ANALYSIS OF CAPITAL SOURCES, OWNER OBJECTIVES, AND DETERMINANTS OF PERFORMANCE OF WINE FARMS IN THE WESTERN CAPE

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DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

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ABSTRACT

The Western Cape Province of South Africa has a diverse agricultural production capacity and this contributes to the sector's general stability, hence its promotion as an attractive investment sector. The wine industry, a significant component of the agricultural sector in the Western Cape, plays a very important role in the economy of the Province and presents enormous opportunities in terms of agricultural investments in the Province. The South Africa's wine industry is renowned for its high quality products. Currently, indirect indicators such as producer income, the number of new wine cellars, as well as the age composition of vines in South Africa, are used to estimate investment net flows into the wine industry.

The main objectives of this study are to identify the most common sources of capital in wine farms and the most common objectives that wine farm owners are trying to achieve in the Western Cape Province. Another objective is to identify those wine farm and owner characteristics that affect the performance of wine farms in the Western Cape Province of South Africa. For ease of analysis, the main problem was divided into three specific objectives or sub-problems. The study employed a number of methods and techniques in an effort to obtain relevant and accurate data. The different sources consulted include personal communications with industry experts, articles published in different academic journals and books, conference papers, postgraduate students' theses, and other articles from the internet. Data analyses relating to the first and second sub-problems were carried out using Excel and Stata statistical packages and took the form of multiple cross-tabulations. In the third subproblem i.e., to identify wine farm and owner characteristics that affect the performance of wine farms in the Western Cape, an interval regression equation was estimated using Stata statistical software package.

In the case were the objective was to identify the most common sources of capital in wine farms it was found that most wine farm owners in this study rely on farm-related sources of capital as opposed to nonfarm sources of capital. The implication of this is that the wine industry in the Western Cape is more reliant on farm-related sources of capital and therefore relatively sustainable. In the case where the objective was to identify the most common

objectives that wine farm owners are aiming to achieve when investing in wine farms, it was found that most wine farm owners invest in wine farms for economic (profit) purposes. The proportion of those investing in wine farms for lifestyle purposes was found to be a quarter of the total number of wine farm owners surveyed in this study, confirming that there are wine farm owners who invest in wine farms not for economic but non-economic reasons. This study also found that most foreign-owned wine farms are relatively smaller compared to those that are owned by South Africans.

This study concludes that wine farms that are bigger in size (hectares), have been bottling their own wine for longer, have restaurants on site, produce white wine, are friendly to disabled people, are away from urban centres, have more workers, and/or whose owners are male perform significantly better in terms of annual gross income than others. This confirms the fact that business performance is influenced by both internal firm and entrepreneurial factors. The effect of profit as the main objective of wine farm owners was not as expected. Similarly, the impact of business or commerce as area of study was not as predicted and the suggestions or explanations given were based on the findings from the responses reported by wine farm owners. The distance between the wine farm and the nearest urban centre also did not have the expected sign. However, most of the significant coefficients from the regression analysis have the expected signs.

UITTREKSEL

Die Wes-Kaapprovinsie van Suid-Afrika beskik oor ’n diverse kapasiteit wat landbouproduksie betref en dit dra tot die sektor se algemene stabiliteit by; vandaar die bevordering van die Wes-Kaap as ’n aantreklike beleggingsektor. Die wynbedryf, wat ’n belangrike integrerende deel van die landbousektor in die Wes-Kaap uitmaak, speel ’n baie belangrike rol in die ekonomie van die Provinsie en bied ontsaglike geleenthede met betrekking tot landboukundige beleggings in die Provinsie. Die Suid-Afrikaanse wynbedryf is bekend vir sy produkte van hoë gehalte. Tans word indirekte aanwysers soos die inkomste van produsente, die aantal nuwe wynkelders, asook die ouderdomsamestelling van wingerdstokke in Suid-Afrika, gebruik om die beleggings- netto toevloeiing in die wynbedryf te bereken.

Die hoofdoel van hierdie studie is om die mees algemene bronne van kapitaal van wynplase en die mees algemene doelwitte wat wynboere in die Wes-Kaap probeer om te bereik, te identifiseer. Nog ’n doelwit is om daardie wynplaas- en eienaarskenmerke te identifiseer wat die prestasie van wynplase in die Wes-Kaapprovinsie van Suid-Afrika beïnvloed. Om die ontleding te vergemaklik is die hoofprobleem in drie spesifieke doelwitte of subprobleme verdeel. Die studie het van verskeie metodes en tegnieke gebruik gemaak in ’n poging om relevante en akkurate data te verkry. Die verskillende bronne wat geraadpleeg is het persoonlike beraadslaging met deskundiges in die bedryf, artikels wat in verskeie akademiese vaktydskrifte en boeke gepubliseer is, referate wat by konferensies gelewer is, verhandelings van nagraadse studente, en ander artikels op die Internet ingesluit. Data-ontledings wat met die eerste en tweede subprobleme verband gehou het is met die gebruik van statistiese pakkette soos Excel en Stata in die vorm van veelvoudige kruistabulerings uitgevoer. In die derde probleem, naamlik om wynplaas- en eienaarskenmerke te identifiseer wat die prestasie van wynplase in die Wes-Kaap beïnvloed, is ’n intervalregressiegelykstelling bereken deur van die Stata- statistiese sagtewarepakket gebruik te maak.

In die geval waar dit die doelwit was om die mees algemene bronne van kapitaal van wynplase te identifiseer, is daar gevind dat die meeste eienaars van wynplase in hierdie studie

op plaasverwante bronne van kapitaal eerder as nie-plaasverwante bronne van kapitaal staatmaak. Die implikasie hiervan is dat die wynbedryf in die Wes-Kaap meer op plaasverwante bronne van kapitaal staatmaak, met die gevolg dat dit relatief volhoubaar is. In die geval waar dit die doelwit was om die mees algemene doelwitte te identifiseer wat die eienaars van wynplase probeer om te bereik wanneer hulle in wynplase belê, is daar gevind dat die meeste eienaars van wynplase om ekonomiese (wins-) redes in wynplase belê. Die verhouding van diegene wat vir lewenstyldoeleindes in wynplase belê het was maar ’n kwart van die totale aantal eienaars van wynplase van wie daar vir hierdie studie ’n opname gemaak is. Dit bevestig dat daar eienaars van wynplase is wat om nie-ekonomiese eerder as ekonomiese redes in wynplase belê. Die studie het ook gevind dat die meeste wynplase in buitelandse besit relatief kleiner is in vergelyking met dié wat aan Suid-Afrikaners behoort.

Hierdie studie kom tot die gevolgtrekking dat die groter wynplase (hektaar) hulle eie wyn vir langer tydperke gebottel het, restaurante op die perseel het, wit wyn produseer, voorsiening maak vir gestremdes en hulle verwelkom, weg van stedelike sentra geleë is, meer werkers het en/of wie se eienaars mans is, aansienlik beter as ander met betrekking tot jaarlikse bruto inkomste presteer. Dit bevestig die feit dat sakeprestasie deur beide interne vaste en entrepreneursfaktore beïnvloed word. Die uitwerking van wins as die hoofdoelwit van eienaars van wynplase was nie soos verwag is nie. Op dieselfde manier was die impak van besigheid of handel as studiegebied nie soos dit voorspel is nie en die voorstelle of verduidelikings wat aan die hand gedoen is, is gebaseer op die bevindinge van die response wat deur wynboere gegee is. Die afstand tussen die wynplaas en die naaste stedelike sentrum het ook nie die verwagte beduidenis gehad nie. Die meeste gewigtige koëffisiënte van die regressieontleding het egter die verwagte beduidenis gehad.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 Background information

Agriculture is a very important sector in the economy of the Western Cape. This statement is supported by the figures that follow. Even though the province contributes about 14 percent to the country's GDP, it generates almost 23 percent of the total value added by the agricultural sector in South Africa (WESGRO, 2005:03; Global Insight, 2009). Although agriculture accounted for 3.4 percent of South Africa's GDP in 2007, agriculture in the Western Cape accounted for 5.3 percent of the R185.4 billion Gross Geographic Product (GGP) (Global Insight, 2009). The Western Cape has a diverse production capacity. Crop production, poultry and eggs, winter grains, viticulture, and vegetables together contribute more than 75 percent of total output. Accordingly, the main industries in the sector include fruit, winter grains, livestock, viticulture, and vegetables. The diversity of agricultural enterprises in the Western Cape contributes to the sector's general stability, hence its promotion as an attractive investment sector. According to WESGRO (2005:05), the Western Cape agricultural sector is currently growing at around 5 percent per annum.

The wine industry, a significant component of the agricultural sector in the Western Cape, plays an important role in the economy of the province and presents opportunities in terms of agricultural investments into the province. In terms of GDP, SAWIS (2004:37) reported that the annual total contribution (direct and indirect) in 2003 of the wine industry to the Western Cape economy amounted to R16.3 billion. This represented about 8 percent of the Western Cape's GGP in 2003, with the bulk of the indirect contribution coming from the wine tourism sector. The South African wine industry is renowned for its high quality products (OCW, 1999). Wine export volumes have grown from 20.1 percent of total wine production in 1997 to 42.8 percent in 2007 (SAWIS, 2008:24). This clearly indicates the growing importance of foreign markets for South African wines. In 2007 the wine industry contributed R1.5 billion in state revenue i.e., R691.9 million in excise duties and R857.0 million in value added tax

(SAWIS, 2008:31). This is in comparison with the total producers' income of about R2.9 billion during the same year.

According to a report by AgriAfrica (2008:09) the wine industry in South Africa has experienced a sustained increase in competitiveness as a result of the opening of global markets, scientific research, the flow of technical information, high regulatory standards and investments in human capital. The same report, however, states that these factors are offset by the export-dampening effects of a relatively strong rand, exchange rate instability, lack of sustained research and development and other factors. The above scenario begs the question of what the situation is in terms of investments into the wine industry in the Western Cape.

1.2 Statement of the problem

Indirect indicators such as trends in producer income, the number of new wine cellars, as well as the age composition of vines in South Africa can be used to estimate net investment flows into the wine industry (AgriAfrica, 2008). These clearly indicate that the wine industry is expanding. Indirect indicators are used because though the South African Reserve Bank (SARB) keeps official data on direct investment (i.e., Gross fixed capital formation) in the agricultural sector; such data is not broken down according to different industries within the agricultural sector. According to data from the SARB, total gross fixed capital formation of agriculture, forestry and fishing increased from R4.1 billion in 2000 to R5.1 billion in 2006 (at 2000 constant prices) (SARB, 2007: S115). As already indicated above, disaggregated data in terms of the different sectors within the agricultural sector is not readily available. It is for this reason that it is difficult to determine the extent of investment in the wine industry. During the ten years between 1997 and 2006 total producer income rose by about 78.5percent from R1.5 billion in 1997 to R2.6 billion (SAWIS, 2007:04). Between 1997 and 2006, the number of wineries (cellars) in South Africa increased from 295 to 576 (Platter, 2008:53), with a large increase in the category of private cellars (from 218 to 494 during the same period). The age composition of vines in South Africa during the same period reflects similar patterns, with the number of vines younger than 4 years peaking at 20 percent of total vine area in 2000 (SAWIS, 2004). This reflects significant investments in the wine industry and it

can therefore be argued that this could not have happened if the expected dividends were not good enough.

On the 30th of July 2007, the South African Wine Industry Council adopted the Wine Industry Transformation Charter. The Charter 'recognises that broad-based change and development are essential if the industry is to move forward … and, indeed, if it is to thrive in a highly competitive global market' (SAWIC, 2007:04). The same Charter continues, 'Change and development are therefore both an economic necessity and an urgent national requirement.' It is not clear what impact ownership of wine farms by non-South African citizens and/or South Africans actively involved in other sectors of the economy (the so-called lifestyle owners) might have during this transformation phase. Since the advent of democracy in South Africa there is a perception that the nature of ownership of wine farms is evolving. This evolution involves a move from the traditional family-owned wine farms and cooperative farms to more modern hierarchical ownership structures. Yet, the actual patterns of ownership structures and the implications of the various forms of investments into the wine industry are relatively unknown.

The main objectives of this study are to identify the most common sources of capital in wine farms and the most common objectives that wine farm owners are trying to achieve in the Western Cape Province. Another objective is to identify those wine farm and owner characteristics that affect the performance of wine farms. For ease of analysis, the main problem will be divided into three specific objectives or sub-problems. Again, for ease of analysis it is important that the sub-problems must add up to the totality of the problem.

1.3 The sub-problems

(a) The first sub-problem is to identify the sources of capital in wine farms in the Western Cape Province.
(b) The second sub-problem is to identify the most common objectives that wine farm owners are aiming to achieve (such as profit, lifestyle, etc.) when investing in the wine industry in the Western Cape Province.
(c) The third sub-problem is to identify those wine farm and owner characteristics that affect the performance of wine farms in the Western Cape.

1.4 The research questions

Following the division of the main problem into three sub-problems, the research questions or hypotheses will be divided in order that a one-on-one correspondence exists between the sub-problems and the research questions or hypotheses.

1.4.1 Source of capital and objectives of wine farm owners.

Vink, Williams and Kirsten (2004) reported results from a survey among independent winemakers in South Africa (survey by Schildt and Bosch, 2000) and showed that foreign owned wineries were more likely to have begun operations after 1991. Vink et al. (2004:247) also reported that the foreign owned operations were much smaller than their domestic counterparts and that there was a general perception within the wine industry of a higher level of foreign investment than is the case. Is the situation in terms of foreign investments within the wine industry still the same or has it changed (in the eight years after the Schildt and Bosch (2000) survey)?

There are also concerns within the wine industry of a perceived surge in terms of the number of South Africans (and non-South Africans) actively involved in other sectors of the economy (the so-called lifestyle owners) who are increasingly acquiring wine farms in the Western Cape Province for various reasons (e.g. profit, lifestyle, etc). As reported in Vink et al. (2004:247), the Schildt and Bosch (2000) survey showed that most of the foreign owned cellars (at the time) planned to invest in tourist related activities, while the priority for domestic investors was to upgrade their cellar technology. What are the implications of these new sources of capital on the wine industry in the Western Cape? An understanding of the different sources of capital is very critical as it can provide some indications in terms of the vulnerability, attractiveness and sustainability of the wine industry in the long-run. It should also be noted that wine industry is also competing with other industries (agricultural and non-agricultural) for inward investments. What makes the wine industry even more interesting is the fact that there seem to be different groups of investors that invest in it for different objectives. The foregoing brief background leads to the first and second research questions:

Research question 1*: What are the most common sources of capital in wine farms in the Western Cape Province?*

***Research question 2**: What are the most common objectives that wine farm owners are trying to achieve when investing in the wine industry in the Western Cape Province?*

1.4.2 Wine farm and owner characteristics

***Research question 3:** What are the characteristics of wine farms and wine farm owners that affect the performance of wine farms?*

1.4.2.1 Wine farm characteristics

The first part of the third sub-problem of this study is to identify those wine farm characteristics that affect the performance of wine farms in the Western Cape. Following Barbieri and Mshenga (2008:171) the performance of wine farms will be defined as the annual gross sales earned from all wine farm resources in the years 2005, 2006 and 2007. Reasons for the selection of the above-mentioned years are discussed in more detail in Section 1.5 under study delineation. Since many wine farms in the Western Cape have other income generating activities on farm, it would prove very difficult to disaggregate revenue attributable to the core business (that is, wine farming) due to factors such as cross marketing and branding. It can also be argued that the other activities are often part of the diversification strategy of the farm. It follows that by selecting certain enterprises only part of the whole picture will be observed. It is for this reason that total gross farm income, rather than the revenue generated only from wine farming, is used as a measure of performance. Mahoney and Barbieri (2007) and Barbieri and Mshenga (2008) adopted the same approach in their studies on the performance of agri-tourism farms.

Wine farms in South Africa and around the world are increasingly becoming attractive tourist destinations. Based on general business literature, it is hypothesised that the size of the wine farm, year of first bottling (age of farm), and the number of employees have positive influences on annual total gross sales while the distance from urban centre have a negative influence (Richardson and Condra, 1981;Bates, 1990; Carson, 1991; Campbell, 1992; Cressy, 1996; Lee et al., 2001; Barbieri and Mshenga, 2008). The assertion made above stems from the reasoning that these wine farm characteristics can provide the wine farm with more access to resources, experience, skills and customers. It is also hypothesised that those wine farms

with a cellar on the property, restaurant on property, accommodation facilities, and wine tasting facilities perform better (Lee et al., 2001; Barbieri and Mshenga, 2008), since these characteristics enable the wine farm to offer a variety of tourism activities and services that lead to greater revenues.

With regard to the source of capital (including start-up), it is hypothesised that wine farms with non-farm sources of capital perform better than those whose only source of capital is the wine farm (Bruderl and Preisendorfer, 1998), the underlying argument being that wine farms with diversified sources of capital perform better than those with limited sources (farm capital only) or the wine farm as the only form of collateral during periods of borrowing. The colour of wine grape varieties planted on a wine farm is also expected to have a significant impact on the performance of a wine farm because, even though the yields are often lower, prices of red wine varieties are generally higher than those of white varieties. It is hypothesised that wine farms with more than 50 percent red varieties will perform better than those with more than 50 percent white varieties.

There are hundreds of wine farms in the Western Cape, some of which have cellars on property. Wine farms, like any other business, have to differentiate their products from those offered by competitors. This message of differentiation needs to be effectively communicated to the target clients. This can be achieved through the use of proper and up-to-date business and marketing plans. Hence, it is hypothesised that wine farms with proper and up-to-date business and marketing plans perform better since these tools facilitate constant and timely communication with and the targeting of specific clients or markets.

Again, it is hypothesised that disabled- and child- friendliness, membership of the Biodiversity and Wine Initiative (BWI), as well as the level of Black Economic Empowerment (BEE) compliance will positively influence total annual gross sales. This is based on the assumption that the first two attributes (disabled and child friendliness) can affect the number of visitors to a wine farm and subsequently total annual gross sales. Whether the wine farm has BWI membership is important for most health and environment conscious consumers and is expected to positively influence total annual gross income of wine farms. BEE compliance is also expected to have a positive influence on wine farm performance due to the fact that most businesses (and clients) are concerned about their own BEE status and would thus prefer to do business with other BEE compliant businesses.

1.4.2.2 Owner characteristics

The second part of the third sub-problem is to identify those characteristics of wine farm owners that affect the performance of wine farms in the Western Cape Province. The principal occupation (that is, whether it is farming or non-farming) of a wine farm owner is expected to have an influence on the performance and sustainability of a wine farm. This attribute is assumed to be related to the age and education level of the owner or manager. It is hypothesised that the principal occupation and the education level of the wine farm owner or manager positively affect wine farm performance. The age of the owner or manager of a wine farm is hypothesised to be inversely related to wine farm performance. This is based on the assumption that the younger the wine farm owner or manager is, the greater the chances of innovation and pro-activeness are, hence greater revenue. According to this reasoning, it is assumed that younger owners are more likely to take risks than older wine farm owners.

The objectives of the wine farm owner (that is, whether profit, lifestyle, etc) are also expected to influence the performance and sustainability of a wine farm. It is postulated that wine farms with profit as a major goal will perform better (in terms of total annual gross profit). The owner being the primary decision maker is hypothesised to have a positive influence on the performance of a wine farm. Inclusion of this variable (whether the owner is the primary decision maker or not) is based on the widely held belief within the wine industry that most wine farms in the Western Cape are owned by individuals who are not actively involved in the day-to-day operations of wine farms (that is, individuals outside wine farming).

Farming in South Africa, especially wine farming, has traditionally been dominated by white and male owners or managers. From this perspective, it is hypothesised that wine farms with white and male owners or managers will perform better than those with non-white and/or female owners or managers. This is based on the assumption that white and male owners have more experience in wine farming and also more networks in the wine industry. Business networks (measured by the number of business and related association memberships) are hypothesised to positively affect the performance of wine farms. It is also assumed that whether the owner is foreign or local influences wine farm performance. This is based on the belief that foreign owners often have access to foreign markets and resources that local owners have difficulties accessing.

1.5 The delimitations

The study will only consider wine farms in three of the major wine grape growing regions of the Western Cape province of South Africa, namely Stellenbosch, Paarl and Worcester. These three wine growing regions accounted for 56.81 percent of total vines in 2007 (SAWIS, 2007). Only total annual gross sales for the financial years 2005, 2006 and 2007 will be used in this study. The use of three financial years rather than only one financial year is necessitated by the need to check for consistency in terms of the results. Generally, the more the data (in terms of both the cross-section – number of farms and time series- number of years) the better as this circumvents outliers and increases observations thus degrees of freedom. The main unit of analysis was a wine farm, with the availability of a winery as an attribute or characteristic of the wine farm. Total annual gross farm sales or income was collected in mutually exclusive categories to avoid reporting anxiety and increase response rates.

1.6 The importance of the study and its contribution to knowledge

The researcher proposes that this study be divided into three main sub-problems, and subsequently three main research questions or hypotheses, with the first question focussing on sources of capital in wine farms in the Western Cape, and the second focussing on the objectives that wine farm owners are trying to achieve in the Western Cape Province. The third sub-problem was to identify those wine farm and owner characteristics or attributes that affect the performance of wine farms in the Western Cape. Generally, the study is considered important on two fronts. First, an understanding of the sources of capital (farm, non-farm, foreign, local, etc) will help in understanding the sustainability and the financial position of most wine farms in the Western Cape. This will also help in understanding the origin of investments into the wine industry.

Second, identifying the objectives (profit, lifestyle, etc.) that wine farm owners are trying to achieve when investing in wine farms in the Western Cape will help in the understanding of the resulting outcomes or implications of these investments. It is envisaged that various objectives should lead to various outcomes (e.g. better caring for the environment, development of new markets, etc.). Do objectives of family-owned wine farms make them

rely more on debt financing or equity financing? Do foreign-owned wine farms perform better than locally owned wine farms? How does agricultural capital compare with non-agricultural capital in the wine industry in the Western Cape? These and others are types of questions are analysed in this study.

Specifically, this study will be of interest to a number of important stakeholders including policymakers (government), investment promotion agencies such as WESGRO, potential investors (both local and foreign), as well as the various stakeholders in the wine industry. There are concerns in the wine industry that foreign ownership of wine farms in the Western Cape is increasing and that this has some inflationary impact on wine farmland prices and subsequently on land reform. Whether these concerns are justifiable or not is an interesting question to investigate. There are also concerns relating to the impact of a new generation of owners of wine farms. These are individuals who made their wealth (and still are) in other sectors of the economy and make huge investments in wine farms across the Western Cape. Their investment objectives can be classified as lifestyle rather than economic, given the general consensus that returns on land are low. What are the implications of this form of capital on the wine industry?

It is assumed that individuals acquiring wine farms in the Western Cape are mostly wealthy and better off businessmen and women, both from South Africa as well as elsewhere. Given the current objectives of government in terms of land reform, acquisition of land (wine farms) by wealthier individuals can greatly affect the amount of land available for redistribution to the poorer majority of South Africans. This can have serious repercussions on the transformation agenda of South Africa. The impact of the various sources of capital juxtaposed with land reform objectives needs to be investigated and clearly understood in order to enhance and better inform policy making on the part of government. Last but not least, an understanding of the wine farm and owner characteristics that affect the performance of wine farms in the Western Cape is very important for the sustainability and growth of the wine industry.

1.7 Chapter outline

Chapter 1 (this chapter) provides the background, problem statement, research questions, study delimitations, as well at the importance of the study. Chapter 2 provides a broad review of the literature relevant to this study. Chapter 3 gives an overview of the South African wine industry. Chapter 4 focuses on the research methodology used in this study and provides the framework in which data were obtained and analysed. In Chapter 5 the results are presented, analysed and interpreted. The final chapter (Chapter 6) consists of conclusions and recommendations for further studies. The section that follows provides a brief overview of the survey of the relevant literature.

CHAPTER 2

SURVEY OF RELEVENT LITERATURE

2.1 Introduction

This chapter will provide descriptions of the theoretical perspectives and previous research findings relating to sources of capital, objectives of investments in wine farms, as well as the characteristics of wine farm entrepreneurs that affect the performance of wine farms. Due the general paucity of specific literature on the sources of capital and the objectives of wine farm owners, this chapter will rely more on general literature and research conducted in other related fields (e.g., tourism). With regards to the factors affecting the performance of wine farms the existing literature is also unfortunately still fragmented and largely limited. The author is not aware of any reported research regarding the characteristics of both the wine farm and owner characteristics that may influence the performance of wine farms.

2.2 Farm sources of capital and farm investments

This section of the literature will rely heavily on literature from the tourism industry. This will focus mainly on the sources of capital as well as how they relate to the motives for investing in wine farms or tourism businesses. The sources of capital are mostly classified in terms of whether they are foreign or local, or whether they are internal or external. Most studies conducted on sources of capital tend to link capital with entrepreneurship (entrepreneurship will be looked at in greater detail in subsequent sections). For example, Shaw and Williams (1998) argue that much of the evidence from developing countries suggests that during the early and rapid period of tourism growth, accommodation is often provided by external capital i.e., foreign capital. The authors further argue that the involvement of local businesses was limited, especially in food production and distribution, because local businesses often failed to meet demand. This might also be attributed to the fact that most tourists often preferred to have food that they also consume in their home countries. In most cases this meant that the food would have to be imported.

Shaw and Williams (1998) also reported findings of the linkages between entrepreneurship and small business culture in British resorts. The authors concluded that the characteristics of small businesses in British resorts were indicative not of entrepreneurship but rather of non-entrepreneurship because many of the owners have shown little of those innovative management skills that are defining qualities of the true entrepreneur. Brown and Hankinson (1986) found that in the serviced-accommodation sector the enterprises were dominated by family-oriented aims rather than strictly business objectives. Most of the proprietors also worked outside their businesses. Shaw and Williams (1998) reported that most of the studies conducted in the British resorts pointed to a general lack of professionally managed businesses and very limited product development. The authors summarised the main findings of studies on small-scale entrepreneurs in tourism as follows:

- Little or no formal qualifications
- Little access to formal sources of capital, family resources most used
- Over-reliance on non-paid family labour
- Many non-local business operators
- Lack of formal business plans and strategies for future growth
- No clear marketing strategies, often no marketing takes place
- Most business owners are semi-retired and driven by non-economic motives.

The most important influences conditioning entrepreneurial activity were the age and previous experience of the entrepreneurs. However, in industries like the wine industry in South Africa, this pattern can be complicated by the motivations for establishing or acquiring the wine farms. Very often these may be related to the past experience of the entrepreneurs as visitors to wine farms, which would then help to shape their views of the wine industry. Shaw, Williams, and Greenwood (1987) studied the linkages between the age of entrepreneurs and sources of capital in Cornwall and found that a greater percentage of people in the 61+ age group used personal savings than any other age category. These results were as expected since many of these people had taken early retirement to establish tourism

businesses in Cornwall, bringing with them accrued savings. This leads to the intriguing question of what is the situation like in the South African wine industry.

2.2.1 The cost of capital

What is the cost of capital to a firm in a world in which funds are used to acquire assets whose yields are uncertain; and in which capital can be obtained by many different media, ranging from pure debt instruments, representing money-fixed claims, to pure equity issues, giving holders only the right to a pro-rata share in the uncertain venture? This question was asked by Modigliani and Miller in 1958 and is as relevant today as it was then. Modigliani and Miller (1958:261) note that this question has vexed at least three classes of economists: (1) the corporation finance specialist concerned with the techniques of financing firms so as to ensure their survival and growth; (2) the managerial economist concerned with capital budgeting; and (3) the economic theorist concerned with explaining investment behaviour at both the micro and macro levels.

Modigliani and Miller (1958:261) argue that in much of his formal analysis, the economic theorist at least has tended to side-step the essence of the cost-of-capital problem by proceeding as though physical assets – like bonds – could be regarded as yielding known, sure streams. Given this assumption, according to Modigliani and Miller (1958), the economic theorist has concluded that the cost of capital to the owners of a firm is simply the rate of interest on bonds; and has derived the familiar proposition that the firm, acting rationally, will tend to push investment to the point where the marginal yield on physical assets is equal to the market rate of interest. According to Modigliani and Miller (1958:262) this proposition can be shown to follow from either of two criteria of rational decision-making which are equivalent under certainty, namely (1) the maximisation of profits and (2) the maximisation of market value. According to the first criterion, a physical asset is worth acquiring if it will increase the net profit of the owners of the firm. But the net profit will increase only if the expected rate of return, or yield, of the asset exceeds the rate of interest. According to the second criterion, an asset is worth acquiring if it increases the value of the owners' equity i.e., if it adds more to the market value of the firm than the costs of

acquisition. But what the asset adds is given by capitalising the stream it generates at the market rate of interest, and this capitalised value will exceed its cost if and only if the yield of the asset exceeds the rate of interest.

It is important to note that under either formulation, the cost of capital is equal to the rate of interest on bonds, regardless of whether the funds are acquired through debt instruments or through new issues of common stock. According to Modigliani and Miller (1958:262), in a world of sure returns, the distinction between debt and equity funds is non-existent. It must however be acknowledged that we live in a world in which nothing is certain. With the recognition of uncertainty the equivalent implications disappears. In fact, the profit maximisation criterion is no longer even well defined. Under uncertainty there corresponds to each decision of the firm not a unique profit outcome, but a plurality of mutually exclusive outcomes which can at best be described by a subjective probability distribution (Modigliani and Miller, 1958:263). The profit outcome therefore becomes a random variable and as such its maximisation no longer carries an operational meaning. Modigliani and Miller (1958) argue that this difficulty cannot be disposed of by using the mathematical expectation of profits as the variable to be minimised because decisions which affect the expected value will also tend to affect the dispersion and other characteristics of the distribution of outcomes.

Modigliani and Miller (1958) argue that under the conditions mentioned above the profit outcomes of alternative investment and financing decisions can be compared and ranked only in terms of a subjective utility function of the owners which weighs the expected yield against other characteristics of the distribution. However, because the cost of capital is a subjective concept, the utility approach has some serious drawbacks for normative as well as analytical purposes. For example, how can one build a meaningful investment function in the face of the fact that any given investment opportunity might or might not be worth exploiting depending on precisely who happen to be the owners of the firm at the moment?

Modigliani and Miller (1958) proposed an alternative approach based on the market value approach. The authors argue that this approach provides the basis for an operational definition of the cost of capital and a workable theory of investment. Under this approach any

investment project and its concomitant financing plan must pass only the following test: Will the project, as financed, raise the market value of the firm's shares? If so, it is worth undertaking; if not, its return is less than the marginal cost of capital to the firm. It is important to note that such a test is entirely independent of the tastes of the current owners, since market prices will reflect not only their preferences but those of all potential owners as well. Under this approach if any current stockholder disagrees with management and the market over the valuation of the project, he is free to sell out and reinvest elsewhere, but will still benefit from the capital appreciation resulting from management's decisions. Serven (1997) however argues that this traditional investment approach does not fully account for uncertainty and instability.

2.2.2 The theory of irreversible investments

Serven (1997) argues that uncertainty and instability can be serious obstacles to fixed investment decisions and that casual empiricism suggests that most fixed investments are more easily done than undone. Serven (1997) further argues that conventional investment theories have paid little attention to these two facts and, more specifically, to the links between them. According to this line of reasoning if investment is costly, or impossible, to reverse, investors have an incentive to postpone commitment and wait for new information in order to avoid costly mistakes. Serven (1997:01) notes that this 'value of waiting' can be quite considerable, especially in highly uncertain environments, and that as a result uncertainty can become a powerful investment deterrent.

In the past, conventional investment theory has relied on two essentially equivalent approaches. One is the cost-of-capital view of Modigliani and Miller (1958) and Jorgenson (1963), according to which the firm's desired stock of capital is found by equating the marginal product and the user cost. The other formulation, due to Tobin (1969), focuses on the capitalised value of the marginal unit of capital relative to its replacement cost, a ratio known as q. In either approach, the costs of adjustment, typically assumed convex, need to be assumed to transform an otherwise static problem to a dynamic setting involving expectations about the future (Serven, 1997). According to Dixit and Pindyck (1994) the failure of these

traditional views of investment, and the lack of realism of some of their foundations (notably the assumption of convex adjustment costs) have led to the emergence of a new view of investment that emphasises three important features of most investment decisions overlooked by the conventional approach (as in Serven, 1997). First, most fixed capital investments are partly or completely irreversible: the initial cost of investment is at least sunk i.e., it cannot be recovered completely by selling the capital once it has been put in place[1]. Second, investment decisions have to face uncertainty about their future rewards; the best investors can do is attach probabilities to the possible outcomes. Third, investors can control the timing of investment, and postpone it in order to acquire more information about the future.

According to Serven (1997) these three facts conform to the so-called option approach that views an investment opportunity as an option to purchase an asset at different points in time. Serven (1997) argues that the optimal investment policy balances the value of waiting for new information with the cost of postponing the investment in terms of forgone returns. According to this approach, when a firm makes irreversible investment expenditure, it kills its option to wait for new information that might affect the desirability of the investment. To take account of this fact, according to Serven (1997), the standard net-present-value investment rule (invest when the anticipated return on the additional capital equals its purchase and installation cost) must be modified: the anticipated return must exceed the purchase and installation cost by an amount equal to the value of keeping the option alive[2]. As mentioned earlier, the option value of waiting can be considerable, especially in highly uncertain and instable environments.

