children not interested in farming.
- Couple in their 50s. Farm in family for several generations. Children in education, one studying agriculture.
- Couple in their 50s. Farm in family several generations. Young adult children not interested in farming.
- Man in his 50s. Took over family property recently after another career. Young adult children who have not yet declared their intentions.
- One of two brothers running a large farm. In his 50s. Young adult children, one of whom may be interested in farming. Family been on farm for about 50 years.
- Couple in their 50s. Teenage children have little interest in farm. Family has farmed in the region for a long time but moved around a lot.
- Man in his 50s, whose wife has a good job off-farm. Adult children not interesting in farming. Part of farm been in family for several generations. Interested in trying other things and sanguine about selling farm.
- Man in his 50s. Large farm, in family for several generations. Has young children.
- Man in his 40s. School age children. Bought farm. Family been in district several generations. Has had to obtain off-farm work occasionally.
- Couple in their 40s. Farm in family three generations. Teenage children have expressed some interest in farm. Run part-time.
- Man in his 40s, running a large farm with several relatives. Farm in family three generations.
- Man in his 30s. Young children. Did not grow up on a farm. Employed to manage a large farm.

Data collection

Between one and four family members were present at each interview. I attempted to have as many family members as possible present at each interview. Each family was interviewed together, as the interaction between family members during the interview allowed the issues facing the family to be explored in greater detail than if they had been interviewed separately. This policy also served to emphasise that I was not trying to “catch anyone out” by comparing the stories of different family members. Interview lasted between one and two hours.

I conducted all the interviews myself. The interviews were conducted at the interviewee’s home, generally at the kitchen table. There was only one exception: one interview was conducted in my office because that was most convenient for the interviewee. All interviews were tape recorded. All interviewees were asked for and gave their permission for the interview to be recorded. I used a portable cassette recorder, generally placed on a chair next to mine, with a remote microphone placed on the table. This provided a high quality recording because the microphone (being remote) would not pick up vibrations from the recorder motor. It was also less obtrusive for the respondents.

A semi-structured interview process was followed (Bryman 2004, p. 321).

Interviewees were asked about their entry to woolgrowing, farm management philosophy, farm development and expansion, succession plans, future plans for themselves, and thoughts on the future of their farm and their district. The selection of questions was informed by the findings of the literature review and quantitative research. A set list of questions was taken into each interview for reference (see Appendix 3), and the questions were usually asked in the order in which they appear on the list. Sometimes relevant topics arose in different order within the discussion, so the order of questions was modified. Occasionally, additional topics arose and were followed up.

Analysis

The interviews were tape-recorded and later transcribed. Commercial qualitative analysis software (NUD*IST) was then used to analyse the data. The analytical process consisted of thematic analysis (Bryman 2004, p. 448). This involved breaking up each transcript into text units, coding each text unit according to the nodes or topics that were mentioned, and extracting reports showing all the comments made by the interviewees that were relevant to each topic. As well as reports based on individual nodes, some reports based on the intersection of nodes were used. A list of nodes used is presented in Appendix 4. In addition, some quasi-quantification was done, using terms such as ‘many’ and ‘some’ (Bryman 2004, p. 448).

In the qualitative findings chapter, any text in *italics* is a verbatim quotation from the interviewees. Within the quotations, my questions are in normal font, within square brackets. Sometimes words or phrases are inserted within the quotations, to make the interviewees’ points clearer, and these are also in normal font, within square brackets. A code at the end of each quotation indicates the interview from which it was taken. The same code applies to all family members in an interview. Apparent contradictions between quotations from the one interview can be explained sometimes by their sources being different family members. An alternative explanation is that the issues that I discussed with the interviewees are just so complex and intertwined that many of the thoughts that they expressed naturally conflicted with each other. They may never have been confronted by these questions so bluntly before, and their responses often consisted of talking through their thoughts and trying to reconcile any conflicting points of view.

Ethics

As some of my questions involved the future of the family farm, they were deeply personal and occasionally provocative. Interviewees may never have been asked such questions before. My own deep knowledge of the sheep industry, and the fact that I have had to confront the very questions I was asking others about, helped me to maintain rapport with the interviewees and ease their task.

Because of my own involvement in woolgrowing and the sheep industry generally, I know many sheep farmers. As recommended by Creswell (2003, p. 184), I tried not to work in my own 'backyard'. I deliberately avoided working in areas with which I was familiar. I also avoided interviewing people that I knew or had heard about.

Anonymity of interviewees was protected by identifying each transcript with a code number, and also by changing minor details in the transcripts as recommended by Flick (2006, p. 50). These details included names, demographic characteristics and places. I tried to make these changes sufficient to maintain anonymity but not so much as to compromise the integrity of the data. Approval for the research was obtained from Victoria University's Human Research Ethics Committee.

Integrity

Because there is no direct counterpart in qualitative research to the quantitative concepts of reliability and validity, qualitative methodologists have described a range of terms for assessing the integrity of qualitative research. These terms include validity, credibility, trustworthiness, authenticity, transferability, dependability, confirmability, objectivity, reliability and generalisability (Bryman 2004, p. 273; Creswell 2003, p. 196; Flick 2006, p. 376; Minichiello *et al.* 1999, p. 40; Sarantakos 2005, p. 86). The essential question that must be satisfied is, "Do the researchers see what they think they see?" (Sarantakos 2005, p. 86).

I have tried to use several strategies recommended by the various authors for maintaining and transmitting the integrity of the research:

- Ecological validation: this involves working in the natural environment of the interviewees and considering the life and conditions of the interviewees (Sarantakos 2005, p. 87). All but one of the interviews was conducted at the interviewee's kitchen table.
- Thick description: this requires rich, detailed, comprehensive and deep description of the phenomena being considered, to provide readers with enough information to make their own judgement on the data (Bryman 2004, p. 275). It refers not to detail but to thoroughness of interpretation (Minichiello *et al.* 1999, p. 43). I have tried to use the interviewees' own words in

presenting the findings, probably to a greater extent than in many other qualitative studies, as I have found that this gives the interviewees their own voice in describing their circumstances.

- Self-reflexivity: the researcher tries not to allow his own personal values or theoretical orientations sway the conduct of the research and its findings (Bryman 2004, p. 276; Minichiello *et al.* 1999, p. 44). I have tried not to allow this.
- Presentation of negative or discrepant information: the researcher presents not only information that supports the themes but also information that runs counter to them (Creswell 2003, p. 196). I have tried to do this.
- Familiarity: the researcher becomes familiar with the interviewees to the extent that he learns not only the realities they present to outsiders, but also those they reserve for presentation to insiders (Flick 2006, p. 119). My own knowledge of wool and woolgrowing, and the fact that I have had to confront the question of the future of my own family's woolgrowing farm myself recently, allowed me to build rapport with the interviewees.
- Bracketing: the researcher is aware of his own ideas, knowledge, beliefs and assumptions about the phenomenon being studied and tries not to let them influence the conduct of the study and the interpretation of information (Minichiello *et al.* 1999, p. 45). I have tried to explain my personal connection with the topic.
- Triangulation: this means using more than one method or source of data, which allows cross-checking of findings (Bryman 2004, p. 275). There are several kinds of triangulation (Flick 2006, p. 388) and there is some disagreement as to what does and does not constitute triangulation. The combination of a quantitative method to determine gross trends with a qualitative method to assess the significance of those trends for individual families does seem to be methodological triangulation (Flick 2006, p. 390).

Chapter 4. Findings from quantitative study

In the quantitative study, I used data from the Censuses of Population and Housing, conducted by the Australian Bureau of Statistics, to investigate the first two research questions on the demographic structure of Australia's sheep farmers and how it has changed over time.

Occupational decisions of Australia's sheep and sheep-beef farmers

The demographic structure of Australia's body of sheep farmers is not centrally planned. No individual or group decides what the demographic structure will be at any particular time. Sheep farmer demographics are the outcome of relatively independent decisions made by many individuals about whether they will enter the sheep industry and, once in, whether they will stay in it or leave. Their decisions are made in the context of their perceptions of the market and the circumstances in which they and their families find themselves. Individual sheep farmers continually make and remake these decisions. Before describing the demographic structure of Australia's sheep industry, I describe the entry and exit processes that have been occurring over the past three decades.

Entry to sheep farming

Figure 9 shows the number of entries into sheep farming and sheep beef farming for each inter-censal period between 1971–1976 and 1996–2001. There are clearly three separate patterns of entry that correspond to the phases of the wool industry discussed earlier. During the last years of the reserve price scheme entry remained relatively constant at between 6000 and 7000 for each of three inter-censal periods. The price spike and dismantling of the reserve price scheme corresponded with a marked decline in the number of entries from 6600 to 4500. In the following inter-censal period to 1996 the decline in entries continued, with entries of 2800 being at their lowest level in the whole period under study. In the inter-censal period from 1996 to 2001 there was a slight increase in entries to 3200, the first increase since 1971. However, the size of this increase and whether in fact there was an increase at all, depends on the size of the adjustment factor (described earlier in this thesis) used to

correct for the unpublicised changes in coding procedures used by the Australian Bureau of Statistics for the 2001 Census.

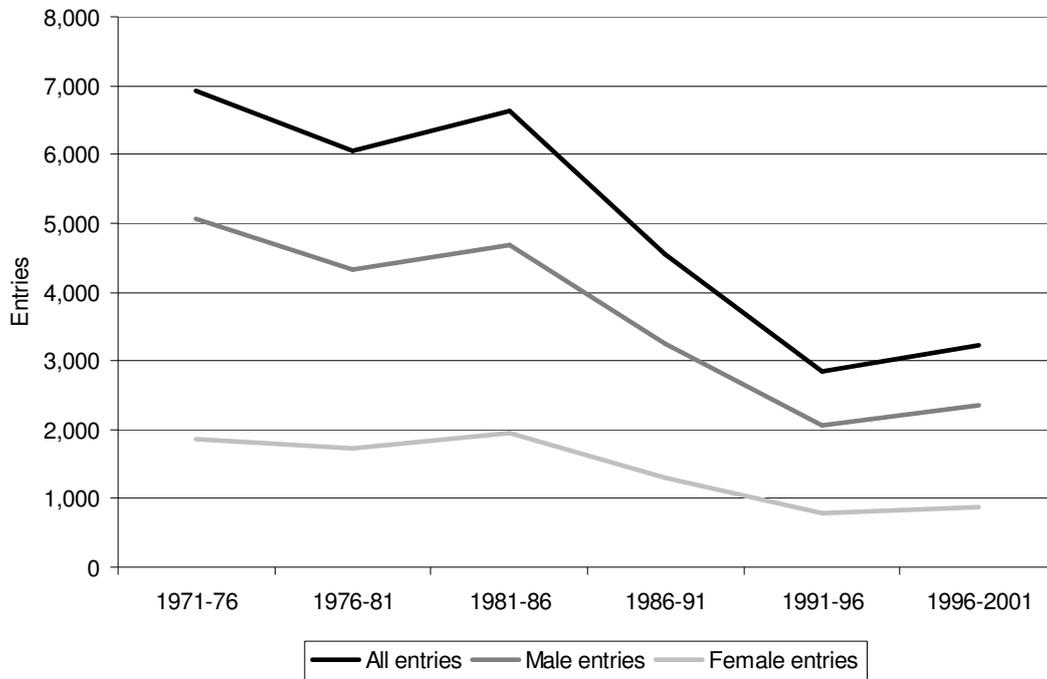


Figure 9 Number of entrants to sheep and sheep-beef farming, 1976–2001 (Source: derived from ABS CPH data)

Aggregate measures of entry only partly describe the changing nature of entry to sheep and sheep-beef farming in Australia. Counts of entry to farming are an aggregation of four quite distinct entry processes: traditional inter-generational transfer, late inter-generational transfer, property purchase and marriage.

- The traditional entry to sheep farming was once an informal farm apprenticeship, in which the younger generation joins the family business after their schooling. This is no longer the norm of entry to sheep farming. The number of sheep farmers aged in their 20s fell by 83 per cent over the 25-year period from 1976 to 2001. In 1976 the most common age of entry to sheep farming was between 25 and 29, but in 2001 there was little variation in the number of entrants between ages 25 and 64 (Figure 10). In 1976 there was an obvious peak in entrant numbers

for both males and females in the late 20s and early 30s (Figure 11). In 2001, those few who did enter in their 20s were almost without exception young men (Figure 12).

- There appears to be an increasing trend towards later intergenerational transfer, where a son or daughter takes over farm management after a significant period working in another career. Stayner (1997b) observed that a high proportion of recent entrants to farming had spent considerable time in other occupations. The stereotype of the son working on the family farm and waiting until late middle age to be handed the chequebook is increasingly a phenomenon of the past. It may be being replaced by the phone call for help when the older generation can no longer manage the farm by themselves. The new, much less pronounced, peak entry age for Victorian sheep farmers is 35–39 years (Figure 10). Farmers in this age group would all have parents aged over 55 and many would have parents aged over 65.
- Independent purchase of a sheep property. This method of entry requires the entrant to accumulate enough capital in the early to middle years of working life to fund the purchase of land. This form of entry will mostly occur in late middle age or retirement. Entry of younger people by this method will necessarily be accompanied by a significant commitment to off-farm work to provide income to supplement the low income generated by a generally small farm and low equity. Many people who entered by this method while young will not be counted in ABS sheep farmer counts due to the significant time commitment to non-farm employment. However, as these persons reduce debt and their children become financially independent, they will belatedly appear in the ABS count of sheep farmers as they reduce their commitment to non-farm employment. Older entry by this method (ages 50–65) is more likely to involve sheep farming being a solely male occupation with the wife working in another career. This could explain why the increase in sheep farming entries in 2001 is mostly among males (Figure 9).
- Marriage into farming. Marriage is the usual state for sheep farmers aged 30 or older (Figure 13). As there are very few female sheep farmers aged younger than 30, it is reasonable to conclude that a greater proportion of women entering the sheep farmer statistics between ages 30 and 39 are doing so through marriage. This corresponds with the continuing trend towards later marriage in Australian society at large. However, a closer look at the available data suggests that

relatively few women enter the industry through a traditional marriage into an existing sheep farming household. The peak of female entry to sheep farming at marrying ages in 1976 was no longer evident in 2001 (Figure 11, Figure 12). Many women who marry a sheep farmer will continue to work in an occupation other than sheep farming. Many of those women who do become sheep farmers will have jointly moved into the industry later in life.

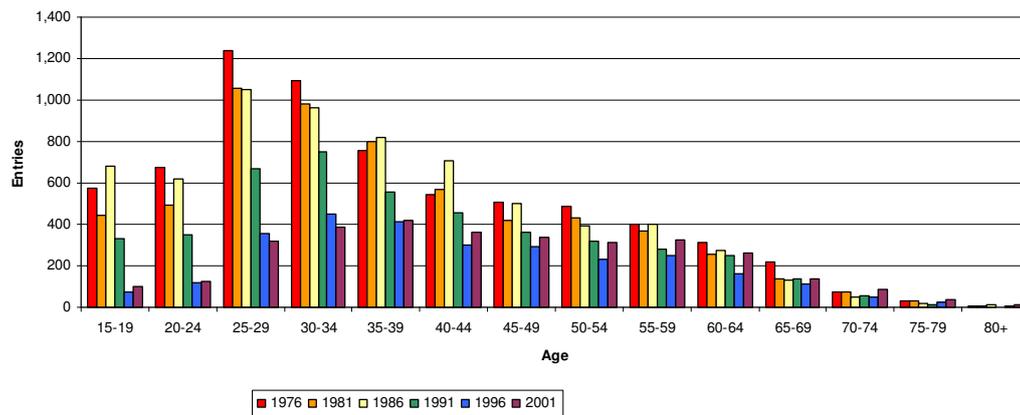


Figure 10 Number of entrants to sheep and sheep-beef farming by age, 1981–2001 (Source: derived from ABS CPH data)

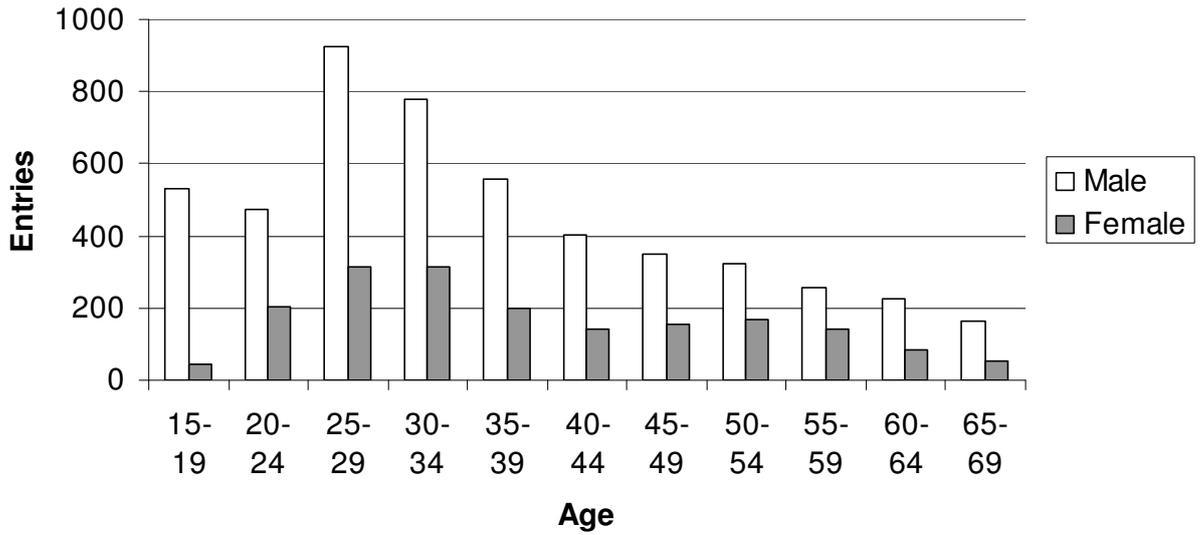


Figure 11 Entry to sheep and sheep-beef farming by age and sex, 1976 (Source: derived from ABS CPH data)

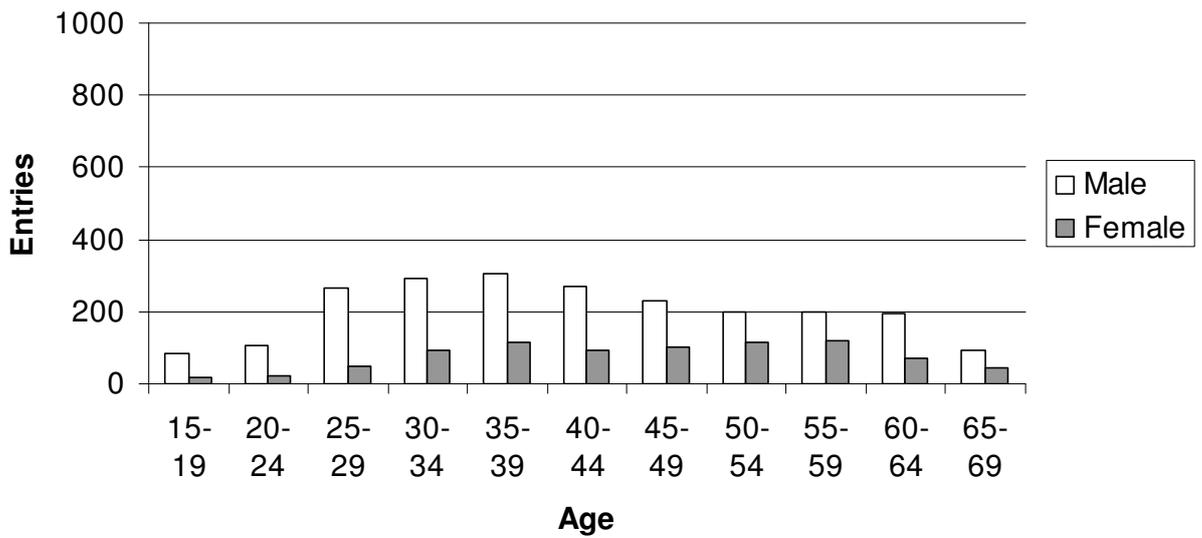


Figure 12 Entry to sheep and sheep-beef farming by age and sex, 2001 (Source: derived from ABS CPH data)

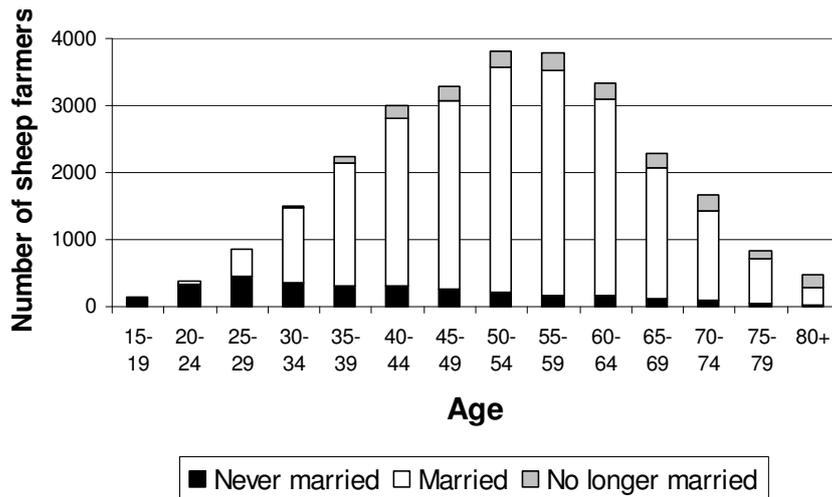


Figure 13 Marital status of sheep farmers by age, 2001 (Source: derived from ABS CPH data)

Although the raw number of entrants to sheep and sheep-beef farming has declined substantially over the years, the annual entry rate (number of entrants expressed as a percentage of total number of farmers) remained remarkably stable over the six intercensal periods at between three and four per cent (Figure 14). The structural changes in Australia’s sheep farmer demographics that have occurred in various phases over this period must therefore be caused not by entry rates, but by something else, whether exit rates or more likely variations in the age profile of entrants and exiters.



Figure 14 Annual entry rate for sheep and sheep-beef farmers, 1971–76 to 1996–2001 (Source: derived from ABS CPH data)

There is generally limited regional variation in entry rates. The high rainfall areas had low rates of entry to sheep farming between 1996 and 2001, with an annual rate of entry between 2.3 and 3.3 per cent (Figure 15). In contrast, the pastoral areas had high entry rates, between 3.3 and 3.7 per cent annually. All entry rates for pastoral areas were higher than for all high rainfall areas. Entry rates for mixed farming areas were spread throughout the range, with both the highest and lowest rates coming from these areas.

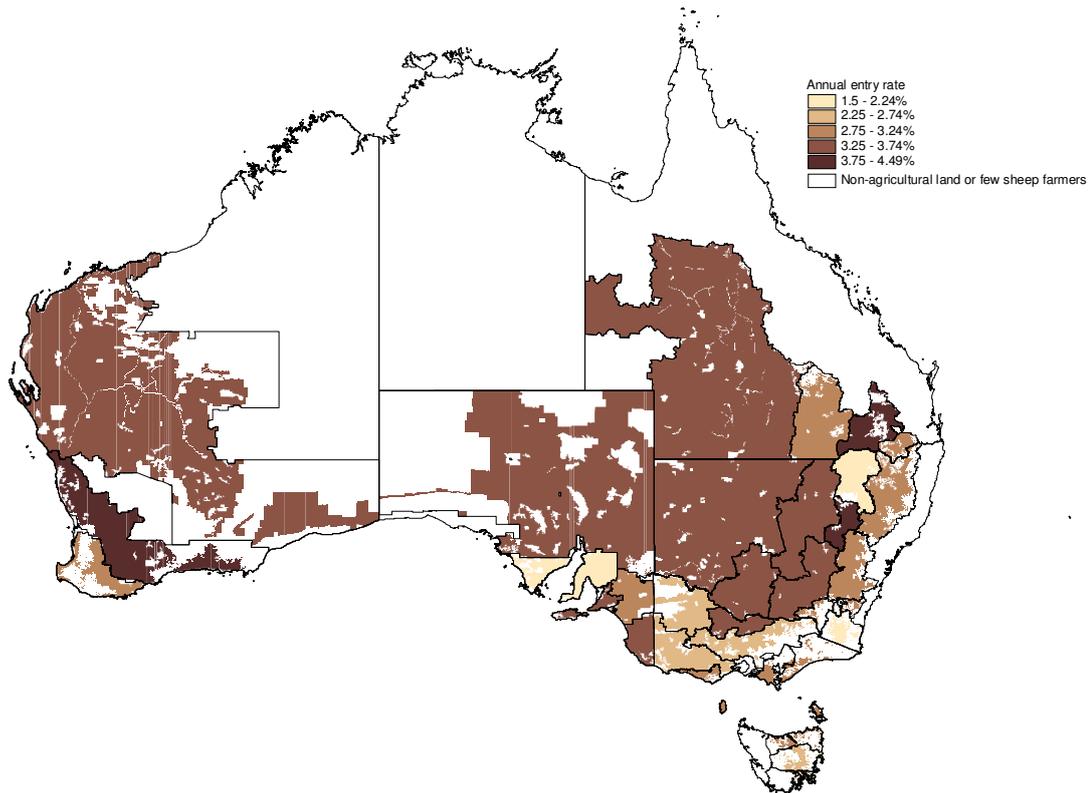


Figure 15 Annual entry rate, sheep and sheep-beef farmers by sheep region, 1996–2001 (Source: derived from ABS CPH data)

Confirming the pattern evident in a close examination of Figure 10, the median age of entrants to sheep farming has gone through two main phases since 1976 (Figure 16). It was relatively constant at around 34 years from 1976 to 1986, then commenced rising steeply, reaching 43 years in 2001. This represents a rise in median age of entrants of nine years over a 15-year period. During the period of rapid adjustment between 1986 and 1991, associated with high wool prices and strong property turnover, the median age of entrants rose little, but during the period of slower adjustment since then the median age of entrants has risen rapidly. While the decrease in the number of entrants has now slowed, the increase in their median age has not. Sheep farming is not now a young person’s game.

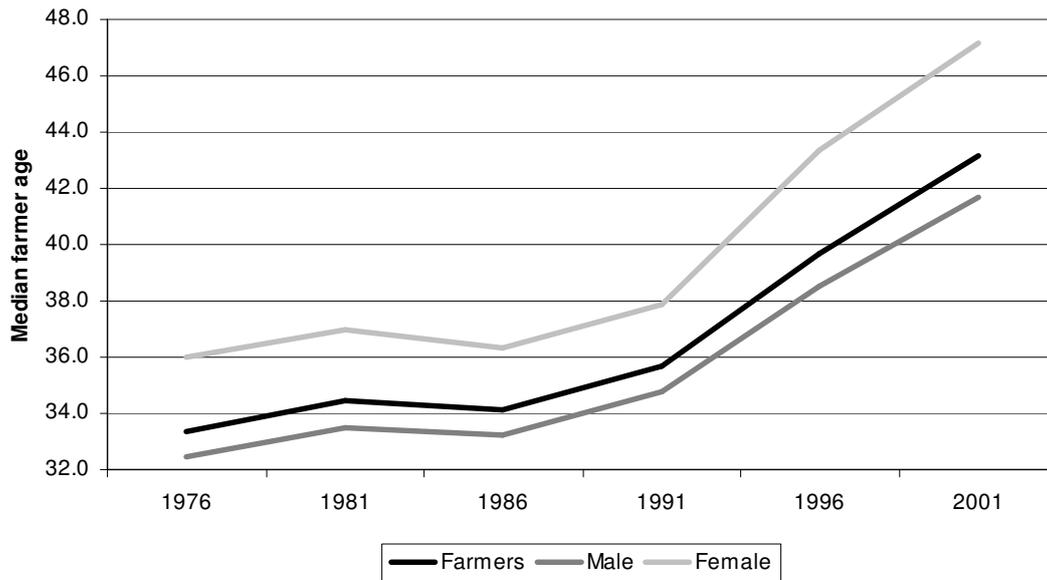


Figure 16 Median age of new entrants to sheep and sheep-beef farming, 1976–2001 (Source: derived from ABS CPH data)

In summary, there are now two age-related peaks for entry into sheep farming. The main peak is between the ages of 35 and 40 and there is also a much smaller peak between the ages of 55 and 59. The previously common younger entry is now relatively rare. Many older entrants may well be making a lifestyle choice to change careers later in life, perhaps returning to the family farm as their parents age.

Exit from sheep farming

The estimated annual rate of exit of Australian sheep farmers has fluctuated wildly since 1976, from highs of eight per cent between 1976 and 1981 and between 1986 and 1991 to a low of two per cent between 1996 and 2001 (Figure 17). In contrast, the estimated exit rate for all Australian farming industries remained relatively constant at around five per cent over the same period, apart from a peak of 6.5 per cent between 1986 and 1991 (Barr *et al.* 2005). The fact that exit rates from sheep farming have fluctuated while those exit rates from all Australian farming have remained relatively stable suggests that much of the fluctuation can be attributed to movement from sheep farming into other farming industries rather than out of farming completely.

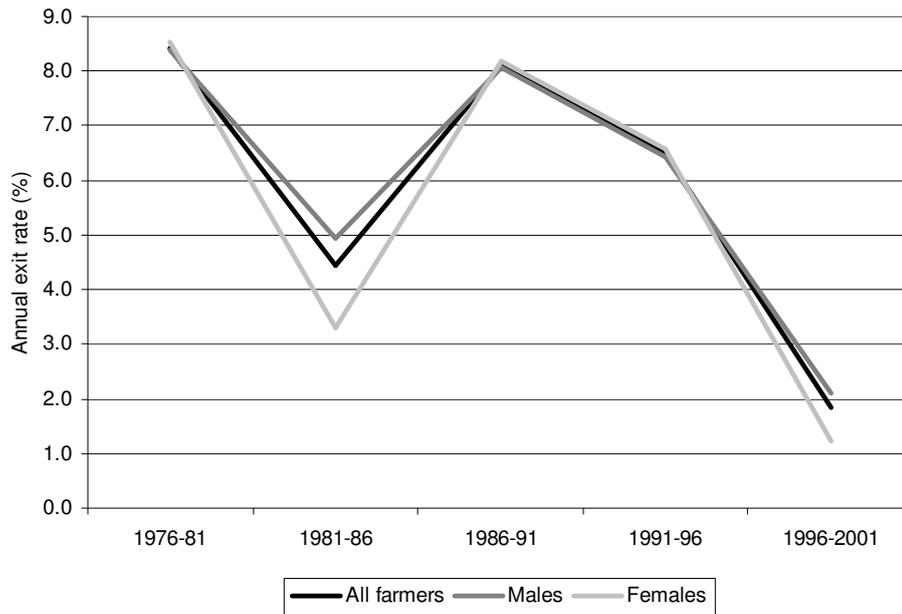


Figure 17 Estimated annual exit rate from sheep and sheep-beef farming, 1976–81 to 1996–2001 (Source: derived from ABS CPH data)

The number of exiting sheep farmers and the rate of their exit varies substantially between age groups (Figure 18, Figure 19). Until 1991 older sheep farmers had a higher rate of exit than younger ones. Since then, young and old sheep farmers have had the highest rates of exit and mid-career farmers have had the lowest rates of exit. There has been a marked decline in the exit rates of older sheep farmers from the industry since the 1970s. The rate of exit of farmers aged under 30 over the period from 1996 to 2001 was much lower than that observed in the previous 10-year period (Figure 19). This suggests a limited degree of increased confidence in the industry.

From 1996 to 2001, rates of exit from sheep farming declined to their lowest level since 1976, reaching almost to zero for those aged between 50 and 64 (Figure 19). This is probably a net result of a higher exit rate in past years and a ‘return’ of people to sheep farming as a major occupation in their late middle age. The high exit rates after the 1989 fall in wool prices produced a large jump in the rate of exit from sheep farming, with rates for those aged younger than 55 more than doubling. It looks likely that many of these persons will have taken off-farm jobs after the collapse of the wool price, and maintained these off-farm jobs through the stockpile period. Most of these

farmers will have passed the phase of greatest requirement for income to support the education of their children and will now be in a position to reduce off-farm work commitments and return to farming as their main occupation.

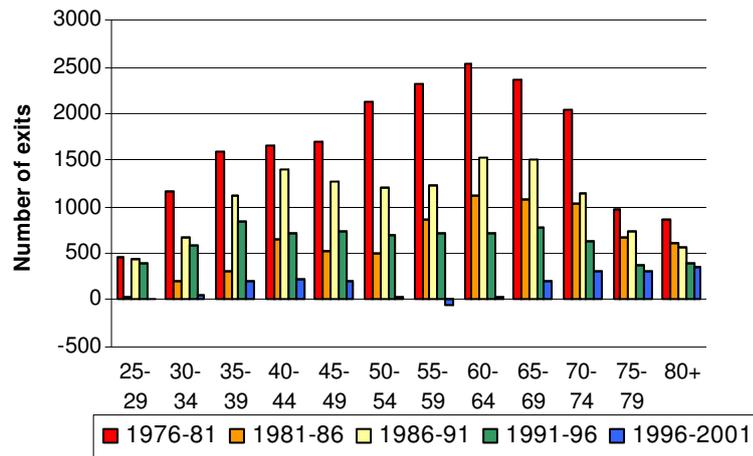


Figure 18 Estimated number of exits from sheep and sheep-beef farming by age, 1976–81 to 1996–2001 (Source: derived from ABS CPH data)

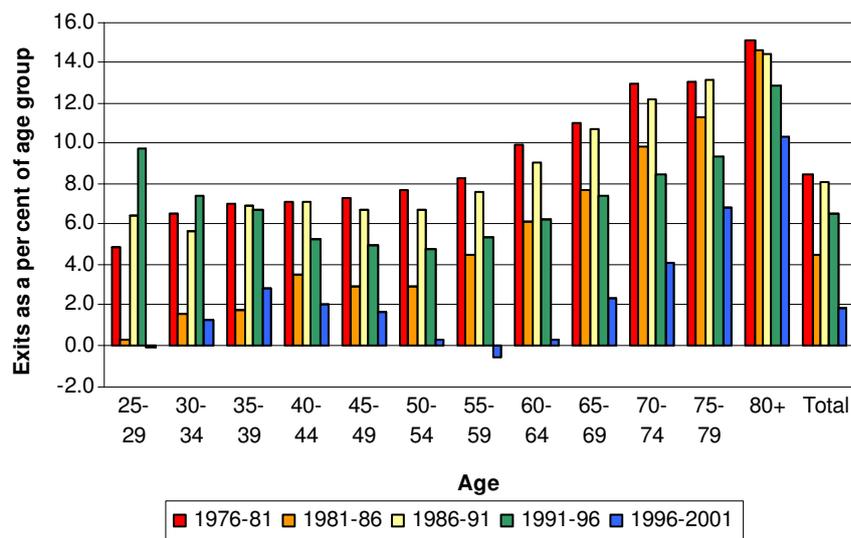


Figure 19 Estimated annual exit rate from sheep and sheep-beef farming by age, 1976–81 to 1996–2001 (Source: derived from ABS CPH data)

Comparison of the graph of exit rates (Figure 17) with the graph of estimated median age of exiting sheep farmers (Figure 20) shows that when exit rates are high the median age of exiting sheep farmers is low, and vice versa. Exit rates of older farmers fluctuate less than those of younger farmers so when larger numbers of young people choose to exit sheep farming they both reduce the average age of exiters and increase the annual rate of exit.

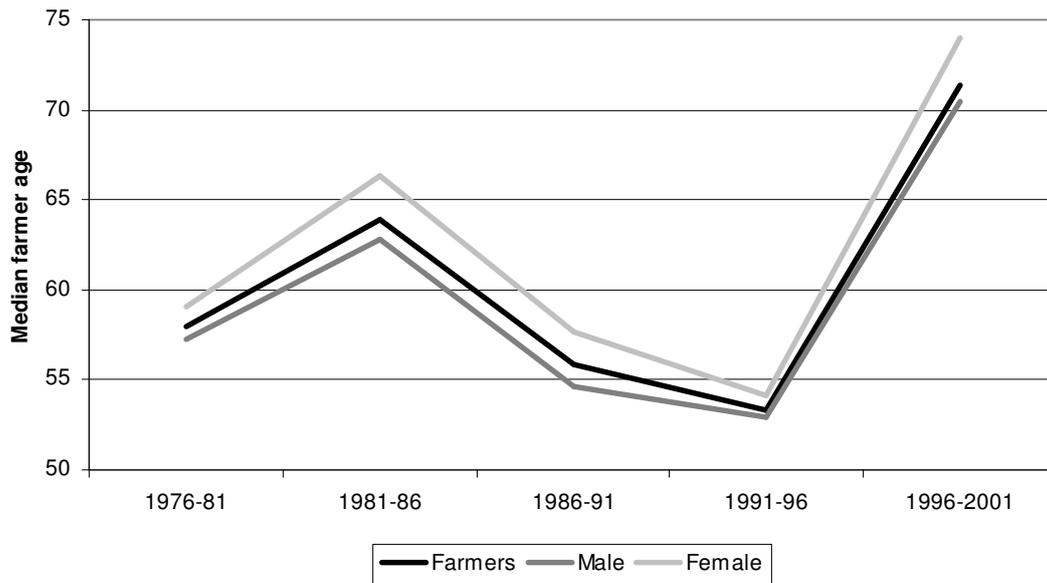


Figure 20 Median age of exits from sheep and sheep-beef farming, 1976–2001 (Source: derived from ABS CPH data)

Changing structure of Australia’s sheep and sheep-beef industry

Given the changes that have occurred in entry and exit rates for sheep farming in Australia over the past three decades, along with the changes in median age of those entering and exiting, there must have been some changes in the demographic structure of sheep farmers. These changes in demographic structure are now described, and explained by reference to the changes in entry and exit.

Number and location of sheep farmers

The number of sheep farmers in Australia reduced by more than half from 1976 to 2001 (Figure 21). This decline in numbers has not been uniform across the period, with the sharpest falls over the periods 1976–1981 and 1986–1991. The steep fall between 1986 and 1991 can be understood in the context of the spike in wool prices allowing a pent-up demand for woolgrower retirement to be released during a period of high prices for woolgrowing land. The other steep fall, between 1976 and 1981, is more difficult to explain. It would help if data for the period before 1976 were available, but data before 1976 are not available in a form that allows them to be directly compared with later data. The slight rise in sheep and sheep-beef farmer numbers between 1996 and 2001 may be an artefact of the changes in industry coding made by ABS between the two population censuses, as over this period the total number of Australian farmers did fall slightly, but may also be caused by some farmers moving back into sheep farming after a prolonged period of off-farm work (as explained earlier).

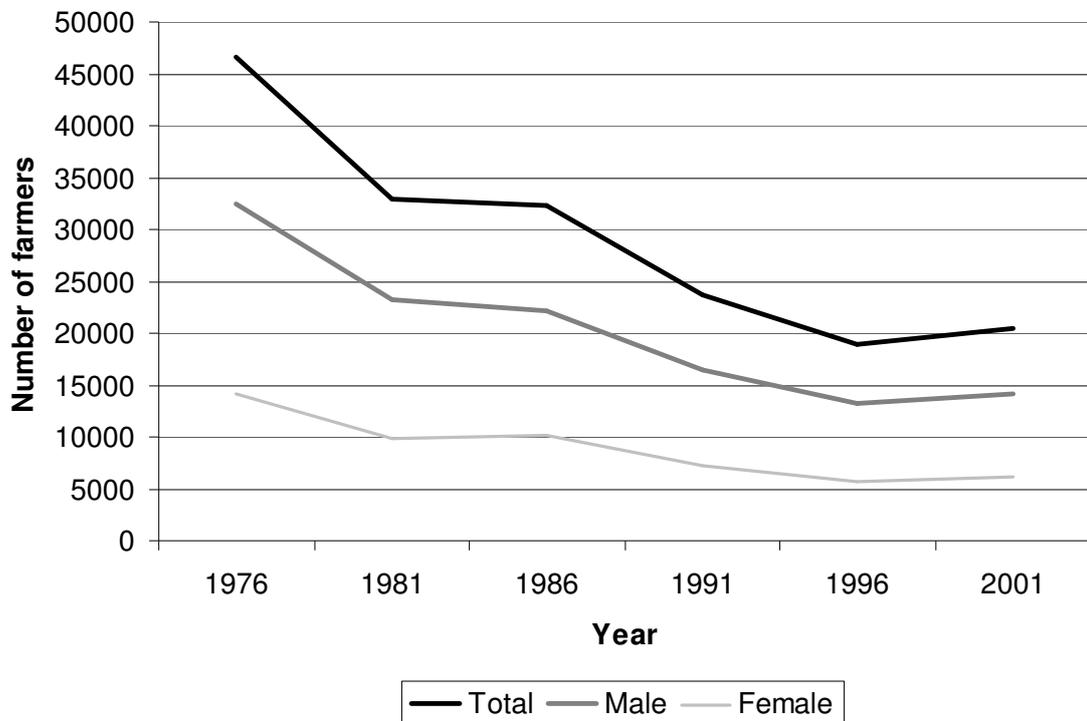


Figure 21 Number of sheep and sheep-beef farmers, 1976–2001 (Source: derived from ABS CPH data)

Geographically, Australia's sheep farmers are concentrated in the high-rainfall areas (Figure 22). The areas with the largest numbers of sheep farmers are the south-east of South Australia, the Western District of Victoria and the hills of central and north-east Victoria, and the central and northern tablelands of New South Wales. In the 2001 census these five regions held almost half (45%) of Australia's sheep farmers. The rest of the high rainfall zone accounted for only another 13 per cent of the sheep farmers. The mixed farming and broadacre cropping areas contained the next highest proportion (22%) of Australia's sheep farmers, and more than half of those were in New South Wales. In the pastoral areas (11% of the total), Queensland and New South Wales supported larger numbers of sheep farmers than did South Australia and Western Australia. The highest rainfall areas of southern Victoria and a large part of Tasmania are relatively small and contained few sheep farmers (4%). These are the areas where meat sheep would be expected to predominate over wool sheep. Almost no sheep farming is carried out along the coastal areas of New South Wales or Queensland. Those areas, along with all other areas outside the designated sheep regions, including all city and suburban areas, accounted for only five per cent of Australia's sheep farmers. Sheep farming is still predominantly an activity undertaken along the spine of the Great Dividing Range and in the plains country of south-west Victoria and south-east South Australia.

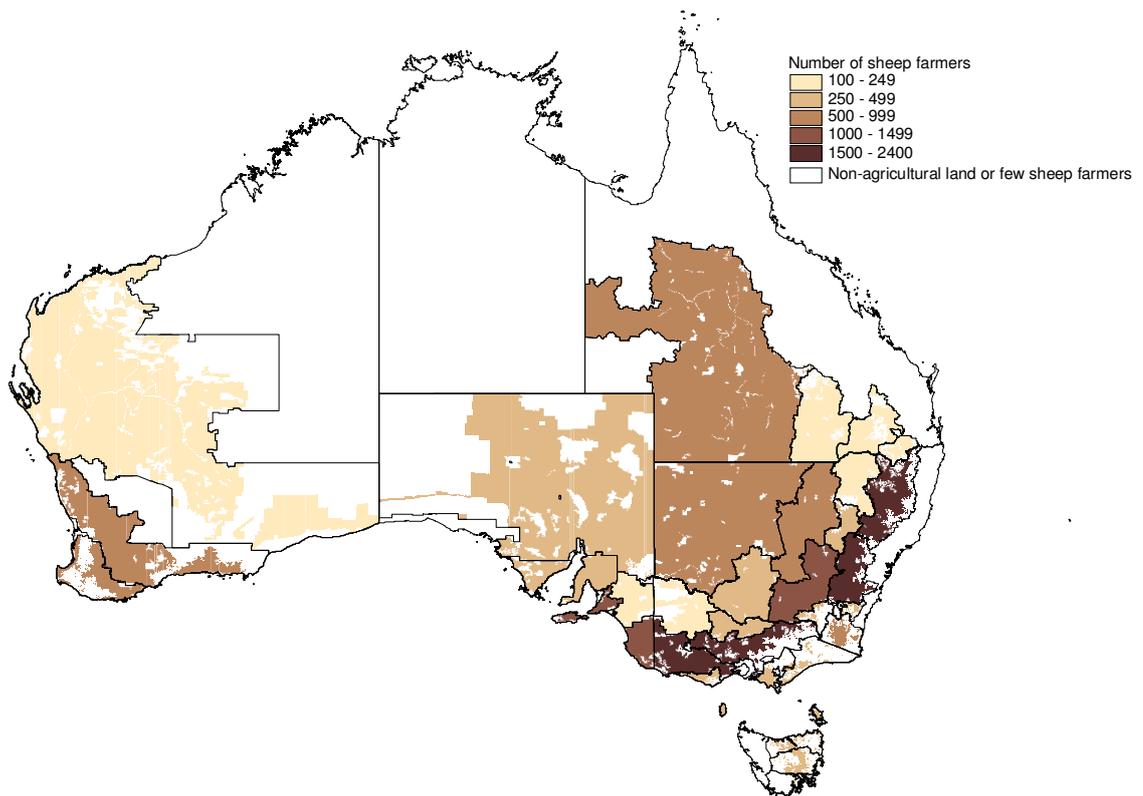


Figure 22 Number of sheep and sheep-beef farmers per sheep region, 2001 (Source: derived from ABS CPH data)

Age distribution of sheep farmers

Figure 23 portrays the age distribution of sheep and sheep-beef farmers in Australia for each census from 1976 to 2001. There has been an on-going decrease in the number of sheep and sheep-beef farmers counted in age groups younger than 50. Sheep farmers aged younger than 30 are now quite uncommon. A different patterns is emerging for age groups between 50 and 65. Between 1976 and 1991 there was a large decline in the number of sheep farmers in this age group. However, since 1991 the number of these farmers has levelled out and begun to increase. This increase is probably due to a combination of older entry to farming and the reversion to farming as a major occupation after reducing off-farm work commitments. As a general rule, these forms of aged entry or re-entry are more common near major population centres.

The low rates of recruitment of younger farmers and the increase in extent of later career entry to sheep and sheep-beef farming have contributed to the average of

Australian sheep and sheep-beef farmers rising by 3.2 years in the inter-censal period from 1996 to 2001 (Figure 24). In 2001 the median age was 53.1 years. Over the 10-year period from 1991 to 2001 the median age of Australian sheep and sheep-beef farmers rose by 6.4 years. With further re-entry to agriculture to be expected, declining rates of older exit and the ongoing low rates of replacement, the median age can be expected to continue to increase.

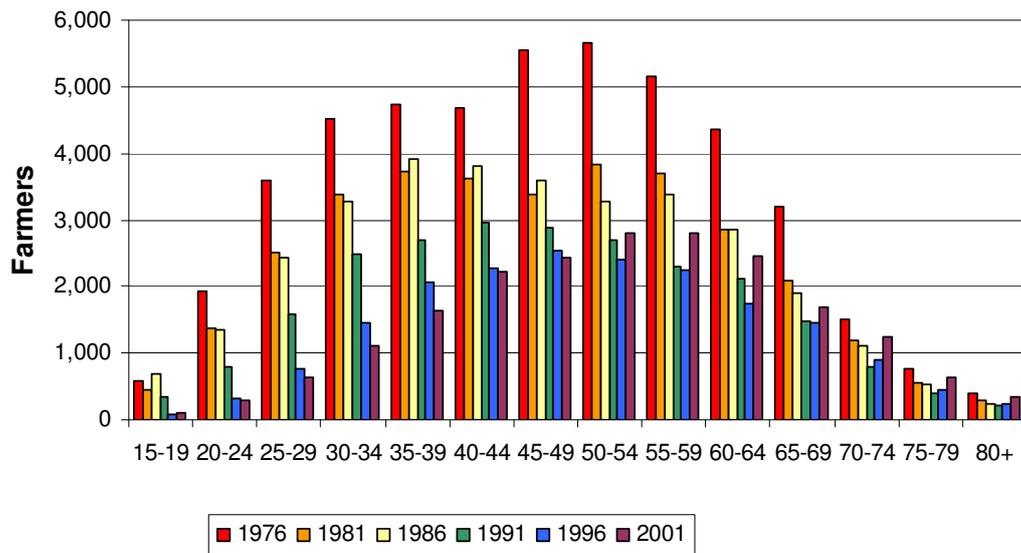


Figure 23 Number of sheep and sheep-beef farmers by age, 1976–2001 (Source: derived from ABS CPH data)

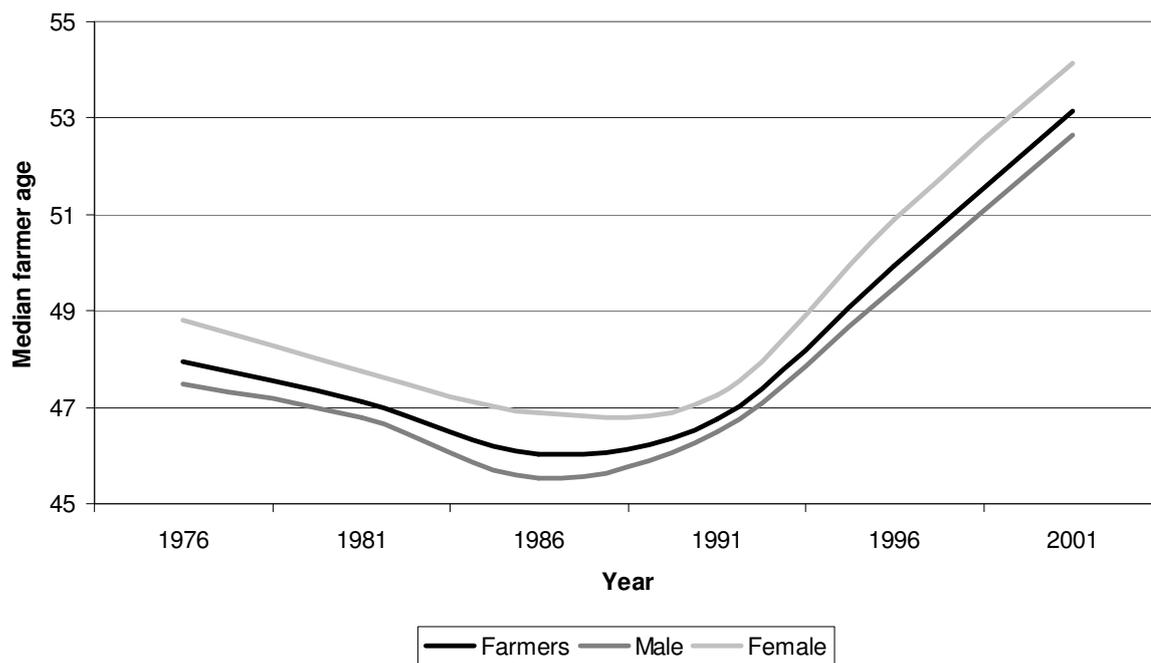


Figure 24 Median age of sheep and sheep-beef farmers, 1976–2001 (Source: derived from ABS CPH data)

The areas with the highest median age of sheep farmers in 2001 were those closest to Sydney and Melbourne. There is a band of undulating high-rainfall country stretching from Sydney to Melbourne, through the New South Wales Central Tablelands, southern hills and Monaro, through East Gippsland to the Victorian hill country, where the median age was 55 or 56 (Figure 25). Queensland’s Granite Belt also had a median age of 55. Generally, sheep farmers in the pastoral areas have the lowest median age. Across all the pastoral regions it was 49, and all pastoral regions except the Western Riverina had a lower median age than all other regions. The pastoral areas of Western Australia, South Australia and Queensland were the only regions where the median age was below 50. Median ages in the mixed farming (53) and high rainfall (54) areas were higher, and apart from the high rainfall areas between Sydney and Melbourne with the highest median ages there is no discernible pattern. The cropping country around Gunnedah, Narrabri and Moree in northern New South Wales is an exception, in that the median age of its sheep farmers is as high as anywhere. However, it is predominantly a cropping area and not heavily populated with sheep farmers. Perhaps younger farmers in that area are focussed on cropping while leaving the sheep to their fathers and others of the older generation.

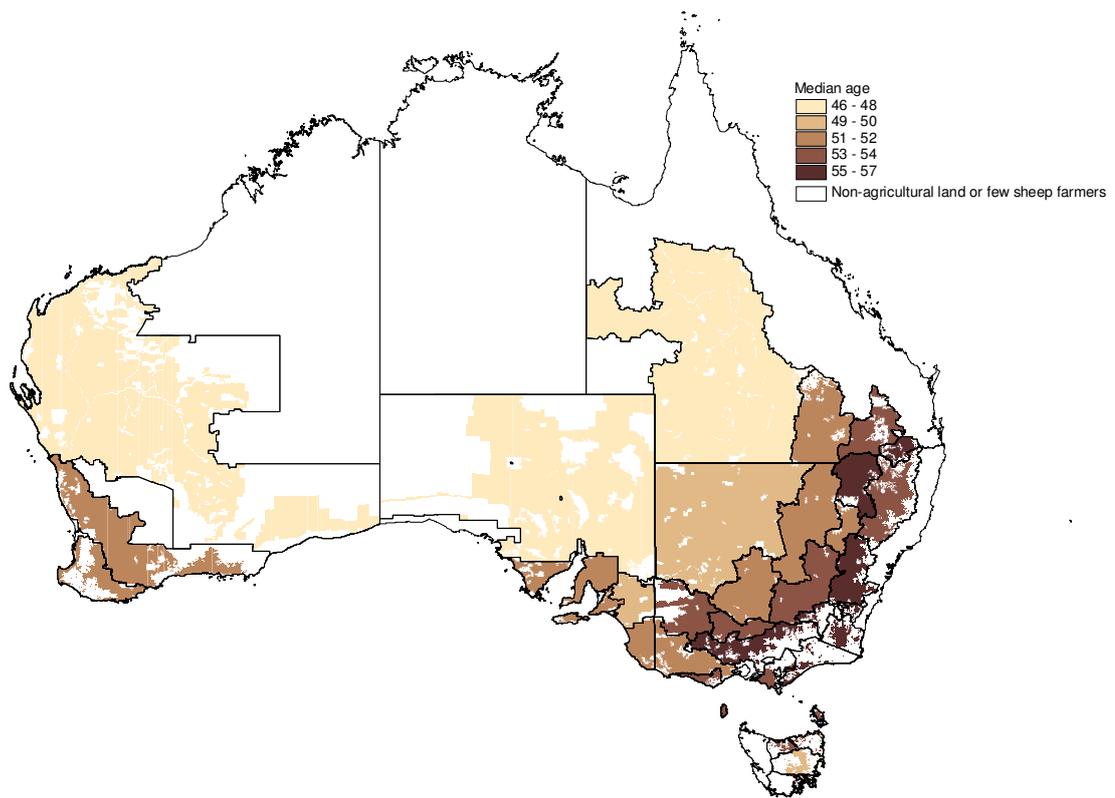


Figure 25 Median age of sheep and sheep-beef farmers by sheep region, 2001 (Source: derived from ABS CPH data)

None of the regions experienced a decline in median age of its sheep and sheep-beef farmers from 1996 to 2001, and only one (Victorian Wimmera–Mallee) experienced a decrease from 1991 to 1996. Over the 10-year period from 1991 to 2001 the average increase in median age across all Australia’s sheep and sheep-beef farmers was 6.4 years, with all three of the main agronomic zones sharing a similar average increase. There were, however, substantial differences within zones (Figure 26). The major sheep-producing areas along the spine of the Great Dividing Range and into the Western District and the south-east of South Australia all showed a similar increase of between 5.5 and 6.5 years. Much of this area, particularly the hill country, now has sheep farmers with an age profile that is among the oldest in the country. The pastoral areas, still with a relatively young age profile, showed the greatest increase in median age over the period, with increases in all states but South Australia greater than 7.5

years. The age profile in the pastoral areas in 1991 (median of 42) was much younger than in the other zones (46 or 47) and is still relatively young. Pastoral areas are not an attractive destination for retirement sheep farmers.

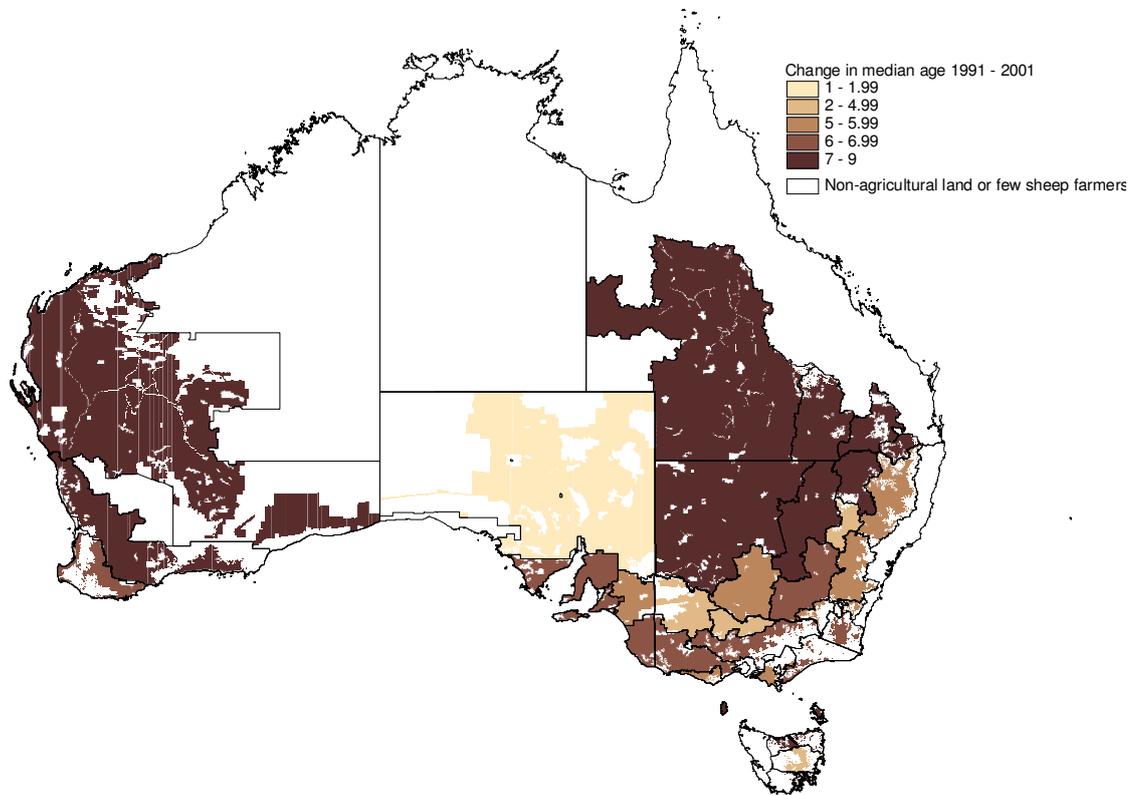


Figure 26 Increase in median age of sheep and sheep-beef farmers by region, 1991–2001 (Source: derived from ABS CPH data)

Comparison with all Australian farmers

The decline in numbers of sheep and sheep-beef farmers over the past 30 years has followed a similar pattern to the decline in numbers of all Australian farmers (Figure 27). ABS figures for the total number of Australian farmers are unaffected by any coding changes they might make and are thus more stable statistics than numbers for individual industries. The large drop in sheep farmer numbers from 1986 to 1991, where numbers declined by 26 per cent in the heady period of adjustment during the spike in wool prices, was also experienced to a lesser degree among all farmers, whose numbers dropped by 16 per cent. Sheep farmers are included in the count of all Australian farmers, but the drop in their numbers over the period contributed only

three percentage points of the 16 per cent decrease. Other industries were undergoing a similar, though less pronounced, period of adjustment at the same time as the sheep industry.