2.2.3 The role of off-farm income in farm investments

In a study of the significance of off-farm income in on-farm investments in Ireland, Hannessy and O'Brien (2008) tested the hypothesis that farm families were using income earned outside the agricultural sector to reinvest in farming. Their analysis was based on the

[1] Investment irreversibility was first studied by Arrow (1968) in a deterministic context. He showed that optimal irreversible investment is characterised by alternating periods of positive gross investment and zero gross investment; during the latter periods, the shadow value of capital is less than its user cost; as in Serven (1997)

[2] The precise way in which the net present value rule needs to be modified is discussed by Abel et al. (1996); as in Serven (1997)

agricultural household model first developed by Singh, Squire and Strauss in 1986. The agricultural household model refers to the substitution effect. According to Hannessy and O'Brien (2008:238) this theory suggests that it is economically rational for farmers that work off the farm to invest in farming, if the investment allows them to maintain or increase farm output with less farm labour and thereby increasing total household income. It seems that farmers who work off the farm may maximise their total income by using some of their off farm income to invest in labour saving devices, if the opportunity cost of their labour exceeds the required investment. However, Hannessy and O'Brien (2008) found mixed results in terms of the impact of off-farm income on farm investment. Other studies that looked at the relationship between off-farm work and capital accumulation include Ahituv and Kimhi (2002), Reardon (1997), Rosenzweig and Wolpin (1993), and Kada (1992). All these studies support the hypothesis that off-farm income helps in reducing budgetary constraints and is therefore positively associated with capital accumulation on farms.

Statistics South Africa conducted a survey on large and small-scale agriculture in August 2000 in an attempt to collect data on the small-scale and subsistence farming sector in South Africa[3]. The survey questionnaire was designed by the National Department of Agriculture in consultation with the United States Department of Agriculture's Statistical Agency. In this survey total income was defined as the total amount generated from agricultural and non-agricultural activities. Farming income was defined as the income earned from agricultural products sold, such as field crop products, animals and animal products, while farming turnover referred to the total amount generated from agricultural activities, including farm related income such as hiring out of livestock for drafting purposes, and the letting of farm property to others, but excluding non-farm income such as grants, gifts, cash gifts, remittances and pensions. Concerning the other farm-related income it was reported that the largest share came from 'custom work for others and machine hire', sales of machinery and letting of farm property.

[3] The results of sampling methodology, questionnaire design and data collection, and a brief overview of the findings from this survey are reported in Kirsten and Moldenhauer (2006). The paper also reviews the different sources of household income data, their measurement techniques, as well as their utilisation. The results reported in this section are therefore those reported in Kirsten and Moldenhauer (2006).

Most of the farming operations in the former homelands cultivated cereals, tubers and roots whereas the majority of the operations in the former South Africa kept livestock. The results of the survey also contained information on the total income, farming turnover, farming expenses, debt and farming profit as well as total profit. According to Kirsten and Moldenhauer (2006) this information was useful to estimate the non-farm income received by all farming operations in the entire country. The results from the survey indicated that for commercial farm households in the former South Africa, farm income is the main source of income whereas non-farm income is a far more important source of income for farming operations in the former homelands.

2.2.4 Factors constraining the survival and growth of agribusinesses

Guzman and Santos (2001) developed a conceptual model showing that socioeconomic and institutional factors in an entrepreneur's external environment, such as macroeconomic policies, and personal characteristics of the entrepreneur directly affect enterprise success and economic development (as in Clover and Darroch, 2005:240). These socioeconomic and institutional factors are reported to also influence the types of, and information about, such opportunities that are available to the entrepreneur. According to Mintzberg (1989), barriers to small medium and micro enterprise survival and growth are likely to be faced in all four functional areas of business operation – management, marketing, operations, and finance – and may be directly related to the size and start-up conditions of the business enterprise. According to Clover and Darroch (2005:240) this implies that analysis of constraints to enterprise success and economic development must also consider firm level barriers.

Clover and Darroch (2005) extends the work of Guzman and Santos (2001) by analysing what agribusiness owners in Kwazulu-Natal (KZN) perceive are the socioeconomic, institutional and firm level factors that constrain business survival and growth, and whether these perceptions influence the owners' perceptions of available business opportunities and information. Clover and Darroch (2005) identified eight dimensions of constraints on agribusiness SMME survival and growth, namely a lack of access to services, funding constraints at start-up, lack of management capacity in the enterprise, access to tender

contracts, compliance costs associated with VAT and labour legislation, liquidity stress, lack of collateral, and lack of institutional support. A lack of access to collateral and credit, high transaction costs and unreliable local markets are some of the most significant factors constraining agribusiness performance. According to Clover and Darroch (2005:257) lack of finance at business start-up is associated with a SMME's inability to attract skilled labour, to purchase sufficient technology, and to afford business premises close to their suppliers. Difficulties in accessing finance also results from formal lending institutions being averse to financing smaller loans due to relatively high administration and information costs in the absence of collateral.

2.3 The objectives of wine farm owners

The researcher is not aware of any research that has been done on the characteristics and objectives of wine farm owners in the Western Cape and in South Africa in general. This section of literature will therefore rely heavily on general business and related studies. There is a widely held belief that wine farms in the Western Cape are mostly family– and owner-operated businesses. Following the reasoning of Gets and Carlsen (2000: 547), it is important for business development to understand what motivates entrepreneurs and investors in wine farms, and what impact their values and goals might have on the nature and performance of the wine industry. Are the objectives of wine farm owners lifestyle or purely economic? What are the implications of the various objectives of wine farm owners on the growth and performance of wine farms? What kind of entrepreneurs can be found in the wine industry? This last question specifically is asked because the researcher believes that in order to clearly understand the objectives of wine farm owners as entrepreneurs it is important to understand the type of entrepreneurs that they are. This part of the literature review begins by briefly revisiting the different schools of thought that exist in the literature in terms of definitions relating to the concept of entrepreneurship. It then goes on to examine Shaw and Williams' (1998) conceptualisation of constrained and non-entrepreneurship.

2.3.1 Different schools of thought: defining entrepreneurship

A large set of literature exist that attempts to define the concept of entrepreneurship. The term entrepreneur has often been used to refer to the founder of a new business, or a person who started a new business where there was none before (Gartner, 1985; Nieman, Hough, and Niewenhuizen, 2005). Using this definition, anyone who inherits (many wine farms are more likely to have been acquired this way), or manages a turnaround as an employee is (by definition) not an entrepreneur. Schumpeter (1934) used the term to refer only to the creative activity of the innovator. This is a very narrow definition of an entrepreneur and will obviously exclude a lot of people in the business world, let al.one the wine industry. Peterson (1985) refers to the identification and exploitation of an opportunity as entrepreneurial. Yet, others such as Garfield (1986) refer to those who develop a niche in the market or develop a strategy to satisfy some need as entrepreneurs.

Cunningham and Lischeron (1991) note that there exist a number of schools of thought that view the notion of entrepreneurship from fundamentally different perspectives and described six such schools in an attempt to show how they may be useful for understanding the entrepreneurial process. As already indicated, the term entrepreneur has been used to define a range of activities such as creating, founding, adapting, and managing a business. Cunningham and Lischeron (1991: 46) argue that with such a variation in viewpoints, it is not surprising that a consensus has not been reached about what entrepreneurship is. The six schools of thought on entrepreneurship, as described by Cunningham and Lischeron (1991) are:

- The great person school
- The psychological characteristics school
- The classic school
- The management school
- The leadership school
- The intrapreneurship school

Each of these schools can be categorised according to its interest in studying personal characteristics, opportunities, management, or the need for adapting an existing venture. Cunningham and Lischeron (1991) recognise that different entrepreneurial situations such as

start-ups, growth, and maturity of a venture may require different behaviours and skills. The behaviours and skills advocated by different schools of thought are presented in Table 2.1. The interested reader is referred to Cunningham and Lischeron (1991) for detailed descriptions of the different schools of thought.

1: Summary of approaches for describing entrepreneurship

neurial Model	Central Focus or Purpose	Assumption	Behaviours and Skills	Situation
son' School	The entrepreneur has an intuitive ability – a sixth sense – and traits and instincts he/she is born with.	Without this 'inborn' intuition, the individual would be like the rest of us mortals who 'lack what it takes'.	Intuition, vigour, energy, persistence, and self-esteem.	Start-up
ical stics School	Entrepreneurs have unique values, attitudes, and needs which drive them.	People behave in accordance with their values; behaviour results from attempts to satisfy needs.	Personal values, risk taking, need for achievement, and others.	Start-up
School	The central characteristic of entrepreneurial behaviour is innovation	The critical aspect of entrepreneurship is in the process of doing rather than owning.	Innovation, creativity, and discovery.	Start-up and early
ent School	Entrepreneurs are organisers of an economic venture; they are people who organise, own, manage, and assume the risk.	Entrepreneurs can be developed or trained in the technical functions of management.	Production planning, people organising, capitalisation, and budgeting	Early growth and
p school	Entrepreneurs are leaders of people; they have the ability to adapt their style to the needs of the people.	An entrepreneur cannot accomplish his/her goals alone, but depends on others.	Motivating, directing, and leading	Early growth and
urship School	Entrepreneurial skills can be useful in complex organisations; intrapreneurship is the development of independent units to create, market, and expand services	Organisations need to adapt to survive; entrepreneurial activity leads to organisational building and entrepreneurs becoming managers	Alertness to opportunities, maximising decisions	Maturity and char

Cunningham and Lischeron, 1991.

However, the researcher believes that two schools deserve some attention in this research, given their appropriateness to the situation in the wine industry in the Western Cape. The two schools of thought are the psychological characteristics school and the classical school. The main reason for the expressed interest in the psychological characteristics school is the widely held belief in the wine industry that most wine farm owners are motivated by non-economic reasons e.g., experiencing country life or the desire to raise one's family in a country set-up, family-related reasons, concern or admiration for the environment, etc. The researcher believes that the classical school is also appropriate as this school believes in innovation. This can be associated with the current wave of diversification in the wine industry in terms of services offered at various wine farms across the Western Cape. Next is a brief discussion of the two schools of thought.

2.3.1.1 The psychological characteristics school of entrepreneurship

The psychological characteristics school departs from the premise that one's needs, drives, attitudes, beliefs, and values are primary determinants of behaviour and that people behave in accordance with their values in attempts to satisfy their needs, be they for power, recognition, achievement, or acceptance and/or love (Cunningham and Lischeron, 1991:48). According to this school, which focuses on personality factors, entrepreneurs have unique values and attitudes and these propel entrepreneurs to act in certain ways. This school contends that entrepreneurs can be differentiated from non-entrepreneurs by personality characteristics.

The personality characteristics that received considerable attention in the literature include personal values such as honesty, duty, responsibility, and ethical behaviour; risk-taking propensity; and the need for achievement (Cunningham and Lischeron, 1991:49). The risk-taking propensity part of it is discussed at great length in subsequent parts in this chapter. The personal values relate to the way an individual behaves and are said to stay with the individual and guide him or her through life. This school generally believes that entrepreneurs cannot be developed or trained in classroom situations, as much of their abilities relate to personalities or styles of behaviour which develop over time. Is this what

one would expect to find in the wine industry in the Western Cape? Does the type and level of education of entrepreneurs in the wine industry affect the performance of their wine farms?

2.3.1.2 The classical school of entrepreneurship

The classical school of thought distinguishes between a 'manager' and an 'entrepreneur'. This school encompasses the notion that undertaking (or founding) a venture entails an element of risk and requires some creativity or innovativeness. According to Schumpeter (1934) the key ingredient of entrepreneurship lies in the innovativeness of the individual and may not involve ownership at all. Cunningham and Lischeron (1991:50) argue that if the principal function of the entrepreneur is to carry out new combinations of means of production then these combiners need not necessarily be owners.

Three key factors underlie the classical school of entrepreneurship i.e.,i.e.,, innovation, creativity, and/or discovery (Cunningham and Lischeron, 1991). According to this school, entrepreneurship refers to the process of creating opportunities. Given the current transformation in wine farms in the Western Cape, do entrepreneurs have to be innovative and creative? There is a growing trend in wine farms towards converting into tourist-attraction areas in the Western Cape. This process needs highly motivated and skilled entrepreneurs. It also needs a broadening in terms of product and service ranges on wine farms. *A priori* the range of products or services offered by any wine farm is expected to be closely linked to the innovativeness and creativity of the wine farm owner or manager. What is the situation like on wine farms in the Western Cape?

2.3.2 Conceptualisation of 'constrained entrepreneurship' and non-entrepreneurship

It was mentioned earlier on that the ability to position products in highly segmented markets is dependent on the creative and innovative capacity of individual entrepreneurs to identify and to colonise new niche markets. This is very critical in the context of the transformation referred to earlier on in the wine industry in the Western Cape. It can be argued that this

transformation is an attempt by wine farm owners to cater for evolving consumer demands for differentiated products associated with ecological values, creativity, health, new experiences, human relations, and individual growth. Given this transformation, the value positions of the entrepreneurs providing these products become critical, given that the majority of the enterprises are relatively small (in terms of revenue). Generally, it is argued that the small business culture, limited capital, lack of skills, lifestyle motivations, and the acceptance of suboptimal profits (especially in tourism industries), constrain regional economies and create problems for firm survival (Stallinbrass, 1980; Shaw and Williams, 1987; 1990; Williams et al., 1989; Morrison et al., 1999).

It was Shaw and Williams (1998) who first conceptualised the concepts of constrained and non-entrepreneurship in British resorts. The conceptualisation was developed further by Ateljevic and Doorne (2000) in small tourism firms in New Zealand. Ateljevic and Doorne (2000:379) observed that the quality of life, the pursuit of individualistic approaches and constrained business growth were characteristic of an emerging cohort of small tourism firms in New Zealand. This led them to a further conceptualisation in the form of lifestyle entrepreneurship which adheres to values embracing a broader ideological context of sustainability. Despite fairly limited research on tourism entrepreneurship and small firms, Dewhurst and Horobin (1998) noted that a picture was emerging of entrepreneurs who are not motivated by a desire to maximise economic gain, who operate businesses often with very low levels of employment, and in which managerial decisions are often based on highly personalised criteria. In light of this, the authors went on to argue that there was a need to move beyond purely economic definitions to a definition of the entrepreneur in wider terms.

In an attempt to provide a new perspective Dewhurst and Horobin (1998) proposed a model of a continuum for small-business owner-managers as being between commercial and lifestyle goals and strategies. For those business owners who are lifestyle oriented their business success might be measured in terms of a continuing ability to perpetuate their chosen lifestyle (Dewhurst and Horobin, 1998:30). Ateljevic and Doorne (2000:381) argue that this conceptual thinking is revolutionary in the sense that it moves our approach towards a concept of entrepreneurship which comprises social and cultural values as success factors, rather than just development and business growth.

It was Williams et al. (1989) who initially observed the phenomenon of lifestyle aspirations in small-scale business as blurring the boundaries between consumption and production. They argued that lifestyle entrepreneurs are generally motivated by non-economic goals and, by accepting suboptimal profits, they seriously constrain economic development. Morrison, Remmington and Williams (1999) provide a range of typologies and contexts surrounding tourism entrepreneurship in which they identify small firms as significant elements. The authors note that these businesses are often initiated by the need to create a chosen lifestyle in which the needs of family, income and a way-of-life are balanced. The authors also argue that a key issue surrounding these businesses is related to economic survival and viability. Dewhurst and Horobin (1998), whilst acknowledging lifestyle success as being important to these entrepreneurs, note that these entrepreneurs face problems of long-term survival which can 'jeopardise seriously the economic health and the social fabric of those communities, resorts, and regions which are becoming increasingly reliant upon tourism and hospitality-related activities.' (1998:33).

Furthermore, Ateljevic and Doorne (2000) argue that 'an emerging cohort of tourism lifestyle entrepreneurs in New Zealand, who also do not subscribe to the inevitable path of progress as an end in itself, often consciously reject economic and business growth opportunities as an expression of their socio-political ideology.' (2000:381). However, they further argue that this rejection of an overtly profit-driven orientation does not necessarily result in financial suicide or developmental stagnation but rather provides opportunities to engage with 'niche' market consumers informed by values common to themselves within rapidly segmenting markets. The authors conclude that given the subsequent reproduction of the products created and the stimulation of regional economic development, the innovative and creative attributes of these individuals resemble Schumpeter's observation of entrepreneurs as dynamic elements in the economy, despite their efforts to limit the growth of their own businesses. Given the above it is clear that results relating to the possible impacts of lifestyle entrepreneurs (especially in tourism) are mixed. Combining this with the near absence of research in the field of wine and/or tourism entrepreneurship in the Western Cape, the researcher believes that research should be conducted to establish the real impacts of this form of entrepreneurship (lifestyle) in the Western Cape, especially in the wine industry.

2.4 Characteristics influencing business performance

This section will review some literature on those factors or characteristics that affect the performance of businesses. The characteristics will be divided into two categories i.e.,i.e.,, firm and owner characteristics. Firm characteristics are those that are related to the firm e.g., the size and location of the firm, while owner characteristics are those that are associated with a specific owner of a specific firm, for example age and education level.

2.4.1 Firm characteristics

In order to account for the variations in performance, researchers have mainly employed two firm level theories: the resource-based theory and the social capital theory. The two theories help in identifying characteristics that influence business performance.

2.4.1.1 Resource-based theory

The resource-based theory of business performance emphasises firm idiosyncratic resources, especially resources that reside within organisations (Lee, Lee and Pennings, 2001:616). The resource-based theory regards the firm as a bundle of resources and suggests that their attributes significantly affect the firm's competitive advantage and, by implication, its performance (Lee et al., 2001:616). Other authors (Barney, 1986; 1991; Penrose, 1959; Wernerfelt, 1984) argue that most conspicuous among these resources are those that are valuable, scarce, imperfectly tradable, and hard to imitate.

This line of reasoning is further supported by Barbieri and Mshenga (2008:169) who argue that for various reasons (like the length of time in business, the location of the business, etc.) firms have different access to resources and different skills and capabilities. Resources that give a firm competitive advantage are those that are scarce either because they are

imperfectly mobile or inimitable. According to Barbieri and Mshenga (2008:169) resources are imperfectly mobile when they cannot be sold to the highest bidder i.e.,i.e.,, they are non-tradable. Inimitability is defined by impediments to replication that are often protected by law. This can be in the form of legal restrictions and intangible barriers, as well as superior access to inputs, resources and customers. Legal restrictions include patents, copyrights, and trademarks as well as government control over entry into markets through licensing, certification or quotas on operating rights (Barbieri and Mshenga, 2008:169).

In terms of access to inputs, a firm is said to have superior access to inputs when it is able to secure better quality inputs (like raw materials, employees and information) on more favourable terms than its competitors (Barbieri and Mshenga, 2008:169). Lee *et al.* (2001:619) argue that superior access to capital and human resources translates into cost advantages combined with the ability to produce high quality services and products and to exploit niches more effectively. Better access to the most effective and efficient distribution channels and marketing communication media is said to also give firms important advantages (Barbieri and Mshenga, 2008:169).

Intangible barriers that can impede imitation include economies of scale, tacit knowledge, technological knowledge, trade secrets, and other know-how generated by research and development (Lee et al., 2001:618; Bensako et al., 2004). Barbieri and Mshenga (2008:170) argue that tacit knowledge and special skills that cannot be articulated as an algorithm, formula, or set of rules, along with organisational culture and history can also give a firm real competitive advantage. The authors further argue that the nature and quality of the interpersonal relations of managers in a firm and their relationship to other stakeholders like customers and suppliers are also reasons for differences in performance among firms.

2.4.1.2 The social capital theory

The social capital theory suggests that a firm's external networks form a major contributor to its performance (Leenders and Gabbay, 1999; as in Lee et al., 2001:616). Uzzi (1996:675)

argues that the structure and quality of social ties among firms shape economic action by creating unique opportunities and access to those opportunities. Uzzi (1996) advances this theory by using the concept of embeddedness, which refers to the process by which social relations shape economic action in ways that some mainstream economic schemes overlook or mispecify when they assume that social ties affect economic behaviour only minimally or, in some stringent accounts, reduce the efficiency of the price system (Granovetter, 1985; Crosby and Stevens, 1987; as in Uzzi, 1996:674).

Uzzi (1996:674) however, argues that although the concept of embeddedness is useful in understanding the sociological failings of standard neoclassical theories, it does not explain concretely how social ties affect economic outcomes, and it forestalls a clear comparison between the refutable propositions of current theories and the broad statements describing how embeddedness shapes personal motives and collective order. According to the social capital theory as advanced by other authors (Granovetter, 1985, Burt, 1992; Pennings, Lee, and Wittelloostuijn, 1998, Pennings and Lee, 1999), it is argued that organisations transact with suppliers and other partners in order to acquire external resources to produce products or services at competitive prices, adjusted for quality such that they can attract and retain customers. This group of authors further argues that the ability of firms to mobilise extramural resources, attract customers, and identify entrepreneurial opportunities is conditional on external networks, since social relations mediate economic transactions and confer organisational legitimacy. The social capital theory implies that firms should pursue strategies focussing on the development of valuable networks with external resource holders in order to succeed (Lee et al., 2001:616).

2.4.1.3 Linking the resource-based and social capital theories

The two theories have different views with regards to the roots of value creation. The resource-based theory suggests that idiosyncratic internal resources define a durable competitive advantage while the social capital theory stresses relational characteristics with external entities as the main source of a firm's competitive advantage. It is generally recognised that the two theories have to be synthesised since firms should develop firm-

specific assets while at the same time obtaining complementary external resources through their social networks. The two theories should, therefore, be viewed as complementary rather than contradictory.

Drawing on the two theories Lee et al. (2001) examined the joint influence of internal capabilities and external contacts on the performance of Korean technological start-up companies. Results from this study, Lee et al. (2001) indicated that technological capabilities and financial resources (internal capabilities) invested during the development period were positively associated with the firm's performance. The study further reported that among social capital indicators (external contacts), the only statistically significant predictor of performance was the linkage to venture capital companies. However, the most important conclusion from this study was that internal capabilities and social capital interactively influenced the start-ups' performance.

In another related study, Evans and Ilbery (1989) examined internal and external farm environmental factors associated with farm-based accommodation. The internal farm environment was defined as the structure of the individual farm business with respect to capital, land and labour relations in the farm holding, while the external environment was said to be composed of the institutions and organisations that influence farm activities. Evans and Ilbery (1989) argue that the internal environment is unique to a particular farm but it is influenced by the diverse and ever-changing factors that comprise its external environment. Individual farmers are incapable of influencing the external environment but the external environment affects market composition and behaviour, access to capital, and other aspects of the farm. The study concludes that different internal attributes (such as farm size, tenure, gender relations, succession and the educational and occupational experiences of the family members) influence the pathways of business development.

2.4.2 Owner characteristics affecting business performance

This section will rely heavily on the general literature on entrepreneurship. This suggests that the business owner's characteristics are appropriate predictors of the size and performance of a business (especially small enterprises). Studies indicate that the founder's management experience and ability significantly influence business performance (Patrick and Eisgruber, 1968; Eisenhardt and Schoonhoven, 1990; Bruderl and Preisendorfer, 2000).

A study by Patrick and Eisgruber (1968) concluded that farmers of high managerial ability appeared to be more efficient in terms of the allocation of resources than those with less managerial ability. They further indicated that enterprise management ability of the farm operator (technical transformation rates) is a major factor in determining the rate of growth of the farm firm. They argue that high levels of technical efficiency will result in high levels of farm income, net worth accumulation, and the possibility of higher levels of consumption. For example, they indicated that improvement of the technical rates of transformation by 10 percent increased the farmer's net worth by about $2000 per year at the end of the 20 year period.

Eisenhardt and Schoonhoven (1990) studied American semiconductor firms and indicated that the role of the founder and the attributes of the top management team, including the number of top managers, level of joint work experience and member functional heterogeneity influenced firm size and technical innovation. Specifically, the study showed that the founding top-management team influences the growth of semiconductor firms. The size of the team, members' past experience together, and members' heterogeneity in industry experience were linked with higher growth.

Patrick and Eisgruber (1968) also indicated that businesses with the same level of operating expenses can be differentiated from each other as better managers are able to make more debt and interest payments and save more than the average manager. The authors argue that the extent of capital rationing (either external or internal) is important to the growth of the farm

firm. Long-term loan limits are important in determining the rate at which the farm firm can expand; thus they determine the time by which an economically productive farm size can be attained. In terms of credit policy, it is argued that liberal credit policies may allow the farmer with low managerial ability to expand beyond his capacity to make debt and interest payments, and on the other hand, restrictive policies may seriously impede the progress of high-level managers. What this means is that the managerial abilities of each individual farmer should be critically assessed before any loan arrangement is entered into. This brings us to the concept of entrepreneurial orientation, which we discuss in the section that follows.

2.4.2.1 Entrepreneurial orientation

Lee et al. (2001) suggest that entrepreneurial orientation significantly influences the performance of small businesses. It is argued that entrepreneurs usually create and run their businesses to develop a market niche with new products or services or to substitute established players with better quality, cheaper price, etc. It is suggested (Schumpeter, 1947) that these processes or activities are identified with the process of creative destruction and defined as entrepreneurship. The concept of entrepreneurship has been extended from individual level to organisational level, which is called entrepreneurial orientation (Covin and Slevin, 1991; Lumpkin and Dess, 1996). Conceptually, three dimensions of entrepreneurial orientation are distinguished i.e.,i.e.,, innovativeness, risk-taking propensity, and proactiveness (Miller, 1983; Covin and Slevin, 1989; Lumpkin and Dess, 1996; Lee et al., 2001).

According to Lumpkin and Dess (1996) entrepreneurial orientation constitutes one of the most critical resources for venture or business performance. The concept of entrepreneurial orientation is said to capture the organisational processes, methods and styles used to implement the firm's founding strategy. Entrepreneurial orientation can therefore be regarded as organisational resources that provide sustainable competitive advantages (Covin and Miles, 1999), since entrepreneurial orientation is embedded in organisational routines (Lumpkin and Dess, 1996), is intangible, and is dispersed among members of the organisation. Lee et al. (2001:617) argue that firms cannot buy a high level of entrepreneurial

orientation from the market but should rather invest a great deal of time in such culture for it to become a real source of sustainable competitive advantage. Let us now turn to the three dimensions of entrepreneurial orientation that we mentioned earlier on.

2.4.2.1.1 Innovativeness

According to Lumpkin and Dess (1996) innovativeness reflects the firm's propensity to engage in new idea generation, experimentation, and research and development activities resulting in new products and processes. In their study of agritourism farms in the United States of America Barbieri and Mshenga (2008:170) argued that innovativeness is important in agritourism farms because their success depends on continuously introducing new programmes and products in response to market demands and competitors' offerings. Schumpeter (1947) argues that creative destruction (entrepreneurship) calls for entrepreneurs to suspend current paradigms and to think of new ways of doing things. Lee et al. (2001:617) argue that, without innovation, start-up and small firms are bound to fail due to resource shortcomings, scale diseconomies, and questionable reputation. A study by Bruderl and Preisendorfer (2000) on German entrepreneurs found that innovation was the single most important predictor of firm growth. Innovation and creativity are key ingredients needed to establish a niche market, especially in industries such as wine in which we have a large number of competitors selling an almost identical product. The second dimension of entrepreneurial orientation is risk-taking propensity.

2.4.2.1.2 Risk-taking propensity

According to Lee et al. (2000:618) firms with an entrepreneurial orientation typically display risk-taking behaviour, illustrated by large resource commitments to high-risk and high-return businesses. Lumpkin and Dess (1996) and Miller (1983) indicate that the risk-taking propensity of a firm can be inferred from its willingness to incur large resource commitments to uncertain and novel business. Nieman et al. (2005:30) suggest that risk taking involves much more than just financial resources that will be lost when the venture or business fails. The authors argue that it can also include social and personal risks. The personal risks

involved might be in terms of valuable time that entrepreneurs might lose with their families while the social risk may be in the form of the social stigma associated with failure as well as the personal distress of letting down investors, employees, clients and their families (Nieman et al., 2005:30).

2.4.2.1.3 Proactiveness

Proactiveness, according to Lumpkin and Dess (1996), refers to a firm's approach to market opportunities through active market research and first mover actions such as introduction of new products or services ahead of competitors. Early mover advantages, as noted by Barbieri and Mshenga (2008:170), include the effect of the learning curve, reputation and buyer uncertainty, buyer switching costs and network effects. Barbieri and Mshenga (2008:170) argue that a firm with experience and a good reputation becomes better at undertaking an activity, as their loyal consumers will be reluctant to switch to competing brands. The authors further argue that a business can design its products and services to increase switching costs by using sales promotion techniques such as coupons and frequent customer discounts. Network effects are said to be another early mover advantage since customers place a higher value on a product if other consumers also use it.

According to Lee et al. (2001:618) proactiveness is a crucial organisational process since it entails a forward-looking perspective. The concepts of foresight and alertness are closely related to proactiveness. According to Mosakowski (1998:627) these two concepts constitute some entrepreneurial resources that generate novel competitive outcomes. Foresight, defined as a behavioural propensity by Mosakowski (1998) refers to an individual's tendency to spend significant amounts of time engaged in thought or care for the future. This is especially important in the wine industry in the Western Cape because the success of wine farms depends on continuously making sure that expanding production does not come at the expense of biodiversity in the Province. Recognising the significance of such initiatives as the Biodiversity and Wine Initiative (BWI) indeed requires foresight on the part of most entrepreneurs in the wine industry. Alertness refers to the tendency to spend significant amounts of time engaging the environment with a search for profit opportunities

(Mosakowski, 1998:628). Kaish and Gilad (1991) equate alertness with information seeking behaviour. In their empirical research they offer a scale for measuring alertness as the time an individual spends collecting information and thinking about business opportunities (processing this information).

2.4.2.2 External networks and internal capabilities

Knickel and Renting (2000) argue that synergies and networks built at different levels (within farm economic units or among farmers) increase not only the farm's profits but also enable development. Organisations, whether established or start-ups, cover only part of their value chain and depend critically on their environment (Pfeffer and Salancik, 1978). Firms are truncated in their resource endowment, outsource certain part of their value chain, and transact with other economic actors having complementary assets. External networks or contacts, as noted by Granovetter (1985) and Burt (1992), play a very important role in the procurement of those assets and the identification of entrepreneurial opportunities, since economic actions are embedded within larger inter-organisational networks.

Networks, according to Aldrich and Zimmer (1986), are vital to the discovery of opportunities, to the testing of ideas, and to garner resources for the formation of new organisations. Because networks provide information benefits, a firm with a higher level of social capital is better positioned to find entrepreneurial opportunities. Other firms having ties with the firm may provide information regarding new technological and market opportunities and solicit collaboration in exploiting new entrepreneurial opportunities. These firms might also make referrals on behalf of the firm to third parties that are in search of strategic alliances to exploit or explore new opportunities. Contacts are also conducive for the mobilisation of resources from third parties since those very contacts signal positive assessments regarding the firm's future prospects. Dollinger (1985) provided evidence that many successful entrepreneurs were particularly active in networking with business people, and Hansen (1995) found that entrepreneurial networks are positively associated with organisational growth.

Social capital captures the beneficial effect of social networks on organisational performance (Lee et al., 2001:620). Although briefly explained in the previous sections, the relationship between social capital (external networks) and internal capabilities deserves further attention. Internal capabilities point to skills for the transformation of inputs into outputs, while social capital pertains to the availability of channels for securing inputs and disposing of outputs and to the possibility of identifying and developing more rewarding opportunities (Burt, 1992; Pennings et al., 1998). Internal capabilities help firms accumulate social capital, as potential partners are more willing to collaborate with firms having a higher level of internal capabilities. Similarly, social capital helps firms accumulate internal capabilities as social capital provides access to information, technologies, and human and financial capital that are needed for the accumulation of internal capabilities.

Internal capabilities and social capital are, as noted by Lee et al. (2001:622), complementary in creating value. The value of internal capabilities in a firm is contingent on its social capital. Organisations with more social capital receive higher returns to their internal capabilities because they are well-positioned to identify and develop more rewarding opportunities (Burt, 1992), to acquire complementary external resources (Teece, 1987), and to dispose their production with better terms. Similarly, the value of social capital is contingent on the firm's internal capabilities. Inputs acquired through social capital and a firm's ability to dispose outputs are less useful without internal capabilities, since the firm cannot efficiently transform the inputs into outputs. Lacking internal capabilities, firms will experience difficulties in generating value from their social capital. What this means is that it is never enough for companies or firms to concentrate only on the internal capabilities of the farm; the social capital part of it should receive equal attention if the firm is to be truly competitive and therefore achieve better returns.

2.5 Chapter summary

This chapter provided some background on the literature on sources of capital, objectives of entrepreneurs as well as factors that affect the performance of businesses. Moreover, this chapter discussed some of the findings from other studies relating to capital sources and

investments. We saw in this chapter that the question relating to the cost of capital vexed at least three classes of economists: the corporation finance economist, the managerial economist and the economic theorist. The role of off-farm income in farm investments was discussed and it was found that results from different studies in this regard are mixed. Literature relating to the objectives of investors was discussed with particular focus on the different schools of thought on entrepreneurship. It is important to note that the fact that the researcher in this study decided to only discuss two schools does not mean that the other three schools are not important. Depending on the context within which such schools are interpreted, they may as well be as relevant to a particular situation as the others. This chapter also reviewed literature relating characteristics influencing the performance of businesses. What is important from the discussion was that it is never enough for companies or firms to concentrate only on the internal capabilities; the social part of it should receive equal attention if the firm is to be truly competitive. The following chapter (chapter 3) looks at the background of the wine industry in South Africa and the ownership structures.

CHAPTER 3

THE SOUTH AFRICAN WINE INDUSTRY

3.1 Introduction

The main objective of this chapter is to provide some background on the South African wine industry in general. More attention will be given to the history of the South African wine industry because this is closely related to the current ownership patterns in wine farms across the Western Cape. This is of particular importance given that the South African wine industry is undergoing three interlinked areas of transition i.e.,i.e.,, deregulation and restructuring, (since the mid 1990s), integration into international value chains, and the legislative changes brought about by the democratic government (since the mid 1990s) (AgriAfrica, 2008:09). Although international events played a significant role in shaping the structures of the South African wine industry, this chapter will adopt a more local approach. The chapter is structured as follows: the next section will discuss the history and current structure of the wine industry in South Africa. This will be followed by descriptions of the various wine varieties and wine growing regions. Production and consumption trends are discussed in the following section. Exports, imports, and prices of wine will also be looked at. The chapter will also look at the various wine industry initiatives aimed at boosting the overall competiveness of the wine industry, both locally and internationally.