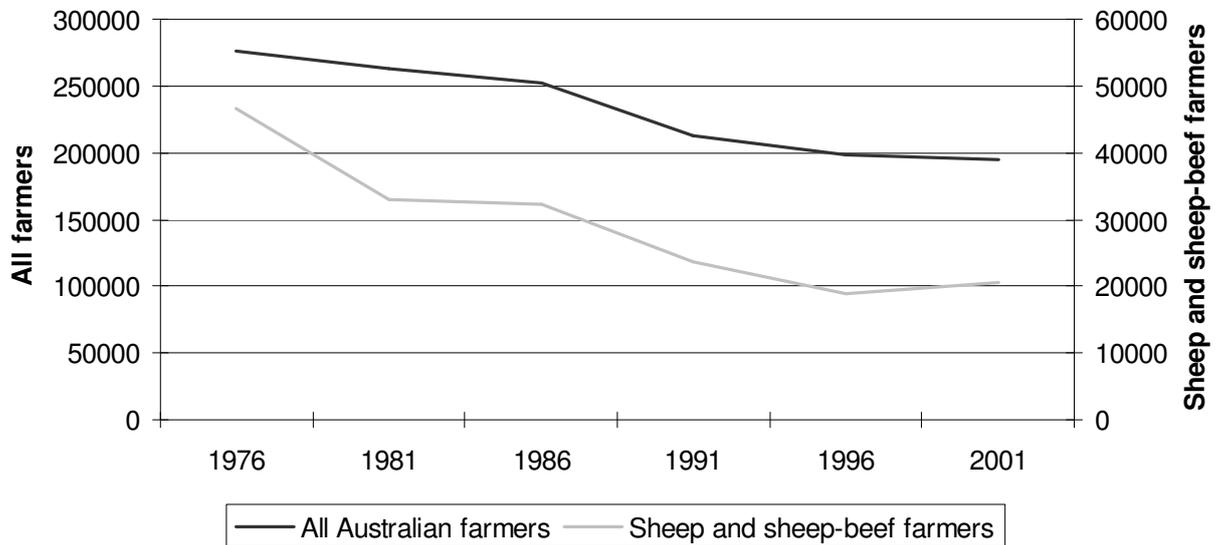


Figure 27 Number of sheep and sheep-beef farmers compared with all Australian farmers, 1976–2001 (Source: derived from ABS CPH data)

Changes in median age of sheep and sheep-beef farmers also followed the trend for all Australian farmers over the past 30 years (Figure 28). In each of the six censuses sheep and sheep-beef farmers were on average older than farmers in other industries. The adjustment period of the late 1980s did keep sheep farmer median ages down, and closer to those of farmers in other industries, but since then they have increased at a faster rate than in other industries, to the point where in 2001 the median age of sheep and sheep-beef farmers was three years older than that for all Australian farmers.

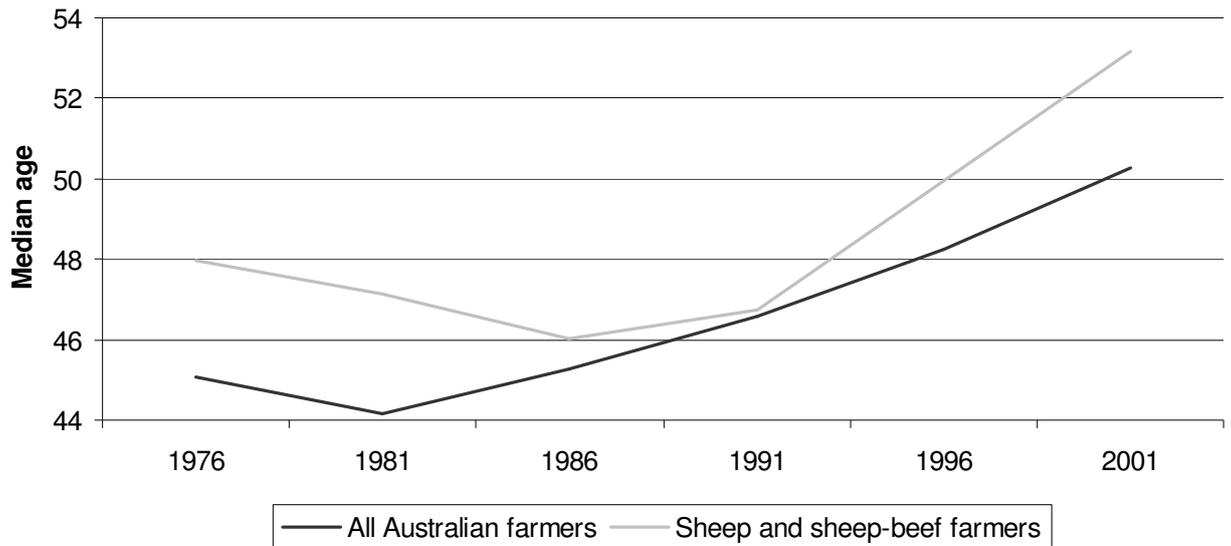


Figure 28 Median age of sheep and sheep-beef farmers compared with all Australian farmers, 1976–2001 (Source: derived from ABS CPH data)

Size of sheep farms

Figure 29 shows the distribution of sheep and sheep-beef farm EVAOs in 2001. In 2001, the high number of small farms dominated establishment counts. More than half of all sheep and sheep-beef establishments had EVAOs less than \$100,000 (Figure 29). Smaller farms are much more likely than larger farms to have a manager whose major occupation is not farming. However, the majority of farms with less than \$100,000 EVAO were still managed by someone who describes his or her major occupation as farming (Figure 30). This skewing of the farm size distribution towards smaller farm businesses means a large proportion of the value of production is produced by a very small number of sheep and sheep-beef farms. In the 2000–2001 season, the largest 10 per cent of sheep and sheep-beef farms produced 40 per cent of the value of production from all sheep and sheep-beef farms (as estimated by EVAO). The smallest 40 per cent of farms produced only 10 per cent of the value of production (Figure 31).

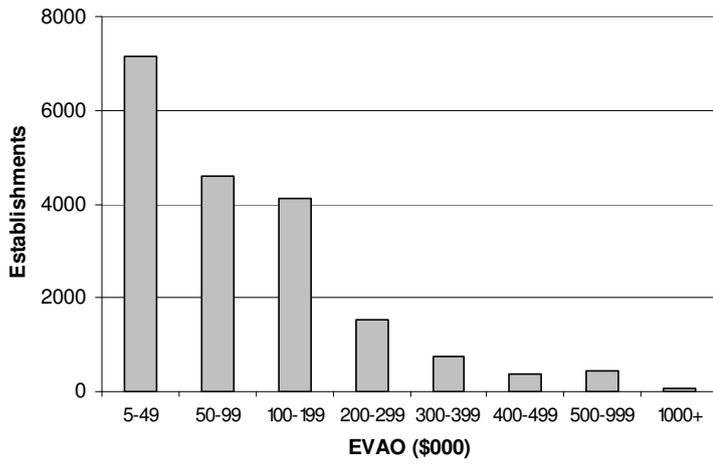


Figure 29 Distribution of sheep and sheep-beef farms by EVAO (in 1996 dollars), 2001 (Source: derived from ABS AAC data)

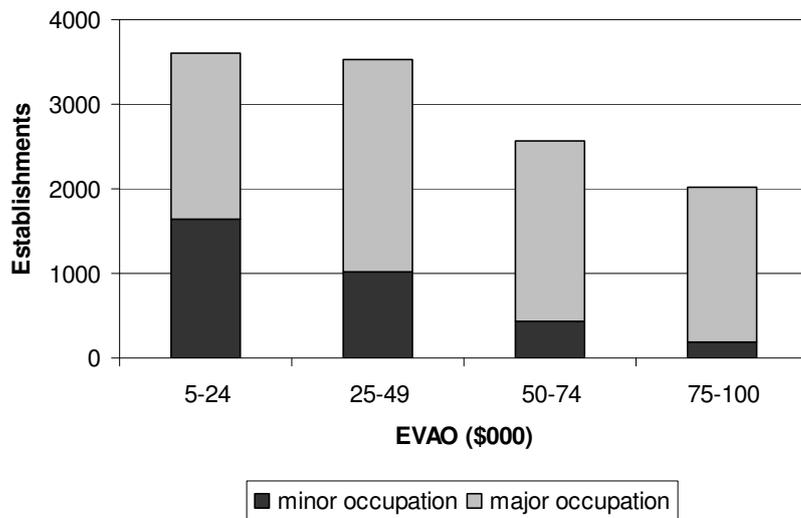


Figure 30 Farm size (1996 dollars) and whether farming is the major or minor occupation of the manager of small sheep and sheep-beef farms, 2001 (Source: derived from ABS AAC data)

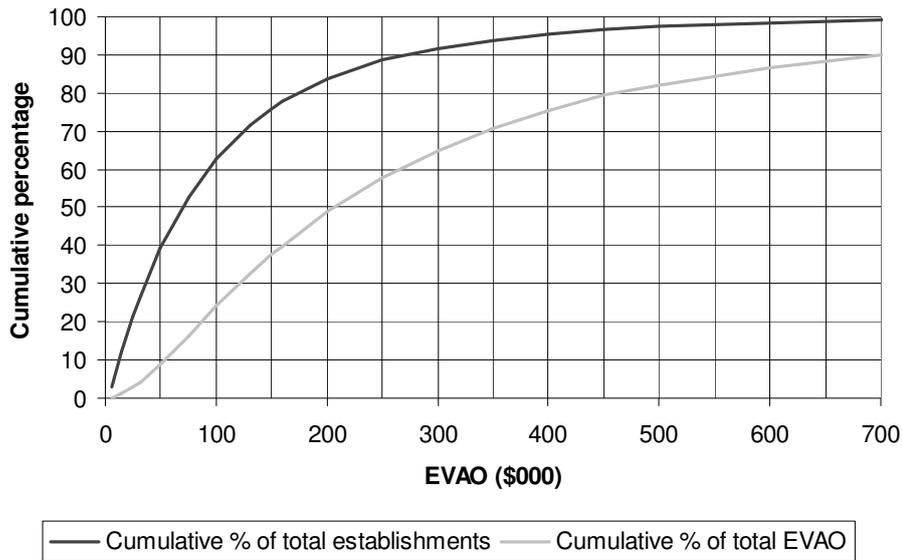


Figure 31 Cumulative distribution of farm establishments and farm EVAO, 2001 (in 1996 dollars)
 (Source: derived from ABS AAC data)

Structural changes in summary

The number of sheep farmers in Australia reduced by more than half from 1976 to 2001 (Figure 21). This decline in numbers was not uniform across the period, with the sharpest falls over the periods 1976–1981 and 1986–1991. The decline in numbers was most pronounced among the younger age groups (Figure 23).

The exit rate has been falling since its retirement-driven peak in 1986–91 during the period of relatively high wool prices (Figure 32). The entry rate has, however, remained relatively constant. What has changed about entry to sheep farming has been the median age of entrants. The substantial drop in the number of young sheep farmers, as shown in Figure 23, has been driven by a large reduction in the number of young people entering sheep farming, particularly those aged under 35 (Figure 10).

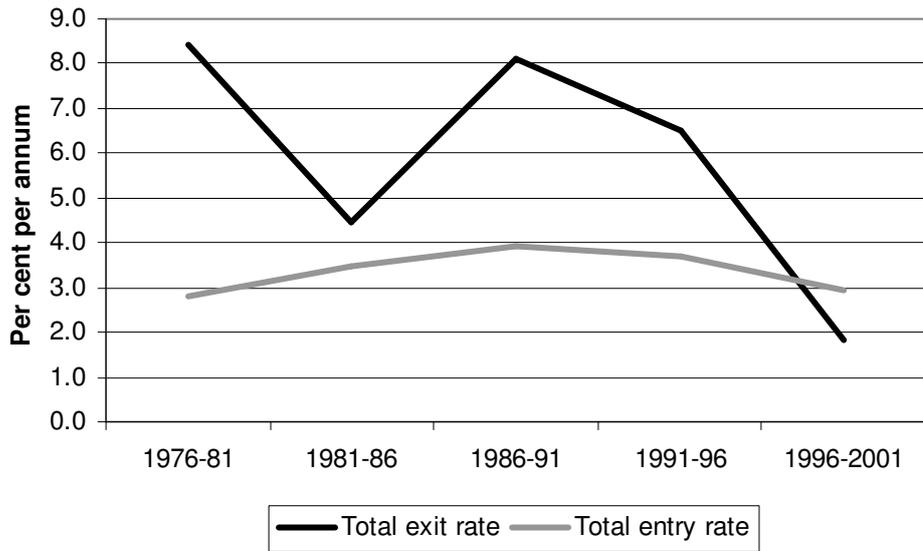


Figure 32 Entry and exit rates for sheep and sheep-beef farmers, 1981–2001 (Source: derived from ABS CPH data)

The consequence of these trends is that the median age of entrants to sheep farming, relatively constant from 1976 to 1991 at between 33 and 35 years, increased by over seven years to 43 years in the 10-year period from 1991 to 2001 (Figure 33). This has in turn driven up the median age of all sheep farmers over the same period.

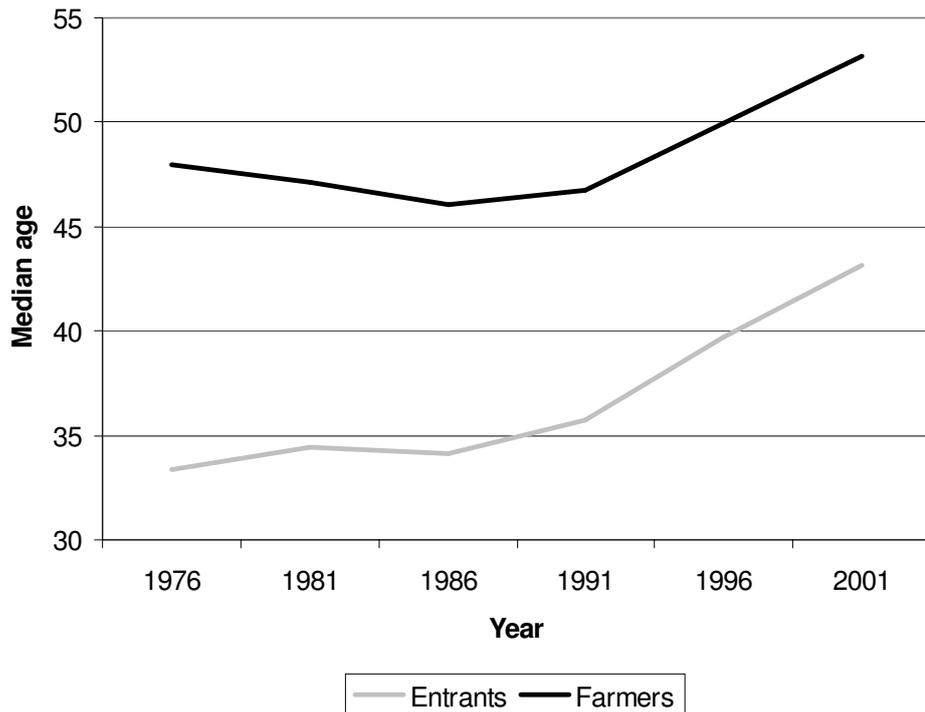


Figure 33 Median age of entrants and all sheep farmers, 1976–2001 (Source: derived from ABS CPH data)

Modelling future Australian sheep farming populations

With fewer young people entering the Australian sheep industry with each succeeding census, and older people remaining in sheep farming until even greater ages, the demographic structure of the industry has already changed markedly over the past three decades. If these entry and exit trends are maintained, the demographic changes will also continue. Will the changes occur at a constant, increasing or decreasing rate? Further, what will be the future impact of the progression of baby boomers (the large number of people born between 1946 and 1964, particularly the first cohort of them born between 1946 and 1951) through the age cohorts? The following projection of likely future demographic trends, based on past trends, provides some answers to these questions.

The three models (based on the trends over the periods 1986–1991, 1991–1996 and 1986–2001) project very different trajectories of sheep farmer numbers in the future (Figure 34). Both the 1986–91 and the 1991–96 models, which are based on periods

of adjustment out of sheep farming, project a gradually slowing decline in numbers. The average model (1986–2001) projects little change.

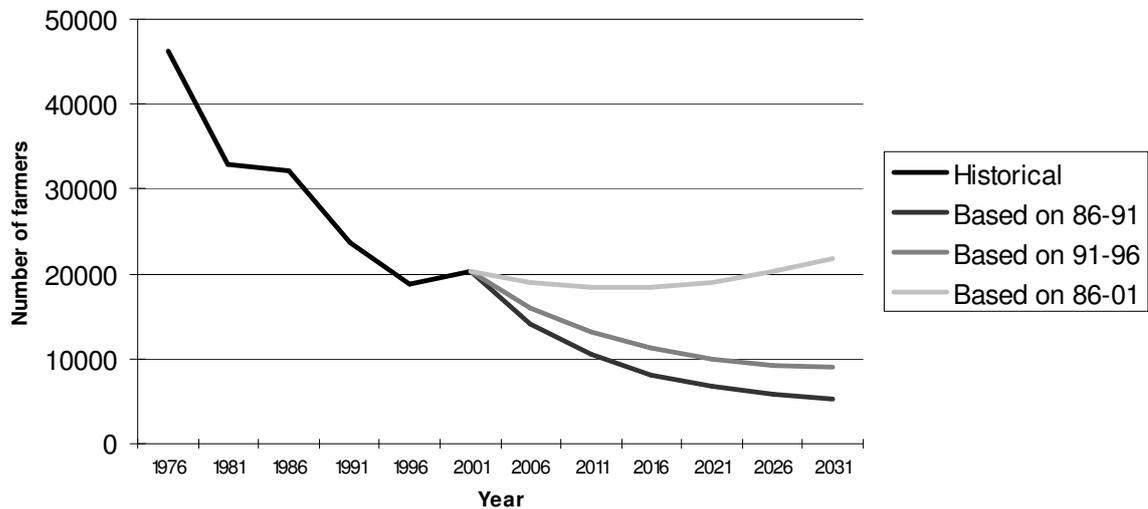


Figure 34 Historical and modelled future sheep farmer population using parameters derived from the periods 1986–91, 1991–96 and 1986–2001 (Source: modelled from ABS CPH data)

Projected changes in median age of Australia’s sheep farmers also vary between the three models, but not as greatly as for farmer numbers (Figure 35). In this case the 1986–91 model is the odd one, projecting that the past sharp increase in median age will suddenly stop, to be replaced by a slight linear increase over the modelled period. This was, after all, the period of most rapid adjustment in the recent history of the woolgrowing industry, and rapid adjustment is indeed associated with a median age that, if not declining, is rising only slowly. The other two models project a median age gradually increasing to a peak, perhaps even decreasing after the peak, a phenomenon that would be expected given the progress of the large cohort of baby-boomers through the age profile. The average model projects an increase in median age of 2.5 years over the next 30 years, while the 1991–96 model projects an increase in median age of 6.5 years.

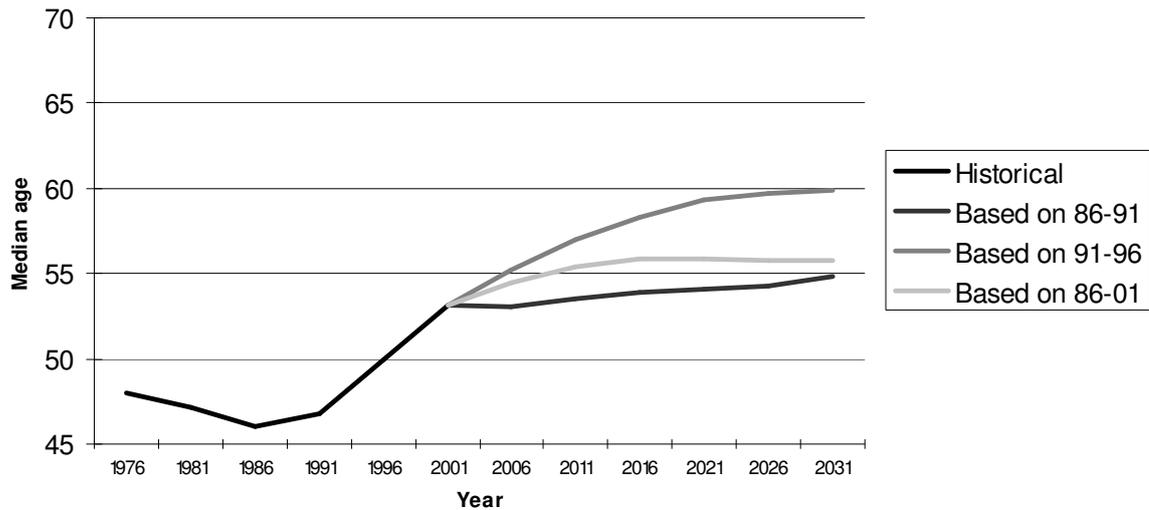


Figure 35 Historical and modelled future sheep farmer median age using parameters derived from the periods 1986–91, 1991–96 and 1986–2001 (Source: modelled from ABS CPH data)

Having already discounted the 1996–2001 model because of its coding problems, we now discount the 1986–91 model, partly because of its counter-intuitive projection about median age, but also because it is based on the unusual adjustment behaviour during the period of removal of the reserve price scheme. This leaves the 1986–2001 and 1991–96 models, on which the projections in the rest of this thesis are based.

Projected future national demographic structure

The model based on the period 1986–2001 represents the most conservative estimate of what is likely to happen to sheep farmer demographics over the next 30 years. It projects roughly constant numbers and only a slight increase in median age that peaks by 2016 (Figure 36). The model based on the period 1991–96 is much less conservative than the other model. It projects that the number of sheep and sheep-beef farmers will drop by slightly more than half from 2001 to 2031, a rate of attrition only slightly slower than that of the 25-year period from 1976 to 2001. It also projects that the median age will rise by 6.5 years from 2001 to 2031, a rate of increase only slightly faster than that of the 25-year period from 1976 to 2001. In projecting a future that is like the past it does appear to offer a middle path, one that is neither as

conservative as the 1986–2001 model nor so alarmist as to predict greater adjustment in the future than the past. Another way of looking at the 1991–96 model suggests that it may well offer an extreme view. Only one other model tested projects a greater decrease in numbers, and that is the 1986–1991 model, which is based on the most dramatic period of adjustment in the wool industry in recent decades. None of the other models tested project a greater increase in median age. The 1991–96 model appears on this analysis to be toward the extreme end of the range of projections. Which of the two views is more reasonable? Is it moderate or extreme? Given that the model projects that future demographic change will happen at the same rate as past change, it is certainly possible to imagine a model that would project faster demographic change in future. Also, the period from 1986 to 1991 did involve faster structural adjustment in the wool industry than the period from 1991 to 1996 on which the model is based. So the model does not provide the most extreme view of what might happen to sheep farmer demographics in the future. Instead, it seems to offer a relatively balanced view of future demographic change at a rate similar to that of the past, with the rate of change eventually slowing, leading to a stable demographic structure of fewer but on average older sheep farmers at about the point in the future when the baby-boomers have retired.

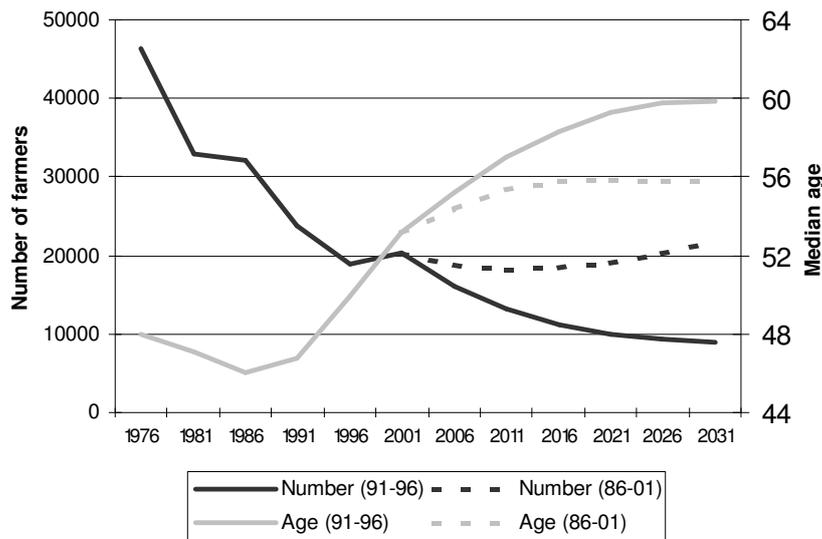


Figure 36 Historical and modelled future sheep and sheep-beef farmer population and median age (Source: modelled from ABS CPH data)

Past trends in the number and median age of sheep farmers have not been steady. Numbers have trended downwards but not always at the same rate. There have been periods with steep falls and periods with more gentle falls in numbers. Median ages have sometimes decreased, but since 1986 have increased, though not always at the same rate. It is reasonable to expect that the variation that has occurred in past trends will continue into the future, although because the modelling uses a single set of entry and exit rates for each age cohort over all the inter-censal periods modelled the future projections do not display the lumpiness of past trends.

Behind the projected increase in the median age of sheep and sheep-beef farmers lie two phenomena: one concerning the very young, the other the very old. First is the almost complete disappearance from the industry of those younger than 30. Second is the rapid expansion in the number of farmers aged 80 and over (Figure 37, Figure 38). In the 1991–96 model farmers aged under 30 are projected to virtually disappear from the sheep and sheep-beef industry, while in the 1986–2001 model small numbers of these young farmers are projected to remain (Figure 38). The large and increasing number of sheep farmers aged 80 and over is not an artefact: it occurs no matter what assumptions are made about entry and exit rates. This includes unlikely scenarios not

reported here. In no case was the number of 80-year-olds in 2031 projected to be fewer than 1000. The same is true of the disappearance of the youngest farmers: none of the models tested project that the number of young farmers will remain in similar numbers to those of today.

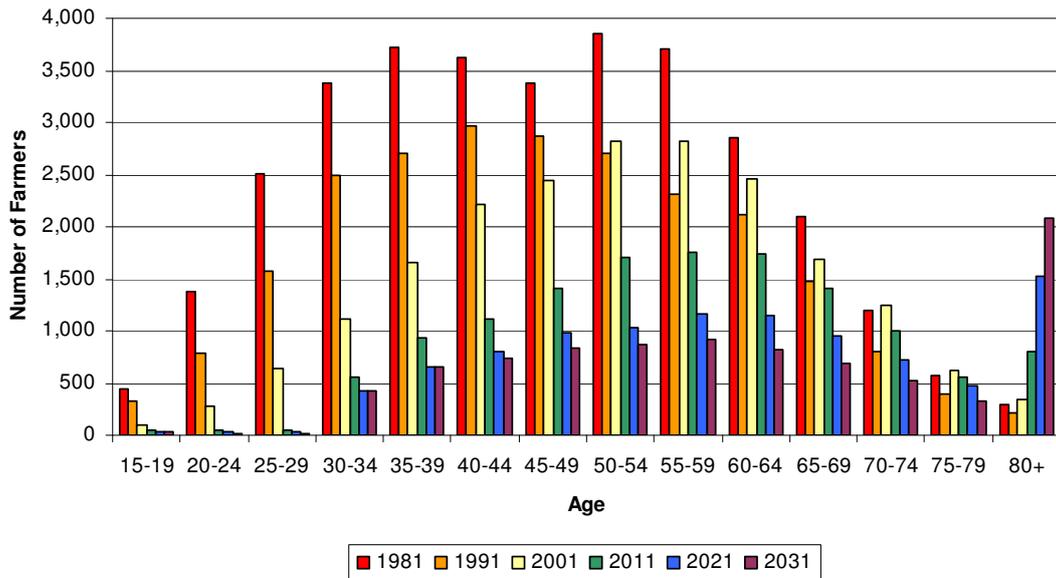


Figure 37 Historical and projected sheep farmer population by age (based on 1991–1996), 1981–2031 (Source: modelled from ABS CPH data)

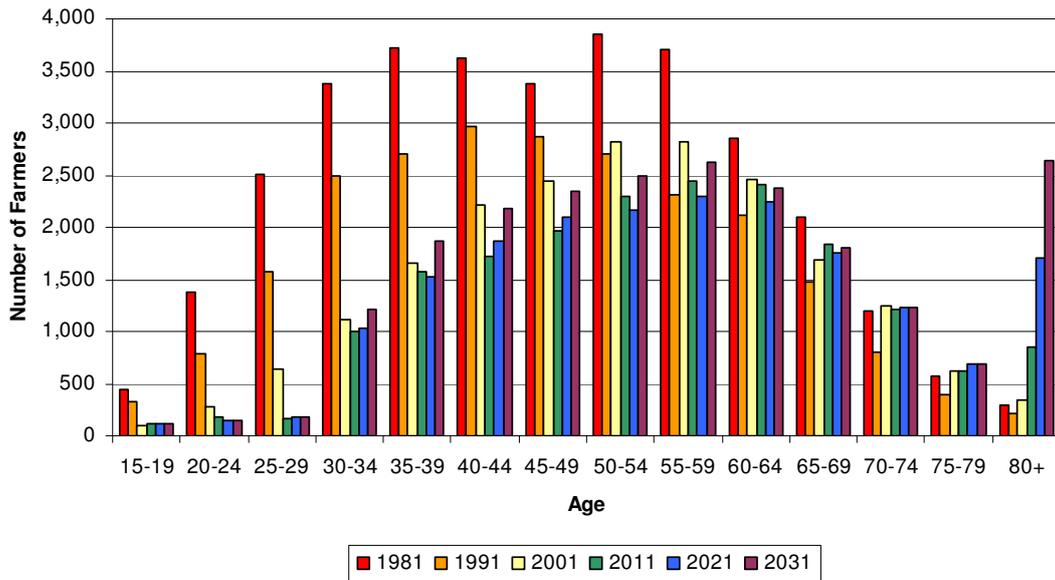


Figure 38 Historical and projected sheep farmer population by age (based on 1986–2001), 1981–2031 (Source: modelled from ABS CPH data)

Projected future regional demographic structure

Applying the model based on 1991–96 to each of the model regions separately shows that the number of sheep and sheep-beef farmers is projected to decrease in each of the regions (Figure 39). The degree of depopulation varies between regions, with Southern Plains projected to lose few of its sheep and sheep-beef farmers, but the pastoral areas and the two mixed farming regions projected to lose almost three-quarters of their sheep and sheep-beef farmers. Southern Plains is the most populous of the sheep regions and is projected to remain so. It is home to many substantial sheep farming businesses, sufficiently large to remain viable for some time, in areas where alternatives to sheep farming have been attempted but have not always succeeded. In contrast, the mixed farming areas by definition offer alternative enterprises to sheep farming and are the areas most amenable to shifts in enterprise mix. The population loss of sheep and sheep-beef farmers projected for the pastoral areas is harder to explain, but the farms in these areas are large in economic terms and thus capable of further aggregation.