3.2 History and structure of the South African wine industry

3.2.1 History

The South African wine industry history can be traced back to the mid-seventeenth century, when Dutch settlers under the leadership of Jan van Riebeeck cultivated the first grapes on South African soil. The quality of the wines produced during the early years was exceptionally low. But conditions and quality improved when a new governor, Simon van der Stel, established the legendary 750 ha Constantia wine estate outside Cape Town in 1685 (OCW, 1999:650). It was however three years later that the arrival of the French Protestant

Hugenots – fleeing religious persecution after the revocation of the Edict of Nantes – brought welcome wine making expertise to the Cape. Viticulture was then established beyond the boundaries of the Cape Peninsula, with wine farms in areas such as Stellenbosch and Drakenstein (which would later be known as Franschhoek).

Constantia became the focal point of the wine industry in 1778 when the estate was bought by a talented and ambitious grower in Hendrik Cloete (OCW, 1999:650; SAWID, 2005:12). For more than a century, the Constantia wines were the toast of European aristocracy. According to the OCW (1999:650) this continued under British rule until 1861, when the Gladstone government removed empire preferential tariffs. This presented an opportunity to French wines, which had only a Channel to cross, to capture the British market and as a result, out-competing the far-flung Cape colony wines. During the 19th century South Africa's wine industry was under severe strain mainly due to epidemics of powdery mildew and phylloxera. Global politics combined with market forces also took their toll on the industry's already unhealthy fortunes and by the early 1900s there was a serious over-production of wine, which caused prices to drop substantially, resulting in the disposal of millions of litres of un-saleable wine.

A solution had to be found to deal with this crisis. According to Brown (2001:70) the crisis was mainly caused by the oversupply of low quality wine, protectionism, and poor market signals. According to Vink et al. (2004:227) the wine industry benefited from price support and import protection, which enabled it to pass costs on to consumers, and from favourable excise taxes which favoured the distilling of grapes into spirits at the expense of sugar producers. The crisis fuelled the formation in 1918 of the *Kooperatieve Wijnbouwers Vereniging*, or the KWV, which was legally empowered to limit production and set minimum prices. The system through which KWV unilaterally set uniform prices for wine protected farmers' incomes but discouraged competition in the industry. This did little to help in terms of the overall production levels and hampered independent producers of quality wines. By the late 1990s KWV realised that the regulatory mechanisms it had built up could no longer be sustained and in October 1996 announced its intention to apply to the Western Cape Division of the Supreme Court to change from a cooperative to a company. This was achieved a year later, in 1997.

By the mid 1980s regulations were eased to permit the importation of improved vine cuttings,

beginning the industry's preoccupation with Chardonnays, Bordeaux-style blends, and other classics. The most important development in the wine industry in recent history has been its re-entrance into the global economy. Following the political rebirth, restrictions on international trade were lifted during the early 1990s. International markets opened up and exports grew significantly, accounting for up to 45 percent during certain years. For example, exports as a percentage of total wine production were only 5.8 percent in 1991 compared to 42.8 in 2007 (SAWIS, 2005:28; 2008:24). One can argue that this increase in exports is only possible if the South African wine industry is more competitive in the global market. State revenue from the wine industry increased by almost 429 percent during the past decade and a half, from R586.5 million in 1991 to R3.1 billion in 2006 (SAWIS, 2007:31). The opening up of markets and the deregulation of the wine industry in general has resulted in the alteration of both demand and supply schedules, as well as production and marketing strategies. Once consisting of only a few producers and cooperative cellars, the wine industry has grown from just over 200 cellars in the early 1990s to nearly 600 in 2006 (SAWIS, 2007).

Vink et al. (2004:248) concluded that on balance, the industry seem to have a bright future but that the changes in the wine industry have taken place in something of a policy and institutional vacuum. The authors argue that there may be questions in terms of the sustainability of such changes. Several years after the deregulation, the same stakeholders are driving the process of change in the industry, while new interest groups are still largely excluded from meaningful participation. The industry still lags in adequately integrating into the global market and capitalising on its potential as a world class wine producing country (Brown, 2001:70). It can therefore be argued that there is ample space for investments in the wine industry in order to boost its ability to compete internationally. Given this brief history of the South African wine industry, the next section will look at its current structure.

3.2.2 Industry structure

The current structure of the South African wine industry is reflected in Table 3.1. This structure of production has changed significantly over the last two decades. The changes occurred at the same time when the area under vines has been on the increase. This was largely due to the replanting of vines in most production areas over the past two decades. As can be observed from Table 3.1 most (43%) primary wine producers fall in the category

producing 1 to 100 tons. This is followed by those in the category producing 101 to 500 tons (37%). The two categories summed together amount to 80 percent in terms of the total number of primary wine producers. This indicates that the majority of primary wine producers are relatively small (in terms of tonnage).

Another interesting fact to note from Table 3.1 is that 86 percent of wine cellars which crush grapes fall under the category of private wine cellars. However, this does not necessarily mean that the amount of grapes crushed by these cellars is also high as many of them fall within the first two categories mentioned above.

Table 3.1: South African wine industry structure in 2007

Number of primary wine producers	Per production category	
3999	Tons	Number of producers
	1 – 100	1717
	> 100 – 500	1475
	> 500 – 1000	482
	> 1000 – 5000	318
	> 5000 – 10 000	7
		3999
Number of wine cellars that crush grapes	59	Producer cellars
560	481	Private wine cellars
	20	Producing wholesalers
	560	
Number of bulk wine buyers	51	Wholesalers
121	70	Exporters (for export only)
	121	

Source: SAWIS, 2008

Table 3.2 shows the ten-year overview of the South African wine industry. This table shows that the number of wineries almost doubled during the ten year period. It is interesting to notice that the substantial increase in the number of wine cellars in the industry has been

almost entirely in the categories of less than 100 ton and 101 to 500 ton pressed. Even though most of these new wine cellars are relatively small, the scale of the addition to the processing capacity of the industry cannot be ignored. The smaller sizes of the new cellars can be attributed to the fact that most of them have been built on existing wine farms. These fall under the category of private cellars rather than producer cellars or the former wine cooperatives.

Table 3.2 also shows that there was a marginal increase of about 15 percent in terms of the total vine area (excluding sultana) during the ten year period. The average yield (tons/hectare) stayed relatively constant throughout the period under review, except in 2001 when it was at its lowest at 12.85 tons per hectare. The average grape prices in both the producer and non-producer cellars categories showed similar patterns in terms of increases, with the former increasing by 37 percent and the later by 32 percent over the ten year period. The amount of grapes crushed increased by 14 percent while total wine production increased by 13 percent during the ten year period. Both domestic sales and domestic consumption per capita showed decreasing patterns, with the former going down by 16 percent and the latter by 34 percent. This decline was, however, compensated for by a 59 percent increase in export volumes during the same period.

3.3 Wine varieties and regions[4]

3.3.1 Wine varieties

With 1.7 percent of the world's vineyards, South Africa ranked 14th in area under vines, but its annual output, at some 928 million litres in 2004 made it the world's ninth largest wine producer (SAWIS, 2007:32). In South Africa, a vine variety is also known as a cultivar. The distribution of the area under vines between white and red varieties was almost even in 2007, with the white varieties accounting for 56 percent and the red varieties taking the remaining 44 percent (SAWIS, 2008:32). Chenin Blanc, also known in South Africa as Steen, has for

[4] All statistics in this section are from SAWIS, 2007

long been the dominant white grape variety in South Africa, and was still planted on nearly 19 percent of all vineyards in 2006. Chardonnay and Colombard has been the other leading white varieties for the past decade, together accounting for nearly 20 percent of the country's total vine plantings by 2006. Other major white wine grapes include Sauvignon Blanc, Hanepoot, Cape Riesling, Semillon, Weisser Riesling, as well as various Muscats.

2: Ten-year overview of the South African wine industry

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
ines (million)	299	305	312	314	314	316	301	305	307	308
rea (excl sultana) (ha)	87 301	89 935	92 601	93 656	94 412	96 233	98 605	100 207	101 607	102 146
rea 4 yrs & older (excl sultana) (ha)	76 025	76 895	75 892	74 335	76 071	79 073	82 719	85 331	87 284	89 426
d (tons/hectares)	14.74	13.54	15.46	14.77	12.85	13.66	14.91	15.38	13.42	14.55
ape price – producer cellars/co-ops	-	796	934	966	1 136	1 333	1 624	1 458	1 384	1 264
pe price – excl producer cellars (R/ton)	2 115	2 641	2 845	3 278	3 640	3 953	4 041	4 133	3 593	3 128
hed (millions of tons)	1.12	1.04	1.17	1.10	0.98	1.08	1.23	1.31	1.17	1.30
ction (millions of litres)	880.9	815.6	914.1	837.2	746.5	834.2	956.0	1015.7	905.2	1013.0
es (millions of litres)	401.6	384.6	390.9	389.2	390.2	388.4	348.7	350.9	345.0	345.2
n per capita (litres SA wine)	9.8	9.2	9.2	9.0	9.0	8.9	7.9	7.7	7.4	7.3
me (millions of litres)	110.6	118.4	129.1	141.0	177.3	217.7	239.4	267.7	281.8	271.6
ns of litres)	221.3	250.2	315.6	290.5	242.3	209.3	336.8	363.7	339.4	403.1
ratio	0.43: 1	0.50: 1	0.61: 1	0.55: 1	0.43: 1	0.35: 1	0.57: 1	0.59: 1	0.54: 1	0.65: 1

atter, 2008; SAWIS, 2001; 2003; 2004; 2005; 2007

Highest-priced red varieties are Cabernet Sauvignon and the Bordeaux-styled blends which proliferated from the early 1980s. Cabernet Sauvignon is South Africa's most planted international variety and was planted on some 13 percent of South Africa's vineyards in 2006. Shiraz (also known as Syrah) is becoming popular, on its own and blended and is now second to Cabernet Sauvignon, planted on some 10 percent of the nation's vineyards in 2006. Merlot and Pinotage (the Cape's own crossing of Pinot Noir and Cinsaut - also known as Hermitage), are also becoming increasingly popular. Other major red wine grapes include Cinsaut, Ruby Cabernet, Cabernet Franc, and Pinot Noir.

3.3.2 Wine regions

Table 3.3 shows the geographic distribution of South African wine grape vineyards per wine region during 2006. These data show that the first three regions (Worcester, Paarl and Stellenbosch) and Robertson accounts for more than 70 percent of the number of vines planted in South Africa. The percentage of total hectares planted also indicates a similar pattern. Detailed descriptions of the wine regions selected for this study will be given in the following chapter on methodology. The next section looks at wine production and consumption trends.

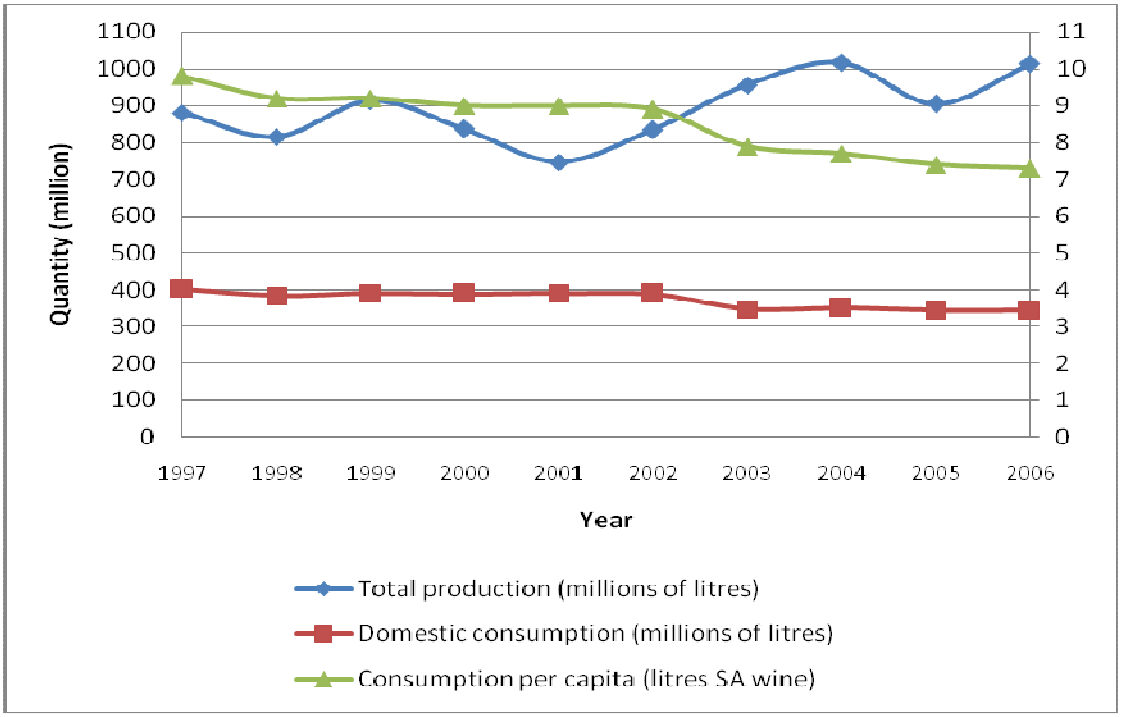
Table 3.3: Distribution of wine grape vineyards per wine region during 2007

Wine region	Number of vines	percent of total vines	Area (ha)	percent of total ha
Worcester	67 698 826	22.05	20 588	20.19
Paarl	53 613 681	17.47	17 413	17.08
Stellenbosch	53 086 719	17.29	17 265	16.93
Malmesbury	37 767 450	12.30	14 883	14.60
Robertson	47 308 545	15.41	13 802	13.54
Olifants River	27 381 384	8.92	9 861	9.67
Orange River	10 829 502	3.53	5 149	5.05
Little Karoo	9 269 687	3.02	2 996	2.94
Total	**306 955 785**	**100.00**	**101 957**	**100.00**

Source: SAWIS, 2008

3.4 Production and consumption trends

Figure 3.1 shows a ten year overview of the South African wine industry in terms of total wine production, total domestic consumption and consumption per capita in South Africa. As can be observed from Figure 3.1, total wine production increased steadily over the past decade. This is happening at the same time when domestic consumption is decreasing. The increase in production can be attributed to the replanting of vines during the late 1990s and early 2000s.



Source: SAWIS, 2007

Figure 3.1 Trends in total wine production, domestic consumption and per capita consumption in South Africa

The growing difference between the amount of wine produced and that consumed locally can be accounted for by the growing wine exports from South Africa (see next section). This is

closely related to improvements in terms of the quality of wines produced. The proportion of wine certified by the Wine and Spirits Board was only 20 percent of wine production in 1997 and has more than doubled since then (reaching about 46 percent in 2006) (Vink et al., 2004:242; SAWIS, 2007:17). Vink et al. (2004:242) hinted that this figure is expected to increase further in the next few years. The authors further noted that the main reason for these shifts in the composition of production can be found in the changing relative prices of the products of the industry, reflecting changes in demand in domestic and export markets and previous planting decisions.

Traditionally the countries producing wines were also the countries consuming it, with less than one-tenth of global sales being across national borders before 1970 (Anderson, Norman, and Wittwer, 2004:24). Anderson et al. (2004:24) also reported that the proportion traded across borders rose to one-eighth in the 1970s and one-seventh in the 1980s. Today many countries in the new world export more than one-quarter of their volume. Despite per capita wine consumption falling in many countries producing wine (including South Africa), wine has become much more of an internationally traded product as consumption shrinks in the traditional producing countries and consumption expands in non-producing countries in Europe and East Asia (Anderson et al., 2004:25). Having briefly highlighted the significance of wine trading, we will now turn to imports and exports of wine in South Africa in the next section.

3.5 Exports, imports and prices of wine: South Africa

3.5.1 Exports

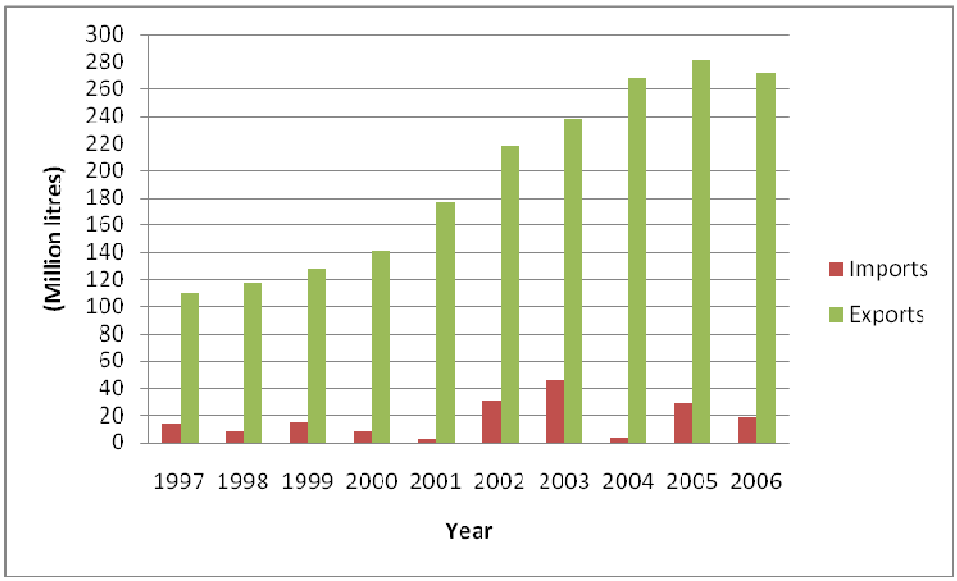
The volume of wine exports from South Africa showed a decline in 2006 compared to 2005 (from 281.8 million litres in 2005 to 271.6 million litres in 2006). Exports have however increased again in 2007 to 312.6 million litres (SAWIS, 2008:24). The decline in exports in 2006 was for the first time since the renaissance of the industry in 1994 (see Figure 3.2 below). The decline in exports happened mostly in South Africa's biggest markets i.e.,i.e.,, the United Kingdom and the Netherlands (SAWIS, 2007:25). Data by SAWIS (2007) indicate

that the biggest declines were recorded in 'other white wine'. Pinotage and Sauvignon Blanc also recorded some decreases in 2006 compared to the previous year. Chenin Blanc and Chardonnay are the most exported varietal wines, followed by Cabernet Sauvignon and Blanc de Noir and Rose. The top five markets for South African wines in 2006 were, in descending order, the United Kingdom, Germany, the Netherlands, Sweden, and Denmark (SAWIS, 2007:25).

3.5.2 Imports

South Africa's wine imports decreased in 2006 compared to 2005 (from 28.2 million litres in 2005 to 19 million litres in 2006) (SAWIS, 2007:27). Overall the level of wine imports in South Africa has been inconsistent since the dawn of democracy in 1994. But one thing is for sure and that is wine imports generally increased after 1994. This can be attributed to the lifting of trade sanctions after the deregulation and liberalisation of the wine industry that started some years before 1994. Some 97 percent of the total wine imported in 2006 was bulk natural white wine. Sparkling wine, natural red wine and fortified wine made up the remaining 3 percent (SAWIS, 2007:27).

Figure 3.2 shows that the amount of wine imports peaked in 2003 at 46.4 million litres over the ten year period before plunging down to a low 3 million litres in 2004. This low import level by South Africa may be a result of two trends in both production and consumption. From the production side, it has already been mentioned that the quality of South African wines is increasing. This is expected to generally lead to more quality wine consumed domestically and a rise in exports as a result of improvements in quality. From the consumption side, the South African wine market seems to be becoming more differentiated, with growth in the sales of premium wines as well as the cheapest wines and a decline in sales of the lower quality wine categories (Vink et al., 2004:245).



Source: SAWIS, 2007

Figure 3.2 Imports and exports of wine in South Africa from 1997 – 2006

3.5.3 Prices

Table 3.4 shows the relative producer prices for wine sold in bulk (to wholesalers and exporters) for the years 2001 to 2007. Prices for all major red varieties continued to decline during the period under review i.e.,i.e.,, 2001 – 2007, while those for white varieties have increased rapidly in nominal terms over the past seven years. Exceptions in the red types were Rose and Blanc de Noir, which recorded nominal increases during the same period. The reason for this may be that they fall under the category of the least planted types in South Africa. With the prices of most good quality red wines declining, the challenge for producers in the near future may be to sustain demand for these red wines, both locally and internationally. This might help maintain, and even increase, prices of South Africa's quality red wines.

Table 3.4: Average prices for wine sold in bulk in South Africa, 2001 – 2006

Type	Cent per litre						
	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Cabernet Sauvignon	802	823	799	688	557	475	415
Cabernet Franc	736	702	737	650	385	408	437
Merlot	766	766	729	620	471	426	397
Pinotage	731	690	652	519	444	393	397
Ruby Cabernet	610	618	618	543	411	393	303
Shiraz	782	748	758	638	548	514	458
Cinsaut	433	486	540	486	397	350	317
Pinot Noir	661	631	740	897	652	420	673
Rose and Blanc de Noir	190	295	367	374	305	305	297
Other red and blends	498	507	568	497	418	387	350
Chardonnay	328	396	470	485	494	495	474
Sauvignon Blanc	317	409	481	497	522	548	517
Colombard	143	203	274	254	278	294	297
Riesling	151	204	281	282	313	324	318
Semillon	199	241	330	336	333	339	353
Chenin Blanc	159	215	303	290	304	317	323
Other white and blends	132	188	254	251	255	274	275
Fortified wine	208	233	297	318	347	355	371

Source: SAWIS, 2007; 2008

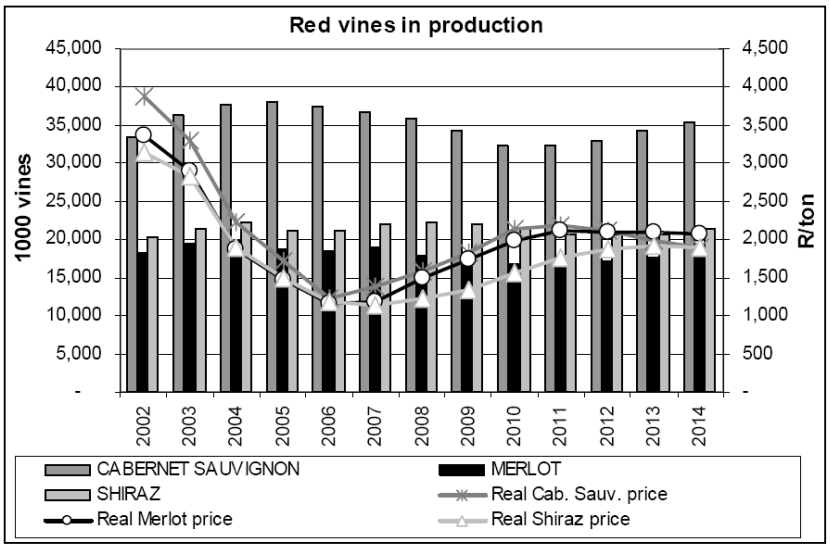
The recent declines in prices of mostly red wine varieties can be attributed to planting decisions taken a while ago when prices of red varieties where higher than those of white varieties. When prices of any variety are generally high farmers are likely to plant after the price rather than look ahead of an uncertain market. Grape prices data from SAWIS (2008) also indicate similar patterns. Again prices of red varieties have generally declined while those of white varieties increased considerably from 1999 to 2006. Major increases in price during the period were recorded for Cape Riesling, Chenin Blanc, Sauvignon Blanc, Chardonnay, and Hanepoot. The next section will consider the South African wine industry outlook in terms of production, prices, producer sales, and domestic consumption leading up to 2014.

3.5.4 South African wine industry outlook[5]

Cutts, Reynolds, Meyer, and Vink (2007) developed a baseline for the South African wine industry for the period until 2014. The baseline simulations illustrate the possible outcomes given a certain set of assumptions. Figure 3.3 presents the outlook of selected red vines in production and red wine grape prices for the period 2002 to 2014. Data from SAWIS indicates that most wine grape growers replaced their old vineyards with red varieties during the early nineties. According to Cutts et al. (2007:10) the increased plantings, and thus increased production, of red wine grapes has resulted in a decrease in real red grape prices (as can be observed from Figure 3.3). The authors report that producers responded to the falling prices by shifting new plantings to white varieties, resulting in declined area under red wine grapes in early 2000 to 2001. It can be observed from Figure 3.3 that the decline in vines in production of Cabernet Sauvignon started in 2006, while Merlot and Shiraz grape vines in production started declining in 2005. According to Cutts et al. (2007:11) the declining trend of Cabernet Sauvignon is expected to continue until 2010, while that of Merlot and Shiraz is expected to continue until 2011.

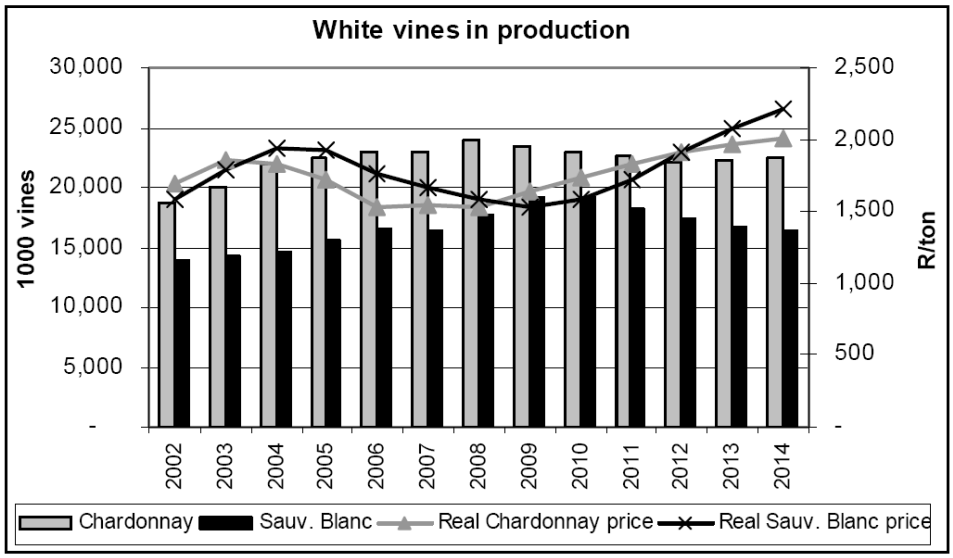
Cutts et al. (2007:11) projected real prices of Cabernet Sauvignon and Merlot to turn upwards in 2007 due to the projected increase in producer sales, the projected depreciation in the Rand and, in the case of Cabernet Sauvignon, lower supply. The authors further projected that the real prices of Shiraz grapes was expected to decrease in 2007 due to the projected increase in supply, thereafter the price of Shiraz grapes was expected to increase. The authors also report that plantings were projected to increase in response to increasing prices, leading to vines in production to enter an upward trend from 2011 onwards. The increase in the supply of Cabernet Sauvignon grapes from 2011 to 2014 was expected to put downward pressure on the price, and it was expected that prices would enter a declining phase from 2012 to 2014 (Cutts et al., 2007:11). Similar trends were also expected for Merlot and Shiraz grapes.

[5] This section relies heavily on the work of Cutts, Reynolds, Meyer, and Vink (2007).



Source: Cutts et al., 2007

Figure 3.3: Outlook of selected red vines in production and red wine grape prices



Source: Cutts et al., 2007

Figure 3.4: Outlook of selected white vines in production and white wine grape prices

As already mentioned in previous paragraphs, the replacement of old vineyards with red varieties during the nineties and the resulting oversupply of red wine was accompanied by a relative shortage in the production of white wine, and increasing prices of white grape varieties. Data from SAWIS indicate that increasing prices of white grape varieties and declining prices of red grape varieties during the early 2000s led to new plantings shifting to white varieties. Figure 3.4 indicates that the supply of white grapes increased as new vines came into full production some four years later. Cutts et al. (2007:12) indicate that the increase in supply, lower export growth (as already indicated in section 3.5.1 the volume of exports declined in 2006, after which it increased again in 2007) and the stagnant domestic market, resulted in the prices of white grape varieties coming under pressure since 2004. Figure 3.4 shows that the vines in production of Sauvignon Blanc grapes are projected to increase up to 2009 as new plantings come into full production. According to Cutts et al. (2007:12) this increase in supply is expected to put downward pressure on prices and prices are projected to continue the downward trend up to 2009, before they start increasing again. Figure 3.4 also indicates that the price of Chardonnay stabilised in 2007 as supply remained stable and was projected to decline slightly in 2008 as supply increases, but thereafter was projected to increase over the remainder of the baseline period.

The section that follows considers the various wine industry initiatives aimed at promoting the sustainability and competitiveness of the South African wine industry.

3.6 Wine industry initiatives

3.6.1 Production and marketing: Wine of Origin Scheme

Wine of Origin (WO) legislation introduced in 1973 ended years of a labelling free-for-all in which confused South African nomenclature and unverified vintage and grape variety claims baffled the consumer (OCW, 1999:648; WOSA, 2008). A wine may be certified for any of the following: estate, region, district, geographical unit, vintage or grape variety. According to Troskie (2007:02) the Wine and Spirits System (Regulation 1434 of 1990, proclaimed under the Liquor Products Act of 1989[No. 60 of 1989]) provides for the delimitation of

geographic areas. The System also allows for the formalisation of the linkage between the geographical area and the wine. The System makes provision, in an overlaying order and in declining order of size, for 3 geographical units, 5 production areas, 21 districts, 56 wards, 129 estates, as well as single vineyards (Troskie, 2007:02). According to Troskie (2007:02) this means that a producer may, according to individual needs, decide where to source the grapes for the wines. Because the role of origin is so important, this origin control system was designed to protect both the producer and consumer (WOSA, 2008). WOSA (2008) argues that the two factors which play the most important role in determining the character and quality of a wine are nature (soil, climate, and location) and the human hand (cultivar choice, viticultural practices, and winemaking techniques).

The Wine of Origin scheme is important to the consumer in the sense that when the term 'Wine of Origin' together with the name of a production area (e.g., Stellenbosch or Robertson) appears on a label, it confirms that 100 percent of the grapes from which the wine was made come from that specific area. Blended wines qualify for a varietal statement provided the variety makes up at least 75 percent of the blend, and at least 75 percent comes from one harvest. The balance may come from the preceding or subsequent year. Blends which do not claim single varietal status may state the grape composition. Participation is voluntary and about 46 percent of total wine production in South Africa was certified in 2006 (SAWIS, 2007:17). Wine for certification is submitted to the Wine and Spirit Board and must pass an analytical test.

The designation 'Estate' is South Africa's equivalent of the French Chateau or Domaine. For wine to be certified as 'estate wine', all the wine must originate from and be fermented at a registered demarcated estate. The definition of an estate was relaxed in 2004 and focuses on 'estate wine', which must be produced in contiguous vineyards farmed as single units (WOSA, 2008). Two vineyards owned and operated by one proprietor may be kilometres apart but their crops can be blended and qualify for a single estate label, provided the authorities deem the ecological circumstances similar. These units must be equipped with facilities to enable all processes up to final certification. An estate may not cultivate more than half its production in non-estate grapes and these must be separately demarcated in bulk and must be bottled under a non-estate label (WOSA, 2008). Only certified estate wine may

be labelled and marketed as such. The System has a certification process and a certification seal is attached on the neck of each bottle of certified wine. The certification seal has a unique number and the consumer can query the number on a website. Troskie (2007:02) argues that this allows for consumer participation and confidence by ensuring that the correct information is conveyed to the consumer.

The next section looks at food safety and environmental issues in the South African wine industry.

3.6.2 Food safety and the environment: Integrated Production of Wines (IPW) in South Africa

Brown (2001:81) noted that 'because of the destructive effects of monoculture on ecosystems and the environmentally intensive nature of commercial agriculture, environmental sustainability should be of key concern in shaping the objectives of the South African wine industry.' In both developing and developed countries, food safety assurances have generally become more stringent in response to enhanced food safety problems. Food safety legislative processes in many countries have so far been influenced by the implementation of the Sanitary and Phytosanitary (SPS) Agreement under the World Trade Organisation (WTO). With regards to the wine industry in South Africa, these rising concerns in environmental and food safety standards require that the industry provide environmental and food safety guarantees to consumers in order to remain competitive in today's highly competitive global wine markets.

As a result of these concerns, the South African wine industry has initiated its own system of environmental regulation called the Integrated Production of Wines in South Africa (IPW). The IPW is a process control system based on the principles of Hazard Analysis Critical Control Point (HACCP) as well as the ISO 14 000 standards for environmental management (Brown, 2001:82; IPW, 2006). HACCP is widely recognised in the food industry as an effective approach to establish good manufacturing practices for the production of safe food

throughout the world (Henson and Caswell, 1999:596). This has achieved production processes that are most critical to monitor and control (Unnevehr and Jensen, 1996). The ISO 14 000 is a set of environmental standards that exist to help organisations minimise how their operations negatively affect the environment (cause adverse changes to air, water, or land) and comply with applicable laws and regulations (Wikipedia, 2008).

According to the IPW (2006:03) 'the consequences of increasing demands on natural resources and agricultural production systems by an ever-increasing world population have brought about an awareness of the necessity to protect non-renewable natural resources and the environment in order to ensure man's future health and well-being, as well as sustainable, economically viable agricultural production.' The IPW aims to achieve this by using the latest information and technology available for the production of wine in an environmentally friendly and sustainable manner. The IPW was promulgated under the Liquor Products Act (Act No. 60 of 1989) in 1998. Membership of the IPW is voluntary and the scheme aims to ensure that South African wines are 'produced with very little interference with the natural environment' (IPW, 2006). The IPW system is self-regulating and producers score themselves on a point system regarding technical aspects of production from the vineyard to the cellar.

Intermittent auditing is done by Infruitec and Nietvoorbij. If compliant with all requirements, an IPW Conformance Certificate is issued (IPW, 2006). This certificate can be used for marketing purposes, and is especially important for promotion both in the local and export markets. Wine consumers throughout the world are becoming increasingly concerned not only about the quality of wines but more importantly about how wines are produced. As noted by the IPW (2006) 'the modern consumer has sophisticated needs. This has had the effect that they are requiring guarantees from wine producers as to the constitution of wine and its safety for consumption while being adamant that the environment should be left as pristine and undamaged as possible. Our system, which is specifically aimed at sustainable agriculture and which is thus viable over the long term, is adjusted in such a manner that these two consumer requirements are met.' As partly acknowledged by the IPW supermarkets and consumers, especially in regions such as Europe, are very conscious when it comes to environmental standards. The IPW therefore plays a critical part in fulfilling the role of the

provision of environmental guarantee to consumers of South African wines. This brings us to the concept of eco-labelling, which has been employed around the world, and its potential consequences.

3.6.2.1 Eco-labelling[6] as an environmental policy measure

The labelling of products to indicate whether or not they have been produced by methods friendly to the environment is widely regarded as an appropriate, though partial, response to environmental problems (Mattoo and Singh, 1994:53; Dosi and Moretto, 2001:113). As far as policy-makers are concerned, the prevailing view is that, though it cannot be considered a panacea, eco-labelling is a useful accessory in environmental policy, able to encourage spontaneous innovation and a virtuous 'environmental competition' among firms (Dosi and Moretto, 2001:113). According to Dosi and Moretto (2001) and Mattoo and Singh (1994) given the latent (increasing) demand (willingness-to-pay) for 'green' (environmental attributes of) products, the issue of labels would serve two purposes at once. On the one hand, labels would allow for consumers to discriminate between products leading to reduced demand and hence reduced output of products produced by methods detrimental to the environment. On the other hand, as certification highlights more environmentally benign alternatives and provides consumers with guidance, firms with a greater propensity to innovate would be able to reap the benefits deriving from the transformation of their production processes, and at the same time 'penalise' competitors that try to acquire a green reputation by merely making superficial or cosmetic changes to their products.

Mattoo and Singh (1994), Kuhn (1999) and Dosi and Moretto (2001) argue that eco-labelling, although having undisputable benefits, could in certain cases lead to an adverse effect on the environment. In one of the rare attempts at theoretical analysis of the effectiveness of eco-labelling, Mattoo and Singh (1994) pointed out the risk that eco-labelling might lead to an

[6] The concept of eco-labelling has become increasingly popular in many OECD countries. The Federal Republic of Germany issued its first environmental label in 1978. In 1992 Council of European Communities, through Regulation n.880/92, set up a Community eco-label award scheme, with the aim of creating the conditions for ultimately establishing an effective single environmental label in the community. In many countries, there are also private eco-labelling programmes, usually managed by non-profit organisations, like the Green Seal, operating in the United States, which has developed standards for a number of product categories, such as paper, fluorescent lamps and paint

increase in the supply of polluting products, due to possible increases in their relative prices induced by the greater supply of green products, following the establishment of an eco-labelling programme. And Kuhn (1999), through a more sophisticated model which accounts for market structure and competitive interactions, illustrates situations where eco-labelling may produce a reverse, i.e.,i.e.,, the improvement of average environmental performance, brought about by an increase in green producers' market share, is more than offset by the increase in pollution from an expanding market. While also concentrating on the potential reverse effects of eco-labelling, Dosi and Moretto (2001) adopted a different approach or model. Drawing upon the theory of irreversible investment decisions under uncertainty, the authors propose a two-period model which allows for a stylised analysis of the overall impact of eco-labelling upon firms' investment decisions, i.e.,i.e.,, both before and after the label (the green technology required to qualify for the eco-label) is awarded (is adopted). Their analysis leads to the conclusion that the adoption of a green production process and the supply of more environmentally benign products may be accompanied not only by conservation of conventional production lines – a phenomenon generally accepted by the current eco-labelling programmes, but also by an increase in investment in 'pollution capital' before the adoption of the technology required to submit products that qualify for the label.

Dosi and Moretto (2001:121) argue that the occurrence of such perverse effects depends on whether a 'complimentarily relationship' between the different production lines is expected to emerge. The authors argue that if firms expect that the label – obtained for a specific product – will project a positive image over the entire firm, then eco-labelling, while encouraging the supply of green products, could at the same time induce increased investments in conventional technologies. The authors further argue that although the risk of a distorted use of eco-labels could be attenuated through legal provisions aimed at avoiding misleading advertising, the occurrence of a perverse effect is connected with behavioural patterns by firms and consumers' misperceptions that are difficult to prevent *ex post* and are not always easy to account for in the specific rules on using the labels and more general legislation on misleading advertising. The policy implications, according to Dosi and Moretto (2001:121) are that the design of an eco-labelling programme should properly account for the potential impact exerted by the label on the rentability of investment in conventional technologies and that a precautionary approach, i.e.,i.e.,, restrictions on the issue of labels, is highly recommended in those contexts where firms are more prone to abuses of the label

and/or where consumers are more likely to be affected by misconceptions about firms' overall green performance.

We will now look at the Biodiversity and Wine Initiative (BWI) in the next section.

3.6.2.2 Biodiversity and Wine Initiative

The IPW have guidelines for both farms and cellars. The guidelines consist of 15 chapters that address all aspects such as correct selection of cultivars, vineyard layout, irrigation, integrated management of pests, pruning, etc. The chapter of the IPW guidelines – conservation and improvement of the farm and vineyard environment – is today commonly referred to as the 'Biodiversity Guidelines'. 'It is these specific guidelines which the Biodiversity and Wine Initiative (BWI) is seeking to promote and assist producers to implement' (BWI, 2008). The main objectives of the BWI, as noted by BWI (2008), are to minimise the further loss of threatened natural habitat, and to contribute to the South African industry's sustainable wine production through the implementation of the biodiversity guidelines within farm management practices.

The BWI is collaboration between the CapeNature Stewardship Programme, the Department of Agriculture's Landcare Programme, and the wine industry's Integrated Production of Wine (IPW) scheme, and is implemented through the following key strategies (BWI, 2008):

- Promoting the implementation of best practice biodiversity management within the wine industry
- Enlisting BWI members and champions
- Extending conservation stewardship to the wine industry
- Integrating the unique natural heritage into Brand South Africa, and
- Developing regional Biodiversity Wine Routes.

As in the case of the IPW, membership[7] of the BWI can be used as a unique and credible marketing tool in global wine markets. The overall benefits of the BWI are across the wine, conservation, and tourism sectors. In terms of conservation the BWI provides meaningful change and improvement of sustainable natural resource management in the wine industry. The different tourism regions can benefit by promoting their respective regions as environmentally friendly and eco-tourism destinations. The BWI concept links directly to wine routes and wine tourism, which are discussed in the section that follow.

3.6.3 Wine routes and tourism in South Africa

The nature of the wine industry lends itself to a marriage with tourism. According to Bruwer (2003:423) wine is a beverage that is associated with relaxation, communing with others, complementary to food consumption, learning about new things, and hospitality. Dodd (1995) argues that tourists will often seek some or all of these things while in movement or on vacation. Wine tourism, as noted by Hall (1998) is a form of special-interest tourism. Some tourists will tour wine farms and wineries for wine or wine related activities. Wine tourism in South Africa is largely focussed on official wine routes. The definition of wine tourism used in this study is that of Getz (2000:04): "... travel related to the appeal of wineries and wine country, a form of niche marketing and destination development, and an opportunity for direct sales and marketing on the part of the wine industry."

It is often said that the potential for wine tourism is enormous, but who are the stakeholders and who stands to gain most if and when it realises its potential? Who are the main players in South Africa in as far as wine tourism is concerned? What is the nature and extent of wine tourism in South Africa? These and other questions will be touched on briefly in the sections that follow.

[7] One of the strategies of the BWI is to identify and enlist interested producers as members or champions of the initiative, who will implement the biodiversity guidelines, conserve critical ecosystems and incorporate a biodiversity story into their winery experience. Currently enlisted in BWI are 15 champions, 10 co-operative cellar members and 120 members. For more details see www.bwi.co.za

3.6.3.1 History of wine tourism in South Africa

The South African wine industry, according to Bruwer (2003:424) and Hands and Hughes (1997), is one of the oldest outside Europe with some of the first vineyards having been planted and wine produced in the mid-seventeenth century. According to O'Neill and Charters (2000) wine tourism is identified as one of the few national industries that are genuinely located in rural areas and play a crucial role in regional development and employment generation. It is seen to revitalise and create jobs in rural areas, with the benefits impacting on a whole region and not just the wineries involved (Tassiopoulos, Nuntsu and Haydam, 2004:51). The Tourism White Paper states that the South African government sees tourism creating linkages and opportunities for the agricultural sector with agri-tourism playing a strategic role in making other sectors of the economy dynamic through the increased demand for agricultural products and services (Republic of South Africa, 1996, as in Tassiopoulos et al., 2004:52).

South African vineyards are mostly found in the Western Cape Province (SAWIS, 2008). It therefore should not be surprising that most wine routes in South Africa are to be found in the Western Cape Province. According to Preston-Whyte (2000) and Nowers, De Villiers and Myburgh (2002:197) the first South African wine route, namely Stellenbosch wine route, was established in 1971. This first wine route was established by the owners of three wineries who set about encouraging producers to bottle their own wine and to introduce the public to the mysterious estate wines which, until then, were beyond their reach (Rust, 1996). According to Nowers et al. (2002:197) the idea of a wine route was conceptualised earlier in 1969 by one of the founder members during a visit to the *Route de Vins* at Morey St Denis in Burgundy, France. Eleven wine producers were eventually incorporated as the first members of the Stellenbosch wine route (Nowers et al., 2002:197). Nowers et al. (2002:197) note that this historic event, however, did not go without problems. For example, legislation such as the Liquor Act had to be amended in order to allow visitors to enjoy wine tasting at wine farms and to enable the members of the wine route to erect signboards.

Nowers et al. (2002, 198) argue that the success of the Stellenbosch wine route and the positive impact it had on regional and rural tourism eventually led to the establishment of various other wine routes in South Africa. Nowers et al. (2002:195) further argue that the product (wine) route phenomenon has a somewhat unique character in the sense that three goals are combined, namely tourism, produce sales, and product brand promotion. The Western Cape Province is internationally renowned for its natural and scenic beauty as well as its well-developed tourism infrastructure. Given the success of the Stellenbosch wine route, let us now look closely at the concept of the wine route.

3.6.3.2 Theory of the wine route

According to Bruwer (2003:424) the concept of a bounded space is vital to the idea of a wine route since it defines for its wine-growing members an identity that proclaims unique attributes for their wines and cultural heritage. Hall, Sharples, Cambourne, and Macionis (2000) note that in order to stress the attributes that distinguish them from their competitors, wine route associations tend to employ a rhetoric that stresses the nature of the grapes and the wines they produce, the soils and climate that give them distinctive character and the cultural heritage that nurtured them. Bruwer (2003:424) defines a wine route as a tourist route that connects several wine estates and wineries in a given area. The author further notes that this route is characterised by natural attractions (mountains and other scenery), physical attractions (facilities such as wineries on wine estates), vineyards, and roads and markers (signposts) directing the tourist to the individual wine route estate enterprises. Bruwer (2003) argues that wine routes are therefore the roadways to the core attractions in wine tourism, the wines and the winery.

Fuller (1997) and Hall and Macionis (1998) argue that both the wine and tourism industries rely on regional branding. Bruwer (2003:424) argues that most if not all wine routes are characterised by a bounded space in the form of an often officially demarcated wine region or geographical indication (GI) that has an identity in the form of a descriptive name such as Champagne (France) or Stellenbosch (South Africa). As wine routes are regionally based, each wine route therefore seeks to articulate a set of attributes that endows it with a

distinctive trademark or brand identity (Moran, 1993; as in Bruwer 2003:424) or one that enables them to claim some unique feature. According to Bruwer (2003:424) the concept of a wine route also incorporates images that sustain the notion of exploration and discovery. This entails a journey during which a range of unexpected experiences may be encountered. These expectations are encouraged by claims of distinctive attributes that are particular to the wine route. Given all these, Bruwer (2003:424) argues that it is obvious that the development of wine routes forms an integral part of the wine tourism industry. We will now look at the structure of South Africa's wine routes in the next section.

3.6.3.3 Structure of the South African wine routes

The contrasts between the numerous South African wine routes are immense, from the intensely developed Stellenbosch wine route to the more open countryside of the Olifants River, the high rainfall route of the Constantia wine route to the dry, barren Orange River route, drawing their water from the Orange River (WineRoutes SA, 2009). Besides the wine routes, visitors can experience the rich historical and cultural heritage while visiting quaint villages, outdoor museums and galleries, open-air theatres and outdoor art and craft exhibitions. As already indicated, the Stellenbosch wine route became the first official wine route in South Africa when it was established in 1971. Since then, 17 more wine routes have been added (WineRoutes SA, 2009) and today the South African wine route system enjoys the reputation of being in a wine country with one of the best wine route infrastructure systems and winescapes in the world (Bruwer, 2003:425).

In a study on the wine tourism industry's structural dimensions and the wine tourism product, Bruwer (2003:426) found that the Stellenbosch wine route is the largest and most influential in the South African wine tourism industry, followed by its neighbouring regions, Paarl and Franschhoek. According to Bruwer and Haydam (1994) the significance of the multiplier effect in creating additional employment is a well-known phenomenon in the tourism industry in particular and wine tourism is certainly no exception. Bruwer (2003) found that a relatively high part-time (casual and contract) employee component (36%) exists. This, according to Bruwer (2003) was because grape growing, harvesting, winemaking, and even

wine tourism are seasonal activities performed in an agricultural sub-industry characterised by seasonal highs and lows as far as labour needs are concerned. The author reported that if the wine tourism/tourism-related component at wine route estate enterprises is isolated from the rest, it provided employment for only 5.2 percent of the total labour force of the industry and that when the restaurant/food-related division is examined in a similar way, it is found that employment for only 5,5 percent of the total labour force was provided. It is however important to note that the sample size of Bruwer's survey was 125 wine farms. Although this can be looked at as an oversimplification obviated by the numbers, one cannot dispute the fact that wine industry, and therefore wine tourism, is a significant source of employment in the Western Cape Province.

According to Bruwer (2003:426) the structure of any wine industry plays an important role in the ways in which the industry positions itself and in the type of relationships that exist between the various players. The same author argues that the degree of involvement in wine tourism is to a point determined by the relative size of the wine enterprises, with small wineries known to have a higher degree of involvement (or reliance) in (on) wine tourism than medium-sized and large enterprises. Bruwer (2003:427), based on the exposition of the vineyard size, annual crush tonnage and case production of the wine route estates, reported that wine route estates involved in wine tourism in South Africa are larger enterprises in general than is the case in for example, Australia. The next section considers the facilities and motivations for visiting wineries on wine routes in South Africa.

3.6.3.4 Facilities and motivations for visiting wineries on wine routes

There is an array of tourist and visitor facilities available at wineries and wine estates on the South African wine routes. Tourist and visitor facilities available at wine estates along the various wine routes in South Africa include wine tasting facilities, cellar-door sales, winery organised tours, meeting winemakers, wheelchair facilities, social function facilities, picnic facilities, conference facilities, restaurants, wine festivals, museums or historic buildings, vineyard walking, galleries and souvenir shops, accommodation facilities, children facilities,

farm stalls, hiking, horse rides, swimming facilities, fruit picking by visitors, spectacular views, etc.

Bruwer (2003:430) argues that a vitally important aspect of wine tourism is the unravelling of the specific reasons or motives that drive visitors to the wineries or wine estates. The author argues that once this is established, they should form an integral part of the enterprises' promotional strategy to draw even more visitors. Certain specific visitor motivations to visit wine route estates, according to Bruwer (2003:430) include wine purchasing, wine tasting, country setting, winery tours, learning about the wine and winemaking, meeting the winemaker, socialising with family and friends, wine festivals or events, eating at winery (restaurant/cafe), entertainment, etc. The author further argues that once consumer needs and wants (and behaviour) are known a wine route organisation can effectively design its marketing mix and target its customers. The next section considers segmentation of wine tourists.

3.6.3.5 Segmentation of wine tourists

Hall et al. (2000) argue that in order to understand the wine tourism phenomenon it is important that a profile of the wine tourist (consumer) be developed. Charters and Ali-Knight (2002) assert that there is no single, stereotypical wine tourist and that wineries therefore generally adopt an intuitive approach to segmentation of their wine tourists. Charters and Ali-Knight (2002) identify four wine tourist segments, namely the 'wine lover', 'connoisseur', 'wine interested', and 'wine novice' segments. Bruwer (2003), based on the intuitive approach of Charters and Ali-Knight (2002) and the basic landmark framework developed by Hall and Macionis (1998), identified three wine tourism market segments, namely 'wine lovers', 'wine interested', and the 'curious tourist'. The main characteristics of this market segments are presented in Table 3.5.

Table 3.5: Descriptions of the wine tourism market segments

Market segment	Description
Wine lovers	Extremely interested in wines and winemaking Wineries may be sole purpose of visit to destination May be employed in wine and food industry Likely to be mature with high income and high education levels Likely to be regular purchaser of wine and food magazines Will have visited other wine regions Highly likely to purchase at winery and add name to any mailing list
Wine interested	High interest in wine but not sole purpose of visit to destination Moderate to high income bracket, tend to be university educated Occasional purchaser of wine and food magazines, regular purchaser of 'lifestyle' magazines 'Word-of-mouth' and wine columns in newspapers may be important for arousing interest in region Likely to have visited other wine regions Familiar with winemaking procedures Likely to purchase at winery and add name to any mailing list Potential for repeat purchase of wine through having visited winery
Curious tourists	Moderately interested in wine but not familiar with winemaking Wineries seen as 'just another attraction' Moderate income and education Winery tour a by-product of visit to region as visiting was for unrelated purposes May have visited other wine regions Curiosity aroused by drinking or seeing winery product or general tourism promotion or pamphlets Opportunity for social interaction with friends and/or family May purchase at winery but will not join mailing list

Source: Hall and Macionis (1998) as cited by Bruwer, (2003:431)

Hall and Macionis (1998) argue that the size of each of these wine tourism market segments depends on:

- The individual characteristics of each winery and wine region in terms of accessibility
- The profile of the wine
- The types of wine produced
- Marketing and promotion
- Attractiveness, and
- Available facilities

Based on the above-mentioned framework, Bruwer (2003:431) determined the relative sizes of these market segments in the South African wine tourism market and found that most wine tourists are 'wine lovers' (53%) or at least 'wine interested' (28%). Bruwer (2003:431) argues that the relatively low representation of the 'curious tourist' segment (16%) could be an indication that the South African wine tourism industry is highly successful in attracting wine focussed tourists who actually buy the wine products during visits to the various wine route estates. However, Bruwer (2003:431) notes that profiles of wine tourists in one country or region should not automatically be assumed to be the same as in another, or even between one wine estate and another. Irrespective of the type of wine tourist visiting the wine farm, income earned by wine route estates can be split into two main categories, namely income from wine sales through the cellar-door and income from other wine tourism-related activities. Bruwer (2003:433) argues that the most important indicator of wine tourism involvement (and success) is the income derived by wine route estates from their wine tourism-related activities. We will now look at the benefits of wine tourism for the different role players in the wine industry in the next section.

3.6.3.6 The benefits of wine tourism

Moseley (2008:296) reported that in addition to grape sales and wine production, tourism related activities (e.g., wine tasting tours, guesthouses, and restaurants) are another important source of income for many vineyards. Bruwer (2003) argues that due to the importance of tourism in the wine industry, the appearance of vineyards that are visible to the public is very important. Getz (2000:08) categorised the benefits of wine tourism into three groups i.e.,i.e.,, benefits to the wine industry, benefits to destinations, and benefits to host communities. These benefits are presented in a summarised form in Table 3.6.

Wine tourism can also serve as a significant earner of foreign exchange. It can also play an important role in the livelihoods of many people in the Western Cape. Getz (1997) noted that there are a number of problems associated with the estimation of the economic value of wine tourism. The author argues that the actual motivation of visitors to wineries must be known before economic impacts can be attributed. According to Getz (1997) the value of wine tourism to an area should be measured by following the following steps:

- Determining who travels to an area because of the appeal of wine
- Measuring the total expenditure of wine tourists within the area
- Including some of the expenditure made by any visitor who stays longer and/or spends more because of wine attractions
- Estimating the secondary economic impacts through the application of an income or value-added multiplier.

The author however recognises that there is no single and accurate method for estimating the economic benefits of wine tourism. The author further argues that the best indicators of its impact are the numbers of visitors specifically attracted to a destination because of wine, followed by an estimation of their direct spending in the area. However, it is not the objective of this study to look into these issues in greater detail. The next section considers transformation in the South African wine industry.

Table 3.6: The benefits of wine tourism

Wine industry	Destinations	Host communities
1. Increased wine sales	1. Generate increased visitor numbers and spending	1. Attract new investments
2. Educate visitors and foster brand loyalty	2. Attract new and repeat customers	2. Develop new facilities and amenities (e.g., attractions)
3. Attract new market segments	3. Develop a unique positive destination image	3. Foster community pride
4. Higher profits from cellar door sales	4. Overcome slow demand periods	4. Create successful events for residents and visitors
5. Improved links	5. Improved links	5. Improved links
6. New partnerships	6. New partnerships	6. New partnerships
7. Test new products	7. Regional promotion	7. Employment creation

Source: Getz, 2000

3.6.4 Transformation in the South African wine industry

The South African government has a broader plan for transformation in the agricultural sector that grew out of its Black Economic Empowerment (BEE) initiative. After some criticism of the initial BEE framework the Department of Trade and Industry (DTI) (the principal custodian of BEE in South Africa) formulated the Broad-Based Black Economic Empowerment (BBBEE) policies in 2003 with the ultimate objective of making BEE more broad-based. The transformation plan in the agricultural sector, known as AgriBEE, was formulated immediately after the BBBEE framework was gazetted. The rationale behind the AgriBEE framework is that the structure of the agricultural economy in South Africa remains highly skewed at both primary and secondary levels (Troskie, 2009:01). Troskie (2009:01) argues that due to the emotional, social, and cultural importance of agriculture, the redress of this imbalance is necessary for economic, social and political stability in South Africa and that this redress must take place in an *a priori* structured and transparent way in order to reduce moral risk, uncertainty and opportunism. The BBBEE Act (Act 53 of 2003) makes provision for Codes of Good Practice and for various sectors of the economy to formulate their own transformation charters. The Transformation Charter for Agriculture, known as AgriBEE was gazetted on 20 March 2008 by the Minister of Trade and Industry.

According to the AgriBEE Charter (DTI, 2008:9 – 10) the objectives of AgriBEE are to facilitate Broad-Based Black Economic Empowerment in the agricultural sector by implementing initiatives to include black South Africans at all levels of agricultural activity and enterprises by, among others:

- Promoting equitable access and participation of black people in the entire agricultural value chain,
- De-racialising land and enterprise ownership, control, skilled occupations and management of existing and new agricultural enterprises,
- Facilitating structural changes in agricultural support systems and development initiatives to assist black South Africans in owning, establishing, participating in and running agricultural enterprises

- Increasing the extent to which communities, workers, cooperatives and other collective enterprises own and manage existing and new agricultural enterprises, increasing their access to economic activities, infrastructure and skills training,
- The improvement of living and working conditions and promotion of decent living and working conditions for farm workers,
- Improving protection and standards of land rights and tenure security for labour tenants, farm workers and other vulnerable farm dwellers and addressing the inherently paternalistic nature of relationships associated with insecure tenure by promoting more permanent forms of tenure with the emphasis being on the transfer of ownership of land.

The South African wine industry, a significant part of the South African agricultural sector, adopted the Wine Industry Transformation Charter on the 30th of July 2007. The Wine Industry Transformation Charter 'recognises that broad-based change and development are essential if the industry is to move forward and, indeed if it is to thrive in a highly competitive global market' (SAWIC, 2007:04). The purpose of the Charter is to give impetus to change and development within the sector, and to provide the strategic framework and associated scorecard necessary to advance black economic empowerment, leading over time to a deracialised wine industry. The Charter recognises that 'as a result of long-term international trends that favour a competitively structured South African value chain, the wine industry can play a vital role in our country's economic growth and in providing expanded opportunities for many thousands of black South Africans who were excluded from the industry's benefits ...' It further recognises that 'change and development are therefore both an economic necessity and an urgent national requirement ...'

To ease the regulatory and administrative burden on smaller businesses, the DTI's Codes of Good Practice provide less stringent BEE compliance requirements for small and micro enterprises. Thresholds for qualifying small enterprises (QSE's) range between R5 million and R35 million based on annual turnover. Enterprises with annual turnover below R5 million are classified as exempted small and micro enterprises (EMEs). The effect of this latter, according to SAWIC (2007:05) is that a significant number of wine farming businesses

are exempted from compliance with BEE requirements. The 2002 Census of Agriculture shows that some 95 percent of commercial farms in South Africa have a turnover of less than R5 million. This is of particular importance within the wine industry in South Africa. According to SAWIC (2007:05), while the exact distribution of production cannot be quantified based on the available data, it is clear that a majority of wine farms employing a large number of workers, will fall into the exempted small and micro enterprises (EMEs) category, making them exempt from the technical provisions of the Codes.

In the past Black Economic Empowerment in the agricultural sector and in the wine industry has been about increasing black participation in the management and ownership of farms. Moseley (2008:299) note that while encouraging ownership of wineries and wine labels by black business interests is important for economic equality in South Africa, some make an important distinction between this type of ownership and ownership by farm workers. Some scholars have been especially critical of the wine industry's self-serving use of empowerment projects to shield itself from calls for deeper levels of change (e.g., Du Toit et al., 2008; McEwan and Bek, 2006; Williams, 2005; as in Moseley, 2008:299). For example Williams (2005) describes how KWV sold 25.1 percent of its shares to a BEE consortium in 2004 and argues that KWV's goal was not really to encourage empowerment, but to re-establish a close relationship with the government by complying with official BEE criteria. Williams (2005) further argues that the deal enriched a small group of politically connected black business people but offered little in the way of real empowerment. Most other wine companies in the Western Cape are following the model of empowering farm workers through farm workers' trusts, e.g., Koopmanskloof, Stellar Winery, Van Loveren, etc.

3.7 Chapter summary

This chapter provided a background of the South African wine industry in general. The history and current structure were presented. This indicated that the South African wine industry is relative old; dating back to the mid-seventeenth century, when Dutch settlers under the leadership of Jan van Riebeeck cultivated the first grapes on South African soil. The structure of the South African industry is comprised of primary wine producers, wine

cellars (producer cellars, private cellars and producing wholesalers) and bulk wine buyers (including wholesalers and exporters) The main wine varieties include Chenin Blanc, Chardonnay, Colombard, Sauvignon Blanc, Shiraz, Pinotage, Hanepoot, Cape Riesling, Semillon and Weisser Riesling, and the main wine growing regions are Worcester, Paarl, Stellenbosch, Malmesbury and Robertson. The chapter also looked at production and consumption trends. Per capita consumption of wine in South Africa has declined steadily since 1997, from nearly 10 litres in 1997 to just over 7 litres in 2006. Trends in terms of exports, imports and prices of wine in South Africa were analysed. Over the past decade wine exports have increased while imports remained relatively stable. Price are driven by demand and supply forces. This chapter also discussed the wine industry outlook and some of the initiatives that are currently underway in the South African wine industry, including the Wine of Origin Scheme, Integrated Production of Wine and the Biodiversity and Wine Initiative. The following chapter discusses the methodology used in this research.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Introduction

This study intended to identify sources of capital in wine farms and the objectives that wine farm owners are trying to achieve in the Western Cape Province. This is based on the assumption that different sources of capital will lead to different objectives, which in turn lead to different outcomes. This study also intends to identify those wine farm and owner characteristics or attributes that affect the performance of wine farms in the Western Cape. This section will provide an outline of the methodology that was used to obtain and analyse both primary and secondary data from various sources. This section is considered crucial, as data and methodology are inextricably interdependent. Leedy and Ormrod (2005:93) argue that it is for this reason that the methodology to be used for a particular research problem must always take into account the nature of the data that will be collected in the resolution of the problem.

This chapter is organised as follows: the first subsection will give a brief outline of the research methods. The second subsection will provide brief outlines of the study area and data requirements. This will be followed by a subsection on the various data sources that were used in this study. The fourth subsection will give the description of the population and sample treatment. This will be followed by the data analysis techniques and data properties. The interval regression model will be discussed in Section 4.7 and the specification of the econometric model will be given in the concluding subsection.

4.2 Research methods

According to Leedy and Ormrod (2005) and Musango (2005:25) research involves the application of a variety of standardised methods and techniques in the pursuit of valid knowledge. Accordingly, it should be acknowledged that research can be for more than this as it can be purely theoretical, or it can be about devising new methods and techniques. Precisely because scientists aim to generate truthful knowledge, they are committed to the use of objective methods and procedures that increase the likelihood of attaining validity (Mouton, 1995: as in Musango, 2005:25). And according to Leedy and Ormrod (2005:29) validity and reliability take different forms, depending on the nature of the research problem, the general methodology the researcher uses to address the problem, and the nature of the data that are collected.

This study employed a number of research methods and techniques in an effort to obtain relevant and accurate data. These research methods and techniques included an extensive literature survey. The literature review was carried out to obtain relevant information relating to the South African wine industry, the various sources of capital in wine farms in the Western Cape, the general objectives of wine farm owners, as well as the different characteristics of wine farms and wine farm owners. The different sources consulted include personal communications with industry experts, articles published in different academic journals and books, conference papers, postgraduate students' theses, and other articles from the internet. This information was discussed at great length in Chapter 2 of this thesis.

4.3 Study area and data requirements

4.3.1 Study area

This study was conducted in three of the traditional wine growing regions of the Western Cape, namely Stellenbosch, Paarl and Worcester. To many, Stellenbosch is the wine capital of South Africa. Key contributors to the quality of wines from Stellenbosch are the cooler

mountain slopes, varied soil types, and breezes of the False Bay which moderate summer temperatures (Platter, 2008). The Paarl region is characterised by many meso-climates, soils and aspects, and thus succeeds with a variety of styles and grapes. Worcester is the largest winegrowing district (as shown in Table 3.3 in previous chapter), measured by the number of vines. Worcester produces mainly for the brandy industry and merchant trade, with small quantities often bottled under own labels. As is evident from Table 3.3, the three regions (Stellenbosch, Paarl and Worcester) are the largest in terms of both the number of vines and percentage of total hectares. Based on both measures the three regions represent more than 50 percent of the South African wine industry.

Various wine regions in the world are involved in wine tourism and wine trail organisations. Bruwer (2003:425) argues that for the regions that establish a wine route or trail (road), it is the best framework for cooperative work between government, private enterprises and associations, the tourism industry, wineries and local communities. It is a productive factor that harnesses the energies of all involved with regional development for the benefit of creating jobs and economic and cultural development. The Stellenbosch and Paarl wine routes are the oldest and most famous wine routes in South Africa. This results in a large number of tourists and wine lovers visiting wine farms in these wine routes each year. Most wine farms in these wine growing regions have their own cellars and also offer other amenities that attract wine tourists and lovers alike. Visiting wineries, attendance of wine and food festivals, sightseeing and visiting other attractions and recreation are generally recognised as the main reasons for visiting wine regions (Maddern and Golledge, 1996). Investors also view wine regions as wonderful and relaxed retreat and recreation spots and therefore regard wine regions as good areas for investment.

4.3.2 Data requirements

Data requirements will be grouped according to the sub-problems to be resolved. The first and second sub-problems are to identify sources of capital in wine farms and to identify the most common objectives that wine farm owners are trying to achieve in the Western Cape. Analysis for these two sub-problems was done based on the responses that were obtained

from a structured questionnaire that was sent to all the wine farms in the identified three wine growing regions. The questionnaire was designed to obtain information relating to the source of capital (such as farm, non-farm, foreign, local) and the objective for the acquisition of the wine farm (such as lifestyle, profit, family, and environment).

The third sub-problem is to identify those wine farm and owner characteristics that affect the performance of wine farms in the Western Cape Province. Through an analysis of this nature we may be able to say, for example, whether wine farms owned by foreign nationals perform better than those owned by locals or not, whether wine farms located on the Stellenbosch wine route perform better or not than those located on other wine routes, whether wine farms with Biodiversity and Wine Initiative (BWI) membership perform better or not than those that do not have such membership, etc. This was achieved by the estimation of an interval regression equation for wine farms in the three selected wine growing regions. The variables included in the interval regression model are described in Table 4.1 below, with abbreviations and expected signs. The source of data is included in the last column of Table 4.1. It should be stated that the use of an interval regression model or equation was necessitated by the fact that the dependent variable, total annual gross income, is an interval variable.