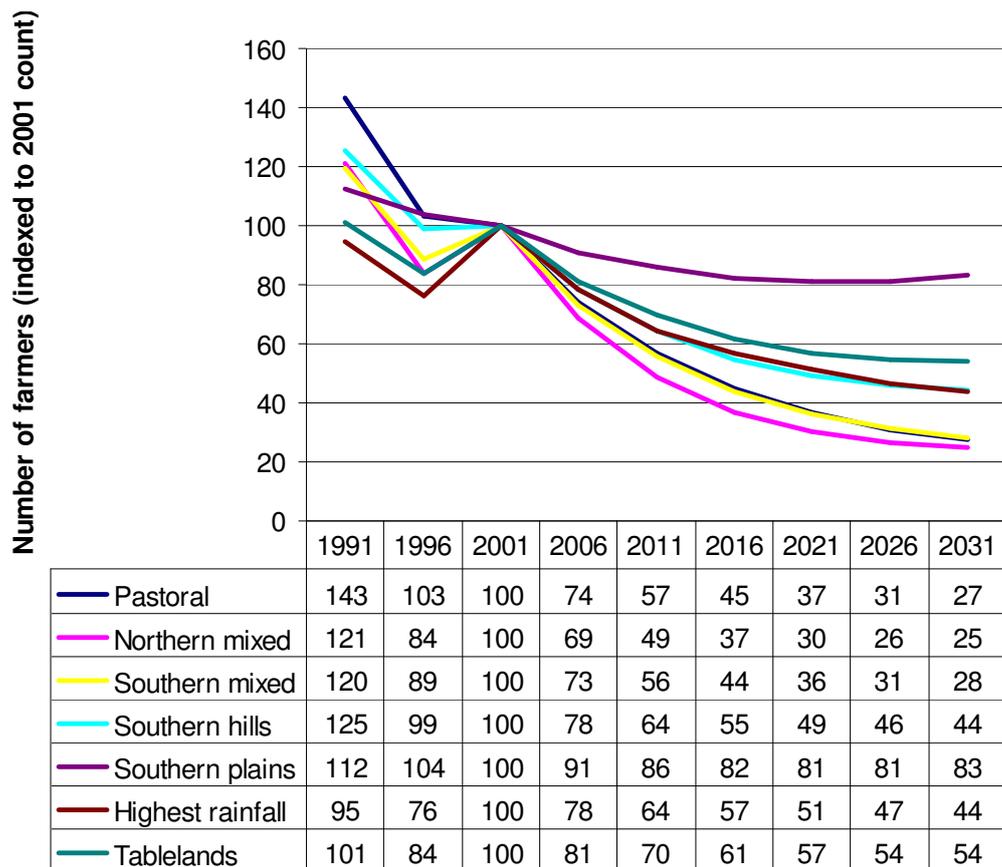


Figure 39 Projected sheep and sheep-beef farmer population by region (based on 1991–1996), 1991–2031 (Source: modelled from ABS CPH data)

The median age of sheep and sheep-beef farmers is projected to rise substantially in most regions, but again there is variation between regions (Figure 40). Most spectacularly, the median age in the Southern hills region is projected to increase in a straight line without slowing at all, reaching 72 years in 2031. This is the region with the most desirable landscape amenity characteristics and is thus the most appealing to those who wish to retire into sheep farming, whether as a lifestyle choice or because of a felt need to get into sheep farming. The one exception to the trend of increasing median age, the highest rainfall region, contains the fewest sheep and sheep-beef farmers and is the least stable of all the modelled regions. Although the projections show the median age in this region will decrease slightly, the model is sensitive to the very small number of young farmers in the region and small changes to the data result in much larger changes to the projection. Of all the other regions, about which I have

greater confidence in the modelling, the pastoral region remains the one with the lowest median age.

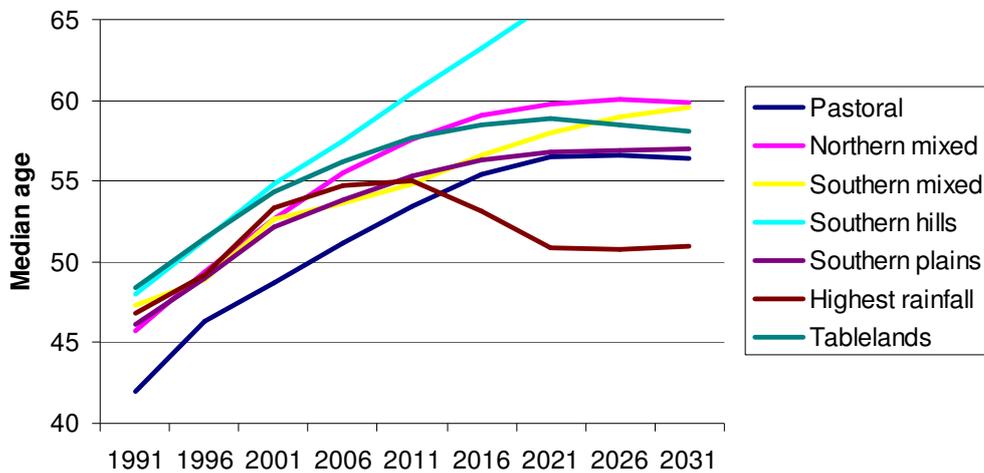


Figure 40 Projected median age of sheep and sheep-beef farmers by region (based on 1991–1996), 1991–2031 (Source: modelled from ABS CPH data)

Projected differences in median age are clearly explained by examining the projected age structure in 2031 (Figure 41). The extremely high projected median age of sheep and sheep-beef farmers in the Southern hills region results from a high proportion of them being aged 80 or older. The regions with the next oldest projected median age, the two mixed farming regions, also have a high proportion of sheep and sheep-beef farmers aged 80 and over. All the other regions have a similar age profile. The one exception, the Highest rainfall area, projects a relatively high proportion of young farmers aged 30 or less in 2031, but as the model for this region is sensitive to low numbers of young farmers, these figures may be spurious.

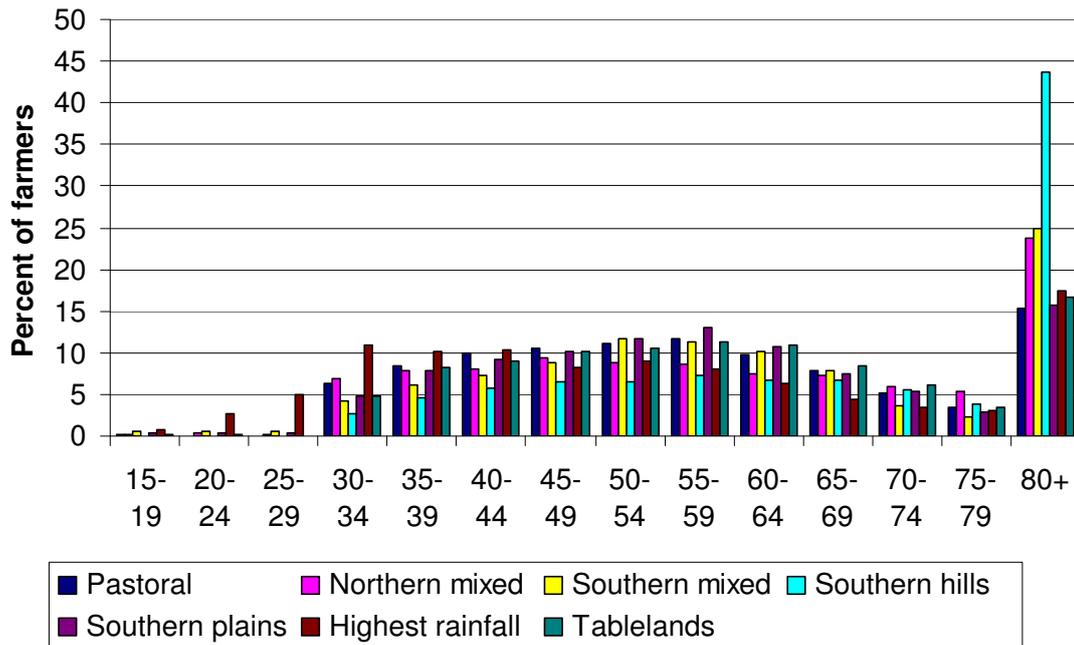


Figure 41 Projected sheep and sheep-beef farmer age structure of regions (based on 1991–1996), 2031 (Source: modelled from ABS CPH data)

Combining the projected sheep and sheep-beef farmer population change with the projected change in median age in the various regions shows divergent demographic trends between the regions (Figure 42). Most strikingly, the pastoral region and the two mixed farming regions share a remarkably similar demographic future, where they are projected to lose three-quarters of their sheep and sheep-beef farmers and face a moderate increase in median age. In contrast, the four high-rainfall regions vary greatly in their projected demographic future. The Southern Plains region is projected to retain 80 per cent of its sheep and sheep-beef farmer population, with the median age increasing by five years. The Tablelands region is also likely to have a modest increase in median age (4 years) but loses almost half of its sheep and sheep-beef farmer population. These two regions have the most and second most sheep and sheep-beef farmers of all the regions, and they are projected to remain the two most populous regions. Between them they currently account for about 40 per cent of Australia’s sheep and sheep-beef farmers, and this figure is projected to rise to about 60 per cent. These two regions, with their large, viable farms, generally low landscape amenity (particularly on the plains), and lack of viable, large-scale alternative

enterprises, are likely to remain Australia’s main centres of sheep production in the future. The Southern hills region is projected to lose slightly more than half its sheep and sheep-beef farmers, but their median age is likely to rise dramatically. The Highest rainfall region also loses slightly more than half its sheep and sheep-beef farmers, but with little change to their median age. Both these regions have high amenity value, but the Highest rainfall region has a wider range of alternative mainstream agricultural land uses that give young farmers a commercially viable future, in particular dairying. The major mainstream agricultural alternative to sheep in the Southern hills, beef cattle, is very much a retirement activity and it appears that sheep farming in this region has a similar future.

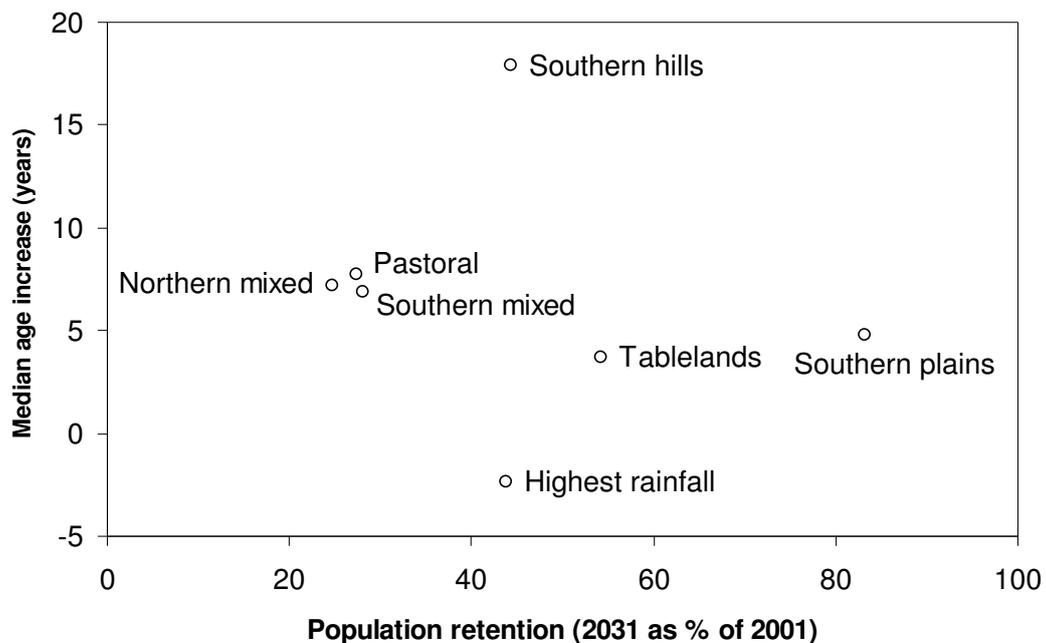


Figure 42 Projected median age and population retention of regions (based on 1991–1996), 2031 (Source: modelled from ABS CPH data)

Main themes

The number of entrants to Australian sheep farming has been dropping substantially, particularly among younger age groups. As a result, the average age of entrants has increased. At the same time, the exit rate has decreased. Consequently, the average

age of Australia's sheep farmers has increased, almost in parallel with the increasing average age of entrants, while the number of sheep farmers has decreased.

These trends are projected to continue, with both numbers and median ages likely to reach a plateau around 2020 or so, at which point the last of the baby boomers will be retiring. Behind these averages lie a large reduction in the number of young sheep farmers and a massive increase in the number of very old ones.

Regionally, the higher rainfall areas have generally older sheep farmers than the lower rainfall areas, with the hill country between Sydney and Melbourne, generally the areas with the greatest landscape and social amenity, having the farmers with the oldest average age of all. This trend is projected to continue.

These, then, are the demographic changes that have occurred in the Australian sheep farming industry. How do these changes affect the people involved? In the next chapter I explore these effects.

Chapter 5. Findings from qualitative study

The demographic trends of declining numbers and increasing average age emerging from the quantitative analysis are clear, and they are projected to continue. How, then, do farming families experience the pressures behind those trends? In this chapter I report on qualitative interviews conducted to answer the third research question on whether the demographic changes among sheep farmers matter. Mostly, I consider the effect of the demographic changes on the families themselves, but toward the end of the chapter I consider the effects on the community. Although the quantitative analysis was conducted on national data, the interviews were conducted with only Victorian sheep farming families, so the scope for generalising from the qualitative findings may be more limited.

In this chapter, findings from the interviews are grouped around the major coding nodes or topics of entry to woolgrowing, being a woolgrower, leaving woolgrowing, and the future of the district. Within each topic, the words of the interviewees are drawn on extensively. This is an approach somewhat different from that used by many researchers, but I think it allows the interviewees to impart their own voice to the analysis. At the end of each subsection I briefly summarise and interpret the main themes that emerged. To conclude the chapter I describe the situation faced by some of the interviewees in detail, as a way of presenting the diversity of circumstances of the interviewees and their responses to their circumstances.

Entry to woolgrowing

Destiny or choice?

For most of the interviewees, their farm had been in their family for multiple generations.

[How did you get into woolgrowing?] *Family farm.* [This farm?] *Yes.*

[And how long had it been the family farm?] *1912. My grandfather, they bought here and settled in 1912.* (W3)

Some had been young when their parents bought the farm.

Father before me ... he was a jackaroo, I think, on his uncle's property, locally. And a drover in his early days. Started off small. [So did he buy this property?] We did, when I was, 1939, I would have been in my teens, 17 or 18. (C7)

One interviewee commented that farms were unusual in being inherited often through several generations.

Farms are the only thing that go from generation to generation. There is only one business in the local town gone past the third generation, one business. It's amazing, isn't it? (C1)

In two cases, their forebears had been original settlers on part of their properties.

Been in the family since 1865, we're the only ones that have been here, my family selected it. (G2)

Others, though no longer living on land that had been selected by their forebears, could still point to family selections in the district.

My brother has some land there that my great-great-grandfather originally selected when he came out from Ireland. (C11)

Being part of a family of original selectors was a source of pride, and those whose families had been in the district a long time but weren't selectors were keenly aware of the difference.

[How long has the farm here been in the family?] Oh, my grandfather. 18, just a minute now, 18, 18, about 1850. [Did he select it?] No, he only selected a very small part of it. He selected 20 acres. [And it's still part of the farm, somewhere?] No, he never. He didn't select any, he bought the lot. He bought the lot. He bought 20 acres, for a start. (C1)

Even the few who had not grown up on a family farm described an affinity for woolgrowing, or at least farming.

I come from a line of farmers going back to five generations ago, coming out from Scotland with their sheep. So I've always had a love of sheep and a love of wool and a love of the country. My father was a farmer. [And have you always been a woolgrower?] No. No. My parents split up when we were pretty young, and my mother loathed the country. So we didn't

have anything to do with the country for a while. But an aunt of mine had a farm, so we spent a bit of time with her ... So there's always been a contact with the land. (C10)

Entry to woolgrowing was often expressed as continuing a family tradition.

In 1880 my great grandfather came here and ran sheep. We've always run sheep. (C4)

The long family history of woolgrowing, living and working on the one family farm or in the one district, serves to underpin the fact that for many, entry to woolgrowing seemed to be not so much a conscious decision as a natural progression. The following quote sums up best the continuation of a family tradition as a natural progression.

[How did you get into woolgrowing?] Oh, I just sort of inherited it, I suppose. [Inherited it?] My great grandfather, he originally bought the place. My great uncle was on this place ... And then, after the war, my father, he took this place on, from his uncle. And then, you know, ever since I left school, I've lived here and worked here all my life. So I've just, you know, continued on with the family tradition, virtually. [Do you feel like it is a family tradition?] Yeah, I suppose it is, yeah. Yeah, oh well, yeah, it is. This was sort of the natural progression for me, and I didn't have any other thoughts of really doing anything else. (W1)

Several interviewees appeared not to have considered any career besides woolgrowing. One could not settle on anything else:

Well, I never had a particular ambition to do anything, as I said I didn't want to work at all. I never had anything that I had sort of taken to except play sport ... And, I finished HSC and I was sent to Dookie Agricultural College. I know it wasn't my idea. I only lasted there six months ... Then I started work with Elders and worked for three and a half years ... And I got sick of that ... and decided I was going away to have a bit of a look around. And I found an excuse for doing that was to go up to Northern Territory, up to Darwin and play football ... I was up there for four months, did a couple of labouring jobs and then came home. And sort of

worked here for my keep for a little while. And it seemed I wasn't going to go away and find a job anywhere else. So, it was put to me if I wanted to stay for 12 months and see how it went ... I'm still here. And I found that actually the farming suits me even though I'd never had an ambition to do it. (C4)

For another, working on the farm seemed to be the only alternative to school.

[Did you ever consider doing anything other than coming home on the farm?] *No. I was no good at school. That's what made me come home, yeah. Oh well, I didn't like school that much. (C1)*

Another described returning to the farm in matter-of-fact terms. The scale of the farm allowed it.

Family farm, left school and came straight back to the farm. It was big enough to, I think there was four brothers running the farm, and, basically, all their sons came back, and it was big enough to support that. You know, things were good enough for that to happen. (G7)

In several cases, interviewees chose to go farming, and they made the decision often at a young age.

It's what I always wanted to do, from the time I was 12 or 13 I guess, I just decided that's what I wanted to do, so when I finished HSC I did a farming apprenticeship and so I stayed. (G4)

Four interviewees described parental pressure on them to come home on the farm.

[How did you get into woolgrowing?] *Inherited it, I suppose. [Was it something you wanted to do?] Something I was pushed into was back in the early 40s, wartime. I wasn't real happy but it was a case, somebody had to do the job, that was all ... I wanted to be an accountant or something like that. I had an uncle in Melbourne who would have taken me on. But I was told I had to come home and run the place. (G4)*

Pressure to come home on the farm was not always applied overtly by parents, but was felt nevertheless.

Husband: When I came home, I probably wasn't a natural farming type. But I suppose it was ... not that there was any direct pressure to come

home, but it just seemed, well the farm was there, I never considered any considerations of doing anything else but coming home. I suppose there might have been an expectation that you would come home. It probably pleased my parents that I came home ... Aptitude-wise, I was probably more suited to another occupation, I would imagine, like teaching history or political science or something like that. Wife: He got very good marks in Matric. I remember when I met him, I said, "why did you come back farming when you got such good marks, why didn't you go on and do, whatever?" Husband: I felt an expectation of my family to come home. [Unsaid?] Yes. But it also seemed like an opportunity to carry on something that had been in our family for a long time. (G2)

One interviewee had returned to the family farm after another career, when the family member running it became unable to continue. This was pressure applied by the returning farmer on himself.

There was a fair bit of emotion in there. My brother had been keen on the farm, and my parents, my grandfather had founded the farm, I wanted to continue the commitment that the family had made over a lot of years to that particular farm. (C9)

Pressure to continue the family farm was described only by those whose farms had been in their family for three or more generations, but even those who had bought their own farms were continuing the family occupational tradition.

Two interviewees described considering other occupations seriously.

It was either farming or engineering, or something like that. [So you could have gone off and done engineering, maybe?] Yes, it would have been a different life. (C11)

For the second farmer, the alternative occupation to farming may have been only temporary.

Well, after I spent a year or two on the farm, I did consider going into the police force at one stage. Because at that particular stage, I guess, wool and things weren't going too well. I thought perhaps a year or two there, doing something like that, while I was still physically capable of doing that. (W2)

Overall, woolgrowing does seem to be an inherited occupation. The woolgrowers I interviewed valued the tradition and valued the fact that they were part of that tradition. Even those who did not have an immediate family tradition of farming felt a need to explain their passion for farming — and woolgrowing in particular — through either a longer-term but broken family tradition or a childhood interest. A lifelong passion for woolgrowing was clearly a dominant theme but there was still a small number of people who had fallen into woolgrowing in the absence of anything else to do. For these latter people, the family tradition may be less meaningful than it is for the passionate.

The process of entry to woolgrowing

To equip themselves for woolgrowing as a career, interviewees had had a mix of formal and informal training and learning on the job. Few had spent time at a tertiary education institution, and even this was usually combined with practical experience on other farms.

I went to ag college, went to Glenormiston, a couple of years there. And I went away jackarooing before that for a year. (C11)

Some did specialist agricultural courses while still at school.

I did all the trade subjects at school, to learn about maintenance. (C6)

The only interviewees with university degrees were those who had entered the industry after another career.

Most training was practically oriented. Some completed farm apprenticeships on the family property. Others did stints as a jackaroo. Most took up learning opportunities as they presented themselves.

While I was still at school, I stayed home when the stud classer came and learnt a lot from him. (C6)

Others relied on what they called natural ability.

You're really born to be a farmer. It's something that, if you haven't got natural ability to be a farmer, you won't be successful. [Why is that?]

Well, if you haven't got natural ability to be one, it's like getting a person to go and play football. If you're not a person that's built and you've got

those natural abilities, you'll never be any good as a footballer, or a tennis player, or a cricket player or anything else. It's in your genes to be interested in, you've got to be a person that knows stock, that's interested in stock ... If it's in the genes, you'll naturally be that type of person ... You're bred for it. (C3)

Those interviewees who had not grown up on a farm, and entered woolgrowing after other careers, began by studying farming formally.

Well, we did a course. The Melbourne University ran a course for farmers in that year. That's probably what really started us. We saw an ad for this course and got ourselves into it. And that was every weekend for 12 months ... One day in the classroom and one day out doing practical stuff. It was very good. So that sort of set us going ... [Have you done any other courses, other than that one through Melbourne University?] Um, oh, I did a woolclassing course. Just before we started the uni course. (C10)

The person who returned to run the family farm later in life, and had tertiary qualifications in other fields, still recognised a need for training.

Since I've been on the farm I've gone to every relevant and useful course I possibly could. Prograze, pasture husbandry, sheep breeding, sheep nutrition, to do what I do from day to day better. The things that I have done have been terrific, by and large, the content has been terrific. In everything I've done I've picked at least one or two things out of it and used that. (C9)

Reflecting on their own training, and what training they would recommend for a new entrant to woolgrowing, several interviewees suggested that the most important thing was to get off the farm for a while, to experience life elsewhere. For some, this involved obtaining a qualification in an unrelated field. At the least, it involved working for someone else. Travel was also mentioned.

Our son probably thinks he will [take over the farm]. He's doing an agricultural degree ... We wouldn't really like him to come straight back from university to the farm, even if he wanted to. I think It's probably good for people to get out, I suppose he's doing that now, for three years,

but get out and see how life is in different circumstances, perhaps to have a paid job also. You're getting the money in all the time, that's one way of earning an income, and then down the track you might think, well, "I don't really like being told what to do, I'd like to be my own boss", and so he can probably have the farming setup that would satisfy those desires.
(G2)

Most interviewees had grown up on the family farm and had spent their working life on the farm. The choice of which farm to run was already made for them. They obtained the family farm by inheritance, purchase from family members, or some combination. In some cases, other family members still owned part of the property or part of the trust that owned the property. Where interviewees were not living on and running the family farm where they grew up, they were generally on a farm in the same district (or a nearby district), on a farm that had been bought either by them or by a family partnership (perhaps before it had been split up).

The one interviewee who had purchased a woolgrowing property without having a family connection to the district had other purchase criteria.

We'd always talked about buying ... a proper farm and getting stuck in once the kids were doing what they wanted to do. So this is what we did. [And how long have you been here?] We bought it in 1996. ... [What made you choose here?] Oh, it's good clean granite sheep country. And it's an hour from Melbourne, so [my spouse] can still go and work in town ... [So the closeness to Melbourne was important to you?] Well it was ... Because it's very hard to set up a farm the way you want to, without another income ... [Because you need both the capital to set up, plus the ongoing cash flow to keep working it.] That's right, yes. Well, to do it the way we have. I mean ... we haven't done it on the cheap ... [Did you get anyone to help you choose this property?] Ah, no. No, no. We fell in love with it and that was that. It was just right. [Are you still in love with it?] Yeah. (C10)

Overall, woolgrowers' perceptions of the training needs of entrants to their industry are quite different from the training that they themselves received. Many of them received little or no formal training, and most of that was around how to physically perform the farm tasks. Farming generally, and woolgrowing in particular, seemed to be something that was learned on the job. Interviewees' suggestions for how an entrant should prepare for woolgrowing these days were very different. People talked about the need for life experience, a qualification in a different field from farming, learning to work for someone else and simply getting off the family property for a while. All of these things would be capable of instilling the idea in the mind of the potential entrant to woolgrowing that there was more to life than farming.

Being a woolgrower

Why grow wool?

Most of the interviewees' farms were in areas where woolgrowing was the predominant land use. Not surprisingly, most of them described woolgrowing as the best enterprise for their farm, and sometimes the only suitable enterprise.

The only thing this country does well is grow wool. We've always run feasibility things through every second year, all the time we've been here, on cattle and things like that, and it's ended up we run the average number of sheep and if we have a good year we put on agistment ... We haven't really changed much from that, because it's been the most financial way to do it. When we first started off ... we tried prime lambs, or first cross lambs, but the prices in those days were such that, unless you had real good prime lamb country, there wasn't anything in it. It's no good producing store lambs. You can get them 80, 90 per cent, but that wasn't good enough. We're just better running merino wethers, we quickly woke up to that. (G1)

Only for the two mixed cropping farmers, who obtained between one-third and one-half of their income from sheep, was woolgrowing not the predominant farm enterprise. They described sheep as *handy scarifiers, to eat the weeds down in the summertime* (C1) and *a handy way to use up the grass that I'm not using for cropping* (C2). These farmers also described the diversification advantages of having sheep.

Interviewees generally found it difficult to describe what they liked about woolgrowing. Often they talked about positive aspects of farming generally, such as *working for myself* (C11), *developing a property* (C11) and *taking on a challenge* (C9). This may reflect the fact that, by taking on the family farm, they may have had little choice but to grow wool. Two farmers admitted it was all they knew.

Basically, I don't know anything else ... As far as farming goes, I haven't got any other skills. (W3)

Some interviewees did speak of their love for sheep and wool, though.

They're just delightful animals though, aren't they, sheep. Don't you think? They're all different, every one of them's got a different personality. (C10)

Satisfaction was also important.

It's great when you're a producer, and you go down [to the wool sale] and you see your wool there, lined up on the show floor, comparing it with wool all over Victoria and New South Wales. And it's certainly a great pleasure to see that you're turned on and you're producing a good article. (C3)

Satisfaction with having produced good wool and receiving high prices for wool was mentioned several times, but no one said they were in woolgrowing for the money.

Dad used to top the wool sales in Melbourne for many, many years, and we topped the wool sales in Melbourne for many, many years. (G6)

Overall, given that most woolgrowers appear to be the children of woolgrowers, and that they either stay on the parental farm or in the parental district, and given also that for many woolgrowing areas there are few feasible alternatives to woolgrowing, most woolgrowers seem to have little choice about what they grow. If you don't like sheep when you start out in woolgrowing, it would certainly make life more enjoyable if you learned to like them. Apart from the one person I interviewed who did not own his own farm, no one had left a farm producing something else to move into a woolgrowing district because they wanted to grow wool.

Is the farm big enough?

The case study farms varied in size from about 300 ha to about 2000 ha. Some of them were not large enough to support one family, without other income, particularly during tough times. Several of the farms were “subsidised” by off-farm work, often by wives.

[Is your farm big enough now?] *Well, it's probably just big enough, with a working partner, working wife ... [How would you go if you didn't have a partner working in town?] Oh, it would be pretty tough, yeah. [My wife] works three days a week, just with the pressures of kids and so on. (C11)*

This makes it difficult if a child is interested in farming.

We discussed with [the children] the fact that the property wasn't really big enough to support more than one family. So if they were to become interested in farming, it probably wouldn't be on this home property, initially anyway. During that last 10 or 15 year period, the property wasn't big enough to support even one family. It wasn't supporting one family. Virtually since 1990, anyway. (G8)

Some who had smaller than average farms were able to make their property viable by leasing extra land.

[Is your farm big enough?] *Yeah, I think it is, for what we're doing here. Especially now we're leasing some country. Just by itself, no, I'd be struggling ... Especially in this sort of year, like, when it's a bit drier and you run out of feed pretty quickly. That's where the lease country's been good, you can get the sheep away. They're grazing it and letting the better country here pick up again. It's actually made a lot of difference. (C2)*

Leasing was particularly valuable in areas with high land prices, relative to their productive value. One problem with leasing land in such areas is being able to lease the land at a price that provides a return from grazing.

You know, I'd contemplate leasing some more land, probably not currently, but in the next few years, once I get a few things established again. [Is it just not practical to buy it, just too dear?] It's basically too dear around here, to get a return on. [And can you lease it for a commercial rate, or is it still a bit dear to lease?] Well, I think that what

we're leasing at the moment's reasonable. But that's the problem, getting a good property that's, um, yeah, I was very lucky to get this one. [So you've got to do the right thing by the owner to keep it, and to keep the price down?] Yeah. You know, we've had a good relationship. We've leased it for three years and we've got it for another three years now. Unfortunately he won't guarantee it for any longer than that, but hopefully it will continue. That's the problem with leasing. (C11)

Other farms could support one family full-time, but a second family only part-time.

[Our son] came home just before the bottom dropped out of the market. We had 10 hard years: drought, abnormally dry, out-of-season rainfall, bad prices. The decisions were made for us, they were financial, [he and his wife] had to get off the place and make a living, because it wasn't here. They were making a reasonable living from [off-farm work], but it was only for about six months of the year ... They were living all right, but they weren't getting ahead ... The decisions were in the cash book. If [he] had stopped here, he wouldn't be working on the farm, he'd be working off the property most of the time. (G1)

The large properties were able to support at least two families, but may still have been trying to support more people than their scale might suggest. Even they were sometimes subsidised by working wives.

Basically, our wives have gone out to work. So the place has supported three families. Well, the only reason it has done, is that the wives have worked, I'd say. It's just not a viable unit to support three families, really. That's possibly the only way it's happened. [But because your wives are working, you can stay in it.] Yeah, sort of subsidise the farm, I suppose, in a way. (G7)

One alternative to off-farm work is to do all the farm work yourselves, even that normally done by contractors.

We do all our own shearing. It takes up time but it's not taking up costs. Most other farms of similar size get a lot of contract work done. We do all our own and some others as well. Before we bought the extra ground we

would shear other people's sheep between end of August and Christmas and fit in the harvest in between. (C6)

Increased living standards were another force for expansion. Higher living standards require larger scale operations.

When we were teenagers, my brother and I, up there, a lot of the locals only had 200 sheep. And they were able to make a living. They had the modern Bedford or a Holden motor car in those days, they sent their kids to colleges and everything else, with 200 sheep! ... but their expectations, too, were a lot less, weren't they? People's expectations today is what keeps them poor, isn't it, in a way? Trying to keep up with the Joneses. (C7)

To two farmers, staying viable was not enough. A farm had to be big enough to make a comfortable living from it.

Viability is not what you're after. What you're after is a comfortable living. [What's the difference?] The difference is a substantial amount of money I think. You've got to make more than viability. You've got to have a fair margin. I mean you've got to, as it, you've got to have enough country to make a very comfortable living off it in good years, so when you get to the bad years you're not trying to find yourself going backwards. You can break even. Or go slightly backwards at worst. (C4)

To maintain a viable farm in an environment where costs increase and returns decrease in real terms, as generally occurs with primary production, requires finding ways to increase returns. This most often happens through expansion of the farm. Interviewees were conscious of this pressure. Maintaining sufficient scale of operations is critical if another generation is planning to return to the farm, particularly if the parents want to also earn an income from the farm.

It seems as if, in the grazing industry, there are certain benchmarks for what will need to be able to be managed to give yourself a chance of remaining profitable in the longer term, with the general decline in the terms of trade of rural commodities, and particularly wool, which is

probably going to suffer that as much as any commodity over the next 10 or 20 years. So yeah, with all that put together, we are probably challenged to think, well, you know, we've basically got to do better in those areas, to give ourselves a chance, not only ourselves but if the other family members want to come into the, want to take on the family business, to give them the chance to make it successful without having to battle along with less than an ideal sized property. So yeah, that's why we've, 10 years ago we probably wouldn't have even considered it, "oh, we've got enough, we've got enough", but now you realise that probably you haven't. (G2)

An alternative to expanding the land area of the farm is to further develop the existing land. This has attractions particularly in areas where land prices are high due to their proximity to urban centres.

That's been a change. My father, if he had a bit of spare money, would buy more land. I'm saying, "no, let's use the land we've got properly, before we go buying more" ... Whereas once I might have thought about buying up local farms, it's pretty much out of the question now. If you've got plenty of money you could buy it and get your capital back some time when you sell it. But, because I don't think there is a huge future in where we are at the moment, then I won't be buying any more. I'll find the economic margins by improving what we've got, and then if I find that's not enough then we don't buy more, we'll sell up and move somewhere else. (C9)

Even in areas far from urban centres, competing purchasers planning alternative land uses are often willing to pay more for land than neighbouring woolgrowers.

The land around here is what you would say, is fairly well held. And, where we thought we were going to expand ... has now been sold to the bluegums ... [The bluegums probably were able to give them a better price than you could have.] Well, anybody that bought land at bluegums price, there's only one way you're going to go. Because you'll never pay it off. You'll be in debt until the day they put you down. [So it's been difficult to expand?] Reasonably difficult, yeah. There's been a couple of places come

up, but it hasn't been at the right time. [Is there ever a right time?] No, but there's people you've got to bid over at auctions. You can always buy dear land, but you've always got to pay for it too. (W2)

A further alternative described by interviewees was to diversify. In mixed farming areas, cropping was an obvious diversification route, along with prime lambs and beef cattle. Most of the case study farmers described their areas as being best suited to grazing. Some said their areas were well suited only to woolgrowing, which precluded even prime lambs and beef cattle. Diversification off-farm was also mentioned.

There's been a few opportunities to buy land close by here, and I'm reluctant, I'm reluctant to actually go out and buy more land in our situation ... I'm a lot more interested in some off-farm type of investments now. [Why is that?] Oh, to diversify, so we're not reliant totally on, you know, just farm income. Because if I buy more land, I'm the one who has to work it, to bring that income in. And if you buy something like a house in a town somewhere, providing, I mean there can be hiccups with those too, but providing you do a few things right, someone else is paying it for you. And you've got some investment outside farming ground. (C2)

Off-farm investments can have unforeseen benefits.

We've found out since that off-farm investments produce no more money than farm investments. But it's a lot better to go and talk to people about how your investments are going, than to be crutching daggy sheep. So when things need to be repaired, or things don't do quite as well as expected, you just think about shitty sheep, and you think it's not too bad after all. (W3)

Overall, the pressure to maintain farm viability seems to be a major source of chronic stress for woolgrowing families. The point of inter-generational transfer, where both generations are trying to earn an income from the property, is the point of greatest stress. Only above a certain scale and in certain areas (where land prices are generally low) does expanding the land area of the farm make sense. For most woolgrowers, intensification, diversification within and off the farm, and off-farm work for at least one family member are easier strategies.

Is there more to life than woolgrowing?

Off-farm financial investments are one way to diversify your life beyond woolgrowing. There are also off-farm emotional investments.

One strategy that I used was I started a TAFE course, one day a week, doing furniture design. I did that for about a year and a half, part time, which was very therapeutic ... I'm not an addicted farmer, really. I enjoy the work immensely, but I have to discipline myself to take time off and leave it alone from time to time. (G8)

These off-farm emotional investments don't have to be physically off the farm, they can simply be emotionally off it.

I don't want to make a fortune out of it, I like to think I keep life in balance, that's family, lifestyle, health, people are a large part of this sort of thing. I see some farmers who, my father was like this, work pretty hard and sometimes at the expense of social life and holidays. As a kid we didn't holiday very often. I have tried to make sure that the kids have a beach holiday every year. I try to look after family things, relationship things ... I hate the idea of retirement where you're working full time one day and then the next day you're not working at all ... That is stupid. I will retire, but the farming will gradually phase from being predominantly a business to predominantly a lifestyle. And if it's not one of my sons who's out in the sheep yards getting dusty or chipping the shit off the bums then it will be contractors doing it while I'm entertaining or kicking back watching the cricket. I'll do as much as I can and want to do while I can. (C9)

Off-farm emotional investments may also help farmers who retire or leave the industry to ease into life without a farm.

My dad lived his whole life for the farm. And I'm not saying there's anything wrong with that, because that's what he enjoyed ... But I don't enjoy farming to the same extent. I like playing cards, and I like having a hit of golf, and playing on the computer, and reading science fiction books. Now dad did play bowls, and in his younger days he played golf and a few other sports. But the fact is, when he went to retire, the only

thing he had to retire was bowls. He wasn't a gardener, and he loved the farm. When I go to retire, I'm not saying I'm not going to have a farm, I'm just saying I'm going to have a lot less farm. And I'll have other interests, that's all. (W3)

Overall, it seems that for many woolgrowers there is not more to life than woolgrowing. I have quoted only three interviewees on this topic, and they are the only ones who expressed any kind of enthusiasm for a life outside farming.

Leaving woolgrowing

Passing on the farm

Interviewees split into three roughly equal groups, those where succession had occurred recently or was likely to occur, those where succession was not going to occur, and those who were not sure yet. Interviewees in all three groups were eager to explain that they were not applying any pressure to their children to take on the farm.

Well, we certainly have talked about it. Right back from when they were younger. And we made a conscious decision not to try and influence them or persuade them to take on the succession of the family farm, that they could make up their own minds. (G8)

One farmer, who admitted having felt unstated pressure from his parents to take over the farm himself, did admit to hoping that his son would take over the farm, but suggested that he hadn't overtly pressured the son.

Our son probably thinks he will [take over the farm]. He's doing an agricultural degree ... We're thinking that, if he can finish, and go off and work in the industry somewhere, go off and do things, then perhaps eight to 10 years down the track he might come home then. That's what we are hoping for, we'd like to think might happen, that he would go and be independent for a while and see a bit of the rest of the world, or Australia anyway ... But I would say that, today, in this maybe more enlightened age, I would rather see young people not feel as if they've got to come home to, not do anything, just for the sake of pleasing someone or

carrying on a certain tradition in a family, or whatever. I'd rather see them do what they want to do, do what they're best suited to. (G2)

As well as not pressuring children to come home on the farm, interviewees described not pressuring their children to leave either, although this may have been tempered by relief that the children were unlikely to choose farming as a career.

I'm basically saying to him, if he wanted to farm, I'd be saying to him, you've got to go out, see how the world lives, get a qualification of another job, and if you still think farming is the way you want to go and you understand all the things that, you know, are not always rosy with the farm, if you can understand that, and accept that, well, we'll talk about it ... Unless there was an absolutely impossible situation, we would certainly try to accommodate him, we wouldn't just say, no, you're not farming. I think it's pretty unlikely, once they get out and get a taste of it ... [He] has got a bit of a flair for computers, once he was out working in that area, earning the dollars they pay, you'd never want to come back for an income. You'd come back for more, what would you say, a part-time hobby. (C2)

Farmers can't help noticing when their children display an interest in farming.

We had [the grandsons] up the paddock one day, during the drought, and the other boys are saying "boo, boo" to the cows. And Billy said, "I think I will count the cows". And I thought, that's a farmer, he's going to count them. (G6)

In areas with high amenity values (and high land prices), the best way to pass on a viable woolgrowing farm may well be to sell up and move to another farm.

I do have a couple of sons. Whether they turn out to be farmers, certainly one is pretty keen, and whether it turns out that we'll farm this property, or if they want to be serious, they ought to be moving two hours further west. If we believe what we're told, by 2040, the farm where I am is going to be a suburb of Melbourne. (C9)

The decision to move is not always easy, and can be frustrated in various ways. Families get settled in an area, often through the activities of their children. Leasing land may be an option in the short term, but longer-term needs of passing on a viable farm may make a move necessary.

It would have been a lot easier if we'd bought [further away from the family farm], you know, we were under Melbourne price influence then. And it's even worse now. It would have been much more affordable elsewhere. You know, we had the farm on the market 10 or 12 years ago, I suppose. We were going to move further north. [What stopped you?] We couldn't sell it. [Was it just a poor time for selling farms, or what?] Yeah, it was, yeah. Well, for the money we needed to change the operation. [Where were you going to go?] Oh, eastern Riverina, somewhere like that. I'd like to be out west somewhere, but there's family commitments. [You mean Western Australia or South Australia?] No, western New South Wales somewhere. But it's not practical ... [Do you think you'll stay here now? Or will your property be on the market again some time soon?] No, no. I think we'll stay here. [And how did that decision come about?] Well basically, with family commitments, we're, you know, I suppose we've settled here now, we've made the house a bit bigger, and things like that. But, you know, I could see maybe one day that, you know, if one of the kids wanted to go farming, we might sell part of this, or all of it, and move somewhere else. [It will be a decision for them, more than for you, probably.] Yeah. But being able to lease this land over the road, that's made us, given us enough scale. So we hope that would continue for another 10 years or so. (C11)

Family reasons are only one force acting to prevent or inhibit moving the farm. There are also farm management reasons.

We could sell and buy a bigger place, but you walk away from all the improvements you have worked to put there. Also, you buy into an area where you don't know the intricacies of the season. You cop droughts, ryegrass staggers, crickets, things you haven't been accustomed to. You

can't always get into an area that's suitable for the same type of sheep you've been running. (C6)

Where the farm is small, even when a child is keen to take it over, the child may not be able to earn enough from it to justify working it full-time, and may have to work off-farm to obtain sufficient income.

We'll be here perhaps until the end, but the next generation will run this, if they choose to, as a part time property, where they may run dry sheep, weaner cattle, steers, um, where you're not out tending it all the time. And it will be a part time operation, where they work off the property and family members probably work in town ... The place could be run, probably, fairly efficiently with all dry stock ... I'd say, in the long run, a lot of these smaller properties will be run along those lines. (W2)

Overall, the pressure felt by today's generation of woolgrowers to come home on the farm, whether it was stated overtly or something unstated but nevertheless felt, is not something they are placing on their own children. Several of those who are thinking of a woolgrowing future for the next generation talked of moving to another district, but such a move was frequently a source of worry. It is not surprising that many of them live on or near the farm on which they were raised. I have watched my father move districts, and heard from him stories of my grandfather's experiences when moving districts, and I know it is not easy.

To stay or go?

Few interviewees wanted to retire from woolgrowing. Mostly, they just wanted to stay on the farm or nearby and keep working but slow down a bit. Two farmers, both in their mid 70s, and who both had someone from the younger generation already working on the farm, described reducing their involvement in the farm, at least in the day-to-day work. One expressed a desire to give the younger generation an opportunity to make the management decisions.

I've tried to let go. It's no good if somebody's standing over you all the time. (G4)

The other recognised that the hard work was getting a bit much.

I wanted to get out of farming like, and leave it to [the young ones], you know? ... I think, as you get older, it's better left to the young ones ... [So do you do much on the farm yourself now?] I round up sheep and help them round up cattle ... But no hard work. (C5)

Other older farmers with the younger generation present on the farm were still keen to keep working. Even failing health would not stop this farmer working on the farm.

[You're saying you're 67. Is that the age at which you might want to retire, or not?] *Only in a box. No, I haven't reached, well, my health hasn't reached retirement yet. So my mind hasn't, has it? Your health dictates to you, you know, when and how you will retire. I know you shouldn't go on until you get sick, but I'm one of them blokes that will. You shouldn't keep on keeping on until your health says, "look, time you give up". You should be able to make that decision yourself. But I'm not one of those people. I'd like to think that I can keep on going. Not as good as I used to be, naturally. But, you know, contribute something, somewhere. (C1)*

For this couple, both over 70, the idea of not working did not seem to exist.

[How much longer do you think you'll be actively farming, yourselves?]
Husband: *I'll actively farm until I die. That's my ambition. I don't want to retire. I'm fit, I can do a day's work ...* Wife: *I would never get a job now, would I? (G5)*

If one of their children decided they wanted to run the farm, interviewees generally indicated that they would hand over the management to the child.

I saw that my father and grandfather handed over the reins fairly early. I respect that, so did my father. Some fathers won't hand over the reins. Once you were satisfied the kids knew how to run the farm I'd be quite happy to let them. I don't want to be running the farm when I'm 70. (G3)

This farmer's father had handed over the family home and management, but kept working on the farm.

Dad married late in life. So he was 65 when I got married ... [When] I got married, dad said, "we'll move into town, you can stay here" ... [Did he come out to the farm and help you much?] Every day. (W3)

This farmer considered several options. He didn't want to stop farming, but ageing or children's desires might change that.

[Are you likely to stay on the farm until you can't run it any more? Or would you like to retire off it at some stage? Or what?] Well, I'd actually like to stay on the farm, yeah, until I can't. Cart me out in a box. [A lot of farmers are like that.] But, you know, if there was a family member taking it on, well that might be different. But I imagine, you know, as I get older I'd scale back the operation. And I might sell off part of the property. (C11)

Even with a child working on the farm, some farmers can't let go of the management. No one admitted having this characteristic themselves, of course, but some had observed it in others.

I mean, dad saw that with his neighbour, Bruce. I mean, Bruce wasn't even allowed to turn the tractor on, because his dad did everything for him. And then his dad died and Bruce was 40-odd, and had never even turned the tractor on, let alone backed it out of the shed ... And Bruce wasn't dumb, by any means, but he just hadn't been given the chance to learn. (W3)

Even when it was obvious that no children were going to take over the farm, some farmers wanted nothing but to stay on the farm.

As long as my health stands [I'll stay here] ... You die if you stop. (C7)

This farmer did recognise, at nearly 80, the need to slow down.

I could probably, if I wanted to, I could run more [stock]. At my age, what's the sense in exceeding your limits, really? (C7)

Two farmers, both of whom had no children wanting to take over their farm, recognised a life outside woolgrowing, and were keen to reduce their workload.

We have a contract shearing team, but I do the woolclassing. So I'm involved pretty much with shearing. And I don't know for how much longer I can keep doing that. It, shearing is a very physically demanding time for me and, as I'm getting older I feel as though I might have to step back and take a lesser role ... I don't want to be flat out farming when I'm 80 and drop dead, chasing sheep round in circles. I want to do a few things as I get a bit older, well, before we get too old, that is, too. (G8)

The following exchange, between a farming couple in their 70s who have a son working full-time on the farm, illustrates the difficulty some farmers have with the idea of retiring. The husband clearly is not interested in any kind of retirement, despite recognising that he is less and less able to work as hard as he used to. The wife is keen to try other things in life, but her husband is unable to focus on that and she knows it.

[Do you want to retire?] Husband: *No, I don't want to retire. I'm quite happy to keep on going around the place.* Wife: *I could retire and go wandering round Australia.* Husband: *We've been around, and we can still go around ... I use a 4-wheel bike to get round the place. That's far easier than driving a vehicle, which you've got to climb in and out of, particularly after a broken leg ... A fence got knocked over this morning. I just put some steel posts and wire on the back on the 4-wheel bike and go and fix it up.* [So that makes it easier to keep running the farm as you're getting older.] Husband: *Oh, yes.* [But there'll come a time when you can't. Do you want to keep on going until you physically cannot do it any more, or do you want to actually stop trying to farm day-to-day and either go live somewhere else or let your son do the whole lot and you just give him a bit of a hand occasionally, or what?] Husband: *While I can do it, I'd like to be able to do it. But there's come a time when you feel as though you won't be able to do it ...* Wife: *He won't retire, no ...* [What about you?] Wife: *Me? I'll keep on doing what he wants to do. But I want to do other things as well. I'd like craft work and stuff like that. But some times I think I'm, you know, sort of, sick of being a farmer. But other times it's OK. It depends. If you're out there and there's fly-blown sheep and the*

mosquitos are eating you and it's drizzly rain. Husband: The sheep have given us a bit of a headache this year, we've had eight inches of rain for April ... [Difficult conditions, yeah. I'm intrigued by what you just said, "sometimes I feel I'm sick of being a farmer". That must take a bit of admitting.] Wife: It does. Yeah, I do. I do get sick of being a farmer at times, and I just think, oh well, I'd like to, you know, just, let's go and have a picnic today. But he can't do that because you've got to go round the sheep, you've got to do this, you've got to do something else, and so you don't. Sort of, you get over it the next day. Husband: The weather conditions this particular year have been extreme ...

This is quite different from not wanting to hand over management of the property to the son. It is simply a farmer who loves growing wool and neither knows nor wants to do anything else with his life.

Even farmers who recognised that woolgrowing was not the only thing to do in life and did not have children ready to take over the family farm, did not want to leave their home until they had to.

We have given it a lot of thought. We have looked at places to go and retire at. Then we ended up listing the main things we really thought we had to have, and that included animals, dogs and cats and things. Also, he belongs to the gun club and he's in ham radio. This made us fairly unsociable ... It was actually easier for us to say, we've got everything we need here, like the strategic dog kennels and the radio aerial and the clay flinger. But ultimately, yes, of course we would [leave the farm] ... We just come back to, we can't find anything we'd rather do than stop here at this point in time. But we know that this probably can't go on forever. (G1)

Overall, woolgrowers seem to not want to leave their farms. Despite their talk about letting go and leaving it to the younger generation, most of them are still keen to embrace the life and the work. Even if there is a life after farming, it still seems to involve farming. Even the two farmers who had a sense of identity outside woolgrowing seemed reluctant to leave.

Future of the farm

Those with smaller farms, or with little off-farm investment, talked about having to use the farm to pay for their retirement. The property would be leased, or it would be sold and the proceeds reinvested.

Basically, we'll use the property to fund our retirement, and when we no longer need, you know, when we're dead and gone, [the children] can have what's left. (G8)

Opinion was divided on leasing. Some felt that leased farms deteriorated, because the people who leased them did not have an incentive to maintain or improve them.

I think, when you put a lot into a place, you sort of, and people who are going to lease, mostly they will come and they want to get as much as they can out of it for the money they've outlaid. I'm not too sure I would just like to see that done. I think I'd end up selling. (C2)

Others were more confident in leasing. Perhaps a trustworthy person could be found to lease it.

In the back of mind I've thought that if something did go wrong I'd lease the property out and still hold an interest, with it being leased out. There's any amount of people, I think, locals that, with farming knowledge, that would be prepared to lease it. (C7)

If you sell the farm, you then have to do something else with the money.

Selling it, it becomes money then, and then you've got to do something with the money. (G6)

At least leasing kept the farm in the family and preserved children's future options.

See, 15 years ago, the thought was that you'd sell the family farm and invest it and retire. But, as time goes on, and you look at the ability to invest and manage, the best investment's the one that you understand. So it's probably better off to rent your land out, because you understand your investment, and not sell it. Let the next generation worry about it. If they want to keep it, they keep it. If they want to sell it, they sell it. (W3)

Preserving children's future options was important to several interviewees.

We won't sell the place under their feet. We'll hang onto it and lease it out if the kids weren't interested in it ... There will always be a job for them if

they need it ... I don't really want to ever sell the place, I want to leave it to the kids and let them make up their mind. Because, at least if they've got some land left to them, that they can have some collateral to do something else, whatever they want to do in life. (G3)

Not having to sell all or part of the farm to retire requires substantial off-farm investments.

We've got this goal of, when we come to look after our retirement interests, that we don't have to use the farm to bankroll our retirement. We're trying to put things into place that will enable the farm to continue on as a viable business structure ... We've sort of set a bit of a date in the future that, well we were gearing off-farm investments to have built up to a certain amount by a certain time, so that by that time, approximately 15 years, if we wanted to retire, we would have sufficient wherewithal to do it. We've set that as a bit of a light on the hill on the horizon. (G2)

Several interviewees lived on properties that had been in their family for several generations, sometimes since selection. They were aware of the influence of family history on their decision about whether or not to sell the family farm and reacted to it in different ways. This farmer felt under its influence more than the others.

Probably the fact that the farm has been in the family for so long is an influence on not really wanting to sell it, I suppose. We'd find it a little bit disappointing after all this time ... It's our own pressure on ourselves. It's something precious. The wooden trough at the front gate came from the original family selection in 1865. Dad can still remember remnants of the original dwelling. (G2)

The other farmers tried, with varying degrees of conviction, to ignore this influence. This one said he was unaffected by sentimentality, yet was unwilling to confront the issue just yet.

Well I'm not sentimental about this. If someone came along and offered us a ridiculous price for it now, a ridiculously high price, you'd be an absolute fool not to consider it very seriously. So I won't have any problem in, if the kids decide they don't want to be farmers I will have

absolutely no problem in selling it if I need to. I'd probably err on the side of either putting a manager on or leasing it or whatever. You don't know what decisions are going to be made in the future until the circumstances occur. But I haven't got this idea that it's the family farm and it's the family icon, it's just a place of business. Although I think there is many advantages to living near towns and services and I'd probably find I'd struggle to do that but, um, it wouldn't surprise me if I ended up living somewhere out here even if I got out of farming. But you can't know until the circumstances come around ... I hope that I've got a little while before I have to confront those things. (C4)

For this farmer, who owned part of the family farm he grew up on, as well as another farm on which he lived, the commitment to farming was clearly stronger than the commitment to the family farm itself.

[Do you feel any connection to the family farm? Or doesn't it really worry you?] Oh no, there is a fair bit of sentiment attached to that, one of the paddocks we have there, yeah. It's my father's paddock. [One of the paddocks?] Yeah. [But only one?] Yeah, yeah. So yeah, that would be a hard decision, to sell that. But in reality, the trouble is, the kids are even attached to it now, it's got a great big granite boulder and they like playing there. [How long has it been in the family?] I don't know. I think it might have been purchased when my father was a young man, actually. Like, my brother has some land there that my great-great-grandfather originally selected when he came out from Ireland. That's over the road, that's a separate block. [So your brother's in a worse state than you, as far as being tied to that place is concerned.] Oh, I don't think so. I think, in reality, we would both, yeah, you know, if we'd sold out this land here we would have sold our other land, when we were trying to sell. And, you know, if it came to that decision, if the family was keen on farming and we wanted to get some more scale or something, we'd do it. (C11)

This farmer was the most matter-of-fact of all.

Unless something dramatically changes, we'll be the end of the line with the succession on this property. Our children have quite an emotional tie to the property, and they say to us that we must never sell it. But, when it

comes to the final crunch, they're never going to be here running it. So eventually it will be sold ... [How much influence is there in the fact that the property, at least parts of it, have been in the family for such a long period?] For me personally, although I like to think that it's not an influence, that we regard the property just as a business, I know deep down that it does have an impact. And, when the day comes we have to sell or decide to sell, it certainly will be quite a wrench. But I'm confident that when the decision is made and we do it, that there'll be no regrets, we'll just move on to the next thing. My mother and father, when they retired, about 15 years ago, they sold the family homestead, where we all grew up, and where our family have been for the last 125 years. And they were sad at the time of the auction, but I think they're hardly thought about it since then. They've got a new house that's warmer and close to the township, and they've just moved on, they're quite happy about the whole thing. So I can see that's just the way it would be for us, too. (G8)

Intriguingly, it is often the family members who no longer live on the farm that are the ones who least want the farm on which they grew up to be sold. They could be children, as in the previous quotation, or siblings.

I'm going to speak for my sister now, and I know this is true. It's more important for her to have a family farm, than for me, being here on the family farm ... It's important for the family. Like, it gives them a focus that they can come back to. And she really enjoys coming back here, because this is where she grew up. And this is her old family home. (W3)

Interviewees who had inherited their farm from their parents and worked on it all their own lives, and whose children were still deciding whether or not to take over the farm, had a special perspective on inheritance of the farm as a "steady state". They recognised the contribution of their forebears to their own well-being, yet were aware that they were simply one link in a familial chain.

I've been here for 30 years and I ... just walk away at the end and hand it to my son. Well, you might have owned a \$2 million farm or something but, you know, you never realised the value of it, you just worked it and,

you know, you can't say that anything's been handed to you on a platter. You've had an opportunity to work at it and make it work and hand it to the next generation in a better state that you've got it, but there's no great wealth to be had out of it, I don't think, unless you're the last one in the line, who does sort of realise the asset and, you know, just put the money in your hip pocket and perhaps go and spend 10 years at Surfers Paradise blowing it all. (G7)

Maintaining the family farm when there is more than one child was acknowledged as a challenge. Where only one child wanted to farm, some interviewees described making special inheritance arrangements that somehow favoured that child.

It's unfortunate, but it's very hard to continue a family farm if someone doesn't get preference in the situation where others are not participating in running the farm. If you're participating in running the farm, well, I think you should get an equal share. But if you're not, if you're outside that family farm, and your family's helped you on your way, well, they've done as much as they can. Because otherwise the family farms are going to disappear. (W3)

Others said they were going to treat all their children equally.

I tell my kids that the farm is going to be given to the Red Cross or something like that, and they've got to work for what they get. All my kids that have done work on the farm get paid for it, so there's none of this stuff where one of them can come along and say, "I've worked for bloody years on that farm, drafting sheep out in the dust". The next few years will tell, the two boys in particular ... The most likely outcome is ... some time in eight or 10 years' time at least one of the boys will knock on the door and say, "I want to be a farmer", and it's time to sit down and work something out. No one's going to get given anything, all the kids will be treated the same. How that happens, I'm not sure yet. Whether the farm is the existing farm or whether it's a farm up further north, west or north-west, I don't know. (C9)

Where the children are treated equally, it is difficult for a child who wants to take over the farm to pay out their siblings. This increases the likelihood that the farm will have to be sold.

I spent my whole life trying to buy this place. From my aunts and brothers and whatever. (C4)

If the farm is to be sold, achieving a sale at a good price may take some time.

Expanding neighbours may not want to pay for improvements.

The improvements might put the neighbours off. Two ways of looking at it. If it was a forced sale, not necessarily financially of course, it won't be, but if we decided, right, we're out, we were going to put it on the market, we'll give it 90 days and we're out, because we're going over there, we know what we want to do. If it was like that, I'd say it would be hard to get the value of the assets on it. Nice home, 4-stand woolshed, yards, everything's in pretty good order. Good pastures. It would be hard to get the price of your capital improvements on it. But, if you just sit back and wait, and you're looking at a different market, someone that wants the home, the shed, nicely set-up property, it could be a different market altogether, different price, more money. (G1)

Overall, despite the widespread sentiment over land that had been in the family for several generations, sometimes since original settlement, only one person seemed to be deeply affected by it. Most people appeared to be quite sanguine and pragmatic about selling out if it ever proved to be the most sensible option. The thing that will keep them on their farms will be their own reluctance or lack of desire to do something else, rather than any sense of duty to their forebears.

Future of the district

Agricultural future

Each of the case study districts had its own particular pressure for agricultural change. In its own way, each of these new land uses was seen as likely to reduce the amount of wool grown in the area over the next 20 years. In Gippsland the new land use that was seen as likely to take over from woolgrowing was dairy farming.