Table 4.1: List of variables used in the interval regression equation

Variable	Abbreviation	Modalities	Expected Sign	Data Source
Annual gross income	AGI	Interval variable	Dependent variable	Questionnaire
Wine farm characteristics				
Size of wine farm (ha)	SIZE	Continuous	+	Platter
Years of first bottling	YRSBW	Continuous	+	Platter
Distance from urban centre	DIST	Continuous	-	Questionnaire
Number of employees	TWORK	Continuous	+	Questionnaire
Region is Stellenbosch	RSTEL	Yes = 1; No = 0		Platter
Region is Paarl	RPAAR	Yes = 1; No = 0		Platter
Region is Worcester	RWORC	Yes = 1; No = 0		Platter
Cellar on property (bottles own wine)	CELLAR	Yes = 1; No = 0		Platter
Restaurant on property	REST	Yes = 1; No = 0	+	Platter
Accommodation facilities	ACCOM	Yes = 1; No = 0	+	Platter
Wine tasting facilities	TASTE	Yes = 1; No = 0	+	Platter
Source of capital: non-farm	CAPSORC	Yes = 1; No = 0	+	Questionnaire
Source of capital: farm	CAPSORC	Yes = 1; No = 0		Questionnaire
Type of wine is red >50%	TYPWINE	Red = 1; Otherwise = 0		Platter
Availability of business or marketing plan	BUSPLN	Yes = 1; No = 0	+	Questionnaire
Disabled friendly	DISAB	Yes = 1; No = 0	+	Platter
Child friendly	CHILD	Yes = 1; No = 0	+	Platter
BWI membership	BWI	Yes = 1; No = 0	+	www.bwi.co.za
BEE compliance	BEE	Yes = 1; No = 0	+	Platter
Owner characteristics				
Objective of owner: profit	OBJ	Yes = 1; No = 0		Questionnaire
Objective of owner: lifestyle	OBJ	Yes = 1; No = 0		Questionnaire
Principal occupation	POCCU	Farming = 1; Other = 0		Questionnaire
Decision maker	DECIMAK	Owner = 1; Other = 0		Questionnaire
Gender	GENDER	Male = 1; Otherwise = 0		Questionnaire
Age of owner	AGE	Interval variable		Questionnaire
Race	RACE	White = 1; Otherwise = 0		Questionnaire
Education: high school	HIQUAL	Yes = 1; No = 0		Questionnaire
Education: college/Technicon	HIQUAL	Yes = 1; No = 0		Questionnaire
Education: university degree	HIQUAL	Yes = 1; No = 0		Questionnaire
Nationality	NATION	SA = 1; Other = 0		Questionnaire
Business Networks (no. of business assoc. membership)	BUSANO	Continuous		Questionnaire

4.4 Data sources

This subsection will give a brief description of the various data sources used in this study. These include both primary and secondary data sources. There were three main data sources for this study, namely a structured questionnaire, the John Platter Wine Guide, and the Biodiversity and Wine Initiative website www.bwi.co.za. Each of these data sources is described briefly below.

4.4.1 Structured questionnaire

The primary dataset for this study was generated through a structured questionnaire survey. According to Leedy (1997:191) data sometimes remain buried deep within the minds or within attitudes, feelings, or reactions of men and women. Musango (2005:26) notes that as with oil beneath the sea, the first problem is to devise a tool to probe below the surface. A commonly used instrument for obtaining data that is beyond the physical reach of the researcher is a questionnaire. Questionnaires have both advantages and drawbacks.

Advantages include that they can be sent to a large number of people who live far away. Another advantage is that participants can respond to questions with the assurance that their responses will be anonymous, and so they may be more truthful than they would be in a personal interview, particularly when they are talking about sensitive or controversial issues (Leedy and Ormrod, 2005:185). However, all coins have a flipside. On the negative side, the use of questionnaires often results in low response rates. Leedy and Ormrod (2005:185) note that even when people are willing participants in a questionnaire study, their responses will reflect their reading and writing skills and, perhaps, their misinterpretation of one or more questions. All these drawbacks need to be taken into account when designing and using questionnaires.

In this study, a questionnaire was sent to all identified wine farms in the three winegrowing regions of Stellenbosch, Paarl, and Worcester. The main medium for administering the questionnaire was the mail (post) and fax system. The use of a structured questionnaire in this study was deemed important on two fronts. First, it is important for confirmation and accuracy of the data as appearing in the John Platter Wine Guide (to be discussed briefly below) thus satisfying the need for data triangulation. And secondly, the questionnaire is an

invaluable tool in terms of the collection of primary data needed for this study, but which do not appear in the John Platter Wine Guide. The questionnaire was divided into two sections i.e.,i.e.,, section A and section B. The first section of the questionnaire covered characteristics of the owner or principal shareholder while the second section covered the characteristics of the wine farm. A copy of the questionnaire has been attached as Appendix 1 of this thesis.

4.4.2 John Platter Wine Guide

The second most important data source for this study was the 2008 edition of the John Platter Wine Guide. The John Platter South African Wine Guide is arguably the most comprehensive, up-to-date and authoritative chronicle of who is who and what is what in the South African wine industry. The guide's annual editions introduce hundreds of new wines, cellars and directions, as well as culinary, recreational and tourist hotspots throughout the winelands of the Western Cape. Relevant data contained in this publication include wine farm name, farm location, whether the wine farm is organic or not, whether there is a cellar on property, restaurant on property, accommodation facilities, disabled friendly, child friendly, wine tasting facilities, size of the wine farm, the types of wine produced on wine farm, etc. Please refer to Section 4.3 (Table 4.1) for more details on these characteristics.

4.4.3 Biodiversity and Wine Initiative website (www.bwi.co.za)

The Biodiversity and Wine Initiative (BWI) has already been discussed at length in Section 3.6.2.1. The BWI publishes a membership list on its website www.bwi.co.za on a monthly basis. The membership list used in this study is that for September 2008 (latest available at time of writing).

4.5 Population and sample treatment

Purposive sampling was used in this study in selecting the three wine growing regions in the Western Cape of Stellenbosch, Paarl and Worcester. In purposive sampling, as the name implies, specific units are chosen for a particular purpose (Leedy and Ormrod, 2005). As already indicated, the three wine growing regions were chosen for a number of reasons. Firstly, the researcher believes that their location is appropriate in terms of addressing the overall objectives of this study (for example, wine farms in the three regions are considered

to be of reasonably high value – this is reflected in agricultural land prices in these regions). Secondly, wine routes in these regions are among the most famous, which allows these regions to attract huge numbers of tourists and wine lovers. Thirdly, the three wine growing regions combined account for more than 50 percent both in terms of total vines and the total hectares planted in the Western Cape. According to data from SAWIS (2008), there were 3999 primary wine producers in South Africa and about 560 wine cellars that crush grapes (i.e.,i.e.,, one wine cellar in every seven farms).

As already indicated, the population in this research project consists of all wine farms in the three winegrowing regions namely Stellenbosch, Paarl and Worcester. These wine tasting venues are open to the public for wine tasting either at set times or by appointment. Such a list of wine farms satisfying this criterion is available in the 2008 edition of the John Platter Wine Guide. Overall, the total number of wine farms in the three regions was 320. This consisted of 137 from Stellenbosch, 103 from Paarl and 80 from Worcester. It was decided that all these wine farms be included in the sample since their location and contact details were readily available (Platter, 2008). A questionnaire was sent out to all the wine farms by mail. Upon receipt of the questionnaire there were a few (three to be precise) who requested that an Afrikaans version of the questionnaire be sent to them. A self-addressed return envelope with paid postage was sent together with the questionnaire. Respondents had two options for returning the questionnaire i.e.,i.e.,, by post or by fax. They were given approximately six weeks by which the questionnaire had to be returned through mail or fax. Although the intention was to have all the questionnaires returned, not all the wine farms returned them. The results from this exercise are discussed in Chapter 5.

4.6 Data analysis and properties

4.6.1 Data analysis

Data analysis entails qualitative, quantitative and statistical analysis. In this study Excel and Stata (STATACORP, 2007) were used for all analysis. Analyses relating to the first and second sub-problems do not require any sophisticated analytical techniques but rather use of a basic software package such as Excel. In the third sub-problem i.e.,i.e.,, to identify wine farm and owner characteristics that affect the performance of wine farms in the Western Cape, an interval regression equation was estimated using Stata statistical software. Total

annual gross income was regressed on wine farm and owner characteristics or attributes of the identified wine farms. Following is a discussion of the variables used, both dependent and independent.

4.6.2 Identification of the variables

This section applies specifically to analysis relating to the third sub-problem i.e.,i.e.,, to identify those wine farm and owner characteristics that affect the performance of wine farms in the Western Cape Province. The identification of the independent variables was based on a review of the literature, as outlined in Chapter 2. A list of these variables is given in Table 4.1.

4.6.2.1 Independent variables

The independent variables used in the analysis included farm and owner characteristics assumed to be related to business performance. The characteristics of wine farms that were examined include the size of the wine farm, number of years that the wine farm has been bottling its own wine, the distance of the wine farm from the urban centre, the total number of employees on the wine farm, wine growing region, whether or not there is a cellar on property, whether or not there is a restaurant on property, whether or not there is accommodation facilities on property, and whether or not there is wine tasting facilities on property. Other wine farm characteristics that were examined include the type of wine produced on the wine farm (white or red) and whether or not the wine farm is disabled and/or child friendly. Compliance with environmental certification was measured through BWI membership. Compliance to BEE legislation was also included as an independent variable.

Marketing and business resources were measured in terms of whether the wine farm had a written business or marketing plan and the sources of start-up or acquisition capital. The two different sources of capital examined included farm, defined as farmer or family capital, and non-farm sources, defined as capital supplied by banks and other investors. Data on entrepreneur characteristics included gender, race, age, whether or not the owner's principal occupation was farming, education level and study area, whether or not the owner was the principal decision-maker, and whether or not the owner is South African. The extent of the

owner's external linkages was measured by their membership in different business and wine industry associations.

Although a list of the independent variables is provided in Table 4.2, a list of the transformed variables for analytical purposes is given as follows:

lnSIZE	= size of wine farm in hectares
lnYRSBW	= numbers of years that the wine farm has been bottling own wine
CELLAR	= availability of wine cellar on wine farm
REST	= availability of restaurant on wine farm
ACCOM	= availability of accommodation facilities on wine farm
TASTE	= availability of tasting facilities on wine farm
TYPWINE	= main type of wine produced on wine farm (red or white)
DISAB	= whether the wine farm is friendly to disabled people
CHILD	= whether the wine farm is friendly to children
GENDER	= gender of wine farm owner or principal shareholder
RACE	= race of wine farm owner
AGE	= age of wine farm owner
POCCU	= principal occupation of wine farm owner
HIGHQUAL	= highest qualification of wine farm owner
STUDAREA	= study area of wine farm owner
DECIMAK	= whether wine farm owner is the principal decision-maker
NATION	= nationality of wine farm owner
ASMEMB	= whether owner is a member of wine- or business-related association
BUSANO	= number of wine or business related associations
OBJ	= main objective of wine farm owner
CAPSOURCE	= main source of capital
CAPORIG	= origin of capital (whether SA or foreign)
AGI	= annual gross income
BUSPLN	= availability of business or marketing plan
BEE	= black economic empowerment compliance
lnDIST	= distance to the nearest town
lnWORK	= total number of workers
REG	= region of wine farm

BWI = whether wine farm is a member of BWI

4.6.2.2 Dependent variable

Total gross income was the dependent variable in the interval regression model. The performance of wine farms was measured in terms of their average total gross annual income for the financial years 2005, 2006 and 2007 in South African Rand (ZAR). The use of three financial years rather than one financial year was necessitated by the need to smooth out inconsistencies in terms of the results and therefore enhance their general applicability. The total gross income include all farm income from wine farming and other on-farm entrepreneurial activities and was collected in mutually exclusive categories to avoid reporting anxiety and increase response rates. The income categories are < R300 000, R300 000 - < R5 000 000, R5 000 000 - < R35 000 000, and > R35 000 000. We briefly discuss these categories of income below.

The first category of income is < R300 000. This category represents those enterprises that do not have to register the 14 percent value added tax (VAT) on enterprises in South Africa, at the time of writing. In the case of companies, they represent that category of companies that are exempted from the 29 percent normal tax on companies, at the time of writing. They are classified as small business corporations (SBCs) by the South African Revenue Services (SARS) for tax purposes. Tax on SBCs is calculated at a rate of 0 percent on the first R43 000 of taxable income, 10 percent on taxable income in excess of R43 000 but not exceeding R300 000 and thereafter at a rate of 29 percent for every R1 in excess of R300 000 (SARS, 2007:26).

The second category of income is R300 000 -< R5 000 000. This category represents those companies that are referred to as exempted small and micro-enterprises (EMEs). EMEs are defined by the Codes as companies with an annual turnover of R5 000 000 or less. They enjoy a deemed BEE recognition of a level 4 contributor and those, which are either 50 percent owned by black people or 50 percent owned by black women are promoted to a level 3 contributor. It is important to note that both the first category and the second category qualify as EMEs. The major difference is that the first category does not have to register for VAT while the second category must register for VAT. For purposes of this study these two categories are treated as two different categories.

The third category of income is R5 000 000 -< R35 000 000. This category represents those companies that are categorised as qualifying small enterprises (QSEs). QSEs are defined by the Codes as companies with an annual turnover of between R5 million and R35 million. Aiming to ease the regulatory burden on small enterprises, many of which are struggling under financial and capacity constraints, the Codes require QSEs to comply with only four out of seven elements on the QSE scorecard. Unlike the generic scorecard, the QSE scorecard allocates an equal 25 percent weighting to each of the seven elements or pillars of Broad-Based Black Economic Empowerment (BBBEE). As QSEs only have to select four of the elements, the selected elements of compliance total 100 percent. The last category of income is >R35 000 000. This category represents large companies and is liable to the full seven elements of the BBBEE scorecard.

4.7 The interval regression model

This paper will deal with the problem of estimating an equation on the basis of data in which the dependent variable is only observed to fall in a certain interval on a continuous scale, its actual value remaining unobserved. An interval regression model is used to evaluate the impact of wine farm and owner characteristics on the performance of wine farms in the Western Cape. An interval regression model is used because the dependent variable, annual gross income, is an interval variable. Other researchers may opt to use an ordered probit model since the income variable seem to be ordered from low to high and the fact that the differences between the income categories are not necessarily equivalent. However, as this study is concerned with identifying performance determinants, the income categories cannot necessarily be regarded as ordered per se but only indicate the category in which a particular wine farm reports. This therefore explains the researcher's choice of an interval regression model over an ordered probit model. The latent structure of the interval regression model used in this study is assumed to be given by (Stewart, 1983):

$$y_i^* = x_j\beta + \mu_i \qquad i = 1,...,N \qquad (4.1)$$

where y_i^* is the unobserved dependent variable, x_j and β are both $J \times 1$ vectors, the former being regressors and the latter unknown parameters. According to Stewart (1983:737) the μ_i

are assumed to be independent identically normally distributed random variables with zero mean and variance σ^2 and to be independent of x_i. The conditional distribution of the unobserved dependent variable is given by

$$y_i \mid x_i \sim N(x_i'\beta, \sigma^2) \qquad i = 1,...,N \qquad (4.2)$$

The observed information concerning the dependent variable is that it falls into a certain interval of the real line. The real line is divided into K intervals, the *k*-th being given by (A_{k-1}, A_k) and these K intervals exhaust the real line. Thus $A_0 = -\infty$ and $A_K = +\infty$, i.e.,i.e.,, the first and K-th intervals are open-ended. The information on the dependent variable is which of these K intervals it falls into, i.e.,i.e.,, an indicator variable k_i ($1 \leq k_i \leq K$) is observed for each *i*. It is assumed in this study that y_i^* is related to the observable variable y_i as follows:

$$0 < y_i^* < a_1$$
$$a_1 < y_i^* < a_2$$
$$a_2 < y_i^* < a_3$$
$$a_3 < y_i^* < +\infty \qquad (4.3)$$

where aj for j = 1, ..., 4 denote the interval boundaries. As Stewart (1983) suggests, the last interval is treated as open for j = 4, $\Phi(+\infty) = 1$, where $\Phi(.)$ denotes the cumulative density function for standard normal. Van Doorslaer and Jones (2003:65) argue that when upper and lower limits of the intervals are known, an interval regression can be used to make the categorical variable continuous. According to Van Doorslaer and Jones (2003), Lecluyse and Cleemput (2006), and Barbieri and Mshenga (2008), the threshold a_j is estimated by calculating the cumulative frequency of observations for each category of income and then compute

$$\mu_i = F^{-1}(G_i) \qquad (4.4)$$

where $F^{-1}(.)$ is the inverse of the empirical distribution function (EDF) of the external data and G_i is the cumulative frequency of observations for category *i* of income. With the thresholds, the unconditional prediction of the linear $x_i\beta$ is computed. According to Van Doorslaer and Jones (2003:66) an alternative way of computing the predicted values from the

interval regression model is to use the expected value of the linear index, conditional on the individual's observed category of income:

$$E(y_i^* / x_i, \mu_j - 1 \le y_i^* \le \mu_j) = \frac{x_i\beta + \sigma\{(\varphi(\mu_{j-1} - x_j\beta)/\sigma) - (\varphi(\mu_j - x_i\beta)/\sigma)\}}{\{(\Phi(\mu_j - x_i\beta)/\sigma) - (\Phi(\mu_{j-1} - x_i\beta)/\sigma)\}} \quad (4.5)$$

This gives the level of income that would be predicted knowing both x and the category of income that the individual reports. Knowing the category of income that each respondent reports provides extra information (Van Doorslaer and Jones, 2003:66). Conditioning on this information and the way in which the individual's characteristics, x, vary across categories provides a more informative set of predictions of the expected value of the underlying latent variable y*. Comparing these conditional predictions to the actual data on gross farm income is a useful way of assessing the predictive reliability of the internal regression method (Van Doorslaer and Jones, 2003; Barbieri and Mshenga, 2008).

Van Doorslaer and Jones (2003:66) report that the interval regression method is advantageous over other alternative prediction methods. First, using the interval regression method means that the decomposition analysis does not have to be based on the inappropriate use of ordinary least squares (OLS) to model a categorical dependent variable. Second, interval regression, like the category means method but unlike the ordered probit model, allows for the incorporation of external information to scale the categorical observations of income. Finally, the thresholds used in the interval regression model can be allowed to be different for different groups of individuals. As the thresholds determine the scale of the latent variable, this is equivalent to allowing for heteroscedasticity in the latent variable specification.

4.8 Specification of the econometric model

In this study an econometric model will be used to identify those wine farm and owner characteristics or attributes that affect the performance of wine farms in the Western Cape. According to Gujarati (2003:517) 'in practice we are never sure that the model adopted for empirical testing is the truth, the whole truth and nothing but the truth'. On the basis of theory or introspection and prior empirical work, researchers develop a model that they believe

captures the essence of the subject under study. The model is then subjected to empirical testing.

An interval regression equation was formulated as follows:

$$AGI_i = \beta_0 + \beta_1 lnSIZE + \beta_2 lnYRSBW + \beta_3 D_3 CELLAR + \beta_4 D_4 REST + \beta_5 D_5 ACCOM + \beta_6 D_6 TASTE + \beta_7 D_7 TYPWINE + \beta_8 D_8 DISAB + \beta_9 D_9 CHILD + \beta_{10} D_{10} GENDER + \beta_{11} D_{11} AGE2 + \beta_{12} D_{12} AGE3 + \beta_{13} D_{13} AGE4 + \beta_{14} D_{14} AGE5 + \beta_{15} D_{15} POCCU + \beta_{16} D_{16} HIQUAL2 + \beta_{17} D_{17} HIQUAL3 + \beta_{18} D_{18} HIQUAL4 + \beta_{19} D_{19} AOSAGR + \beta_{20} D_{20} AOSBUS + \beta_{21} D_{21} DECIMAK + \beta_{22} D_{22} NATION + \beta_{23} lnBUSANO + \beta_{24} D_{24} OBJ1 + \beta_{25} D_{25} OBJ2 + \beta_{26} D_{26} CAPSOURC + \beta_{28} D_{28} BUSPLN + \beta_{29} D_{29} BEECOMP + \beta_{30} lnDIST + \beta_{31} lnTWORK + \beta_{32} D_{32} REG1 + \beta_{33} D_{33} REG2 + \beta_{34} D_{34} BWI + \beta_{35} D_{35} RACE + e_i$$

where:

AGI_i = annual gross income for category *i* (*i* = 1, ...,4)

lnSIZE = size of wine farm in hectares

lnYRSBW = number of years the wine farm has been bottling own wine

D_3CELLAR = 1 if wine farm has cellar; = 0 otherwise

D_4REST = 1 if wine farm has restaurant; = 0 otherwise

D_5ACCOM = 1 if wine farm has accommodation facilities; = 0 otherwise

D_6TASTE = 1 if wine farm has wine tasting facilities; = 0 otherwise

D_7TYPWINE = 1 if wine farm produces more than 50 percent red wine; = 0 otherwise

D_8DISAB = 1 if wine farm is friendly to disabled people; = 0 otherwise

D_9CHILD = 1 if wine farm is friendly to children; = 0 otherwise

D_{10}GENDER = 1 if wine farm owner is male; = 0 otherwise (i.e.,i.e.,, female)

D_{11}AGE2 = 1 if wine farm owner is 35 – 44 years old; = 0 otherwise (i.e., in other age categories)

D_{12}AGE3 = 1 if wine farm owner is 45 – 54 years old; = 0 otherwise (i.e., in other age categories)

D_{13}AGE4 = 1 if wine farm owner is 55 – 64 years old; = 0 otherwise (i.e., in other age categories)

D_{14}AGE5 = 1 if wine farm owner is older than 64 years; = 0 otherwise (i.e., in other age categories)

D_{15}POCCU = 1 if principal occupation of wine farm owner is farming; = 0 otherwise

D_{16}HIQUAL2 = 1 if wine farm owner has technicon or college diploma; = 0 otherwise

D_{17}HIQUAL3 = 1 if wine farm owner has university degree; = 0 otherwise

D_{18}HIQUAL4 = 1 if wine farm owner has postgraduate degree; = 0 otherwise

D_{19}AOSAGR = 1 if area of study of owner is agriculture; 0 = otherwise

D_{20}AOSBUS = 1 if area of study of owner is business/commerce; 0 = otherwise

D_{21}DECIMAK= 1 if wine farm owner is principal decision-maker; = 0 otherwise

D_{22}NATION = 1 if wine farm owner is South African; = 0 otherwise

lnBUSANO = number of wine or business related associations

D_{24}OBJ1 = 1 if objective of wine farm owner is profit; = 0 otherwise

D_{25}OBJ2 = 1 if objective of wine farm owner is lifestyle; = 0 otherwise

D_{26}CAPSORC= 1 if main source of capital is wine farm; = 0 otherwise

D_{28}BUSPLN = 1 if wine farm has a business or marketing plan; = 0 otherwise

D_{29}BEE = 1 if wine farm complies with BEE legislation; = 0 otherwise

lnDIST = distance to the farm's nearest urban centre in kilometres

lnTWORK = total number of workers in wine farm

D_{32}REG1 = 1 if wine farm is in Stellenbosch; = 0 otherwise

D_{33}REG2 = 1 if wine farm is in Paarl; = 0 otherwise

D_{34}BWI = 1 if wine farm is a member of BWI; = 0 otherwise

D_{35}RACE = 1 if wine farm owner is white; = 0 otherwise

e_i = stochastic disturbance term

The βs are the estimated parameters and the Ds represent dummy variables. *ln* represent natural logarithms i.e., log to base *e* where *e* = 2.718. The continuous variables such as the size of the wine farm and the distance to the wine farms' nearest urban centre are measured in different units. To take care of this problem, all values of the continuous variables were transformed into natural logarithms (*ln*). For the econometric model, the statistical analysis will include heteroscedasticity and multicollinearity tests. It is important to note that data used in this study is cross-sectional data. Gujarati (2003:401) notes that 'as a matter of fact, in cross-sectional data involving heterogeneous units, heteroscedasticity may be the rule rather than the exception'. Following the work of Prais and Houthakker (1955) on family budget studies, where they found that the residual variance around the regression of consumption on income increased with income, one now generally assumes that in similar surveys one can

expect unequal variances among the disturbances (as in Gujarati, 2003:401). The White test was used to test for heteroscedasticity.

According to Gujarati (2006:384) the term multicollinearity refers to situations where two or more variables can be highly linearly related. In cases of high multicollinearity individual regression coefficients can be estimated and the ordinary least squares (OLS) estimators retain their best linear unbiased estimates (BLUE) property. But the standard errors of one or more coefficients tend to be large in relation to their coefficient values, thereby reducing *t* values. As a result, based on estimated *t* values, one can say that the coefficient with the low *t* value is not statistically different from zero. In other words, one cannot assess the marginal or individual contribution of the variable whose *t* value is low.

4.9 Chapter summary

This chapter provided the methodology used in this study. The study area and data requirements and the various data sources used were also outlined and described. The chapter also provided descriptions of the population as well as how the sample was treated. The different data analysis techniques and data properties were looked at in detail. The interval regression model was also discussed in detail. The variables used in the model were identified and the econometric model was specified. Overall, this chapter discussed all processes of obtaining and analysing all relevant data for the study. The analyses and results are presented in chapter 5 next.

CHAPTER 5

RESULTS AND ANALYSIS

5.1 Introduction

In this study data from a number of sources were used for analysis. The data relate to wine farms in three winegrowing regions of the Western Cape i.e., Stellenbosch, Paarl and Worcester. Data relating to the characteristics of wine farms were sourced from the 2008 edition of the John Platter Wine Guide. A questionnaire was also designed to collect data on the characteristics of both wine farms and wine farm owners. Information relating to membership to the Biodiversity and Wine Initiative (BWI) was obtained from BWI (2008). The results reported in this study focus on a number of aspects as reported in the three data sources mentioned above. The treatment of data was discussed in chapter 4 and the data were analysed using Excel and Stata to identify the most common sources of capital in wine farms and the most common objectives that wine farm owners are trying to achieve when investing in wine farms in the Western Cape. This will be discussed in Sections 5.3 to 5.5. The data were also analysed to identify those wine farm and owner characteristics or attributes that affect the performance of wine farms in the Western Cape. This will be discussed in Section 5.8.

5.2 Research response

This subsection will provide a description of the response rate achieved during data collection using the structured questionnaire. It is important to note that only wine farms in Stellenbosch, Paarl and Worcester participated in this study. It is also important to note that only those wine farms that are open to the public at set times or by appointment were considered. A list of wine farms satisfying this criterion was obtained from the 2008 edition of the John Platter Wine Guide. The number of wine farms that took part in the questionnaire survey is depicted in Table 5.1 below.

Table 5.1: Number of wine farm that participated in questionnaire survey

Total number of wine farms (as per list)[8]	320
Number that participated in survey	91
Percentage response as per total number	28.4

The questionnaire was sent out to all 320 wine farms in the three winegrowing regions. As can be observed from Table 5.1, not all wine farms participated in the questionnaire survey. It is evident from Table 5.1 that only 91 wine farms faxed or mailed back the completed questionnaires. Time and practical considerations did not make it feasible to try to increase the number of responses. This represented a response rate of 28.4 percent. It is also noteworthy to state that all the returned questionnaires were fully and adequately completed. This indicated the concerned wine farm owners' willingness to participate in the survey. This also suggests that all the respondents that returned the completed questionnaires were comfortable in disclosing all the information as requested by the questionnaire. Let us now look at the response rate per winegrowing region. The results are presented in Table 5.2.

Table 5.2: Response rate per winegrowing region

Region	**Total number of wine farms (as per list)[9]**	**Number of responses**	**Percentage response[10]**	**Percentage response per region**
Stellenbosch	137	34	37.4	24.8
Paarl	103	31	34.1	30.1
Worcester	80	26	28.5	32.5
Total	320	91	100.0	28.4

If one looks at the total number of wine farms in Table 5.2, it is apparent that the majority of wine farms are in the Stellenbosch region. The results in terms of the response rate, which indicate that the majority (37.4%) of wine farms that responded were from the Stellenbosch region, are therefore not surprising. The Stellenbosch region is followed by the Paarl region

[8] Lists for Stellenbosch, Paarl and Worcester in 2008 John Platter Wine Guide
[9] Ibid
[10] Based on total number that responded i.e., 91

(34.1%) and then by the Worcester region at 28.5 percent. Overall, on close examination, one recognises that the higher the number of wine farms in a particular region the higher the response rate. One is left to wonder whether this was a matter of coincidence or not.

5.3 The characteristics of wine farms and wine farm owners

It is important to report and examine wine farm and owner characteristics at this stage because further analysis will greatly depend on the statistics presented in this regard. The first step is to present the results from the survey data by showing the averages for the continuous variables employed in this study as given in Table 5.3.

Table 5.3: Mean values of continuous variables

Variable	Mean	Standard deviation
Size of wine farm (ha)	125	245.05
Years of bottling own wine	15	18.85
Number of business associations	2	1.49
Distance to nearest urban centre (km)	17	22.17
Total number of workers	45	59.11
Number of seasonal workers	16	19.71

The results in Table 5.3 indicate that the average operating size of wine farms in this study is 125 ha. The average number of years that these wine farms have been bottling their own wine is 15 years. This indicates that the average wine farm started bottling its own wines just before or after the dawn of democracy in South Africa. The average distance from the wine farm to the nearest urban centre is 17 km. This figure is of course expected to differ across the three winegrowing regions, with that in Stellenbosch below the overall average and that in Worcester above due to differences in size between these areas. Most wine farm owners belong to at least two wine or business related associations. The wine farm owners were not asked to name the associations. The average number of workers per wine farm was 45 workers and the average numbers of seasonal workers was 16 workers[11].

[11] Wine farm owners were responding to the question: 'If there are seasonal workers, how many did you have last year (2007)?'

5.3.1 Wine farm characteristics

The next step in the analysis is to look at the responses relating to wine farm characteristics obtained from the survey data.

5.3.1.1 Cellar, restaurant, accommodation facilities, wine tasting facilities, and wine type

The results with regards to cellar, restaurant, accommodation facilities, wine tasting facilities, and the type of wine produced are presented in Table 5.4. As is evident, three quarters (75.8%) of wine farms in this study bottle their own wine on the premises. This is not surprising as the number of wineries in South Africa has almost doubled over the years from 1997 to 2006 (from 295 in 1997 to 576 in 2006) (SAWIS, 2007).

Table 5.4: Wine farm characteristics – cellar, restaurant, accommodation facilities, wine tasting facilities, and wine type

Characteristic		Frequency	Percentage
Cellar	No	22	24.18
	Yes	69	75.82
Restaurant	No	52	57.14
	Yes	39	42.86
Accommodation facilities	No	66	72.53
	Yes	25	27.47
Wine tasting facilities	No	0	0.00
	Yes	91	100.00
Type of wine	White	17	18.70
	Red	70	76.90
	50/50	4	4.40

Only about 43 percent of wine farms have restaurants and about 28 percent have accommodation facilities on wine farms. This is important in terms of the diversification of farm incomes throughout the wine industry in the Western Cape. All wine farms in this study have wine tasting facilities, yet only 75% have a cellar. The remaining 25% produce their wines in neighbouring or contracted cellars. Over three quarters (76.9%) of wine farms

produce mainly red wine, almost one-fifth (18.7%) produce white wine, and a mere 4.4 percent report that they produce both red and white wines in equal proportions (50% red and 50% white). These figures indicate that wine farm owners may have planted more red varieties when prices for red varieties were relatively high.

5.3.1.2 Disabled friendly, child friendly, business plans, and availability of farm worker accommodation

Table 5.5 presents results relating to whether the wine farm is disabled friendly[12], whether the wine farm is child friendly, whether the wine farm has a business plan, and whether or not the wine farm provides accommodation for farm workers.

Table 5.5: Wine farm characteristics – disabled friendly, child friendly, business plans, and availability of farm worker accommodation

Characteristic		Frequency	Percentage
Disabled friendly	No	60	65.93
	Yes	31	34.07
Child friendly	No	75	82.42
	Yes	16	17.58
Availability of business plan	No	28	30.77
	Yes	63	69.23
Availability of farm worker accommodation	Yes	17	18.68
	No	74	81.32

On the accessibility front, it is evident from Table 5.5 that only 34.07 percent of the wine farms in this study are friendly to disabled people and only 17.58 percent are child friendly. This is according to comprehensive audits of wine farms commissioned by the John Platter Wine Guide. The audits are aimed at verifying that venues which are open to the public at set times, and aim to be disabled- and child-friendly, are in fact accessible for both disabled people and children. The low percentages in terms of accessibility indicate the fact that most wineries in the Western Cape were not initially built to accommodate visitors on wine farms but mainly for wine production purposes. It will be interesting to check whether this has any

[12] The John Platter Wine Guide has an initiative to provide professionally conducted audits of wine tasting areas, cellar tours and other visitor facilities in the winelands. This is done in conjunction with accessibility specialist Guy Davies

significant impact on the overall performance of wine farms in the Western Cape. The issue of accessibility and other related issues are discussed later in Section 5.8. Over two-thirds (69.23%) of wine farms indicated that they have business or marketing plans and more than four-fifths (81.32%) indicated that they provide accommodation for their farm workers.

5.3.1.3 Biodiversity and Wine Initiative (BWI) membership, wine farm region and source of capital

Table 5.6 presents results relating to whether or not the wine farms are members of the BWI, the region in which the wine farm is located and the source of capital for the wine farm. It is a little disappointing to observe from Table 5.6 that only 15.38 percent of the wine farms surveyed in this study are members of the Biodiversity and Wine Initiative. This is very disappointing given the important objective of environmental sustainability that the initiative aims to achieve. In terms of the wine growing regions, the wine farms were nearly evenly distributed with 37.36 percent from Stellenbosch, 34.07 percent from Paarl and the remaining 28.5 percent from Worcester. Almost three-fifths (59.34%) of wine farm owners indicated that the wine farm was the principal source of capital while the remaining two-fifths (40.66%) cited nonfarm sources as the principal source of capital for the wine farm. This might represent that proportion of wine farm owners who have full-time employment in other sectors of the economy and only come to invest in wine farms in later stages in their lives.