I think it will probably be all dairy farms again ... In 20 years time it might be, you know, each place will be milking, it might be one big dairy farm, you know, three dairy farms in this area that are milking 2000 cows each, all under irrigation. Or it may become the turnout paddocks for dairy farms, or growing their feed. (G7)

There was groundwater under part of the area, and this was seen as increasing the pressure for other land uses.

You're never going to water pastures to grow wool, it's always got to be that higher [use], you know, dairying or vegetables or intensive cropping of some description. (G7)

The long term yield of the groundwater resource was described as being not sufficiently well known, and this may well act in wool's favour, because an insecure water supply would limit the spread of irrigated land uses.

That's subject to the water being available ... 10 or 12 big bores going in in this area, well, the ground water starts dropping, well, you know, stock and domestic's got to come first, and they'll just pull the pin on it, I suppose. Well it's already happened, there's a moratorium on new bores going in, but they've still got a lot to learn about what's happening and where the water's coming from and who's taking what. (G7)

This area of Gippsland had also experienced an influx of potato growers, with mixed results.

Next door, it's a place we probably could have bought, the fellow had been there for ever, 700 acres, just growing his wool, and his son went to university. And it got to the stage when they couldn't run it any more, and potato farmers came in and bought the 700 acres, built three brand new houses on it, infrastructure, probably hundreds of thousands of dollars, sheds ... and, you know, you just look at the figures, the money they were making off land that, you know, you're just running one or two sheep [per acre] on, you'd go, oh, how can this, it's just incredible ... And then, [one] season, just, a combination of not being able to sell their product, wet, a bit of disease, they couldn't certify the product, and they're sort of

completely, you know, almost had to be foreclosed on them. And they're having this clearing sale next week. And I think one son's staying there and more or less just running it as a grazing property now. So, you know, from 10 years of just saying, well, this is the answer, this is just incredible, it's going to transform this area, it's going to be one big potato thing, and it's just gone. [At least you've been growing your wool in the district for a long time.] Yeah. No one in the area has actually gone broke, that's been here since I started, anyway. They've still basically stuck to growing wool, and we all seem to be struggling along ... It's just natural retirement that virtually changed that property. There's other people in the area growing potatoes and that, but probably on a smaller scale and they seem to be succeeding at it. But certainly, at one stage there, there was interest from vegetable growers and, you know, it was virtually going to take over the district, but it just hasn't happened. So we might still be growing wool in 20 years. (G7)

High returns are accompanied by high risks. In contrast, woolgrowing has been a reliable, although perhaps unglamorous, land use in the area for decades, and is likely to remain. As the previous quotation shows, opportunities for new land uses may not arise until a woolgrowing property is sold, and that sale may be due not to an underperforming wool industry, but to a lack of family succession on the property. A dramatic fall in wool prices may still result in some land use change, though.

I think that the changes will be pretty well commodity price driven. As we've seen in the past. If wool's still OK, there won't be much change from what's happening now. But if wool completely collapses, there'll be a, who would know, there'll be a diverse range of activities ... cattle ... cropping ... plantation timber ... olives ... grapes. (G8)

In the Western District, the alternative land use, bluegum plantations, was already reducing the number of sheep in the area.

It's changed a fair bit in the last two, three, or four years, anyway, with the people that sold out to the tree industry. There's a lot of big tracts of land that are covered in trees now ... that's probably going to have a bit of an impact. Well, it's had a bit of an impact already. It's going to have

more of an impact, in time, on the district ... It must have a little bit of effect on the wool clip in the area and, you know, the lamb drop in the area, and the beef drop. There's, you know, a fair bit of land, when you look around the Hamilton area, that's growing trees that used to have sheep or cattle running round on it. (W1)

Dairying was also seen to be moving into the area, particularly south of Hamilton.

There's a lot of Kiwis coming in and buying up the land that used to have the fat lamb type sheep on it and that, that have got rotaries and big irrigation setups on for cows. (W1)

The biggest change in land use, however, was taking place in Central Victoria, with the influx of lifestyle farmers seeking land to use for amenity consumption rather than production. For long-standing residents, who had lived on their farms all their lives, this phenomenon was viewed with a combination of wonderment at the distance people were willing to commute, disdain for the lack of interest shown in agricultural production by the new residents, and frustration that the resulting high land prices prevented them from expanding.

If it keeps going like it's gone the last 20 years, you're going to have homes bobbing up everywhere, on whatever block of land that can be sold on its title, depending on the planning scheme of that municipality. In the last decade, we've seen olives, grapes, goats ... This is the way the district is changing. And it's not by some struggler, it's somebody that's getting out of Melbourne, that is looking for a position in Bendigo, Ballarat or Maryborough. Or they've got a consultancy job for a couple of days a week in Melbourne. And once you get a better highway to Bendigo, you'll have these people commuting. They're doing it now. I've got a neighbour, he's a businessman, that's driving a company car from here to Melbourne every day. And all this country won't be producing wool. The cancer has set out from Melbourne, and it's all up around, from Melbourne up through Kyneton area, this sort of thing is taking place. And you've only got to speak to people who used to shear the sheep down through that area. And there's very very few sheep left. These beautiful farms that used to produce huge volumes of wool are now little 10-acre farmlets. (C3)

People buying the small blocks often do not want to use their land for agricultural production. For district farmers of long standing, this is probably the most baffling aspect of all, falling, as it does, completely outside their view of the purpose of land ownership. However, in other parts of Central Victoria, where there are currently many large farms, buyers from Melbourne are often acquiring parcels of land that may consist of several hundred acres, as well as smaller blocks.

They buy all kinds of size of blocks. It's probably the smaller ones where there's more weed problems and things like that, than the ones that buy viable sized farms or, you know, broad acres anyway. This area here, there's minimum subdivision of 100 acres or something now. But there's still a lot of smaller blocks available. (C11)

Buyers of larger blocks or whole farms generally do want to use their land for agricultural production, but often do not have the skills or experience to manage their new farm.

This district's different to the, you know, there's such a Melbourne influence ... Not many farms changing hands in this area are farmer-to-farmer. They'd be sold to Melbourne interests. The smaller ones, I suppose they'd be run themselves. All of the bigger ones would be run with a manager ... But, of all the ones around here, not many, there's only one I see that Melbourne influence has really got into sheep. And most of them are interested in running cattle, it seems. You know, the smaller operations they could, I suppose it's easier to run cattle badly than sheep badly, as one stock agent said to me, they don't die as easily. (C11)

Not all recent arrivals in Central Victorian woolgrowing country were there solely for the lifestyle. Some did want to grow wool commercially.

We were very lucky here because we've got so little rock and it's pretty fertile country. [You mean, the rock stops you from doing certain things to it?] Yeah, you can't grow crops on it. And it's difficult to put super out. And it's difficult to lime. And, because the rock's so close to the surface, you don't get the growth that we get. And a lot of the country is fairly rocky. So I think you'd have to be very careful what you bought. If that was what you wanted. If you only wanted it to play with, then that's fine,

you'd just run enough sheep to keep the grass down and deal with it.

(C10)

Overall, although the three study areas are renowned as prime woolgrowing country, woolgrowing in all three of them is under threat from other land uses, all of which seem to be associated with purchasers paying higher prices for land than can be afforded by neighbouring woolgrowers. In two areas, the alternative land uses are also forms of agricultural production, and purchasers can generally buy only from woolgrowers who are thinking of selling anyway. In the third area, the alternative land use is amenity consumption, land prices are higher, and the combination of a more radical land use change and the different culture of new residents makes for a greater threat to the woolgrowing identity of existing landholders than in the other two areas.

Social future

Agricultural changes in the landscape are obvious. Tree plantations completely replace pasture and dairying brings intensification. Although dairying still involves pasture, the replacement of sheep with intensively grazed dairy cows and their twice-daily movement to and from the milking shed substantially changes the view from the car window as you drive round a district. Social changes are sometimes less obvious. A social change being observed in parts of the Western District is the amalgamation of several farms into one.

Several other farms have been bought and amalgamated ... In the last, probably, three years, in particular, one family's scooped up 8500 acres in the area, and run it as one farm, and moved in and virtually have swallowed up 8500 acres, which involves, you know, four or five properties ... It's not farm money. I couldn't name many properties that have been put together with money coming off the farm. It's outside money which puts a lot of the bigger properties together. (W2)

Such aggregation brings its own particular land management difficulties, something pointed out by smaller scale farmers.

Each farmer knows his ground intimately. Most of them are good farmers, they wouldn't be there now if they weren't. Someone else coming in, running it as a big farm, wouldn't have that. (C2)

Knowing your own farm is often a source of pride for farmers, particularly those with smaller farms, and is a way for them to differentiate themselves from large-scale farmers. The large-scale farmers, moving into a district and building up an aggregation of land, usually know this.

They've retained, say, the pick, or somebody prepared to stay as manager, you know, to guide them on the right track. When outside money comes in like that, obviously some of them aren't farm people, and they retain the best of the, if possible, the people that have been running the properties. (W2)

This allows a good farmer under financial pressure to sell out, yet remain on their farm or in the district and maintain their occupation as a farm manager. Also, these buyers competed with bluegum plantation companies for land, which drove up the price of land, to the benefit of those selling out.

They've been competing with the trees, too, to buy this land, which, for the ones selling it, would have helped them a bit. They had two bidders on them. See, about five or six years ago, I remember a fellow from National Bank, I think, he's a rural fellow, and he told me, between Coleraine, Cavendish, and Harrow or Balmoral, up that way, there was a tract of land, I forget how many hundred, how many thousand, or hundred thousand acres or something was it, that the bank had on their books, but it wasn't worth selling it. [Just lots of different farms?] Farms, that they had fairly large debts on, that wasn't worth them selling the farm to recover their debt, they'd just have to let them get out of it. Well, once these trees came in, and these others wanting, the value of the land went up. A lot of these people sold, the banks got their money, they got their money and went off and retired or did something. But they couldn't sell them six years ago. And, in the last four or five years, they couldn't get enough of them. You know, they were buying the land up everywhere. So it's just amazing, overnight, how things suddenly will change, and change a whole district. So yeah, that little opportunity came along and got

people out of a hole, a lot of them, gave them some cash and got rid of the burden they had around their neck. (W1)

Farm aggregation and land uses such as bluegum plantations render unwanted much of the infrastructure on small family woolgrowing farms. Few of the houses and sheds are required.

Where the trees have gone in, you know, there's been farm houses just shut up or removed. The soldier settler type ones, they were removable, so a lot of people, there's a lot of them been moved and taken to other places, like down onto blocks at the coast and things like that. And a lot of these people that have gone out of certain areas, there's hardly anybody living there now. So the, you know, the local little village or town post office shop, pub or whatever, there's, you know, nobody there for it to service ... There's, you know, people being driven off in droves. So it's already, you know, it's been settled once, and now it's being unsettled, and turned back to what it was before. So, funny how the world goes round in a circle. (W1)

While the Western District is being un-settled, having been settled once before, Central Victoria is a further step around the cycle. It had been un-settled, with the small farms and soldier settler properties being aggregated over the years as farmers sought sufficient land to make a living. Now it is being resettled for the second time, as commercial farmers realise that they cannot afford to expand their farms any more, and take advantage of the multitude of land titles on their farms to sell their land in small parcels to maximise their returns.

The soldier settler size properties will be back, but for a different reason. (C4)

In these areas, the new settlers may help to revitalise flagging communities.

The little communities that were almost extinct are coming back a little bit, locally. There was no community involvement. Now, new people coming in are looking to be involved with the locals, trying to knit in. Most of them are trying to fit in. (C6)

Their community involvement may take a different form from that of the previous residents.

It may get to the point where the population is so increased that people will actively go out forming groups, socially it might almost get back to what it used to be, where there's a lot of interest groups. You mightn't have the CWA [Country Women's Association] and the fire brigade, they may not have the significance in the district, but the local art and craft society or theatre group or singing group, there might be lots more of those sorts of groups. Already, that is already happening, I go to a singing group once a month. (C9)

One thing that connects farms with local towns is the growing phenomenon of working wives. Farm wives may have gone to work initially as a way of maintaining farm family income during difficult times but, for many, the significance of off-farm work eventually grew, as it became a source of stimulation and personal identity.

Husband: We'd get along now if we didn't have it [wife's off-farm work]. But back a few years ago, I think we would have given up if we hadn't had that outside income. But the income too, as I said before, is only part of it. Also, the other part of it is the fact that she's working in town with others, and she has that sort of social interaction all the time. That's quite important. Possibly, if she wasn't working, she'd spend just as many kilometres running back for the kids. Wife: I work because I like getting out and meeting people. And I like working. I know it sounds funny, but I like working. I'm certainly not where I am because of the money. I earn less now than I earned 12 years ago. (C2)

Clearly, the social change about which the interviewees were most concerned was the departure of young people from their district.

There's just not going to be the people ... The population's just got older. There's no young people at the church. There's no young people, you know, the whole age group, fire brigade, church, football clubs, they're all struggling for numbers. And in years gone past you could basically put a football team together in a small town by the number of schoolteachers

that were in the district ... Now you wouldn't have to go very far where there's not at least a football team name having three names, where there's been an amalgamation. (W2)

Several interviewees described how their own children were leaving the district.

I think we'll probably see the trends that have already been started continuing, with the small communities, with the population leaving the smaller communities and going to the bigger centres. It's certainly evident with the example of our three children, who have all left the area, and are unlikely to come back here. And many of our friends have had the same situation with their family. (G8)

Young people were leaving the district because of what they saw as better lifestyle and higher education opportunities in the city.

There's going to be huge changes here in the next 10 years, less than that, in fact. See, the sons have been away and got educated, and "blow the farm". So, in actual fact, I hang it on education a lot, for the problems the rural areas have got today. Be educated, get a high-class job with plenty of pay and plenty of holidays. (C1)

Even older farmers were seen to talk woolgrowing down.

We've talked down the grazing industry for so long, why would any youngster want to take it on, when they hear people saying it's not a profitable or enjoyable lifestyle. We probably tend to be our own worst enemy in that regard. (G2)

Rural areas were seen as not appealing to young women.

They say, "you can take the boy out of the country, but you can't take the country out of the boy". Well you can't take the town out of girls either. (W2)

The disappearance of young women from rural areas was seen as making it harder for young male farmers to find wives.

There lies the biggest problem in agriculture in the next 15 years. [And what's that?] No women. No farmer's wives. That is the problem facing every community throughout Australia. No young women want to be farmer's wives ... So, we're going to have to import wives or import tucker. (C1)

Despite the loss of young people from rural areas, the varied occupations in which they were engaged provided a source of pride for their parents and others in the district.

This area here, it's an interesting area ... All the kids that have come, in this area, over the years, well, our kids' age and younger, we've got a specialist anaesthetist, we have an orthopaedic surgeon ... a barrister ... a marine biologist, we've got a chirporactor, physio. [That's kids from out of this area?] This area, yeah. We've got nurses ... one girl went over and she was nursing in the Falklands. Another one went over and trained hairdressing in Paris, there's kids that are running their own businesses ... trucking businesses, they've got, one's doing car detailing and tinting cars, another one's running TV repairs. All this, kids in this area. And it's surprising, there's no real dropouts with the kids in this area. (G6)

Also, some farm children do return to the farm, particularly if they have retained an interest in farming.

I know a lot of farmers' sons that have, the farmers have said, "oh, no, there's nothing in it for you here, you want to go and do something else". And they do, they go off and get jobs and earn, you know, a lot more money and things. But a lot of times some of them come back and buy some land if they've still got it in their blood. (W1)

The financial rewards from woolgrowing may not be high, but there were other benefits. Even those who were working as woolgrowers for wages, as employees without the prospect of inheriting the farm, were not doing it for the money.

I'm quite happy with what I get. It's not a bad wage ... You can spend time with the kids. It's good, because I'm coming in for lunch and stuff, you see them at lunch time, and I suppose they see more of me. They come out to work with me occasionally. It's good for the family life. (C8)

Both young and old farmers can feel that their district is marginalised as a farming district.

It's not a good farming district, this district. Like, as far as I'm concerned, there's not that many young people on the farms. I'd say it's not very interactive. I have a friend on a property, it was a big property in the

north-east district, and I spent a couple of days up there, it wasn't even that. And I could see that there was good social interaction within that area. There were young people on the farms, but it's not like that here.
(G5)

And:

One of the issues in this part of the world is that there's not a critical mass of woolgrowing properties. Western District woolgrowing country is so vast. That tends to create a different mindset in those areas. You do what your neighbours are doing. It gives you more stimulus ... It holds us back in addressing management issues. (G2)

The reduction in population in some rural areas was seen as leading to reduced services.

The local little village or town post office shop, pub or whatever, there's nobody there for it to service. So that's gone out of business. (W1)

Sometimes this catches people by surprise.

I took my kids into the railway station in Hamilton when they were only little tackers. And we sat there for 20 minutes, and the bloke said, "what are you waiting for?" And I said, "for the next train". And he said, "well, we haven't had a train here for three years." And I was only there to show the kids what a train was. They'd never seen one. (W3)

In areas relatively close to Melbourne, where population is not decreasing, ready access to services in Melbourne may mean that the local town still struggles to retain its services.

Being close to the city here, I guess the young ones can all toddle off down there very easily. The city, in reality, is a lot closer to the next generation here than it was for their parents. It's much easier to get to, quicker, and you can go down and back in a day without any drama at all. A lot of people go down just for shopping, to town from here, it's quite amazing. I mean, not their food shopping, but for anything else they all go to town. Which I think is a bit of a shame for these small satellite towns, because they miss out, they don't have thriving shopping centres. (C11)

Despite the reduction in services, farm lifestyles may still be better now than before.

Our lifestyle now, compared to when we got married, is miles better, and I wouldn't particularly want to live like we did then. And I don't particularly want to live the way I did when I was 13 or 14 ... So, even though we say that they're going to change, in 15 years time I can't see our lifestyle being worse. (W3)

Some interviewees had noticed that changeover of property ownership in their district happened in waves.

In the 1940s and early '50s, a lot of the farms in this area changed hands. After the war, there was quite a lot came into this area. And about 10 years ago, wasn't it, that a lot of the farms changed hands again. And, so, whether every 40 years there's a group of farmers sell up and another lot come in, I don't know. But there was quite a lot came in then ... And you've still got the nucleus that have been here a hundred and something years. (G6)

These waves of property changeover can be caused by the retirement of a cohort of farmers in a district.

Once the older generation goes, I mean all those guys went to school together, they're all 72, 73. [counts them] one, two, three, four. So when they go, you often find when the force that holds them all together retires, or leaves, or whatever, then the squabbling starts and everybody wants to take another bit. Or wants their bit. And the farm gets broken up. That's what happens anyway, in a lot of farms, in a lot of cases, doesn't it? I mean, one of them wants to stay, and so he takes over the farm or she takes over the farm, and everybody else wants their bit, and it just gets too hard, doesn't it, to make that sort of money, to start with. (C10)

Some interviewees observed that, once long-standing families left a district, their replacements did not stay as long.

It's been changing pretty rapidly in the last 10 years, with the 100 year-old families that have moved on and moved out ... The school was just full of families that had, their parents had been to the school as well. Whereas now there's more families up there that are just moving through, they're

here for two to five years, and then they're gone, and another lot will move in. Whereas 10, 15 years ago they were all, you know, their grandparents had been at that school. They were just still there on the farm, whereas now, there's been a lot of big farms sold up. (G2)

One interviewee suggested a new farm management structure involving leasing, contract management or sharefarming that may benefit three different groups of people in amenity areas. These groups are existing commercial farmers who want to remain farming in the area but cannot afford to buy extra land, ageing farmers who can no longer manage their farms yet don't want to leave the district, and new entrants without farming skills.

I would hope there would be more farms leased out or managed under contract basis one day. That's what I would like to see happen. [Why is that?] Oh well, just so, there's a lot of poorly run farms around. Farms without scale and that, but a lot of older farmers just hanging on, and the place is falling down around them. It would be much better if they leased it to somebody that wanted to run it properly and, you know. [Keep up the fertility and the fences and all that sort of stuff.] Yeah. The trouble with leasing, it's always been, usually the farms have been flogged out, because of the short-term variety of them. You know, the bloke that leases them gets as much out as he can and doesn't put anything back in. [Which is an argument for longer term leasing.] Yeah, that's right. It hasn't been the practice, and doesn't seem to be accepted either, at the moment. (C11)

And:

You see a lot of country that isn't utilised. It would be good to have a system where, like dairy farmers, lots of dairy farms run on a share basis and things like that. It's a pity we couldn't institute the same running grazing properties and things like that, I see. Now, you need to get an accepted format, rather than just a straight lease or something like that. Where it benefits both parties. [Like a share-grazing setup?] Yeah. Like, a Melbourne person can have the lifestyle and own a property and have the improvements and all that kind of thing, and still have it properly run professionally and a profit made out of it or whatever. You know, we're a

lot different to the rest of Victoria, but that's the kind of local influence.

(C11)

Several farmers recognised similarities between their own situation and that of other farmers in their district.

I suppose, yeah, ours would be typical in lots of ways. You know, the questions are being asked in the family about taking the farm on and all that kind of thing. We all have to cope with the same things in the end ... We haven't got to the next generational one yet. I suppose it will hit us sooner than we probably think. (C11)

Those who had their sons working on the farm noticed that they were different from other farms in the district, particularly when the son was working full-time on the farm.

[My situation is] 90 per cent better than any farmer round here. They haven't got a son with them. (C1)

Overall, the major concern appeared to be cultural change. In the two less-populated areas the change seemed to be caused by depopulation and the disappearance of familiar institutions. In the more populated area the change seemed to be caused by repopulation with people from an urban culture who, though they brought social diversity and renewed vitality to the district, did it by changing the social nature of the district. There was almost no lamentation of the exodus of young people from rural areas: people seemed to accept that their children had gone to something better.

Archetypal woolgrowers

Among the interviewees there were several archetypes, case study farmers who exemplified particular characteristics of woolgrowers. I have labelled them and written them up as brief character sketches. Each is based on one interview. To maintain continuity, I have edited some of the quotations slightly. The four archetypes I have chosen by no means exhaust the range that I consider to be present in the farming community: two others I would expect to find are the 'frustrated farmer' who spends much of his life wishing he were a farmer, and the 'entrepreneur' who moves from farm to farm, buying cheaply and selling dearly, making money by property

development more than farming. There are similarities and differences between the archetypes, but together they show some of the diversity that exists among Victoria's body of woolgrowers.

'Cart me out in a box'

George's family has been in the district for nearly 130 years and on the present farm for 80 years. His father was passionate about sheep and wool, and so is George. Several times in our interview, I had to stop him explaining some special attribute he had bred into his sheep or how good their wool was and bring him back to the topic I wanted to discuss. *I just like growing wool. I like good wool sheep. You just like the look of the sheep.* George's wife recognises his enthusiasm. *He's very proud of his sheep. He's been very good at it. Everything he does, he does well. It's a real challenge to grow merinos. Anybody can go and buy a mob of sheep and buy a fat lamb sire and put them over, but to breed merinos, where you've got to get rid of all the faults and breed the ideal animal, which is very difficult, and he's been trying that ever since he started growing sheep.* He talks about nothing but sheep, so much so that his wife had to learn to talk about sheep too. *I'm a qualified woolclasser. It was either learn to talk sheep or have nothing to talk about. Because they weren't interested in how many rows did you knit today. So, in self-preservation I learnt, I talked about wool.*

George left school and came home on the farm at 15 because his father was ill and could not run the farm. This was during the Second World War, and labour was short. He has been on the farm ever since, and is now in his mid 70s. The farm is managed very conservatively, understocked. Most of the sheep are set stocked: there is no fancy cell grazing on George's farm. This is partly because the farm is in several blocks, and it is difficult to move sheep between blocks, particularly with increased traffic on the road.

George and his wife have several children. All but one has left the farm for other jobs. The remaining son, who works on the farm, is unmarried. His parents hope he has children of his own, to ensure the succession of the farm. Meanwhile, the parents are

watching their other children's children for signs of interest in farming. George's father left the farm to George's children, in a complicated structure. This makes succession planning difficult, but George and his wife think they will be able to make it all work out.

George has been shearing sheep since he was 15, and is still shearing 60 years later. He broke his leg recently, and at that point his wife thought he might want to retire. *But he couldn't wait to get back to shearing his sheep and dosing his sheep, and he milked the cow the other day, first time he's milked a cow for 14 months.* When I asked him whether he wanted to retire, he said, *no, I don't want to retire. I'm quite happy to keep on going around the place.* He then described the ways he organised things to make it easier for him to keep going around the farm and working. George's wife would like to spend time doing other things at this stage of her life but knows that, while George is still able to live on the farm and get about outside, that is all that will interest him. The only way he will leave the farm is in a box.

'End of the line'

One paddock on Graham's farm was selected by his great-grandfather more than 120 years ago. He has been on it for over 30 years himself, undertaking a range of farming activities, including various forms of livestock and crop farming. Graham has not always been a specialist woolgrower. Other family members used to farm in the district, but Graham is the only member of his family left farming there now. His approach to farming is careful: he doesn't spend money extravagantly. He rotates the stock a bit, but is sceptical about the costs and benefits of cell grazing. Half the farm is leased country and, without the income his wife has brought home from her work in town, things would have been tough.

Graham is not an addicted farmer. He is about 50, and already talks about retirement. Some aspects of woolgrowing he already finds wearying, and he wants time to travel and pursue his hobbies. *I don't want to be flat out farming when I'm 80 and drop dead, chasing sheep round in circles. I want to do a few things as I get a bit older, well, before we get too old, that is.* Despite this, he is still developing the farm.

Graham's children have all left home to pursue careers off the farm. I asked him who he thought would be running his farm in 20 years time. *It won't be me, I'm pretty confident in saying that. And it won't be a member of the family, at this stage. It will be somebody else.* He realises that the family farm, part of which has been in the family since selection, will have to be sold. One extended passage of my interview with Graham is so compelling that it is reproduced here in its entirety, verbatim and unabridged.

[Are any of your children showing signs of going farming?] *No.* [Is this something you've talked about, or is it just so obvious from their choices that it's not going to happen?] *Well, we certainly have talked about it, right back from when they were younger. And we made a conscious decision not to try and influence them or persuade them to take on the succession of the family farm, that they could make up their own minds. And, as time's gone on, it just became obvious that farming wasn't an option to them, they weren't considering it as an option. I suppose, during the time that they became more aware of the farming enterprise, it was certainly performing very badly. So it's pretty obvious that they weren't going to choose that as their profession. And, also, we discussed with them the fact that the property wasn't really big enough to support more than one family. So if they were to become interested in farming, it probably wouldn't be on this home property, initially anyway. During that last 10 or 15 year period, the property wasn't big enough to support even one family. It wasn't supporting one family. Virtually since 1990, anyway.*

[So, because the farm would still have to support you, any child coming back on the farm wouldn't have enough for themselves as well. That's what you mean, is it?] *Yes. We've seen it happen, where the child comes back onto the farm. You can see what happened with our friends, as well. And the property's not generating enough for two family incomes. So what tends to happen, is the child will have to get off-farm work, and then they soon become disillusioned with what's going on, because they're trying to run two jobs. And quite often they'll give up after a while and go off and do something else anyway. So, unless something dramatically changes, we'll be the end of the line with the succession on this property. Our children have quite an emotional tie to the property, and they say to us that we must never sell it. But, when it comes to*

the final crunch, they're never going to be here running it. So eventually it will be sold.

[Yeah, I mean, to tell you that you must never sell it, you know, they're putting some kind of pressure on you, that you know you can't deliver on.] Oh well, it's not really putting any pressure on us, because we've made it clear that the family, the property here, if need be, will serve as our superannuation, in order for us to be able to retire. When they say the property should never be sold, it's more to do with them being able to come home on holidays and spend time, you know, bring their friends home, and it's more to do with just being in the country and being in the house here, and it doesn't have much to do with the farming enterprise. We could probably retain the house and a few acres, and still achieve the same result, as far as they're concerned. But it's only their age. As they go off and develop their own careers and, you know, and families, and their own lives, it won't be an issue any more.

[How much influence is there in the fact that the property, at least parts of it, have been in the family for such a long period?] For me personally, although I like to think that it's not an influence, that we regard the property just as a business, I know deep down that it does have an impact. And, when the day comes we have to sell or decide to sell, it certainly will be quite a wrench. But I'm confident that when the decision is made and we do it, that there'll be no regrets, we'll just move on to the next thing. My mother and father, when they retired, about 15 years ago, they sold the family homestead, where we all grew up, and where my family has been for the last 125 years. And they were sad at the time of the auction, but I think they've hardly thought about it since then. They've got a new house that's warmer and close to the township, and they've just moved on, they're quite happy about the whole thing. So I can see that's just the way it would be for us, too.

Graham is the end of the line.

'Second career'

Janet seems at first like a wide-eyed, naïve dreamer, until you learn how carefully and thoroughly she has pursued her dream. She has felt a call to grow wool all her life and only now, having raised her children, is she doing it. *I come from a line of farmers going back to five generations ago, coming out from Scotland with their sheep*, she says. *So I've always had a love of sheep and a love of wool and a love of the country. My father was a farmer.* A family breakdown and upbringing by a mother who hated the country kept her away from farming for a while, but she always tried to stay in contact with the land. *The wool myth has been in the family for ever, and it's always been a major interest.* Does she really reckon it's a myth? *Oh, it's not a myth, but it's a part of the family legend, I suppose, what everybody sort of talks about, the one thing that everybody has an affinity for. Yeah, it's sort of, it's the thread that goes through the whole, from one generation to the next.* Her love of sheep was obvious throughout the interview. *They're just delightful animals though, aren't they, sheep, don't you think? They're all different, every one of them's got a different personality.*

Several years ago, Janet and her surgeon husband bought several hundred acres of bare land about an hour's drive on the freeway from Melbourne. The property they chose was, at the time, *just dust, but very beautiful dust. They fell in love with it and that was that. It was just right.* Closeness to Melbourne was important, so her husband could keep working. Setting up a farm from scratch takes a lot of money, and they wanted to do it properly. *We wanted to do it, you know, the cutting edge, the very best that we could possibly do it. Find out as much information as we could about, you know, the best fencing, the best way of setting out the paddocks, the best way of water reticulation, the best, you know, all those sort of things. But you need money for that. And the best advice.* They have money from *the good paddock in town* and several advisers and consultants that they use regularly. To prepare themselves, Janet and her husband did a course for beginning farmers run by Melbourne University and Janet also qualified as a woolclasser. This enabled them to *ask the right questions.* They employ a manager, and also do a lot of work on the farm themselves.

The dream that Janet is following is her own and she does not expect her children to share it. The children are far away, doing other things. *This is ours.* And when she can no longer run it, *then it's gone. Unless somebody in the family wants to prove that they're capable of doing it, or want it badly enough. But no, we don't see it as that. I mean, we've never seen it necessary to organise their lives for them.* She is not likely to make room for them anyway. Would anything make her leave this place? *Leave it? No, I'm not going to leave, no. Heavens no.*

Janet recognises that she and her husband are regarded by the neighbours as different. It's not just the architect-designed house, or the fancy fox-proof fences. They are newly arrived from Melbourne and have a small farm, in a valley of much larger farms owned by old families. The owners of some of these farms are nearing retirement age, so it is possible that some farms in the valley will be sold soon. The neighbours may not be able to afford to buy them. The farms may well be cut up and bought by more people from Melbourne, few of whom are likely to have a passion for sheep and wool. Meanwhile, Janet tries to fit in. *We use local people to do things for us all the time. Like cutting hay or pasture renovation, or help at AI and ET time, because you need a team of people. So everybody sort of knows what we're doing, and nobody feels that we're a bit secretive or we, you know, these weird people have come from the city and who knows what they're doing all the way down that road. They all talk about us, I'm sure. But it's all positive. They all wander in if they want to borrow something or they want to talk about something. We use the guy next door to transport our wool and bring in grain and all that stuff as well. I think they appreciate that, too.*

Janet doesn't have farming forebears or family members nearby to answer to. *We don't have any baggage as far as farming's concerned.* Apart from a lifelong calling to grow wool.

'Part time farmer'

Michael's family property was originally settled by his great-great-grandfather. He doesn't have any of the original land himself, but his brother does. Michael is proud

that he chose to go farming, and was not pressured into it. He is also proud that the farm he lives on he bought himself, using money he had saved as a deposit. He knew he would have to buy land of his own. *The family farm wasn't big enough for myself and my brother and other family members.* His own farm is not large, less than 500 acres, but he wanted to buy within a few minutes drive of the family property, and prices were high because of demand from Melbourne people even then. With the continual extensions to the freeway, his farm is now little more than an hour's drive from Melbourne. In addition to his own farm, he now owns some of the family property and has recently leased several hundred acres. He knows that he can't afford to buy any more land nearby, says that he was lucky to be able to lease some land for a reasonable price, and is contemplating leasing more if he can find any at the right price.

Michael had good training for woolgrowing, at agricultural college and as a jackaroo. Although he says he likes handling livestock, Michael enjoys all aspects of farming. His particular passion is doing things properly. He is trying to build up the fertility of his farm with high fertiliser inputs, to enable him to run a higher stocking rate than the district average. Michael says he is *still committed to woolgrowing*, but is no longer solely a woolgrower. He has diversified into prime lambs and is considering trading cattle. Few of the Melbourne people, who are the major buyers of land in his area, are interested in running sheep.

Michael's wife has always worked off-farm, apart from spending a few years rearing the children. Even this income was not enough during the wool price crash, and Michael himself had to get a job for five years. He was lucky enough to find one that made use of his farm management qualifications. The demands of his off-farm job made it difficult to get the farm work done on time, and this was before he had any leased country.

Several years ago, Michael put his farm on the market, in the hope that he could obtain enough money for it to be able to buy a larger property in the Riverina. No one offered enough money to enable him to move his operation, so he and his family are

still there. Meanwhile, his four children are growing up and have commitments of their own in the area, and they have extended the house, so the family is becoming more and more settled where it is. Leasing some land has enabled them to expand the scale of the farm.

The one thing that would make Michael and his family sell up is if one of his children wanted to go farming. Some of them are showing interest, but they are still too young to decide. *I'd be really happy if any of them wanted to go farming. I'd try and encourage them into it. I don't know how, entirely, yet. But I'd encourage them to do other things first.* And what if all four of them want to go farming? *Well, they'll all be part-time farmers, won't they? But I think if they're interested, there's always some way of getting there in the end. And it might be, you know, as a part-time occupation.* “Well”, I said to him, “it has been for you, occasionally”. *Yeah. Probably will be again one day, if we can't lease any more country.*

Main themes

It is hard to be sure whether woolgrowers really love growing wool or not. Certainly some do, and they are not interested in anything else. Most, though, simply seem to like woolgrowing. They got into it because it was the family business and they learned it as children, going around the farm by their father's side. They have become comfortable with it and have never really thought about an alternative, in the way that a lamb that has not been weaned early enough follows its mother around for company long after her milk supply has dried up. I don't think that makes them any less competent as woolgrowers: you don't have to love your job to do it well. In many cases, continuing a valued family tradition brings its own sense of meaning and identity. I suppose it doesn't really matter whether they love it or like it. However, for the increasing number of woolgrowers whose children will not be coming home to the family farm, the fact that many of them like rather than love sheep, wool and woolgrowing probably makes the inevitable sale of the family property easier to stomach. Reflecting on my interviews after my initial write-up of the findings, I was surprised more than anything else by the generally sanguine acceptance of the possible sale of a property that had been in the family for several generations.

The immediate cause of a reduction in the number of woolgrowers may be competition from purchasers wanting the land for other uses. The ultimate cause is a complex of factors centred on the reluctance of their children to take over the farm. This reluctance is inevitable given the educational and lifestyle opportunities to which they have been exposed and the increasingly limited ability of the farm to provide the lifestyle they have sampled in the city. Interviewees worried about maintaining farm viability, particularly if one of their children wanted to take over the farm. Only some of the farms were large enough to make succession feasible. Even on these farms, as well as the small ones, parents were careful to try not to place on their children the pressure to come home to the farm that they themselves had felt.

Having presented the findings of both the quantitative and qualitative studies, I turn now to discussing the findings.

Chapter 6. Discussion

Occupational and locational inheritance

The widespread inheritance that characterises farming is a major reason why it is different from most other industries. Sheep farming exhibits this characteristic at least as much as other forms of farming. In Victoria, grazing country is generally higher rainfall than cropping country, and was settled earlier. Several interviewees in this research were able to trace their family history on their present farm back to a time when one of their forebears was the original selector of a part of the property in the mid 1800s. This makes for an even stronger bond with the family farm than if the entire property had been purchased, even if the original purchase was not long after the time when selection occurred. The importance of original selection is clearly felt, as shown by the families who were long-time owners of a property, but not original selecting families, readily admitting that fact. The pride in original settlement is similar to the reverence for the homeplace described by Salamon and O'Reilly (1979).

In most cases, what is inherited is both the occupation of sheep farming and the farm on which to run the sheep. The two forms of inheritance couple together to make for a stronger tie binding sheep farmers to their family's past than if either the occupation or the farm were inherited alone. Several interviewees described the phenomenon of inheritance as a "steady state". They had inherited a farm and its infrastructure for running sheep, as well as the occupation of farming, as a gift from their forebears, but they were simply one link in a familial chain. Although they had inherited a substantial asset, they had improved it and were passing it on to the next generation of the family without appropriating any of it for themselves. The idea of a steady state is similar to the idea of a farm property existing beyond its transient occupants described by Bouquet and de Haan (1987).

Sheep farming, like all farming, is for many a calling, a visceral and unexplainable compulsion. Several of the interviewees in this research said that it is all have ever wanted to do. They are not doing it for money, and in many cases put up with low returns or low wages. The idea of considering any other job does not hold meaning for them, because farming is not just a job, nor is it just a lifestyle. It is such an integral

part of them that to question it is to not understand it. This is still true for those who don't necessarily love it but like it: even they find it so much a part of them that they cannot leave it.

Although most sheep farmers have inherited the occupation and the farm, a few have come into it from outside without having grown up on a sheep property or feeling some kind of lifelong affinity with sheep. For those who become sheep farmers later in life, after another career, whether they assume responsibility for the family farm on the death or incapacity of the family member who was running it or simply choose to buy a farm to grow wool, sheep farming, and in particular woolgrowing, is definitely a calling.

Although many woolgrowers in this study seem to have inherited the farm together with the occupation, some had inherited the occupation but not the farm. Such a possibility has been observed in several studies in Australia (Kaine *et al.* 1997; Yates 1974b) and England (Gasson *et al.* 1988).

For a time I wondered whether the farmer's choice of occupation could be considered a calling in the religious sense. Having perused some literature on the religious calling (or vocation as they frequently term it) I doubt that it is (Hardy 1990; Palmer 2000; Parker 1995; Powell 1960; Shaw 1981; Sikora 1968). Religious vocation is an individual choice, whereas farming vocation is a family choice. The Christian calling is one of leaving your present place and being with God, and farming is about staying in one place through the generations.

Many farm boys without a specific calling to go farming have ended up as sheep farmers simply because no other opportunity presented itself. For them, coming home on the farm was the easy option. They did not make an active choice to become sheep farmers, it just seemed to happen. Some interviewees described their entry to sheep farming in these terms. None of them said they regretted it. For them, sheep farming is perhaps a "falling", rather than a calling. Gasson (1969) remarked on this form of entry to farming in England many years ago.

Pride in one's family's past can easily become a burden. If you don't want to take over the family farm, if the cafes, concerts and well-paid jobs of the city are more attractive to you than dagging sheep, but there is no one else to continue the family heritage and tradition, what do you do? Some interviewees commented that they had been pressured by their parents overtly, or felt the pressure of their parents' circumstances, to take over the family farm, when they may have wished for a different future for themselves. Having experienced this, how do you then present the future of the family farm to your own children? No one said that they wanted one of their children to take over the family farm, nor did anyone say that they wanted their children to leave.

If the farm is big enough that you can afford to retire without having to sell the farm, or if you need to sell some of the farm but can leave enough to maintain a viable unit, then leaving the farm to your children and leasing it out or appointing a manager looks an attractive option. Passing the decision about the future of the farm to your children might make you feel good that you haven't sold the family farm on them but, if they are not interested in farming themselves, ownership of the family farm may not be a good investment for them. If the farm is not big enough, and you need to sell it to retire on the proceeds, the occupational aspirations of children may not be relevant to the decision. If the children are not interested in farming, the decision is easy. Even families with original family selections seem to be prepared to sell and move on, as some of the interviews in this study have shown. If a child does want to farm, the situation is more difficult. However, there are examples in this study of people carrying the drive to grow wool through their urban lives and eventually acting on their ambition. Even people who did not grow up on a farm can become woolgrowers by managing a farm.

Disappearance of the young sheep farmer

The main factor driving the increasing average age of the sheep farming population is the declining rate of entry of younger people to the occupation. This phenomenon has been observed widely and over a long period, by American researchers such as Tolley and Hjort (1963) and Gale (2000), as well as Australian researchers such as Bell and

Nalson (1974) and Barr (2004). This study confirms those findings for the Australian sheep industry.

Entry by people under 25 years of age is now relatively uncommon, and projections are for the number of sheep farmers under 30 to reduce almost to zero. Young people, even those raised on farms, are choosing to go farming in fewer and fewer numbers, and this is particularly true of the sheep industry. I suspect their reasons relate not only to the low returns that many children of sheep farmers will have observed as they were growing up in the early 1990s, but also to the distasteful work of crutching and dagging sheep and the distance from amenities. Cafes, cultural pursuits, good universities, well paid jobs with a salary paid into your bank account every fortnight, friends and potential wives are all to be found in the distant city and not the local town. A trend as strong as this will not be reversed merely by a return to higher farm product prices. For young people, career and lifestyle opportunities in the city are probably much greater and more enticing than for their parents.

Even if a farm child enjoys the work, staying on the farm may involve too much sacrifice. If the farm is not big enough to provide an income for them as well as their parents, then they would have to get off-farm work. The off-farm work available to them would be unlikely to be as remunerative as the work that would be available to them in the city, and any off-farm work they did would detract from the lifestyle benefits of being a woolgrower, particularly the personal autonomy and independence of being one's own boss. Children may once have come home on the farm and worked for years for low wages, never knowing when they will be able to take over the farm management much less the ownership of the farm itself, in the way of the farmer's boy described by Gasson and Errington (1993). One of the interviewees recalled a neighbour's son who had fitted this category, but those days are likely gone now for most farm children.

Patterns of entry to sheep farming are changing. Just as many young people are leaving the farm, many middle aged or older people are returning. Today, mid-life entry, often after a significant non-farm career, has become common. Whilst some entrants are following a passion for sheep farming by independent purchase of a sheep

property, others are rescuing the family farm as their parents age and can no longer cope. It is not easy to tell whether or not, in a given family, this form of inter-generational transfer will occur. Sometimes children who have settled in the city with professional jobs and have said all their adult lives that they will never return to the farm, actually do so when their ageing parents die or announce that the family farm will be sold. Even if this does not actually happen, some parents harbour a wish that it will (Vanclay 2004).

A related phenomenon has been observed in Scotland, in which rural migrants return to the land of their youth in later stages of their working life (Stockdale 2002). It is likely to occur in Australia and will increase in importance. This return of the middle-aged to the farmland of their youth will often be part of the wave of wider amenity migration, rather than a decision based upon the opportunities offered by the family farm. Many of the returning children will have no need to rely on the farm for much of their income. If they choose to remain in sheep farming, it may not be in a major way. Such returns to rural areas will be more likely in closer settled and high amenity agricultural regions. In these areas, these changes have the potential to create patterns of farm gentrification. In other, less attractive, regions the young will not return in large numbers and population decline will accelerate.

Structural adjustment is a necessary component of any agricultural industry faced with a cost-price squeeze. Although good for the viability of the industry as a whole, adjustment imposes social costs on individuals and families faced with their own adjustment decision. Such costs are greatest for older farmers who are forced out of the industry by economic pressures. The form of adjustment that imposes the least social cost and causes the least dislocation is probably the decision made by fewer young people to enter the industry. This is the adjustment that is occurring in the Australian sheep industry. Gasson (1969, p. 40) offered a strong argument in favour of this intergenerational adjustment:

By far the best approach ... to reduce the numbers of 'uncommercial' small farmers with the minimum of social hardship ... would be to tackle the young aspiring farmer before he is committed to farming, while there is still time to train him for another career and before his sturdy

independence has had time to harden. It would be preferable not to embark on an ill-conceived career in farming rather than to start and have difficulty in salvaging the capital in five years' time.

How realistic is the projection that sheep farmers aged under 30 will virtually disappear by 2011? The trend has been happening since 1986. From 1976 to 1986 the proportion of these young sheep farmers was stable at 13 or 14 per cent of the total number of sheep farmers. Between 1986 and 2001 the proportion of young sheep farmers dropped from 14 to five per cent. The model simply extrapolates that trend, and projects that by 2011 the proportion will drop to one per cent. The trend is not new, nor is it unique to Australia or even the sheep industry: it has been observed all over the world, all over agriculture, for generations, as the Bowsfield (1914) quotation presented earlier shows. Further, as the workforce in the rest of Australia gradually ages, there will be increasing opportunities in non-agricultural industries.

Is the disappearance of the young sheep farmer a problem? Does the sheep industry need more young farmers? If a young entrant to sheep farming is to make a reasonable living from it, their farm needs to be large. Because of the cost-price squeeze, the minimum size for a viable farm keeps increasing. There are many small sheep farms in Australia: the financially smallest 40 per cent of them produce only 10 per cent of Australia's total value of sheep production, while the largest 10 per cent produce 40 per cent of the value of production. For a young person growing up on a small sheep farm, even if their parents had been satisfied with the living to be made from it, any expectation that they could build a career based on that farm would be unrealistic. The struggle to make ends meet on an unviable sheep farm is likely to be unrewarding for them and a move to town a better use of their talent and enthusiasm. For the relatively small number of children from large sheep farms there is indeed the potential of a career on the farm. An industry with shrinking labour requirements needs increasingly fewer entrants to maintain itself anyway. For those children from small sheep farms who still want to be involved in the industry, their best option is likely to be to build another career off the farm, then take up farming once their financial security has been assured by their other career. Even if they get into sheep farming at an older age than did their parents, the increasing number of ageing sheep

farmers indicates that they might still be able to have a long career in the sheep industry.

Rise of the ageing sheep farmer

The age at which farmers retire from the sheep industry is rising. Farmers, being for the most part self-employed, have no mandated retirement age. As has already been discussed, 'retirement' has several meanings for farmers: there is retirement *from* farming, retirement *in* farming, and retirement *to* farming (Foskey 2005).

The sheep industry has seen two great inward migrations, two highly populous cohorts, during the period I have studied. Many members of the generation born in the late 1920s entered the sheep industry in their early 20s immediately after the Second World War. This generation was the most populated age cohort in the sheep industry in the 1976 and 1981 censuses. From age 60 onwards these farmers appear to have gradually retired *from* farming as part of an inter-generational transfer strategy. In the 1986 census they were replaced as the most populous age cohort by their children, the early baby-boomers born during the period from 1946 to 1951. The transfer can be clearly seen in the bi-modal age distribution of sheep and sheep-beef farmers in the 1981 census (Figure 23).

The early baby-boomer farmers have been the dominant cohort of sheep farmers for the period from 1986 through to 2001 as their age cohort has progressed through the age groups, from 35–39, through 40–44 and 45–49 to 50–54. Unlike their parents, members of this baby boomer cohort are not showing the same inclination to retire *from* sheep farming. There are several reasons for this phenomenon.

Given the reducing attractiveness of the farm lifestyle to many young rural people, fewer and fewer of the current generation of ageing sheep farmers will enjoy the luxury of handing on their farm to their children. For them, retirement *from* farming will require the sale of the family farm, something that is, for many, unpalatable.

Several interviewees in this study did not want to retire. Some spoke of their fathers continuing to work on the farm after they had taken over, even when well past the

retirement age for salaried workers. Such work is not done through necessity, but through desire to do it and love of the work. For some interviewees, the prospect of a child taking over the farm was the one thing that would convince them to leave the farm. They did not feel that the new farmer would appreciate their father watching them all the time. They would still be available to help and advise when needed, of course, and one suspects that they would end up still spending a lot of their time on the farm. These farmers were like those in the survey of Errington and Tranter (1991, p. 79) who said they were frightened by the prospect of retirement.

Many sheep farmers know nothing else but farm work, their whole identity is around being a farmer. For them, life without farming is life without identity, and they are frightened of dying if they retired from the farm with nothing to do. Others have off-farm interests, but they are farm-related or community service activities, such as farmer organisations or local councils. Often farmers tend to relinquish these off-farm activities before they give up farming. Only those interviewees who explicitly mentioned hobby interests off-farm or just a desire to spend time relaxing rather than working hard on the farm indicated a desire to actually retire. The most that the 'addicted' farmers I interviewed would admit to was slowing down as they aged. For farmers without off-farm interests or hobbies, the only reason for slowing down is decreased physical capacity to work. The one thing that seems to make retirement socially acceptable to these sheep farmers, a child wanting to take over the farm, is denied them. So they choose to retire *in* farming.

Reduced inter-generational transfer is one reason why the age at which sheep farmers retire appears to be rising. Another is the proliferation of labour-saving tools such as 4-wheel farm 'bikes', which were praised by one ageing interviewee in this research for allowing him to retain enough mobility to keep working. Another boon for ageing sheep farmers is the self-pinning hydraulic wool press. Not only has it provided cost savings through enabling heavier bales to be pressed, but it also makes pressing wool easy for older farmers. Eventually, failing health and mobility will force these sheep farmers to retire.

Then there are those who retire *to* farming. The rapid increase in the median age of sheep and sheep-beef farmers since 1991, which is projected to continue until about 2021, is probably associated with the behaviour of baby boomers, born between 1946 and 1950. Since 1986, throughout almost all of their working life, they have formed the most populous 5-year age cohort. Adding to this 'installed base' of baby-boomer commercial sheep and sheep-beef farmers over the next few years will be other baby-boomers retiring to sheep farming from careers in other occupations. In 2001, members of this cohort were aged between 50 and 54, nearing the age of early retirement cherished by many people in sedentary, office-bound occupations. In 2021 they will be aged between 70 and 74, an age at which many current sheep farmers are still working hard, actively managing their farms. While many lifetime commercial sheep farmers in this cohort may well have retired by then, many of those who had retired to sheep or sheep-beef farming may not be ready to leave their farms. Some of them are likely to be 'frustrated farmers' who pursued a career in another occupation while harbouring a desire to go farming. The cost-price squeeze leaves room for fewer and fewer farmers every year but, while it provides an economic incentive for farmers (and particularly their children) to leave the land, it does not necessarily remove the emotional attachment to the land. These retirement farmers are unlikely to give up their farms easily. Improvements in life expectancy and labour-saving devices will allow them to keep farming for longer, if that is their wish.

How realistic is the projection of such a high proportion of farmers aged 80 and over, making them the most populous age cohort of all in every region? The signs are already apparent, in a lowered exit rate and steady entry rate among older farmers, and the model is simply extrapolating the current trend by projecting it forward. Human life expectancy is certainly increasing, with the median age at death in Australia in 2003 being 79 years, an increase of six years since 1983 (ABS 2004). By definition, half of all deaths involve persons older than that. If the median age at death keeps rising at the same rate then there is indeed likely to be a substantially increased pool of people aged over 80 who are capable of managing a sheep farm in 2031. Two examples come to mind. One is my own father who, aged 85, is still running his sheep farm (although now at a reduced acreage) and has only just told me that he thinks he is not as strong as he was and is finding it hard to shear a sheep. The other, Bert

Farquhar, is better known. In 1986, at the age of 68, he paid more than \$10 million (at the time an Australian record price for a single farm) for Rushy Lagoon, a very large property at the north east tip of Tasmania. He then embarked on a 25-year irrigation and development program that would have taken until he was 93 to complete. With the accidental death of his son the impetus to develop the large property was lost and he sold it (Grant 2004). Are these two people exceptional? Maybe they are now, but perhaps not in the future.

Bert Farquhar's example, in selling the farm after the death of his son, shows the importance of the existence of a successor in determining the occupational future of older farmers. The presence of a successor drives some farmers to stay on their farms, because they see the future of their farm being realised through their successor. Eventually they plan to hand over to the successor, and the farm will not be sold. In contrast, for some other families, it is the absence of a successor that drives them to stay on their farms. Older farmers whose children have decided not to enter farming as a career do not have an incentive to step aside from the farm to allow their children to take over its management. Their easiest course of action is to remain in farming for as long as they are healthy and able to enjoy it. Once these parents have accepted the reality of their children not coming home on the farm, they can make the decision to sell the farm. Having made that decision, they may well keep farming for some years before retiring and selling it. So the impact of a decision to sell the farm may not be realised until many years after it has been made. This delay in the transfer of a farm to a new operator represents yet another effect of succession to add to those described by Potter and Lobley (1996b) earlier.

Different regional futures

There is likely to be a very different set of futures for sheep farming in Australia's different agronomic zones. Currently two-thirds of Australia's sheep farmers are in the high rainfall zone and only one-third in the wheat-sheep and pastoral zones. Over the next 30 years, the proportion in the wheat-sheep and pastoral zones is projected to halve, while the proportion in the high rainfall zone is projected to climb to over 80 per cent.

The mixed cropping areas are the most susceptible to churning of enterprises, as farmers continually re-evaluate their enterprise mix to make the most of changing market and seasonal conditions. It is not clear whether those who leave sheep farming will be staying in farming but just changing their enterprise mix, or getting out of farming altogether. Given the mixed nature of much of the farming in these areas, it seems likely that many will be simply changing enterprise. Just as it is easy to get out of sheep in the mixed cropping areas when the markets for wool and lambs are not good, it is equally easy to get back in when the markets improve. If, however, the infrastructure needed to run sheep (fences, water supply, sheepyards, shearing shed) is allowed to run down it will be more difficult for a cropping farmer to get back into sheep. Further, if a farmer's cropping regime evolves to the point where the seasonal demand of sheep for feed or labour do not fit well with the needs of the cropping program, the chance of sheep returning to a formerly 'mixed' cropping farm will reduce.

Although the pastoral zone is projected to retain fewer than half of its farmers, if the farms amalgamate in the same way as they have in the past the amount of wool grown in the zone may not change greatly. As the cost-price squeeze forces increasing efficiency, and as increasing efficiency is usually obtained by increased scale, pastoral farms are likely to get larger and the pastoral areas will require fewer farmers to run the same number of sheep. The pastoral areas will be able to provide jobs for fewer sheep farmers.

The pastoral zone and the mixed cropping areas are generally low in amenity. They are often far from the social, cultural, recreational, educational and health-care amenities of large towns and cities, and in landscapes that seem to be appreciated only by those whose families have lived in them for several generations. The low amenity of pastoral areas means that the only real competition for extra land comes from other farmers. Compared with high amenity areas, land prices remain low relative to their productive value, and farmers can afford to expand. These areas do offer a future for commercial sheep farming.

The high rainfall areas, where landscape and social amenity is concentrated, will retain many of their sheep farmers. A higher proportion of sheep farmers in the high rainfall zone does not necessarily mean a higher proportion of wool grown or lambs produced there. If lifestyle farmers are generally likely to have smaller farms than commercial farmers, it will require more of them to produce the same amount of wool or meat. Thus, even though the weight of numbers of sheep farmers may come to rest in the high rainfall zone, the weight of numbers of sheep between climatic zones may not change much at all. Also, if amenity or lifestyle sheep production becomes concentrated in the high rainfall zone, then the way sheep are produced in that zone may change. A lifestyle farmer may not even want to run sheep. Their decision is likely to be based on lifestyle and identity needs rather than the relative profitability of sheep farming versus other agricultural land uses.

Lifestyle pressures affect the high rainfall zone much more than the wheat-sheep or pastoral zones, but they do not affect all parts of the high rainfall zone equally. Only some parts of the high rainfall zone are near Sydney or Melbourne, close to major highways, along the spine of the Great Dividing Range, near water bodies or close to large towns. Even within the regions I have modelled there will be variation. The Southern Plains region, in particular, encompasses a wide variety of country with different social appeal, from the Western District of Victoria and the south east of South Australia, to the Tasmanian midlands, to Kangaroo Island and Adelaide's playground Fleurieu Peninsula. Landscape amenity (and thus lifestyle demand) is not equally spread, so some parts of the high rainfall zone are likely to remain in commercial sheep farming to a greater extent than other parts. The high rainfall areas most likely to remain in sheep are those that are relatively isolated, such as the south east of South Australia, the Western District plains and areas west of the Grampians in Victoria, and the Northern Tablelands and Monaro of New South Wales.

How big a sheep farm is big enough? Of course it depends, and not only on climate and soil type. It depends also on what you want from your farm. A lifestyle farmer, who has a low need for income in retirement or who has a source of income from elsewhere, may not need a large farm at all. Their main requirement may be that the farm is large enough, and sufficiently like their idealised view of what a farm should

be like, to allow them to project to themselves and others their identity as a farmer. If you have sufficient capital that the size of your farm is not critical, you may as well pay the extra to buy an attractive one in a high amenity area.

Someone who is trying to be a full-time, commercial farmer obviously needs a farm that is large enough to be viable as a business. This requires keeping up with constantly declining terms of trade by acquiring more land. In some areas, nearly all the competing buyers for land that comes up for sale are other commercial woolgrowers without other sources of substantial income, also looking to expand. In these areas, additional land is available at a price that allows the money borrowed to be paid off from the proceeds of sheep farming, and sufficient scale can be maintained. As I have shown, though, not all sheep farmers are in such areas. Where land prices are high, due to competing buyers who have another source of income or a more profitable use of the land in mind, the scale of the farm cannot be increased indefinitely. A difficult decision may have to be made, to sell up and move elsewhere, to a place where land is cheaper and the economic conditions for running sheep commercially are more favourable. The need for such a decision is even more urgent if one has a child who feels the call to grow wool and wishes to continue the family tradition.

At the point of deciding whether or not to sell up and move the farm to a more economically viable location, the two components of the inheritance complex become separated. One has to decide which of the two is harder to leave: a farm that may have been in the family for several generations, on which you grew up and which you know intimately, or an occupation that you have pursued all your working life and to which you feel called. When the choice is described this starkly, as a choice between passing on the farm or passing on the occupation, it is not surprising that passing on the occupation generally wins. Several interviewees in this study described in matter-of-fact terms (but perhaps with some element of rationalisation) how they had eventually come to accept the reality of selling a long-held family farm. The possibility of inheriting the occupation of farming without the farm to pursue it has been observed elsewhere (e.g., Gasson and Errington 1993), but the finding that farm families are willing to break the link between occupation and farm property, moving

to another area to allow the next generation to maintain the family occupational tradition, is novel.

One alternative to selling the farm and moving to another area is to farm part-time. Some interviewees had done this for a long period, some occasionally, and others talked about their children being likely to need some off-farm work if they were to take over the farm. For these interviewees, part-time farming represented a steady state rather than part of a transition into or out of farming. Some of the central Victorian interviewees resided in the area studied by Wills (1978), and Wills' finding that part-time farming was a continuing work arrangement still holds true. My findings parallel those of Barlett (1986), who observed among the American farmers she studied that their part-time farming was mostly an ongoing arrangement. In a pluriactive farm family, the person doing most of the farm work may not be also the person doing most of the off-farm work. Several male interviewees described how their wives' off-farm work supported the farm. It is not surprising, therefore, that MacKinnon *et al.* (1991) found that half the farm family income in their survey came from outside the farm.

Sheep farming as a business, a lifestyle or both

Is farming a business, undertaken for commercial purposes, or a lifestyle, undertaken for amenity purposes? Commercial farming is susceptible to both economic adjustment pressures and lifestyle pressures. For people whose farm is their main source of income, the relentless requirement for increased efficiency or scale forces amalgamation of commercial farms. The number of commercial farmers decreases continually. Farmers are renowned for their ability to 'tighten their belts', reducing expenditure when times are tough. Some take another job to get through the tough times. This is why the amount of adjustment out of agriculture by less efficient or smaller scale farmers is generally less than that predicted by economic policy analysis. The effect of lifestyle pressure on adjustment of commercial sheep farmers is generally felt in a decrease in inter-generational transfer. The children of sheep farmers may well see improved lifestyle opportunities in the city, perhaps allied with improved economic opportunities. Seeing no better alternative use of their time and energy, their parents would probably remain on the farm.