Table 5.6: Wine farm characteristics – BWI membership, region and source of capital

Characteristic		Frequency	Percentage
BWI membership	No	77	84.62
	Yes	14	15.38
Region	Stellenbosch	34	37.36
	Paarl	31	34.07
	Worcester	26	28.57
Sources of capital	Nonfarm	37	40.66
	Farm	54	59.34

5.3.1.4 Categories of income for wine farms

The categories of income reported by wine farm owners in this study are presented in Figure 5.1 below. It is evident from Figure 5.1 that the majority of wine farms in this study are found in the second income category i.e., R300 000 to less than R5 million. It is also evident that those wine farms that are subjected to the full elements of the Broad-Based Black Economic Empowerment (BBBEE) scorecard constitute a mere 3.3 percent. It can therefore be held that the majority of wine farms in this study are either Exempted Small and Micro-Enterprises (EMEs) (74,72%) or Qualifying Small Enterprises (QSEs) (21.98%).

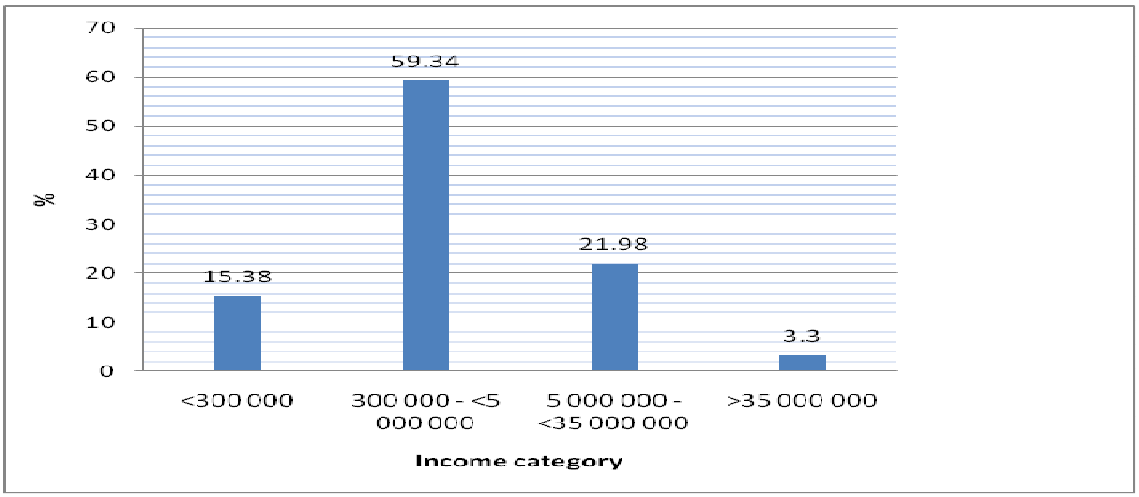


Figure 5.1: Categories of income for wine farms in Stellenbosch, Paarl and Worcester

5.3.1.5 Levels of Black Economic Empowerment (BEE) Compliance

Next the levels of BEE compliance for wine farms considered in this study are discussed. The results are depicted in Figure 5.2.

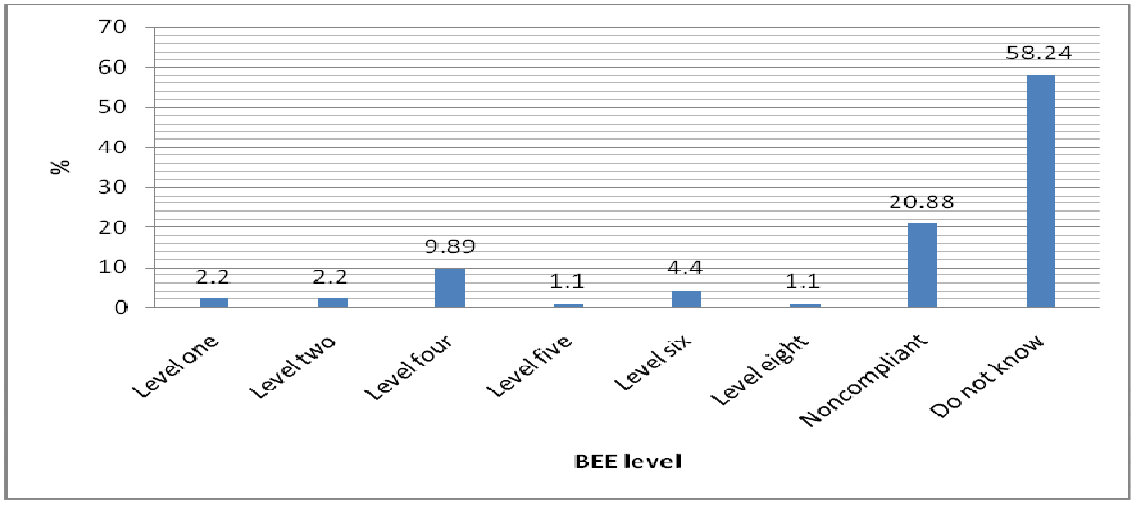


Figure 5.2: Levels of BEE compliance among wine farms in Stellenbosch, Paarl and Worcester

Figure 5.2 above indicates that the majority (58.24%) of wine farms surveyed in this study reported that they do not know whether they comply with BEE legislation or requirements or not. This is however not surprising given the fact that the Wine Industry Transformation Charter was only passed in the second half of 2007. To add to that there is still a sense of confusion in terms of what BEE means for the wine industry. One can only expect to see more wine farms participating in BEE activities once this confusion subsides. One-fifth (20.88%) of wine farms indicated that they are noncompliant while the remaining 20.9 percent is unevenly scattered between level one and level eight contributors. The higher prevalence (9.89%) of level four contributors may be explained by the fact that these are wine farms falling under the category of EMEs. As indicated in Section 5.3.1.4 above EMEs constitute the majority (74.72%) of wine farms surveyed in this study. From the figures mentioned above, it follows that the majority of farmers underestimate their own compliance. This calls for investment on the part of government in terms of both BEE promotion and advocacy.

5.3.2 Wine farm owner characteristics

5.3.2.1 Gender, race, principal occupation, principal decision-maker, nationality, wine or business association membership, objectives and capital origin

Let us now look at the responses relating to the above-mentioned wine farm owner characteristics obtained from the survey data. The results are presented in Table 5.7. Most (92.31%) wine farm owners are male and all of them are white. This can only lead to one of the two possibilities. The first is that, if there are black wine farm owners, they just did not bother to participate in this study. The second is that the wine industry is still largely dominated by whites. Just over half (52.75%) of the wine farm owners indicated that farming was their principal occupation. This is particularly significant, especially when one looks at the different regions. On a regional level, 41.86 percent of those that indicated ‘other’ as their principal occupation are found in the Stellenbosch area, compared to only 39.53 percent in Paarl and 18.60 percent in Worcester. On the other hand, 37.50 percent of those that indicated ‘farming’ as their principal occupation are found in Worcester, compared to 33.33 percent in

Stellenbosch and 29.17 percent in Paarl. Over four-fifth (81.32%) indicated that they are the principal decision-makers on their wine farms. This indicates that the remaining one-fifth (18.68%) can be classified as absentee[13] farmers. Over four-fifth (81.32%) of wine farm owners in this study indicated that they are South Africans. This means that only one-fifth (18.68%) of wine farm owners are foreign nationals. This suggests that allegations of foreigners owning huge amounts of wine farms in the Western Cape might be misinformed. It should however be noted that this study considered wine farms in only three winegrowing regions of the Western Cape.

Table 5.7: Owner characteristics - Gender, race, principal occupation, principal decision-makers, nationality, wine or business association membership, wine farm owner objectives and capital origin

Characteristic		Frequency	Percentage
Gender	Male	84	92.31
	Female	7	7.69
Race	White	91	100.00
	Other	0	0.00
Principal occupation	Other	43	47.25
	Farming	48	52.75
Principal decision-maker	Owner	74	81.32
	Other	17	18.68
Nationality	Foreign	17	18.68
	South Africa	74	81.32
Business or wine association membership	No	26	28.57
	Yes	65	71.43
Objectives	Profit	55	60.44
	Lifestyle	23	25.27
	Other	13	14.29
Capital origin	Foreign	20	21.98
	South Africa	71	78.02

Still on Table 5.7, one observes that over two-thirds (71.43%) of wine farm owners indicated that they are members of a wine or business related association. This can be used as an

[13] Defined as those farmers who rely on farm managers or other people for decisions and day-to-day operations of the wine farm.

indication of the extent of networks that wine farm owners have. When it comes to the objectives of wine farm owners in as far as the wine farm is concerned, 60.44 percent indicated that profit was their main objective. About a quarter (25.27%) reported lifestyle as their main objective. The remaining 14.29 percent cited other objectives as their main goals. These included the need to keep and continue long-standing family tradition, maintaining or improving the natural environment, adding value to agriculture, etc. What these results indicate is that although the number of those involved in wine farming for non-economic reasons may be significant, the majority of wine farm owners are involved in wine farming for purely economic reasons i.e., profit. Over three-quarters (78.02%) of wine farm owners reported that the origin of capital was South Africa while the remaining 22 percent indicated that the origin was foreign. This indicates the South African wine industry's limited reliance on foreign capital.

5.3.2.2 Age composition of wine farm owners

Figure 5.3 shows the age composition of the wine farm owners studied. The majority (69.23%) of wine farm owners fall in the two categories, 45 – 54 (34.07%) and 55 – 64 (35.16%). Accordingly only 17.58 percent of wine farm owners are under 45 years old. This indicates that the wine industry in South Africa is dominated by relatively old individuals. The level of wine farming experience, given the age composition of owners, cannot be commented about because some or most wine farm owners might have experience in other sectors of the economy other than wine farming. This will be indicated by the areas of study that wine farm owners reported and will be looked at in Section 5.3.2.4.

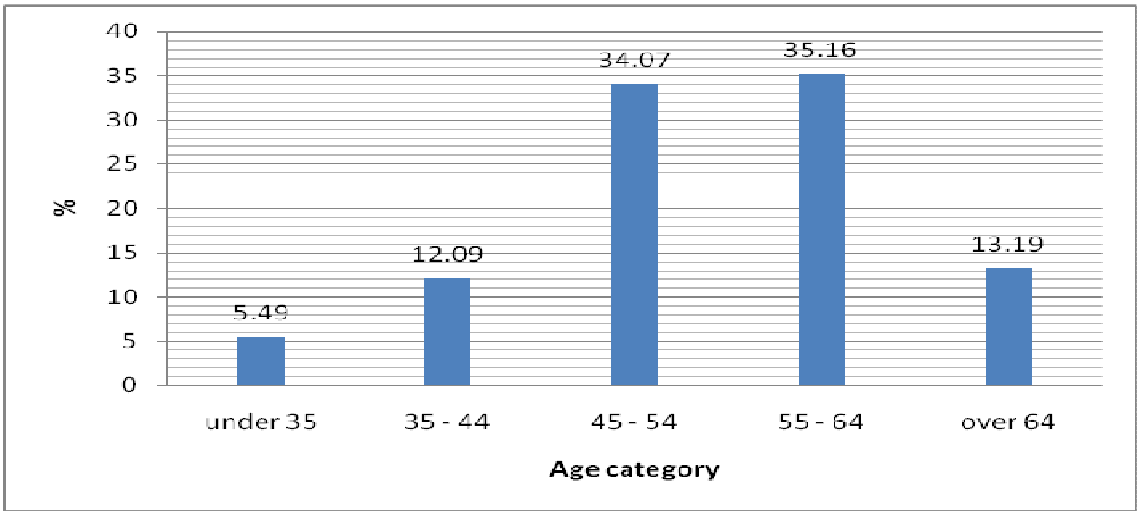


Figure 5.3: Age composition of wine farm owners

5.3.2.3 Highest qualifications of wine farm owners

Figure 5.4 shows the highest qualifications of wine farm owners surveyed in this study. The majority (51.65%) of wine farm owners have undergraduate university degrees. Furthermore 23.08 percent and 19.78 percent of wine farm owners have postgraduate degrees and technicon (University of Technology) or college diplomas, respectively. A mere 5.49 percent have matriculation or lower as highest education qualifications. This indicates that the wine industry is dominated by relatively educated individuals. This may be attributed to the sophistication and prestige associated with the wine industry and wine as a product in South Africa. This also explains why we received well completed questionnaires, as already indicated in Section 5.2. The areas of study will be looked at in the next subsection.

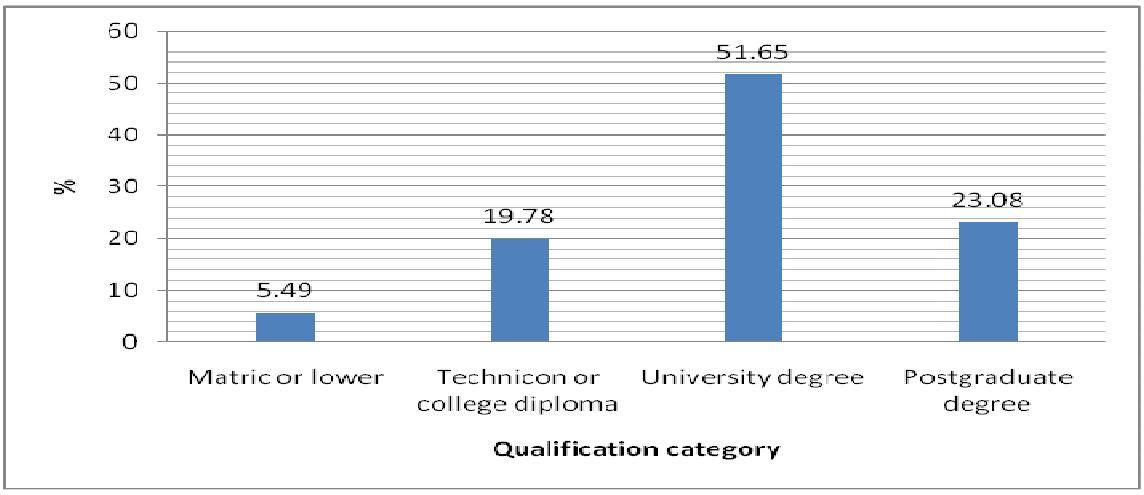


Figure 5.4: Highest qualifications of wine farm owners

5.3.2.4 Areas of study of wine farm owners

The results of the field of study that the wine farm owner has qualifications in are presented in Figure 5.4. The areas of study used in this research project are the same as those employed in the South Labour Force Survey conducted by Statistics South Africa.

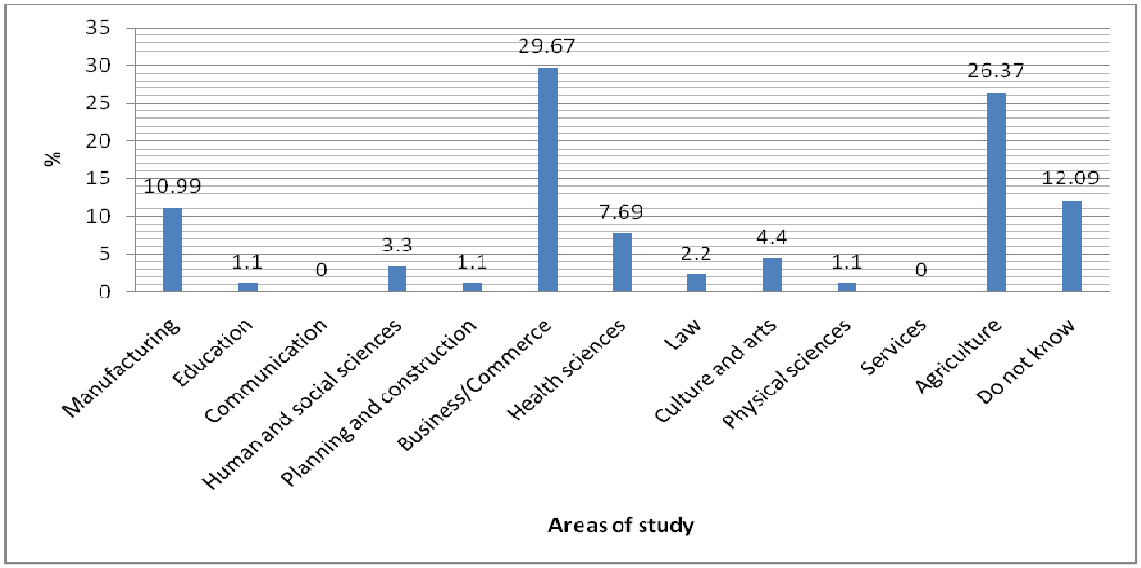


Figure 5.4: Areas of study for wine farm owners

From a closer examination of Figure 5.4 one observes that 29.67% of wine farm owners followed business or commerce related studies. This is closely followed by those who studied agriculture related qualifications (26.37%). 10.99 percent of wine farm owners reported that

manufacturing was their area of study and 7.69 percent reported health sciences as their area of study. We do not have wine farm owners who reported communication and services as areas of study. These results indicate the relative importance of commerce and agriculture as areas of study in as far as wine farming is concerned in the Western Cape. As wine farms are run like any other business, knowledge (and experience) in business or commerce is critical. Knowledge and experience in agriculture is also critical given that wine farming is an agricultural industry with unique characteristics.

5.4 Sources of capital

As already indicated in chapter 4 (Section 4.6.2.1) , the different sources of capital examined in this study included farm, defined as farmer or family capital, and nonfarm sources, defined as capital supplied by banks and other investors outside the farm or family circle. Again as already indicated in Section 5.3.1.3 three-fifths (59.34%) of wine farm owners reported that their main source of capital was the wine farm while the remaining 40.66 percent indicated nonfarm sources. In this section we will discuss the two main sources of capital i.e., farm and nonfarm in relation to the age of the wine farm owner, the objective of the wine farm owner, the origin of capital, annual gross income, principal occupation of the wine farm owner, whether or not the wine farm owner is the principal decision-maker, the nationality of the wine farm owner, as well as the region in which the wine farm is located. This will be achieved by using multiple cross-tabulations. These are nothing more than a convenient device for partitioning a sample across variables into groups for purposes of exposing bivariate relationships. Cross-tabulations have the advantage of high information content in presentation (Lewellen, Lease and Schlarbaum, 1977: 302).

5.4.1 Source of capital versus age of wine farm owner

Table 5.8 indicates the percentages of wine farms with farm and nonfarm sources of capital in relation to the age category of the wine farm owner. The largest number of wine farm owners that reported nonfarm sources of capital are in the 55 – 64 years category (43.24%). This may be an indication of wine farm owners who have acquired wine farms through savings accumulated in other sectors of the economy.

Table 5.8: Source of capital versus age composition of wine farm owners

Source of capital	Age					
	<35	**35 – 44**	**45 – 54**	**55 – 64**	**>64**	**Total**
Nonfarm	0.0811[14]	0.0811	0.2703	0.4324	0.1351	1.00
Farm	0.0370[15]	0.1481	0.3889	0.2963	0.1296	1.00
Total	0.0549[16]	0.1209	0.3407	0.3516	0.1319	1.00

Again, it is evident from Table 5.8 that most (38.89%) wine farm owners that reported the farm as the main source of capital are in the 45 – 54 age category. This finding indicates that the younger wine farm owners are relatively constrained in terms of sources of capital in the sense that they rely mostly on the farm. This can be attributed to the fact that they have not yet accumulated enough savings compared to the older wine farm owners. Overall 56.75 percent of wine farm owners that reported the farm as the main capital source are under 55 years old. The implication is that the older wine farm owners (above 55) rely more on (or have access to) nonfarm sources of capital while the younger wine farm owners rely more on the farm as the main source of capital.

5.4.2 Source of capital versus objectives of wine farm owners

Table 5.9 indicates the percentages of wine farms with regards to the source of capital in relation to the objectives of wine farm owners in the three winegrowing regions. It is generally believed that there exists a relationship between the source of capital and the objectives of wine farm owners in as far as the wine farms are concerned. However, data to support or oppose this belief is generally lacking. Be that as it may, a discussion of Table 5.9 will elucidate some useful information and this is rendered next.

[14] That is, 8.11 percent of wine farm owners that reported nonfarm sources of capital are below the age of 35.
[15] That is, 3.70 percent of wine farm owners that reported farm sources of capital are below the age of 35.
[16] That is, irrespective of whether the wine farm owner reported farm or nonfarm as source of capital, 5.49 percent of wine farm owners in this study are below the age of 35. This means, in effect, that the columns will never add up to 100 and only the rows can.

Table 5.9: Source of capital versus objectives of wine farm owners

Source of capital	Objective			
	Profit	**Lifestyle**	**Other**	**Total**
Nonfarm	0.2432	0.4865	0.2703	1.00
Farm	0.8519	0.0926	0.0556	1.00
Total	0.6044	0.2527	0.1429	1.00

It is evident from Table 5.9 that the largest proportion (48.65%) of wine farm owners with nonfarm sources of capital engage in wine farming for lifestyle reasons. These may include the need to raise one's family in a rural environment, the need to pursue a certain chosen lifestyle, etc. Based on the information in Table5.9 most nonfarm capital goes into non-profit objectives. On the other hand the majority (85.19%) of wine farm owners that reported the farm as the main source of capital are involved in wine farming for purely economic reasons i.e., profit. Overall 60.44 percent of wine farm owners reported profit as the main objective compared to only a quarter (25.27%) that reported lifestyle aspirations as the driving force behind their investments. It would be very interesting to see if this has any significant impact on the performance of wine farms in the Western Cape – an issue that will be looked at in Section 5.8 of this chapter.

5.4.3 Source of capital versus nationality of wine farm owners

Let us now look at the association between the sources of capital and the nationality of wine farm owners. One would expect *a priori* that South Africans would rely more on the farm as source of capital while non-South Africans would rely more on nonfarm sources of capital. Let us now look at the data in Table 5.10 to see if this is indeed the case in the South African wine industry context.

Table 5.10: Source of capital versus nationality of wine farm owner

Source of capital	Nationality		
	Foreign	**South African**	**Total**
Nonfarm	0.4054	0.5946	1.00
Farm	0.0370	0.9630	1.00
Total	0.1868	0.8132	1.00

The results from Table 5.10 are overwhelming. Nearly all (96.30%) wine farm owners that reported the farm as the main source of capital are South African. This is as expected given that the majority of South African wine farm owners (85.19%) indicated that they are involved in wine farming for profit or economic reasons. The results depict the opposite of what is generally expected when it comes to nonfarm sources of capital. We have more South Africans (59.46%) indicating that they rely on nonfarm sources of capital as opposed to only 40.54 percent of foreign nationals reporting nonfarm sources as main source of capital for the wine farm. These results provide further proof that we have more South Africans than non-South Africans who accumulated their wealth in other sectors of the economy and only come to invest in the wine industry in later stages in their lives.

5.4.4 Source of capital versus origin of capital

In Section 5.4.3 we ascertained whether the principal shareholders in the South African wine industry that participated in this study were South African or foreign. The next question that needs to be answered is whether the capital is from within the borders of South Africa or from elsewhere i.e., outside South Africa. This is critical in the sense that one would expect that if the source of capital is the farm the origin of the capital is South Africa given the fact that the majority of South African wine farm owners reported the farm as the principal source of capital. Let us now consider Table 5.11 below.

Table 5.11: Source of capital versus origin of capital

Source of capital	Origin of capital		
	Foreign	**South Africa**	**Total**
Nonfarm	0.4595	0.5405	1.00
Farm	0.0556	0.9444	1.00
Total	0.2198	0.7802	1.00

It is evident from Table 5.11 that the results are as expected. The majority (94.44%) of wine farm owners that reported the farm as the principal source of capital also reported that the origin of capital was South Africa. The results are nearly even when it comes to nonfarm sources of capital, with 45.95 percent indicating that the origin is foreign and 54.05 percent indicating South African as the origin. These results indicate the South African wine industry's limited reliance on foreign capital.

5.4.5 Source of capital versus annual gross income

The following discussion looks at the association between the source of capital and the size of the wine farm as measured in terms of annual gross income. Are there any significant differences in the size of the wine farms (measured by annual gross income) given the source of capital for that specific wine farm? Let us now turn to Table 5.12 to see what the results indicate. It is evident from Table 5.12 that there is no significant difference in terms of annual gross income brought about by the difference in sources of capital. Most wine farm owners, given the different sources of capital, appear to gather around the R300 000 to less than R5 million income category.

Table 5.12: Source of capital versus annual gross income

Source of capital	Annual gross income				
	<R300 000	R300 000 - <R5 million	R5 million - <R35 million	>R35 million	Total
Nonfarm	0.2973	0.4595	0.2162	0.0270	1.00
Farm	0.0556	0.6852	0.2222	0.0370	1.00
Total	0.1538	0.5934	0.2198	0.0330	1.00

5.4.6 Source of capital versus principal occupation of wine farm owner

Next an attempt is made at establishing whether there is an association between the source of capital and whether the principal occupation of the wine farm owner is farming or not. This is important as it represents another measure of ascertaining whether the wine farm owner possesses knowledge (and experience) in farming in general. It will also indicate whether those whose principal occupation is farming rely more on the farm as a source of capital or not and vice versa. Table 5.13 presents data relating to the association between the source of capital and the principal occupation of the wine farm owner.

Table 5.13: Source of capital versus principal occupation of wine farm owner

Source of capital	Principal occupation		
	Other	Farming	Total
Nonfarm	0.7027	0.2973	1.00
Farm	0.3148	0.6852	1.00
Total	0.4725	0.5275	1.00

The results in Table 5.13 are as expected. The results indicate that a large proportion (70.27%) of those wine farm owners whose principal occupation is not farming rely on nonfarm sources of capital compared to only 29.73 percent of those whose principal occupation is farming. On the other hand the majority (68.52%) of wine farm owners who reported the farm as their main source of capital indicated that their principal occupation was farming. The implication of these results is that those wine farm owners whose principal occupation is farming rely on the farm as a source of capital while those whose principal occupation is not farming rely on nonfarm sources of capital.

5.4.7 Source of capital versus region of wine farm

The focus now shifts to ascertaining if there are differences in terms of reliance on farm and nonfarm sources of capital across the three winegrowing regions considered in this study. The results are presented in Table 5.14.

Table 5.14: Source of capital versus region of wine farm

Source of capital	Region			
	Stellenbosch	**Paarl**	**Worcester**	**Total**
Nonfarm	0.4595	0.3784	0.1622	1.00
Farm	0.3148	0.3148	0.3704	1.00
Total	0.3736	0.3407	0.2857	1.00

The results in Table 5.14 indicate that more wine farm owners in Stellenbosch (45.95%) rely on nonfarm sources of capital than in Paarl and Worcester, at 37.84 percent and 16.22 percent respectively. On the other hand, the results indicate that more wine farm owners in Worcester (37.04%) rely on the farm as the main source of capital. This is in comparison to Stellenbosch and Paarl that are at 31.48 percent each. The implication of these results is that most wine farm owners in the Stellenbosch region rely on nonfarm sources of capital while most wine farm owners in the Worcester region rely on the farm as the main source of capital.

5.4.8 Source of capital versus BEE compliance

Table 5.15 shows the association between the sources of capital and BEE compliance among wine farms in Stellenbosch, Paarl and Worcester. It is evident from Table 5.15 that overall, 20.88 percent of wine farms indicated that they are compliant with BEE legislation. It can be observed that 27.03 percent of wine farms that reported nonfarm sources of capital are BEE compliant. This is in comparison with only 16.67 percent of those that reported the wine farm as the main source of capital. These results indicate, although with lower margins, that nonfarm capital results in wine farms complying with BEE regulations, *ceteris paribus*. This is important, given that nonfarm capital is often associated with lifestyle or other non-economic motivations among wine farm owners.

Table 5.15: Source of capital versus BEE compliance

Source of capital	BEE compliance		
	No	Yes	Total
Nonfarm	0.7297	0.2703	1.00
Farm	0.8333	0.1667	1.00
Total	0.7912	0.2088	1.00

5.4.9 Source of capital vs. Biodiversity and Wine Initiative (BWI) membership

The focus now shifts to ascertaining if there are differences in terms of membership of the Biodiversity and Wine Initiative (BWI) among those wine farms that rely more on the farm as the main source of capital and those that rely on (or have access to) nonfarm sources of capital. This is important since it provides an indirect link between the sources of capital and whether or not the wine farms are involved in environmental sustainability initiatives. The results are presented in Table 5.16.

Table 5.16: Source of capital versus Biodiversity and Wine Initiative (BWI) membership

Source of capital	BWI membership		
	No	Yes	Total
Nonfarm	0.8378	0.1622	1.00
Farm	0.8519	0.1481	1.00
Total	0.8462	0.1538	1.00

The results indicate that 16.22 percent of those wine farms that reported nonfarm sources of capital are members of the Biodiversity and Wine Initiative (BWI), while those that reported the farm as the main source of capital account for only 14.81 percent. The results in Table 5.16 do not indicate significant differences in BWI membership based on whether the wine farm reported farm or nonfarm sources of capital.

5.4.10 Source of capital versus disabled friendliness

Table 5.17 shows the association between the source of capital and whether or not the wine farm is friendly to disabled people. As reported in Table 5.5, overall 34.07 percent of wine

farms surveyed in this study reported that they are friendly or accessible to disabled people. It is evident from Table 5.17 that there are no significant differences between those wine farms that are friendly or accessible to disabled people and those that are not, in terms of whether the wine farms reported farm or nonfarm sources of capital.

Table 5.17: Source of capital versus disabled friendliness

Source of capital	Disabled friendliness		
	No	Yes	Total
Nonfarm	0.6486	0.3514	1.00
Farm	0.6667	0.3333	1.00
Total	0.6593	0.3407	1.00

5.4.11: Source of capital versus provision of farm worker accommodation

As already indicated in Table 5.5 more than four-fifths (81.32%) of wine farms surveyed in this research project indicated that they provide accommodation facilities for their farm workers. Table 5.18 presents the results of the association between the sources of capital and whether or not the wine farms provide accommodation facilities for their farm workers. It is evident that the majority of wine farms, irrespective of whether they reported farm or nonfarm sources of capital, provide accommodation facilities for their farm workers. It is therefore not possible for one to say whether nonfarm or farm capital results in wine farms providing accommodation facilities for their farm workers, *ceteris paribus*.

Table 5.18: Source of capital versus provision of farm worker accommodation

Source of capital	Farm worker accommodation		
	No	Yes	Total
Nonfarm	0.2432	0.7568	1.00
Farm	0.1481	0.8519	1.00
Total	0.1868	0.8132	1.00

5.5 Objectives of wine farm owners in the three winegrowing regions of the Western Cape (Stellenbosch Paarl and Worcester)

Wine farm owners in the three wine growing regions were asked the question 'What is the main objective of the principal shareholder with regards to the wine farm?' The responses were divided into profit, lifestyle and other. The profit option refers to those wine farms owners who are involved in wine farming for purely economic or profit reasons while the lifestyle option refers to those wine farm owners who are involved in wine farming for both economic and social reasons. The social reasons include the need to live a particular lifestyle, the need to raise one's family in a wine farm setting, etc. Dewhurst and Horobin (1998:30) argue that for those business owners who are lifestyle-oriented 'their business success might be measured in terms of a continuing ability to perpetuate their chosen lifestyle'. Other reasons include the need to continue one's family tradition, environmental concerns, value addition and survival.

As already reported in Section 5.3.2.1 of this chapter 60.44 percent of wine farm owners surveyed in this study indicated that profit was their main objective. One quarter (25.27%) of wine farm owners reported lifestyle as their main objective and the remaining 14.29 percent cited other objectives as their main goals. In this section we will discuss the three categories of objectives i.e., profit, lifestyle and other, in relation to the age of the wine farm owner, principal occupation of the wine farm owner, nationality of the wine farm owner, source of capital for the wine farm, origin of capital, annual gross income, availability of business plans, region of wine farm, biodiversity and wine initiative (BWI) membership, business or wine association membership, and whether or not the wine farm provides accommodation for farm workers.

5.5.1 Objectives of wine farm owners versus age of wine farm owner

It is interesting to see whether the objectives of wine farm owners surveyed in this study differ in relation to the age of wine farm owners. Table 5.19 shows the results of the association between the objectives of wine farm owners and the age categories of wine farm owners.

Table 5.19: Objective of wine farm owner versus age

Wine farm owner objective	Age					
	under 35	35 – 44	45 – 54	55 – 64	over 64	Total
Profit	0.0545	0.1455	0.4182	0.2909	0.0909	1.00
Lifestyle	0.0000	0.0870	0.1304	0.5652	0.2174	1.00
Other	0.1538	0.0769	0.3846	0.2308	0.1538	1.00
Total	0.0549	0.1209	0.3407	0.3516	0.1319	1.00

It is evident from Table 5.19 that there are differences in terms of the age composition of wine farm owners relative to their objectives. The percentage of wine farm owners who are profit-oriented is high (41.82%) in the 45 – 54 age category while that of wine farm owners who are lifestyle-oriented is higher (56.52%) in the 55 – 64 age category. One interesting finding from these results is that there is no lifestyle-oriented wine farm owner in the less than 35 age category. The overall implication from these results is that younger wine farm owners seem to be profit-oriented while the older generation of wine farm owners seem to be lifestyle-oriented. The older wine farm owners include those who have accumulated their savings in other parts of the economy and invest in wine farming in later stages in their lives or when they are in semi- or full-retirement.

5.5.2 Objectives of wine farm owners versus principal occupation of wine farm owners

Table 5.20 shows the results of the association between the objectives of wine farm owners and their principal occupation.