In contrast to commercial farming, lifestyle or amenity farming is much less susceptible to economic pressures. It is, however, more susceptible to lifestyle pressures. One can afford to be a lifestyle farmer only if one has another source of income. The cost-price squeeze means a lot less to these farmers than it does to commercial farmers. Their need for belt-tightening is related more to the fortunes of their other source of income than it is to their source of farming income. Lifestyle pressures, related to distance from their other source of income or their stage in the family life cycle, do affect their decisions about whether or not to move out of farming. These farms are well developed with infrastructure, and even their land component is priced out of the reach of commercial farmers, so they are likely to be purchased by people wishing to enter lifestyle or amenity farming, rather than by commercial farmers for property amalgamation, as would be expected in areas where commercial sheep farming is still a proposition.

The word 'lifestyle' means different things to different people. For a young person raised on a farm, a better lifestyle may be one that provides social, recreational, educational and cultural opportunities. This is likely to require a move to the city. For someone older, who has become disillusioned with the fast pace, competitiveness and claustrophobia of the city, a better lifestyle may be instead one that offers space, peacefulness and an absence of rapacious bosses. They move to the farm for lifestyle reasons. The same person might move in completely different directions at different stages of their life, and both moves can be made for lifestyle reasons. One vision of lifestyle drives the young off the farm and into the city; another vision of lifestyle may drive that person, once they are older, out of the city and back to the farm.

The variation in projections of regional futures, particularly between the various high rainfall regions, suggests a divergence in paths. In some areas, sheep farming may become more of a business. Bryant (1999) has described a shift in some farmers' belief structures from a view of oneself as a farmer towards a more urban occupational identity. Some farm managers are increasingly likely to see themselves less as a farmer than as a manager with skills that have much in common with the skills of other business managers outside agriculture. Bryant (1999, p. 252) has also described what she has called "the centrality of the market in constructing the self",

where increasing numbers of farmers come to consider their value in terms of strategic decision making on the farm, rather than their ability to undertake physical labour in an outdoor setting. If, for some, sheep farming becomes not a way of life but a managerial job like any other, then the pattern of farm exit decisions made by Australian sheep farmers may change. Some sheep farmers will come to assess the rewards of their current job by comparing them with what is on offer elsewhere. For these commercially oriented sheep producers, farming loses its exceptionalism, its special lifestyle and essential difference from other occupations. As Paarlberg (1978) would have said, agriculture loses its uniqueness.

In other areas sheep farming may become more of a lifestyle, catering to the rural amenity needs of new residents, who may be urban refugee settlers or people who have retired to sheep farming. These areas will retain some existing farmers, many of whom will have been farmers all their lives and know nothing else but farm work. For people such as these, their identity centres on being a farmer rather than making a profit by farming, and they maintain this identity and the lifestyle that goes with it despite increasingly low returns. Not only do amenity, lifestyle and 'way of life' farmers have limited ability to respond to market signals because of the small scale of their farms, but also they are not motivated strongly by financial considerations anyway.

At the moment sheep farming is simultaneously more than a business and more than a lifestyle for most sheep farmers. For many it is a calling. Their identity as a sheep farmer is one in which the farmer, farm family, farm and business become consubstantial, not only unable to be disentangled but somehow forming a substance that is greater and more meaningful than the components. In future such a personal identity may become a luxury few sheep farmers can afford. Many will have to choose between business and lifestyle, and to have one will mean letting go of the other.

Chapter 7. Conclusions and implications

Research questions

In the first Chapter I presented three overall research questions to guide the inquiry:

- What is the demographic structure of the sheep farming industry in Australia?
- How has it changed?
- Do the changes matter?

The answer to the first question can be summarised as follows, based on the quantitative research. As of the 2001 census, there were about 20,000 sheep farmers in Australia, and almost three-quarters of them were male. Australia's sheep farmers are concentrated in the high rainfall areas, stretching from the Western District of Victoria to the northern tablelands of New South Wales. The median age of Australia's sheep farmers in 2001 was 53 years, which is higher by about three years than the median age of all Australian farmers. The age distribution follows a bell curve. The farmers with the highest median age are those closest to Sydney and Melbourne.

The answer to the second question can be summarised as follows, based on the quantitative research. The average age of Australia's sheep farmers is increasing. This is caused mainly by the decrease in entry of young people to the industry, a phenomenon that is not confined to Australia's sheep industry but is widespread and long-term throughout agriculture in the industrialised world. The young are entering in smaller numbers, so the older generation are staying on, thus increasing the average age of sheep farmers. This effect is compounded by the progression of baby-boomers through the age cohorts. The other significant change in the demographic structure of Australia's sheep industry is the divergent trajectories of production and amenity areas.

The answer to the third question, based on the qualitative research, is that the changes do matter. They affect sheep farming families, sheep farming communities and the sheep farming industry as a whole. The changes are driven by substantial forces that cannot be resisted with any real success. The sheep industry in Australia will not remain static and the nation's rural landscapes will not remain constant.

Reflections on the study

Interpreting the findings of a research study, discussing them and drawing conclusions from them all involve generalisations. It is important to consider how widely such generalisations can be drawn. The quantitative study is unambiguously national. As it involves a national census it purports to count all Australians who identify themselves as farmers. The findings of the quantitative study can be generalised nationally.

It is more difficult and more ambiguous to identify how widely it is reasonable to generalise from the findings of the qualitative study. Only Victorian woolgrowers were interviewed. There is no pastoral zone within the state of Victoria, so only woolgrowers from the high rainfall zone or the wheat-sheep zone were interviewed. Certainly the qualitative findings can be generalised within Victoria, as they come from a wide range of Victorian woolgrowing areas. Is it reasonable to generalise from them to high rainfall and wheat-sheep areas in other states of Australia? I would expect the pressures on woolgrowing families in other states to be similar to those in Victoria, as the findings from this qualitative study are broadly in agreement with other relevant studies conducted in other states. The findings are even in broad agreement with relevant studies conducted in pastoral areas of Australia, such as Core (1973), Yates (1974b) and Webb *et al.* (2002). Nevertheless, without conducting further interviews with woolgrowing families outside Victoria, particularly families in pastoral areas, I am cautious about generalising from the qualitative study to farmers outside Victoria.

The data from the Census of Population and Housing, used for the quantitative study, certainly has limitations. Some of these were discussed at length in Chapter 3. The Census is conducted only every five years. Census respondents themselves select whether or not they are farmers. Analysis is restricted to occupational and industry classifications provided within the ABS coding regime of the day within the then current interpretations used by the ABS.

These are all minor limitations of using the CPH to analyse farmer demographics. There are two major limitations. The first is that the census cannot be used to identify

people after they have left farming. The number of exiting farmers can be estimated by difference, but there is no way of knowing where they have gone or to what occupation or industry they have gone. Identification of what it is like to leave farming and what life is like after farming remains one of the most under-researched areas of rural sociology.

The second major limitation is even more significant than the first. The projected demographic structures in the various regions describe the likely number of sheep farmers and their age structure, but say nothing about the size of the farms or the range of farm sizes. Nor do they say anything about what kind of farmers will manage what kind of farms. We know that, for many of the people who manage small sheep farms, managing the farm is their major occupation. We don't know why those farms are small, whether it is from economic necessity or lifestyle choice. We don't know what other income these farmers have, whether they are reliant on the farm and are making do with a very low income, or whether they have substantial off-farm income that does not require a majority of their time to earn. We don't even know how old the managers are. To find out information like this would require linking AAC data on the production of an agricultural establishment with corresponding CPH data for the demographic characteristics of the household, family or individual that manages or works on that establishment. It is possible to link the two types of data sets in some other countries, notably Canada and Israel, but not in Australia. Our research group has made representations to ABS about linking data from the two kinds of census but it appears unlikely that it will be done. On a related matter, Core (1973, p. 172) concluded 35 years ago:

In the writer's opinion, research should be conducted into the construction of social parameters which can be included in survey schedules of the Bureau of Agricultural Economics. The publication of cross-classified social, demographic and economic data of surveyed farms and farm families may allow both the welfare and efficiency dimensions of the so-called farm problem to be more clearly delineated.

The changes Core called for have still not happened.

There are advantages in using census data. The Census purports to count all Australians who identify themselves as farmers, so statistical extrapolation from samples is unnecessary. Census data are also freely available, within the constraints of privacy legislation. Anyone may obtain the same data tables that I have used. To obtain data on farmer demographics any other way would involve a substantial survey. If one wished to focus on a particular region it may be feasible to conduct a survey. To obtain time-series data sufficient to allow longitudinal comparisons would require several surveys. It would be difficult to attract funding for such a series of surveys. Moreover, the series would have to commence in the future as no comparable data would have been collected in the past.

I have several suggestions for further research. An obvious suggestion is to broaden the scope of the qualitative interviews to include woolgrowers in other states, particularly in the pastoral zone, as I have already discussed. A second suggestion is to pursue demographic analysis of other major agricultural industries in Australia. A third suggestion is to go beyond family farms to study the demographics and social issues within corporate farms. All but one of the farmers I interviewed fitted the farm family business definition of Gasson and Errington(1993). Social aspects of corporate farms represent another under-researched area.

Implications

The demographic and social changes affecting the woolgrowing industry have implications for policymakers, extension agents and farmers themselves. For policymakers there are several implications. One concerns the increase in demand for rural properties with landscape amenity. Researchers have described this phenomenon in terms of a post-productivist rural transition, a concept that has been subject to criticism both in Europe and Australia (Argent 2002; Wilson 2001). Holmes (2006) has argued that what is occurring is not simply a post-productivist transition but a multifunctional rural transition. The recognition of a link between the agricultural and non-agricultural sectors of the rural economy represents a new way of thinking about agricultural policy, in contrast to old approaches which have discriminated against farms not worked full-time (MacKinnon *et al.* 1991). Although land ownership may become more diverse, its management—if done by expanding farmers or contract

managers—may not (Lobley and Potter 2004). It may be that, as traditional farm succession lessens its grip on farmland, commercial farmers may prove to be no more stable as land owners and managers than the new amenity buyers.

Another implication for policymakers concerns the fact that structural adjustment occurs despite, rather than because of, government adjustment policy. It is unwise to respond to short-term crises with short-term solutions. In a later report on Mowbray's project as part of the Wool Adjustment Study Group (Gregory *et al.* 1976), written at a time when the wool market had improved and the problem of market failure studied by Mowbray had been resolved it was observed that, had government stepped in to purchase large numbers of wool producing properties during the slump, with the benefit of hindsight it could be accused of over-reaction or undue haste.

Changes to the demographic structure of the sheep industry also have implications for the delivery of government extension programs. Most publicly funded extension nowadays is directed at natural resource management because improved resource management has a clear public good component. One simple example of the possible impact of changes in demographic structure on extension is that, if many farmers work off-farm during the week, then extension officers may have to work with farmers on weekends. More substantially, if the industry becomes more clearly demarcated on a regional basis, with farmers in some areas generally younger and working full-time on the farm, and those in other areas working on the farm only part-time or farming as a retirement activity, then their motivations for changing their farm management to improve resource management may be different.

The implications for sheep farmers are bittersweet. With the relentless ratcheting of the cost-price squeeze, there is room for fewer and fewer woolgrowers anyway, and fewer and fewer children of woolgrowers will find room for themselves on the family farm. The adjustment that occurs when a sheep farming family sells out will provide opportunities for other sheep farming families to expand their operation to keep up with the cost-price squeeze, but only in relatively isolated areas where land prices are set by the returns that can be obtained from agriculture. The economic benefits of low land prices will, however, come with a social cost of reduced, distant and lower

quality services. Where other, more remunerative land uses than wool are possible, or in attractive areas close to major cities or towns, land prices may well be beyond the capacity of neighbouring sheep farmers to pay, and sheep will gradually leave the district. In any case, whatever adjustment occurs on each farm will have to wait until each ageing sheep farmer leaves their farm, as a result of either incapacity or death.

Australia's sheep industry is unlikely to disappear. The sheep industry in Australia has survived several downturns in the past. Certainly, the quantitative study shows that the number of sheep farmers in Australia has decreased and projects that it will continue to decrease. However, it projects that this decrease will be much slower in some areas than others. The qualitative study shows that sheep farmers are proud of their industry and their own family's part in it. It shows that, whilst sheep farmers have tried not to encourage their children to take on sheep farming, they have also tried not to discourage them. If a child did want to take over the farm they would do everything they could to make that possible, even selling a long-held property and moving to an area where land is cheaper. Finally, both the qualitative study and the literature review confirm that, for sheep farming families, the farm, the family and the business combine to form an identity so strong that they will work hard to maintain it no matter what obstacles might be placed in their way.

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Appendix 1: Raw data for all Australian sheep farmers

Census year	Age														Total
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80+	
Same address as previous census															
1976	472	1223	2313	3412	3943	4096	5037	5151	4727	4017	2938	1426	721	384	39,860
1981	340	884	1440	2393	2920	3038	2948	3404	3319	2580	1956	1119	525	280	27,146
1986	329	704	1355	2300	3075	3074	3078	2870	2968	2562	1753	1065	518	231	25,882
1991	175	442	899	1732	2135	2505	2515	2379	2030	1849	1325	736	385	217	19,324
1996	63	196	408	985	1647	1983	2233	2185	1980	1587	1321	843	423	220	16,074
2001	92	206	427	970	1665	2493	2828	3369	3356	2973	2088	1537	792	440	23,236
Different address from previous census															
1976	103	676	1239	1093	757	544	505	490	400	313	220	78	33	9	6460
1981	101	494	1056	979	798	567	416	429	366	257	139	72	33	9	5716
1986	353	620	1051	962	821	707	498	392	402	278	133	52	21	11	6301
1991	159	353	669	752	556	457	361	321	281	252	137	58	12	3	4371
1996	15	119	358	452	411	298	295	230	253	161	112	47	22	9	2782
2001	46	173	427	522	567	493	453	426	435	358	185	121	51	20	4277
Address not stated either census															
1976	13	22	38	20	24	30	20	16	24	24	29	10	13	3	286
1981	3	3	12	9	9	12	9	12	12	12	6	6	9	3	117
1986	12	14	16	15	6	12	12	6	18	13	9	3	0	0	136
1991	0	0	12	6	9	6	0	9	0	6	9	3	0	0	60
1996	0	3	3	15	9	3	3	0	7	9	12	3	3	6	76
2001	0	0	14	15	0	9	15	6	9	3	12	15	9	3	110
Total															
1976	588	1921	3590	4525	4724	4670	5562	5657	5151	4354	3187	1514	767	396	46,606
1981	444	1381	2508	3381	3727	3617	3373	3845	3697	2849	2101	1197	567	292	32,979
1986	694	1338	2422	3277	3902	3793	3588	3268	3388	2853	1895	1120	539	242	32,319
1991	334	795	1580	2490	2700	2968	2876	2709	2311	2107	1471	797	397	220	23,755
1996	78	318	769	1452	2067	2284	2531	2415	2240	1757	1445	893	448	235	18,932
2001	138	379	868	1507	2232	2995	3296	3801	3800	3334	2285	1673	842	423	27,623

Appendix 2: Detailed description of model

The modelling methodology follows that which was developed and applied in Barr (2004). This used the measures of entry and exit from farming to build a simple model of demographic restructuring of Australian agriculture. This model is based upon the observation of the tendency for decisions to leave farming to follow life cycle drivers, except in periods of great external change. It draws on the work of Clawson and other demographic research in the USA and Canada that has showed the patterns of exit for each age group remain relatively fixed over time (Clawson 1963; Gale 1996; 2003; Kanel 1961; Smith 1987; Tolley and Hjort 1963). That is, a cohort of farmers within a region who are aged 35 to 39 in 1996 will have similar exit patterns in 2006 to that displayed by farmers aged 45–49 in that same region in 1996 assuming similar commodity price and seasonal conditions.

Entity structures: farms and farmers

Enumeration of the structure of the farm sector or a single industry within it can be based upon three entities using data from national collections:

- Individuals (farmers)
- Families (farm families)
- Establishments (approximately farm businesses)

This enumeration is complicated by the multi-occupational nature of modern Australian farming. The resulting structure of farm sector entities at time t is portrayed in Figure 43.

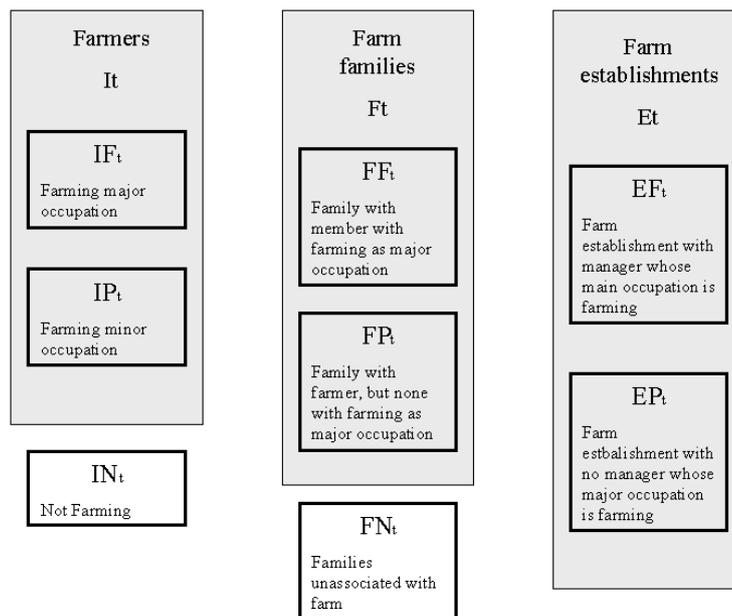


Figure 43 Entity structure of Australian farming

It is not possible to create counts of each of these entities. The following entities are available from existing data sources:

- **IF_t** This a count of persons nominating farm management as major occupation at time t . This count has been available for previous and present Population and Housing Censuses.
- **FF_t** A count of families (or households) with at least one member nominating farming as their main occupation derived by custom tables using family structure and occupation. This count has been available for all censuses used in this study.
- **E_t** A count of farm establishments derived from the AAS. This count has been available from all AAC years. The Australian Bureau of Statistics uses the data collected within its Farm Census to create a measure of farm size called Estimated Value of Agricultural Operations (EVAO).
- **EF_t** A count of establishments with at least one manager/operator who describes farming as their main occupation. In 2001 the AAC form asked whether the person who managed the establishment had farming as their main occupation. The wording used was as close as possible to the major occupation question used in the Population and Housing Census. This provided for the first time a reasonably

accurate count of the number of establishments managed by a person whose main occupation is farming. This count is not available for previous agricultural censuses.

- **E_{Pt}** A count of establishments without a manager or operator who describes farming as their main occupation. This is also only available for 2001 data.

For the remaining entities there are no estimates.

- **I_{Pt}** This is a count of persons operating a farm who nominate an occupation other than agriculture as their main occupation.
- **I_t** This is the count of all individuals having farming as either a minor or major occupation.
- **F_{Pt}** This is a count of families with no members nominating farming as their main occupation, but with at least one member for whom farming is a minor occupation.
- **F_t** This is the count of all families with at least one member having farming as either a minor or major occupation.

Basic entity relationships

The relationships between these entities can be summarised as follows:

$$\mathbf{I_t = I_{ft} + I_{Pt}}$$

$$\mathbf{F_t = F_{Ft} + F_{Pt}}$$

$$\mathbf{E_t = E_{Ft} + E_{Pt}}$$

Farm families can have more than one person whose main occupation is farming. Most commonly this will be a husband and wife team. It is also common for families to include parent and offspring farmers. The nature of this relationship can be determined for SLA or larger geography using enumerated count data available from the ABS.

$$\mathbf{I_t \geq F_t}$$

$$\mathbf{I_{Ft} \geq F_{Ft}}$$

Establishments with at least one person whose major occupation is farming can be associated with more than one farming family. Unlike the Canadians or Israelis, Australian researchers have no access to data linkages between the AAC establishment entity and the CPH farmer or family entities. This effectively limits our capacity to use establishment data in a model of structural change in agriculture.

$$\mathbf{FFt} \geq \mathbf{EFt}$$

A second weakness of the current data available for the census is the inability to identify multi-occupational farmers. As noted earlier, there is no count for the entity IPt. A number of estimates can be made using some simplifying assumptions, however, these estimates have major shortcomings and are of very limited utility for the building of a model. The first estimate of IPt can be based upon a very simple assumption:

$$\mathbf{IPt} \approx \mathbf{FPt} \approx \mathbf{EPt}$$

This relationship is based upon an argument that most farms without a major occupation farmer will be small and are unlikely to require the involvement of more than one family or more than one farmer. When considering occupational mobility in and out of farming, this assumption appears reasonable. It is extremely unlikely that a small farm will be associated with the occupational migration of two persons into farming as their major occupation within one inter-censal period.

A conceptual model of adjustment

The adjustment of agriculture can be represented by depicting the changes in state of individuals between time $t-1$ and time t . The case for individuals is represented in Figure 44.

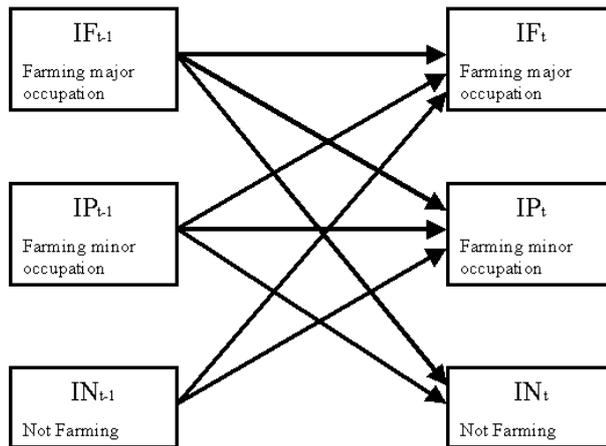


Figure 44 Conceptual model of agricultural adjustment using farmer entity

This model can be broken down into components to represent each of the inter-censal flows. The above figure depicts these relationships using a four letter variable naming convention in which the first letter depicts the entity of measurement, the second indicates the state in the previous census, the third indicates the state in the current census and the final letter indicates the time period. Thus IPF_t is the number of individuals who shifted from farming as a minor occupation in the previous census to farming as a major occupation in the census at time t . This model provides a number of simple equations that describe states in time t and time $t-1$ in terms of the component flows from and to each of these states. For example:

$$IF_t = IFF_t + IPF_t + INF_t$$

There are another five of these equations.

These six equations do not allow the construction of estimates of the flow parameters because of the inability to obtain counts of persons for whom farming is a minor occupation. Such calculations will only be possible if longitudinal data of multi-occupationality becomes available from the Census of Population and Housing. This requires the model to be simplified to include only measurable components (Figure 45). The stock is the census year count of farmers who nominate farming as their main occupation. The flows between each census year correspond with the

simple measures of entry to farming, exit from farming and continuing in farming that are described in earlier sections of this report. The key simplifications of this model are:

- We have combined exit from farming and conversion from farming as a major occupational to farming as a minor occupation status in the same aggregate measure of exit from farming;

$$\text{Exit}(t-1,t) = \text{IFP}_t + \text{INF}_t$$

- We have combined entry to farming and conversion from farming as a minor occupational to farming as a major occupational status within the single measure of entry to farming;

$$\text{New}(t-1,t) = \text{IPF}_t + \text{INF}_t$$

- We have ignored any change in farm establishment status associated with changing occupational status.

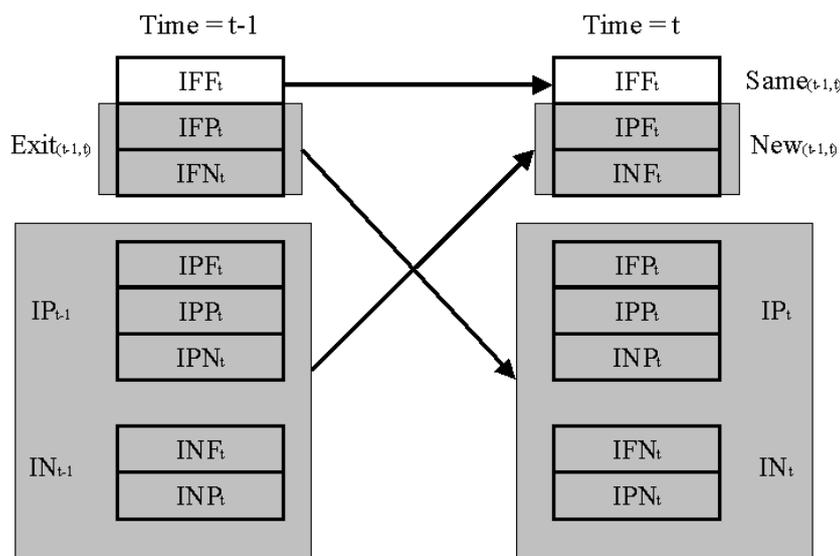


Figure 45 Simplified conceptual model of change

This simple model can be operationalised by using historical measures of *entry*, *exit* and *same* (continued farming) to create a projection of future farmer populations. To achieve this, the value of *exit* for time t can be expressed as a linear function of farmer population at time $t-1$.

$$\mathbf{Exit(t-1,t) = k IF(t-1)}$$

where k is estimated from previous inter-censal periods.

The value of *new* can be estimated as a function of the number of exits in the inter-censal period. The greater the number of exits, the greater the opportunity for others to enter agriculture.

$$\mathbf{New(t-1,t) = j Exit(t-1,t)}$$

where j is estimated from previous inter-censal periods.

Estimation of $\mathbf{Same(t-1,t)}$ is trivial.

$$\mathbf{Same(t-1,t) = IF(t-1) - Exit(t-1,t)}$$

This simple model overlooks the very strong relation between entry and exit behaviour and age . The model can be enhanced by creating stock variables for each 5-year age cohort between 15 and 80 and a stock variable for farmers aged 80 years and over. This enhanced model is represented in Figure 4.

Appendix 3: Interview schedule

How did you get into woolgrowing?

How long have you been a woolgrower?

What do you like about growing wool?

What type of sheep do you run?

How heavily do you stock?

Do you rotate paddocks much or mainly leave the sheep where they are?

Have you resowed any pastures lately?

How do you decide when to resow? What to sow?

What things do the various family members do on the farm?

Have you made any changes to the way you manage your farm lately?

What was behind the changes?

What benefits did you get from making the changes?

Do you have any plans for further developing the farm?

Do you have any plans for making changes to how you run the farm?

Where do you get most of your farming (woolgrowing) information and advice from?

Did you have any training in how to be a woolgrower?

Have you done any other courses about farming?

What do you think is the best kind of training for woolgrowers these days?

How big is your farm?

Is it big enough?

Has it always been this size?

Have you experienced tough times?

How did you handle them?

Do you think that approach will work in future?

Have you experienced good times?

How did you handle them?

Do you think that approach will work in future?

Do you have any off-farm income?

How are you going financially?

Is it getting easier, harder, or staying about the same?

Do you have any realistic alternatives to woolgrowing on your farm?

Have you always been on this farm?
Were your parents farmers?
How much say did you have in whether you took over the farm?

How old are you now?
Do you have any children?
How old are they?
Where do they live?
Are they interested in farming?
Would you like them to take over the farm?
Are they likely to take over the farm?
Has any decision been made about this?
No: How do you plan to make this decision?
Yes: When was this decision made? How?
Who was involved in the decision?
Is one child more likely than others to take over the farm?
What will happen to the other children?
If a child is likely to take over the farm, do you think they will run it like you have, or differently?

Have you thought much about your own future on the farm?
How long do you plan to stay here?
Do you have any plans for your retirement?
Will it be on the farm or off it?
If you aren't planning to actually retire, what do you think will happen if you become unable to manage the farm?
Do you see yourself working at anything other than farming?
How will you manage financially when you are retired?

What does the future hold for your farm?
Who do think will be running your farm in 20 years' time?
How do you think the district will have changed in 20 years' time?

- agriculturally
- environmentally
- socially

Do you think these changes will have been for the better?
Do you think your situation is typical of farmers around here?

Appendix 4: List of nodes used in qualitative analysis

Entry to woolgrowing

Family history

Family history of farming in general
Family history of woolgrowing in particular
Family history on that particular farm
Family history in district
Grew up in town

Career choice

Chose woolgrowing
Fell into woolgrowing
Pressure to come home
Entry through marriage

Process

Inheritance
Buying out family members
Buying the farm

Training

Formal training
Informal training
No training
Recommended training for new entrant

Being a woolgrower

Like about woolgrowing

Like sheep
Like wool
Satisfaction or pride
Learning
Ease of management
Own boss
Adjunct to cropping
Lifestyle and business

Family circumstances

Family conflict
Kids coming home – smooth
Kids coming home – difficult
Farming with siblings
Attachment to farm (including non-farm family members)
Relations general
Relations with other family members

Farm and family structure

Roles

Alternatives to wool

Wool best or only alternative

Wool one of several options

Wool fits with other enterprises

Approach to woolgrowing

Stocking rate or policy

Use of new technology / improving management

Management issues general

Size of farm

Area of farm

Sheep numbers

Other enterprises

Labour

Income

Expansion

Diversification

Development issues

Encroachment

Future viability

Adversity

Off-farm work

Belt tightening or cost-cutting

Bought feed or cut stock numbers

Relationship between cyclical adversity and cost-price squeeze

Selling land

Government assistance

Off-farm income

Emotional response

Good times

Off-farm interests

Exit from woolgrowing

Children

No children

All children left farm or made decision to leave

One or two children working on farm

Children too young to decide

Children's career choices

Future for young people on farms

Handing over the reins

Children's own assessment of their future

Own future

Staying on farm – Attachment to place
Staying on farm – Know nothing else
Moving from farm
Depends on children's decisions
Retiring without having to sell farm
Leasing out / agisting
Selling farm to retire
Wanting to do something else
Slowing down

Future of farm

Leaving farm to children
Balancing inheritance
Multiple children wanting to farm
Selling farm
Keeping options open
Burden of family tradition
Openness
Townie-farmer divide
Moving the farm
Future roles

Observations on the district

District changes

Agricultural
Environmental
Social
Change for the better?

Is your situation typical of the district?

Similarities
Differences

Descriptive codes

Older generation
In between
Younger generation
Male
Female
Children in education
Close to retirement
Recently entered
Age