Table 5.20: Objectives of wine farm owners versus principal occupation

Wine farm owner objective	Principal occupation		
	Other	Farming	Total
Profit	0.3636	0.6364	1.00
Lifestyle	0.6957	0.3043	1.00
Other	0.5385	0.4615	1.00
Total	0.4725	0.5275	1.00

It is evident from the results in Table 5.20 that the majority (63.64%) of profit-oriented wine farm owners reported farming as their principal occupation. On the other hand over two-

thirds (69.57%) of lifestyle-oriented wine farm owners reported other (non-farming) as their principal occupation. Wine farm owners motivated by other factors other than profit and lifestyle are nearly even in terms of their principal occupations. What is the overall implication of these results? Wine farm owners with farming as their principal occupation dominate the profit driven category while those with non-farming occupations dominate the lifestyle-oriented category. This means that we have more entrepreneurs with no farming expertise in the lifestyle –oriented category than in the profit-oriented category of wine farm owners.

5.5.3 Objectives of wine farm owners versus nationality of wine farm owners

Table 5.21 shows the association between the objectives of wine farm owners and their nationality i.e., whether they are South African or not. It is interesting to note from Table 5.21 that almost all (98.18%) profit-oriented wine farm owners are South African. The proportion of lifestyle-oriented wine farm owners is almost evenly distributed, with 52.17 percent reporting that they are foreign nationals and 47.83 percent reporting that they are South Africans. Overall one can conclude that most foreign nationals are involved in wine farming for lifestyle or non-economic reasons while most South Africans are involved in wine farming for profit or economic reasons.

Table 5.21: Objectives of wine farm owners versus nationality

Wine farm owner objective	**Nationality**		
	Foreign	**South African**	**Total**
Profit	0.0182	0.9818	1.00
Lifestyle	0.5217	0.4783	1.00
Other	0.3077	0.6923	1.00
Total	0.1868	0.8132	1.00

5.5.4 Objectives of wine farm owners versus sources of capital

The next step is to look at the association between the objectives of wine farm owners and the sources of capital for wine farms. The results are presented in Table 5.22. It is important to look at the results in Table 5.22 and compare them with those obtained in Table 5.9 in Section 5.4.2.

Table 5.22: Objectives of wine farm owners versus source of capital

Wine farm owner objective	Source of capital		
	Nonfarm	Farm	Total
Profit	0.1636	0.8364	1.00
Lifestyle	0.7826	0.2174	1.00
Other	0.7692	0.2308	1.00
Total	0.4066	0.5934	1.00

From Table 5.22 above it is evident that 83.64 percent of profit-oriented wine farm owners rely on the farm as the main source of capital. On the other hand 78.26 percent of lifestyle-oriented wine farm owners rely on nonfarm sources of capital. It is also important to note that 76.92 percent of those wine farm owners that cited other reasons as motivations for their involvement in wine farming also rely on other sources of capital other than the wine farm. What these results indicate is that profit-oriented wine farm owners rely on the farm as main source of capital while lifestyle-oriented wine farm owners rely on other sources of capital for the wine farms.

5.5.5 Objectives of wine farm owners versus origin of capital

Does the origin of capital display any recognisable pattern in terms of the objectives of wine farm owners in the three winegrowing regions in the Western Cape? Can one say that foreign investors invest in lifestyle-oriented projects or profit-oriented projects in as far as the wine industry is concerned? The results in an attempt to answer these questions are presented in Table 5.23 below.

Table 5.23: Objectives of wine farm owners and origin of capital

Wine farm owner objective	Origin of capital		
	Foreign	South Africa	Total
Profit	0.0364	0.9636	1.00
Lifestyle	0.5217	0.4783	1.00
Other	0.4615	0.5385	1.00
Total	0.2198	0.7802	1.00

Overall it is evident from Table 5.23 above that only 21.98 percent of wine farm owners reported that the origin of their capital was foreign while over three quarters (78.02 percent) reported that it was South Africa. It is again evident from Table 5.23 that almost all profit-oriented wine farm owners (96.36 percent) indicated that the origin of their capital was South Africa. The distribution of the origin of capital with regards to lifestyle-oriented wine farm owners is nearly evenly distributed (52.17 percent foreign and 47.83 percent South Africa). These results suggest that most (60 percent) foreign investors invest in wine farms in the three winegrowing regions for lifestyle-related reasons while most domestic investors (75 percent) invest in wine farms for profit or economic reasons.

5.5.6 Objectives of wine farm owners and annual gross income

Can one for instance, expect profit-oriented wine farms to be different from lifestyle-oriented wine farms in size as measured in terms of annual gross income? Table 5.24 shows the association between the objectives of wine farm owners and annual gross income of wine farms in Stellenbosch, Paarl and Worcester.

Table 5.24: Objectives of wine farm owners and annual gross income

Wine farm owner objective	Annual gross income				
	<R300 000	R300 000 - <R5 million	R5 million - < R35 million	>R35 million	Total
Profit	0.0364	0.6364	0.2727	0.0545	1.00
Lifestyle	0.3043	0.6522	0.0435	0.0000	1.00
Other	0.3846	0.3077	0.3077	0.0000	1.00
Total	0.1538	0.5934	0.2198	0.0330	1.00

Overall it is evident from Table 5.24 that the majority of wine farms (59.34%) fall under the R300 000 to R5 million income category. It is therefore not surprising to find that both profit-oriented and lifestyle-oriented wine farms have higher percentages in this income category. However, upon closer examination, one observes from Table 5.24 that profit-oriented wine farms are generally bigger than lifestyle-oriented wine farms in terms of annual gross income. One also observes that there are no lifestyle-oriented wine farms that reported annual gross income of over R35 million while only 4.35 percent reported annual gross income in the R5 million to under R35 million income category. On the other hand we have 27.27 percent of

all profit-oriented wine farms reporting annual gross income between R5 million and R35 million and a further 5.45 percent reporting annual gross income above R35 million. Given all these facts, one can conclude that profit-oriented wine farms are generally bigger than their lifestyle-oriented counterparts in terms of annual gross income.

5.5.7 Objectives of wine farm owners and availability of business plans

Table 5.25 depicts the association between the objectives of wine farm owners and whether or not the wine farm has a business or marketing plan. Can one expect any differences in terms of the availability of business plans between profit-oriented and lifestyle-oriented wine farms? It is evident from Table 5.25 that more than three quarters (78.18%) of profit-oriented wine farms have business or marketing plans. On the other hand nearly two-thirds (65.22%) of lifestyle-oriented wine farms indicated that they do not have business or marketing plans. What does this imply?

Table 5.25: Objectives of wine farm owners and availability of business plans

Wine farm owner objective	**Availability of business plan**		
	No	**Yes**	**Total**
Profit	0.2128	0.7818	1.00
Lifestyle	0.6522	0.3478	1.00
Other	0.0769	0.9231	1.00
Total	0.3077	0.6923	1.00

Overall the results in Table 5.25 indicate that most profit-oriented wine farms have business or marketing plans while most lifestyle-oriented wine farms do not have business or marketing plans. Whether the availability of business plans has a significant relationship with annual gross income will be looked at in subsequent sections. However, a major limitation of this study is that no information was available to assess the quality and effectiveness of the plans, or whether the plans were implemented.

5.5.8 Objectives of wine farm owners and region (location) of wine farm

In the three wine growing regions considered in this study (i.e., Stellenbosch, Paarl and Worcester), where would one expect to find more lifestyle-oriented or profit-oriented wine

farms? Table 5.26 depicts the association between the objectives of wine farm owners and the regions of wine farms considered in this study.

Table 5.26: Objectives of wine farm owners and region (location) of wine farm

Wine farm owner objective	Region			
	Stellenbosch	**Paarl**	**Worcester**	**Total**
Profit	0.3273	0.3273	0.3455	1.00
Lifestyle	0.3474	0.5217	0.1304	1.00
Other	0.6154	0.0769	0.3077	1.00
Total	0.3736	0.3407	0.2857	1.00

The results in Table 5.26 indicate that we have more (34.55%) profit-oriented wine farms in Worcester. Stellenbosch and Paarl are even at 32.73 percent each. Interesting results are found in the lifestyle-oriented category of wine farms. From Table 5.26 it is evident that most lifestyle-oriented wine farms (52.17%) are to be found in the Paarl region. This is followed by the Stellenbosch region at 34.74 percent and the Worcester region at 13.04 percent. Based on the results above, one can conclude that we have more profit-oriented wine farms in Worcester than in Paarl and Stellenbosch. On the other hand, we have more lifestyle-oriented wine farms in Paarl than in Stellenbosch and Worcester. This indicates that lifestyle investors view Paarl as an ideal environment for the fulfilment of their lifestyle needs.

5.5.9 Objectives of wine farm owners and Biodiversity and Wine Initiative (BWI) membership

Are profit-oriented wine farms less concerned about the environment than their lifestyle-oriented counterparts? Table 5.27 shows the association between the objectives of wine farm owners and whether or not the wine farms are members of the Biodiversity and Wine Initiative (BWI). Interested readers are advised to refer to Section 3.6.2.1 for more on the Biodiversity and Wine Initiative.

Table 5.27: Objectives of wine farm owners and BWI membership

Wine farm owner objective	BWI membership		
	No	Yes	Total
Profit	0.8364	0.1636	1.00
Lifestyle	0.9565	0.0435	1.00
Other	0.6923	0.3077	1.00
Total	0.8462	0.1538	1.00

The results in Table 5.27 indicate that 16.36 percent of profit-oriented wine farms are members of the Biodiversity and Wine Initiative. This is in contrast to only 4.35 percent of lifestyle-oriented wine farms that indicated that they are members of the BWI. The lower percentages of those who indicated BWI membership may be attributed to the fact that the BWI is a relatively new concept to most wine farm owners. One can expect membership to increase with the passage of time and through continued emphasis on environmental conservation within the wine industry. This would enhance more effective analysis in terms of whether there are significant differences in membership between profit-oriented and lifestyle oriented wine farms.

5.5.10 Objectives of wine farm owners and business or wine association membership

Table 5.28 shows the association between the objectives of wine farm owners and whether or not the wine farm owners belong to any business or wine-related association. From Table 5.28 it is evident that business or wine-related association membership is high for both profit-oriented (78.18%) and lifestyle-oriented (60.87%) wine farms. These results indicate that both profit-oriented and lifestyle-oriented wine farms have external networks, as measured by membership to business or wine-related associations. This is very important due to the fact that social and professional relations are crucial for gaining access to information and resources.

Table 5.28: Objectives of wine farm owners and business or wine association membership

Wine farm owner objective	Business or wine association membership		
	No	Yes	Total
Profit	0.2182	0.7818	1.00
Lifestyle	0.3913	0.6087	1.00
Other	0.3846	0.6154	1.00
Total	0.2857	0.7143	1.00

5.5.11 Objectives of wine farm owners and accommodation for farm workers

Table 5.29 shows the association between the objectives of wine farm owners and whether or not the wine farms provide accommodation for farm workers.

Table 5.29: Objectives of wine farm owners and accommodation for farm workers

Wine farm owner objective	Accommodation for farm workers		
	No	Yes	Total
Profit	0.1455	0.8545	1.00
Lifestyle	0.3043	0.6957	1.00
Other	0.1538	0.8462	1.00
Total	0.1868	0.8132	1.00

The evidence presented in Table 5.29 suggests that there are no significant differences in the provision of farm worker accommodation between profit-oriented and lifestyle-oriented wine farms. Overall one observes that the majority (81.32%) of wine farms surveyed in this study provide accommodation for farm workers. In terms of profit-oriented and lifestyle-oriented wine farms the proportions of those proving accommodation for farm workers are high in both categories (85.45% for the former category and 69.57% for the latter).

5.6 Comparisons between locally- and foreign-owned wine farms

As already reported in Section 5.3.2.1 (Table 5.7) over four-fifth (81.32%) of wine farm owners surveyed in this study indicated that they are South Africans while the remaining

18.68 percent indicated that they are foreigners. In this section we will discuss the nationality i.e., South African or foreign, in relation to the income categories of wine farms, BWI membership, the age of the wine farm owner, BEE compliance among wine farms, provision of farm worker accommodation, the objectives of wine farm owners, as well as the region of the wine farms. Are wine farms owned by foreigners and those owned by South Africans different in size, as measured by income? Are there differences in the age compositions among South African wine farm owners and foreigners? Are there any significant differences in terms of the concern for the environment, as measured through BEE membership, between wine farms owned by South Africans and those owned by foreigners? Are the objectives of South African wine farm owners different from those of foreigners? These are some of the questions that will be answered in this section.

5.6.1 Nationality of wine farm owners vs. income of wine farms

Table 5.30 presents the results of the association between the nationality of the wine farm owner and the income category of the wine farm. From Table 5.30 it is evident that most foreign-owned wine farms are relatively smaller compared to South African-owned wine farms.

Table 5.30: Nationality of wine farm owners vs. annual gross income

Nationality	Annual gross income				
	<R300 000	R300 000 - <R5 million	R5 million - <R35 million	>R35 million	Total
Foreign	0.2941	0.5882	0.1176	0.00	1.00
South African	0.1216	0.5946	0.2432	0.0405	1.00
Total	0.1538	0.5934	0.2198	0.0330	1.00

The results in Table 5.30 support those reported by Vink et al.et al.. (2004:243), which indicated that the foreign-owned enterprises were much smaller than their domestic counterparts. It is interesting to note from Table 5.30 that not a single foreign-owned wine farm surveyed in this study reported average annual gross income greater than R35 million. This is in comparison with 4.05 percent of South African-owned wine farms that reported average annual gross income of more than R35 million. Most wine farms surveyed, both

foreign-owned and South African owned, are found in the income categories R300 000 to less than R5 million and R5 million to less than R35 million.

5.6.2 Nationality of wine farm owners vs. BWI membership

It will be interesting to see whether there is any significant difference in terms of Biodiversity and Wine Initiative (BWI) membership among South African-owned wine farms and those owned by non-South Africans. On the basis of the results presented in Table 5.31 it is evident that a greater percentage of those wine farms that indicated that they are members of the BWI is found among South African-owned wine farms (17.57%). This is in comparison with only 5.88 percent of foreign-owned wine farms. This might be an indication that the concept of Biodiversity and Wine Initiative (BWI) is relatively still a programme that resonates largely with South African wine farm owners.

Table 5.31: Nationality of wine farm owners vs. BWI membership

Nationality	BWI membership		
	No	Yes	Total
Foreign	0.9412	0.0588	1.00
South African	0.8243	0.1757	1.00
Total	0.8462	0.1538	1.00

5.6.3 Nationality of wine farm owners vs. age

Are there any significant differences in the age compositions among South African wine farm owners and foreigners? Table 5.32 presents results of the association between the nationality of wine farms owners and their age. From Table 5.32 it is evident that most foreign wine farm owners surveyed in this research project are relatively older compared to South African wine farm owners.

Table 5.32: Nationality of wine farm owners vs. age

Nationality	Age					
	<35	**35 – 44**	**45 – 54**	**55 – 64**	**>64**	**Total**
Foreign	0.00	0.0588	0.1765	0.4118	0.3529	1.00
South African	0.0676	0.1351	0.3784	0.3378	0.0811	1.00
Total	0.0549	0.1209	0.3407	0.3516	0.1319	1.00

From Table 5.32 it can be observed that more than three-quarters (76.47%) of foreign wine farm owners surveyed in this study are above 55 years old. This is in comparison with about 58.11 percent of South African wine farm owners that are below 55 years old. It is interesting to note that not a single foreign wine farm owner is below the age of 35. This is in comparison with 6.76 percent of South African wine farm owners that reported that they are below the age of 35. These results indicate that foreign wine farm owners that participated in this study are mostly older than their domestic counterparts. This might suggest that these are individuals that spent some time in other industries accumulating savings and only come to invest in wine farms in later stages in their lives.

5.6.4 Nationality of wine farm owners vs. BEE compliance

Let us now look at the association between the nationality of wine farm owners and whether or not wine farms comply with BEE requirements. From Table 5.33 there are no significant differences between foreign-owned wine farms and South African-owned wine farms in terms of BEE compliance. It is interesting to note a slightly higher percentage (29.41%) of foreign-owned wine farms complying with BEE requirements given that, as reported in Table 5.17, the majority (98.18%) of South Africans reported ‘profit’ as their main objective for investing in wine farms. Given this, and the business imperatives associated with BEE, one would naturally expect that a greater percentage of South African-owned wine farms would be compliant with BEE requirements, given BEE’s significance both strategically and business-wise.

Table 5.33: Nationality of wine farm owners vs. BEE compliance

Nationality	BEE compliance		
	No	Yes	Total
Foreign	0.7059	0.2941	1.00
South African	0.8108	0.1892	1.00
Total	0.7912	0.2088	1.00

5.6.5 Nationality of wine farm owners vs. farm worker accommodation

Next an attempt is made at establishing whether there is an association between the nationality of the wine farm owner and the provision of accommodation for farm workers. This is very important in the sense that it provides an indication of the conditions provided by wine farms for their farm workers. From Table 5.34 there are no significance differences in terms of the provision of accommodation for farm workers among foreign-owned wine farms and those owned by South Africans. What is interesting in Table 5.34 is that the majority of wine farms (both locally- and foreign-owned) provide accommodation for their farm workers. It is also interesting to note that, even though with a lower margin, the percentage of South African-owned wine farms that provide accommodation for their farm workers is greater than that of foreign-owned wine farms.

Table 5.34: Nationality of wine farm owners vs. farm worker accommodation

Nationality	Farm worker accommodation		
	No	Yes	Total
Foreign	0.2353	0.7647	1.00
South African	0.1757	0.8243	1.00
Total	0.1868	0.8132	1.00

5.6.6 Nationality of wine farm owners vs. objectives

The following discussion looks at the association between the nationality of the wine farm owners and their main objectives for investing in wine farms in Stellenbosch, Paarl and Worcester. Are the objectives of South African wine farm owners different from those of foreigners? Let us now turn to Table 5.35 to see what the results indicate. It is evident from

Table 5.35 that the majority (70.59%) of foreigners invest in wine farms for lifestyle purposes. It is also evident that the majority (72.97%) of South African wine farm owners invest in wine farms for economic (profit) reasons. It is also interesting to note that there are also South Africans (14.86%) investing in wine farms for lifestyle or non-economic reasons.

Table 5.35: Nationality of wine farm owners vs. objectives

Nationality	Objective			
	Profit	**Lifestyle**	**Other**	**Total**
Foreign	0.0588	0.7059	0.2353	1.00
South African	0.7297	0.1486	0.1216	1.00
Total	0.6044	0.2527	0.1429	1.00

5.6.7 Nationality of wine farm owner vs. region of wine farm

In the three winegrowing regions considered in this study where can expect to find more foreign or South local investors? Table 5.36 presents results of the association between nationality of the wine farm owners and their regions or areas of investments. It is evident from Table 5.36 that the majority of foreign investors invest in wine farms in Paarl (47.06%) and Stellenbosch (41.18%), while South African investors are almost evenly scattered across the three winegrowing regions of Stellenbosch, Paarl and Worcester. Overall, the majority (37.36%) of investors in wine farms, irrespective of their nationality, regard Stellenbosch as an attractive investment area in terms of wine farming, followed by its neighbour Paarl (34.04%) and then Worcester.

Table 5.36: Nationality of wine farm owners vs. region of wine farm

Nationality	Region			
	Stellenbosch	**Paarl**	**Worcester**	**Total**
Foreign	0.4118	0.4706	0.1176	1.00
South African	0.3649	0.3108	0.3243	1.00
Total	0.3736	0.3407	0.2853	1.00

5.7 Comparisons between BEE compliant and BEE non-compliant wine farms

In this section we will discuss BEE compliance among wine farms surveyed in this study in relation to the objectives of wine farm owners, the provision of farm worker accommodation, as well as the sources of capital.

5.7.1 BEE compliance vs. objectives of wine farm owners

Table 5.37 presents the results of the association between BEE compliance among wine farms that participated in this study and the various objectives of the different wine farm owners.

Table 5.37: BEE compliance vs. objectives of wine farm owners

BEE compliance	Objective			
	Profit	Lifestyle	Other	Total
No	0.6389	0.2222	0.1389	1.00
Yes	0.4737	0.3684	0.1579	1.00
Total	0.6044	0.2527	0.1429	1.00

From Table 5.37 one clearly observes that wine farms that reported that they are compliant with BEE legislation are mostly found in the profit-oriented (47.37%) category of wine farms. This is followed by those that reported 'lifestyle' (36.84%) as main motivation for their investments in wine farms, and lastly by those that reported 'other' reasons at 15.79 percent. These results indicate that most profit-oriented wine farms are compliant with BEE legislation. These results should not be surprising given that the preferential procurement of the BEE scorecard encourages businesses to do business with other businesses that are BEE compliant. It follows therefore that those wine farms whose main objective is profit maximisation will comply with BEE legislation in other for them to increase or improve their business opportunities.

5.7.2 BEE compliance vs. provision of farm worker accommodation

The next step is to look at the association between the provision of farm worker accommodation and the compliance or non-compliance of wine farms surveyed in this study with BEE legislation. The results are presented in Table 5.38.

Table 5.38: BEE compliance vs. provision of farm worker accommodation

BEE compliance	Farm worker accommodation		
	No	Yes	Total
No	0.1667	0.8333	1.00
Yes	0.2632	0.7368	1.00
Total	0.1868	0.8132	1.00

It is evident from Table 5.38 that the majority of wine farms (73.68%) that reported that they are compliant with BEE legislation also provide accommodation facilities for their farm workers. Most of the wine farms that provides accommodation for their workers either provides the accommodation facilities on the wine farms or in other locations that are near the farms. Based on the results presented in Table 5.38 one cannot necessarily say that there is a great difference in terms of the provision of accommodation facilities between those wine farms that comply with BEE requirements and those that do not.

5.7.3 BEE compliance vs. source of capital

Table 5.39 presents the results of the association between BEE compliance among wine farms surveyed in this study and the sources of capital.

Table 5.39: BEE compliance vs. source of capital

BEE compliance	Source of capital		
	Nonfarm	Farm	Total
No	0.3750	0.6250	1.00
Yes	0.5263	0.4737	1.00
Total	0.4066	0.5934	1.00

It is evident from Table 5.39 that the majority (52.63%) of wine farms that are compliant with official BEE requirements reported nonfarm sources of capital. Most wine farms (62.50%) that reported the farm as the main source of capital are not compliant with BEE legislation.

These results should however be treated with great care because, as reported in Figure 5.2, most (58.24%) wine farm owners indicated that they 'did not know' their BEE status. This might be as a result of farmers feeling that the process of BEE is either too complicated for them administratively or that the BEE initiative itself is not properly and sufficiently communicated by both government and the relevant bodies within the wine industry as a whole. We will now look at the factors that affect the performance of wine farms in the next section.

5.8 Factors affecting the performance of wine farms in three wine growing regions of the Western Cape (Stellenbosch, Paarl and Worcester)

The third objective or sub-problem of this study is to identify those wine farm and owner characteristics that affect the performance of wine farms in the Western Cape. Do foreign-owned wine farms perform better than their locally-owned counterparts? Do profit-oriented wine farms perform better than lifestyle-oriented wine farms or vice- versa? This section will attempt to give answers to these and other related questions. This section will also provide a description of the variables or attributes that explain the performance of wine farms in Stellenbosch, Paarl and Worcester based on data from the 2008 edition of the John Platter Wine Guide, the structured questionnaire, and the BWI website www.bwi.co.za. The estimated interval regression equation is that provided in Section 4.8. As already highlighted in Section 4.7 an interval regression model is used in this study because the dependent variable, annual gross income, is an interval variable.

Interval regression involves fitting a model of y = [dependent variable1, dependent variable2] on independent variables, where y for each observation is point data, interval data, left-censored data, or right-censored data (StataCorp, 2007). If one knows that the value for the j^{th} individual is somewhere in the interval $[y_{1j}, y_{2j}]$, then the likelihood contribution from this individual is simply Pr $(y_{1j} \leq y_j \leq y_{2j})$. The data is stored in the dataset as interval data, i.e., two dependent variables, dependent variable 1 (depvar1) and dependent variable 2 (depvar2), are used to hold the endpoints of the interval data (StataCorp, 2007). In this study we had four categories of income, with the first category representing left-censored data and the last category representing right-censored data. The frequencies of observations representing all categories are summarised in Table 5.40. The interval regression model was run using the Stata statistical software. As already mentioned in Section 4.8 all values of the continuous

variables employed in this study were transformed into natural logarithms in order to take care of the problem of differences in units of measurement.

For the empirical model, the statistical analysis included multicollinearity and heteroscedasticity tests. The presence of multicollinearity among the independent variables was detected and treated by dropping some of the collinear variables, as suggested by Gujarati (2003). The researcher was aware that in dropping certain variables from the model, he may have committed a specification bias or specification error. However, the dropping of some of the collinear variables was necessitated by the fact that their inclusion may have rendered the model over-specified and also by the need to conserve degrees of freedom, given a sample size of 91 observations. The White General Heteroscedasticity test was used to test for heteroscedasticity by regressing the squared residuals from the original regression on the original independent variables, their squared values, and the cross products of the regressors, as suggested by Gujarati (2003:413). The results revealed heteroscedasticity, which was corrected by using the White's heteroscedasticity-corrected standard errors method, also known as robust standard errors (Gujarati, 2003:417). The interval regression results were interpreted based on White's heteroscedasticity-consistent standard errors or robust standard errors.

The results of the interval regression model corrected for heteroscedasticity are presented in Table 5.40. It is evident from Table 5.40 that the interval regression model predicting the performance of wine farms from wine farm and owner characteristics is statistically significant (Wald $\chi^2 = 469.28$, degrees of freedom = 32, $p < 0.001$). It is also evident from Table 5.40 that the model reveals a statistically significant impact of various wine farm and owner characteristics on annual gross income. To test the statistical significance of individual regressors the researcher used the *z* test. The *z* test is based on the Standard Normal Distribution and is applicable only if (a) the population variance is known, or (b) the population variance is unknown, and provided that the sample is sufficiently large ($n > 30$) (Koutsoyiannis, 1977:83). The level of significance chosen was 5 percent or 95 percent confidence level. This means that in making our decision we allow five times out of a hundred to be wrong, i.e., to reject the hypothesis when it is actually true.

The McFadden's pseudo-R^2 is 0.1867, indicating that the predictors accounted for approximately 18.67 percent of the variability in the latent outcome variable (see Table 5.40).

It should however be kept in mind that in binary or interval regressand models, goodness of fit is of secondary importance (Gujarati, 2003) but of prime importance are the expected signs of the regression coefficients and their statistical significance. As it is evident from Table 5.40 the characteristics of wine farm owners with a statistically significant impact on wine farm performance (at 5 percent level of significance) include gender, age, field of study, and objective. The characteristics of wine farms that statistically influence the amount of annual gross income include the size of wine farm, the number of years that the wine farm has been bottling its own wine, whether the wine farm has a restaurant, the type of wine produced by the wine farm, whether the wine farm is friendly to disabled people, the distance to the wine farm's nearest urban centre, and the total number of workers.

Table 5.40: Results of heteroscedasticity-corrected interval regression model of owner and wine farm attributes on the performance of wine farms in the Western Cape

INDEPENDENT VARIABLES	DEPENDENT VARIABLE: ANNUAL GROSS INCOME		
	Coefficient	**Standard error**	**z-value**
Size of wine farm (ha)	0.0685*	0.0252	2.71
Number of years of bottling own wine	0.0672*	0.0277	2.43
Cellar (1 = yes; 0 = otherwise)	0.1169	0.0610	1.92
Restaurant (1 = yes; 0 = otherwise)	0.1296*	0.0590	2.20
Accommodation (1 = yes; 0 = otherwise)	0.0582	0.0595	0.98
Type of wine (1 = red; 0 = otherwise)	-0.1384*	0.0595	-2.33
Disabled friendly (1 = yes; 0 = otherwise)	0.1484*	0.0681	2.18
Child friendly (1 = yes; 0 = otherwise)	-0.1590	0.0816	-1.95
Gender (1 = male; 0 = otherwise)	0.4128***	0.0921	4.48
Age (1 = 35 – 44 years; 0 = otherwise)	0.5045***	0.0929	5.43
Age (1 = 45 – 54 years; 0 = otherwise)	0.3889***	0.0787	4.94
Age (1 = 55 – 64 years; 0 = otherwise)	0.4180***	0.0857	4.88
Age (1 = over 64; 0 = otherwise)	0.4032***	0.0944	4.27
Principal occupation (1 = farming; 0 = otherwise)	-0.0177	0.0614	-0.29
Education (1 = college/technicon diploma; 0 = otherwise)	-0.0460	0.1113	-0.41
Education (1 = university degree; 0 = otherwise)	0.0546	0.1094	0.50
Education (1 = postgraduate degree; 0 = otherwise)	0.0621	0.1065	0.58
Area of study (1 = agriculture; 0 = otherwise)	-0.0871	0.0827	-1.05
Area of study (1 = commerce/business; 0 = otherwise)	-0.1943**	0.0642	-3.03
Decision-maker (1 = owner; 0 = otherwise)	-0.1348	0.0837	-1.61
Nationality of owner (1 = South African; 0 = otherwise)	-0.0400	0.0876	-0.46
Association membership (1 = yes; 0 = otherwise)	-0.0888	0.0574	-1.55
Objective (1 = profit; 0 = otherwise)	-0.2161*	0.0824	-2.62
Objective (1 = lifestyle; 0 = otherwise)	-0.1341	0.0866	-1.55
Capital source (1 = farm; 0 = otherwise)	0.1070	0.0699	1.53
Availability of business plan (1 = yes; 0 = otherwise)	0.0535	0.0553	0.97
BEE compliance (1 = yes, 0 = otherwise)	0.0648	0.0593	1.09

Distance to nearest urban centre (km)	0.0698*	0.0245	2.84
Total number of workers	0.1027*	0.0369	2.78
Region (1 = Stellenbosch; 0 = otherwise)	0.0791	0.0716	1.11
Region (1 = Paarl; 0 = otherwise)	0.1270	0.0680	1.87
BWI membership (1 = yes; 0 = otherwise)	-0.1429	0.0758	-1.89
Constant	-1.0686	0.1733	-6.16
Statistics summary			
Wald χ^2 (32)	469.28		
Log-likelihood	-37.150458		
Prob > χ^2	0.0000		
McFadden's pseudo-R^2	18.6735		
Observation summary			
Number (n)	82		
Uncensored	0		
Left-censored	11		
Right-censored	3		
Interval	68		

*p < 0.05 **p < 0.005 ***p < 0.001

Some comments about the procedure followed when running the interval regression model are worth making before an interpretation of what the estimated individual coefficients mean. Values of continuous variables used in this study were transformed into natural logarithms. For purposes of running the interval regression model, two dependent variables were created (see Stata Reference Manual Release 10, Reference A – H pg. 4 -12, for the interval regression procedure – STATACORP, 2007). After creating the lower- and upper-ends of the dependent variable, annual gross income, the interval regression model was run. This model however did not produce better results. This was because the interval regression model assumes normality, but the distribution of annual gross income among wine farms is skewed and definitely not normal. For this reason normality was approximated by modelling the logs of annual gross income i.e., logs of annual gross income 1 and annual gross income 2. The results presented in Table 5.40 are from the transformed interval regression model. We will now start with the interpretation of the various slope and differential slope coefficients.

The results in Table 5.40 indicate that the size of the wine farm (measured in hectares) is positively associated with annual gross income, confirming that larger farms are more viable economically (Richardson and Condra, 1981; Barbieri and Mshenga, 2008). However, Barbieri and Mshenga (2008:178) warn that results of this nature should be interpreted with prudence because the performance indicator used in this model was the farm total annual gross income which included the entire production of all on-farm enterprises as well as agricultural production. The researcher believes that further studies might be important to assess the role of farm size in the gross income derived exclusively from the various activities offered by wine farms in the Western Cape. The slope coefficient of farm size is 0.0685 and is statistically significant at the 5 percent level of significance ($p < 0.05$).

The number of years that the wine farm has been bottling its own wine is positively related to annual gross income, confirming that wine farms that have been bottling their own wines for longer often benefit from dynamic economies of scale through experience and from reputational effects, as previously reported (Barbieri and Mshenga, 2008). The slope coefficient for the number of years that wine farms have been bottling their own wines is 0.0672 and is statistically significant at 5 percent significance level ($p < 0.005$). Dynamic economies of scale through experience may come as a result of the effects of learning. In terms of wine it is a normal commodity that should be produced through a certain standard procedure that should be maintained throughout the years in order that the wine be of a certain and constant quality. Wine farms that have been producing wine for a number of years therefore stand a good chance of competing through experience. Dynamic economies of scale from reputational effects may be achieved through constant supply of quality wines and products offered by wine farms, as well as through effective marketing strategies. Also, the first in the market often have the opportunity to consolidate their market share.

Whether the wine farm has a cellar is positively associated with annual gross income but the relationship is not statistically significant at the 5 percent significance level ($p > 0.05$). The researcher is not aware of any previous results reported in this regard. Whether the wine farm has a cellar on property should not be confused with whether the wine farm bottles its own wine or not because some wine farms bottle their own wine in rented or neighbouring wine cellars. This brings us to the question relating to how costs and benefits associated with having a wine cellar on property or renting one compare. Further studies are needed to assess

the role of the cellar in annual gross income derived exclusively from owning or renting a wine cellar. The researcher believes that not having done so is a limitation of this study.

Whether wine farms have restaurants is positively related to annual gross income. These results confirm the growing importance of wine farms in the provision of catering services for people visiting wine farms in the Western Cape. The positive and significant relationship between the availability of a restaurant on the wine farm further signify the importance of restaurants as means of diversifying farm incomes. This also illustrates the important relationship between food and wine. People have to physically visit wine farms for them to enjoy food from wine farm restaurants. This is very important because visits to wine farms can serve as both a source of revenue and a marketing medium. For example, visitors to wineries or wine farms can ask their wine retailers to carry wines from the wineries or wine farms they have visited.

Whether wine farms provide accommodation is positively related to annual gross income, but the strength of this relationship is not statistically significant. These results are contrary to expectations, given that it is generally believed that accommodation facilities on wine farms serve as one of the most important factors that pull tourists and visitors alike to wine farms. Data from STATSSA also support this belief. For example, STATSSA (2008) reported that guesthouses and guest farms contributed 9.2 percent of total tourist accommodation for the period March 2007 and March 2008. This highlights the importance of farms in the provision of tourist accommodation. However, the proportion of these guest farms that are actually wine farms is not clear. Further studies need to be carried out in this regard.

The type of wine (whether the wine farm produces red wine) produced by the wine farm is negatively related to the amount of annual gross income. This variable took the value of 1 if the wine farm produced more than 50 percent red varieties and 0 if the wine farm produced more than 50 percent white varieties. These results are as expected. During the ten year period from 1998 to 2007 production of red wine in South Africa more than doubled, from a mere 15.2 percent of total wine production in 1998 to 36.1 percent in 2007. The production of white wine as a percentage of total wine produced in South Africa fell from 84.8 percent to 63.9 percent during the same ten year period i.e., 1998 to 2007 (SAWIS, 2008). Between the years 2000 and 2007 the area planted with white varieties decreased from 63.8 percent in 2000 to 55.8 percent in 2007 while the area planted with red varieties increased from 36.2

percent in 2000 to 44.2 percent of total area planted in 2007 (SAWIS, 2008). Given this information, according to the theory of demand, one would expect prices of red varieties to slow down and therefore have a negative impact on annual gross sales, while on the other hand one would expect prices of white varieties to rise and therefore have a positive impact on annual gross sales. The results in this study support this theory because the relationship between the type of wine produced by the wine farm and annual gross income is statistically significant and has the correct sign.

Whether the wine farm is friendly to disabled people is positively related to annual gross income. These results are as expected. In terms of the theory of demand, the number of customers is one of the most significant factors affecting the demand for any specific product. *A priori*, one would expect wine farms that are friendly to disabled visitors to attract more customers than those that are not and therefore have a positive relationship with annual gross income. The results support this theory because the relationship between whether wine farms are friendly to disabled people and annual gross income is positive and statistically significant (at 5 percent significance level, $p < 0.05$).

Whether the wine farm is friendly to children is negatively related to annual gross income but the strength of this relationship is not statistically significant. The negative association is as expected because facilities for children are generally expensive and require constant maintenance. Even though this might be thought of as an over-emphasis on income rather than on profits, the effects of maintenance can be significant when considering other alternative uses i.e., opportunity cost. These facilities may include mini-play parks and miniature museums. One important fact to note is that children do not drink wine and will therefore not buy any when visiting wine farms. They are also likely to spend less on other things on the wine farm than will old people (above 18 years old), and would therefore negatively affect annual gross income. The counter-argument to this might be that even if children do not buy wine when visiting wine farms their parents do and that the main purpose of being child-friendly is mainly to attract the parents. The results in this study however are statistically insignificant with regards to whether the wine farm is friendly to children.

Next the question of whether the wine farm owner is male is positively related to annual gross income is addressed. These results confirm previous studies that determined the relationship between gender and business performance (Rosa, Carter and Hamilton, 1996;

Barbieri and Mshenga, 2008). In their study on agritourism farms in the United States, Barbieri and Mshenga (2008:177) argued that the lower gross income earned by women-operated agritourism farms is likely to be related to various factors that limit women's access to resources and disadvantage them in the business arena. Barbieri and Mshenga (2008) further state that these include fewer linkages to networks that enable customer and partnership-building, reduced access to financial resources and the fact that many women must balance household and business obligations (Sexton and Robinson, 1989; Riding and Swift, 1990; Brush; 1992; Cooper, Gimeno-Gacson and Woo, 1994; as in Barbieri and Mshenga, 2008). Evidence from Europe also suggests that women encounter many problems and obstacles that restrict their opportunities and success. Little and Jones (2000) argue that rural development policies and subsidy schemes in Europe tend to follow a masculinist approach to rural regeneration. Bock (2004) reported that research in the Netherlands has shown that women have less chances of receiving government subsidies compared to men. They also have less access to credit and less contact with professional support networks.

The age of the wine farm owner is positively related to annual gross income. The relationship in all age groups is statistically significant (at 5 percent significance level, $p < 0.001$). These results do not support those found in other previous studies (e.g., Barbieri and Mshenga, 2008) which found that farmers' age was inversely related to business performance. However, upon close examination, one observes that these results confirm previous research that suggests that farms whose operators were over 50 years old earned less than younger farmers (Weiss, 1999; Barbieri and Mshenga, 2008). In their study on agritourism farms in the United States, Barbieri and Mshenga (2008) suggested that it may be that younger farmers are more adaptable and willing to introduce new products and services and those younger farmers may be more entrepreneurial and willing to tolerate the risk associated with innovation.

Whether the principal occupation of the wine farm owner is farming as opposed to a non-farming related occupation does not have a significant relationship with the amount of annual gross income. *A priori* one would expect that wine farms with owners whose principal occupation is farming would perform better than those wine farms whose owners reported non-farming related occupations. The results in this study do not support those from previous studies that indicated that farming as principal occupation provided the farmer with greater agricultural expertise that can be allocated to the farm business (Barbieri and Mshenga,

2008), confirming that a good understanding of the business influence their performance (Mintzberg and Waters, 1982). Given the results reported in Section 5.5.2 (Table 5.8) these results may not be surprising. In Section 5.5.2 it was reported that overall, irrespective of the objective of the wine farm owner, 47,25 percent of the wine farm owners that participated in this study reported 'other' as principal occupation. It then follows that these wine farm owners might not necessarily be running these wine farms themselves but hiring suitably qualified people to do so.

The owner's level of education does not have a significant relationship with annual gross income. Results from other studies indicate that the owner's level of education is a significant determinant of business performance (Bates, 1990; Basu and Goswami, 1999; Casson; 1991). The insignificant education coefficients in our results might be attributed to the fact that most wine farm owners may be having qualifications that are not related to wine farming. In this regard, two wine farm owners may have the same level of education but the other one may have more relevant education than the other. Another reason may be that more than 90 percent of the respondents in this study have a post-matriculation qualification.

The results in Table 5.40 are a little puzzling when it comes to the areas of study of wine farm owners, as when the area of study for the wine farm owner is agriculture, there is a negative association to annual gross income, but the strength of this relationship is not statistically significant. *A priori* one would expect the relationship between whether the area of study of the wine farm owner is agriculture and annual gross income to be positive and significant because these wine farm owners would have more relevant qualifications than those that reported other areas of study. The results in Table 5.40 however do not support this expectation. It may be because wine farm owners were only asked whether their area of study was agriculture in general but not the various disciplines within agriculture. It is also possible that most wine farm owners who reported agriculture as area of study did not specialise in wine farming.

The relationship between the field of study of the wine farm owner being business or commerce and annual gross income is looked at next. Whether the area of study is business or commerce is negatively related to annual gross income. The relationship is statistically significant (at 5 percent significance level, $p < 0.005$). These results may be an indication that wine farming is a specialised field that require not only business skills but a whole lot of

other skills relevant and specific to the industry. This may also relate to the objectives of the wine farm owners that participated in this study, given that one quarter (25.27%) of wine farm owners reported surveyed reported lifestyle as their main objective and a further 14.29 percent cited 'other' objectives as their main goals.

Whether the wine farm owner is the principal decision-maker is negatively related to performance measured in terms of annual gross income but the strength of this relationship is not statistically significant. In their study on agritourism farms in the United States Barbieri and Mshenga (2008) also found no statistically significant relationship between whether the owner was the primary decision-maker and performance. It can be argued that it therefore should not be necessary for the wine farm owner to be the principal decision-maker for wine farms to perform better, what is important is that whoever is the principal decision-maker be well acquainted with the industry in order to make informed decisions at the right time. Whether the wine farm owner is South African is negatively related to annual gross income as a measure of performance but the strength of the relationship is not statistically significant. It therefore cannot be conclusively said that South African-owned wine farms perform better than foreign-owned wine farms, or vice-versa, given that the relationship between nationality and annual gross income is not statistically significant.

The results in Table 5.40 also indicate that whether wine farm owners are members of wine or business related associations is negatively related to annual gross income, but the relationship is not statistically significant. *A priori* one would expect that wine farms whose owners are members of wine or business related associations would perform better than those wine farms whose owners are not members of any wine or business related associations. This is because such associations provide opportunities to network with different industry role players and share information. Bruderl and Preisendorfer (1998) report that information received from professional networking is often assumed to be more useful, reliable, and exclusive, and less redundant than information received from formal sources. Other studies that found significant relationships between availability of networks and business performance include Dollinger (1985), Hansen (1995), and Barbieri and Mshenga (2008). As already indicated, the relationship between networks and wine farm performance is not statistically significant in this study.

Whether the main objective of the wine farm owner is profit is negatively related to annual gross income as a measure of performance. The relationship is negative and statistically significant (at 5 percent significance level, $p < 0.05$). *A priori* one would expect that wine farms whose owners reported profit as main objective would perform better (in terms of annual gross income) than those wine farms whose owners reported other objectives. This stems from the expectation that wine farm owners who reported profit as main objective would come up with more innovative ways of making their wine farms more profitable and therefore positively affect their performance. In terms of the different schools of thought of entrepreneurship discussed in chapter 2, one would expect profit-oriented wine farm owners to fall under the classical school of entrepreneurship, as defined by Cunningham and Lischeron (1991). According to this school the central characteristic of entrepreneurial behaviour is innovation. The results in Table 5.40 however indicate the reverse of what was expected.

Whether the objective of the wine farm owner is lifestyle is negatively related to annual gross income but the strength of this relationship is not statistically significant. *A priori* one would expect that lifestyle-oriented wine farm owners would fall under the psychological characteristics school of entrepreneurship, as defined by Cunningham and Lischeron (1991). According to this school entrepreneurs are have unique values, attitudes, and needs which drive them. Lifestyle-oriented wine farm owners should be pursuing these unique needs instead of profits and are therefore expected to have a negative impact on annual gross income. However, the relationship between whether the main objective of the wine farm owner is lifestyle and annual gross income is not statistically significant.

The source of capital is positively related to annual gross income but the strength of the relationship is not statistically significant. It therefore cannot be conclusively said that wine farms with non-farming sources of capital perform better than those with only farm-related sources of capital, or vice-versa, because the relationship is not statistically significant. An interesting remark here would be on the association between the different sources of capital and the objectives on wine farm owners. The results in Table 5.22 indicated that profit-oriented wine farm owners rely on the farm as main source of capital while lifestyle oriented wine farms rely on (or have access to) other sources of capital for the wine farms.

Whether wine farms have business or marketing plans is positively related to annual gross income but the relationship is not statistically significant. This is consistent with the findings of previous studies conducted on other types of businesses. Barbieri and Mshenga (2008) found that whether agritourism farms have business or marketing plans does not have a significant relationship with the amount of farm gross income. Tan (1996) and Robinson and Pearce (1984) found that formal strategic planning had little or no potential payoff for small firms because it is a high-level conceptual activity suited solely to large firms. Barbieri and Mshenga (2008) argued that this did not mean that business and marketing plans do not contribute to the success of small businesses but rather that measuring their contribution to gross income may not be the most appropriate way to assess their significance. A limitation of the study by Barbieri and Mshenga (2008) and this study is that no information was available to assess the quality and effectiveness of the plans or whether the plans were implemented.

Whether the wine farms are compliant with BEE legislation does not have a significant relationship with the amount of annual gross income. The researcher is not aware of any previous studies that have been conducted in agriculture and other related industries from which inferences can be drawn in as far as the relationship between BEE compliance and farm gross income is concerned. Most studies in the wine industry focus on the ownership element of the BEE scorecard (for example see Du Toit, Kruger, and Ponte, 2008; Williams, 2005). The researcher believes that measuring the contribution of BEE compliance to annual gross income may not be the appropriate mechanism of assessing its significance. More studies should be conducted to assess the real impacts of complying with BEE legislation in the wine industry in the Western Cape.

The distance to the wine farms' nearest urban centre is positively related to the amount of annual gross income. These results are a little puzzling, given that one would have expected the relationship between the distance to the farms' nearest urban centre and annual gross income to be inversely related. This is because wine farms that are near urban centres would be easier to access than those that are far away. Given this, wine farms that are nearer to the urban centres are therefore expected to attract more customers than those that are far away. One would therefore expect an inverse relationship between distance and annual gross income. The results in Table 5.40 however do not support this expectation. It may as well be possible that customers feel that wine farms that are far away from urban centres have a lot to

offer compared to those that are near urban centres. For example, for those who visit wine farms for relaxation, one would generally expect them to prefer wine farms that are far away from the busier and more stressful urban centres. If one follows this reasoning, it would therefore not be surprising to find the distance to the wine farms' nearest urban centre positively related to annual gross income. This is exactly the finding in this study.

The total number of workers in wine farms is positively related to the amount of annual gross income. The relationship is statistically significant (at 5 percent significance level), confirming the importance of human capital in business performance, as already recognised by economic theory (Casson, 1991; Campbell, 1992) and empirical studies (Bates, 1990; Cressy, 1996; Barbieri and Mshenga, 2008). These results also indicate that wine farms with more workers are more likely to perform better than those with less workers. This is very important especially in wine farms in the Western Cape who not only offer wine but also a whole lot of other services like accommodation, wine tasting, restaurants, etc. All these activities are labour intensive. The region of the wine farm (i.e., Stellenbosch, Paarl, or Worcester) does not have a statistically significant relationship with annual gross income. It therefore cannot be conclusively said that wine farms in Stellenbosch perform better than those in other wine growing regions because the relationship between region and annual gross income is not statistically significant.

Whether the wine farm is a member of the Biodiversity and Wine Initiative (BWI) is negatively related to annual gross income but the relationship is not statistically significant. The researcher is not aware of any previous studies conducted to assess the impact of BWI membership on the performance of wine farms. However, most studies conducted mainly in Europe argue that the economic incentive is a prime factor for farmers to adopt policy measures to enhance the environment and biodiversity (see Siebert, Toogood, and Knierim, 2006). Results from case studies done by Deffuant (2001) and the OECD (1998), as well as several comparative studies (Drake, Bergstrom, and Svedsater, 1999), emphasise farmers' economic reasons for participating in agri-environmental measures or in other programmes with environmental conservation objectives. Siebert *et al.et al.*., (2006:326) report that these findings are not surprising because farmers need to operate in an economically sound way. However, this may be less applicable in the South African context, given that there are no economic incentives given, as is the case in most European countries. There may however, be other reasons for wine farms to want to be involved in the BWI, such as 'to promote

environmental conservation' or the 'maintenance or improvement of the natural environment.' And equally, social reasons may often play a role, such as 'the maintenance of the farm for future generations.' The results in this study in terms of the association between BWI membership and annual gross income however indicate a statistically insignificant relationship. Assessing the impact of BWI membership on annual gross income may not be the appropriate way to assess the significance that wine farmers attach to the BWI. More studies should be conducted in this regard.

5.7 Chapter summary

This chapter provided thorough descriptions of the results relating to the various sources of capital, the various objectives of wine farm owners and analysis relating to those wine farm and owner characteristics that affect the performance of wine farms in the three winegrowing regions of the Western Cape i.e., Stellenbosch, Paarl and Worcester. A description of the research response achieved during data collection using the structured questionnaire was given. The results indicate that most wine farm owners rely on the farm as the principal source of capital. The results further indicate that most wine farm owners are into wine farming for profit or economic reasons. This is important as it may be used as a proxy to look at the future sustainability of wine farms in the Western Cape. Using the interval regression approach, this study found that the characteristics of wine farm owners with a statistically significant impact on wine farm performance include gender, age, area of study, and objectives, while those of wine farms that are statistically significant include the size of the wine farm, the number of years that the wine farm has been bottling its own wine, whether the wine farm has a restaurant, the type of wine produced by the wine farm, whether the wine farm is friendly to disabled people, the distance to the wine farm's nearest urban centre, and the total number of workers. The results confirm that the performance of wine farms is influenced by both internal firm and entrepreneurial factors. Overall, results from various data sources were comprehensively summarised and presented in an effort to provide solutions to the different research questions posed during the earlier chapters in this study.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

6.1.1 Introduction

The main objectives of this study were to identify the most common sources of capital in wine farms and the most common objectives that wine farm owners are aiming to achieve when investing in wine farms in the Western Cape. The identification those characteristics of wine farms and owners that affect the performance of wine farms in the three winegrowing regions of the Western Cape (Stellenbosch, Paarl and Worcester) was also another objective. The first two objectives of this study, that is, to identify sources of capital in wine farms and to identify objectives of wine farm owners are considered very important because it is believed that the various sources are associated with various objectives, which in turn are expected to lead to various outcomes. The third objective of this study, that is,to identify those wine farm and owner characteristics that affect the performance of wine farms, is considered very important because this will facilitate the distinction between attributes (both for wine farms and owners) that are more important in terms of the performance of wine farms from those that are not.

6.1.2 Sources of capital

In the case where the objective was to identify the most common sources of capital in wine farms in the three winegrowing regions of the Western Cape (Stellenbosch, Paarl and Worcester), it was found that most wine farm owners in this study rely on farm-related sources of capital as opposed to nonfarm sources of capital. When the source of capital is associated with the age of the wine farm owner, this study found that wine farm owners who rely on farm-related sources of capital are relatively younger in age than those who rely on nonfarm farm sources of capital, suggesting that older wine farm owners might have used accumulated savings from other sectors of the economy to invest in wine farms. When the source of capital is associated with the objectives of wine farm owners, the results indicated

that wine farm owners that rely on farm-related sources of capital are more likely to be profit-oriented while those who reported nonfarm sources of capital were more likely to be lifestyle-oriented.

When the source of capital is associated with the nationality of wine farm owners, this study found that most wine farm owners that rely on farm-related sources of capital are South African. The results depicted the opposite of what was expected when it comes to nonfarm sources of capital. This study found that there are more South Africans that rely on nonfarm sources of capital than there are foreigners. This study also found that most capital in wine farms originated from within the borders of South Africa, suggesting that the South African wine industry's reliance on foreign capital is rather limited. When the source of capital is associated with annual gross income, this study found no significant differences in terms of annual gross income brought about by the differences in sources of capital. When the source of capital is associated with the principal occupation of the wine farm owner the results indicate that those wine farm owners whose principal occupation is farming rely more on farm-related sources of capital while those whose principal occupation is not farming rely more on non-farm sources of capital. The results from this study also indicate that most wine farm owners in the Stellenbosch region rely on nonfarm sources of capital while those in the Worcester region rely more on farm-related sources of capital.

When the source of capital is associated with whether or not wine farms comply with BEE legislation the results indicate, although with lower margins, that nonfarm capital results in wine farms complying with BEE legislation. This is very important, given that nonfarm capital is often associated with lifestyle or other non-economic motivations among wine farm owners. The results from this study do not indicate significant differences in Biodiversity and Wine Initiative (BWI) membership based on whether or not the wine farm reported farm or nonfarm sources of capital. This study also did not find significant differences in between those wine farms that are friendly or accessible to disabled people and those that are not, in terms of whether or not the wine farms reported farm or nonfarm sources of capital. On the provision of farm worker accommodation facilities it is not possible, based on the results presented in this study, to say whether or not nonfarm or farm capital results in wine farms providing accommodation facilities for their farm workers.

6.1.3 Objectives of wine farm owners

In the case where the objective was to identify the most common objectives that wine farm owners are aiming to achieve when investing in wine farms in the three winegrowing regions of the Western Cape i.e., Stellenbosch, Paarl, and Worcester, it was found that most wine farm owners invest in wine farms for economic (profit) purposes. The proportion of those investing in wine farms for lifestyle purposes was found to be a quarter of the total number of wine farm owners surveyed in this study, confirming that there are wine farm owners who invest in wine farms not for economic but non-economic reasons. When the objectives of wine farm owners are associated with the age of wine farm owners, it was found that younger wine farm owners are mostly profit-driven while the old generation of wine farm owners are mostly lifestyle-driven. This study also found that wine farm owners with farming as their principal occupation dominate the profit-driven category of wine farmers while those with non-farming occupations dominate the lifestyle-oriented category.

In terms of the nationality of wine farm owners this study found that overall, most foreign nationals invest in wine farms for non-economic reasons while most South Africans invest in wine farming for profit or economic reasons. This study also found that profit-oriented wine farms rely more on farm-related sources of capital while lifestyle-oriented wine farms rely more on nonfarm sources of capital for the wine farms. In terms of the origin of capital it was found that most profit-oriented wine farms indicated South Africa as origin of capital while most lifestyle-oriented wine farms indicated that the origin of capital was foreign, again confirming the results that most foreign investors invest in wine farms in the Western Cape for non-economic reasons.

Overall, in terms of annual gross income, this study concluded that profit oriented wine farms are generally bigger than their lifestyle-oriented counterparts. Most profit-oriented wine farms have written business or marketing plans while on the other hand, most lifestyle-oriented wine farms do not have written business or marketing plans. Most wine farms in the Worcester region are profit-oriented while most wine farms in the Paarl region are lifestyle-oriented. The proportion of those wine farms that are members of the Biodiversity and Wine Initiative (BWI) is higher among profit-oriented wine farms than in lifestyle-oriented wine farms. Both profit-oriented and lifestyle oriented wine farms were found to have external networks, as measured through membership to business or wine-related associations,

confirming the importance of social and professional relations among wine farm owners. In terms of profit-oriented and lifestyle oriented wine farms the proportions of those providing accommodation facilities for their farm workers are high on both categories.

6.1.4 Comparison between locally-owned and foreign-owned wine farms

In the event where the objective was to compare locally-owned and foreign-owned wine farms in terms of size, as measured through annual gross income, it was found that most foreign-owned wine farms are relatively smaller compared to those that are owned by South Africans. It was also found that most wine farms surveyed are found in the income categories of R300 000 to less than R5 million and R5 million to less than R35 million. When the nationality of the wine farm owners is associated with Biodiversity and Wine Initiative (BWI) membership, this study found that a greater percentage of those wine farms that indicated that they are members of the BWI is found among South African-owned wine farms, indicating that the concept of Biodiversity and Wine Initiative is relatively still a programme that resonates largely with South African wine farm owners.

When the nationality of the wine farm owners is compared with the age of wine farm owners, the results indicate that foreign wine farm owners that participated in this study are relatively older than their domestic counterparts. The study found no significant differences between foreign-owned and South African-owned wine farms in terms of BEE compliance. This study also found no significant differences in terms of the provision of accommodation facilities for farm workers among foreign-owned wine farms and those owned by South Africans. The majority of foreigners invest in wine farms for lifestyle or non-economic reasons while most South African invest in wine farms for economic (profit) reasons. It was also found that the majority of foreign investors invest in wine farms in Paarl and Stellenbosch, while South African investors are scattered across Stellenbosch, Paarl and Worcester.

6.1.5 Comparisons between BEE compliant and BEE non-compliant wine farms

When BEE compliance among wine farms is associated with the objectives of wine farm owners the results indicate that most profit-oriented wine farms are compliant with BEE legislation. The study found no significant differences in terms of the provision of accommodation facilities between those wine farms that comply with BEE requirements and

those that do not. This study also found the majority of wine farms that are compliant with official BEE requirements reported non-farm sources of capital.

6.1.6 Characteristics affecting the performance of wine farms

The third objective of this study was to identify those wine farm and owner characteristics that affect the performance of wine farms in three winegrowing regions of the Western Cape -Stellenbosch, Paarl, and Worcester. An interval regression model was used for this purpose. The characteristics of wine farm owners with a statistically significant impact on wine farm performance include gender, age, area of study, and objectives. The characteristics of wine farms that statistically influence the amount of annual gross income include the size of the wine farm, the number of years that the wine farm has been bottling its own wine, whether the wine farm has a restaurant, the type of wine produced by the wine farm, whether the wine farm is friendly to disabled people, the distance to the wine farm's nearest urban centre, and the total number of workers.

This study concludes that wine farms that are bigger in size (hectares), have been bottling their own wine for longer, have restaurants on site, produce white wine, are friendly to disabled people, are away from urban centres, have more workers, and/or whose owners are male performed significantly better in terms of annual gross income than others. This confirms the fact that business performance is influenced by both internal firm and entrepreneurial factors. The importance of internal firm factors lies in the fact that greater internal resources gives farms better resources to offer a greater variety of products and services to a greater number of customers. Entrepreneurial factors can help farms in the mobilisation of resources like information, technology and marketing.

The effect of profit as the main objective of wine farm owners was not as expected. Similarly, the impact of business or commerce as area of study was not as predicted and the suggestions or explanations given were based on the findings from the responses reported by wine farm owners. The distance between the wine farm and its nearest urban centre also did not have the expected sign. However, most of the significant coefficients from the regression analysis have the expected signs. Overall these results confirmed the significance of some entrepreneurial characteristics and wine farm internal resources on the performance of wine farms in the Western Cape.

6.2 Recommendations and further studies

- Data on the sources of capital in wine farms was only categorised into farm-related and nonfarm sources. However these sources can further be categorised into personal savings, family savings, bank loans, inheritance, public funding (government grants), etc. A study that takes into account all these categorisations would be a valuable addition to the existing literature. The same can be said about the objectives that wine farm owners are aiming to achieve when investing in wine farms in the Western Cape i.e., further disaggregation of objectives is needed.
- A major limitation of this study is that it used gross farm income rather than net farm income. This study showed that internal farm and entrepreneurial factors influence the performance of wine farms, as measured by annual gross income, which include the entire annual production of all on-farm enterprises as well as agricultural production. Certainly, increasing gross farm income is important, especially during non-harvesting periods, because it generates the cash needed to pay continuing fixed costs e.g., mortgages, wages, etc. It is however important to investigate further the internal factors that influence profits (net income), since these sustain wine farms over time. Further, more stringent efforts should be made to develop a database of wine farms that are involved in wine farming for lifestyle purposes.
- There are many other external factors that might influence the performance of wine farms in the Western Cape which were not accounted for in this study. These may include, *inter alia* the competitiveness of the wine supply chain, the competitiveness of the wine tourism supply chain, the number of visitors to wine farms, global and macroeconomic factors, etc. A study that takes into account all these factors would be a valuable contribution to the existing literature on the subject.
- It was found in this study that most wine farms rely of farm-related sources of capital and that most wine farm owners were male and all white. It is recommended that more should be done in terms of the incorporation of more women and previously disadvantaged individuals into wine farming through programmes such as land reform. The level of BEE compliance is low among wine farms. It is therefore recommended that relevant institutions within the wine industry should do more to provide information on BEE to wine farm owners and therefore create more awareness among different industry players.

- It was found in this study that membership to the Biodiversity and Wine Initiative (BWI) is low, especially among foreign-owned wine farms. This is very important as it concerns the environmental sustainability of wine farms and therefore the sustainability of the wine industry in general. It is recommended that the Biodiversity and Wine Initiative (BWI) be promoted through all possible channels so that more wine farms can be part of this very important environmental protection initiative.
- Data relating to investments in the wine industry in the Western Cape is generally lacking. It is therefore recommended that SAWIS, the relevant industry body responsible for data gathering, should conduct an industry wide inventory survey of wine farms that would serve as a source of information relating to investment trends, magnitudes, origins, objectives, regions, etc.

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APPENDICES

APPENDIX A: QUESTIONNAIRE

WINE FARM AND OWNER CHARACTERISTICS QUESTIONNAIRE

SECTION A: OWNER/PRINCIPAL SHAREHOLDER CHARACTERISTICS

1. Gender: Male / Female			**2. Race:** White / African / Coloured / Indian			
3. Age:	< 35	35 – 44	45 – 54	55 – 64	> 64	**4. Principal occupation:** Farming / Other

5. Highest education qualification completed	Grade 12 or lower	Technicon/College diploma or degree	University degree	Postgraduate degree

5.1 If diploma or degree, in what area of study was the highest diploma or degree?

1. Manufacturing, engineering and technology		6. Business, commerce and management studies		10. Physical, mathematical, computer and life sciences	
2. Education		7. Health sciences		11. Services	
3. Communication and language		8. Law, military science and security		12. Agriculture and conservation	
4. Human and social sciences		9. Culture and arts		13. Do not know	
5. Planning and construction					

6. Is the owner/principal shareholder the principal decision-maker?	Yes	No
6.1 If no, who makes the decisions?		
7. Is the owner/principal shareholder South African?	Yes	No
8. Is the owner/principal shareholder a member of any business or wine industry association?	Yes	No
8.1 If yes, how many?		

SECTION B: WINE FARM CHARACTERISTICS

1. What is the main objective of the principal shareholder with regards to the wine farm?	Profit	Lifestyle	Other
1.1 If other, please specify:			

2. What is the main source of capital (including start-up capital) for the farm?	Farm	Nonfarm
2.1 Is the source of capital South African or foreign?	South African	Foreign

3. What is the total annual gross income of the farm? Please select average of the years 2005 – 2007?

< 300 000	300 000 - < 1 000 000	1 000 000 - < 5 000 000	5 000 000 - < 35 000 000	> 35 000 000

4. Does the wine farm have a business or marketing plan?	Yes	No

5. What is the BEE status of the wine farm?

Level one	Level two	Level three	Level four	Level five	Level six	Level seven	Level eight	Non-compliant	Do not know

6. What is the distance to the wine farm's nearest urban centre (in kilometres)? ……

7. What is the total number of workers employed by the farm (seasonal and permanent)? ….....

7.1 If there are seasonal workers, how many did you have last year (2007)? ……

8. Does the wine farm have accommodation facilities for farm workers?	Yes	No

8.1 If yes, please indicate which of the following facilities are available to most of your farm workers:

1. Hot running water	Yes	No	13. Radio set in household	Yes	No
2. Fridge/freezer	Yes	No	14. Hi-fi or music centre	Yes	No
3. Microwave oven	Yes	No	15. Built in kitchen sink	Yes	No
4. Flush toilet in house or plot	Yes	No	16. Deep freeze	Yes	No
5. Video machine in household	Yes	No	17. Water in household or on stand	Yes	No
6. Vacuum cleaner/floor polisher	Yes	No	18. Telkom telephone	Yes	No
7. Washing machine	Yes	No	19. Dishwasher	Yes	No
8. Crèche/school	Yes	No	20. Electricity	Yes	No
9. Cellphone in household	Yes	No	21. Sewing machine	Yes	No
10. An electric stove	Yes	No	22. Motor vehicle	Yes	No
11. TV set	Yes	No	23. Home security service	Yes	No
12. Tumble dryer	Yes	No	24. Traditional hut or one-roomed cottage	Yes	No

--- Thank you very much for your time ---

APPENDIX B: LETTER OF REQUEST FOR PARTICIPATION

Request for Participation: Wine Farm and Owner Characteristics Questionnaire

Dear Wine Farm Owner/Manager

The Department of Agricultural Economics at the University of Stellenbosch, in collaboration with the Department of Agriculture in the Western Cape, is appealing for your assistance. The assistance requested is in the form of a few minutes of your time.

We are busy conducting a study aimed at estimating investment net flows in the wine industry in the Western Cape. The main objectives of this study are to identify the most common sources of capital in wine farms and the most common objectives that wine farm owners are trying to achieve when investing in wine farms in the Western Cape Province as well as to identify those wine farm and owner characteristics that affect the performance (annual gross farm income) of wine farms. Generally, this study is considered important on two fronts. First, an understanding of the various sources of capital will help in understanding the sustainability of most wine farms in the long run. Second, identifying the objectives of investing in wine farms in the Western Cape will help in the understanding of the outcomes or implications of these investments. It is envisaged that various objectives should lead to various outcomes (e.g. better caring for the environment, development of new markets, etc). Specifically, this study will be of interest to a number of important stakeholders including policymakers, investment promotion agencies, potential investors, as well as the various stakeholders within the wine industry.

We have already obtained much of our data from existing sources, but there remain a few gaps. What we would like to ask you is to help us with the collection of the outstanding data that we need to successfully conduct this study. We have included a questionnaire that we would like you to fill and that will take no more than fifteen minutes of your time to answer. We humbly request you to complete it as accurately as possible. We would sincerely appreciate if you can post or fax back the completed questionnaire to us. A self-addressed envelope with paid return postage has been enclosed for this purpose. Individual farm data, as well as names of respondents/participants will be kept strictly confidential and will only be used to calculate averages and make infererences. The code number at the top of the questionnaire will be used for questionnaire tracking purposes only. Please see **Annexure A** for guidelines for filling the questionnaire.

Should you have any question or query, please do not hesitate to contact us through the following links:

Tel: 021 808 5023
Fax: 021 808 5210
Email: elvisn@elsenburg.com

Thank you for the courtesy of your assistance.

Yours sincerely

Elvis Nakana
Study Leaders: TS Mkhabela – University of Stellenbosch; Dr. D Troskie – Department of Agriculture: Western Cape

APPENDIX C: GUIDELINES FOR FILLING THE QUESTIONNAIRE

(a) Please answer all questions in **Section A** by placing a cross **(X)** on top of the answer that is most appropriate to you. For questions with follow-up questions (**5, 6, & 8**), please ensure that the answers are as accurate as possible.
(b) Guideline (a) also applies to **Section B**, with the exception of question **8.1** which requires Yes or No answers.
(c) Please answer all questions as accurately as possible.
(d) Please use the enclosed self-addressed return envelope to send the completed questionnaire back to us.
(e) If you would like a summary of results from this study to be sent to you, please indicate by answering the question in **Annexure B** below, cut it, and send it back to us with the completed questionnaire. Please answer by placing a cross **(X)** on top of either **Yes** or **No.**

APPENDIX D: REQUEST FOR SUMMARY

Dear Mr. Nakana

Yes. Please send me a summary of the results. I will be happy to study them.

No. Thank you very much, please do not send a summary of the results.

Any comment: