

***THE MACROECONOMIC IMPACT OF THE WINE
INDUSTRY ON THE WESTERN CAPE***

2003

FINAL REPORT

CONNINGARTH ECONOMISTS

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***THE MACROECONOMIC IMPACT OF THE WINE INDUSTRY ON THE WESTERN CAPE'S
ECONOMY IN 2003***

EXECUTIVE SUMMARY

PART I: A GENERAL DESCRIPTION OF THE WINE INDUSTRY

In Part I of the study the present magnitude and basic structure of the wine industry in broad economic terms is presented together with some of the more important recent developments in the wine industry.

RECENT DEVELOPMENTS

Various forces (economic/social) have been impacting negatively on the overall buyer market, some of which also affected the wine industry:

- In overall terms, the liquor trade in 2003 was not as buoyant as in 2002. The interest rate and tax cuts had just been made and had not worked through to increased spending by consumers. In volume terms wine demand decreased by 10,2% in 2003, which seems to confirm the declining trend of recent years.
- The wine industry has been doing battle with an unstable Rand currency of late. The Rand depreciating to an average R12 to the US dollar at the end 2001 and then regained strength to an average R7,50 a dollar in 2003 (averaging close to R6,50 in 2004).
- Local liquor price (including wine) increases have outstripped that of overall inflation. This increase in wine prices is mainly a function of supply and demand although production input cost rises could also not be absorbed in total. This led to price reductions in certain instances but increases in others.
- A large portion of liquor consumers started to “downtrade”, i.e. buying more beer, to the detriment of lower priced white wines. A certain section of the market switched towards more premium brand wines and flavoured alcoholic beverages.
- It is important to note that since the previous study (2000), as was predicted then, the growth in the wine industry has come from the young plantings of red varieties that have come into production. The demand for white varieties continued to decline which lead to a decline in the local supply of white wines.

OVERALL ECONOMIC STATUS OF THE WINE INDUSTRY IN 2003

- The total turnover of the wine alcohol industry in 2003 amounted to R10 675,27 million¹⁾. Of that amount R3 153,40 million was exported directly. Imports amounted to R274,46 million or $\pm 3,6\%$ of domestic sales. In actual fact, primary agricultural output valued at R2 597,44 million was beneficiated and added in value downstream to the value of R10 675,27 million i.e. ± 4 times the initial value of the raw materials. Another R4 198,37 million was generated indirectly through wine tourism.²⁾
- Compared with the 2000-study, it is evident that the wine industry as a whole did somewhat better over the 1999 – 2003 period. Total turnover grew by 44,86% (i.e. $\pm 11\%$ p.a.). This growth has come mainly from the marvellous export performance (close to doubling in Rand value terms since 1999). The growth in value of domestic sales in nominal terms, over the period 1999 - 2003, amounted to only $\pm 7\%$ p.a.
- As in the previous study, an attempt was made to estimate what the effect would be on the country's economy if the wine producing activities in the Western Cape would cease to exist. This is a very academic exercise, but based on various assumptions, it was ultimately concluded in broad terms that local businesses would "lose" R7 521.87 million if the Western Cape ceased to provide the raw materials for wine production. On the other hand, if totally sourced from raw material imports, "new" business worth R5 847.2 million would probably take the place of the existing activities.

INSTITUTIONAL CHANGES AND FUTURE STRATEGY

The wine industry, like many other industries, is in the process of transformation as reflected by the changes in its economic structure and institutional framework. The re-introduction into the world markets has brought about huge opportunities, as reflected by the increase in exports, but on the other hand has also brought pressure on its competitiveness, both locally and overseas.

To deal with these challenges, the South African Wine Industry set in motion a specific strategic process to focus and ensure that the industry's transformation is in line with the dominant trends in the domestic and global wine business environments. The domestic environment is characterised by rapid structural and political transformation, which places new imperatives on industry leadership and producers. Thus, in order to be successful, the industry has to transform itself and shape its destiny in order to fully exploit the great possibilities and challenges that lie ahead. This project, called Vision 2020, involved research in three stages over a period of six months each and its results are now being implemented. Some of the more outstanding outcomes are the following:

- A formal representative structure, the South African Wine and Brandy Company (SAWB) was established in 2002 by representatives of the wine producers, cellars, labour and wholesale

¹⁾ R2 597,44 + R8 077.83 = R10 675.27 million. (The tourism industry was left out of this equation).

²⁾ This figure was indirectly derived at from data received from WESGRO. See Annexure to Part 1, Note no. 2.

merchants, with the aim of implementing the comprehensive Vision 2020 strategic outline to ensure the industry's development towards global competitiveness.

- The Wine Industry Plan (WIP) was prepared by the SAWB through consultations with the chambers representing Wine Producers, Labour, Cellars and the Wholesale Trade; the South African Wine Industry Trust (SAWIT); relevant government departments and agencies; and other important stakeholders in the industry as the strategic framework for cooperation and action in the South African wine industry. The purpose of the WIP is to align the industry's Vision 2020 initiative (designs for future prosperity and global competitiveness) with the Strategic Plan for SA Agriculture (national drive for a "united and prosperous agricultural sector"). The WIP is a commitment by the South African wine industry to deal with the legacy of a highly regulated economic environment and the many challenges of our times, increasing global competitiveness and discrimination along racial and gender lines.
- The first active steps toward the drafting of a South African wine industry Black Economic Empowerment (BEE) Charter and Scorecard, have been taken after representatives from all sectors of the wine industry recently approved the industry's transformation plan. The BEE Charter will have a major impact on all of the wine industry and could, if introduced correctly, play a profound role in increasing its competitiveness.

PART II: MACROECONOMIC IMPACT ASSESSMENT OF THE WINE INDUSTRY IN THE WESTERN CAPE

An important aim of this study is firstly to quantify the overall production value of each phase of the institutional chain that constitutes the production, distribution and selling of wine locally and abroad. The results in monetary terms [R millions, 2003] were (See Table 1):

Primary agricultural production	2 597.44
Manufacturing	3 274.27
Total trade and transport	3 910.45
Taxes	893.10
Tourism	4 198.37
Grand total	<u>14 873.64</u>

Secondly, using these figures as inputs, a quantitative assessment is made of the wine industry in the Western Cape's impact on various important economic aggregates such as:

- Capital utilisation
- Employment
- GDP
- Poverty reduction (Income distribution)

Partial general equilibrium analysis was used to quantify the total (direct and indirect) economic effects of the production activities at each institutional level in the wine industry. For this purpose the 2000 SAM for South Africa, was transformed into a partial equilibrium model (semi-closed). Likewise a

SAM for the Western Cape is used as basis to determine the ability of the Western Cape's economy to provide in the needs of the local wine industry.

CAPITAL UTILIZATION

A capital stock of R13 440 million (2003 prices) is required directly in the wine industry to sustain the present level of production/turnover of R10 675 million. Indirectly a further R22 419 million of capital is required in the supporting industries to sustain this level of production (excluding tourism).

The wine industry is probably more capital intensive than is believed. Although the primary agriculture portion of the wine industry is relatively labour intensive, the other portions of the industry (i.e. cellars and refining/manufacturing) are more capital intensive. On average the total industry (including tourism) is on a par with the economy as a whole.

IMPACT ON GDP (INCLUDING REGIONAL PERSPECTIVE)

This industry (including tourism) contributes R22 549 million to the annual GDP of the country. What is also important to note is the measure of value added that takes place with every step of beneficiation. Starting at farm level, the initial value of the raw material in terms of income (GDP) created, amounts to R1 593 million and ultimately leads to a total GDP value of R16 318 million (excluding tourism). This illustrates the exceptional ability of the industry as a creator of wealth. The primary agricultural sector has a low direct/indirect ratio of 1:1,3 compared to the 1:2,8 of the manufacturing sector.

However, the question is whether the wine industry contributes a fair and reasonable share to GDP per unit capital invested compared to other industries. The study showed that its GDP/Capital ratio of 0,46 is only slightly lower than the national average (0,47). Even though this is not a measure of the profitability of the industry it does signify that its capital "productivity" is in line with the average for the national economy.

The wine industry, obviously, has its roots in the Western Cape. By using a Western Cape SAM based model, it was estimated that 70 per cent of the industry's activities have a direct impact on the Western Cape's economy. A rough estimate therefore shows that of the R16,3 billion of GDP that the industry creates, directly and indirectly, about R11,4 billion eventually would "remain" in the Western Cape to the benefit of its residents. In 2003 terms this would have amounted to approximately 8.2 percent of the Western Cape's total Gross Geographic Product (GGP).

EMPLOYMENT

The wine industry supports employment opportunities to the tune of 197 579. According to the Labour/Capital ratio (5.51) it is obvious that capital is applied slightly more effectively regarding job creation as the ratio is slightly higher than that of the national economy (5.04). The relative labour intensiveness of the wine industry is specifically the result of the intensive labour production methods which are followed in the primary agriculture i.e. farming (ratio of 5.9) Primary agriculture is

responsible for 24 per cent of total employment generated by the industry. On the other hand, it uses 46 per cent of the capital employed directly by the wine industry in total (excluding tourism).

INCOME DISTRIBUTION

Household income worth R10 607 million was generated by the wine industry in 2003 (excluding tourism). An 18.0 per cent or R1 910 million is destined for the lower income groups of which a large portion is spent in the Western Cape region. Coupled with the annual expenditure by farmers on production inputs, one can understand why the wine industry forms the backbone of the economy of many districts in the Western Cape. For example the Agriculture sector contributes 38.9 per cent to the GGP of the Worcester Magisterial district; and 44.3 per cent of the Robertson Magisterial district.

The 18.0 per cent of household income generated by the wine industry (excluding tourism) destined for low-income households, is only slightly below the average for the economy as a whole (18.4).

CONCLUSION

- The South African wine industry has gone through a tough period of major changes over the past 10 years, as largely reflected by the changes in its economic structure and institutional framework indicated in this report. Its re-introduction into the world trade set-up has brought huge opportunities, as reflected by the increase in exports, but on the other hand has brought pressure on its competitiveness, both locally and overseas.

Because of this situation, the industry has embarked on a process of strategic planning and re-focussing over the past number of years. The project, named Vision 2020, aims to design specific strategies for the three wine sectors, being wine, brandy, wine distillates and other grape-based products. The industry, to be successful, has to transform itself and shape its destiny, in order to fully exploit the great possibilities and challenges that lie ahead.

The Wine Industry Plan (WIP) was prepared, by the South African Wine and Brandy Company (SAWB) through consultations with the chambers representing Wine Production, Labour, Cellars and the Wholesale Trade; the South African Wine Industry Trust (SAWIT); relevant government departments and agencies; and other important stakeholders in the industry, as the strategic framework for co-operation and action in the South African wine industry. The purpose of the WIP is to align the industry's Vision 2020 initiative (designs for future prosperity and global competitiveness) with the Strategic Plan for South African Agriculture (national drive for a "untied and prosperous agricultural sector").

The strategic goals of the South African wine industry are:

- To increase global competitiveness and profitability;
- To generate equitable access and participation within the wine value chain
- To enable environmentally sustainable production systems; and
- To promote socially responsible consumption of the produce of the vine.

The WIP is a commitment by the South African wine industry to deal with the legacy of a highly regulated economic environment and the many challenges of our times, increasing global competitiveness and discrimination along racial and gender lines.

- In terms of the Wine industry's actual impact on the South African economy, the study again produced some interesting results. Of these the following warrants attention:
 - The total capital asset base (direct and indirect) of the wine industry (excluding tourism) is estimated at R35,8 billion. The corresponding number of job opportunities that are supported by the wine industry amounts to a significant 197 579.
 - In terms of GDP, the total (direct and indirect) annual impact of the wine industry of the Western Cape (excluding tourism) on the national economy amounts to R16,3 billion. This amounts to 1,5% of the total GDP of South Africa in 2003 (in 2003 prices).
 - The wine industry generates an amount of R10,6 billion of private disposable income. Of this amount 18.0% is destined for low-income households which is slightly lower than for the economy as a whole (18.4%).
 - The Labour/Capital ratio for the wine industry amounts to 5.51 which is higher than that of the economy as a whole.
 - The GDP/Capital ratio for the wine industry in total (excluding tourism) (0.46) is almost the same than that of the economy as a whole, namely 0.47. With the exception of the wholesale and retail portion, all the other sub-sectors of the wine industry show smaller GDP/Capital ratios than the average of the economy.
 - For purposes of this study, the regional impacts emanating from the wine industry on the Western Cape for GDP and labour were also calculated. Of the total impact that the wine industry has on GDP, approximately 70% occurs in the Western Cape. For employment the percentage amounts to 63%.

THE MACROECONOMIC IMPACT OF THE WINE INDUSTRY ON THE WESTERN CAPE

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ACRONYMS

BEE	-	Black Economic Empowerment
CSS	-	Central Statistical Services
GDP	-	Gross Domestic Product
GGP	-	Gross Geographic Product
HIV/Aids	-	Human Immune Deficiency Virus/Acquired Immune Deficiency Syndrome
HP	-	Higher Price
HRDT	-	Human Resources and Development Unit
MOC	-	Memorandum of Co-operation
MP	-	Medium Price
SAM	-	Social Accounting Matrix
SANW	-	South African National Wine Show
SAWB	-	South African Wine and Brandy Company
SAWIT	-	South African Wine Industry Trust
SAWIS	-	South African Wine Industry Information and Systems
SED	-	Socio-economic Development and Empowerment Unit
SP	-	Standard Price
WIP	-	Wine Industry Plan
WOSA	-	Wines of South Africa
WESGRO	-	Western Cape Investment and Trade Promotion Agency

PART I

A GENERAL DESCRIPTION OF THE WINE INDUSTRY

1. IMPORTANT DEVELOPMENTS IN THE WINE INDUSTRY, 1990-2003

The South African wine industry has gone through a period of major changes over the past 14 years. This was mainly brought about by South Africa's re-entry into the world economy after the changes in the political dispensation since 1990. South Africa's wine producers had a large amount of catching up to do in order to re-establish themselves as sellers of quality brands on world markets.

The wine industry, like many others, is faced with constantly changing market conditions here and abroad. For example the demand for red wines locally and abroad has risen sharply in recent years, *inter alia* because of the increasing awareness by consumers of red wine's health attributes. Local wine producers were initially unable to provide for this shift in the demand in favour of red wine that started a number of years ago. This was possibly caused by South Africa's isolation and sanctions before the 1990s, and hence its over-dependence on the local market. However, a shift in South Africa to red varietal plantings had started a few years ago and presently constitutes 40% of the area planted. Compared to only 18% in 1996. South Africa is now in a better position to provide for the strong growth in the demand for red wines locally and overseas, provided this strong tendency in red wine demand continues.

On top of the structural changes referred to above, the industry has been battling in recent years with a rather volatile local market. Furthermore, natural wine consumption declined by 12% in volume terms between 1999 and 2003, while the demand for beer showed a moderate increase. Research has shown that there are several reasons for these declining tendencies, including the advent of the state lottery, more casinos, the popularity of cellphones and other telecommunications equipment and the increasing influence of HIV/Aids. The optimism that reigned after 1994, when wine and spirits sales increased handsomely for a few years, has, therefore, somewhat abated.

2. IMPORTANT ASPECTS OF THE 2004 STUDY COMPARED TO THE 2000 STUDY

Three and a half years have elapsed since the 2000 study. This is a long time in the history of any industry that is dependent on the private consumer (at home and abroad) for its growth. The information in Table 1 provides the broad framework within which the study was conducted. It shows the main macroeconomic downstream relationships of the wine industry, updated to reflect the situation in the 2003 calendar year. However, to interpret the data in Table 1 and the conclusions that are based on it, certain more recent developments, that may have had a bearing on the outcomes reflected in the table will first be discussed.

Various forces (economic/social) have been impacting negatively on the overall buyer market, some of which also affected the wine industry (See Section 1 above).

- In overall terms, the liquor trade in 2003 was not as buoyant as in 2002. The interest rate and tax cuts had just been made and had not worked through to increased spending by consumers. In fact demand for lower priced white wines declined.
- The wine industry had to do battle with an unstable Rand currency. The Rand depreciating to R12 to the US dollar end 2001 and then regained strength to an average R7,50 a dollar in 2003.
- For some reasons, liquor prices (including wine) increases have outstripped that of overall inflation. This was caused by higher manufacturing prices and repeated increases in excise duties. However, the increase in wine prices is obviously also a function of supply and demand which lead to a decline in the local supply of white wines. These factors, together with a range of developments mentioned in the previous study (lottery, casinos, cellphone, higher municipal charges etc.) have caused liquor consumption (including wine) to decline in absolute terms since 1999. In 2003, the reduction in wine consumption was severe, viz. 12 %¹⁾
- Due to the above developments, liquor consumers started to “downtrade”, i.e. buying more beer, to the detriment of lower priced wines. On the other hand a certain section of the market switched towards more premium brand wines and flavoured alcoholic beverages. This tendency was also supported by the increase in foreign tourists.
- It is important to note that since the previous study (2000), as was predicted then, the growth in the wine industry has come from the young plantings of red varieties that have come into production. The demand for white varieties continued to decline, as indicated by the number of hectares uprooted. This has led to a decline in the local supply of white wines, *inter alia* causing imports of white wines to rise.

3. OVERALL ECONOMIC STATUS OF THE WINE INDUSTRY IN 2003 (TABLE 1)

The developments in the wine industry described above, provides a background framework in order to interpret the significance of the economic aggregates presented in Table 1.

An important aim of this study, is to quantify in Rand terms, the economic value added to each phase of the institutional chain that constitutes the production, distribution and selling of wine locally and overseas. In broad terms this represents the various levels set out in Figure 1.

Table 1 contains the monetary values of each successive stage of the beneficiation process of wine making and selling for the year 2003 (in 2003 prices). The data is classified according to

¹⁾ a) South Africa Wine Industry Information Systems (SAWIS), South Africa Wine Industry Statistics No. 28, Table 10.1.
 b) The decline in wine consumption in 2003 was largely experienced in the Standard Price category (SP). The Medium Price category (MP) declined only slightly whilst the Higher Price category (HP) actually increased.

the main economic sectors and market segments. The table does not deal directly with the regional impact (except for foreign trade), which will be dealt with in Part II of this study.

Table 1 shows that the value of the total turnover of the wine alcohol industry in 2003 amounted to R10 675,27 million²⁾. Of that amount R3 153,40 million was exported directly. Imports amounted to R274,46 million or $\pm 3,6\%$ of domestic sales. In actual fact, primary agricultural output valued at R2 597,44 million was beneficiated and added in value downstream to the value of R10 675,27 million i.e. ± 4 times the initial value of the raw materials. Put another way, in this process income (consisting of the remuneration of both labour and capital) to the tune of R10 675 million was directly and indirectly generated in the RSA and overseas (via imports). Furthermore, it is estimated that an additional amount of R4 198,37 million was generated indirectly through tourism³⁾.

Compared with the 2000-study, it is evident that the wine industry as a whole did somewhat better over the 1999 – 2003 period. Total turnover grew by 44,86% (i.e. $\pm 11\%$ p.a.). However, this aggregate figure could be misleading. A further scrutiny of the data shows that this growth has come mainly from the marvellous export performance (close to doubling in Rand value terms since 1999). A similar achievement was attained over the period 1994 – 1999 for exports. Imports, on the other hand, also showed a sharp increase (although from a low base) for the reasons stated before. It still only comprises about 3% of the local market. Based on the same sources of statistics/data, the growth in value of domestic sales in nominal terms, over the period 1999 - 2003, amounted to $\pm 7\%$ p.a. The decline in the local demand for especially the lower priced white wines and the increase in imports, has however put pressure on local producers to keep their prices in check.

²⁾ R2 597,44 + R8077.83 = R10675.27 million. (The tourism industry was left out of this equation).

³⁾ This figure was indirectly derived at from data received from WESGRO. See Annexure to Part 1, Note no. 3.

TABLE 1: ECONOMIC STRUCTURE AND THE FLOW OF GOODS AND SERVICES (R millions, 2003)

Market Segment Economic Sector		R million, 2003					Western Cape ¹⁾ local Business
		Turnover Added at each Phase	Exports	Domestic Sales	Current Import Level	Potential Import Source of Business	(6) =(3)
		(1)	(2)	(3) = (1)-(2)	(4)	(5)	(6) =(3)
1	Primary Agricultural Production						
2	Cellars		(191.74)				
	<i>Total Primary</i>	2,597.44	191.74 ²⁾	2,405.70			2,405.70
3	Manufacturing, Wholesale & Retail and Transport:						
3.1	Manufacturing ³⁾	3,274.27 ⁷⁾	1,701.08	1,573.19	116.05 ⁷⁾	5,847.20 ⁶⁾	1,573.19
3.2	Total Trade & Transport	3,910.45 ⁷⁾	1,260.58 ⁴⁾	2,649.87	77.29 ^{5,7)}		2,649.87
3.3	Taxes (VAT & Excise)	893.10 ⁷⁾		893.10 ⁷⁾	81.12 ⁷⁾		893.10
	<i>Sub-total</i>	8,077.83 ⁷⁾	2,961.66	5,116.16	274.46 ⁷⁾	5,847.20	5,116.16 ⁸⁾
	TOTAL (1+2+3)	10,675.27	3,153.40⁹⁾	7,521.87	274.46	5,847.20	7,521.87
4	Tourism ¹⁰⁾						
4.1	Foreign	913.90	913.90				913.90
4.2	Local	3,284.47		3,284.47			3,284.47
	<i>Sub-total</i>	4,198.37	913.90	3,284.47	-	-	4,198.37
	GRAND TOTAL (1+2+3+4)	14,873.64	4,067.30	10,806.34	274.46	5,847.20	11,720.23

NOTE: Superscripts refer to footnotes on next page.

Source: SAWIS's 2000 structures used unless otherwise indicated.

See Annexure to Part 1 for more detail on specific sources and statistical calculations to arrive at figures reported in the table.

- ^{1a} Including Orange River production.
- ^b Excluding all export activities for this exercise, see Annexure to Part 1, Note 3
- ² The production of private cellars as a percentage of total production was applied to total exports to obtain exports by cellars. Exports by cellars of drinkwine is shown as a contra entry since the amount involved is too small to isolate manufacturing and trade & transport elements thereof.
- ³ Defined as processing, packaging, bottling and labelling (including grape juice).
- ⁴ A trade & transport margin, excluding indirect taxes (VAT & Excise), was applied to total exports.
- ⁵ The Trade & Transport margin were obtained from the 1993 Input Output Table (CSS).
For detailed calculation see Annexure to Part 1, Note 1c.
- ⁶ See Annexure to Part 1, Note 3.
- ⁷ See Annexure to Part 1, Note 1.
- ⁸ These figures represent the value of domestic sales (columns (1)-(2))
- ⁹ Primary data from Statistics South Africa, as obtained from the Department of Customs and Excise.
- ¹⁰ Data based on 2000 structures provided by WESGRO, see Annexure to Part 1, Note 2.

4. SOME REGIONAL ASPECTS

The analysts again attempted to put a value on what the loss would be to the country if the wine producing activities in the Western Cape were terminated for some reason. A totally different approach was taken to arrive at a possibly more plausible figure. (As one could expect this is somewhat of an academic exercise dependent on a number of a priori assumptions⁴). The main principles involved, are given in more detail in the Annexure to Part 1 Note 4). In column 5 an amount of R5 847.2 million is shown to reflect what the size of the business would have been if the primary raw materials were imported and not produced in the Western Cape at all. This compares with a figure of R7 521.87 million (column 6) which can be equalled to what the loss would be to local business when not sourced from the Western Cape's wine producers anymore. The loss of wine consumption due to the loss of tourists is incorporated in the reduction of local demand (15%, column 5) assuming that tourists would shorten their visits to the Western Cape or some would not come at all. While this amount might be exaggerated, it is a first approximation to illustrate the principle involved.

It is important to take an initial view on what the impact of the wine industry is on the Western Cape region's economy. (This will be dealt with in more detail in Part II of this study). Table 1 can be of assistance in this regard, although it has certain shortcomings. Firstly, it can safely be assumed that the bulk of the amount of R2 597,44 million, representing the primary value of wine production, was spent in the Western Cape. However, a certain portion will be spent on raw materials and other inputs that came from outside the Western Cape, even from overseas (this will be allowed for in the regional model which makes use of the Western Cape Social Accounting Matrix (SAM)—see Part II, par.8.

The same reasoning can be followed in respect of the manufacturing component, where it is known that most of these plants are situated in the Western Cape.

The wholesale and retail component of the wine industry represents a problematical situation due to the fact that these outlets are spread throughout the RSA. Trade and transport margins added R3 910.45 million, which should roughly be spread over the RSA in terms of the population distribution and their buying power. The trade component of exports would most probably also be largely Western Cape based.

The wine-related part of tourism is mainly Western Cape based. The extent to which the annual amount of R 4 198.37 million, estimated to be spent in the Western Cape, will have "leakages" in terms of goods and services imported from outside the area, will be taken into account in Part II.

⁴) The basic assumption was that if there was no local production of wine, the wine "business" would be based on imports and would reduce to ± 75 % of the present level of domestic demand (see Annexure to Part 1, Note 5).

Although Table 1 does not present the full picture of the economic impact of the wine industry on the Western Cape's economy, the conclusion can already be made that a minimum of 53,6 %⁵⁾ of the turnover, in terms of financial outlays, took place in the Western Cape. The extent to which these outlays will lead to actual income generation in the province will depend on various factors, i.e. the backward and forward inter-industry linkages in the Western Cape as well as the direct and indirect import leakages in the form of goods and services acquired outside the Western Cape Province (even overseas) by the wine industry itself and those businesses in the region which supply it with a whole range of goods and services (See Part II, section 10).

5. INSTITUTIONAL ASPECTS

The institutional chain that forwardly links all the participants in the whole economic process of beneficiation is shown below in Table 2.

Although the major portion of actual economic value added through the process of beneficiation takes place in the Western Cape, a substantial part thereof will realise in other parts of the country, mainly through the wholesale and retail components. (See paragraph 4).

At the retail level a large portion of the sale of alcoholic beverages is directed at the organised leisure market, i.e. people visiting restaurants, hotels, clubs etc. This is also where the tourism market is becoming increasingly important. In relation to the wine industry, the impact of tourism on demand can be categorised in two parts viz.:

- Tourists' direct consumption of wine at hotels, restaurants, etc.
- Tourists visiting the Western Cape with the specific aim of visiting the Wine Routes and also to buy wine (see Table 1 for estimates of total spending by tourists on the wine routes and also the Annexure to Part 1, Note 2).

5.1 INSTITUTIONAL CHANGES AND FUTURE STRATEGY

The wine industry, like many other industries, is in the process of transformation as reflected by the changes in its economic structure and institutional framework. The re-introduction into

⁵⁾ Made up as follows:

Primary Agriculture	2 597.44	
Manufacturing	3 274.27	
Tourism*	<u> -</u>	5 871.71
Total turnover	10 675.27	
Plus direct imports	<u> 274.46</u>	10 949.73
<u>5 871.71</u>	x $\frac{100}{1}$	= 53.6%

* (The tourism impact was not considered for this calculation)

world markets has brought about huge opportunities, as reflected by the increase in exports, but on the other hand has also brought pressure on its competitiveness, both locally and overseas.

The South African wine industry has made a watershed quality commitment following a strategic process to focus on designs for the future prosperity and global competitiveness of the industry. This project, called Vision 2020, involved research in three stages over six months each and its results are now being implemented. The aim of Vision 2020 was to design specific and detailed strategies for the three wine industry sectors, being wine, brandy and wine distillates, and other grape-based products. This initiative followed two significant events during the 1990s that fundamentally changed the operating conditions of the wine industry, namely:

- The scrapping of stabilising production, surplus and price controls, and
- Election of South Africa's first democratic government in 1994.

These resulted in the following positive developments:

- New regions with the potential for quality wine production opened up;
- New players with a strong spirit of entrepreneurship, renewal and innovation emerged within the industry;
- Wine co-operatives increasingly converted to companies and initiated marketing and export programmes, and
- A favourable export climate for South African wines after the political transformation and lifting of sanctions. However, this window of opportunity required that the industry's transformation be in line with the dominant trends in the domestic and global wine business environments.
- The domestic environment is characterised by rapid structural and political transformation, which places new imperatives on industry leadership and producers.

However, this window of opportunity required that the industry's transformation be in line with the dominant trends in the domestic and global wine business environments. Thus, in order to be successful, the industry has to transform itself and shape its destiny, in order to fully exploit the great possibilities and challenges that lie ahead.

A formal representative structure, the South African Wine and Brandy Company (SAWB) was established in 2002 by representatives of the wine producers, cellars, labour and wholesale merchants, with the aim of implementing the comprehensive Vision 2020 strategic outline to ensure the industry's development towards global competitiveness (See Figure 1 for more detail). The SAWB, a non-profit company, is directed by a Board consisting of five democratically nominated persons from each of the four groupings and an independent chairperson. The mission of the SAWB is to "enhance the strategic environment for the benefit of the South African wine industry". The mission of the office of the CEO is to implement the following core tasks:

- To manage strategic collaboration and leadership development in the wine industry (strategic leadership role);

- To represent the industry in all matters related to the Wine Industry Strategy Plan (WIP) (the advocacy, promotion and "watchdog" role);
- To monitor the implementation of the Wine Industry Plan (monitoring role).

The Wine Industry Strategy Plan (WIP) was prepared by the SAWB through consultations with the chambers representing Wine Producers, Labour, Cellars and the Wholesale Trade; the South African Wine Industry Trust (SAWIT); relevant government departments and agencies; and other important stakeholders in the industry as the strategic framework for cooperation and action in the South African wine industry. The purpose of the WIP is to align the industry's Vision 2020 initiative (designs for future prosperity and global competitiveness) with the Strategic Plan for SA Agriculture (national drive for a "united and prosperous agricultural sector").

The strategic goals of the South African wine industry are -

- To increase global competitiveness and profitability;
- To generate equitable access and participation within the wine value chain;
- To enable environmentally sustainable production systems; and
- To promote socially responsible consumption of the produce of the vine.

The WIP is a commitment by the South African wine industry to deal with the legacy of a highly regulated economic environment and the many challenges of our times, increasing global competitiveness and discrimination along racial and gender lines.

Five business units will support the SAWB:

- Social and Economic Development and Empowerment Unit (SED);
- Human Resources and Development Unit (HRDT);
- Technology Innovation and Transfer through the WINETECH network;
- Generic Market Development and Promotion through Wines of South Africa (WOSA) and the SA Brandy Foundation; and
- Knowledge and Information Systems through SAWIS.

A desirable wine industry will test the limits of the country's exceptional wine ecology and of its people - their abilities, culture and institutions - to the utmost. However, it can build on a tradition of 350 years of viticulture and wine production in South Africa, while becoming even more entrepreneurial, innovative and customer focused.

The first active steps toward the drafting of a South African wine industry BEE Charter and Scorecard have been taken after representatives from all sectors of the wine industry recently approved the industry's transformation plan.

The BEE Charter will have a major impact on all the wine industry and could, if introduced correctly, play a profound role in increasing its competitiveness.

This new charter has to dovetail with both the wider envisaged charter for the South African liquor industry and one which is now being developed for agriculture as a whole.

It should also be noted at this stage that new legislation could have an influence on the structure of the liquor industry, particularly on the new definitions of retailers, wholesalers and importers.

TABLE 2: WINE INDUSTRY STRUCTURE IN 2003

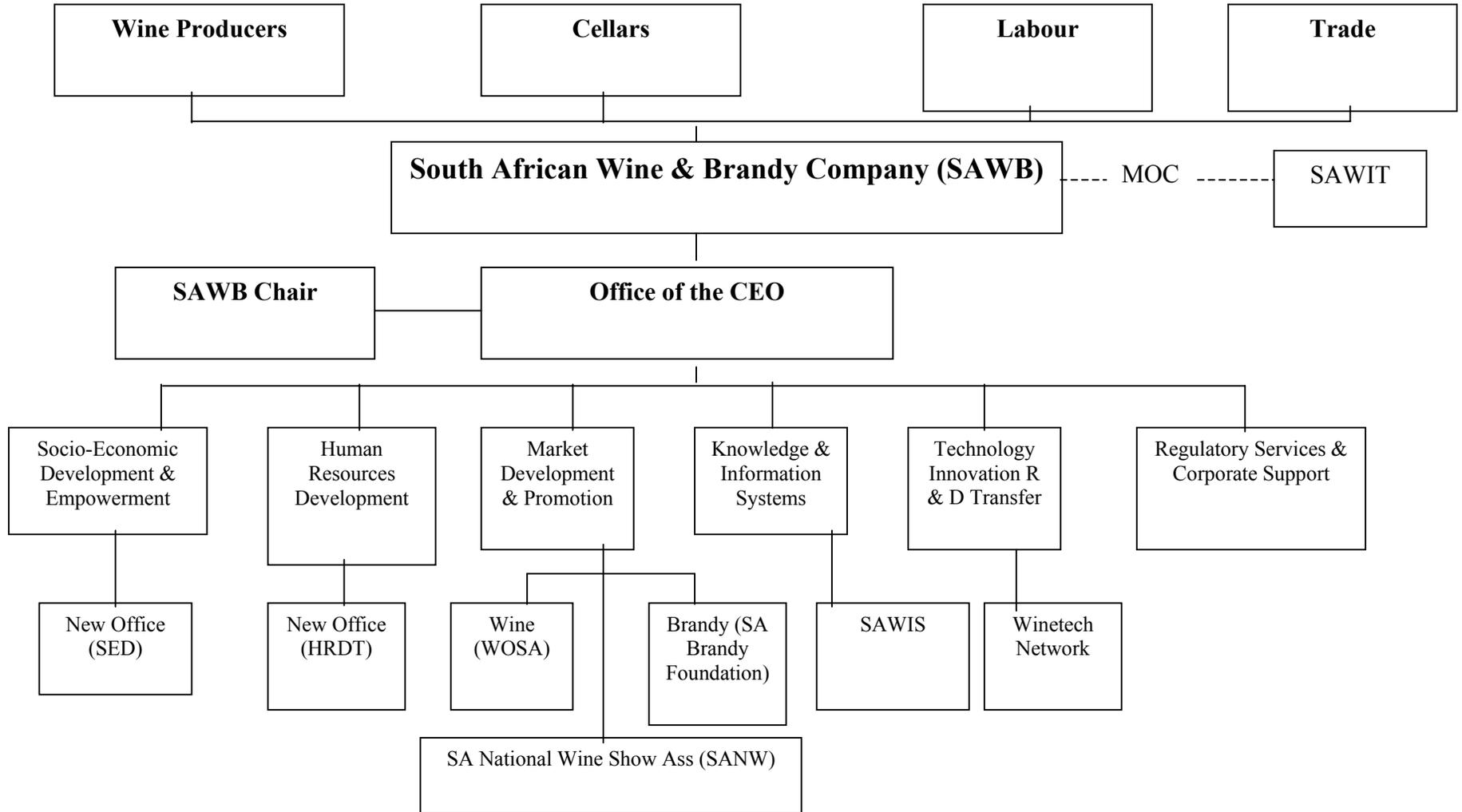
NUMBER OF PRIMARY WINE PRODUCERS	PER PRODUCTION CATEGORY	
	TONS	NUMBER OF PRODUCERS
	1 - 100	2 151
	> 100 - 500	1 548
	> 500 - 1 000	456
	>1 000 - 5 000	278
	>5 000 - 10 000	2
		4 435
NUMBER OF WINE CELLARS WHICH CRUSH GRAPES	66	CO-OPS
	93	PRIVATE WINE CELLARS - ESTATES
	330	PRIVATE WINE CELLARS - NON-ESTATES
	16	PRODUCING WHOLESALERS
	505	
NUMBER OF BULK WINE BUYERS	67	WHOLESALERS (Including producing wholesalers)
	30	EXPORTERS (Buy wine for export only)
	97	
99 Estates registered		

NUMBER OF WINE CELLARS PER PRODUCTION CATEGORY

CATEGORIES (TONS OF GRAPES CRUSHED – 2003)	NUMBER OF WINE CELLARS			
	TOTAL	PRIVATE WINE CELLARS	CO-OPS	PRODUCING WHOLESALERS
1 - 100	224	219	-	5
> 100 - 500	107	106	-	1
> 500 - 1 000	50	48	1	1
> 1 000 - 5 000	69	50	14	5
> 5 000 - 10 000	19	-	19	-
> 10 000	36	-	32	4
Total	505	423	66	16

Source: SAWIS

FIGURE 1: WIP IMPLEMENTATION STRUCTURE



ANNEXURE TO PART I

Note 1:**Estimating Total Turnover, Manufacturing, Trade and Transport and Tax Components:****TABLE A1**

BEVERAGES ¹				
YEAR	VALUE OF SALES (seasonally adjusted) R 000	INDICES OF PHYSICAL VOLUME PRODUCTION (1995=100) MPI30500	Production Price Index Alcoholic	Value of Production
	1	2	3	4 = 2 x 3
1999	1 716 533.00	108.76	93.56	101.75
2000	1 698 806.67	100.00		
2001	1 969 294.67	106.34		
2002	2 233 857.83	112.36		
2003	2 486 424.08	114.23	129.35	147.76
Growth rate : 99 - 03	9.71%	5.03%	38.25%	45.21%

a) Total Turnover

A growth rate of 9.71% was calculated for Beverage Value of Sales for the period 1999 – 2003 (See Table A.1 – Column 1) (Source: www.statssa.gov.za)

This growth rate was applied to the 1999 figure of R7 369.8 million to obtain an estimated value for 2003 of R10 675 million.

b) Value of Manufacturing Production

See Table A.1 Column 2, 3 and 4 in this regard. The indices of physical volume of production (1995 = 100) for 1999 and 2003 (Column 2) were multiplied with a production price index for alcoholic drinks (Column 3) (Source: www.statssa.gov.za).

The resulting values of production for 1999 and 2003 are reported in Column 4. The growth rate for the period 1999 – 2003 (45.21%), was applied to the 1999 figure of R2 254,8 million, resulting in R3 274,27.

c) Taxes (VAT and Excise)

In order to obtain total trade and transport for turnover, indirect taxes had to be estimated first. Thereafter the trade and transport component was obtained as a rest factor.

- Regarding taxes, note should be taken of the following:

The total amount of indirect tax is made up as follows:

	R million	
Domestic Sales	893.10	(Col 1,3)
Imports	81.12	(Col 4)
Total	974.22	

Source: SAWIS 2003 Table 11.3.

- Estimating Import components for 2003.

* Total f.o.b imports	92.84	(Statistics South Africa)
+ cif factor	9.28	10% (National average)
+ import tariffs	<u>13.93</u>	15% (IDC)
	<u>116.05</u>	(A)

- * Local trade and transport margin (excluding indirect taxes)

Assumption: the local trade and transport margin amounts to 40% (1993 I-O Table CSS)

Imports including trade and transport			
=	$116.05 \times (100/(100-40))$	=	193.34 (B)
∴ Trade and Transport		=	B – A
		=	193.34 – 116.05
		=	77.29 (C)

- * Taxes (VAT and Excise):

- VAT: 14% of 193.34 (B)

VAT	14% x 193.34 (B)	27.06
Excise	46.2 x 1.17	54.05
		81.12

* SAWIS: T9.2

Natural white wine	40 millions litres
Natural red wine	<u>6 millions litres</u>
	<u>46 millions litres</u>

T11.1 Excise study: R1.17/l

Note 2:

Tourist Spending in Study Area

	R million			
Year 2003	Tourist spending in "wine routes" ⁷⁾			
	West Coast	Winelands	Breede River	Total: Wine Route
Foreign	152.56	457.19	304.14	913.90
Domestic	547.37	1,642.24	1,094.87	3,284.47
Total	699.93	2,099.43	1,399.01	4,198.37

Source: Figures based on WESGRO 2000 structure.

⁷⁾ The "wine routes" refer to tourism areas and differ from the wine producing subregions.

Note 3:**Western Cape Sourced Portion of Wine Industry**

To arrive at a figure for the amount of business that will remain in South Africa if, on assumption, the industry is totally sourced from overseas, a number of assumptions need to be made. For example, will there still be a manufacturing part left, perhaps sourcing its un-refined raw materials from overseas? Will the trade part remain the same by importing wine in bottles or bulk to be packaged and distributed locally. Exports, obviously, will fall away.

First Assumption

- Domestic demand for wine will not decline
- Exports will fall away
- The remaining domestic demand for wine will be sourced from imports.

In practical terms this will amount to the following:

- Domestic demand equals domestic sales plus imports:

In 2003 this amounts to R7 521,87 million + R274,46 (see columns 3 and 4, Table 1) = R7 796,33 million.

- Broken down to its constituent components will amount to:

-	Imports fob.	R3 296. 52 m	(42,29 %)
-	cif	-	including
-	import tariffs	-	cif and tariffs
-	trade & transport	R2 195,44 m	(28,16%)
-	excise & vat	R2 304,37 m	(29,55 %)
	Retail value	<u>R7 796,33</u>	<u>(100,00%)</u>

- Local sourced business to the tune of R10 675,27 million will fall away (See column 1, Table 1).
- The net impact on the RSA economy would be manifold including the direct loss of income to employees and return on capital employed in the local sourced business. A further blow to the economy will be measured on the current account of the balance of payments, which could be profound: i.e. imports will rise to R3 296,52 million and exports to the tune of R3 153,40 million will fall away – A net negative impact of R6 449,92 million.

As can be seen from the above, this assumption entails a number of restrictive points of departure and was not chosen for demonstration purpose (See Second Assumption).

Second Assumption

As indicated above the points of departure under the First Assumption are somewhat restrictive and probably far removed from reality. For the purpose of this study, a second assumption is made with the aim to hopefully reflect reality better and to demonstrate the dynamic ability of the economy to adjust to a drastic external shock such as the “demise” of the locally sourced wine industry.

In the 2000 study (See Annexure to Part 1, Note 5: Second Assumption) it was assumed that when the local wine industry ceases to exist, the impact on the local economy would mostly be felt through a 65% decline in the local wholesale and retail trade in wine. After thoroughly reconsidering this point of departure, the researchers would propose a new approach. The following aspects must also be considered:

- The local demand for wine is only partially dependent on the size of the industry’s producing activities in the Western Cape. So, if the local producing activities cease to exist, the loss in employee income and its impact on wine consumption would be relatively small in relation to national consumption figures.
- To what extent will the Western Cape’s wine farmers adjust to a loss of wine production by for instance switching to alternative uses of grapes?
- The impact on the current account of the balance of payments could be substantial and could have a significant impact on overall economic policy (interest rates and exchange rate).
- It is agreed that a certain amount of foreign tourists will be negatively affected, thus a decline of demand for wine by them ($\pm 15\%$ of total national demand for wine) is assumed.

In view of the above points of departure, it was concluded that a totally import sourced local wine industry would be much larger than the 35% assumed in the previous study. But how much larger?

What is important to note is that the local demand for wine will decline because of three factors viz:

- A loss of salaries and wages, as well as the portion of this income spent on wine, in the agricultural and manufacturing industries linked to wine production. (In 2003 food and beverages expenditure by households amounted to $\pm 30\%$ of total consumption expenditure). The wine component of this percentage is much smaller.
- The reduction in tourists would negatively affect total wine consumption by not more than 15% (assumed in previous study)
- The negative balance of payments effect on the economy is unknown. (This would require a full blooded impact study, not part of the present brief).

Taking all these factors into account and venturing an educated guess, the overall impact on local demand for wine could be in the region of $\pm 25\%$ i.e.:

- tourist reduction (15%)
 - reduction in demand due to closure of Western Cape producing sectors (5%)
 - Balance of Payments effect (5 %)
- Total effect: 25 %

Using this percentage as departure point, import sourced business can be calculated as follows:

$$\frac{100 - 25}{100} \times \frac{\text{R7 796,3 million}^{8)}}{1} = \text{R5 847,2 million}$$

⁸⁾ Total domestic sales: R7 521,87 + R274,46 = R7 796,3 million.

LIST OF INFORMATION SOURCES

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7. Die Burger; 30 Maart 2004; “Wynbedryf in die knyp - Fridjhon
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PART II

THE MACROECONOMIC IMPACT ASSESSMENT OF THE WINE INDUSTRY IN THE WESTERN CAPE

1. INTRODUCTION

In Part I only a broad indication of the wine industry's contribution towards overall economic activities in South Africa was provided. In Part II a more detailed presentation is given of the impact of the various value-added (beneficiation) processes in the wine industry on certain linked economic aggregates such as Gross Domestic Product (GDP), demand for capital, employment, sectoral development and income distribution. In the final part the impact of the wine industry on the Western Cape is given.

2. OBJECTIVE OF THE MACROECONOMIC IMPACT ASSESSMENT

As indicated above the main objective of this portion of the study was to measure the magnitude of the macroeconomic impact of the wine industry in the Western Cape at each of the institutional levels shown in Table 1 viz:

- Agriculture (production at farm level)
- Cellars
- Refining (manufacturing)
- Wholesale and retail trade, and transport
- Tourism

To quantify the macroeconomic impacts that originate from the beneficiation activities at each of these institutional levels, use is made of the production values at each level (see Table 1) as the "impact drivers"

The macroeconomic impacts on the national economy, as well as the Western Cape region, were measured. For the national impact, the 2000 National Social Accounting Matrix (SAM) for South Africa was used. For the impact on the Western Cape as such, use was made of the Western Cape's Regional SAM.

3. METHODOLOGY

3.1 PARTIAL GENERAL EQUILIBRIUM ANALYSIS

Partial general economic equilibrium analysis was used to quantify the total (direct and indirect) economic effects of the production activities at each institutional level in the wine industry. For

this purpose the 2000 SAM for South Africa, was transformed into a partial equilibrium model (semi-closed).

By using this econometric model with the SAM as basis the direct, indirect and induced effects on the economy emanating from the various levels of beneficiation i.e. primary agriculture, cellars, refining, etc. are quantified.

The impact analyses were based on the following well-known economic magnitudes:

- Capital utilization
- Employment
- Gross domestic Product (GDP)
- Income Distribution – impact on low income groups

3.2 THE SAM OF THE NATIONAL SOUTH AFRICAN ECONOMY

As indicated above, for purposes of analyzing the national economic impact emanating from the wine industry in the Western Cape, the 2000 SAM formed the basis of the various analyses.

In layman's terms, a SAM is a matrix depicting the economic linkages that exist between all the different role-players in the relevant economy i.e. business sectors, households, the outside world and government. It is very similar to an Input-Output Table in the sense that it also reflects all the inter-industry linkages that are present in an economy. However, the development of the SAM is more significant as it provides a framework within the context of the National Accounts of a country in which the income and spending activities of households are accentuated and distinguished prominently. The household is indeed the strategic unit where significant decisions are taken that will impact on important economic variables such as, personal consumption expenditure and saving. By reclassifying households to form meaningful categories/groups, the SAM makes it possible to clearly distinguish between the direct effect on these groups of changes in the level of economic activities as well as the interaction between them and the ultimate social and economic welfare of each group.

Accordingly, the SAM serves a dual purpose in the national accounts of a country. Firstly, it is a reflection of the magnitude and linkages of all the social and economic stakeholders in an economy. Secondly, once a SAM has been developed, it can serve as a powerful analytical tool (due to its mathematical underpinnings) that can be used to conduct various economic analyses such as calculating the impact of the wine industry on the South African economy.

In order to obtain the highest measure of accuracy and realism possible, suitable reclassifications and disaggregations were performed on the SAM to ensure that all sectors, which feature prominently in the wine industry in the Western Cape were taken into account.

By using this econometric model with the SAM as basis the direct, indirect and induced effects on the economy emanating from the various levels of beneficiation i.e. primary agriculture, cellars, refining, etc. are quantified.

3.3 Regional SAM for the Western Cape

To determine the impact of the wine industry on the Western Cape itself, use was made of the 1993 SAM for the Western Cape (the most recent SAM for this area).

This SAM demonstrates the interaction between the economy of the Western Cape and the rest of South Africa including the rest of the world. Thus, once a SAM of this nature is available, a number of analyses can be done to determine the nature and magnitude of inter-regional economic relationships between the Western Cape and other regions in South Africa and the rest of the world. If, for instance, there is a change in the level of production of the wine industry in the Western Cape, this will definitely have an impact on certain other industries in the rest of South Africa that provide inputs (directly and indirectly) to the wine industry in the Western Cape. To measure these changes, a SAM for the Western Cape is used as it contains important information on the ability of the Western Cape economy to provide in the needs of the local wine industry. Likewise, the measure of the extent to which the wine industry's production input needs will have to be provided from sources outside the region is also incorporated in the SAM.

4. RESULTS

Productive capital assets are required to support or generate any given amount of economic activity (i.e. GDP). These capital assets, together with labour and entrepreneurship, form the basic productive factors needed for production. Obviously the effectiveness and efficiency with which these factors are combined will determine the overall level of productivity and profitability of such assets. The latter will in turn depend on a whole array of factors, of which the appropriate technology and skills content of the labour force are most important.

The results of the application of the partial general equilibrium model of the wine industry are given in Tables 3, 4, 5 and 6.

4.1 Capital Utilisation

Table 3 shows the overall capital base needed to sustain the present level of production. The total column shows that a capital stock of R13 440 million is required directly in the wine industry to sustain a level of production/turnover of \pm R10 billion.

Indirectly, the capital requirements of all supporting industries (cellars, refining and wholesale and retail) are substantially higher ($1\ 160 + 6\ 777 + 10\ 344 = 18\ 281$), which is a reflection of the measure of specialisation already achieved in the main production activity.

Looking at the situation from an intra-regional perspective, primary agriculture (i.e. the on-farm situation), required capital stock (investment) to the level of \pm R6,2 billion to ensure the present level of production (whether it represents an over or under utilisation of capital already invested is not known and will require additional research which does not form part of the present brief).

TABLE 3: CAPITAL UTILISATION

Total Capital needed to support the forward and backward linkages of the wine industry of the Western Cape [R millions, 2003 Prices]

ECONOMIC SECTOR	Orange River	Olifants River	Klein Karoo	Paarl/Malmesbury	Robertson	Stellenbosch	Worcester	TOTAL	PERCENTAGE
A: PRIMARY AGRICULTURE									
<i>1. Direct</i>	459	882	300	1,805	865	837	1,142	6,290	
<i>2. Indirect</i>	332	545	198	1,006	571	599	888	4,138	
<i>3. Total</i>	791	1,427	498	2,811	1,435	1,436	2,030	10,427	20.3%
B: CELLARS									
<i>1. Direct</i>	122	301	55	314	294	86	385	1,558	
<i>2. Indirect</i>	130	183	53	227	328	108	132	1,160	
<i>3. Total</i>	252	484	107	541	622	194	517	2,717	5.3%
C: REFINING/MANUFACTURING									
<i>1. Direct</i>	329	527	155	605	574	319	850	3,359	
<i>2. Indirect</i>	664	1,064	312	1,220	1,159	644	1,715	6,777	
<i>3. Total</i>	993	1,591	466	1,825	1,733	963	2,565	10,137	19.7%
D: WHOLESALE and RETAIL and TRANSPORT									
<i>1. Direct</i>	219	351	103	402	382	212	565	2,233	
<i>2. Indirect</i>	1,014	1,624	476	1,862	1,769	983	2,617	10,344	
<i>3. Total</i>	1,233	1,975	579	2,264	2,151	1,195	3,182	12,577	24.5%
WINE INDUSTRY (total)									
<i>1. Direct</i>	1,129	2,061	612	3,126	2,115	1,454	2,943	13,440	
<i>2. Indirect</i>	2,140	3,416	1,038	4,315	3,826	2,333	5,351	22,419	
<i>3. Total</i>	3,268	5,477	1,650	7,441	5,941	3,787	8,294	35,859	69.8%
E: TOURISM									
<i>1. Direct</i>	156	642	324	1,440	891	1,259	1,198	5,908	
<i>2. Indirect</i>	253	1,045	528	2,346	1,451	2,050	1,951	9,625	
<i>3. Total</i>	409	1,687	852	3,785	2,342	3,309	3,149	15,533	30.2%
GRAND TOTAL									
<i>1. Direct</i>	1,284	2,703	936	4,566	3,006	2,713	4,140	19,348	
<i>2. Indirect</i>	2,393	4,461	1,566	6,661	5,277	4,383	7,302	32,044	
<i>3. Total</i>	3,677	7,164	2,502	11,227	8,283	7,096	11,443	51,392	100.0%

5. EMPLOYMENT IMPACT

As indicated previously, capital together with labour and entrepreneurship form the primary productive factors needed for wine production. The manpower requirements (man years), in terms of people employed in the wine industry are shown in Table 4 for 2003. Again, as with capital, the model provided for the direct and indirect impacts for every level of beneficiation as well as for each production area.

Starting with the total column, it is significant to note that the wine industry directly and indirectly supports 197 579 job opportunities throughout the economy. The industry directly supports the employment of 108 675 people. What is important to note here is that the primary agricultural part of the wine making process and wholesale, retail trade and transport directly employs the most people. In total (directly and indirectly) they are responsible for 56 % of the jobs which are dependent on the wine industry if the tourism industry is included.

When the above figures are compared with the 1999 exercise, some interesting aspects come to the fore. Most prominently is the fact that for 2003 the total employment figure is much higher (197 579 vs. 159,952). This can to a large extent be attributed to differences in the input levels and structures as reflected in the new SAM of South Africa compared with the older SAM used in the previous study (this includes the so-called import leakage ratios that show the amount of local demand satisfied through imports). The 2003 figures should therefore be regarded as more accurate. What remained the same (more or less) are the differences between the direct employment impacts for each level of beneficiation and the indirect impacts. Both primary agriculture and wholesale and retail trade plus transport show smaller indirect impacts than their direct impacts. This is mainly ascribed to the fact that the manufacturing parts of the wine industry have become more specialised and more dependent on outside raw material suppliers and specialised services. The trade sector, due to the structure of its business, has a relatively large manpower and administration content, with relatively lesser dependency on outside sources for inputs.

If the tourism industry is taken into account, a grand total of 256 908 employees are supported, directly and indirectly by the wine industry of the Western Cape. Tourism as such contributes roughly 23% to this grand total.

TABLE 4: EMPLOYMENT

Total Labour needed to support the forward and backward linkages of the wine industry of the Western Cape (2003 numbers)

ECONOMIC SECTOR	Orange River	Olifants River	Klein Karoo	Paarl/Malmesbury	Robertson	Stellenbosch	Worcester	TOTAL	PERCENTAGE
A: PRIMARY AGRICULTURE									
<i>1. Direct</i>	2,506	3,464	1,609	14,053	5,155	9,458	7,474	43,718	
<i>2. Indirect</i>	1,441	2,282	816	4,511	2,454	2,579	3,802	17,885	
<i>3. Total</i>	3,947	5,746	2,425	18,564	7,608	12,037	11,275	61,603	24.0%
B: CELLARS									
<i>1. Direct</i>	213	288	85	356	531	179	187	1,838	
<i>2. Indirect</i>	467	661	189	822	1,179	386	484	4,188	
<i>3. Total</i>	680	949	274	1,177	1,710	565	670	6,026	2.3%
C: REFINING/MANUFACTURING									
<i>1. Direct</i>	1,924	3,082	903	3,534	3,357	1,865	4,967	19,633	
<i>2. Indirect</i>	2,732	4,377	1,283	5,019	4,768	2,649	7,054	27,881	
<i>3. Total</i>	4,656	7,460	2,186	8,553	8,125	4,514	12,021	47,514	18.5%
D: WHOLESALE and RETAIL and TRANSPORT									
<i>1. Direct</i>	4,262	6,827	2,000	7,827	7,436	4,131	11,002	43,486	
<i>2. Indirect</i>	1,967	3,151	923	3,613	3,432	1,907	5,078	38,950	
<i>3. Total</i>	8,079	12,942	3,792	14,838	14,096	7,831	20,856	82,435	32.1%
WINE INDUSTRY (total)									
<i>1. Direct</i>	8,904	13,662	4,597	25,770	16,479	15,633	23,629	108,675	
<i>2. Indirect</i>	6,608	10,471	3,211	13,964	11,833	7,521	16,417	70,025	
<i>3. Total</i>	17,362	27,097	8,677	43,133	31,540	24,947	44,823	197,579	76.9%
E: TOURISM									
<i>1. Direct</i>	1,699	2,722	797	3,120	2,964	1,647	4,386	17,335	
<i>2. Indirect</i>	4,115	6,593	1,932	7,559	7,181	3,990	10,625	41,995	
<i>3. Total</i>	5,814	9,315	2,729	10,679	10,145	5,636	15,010	59,329	23.1%
GRAND TOTAL									
<i>1. Direct</i>	10,603	16,384	5,395	28,890	19,443	17,280	28,015	126,009	
<i>2. Indirect</i>	10,723	17,064	5,143	21,523	19,014	11,510	27,042	130,899	
<i>3. Total</i>	23,176	36,412	11,406	53,812	41,686	30,583	59,833	256,908	100.0%

6. IMPACT ON GDP

The income generating or multiplier effects of the wine industry is calculated at 2.8⁹⁾. This means that for every Rand's worth of direct production-factor income generated in the industry as such, close to two Rands will be generated in other parts of the economy through its sectoral backward linkage structure. These ratios for the different production areas differ only slightly. This can mainly be attributed to slightly different input/production structures and gross operating margins.

As could be expected, the measure of beneficiation that takes place within every economic sector will also impact differently on the income (GDP) generating capacities of different production processes (levels of specialisation and technologies employed). The beneficiation factor in the manufacturing process (refining) amounts to 3,8¹⁰⁾ as compared to the 2,9 (770/270) of the cellars, where a relatively smaller measure of refining and value added takes place.

$$^9) \quad \frac{16\,318}{5\,907} = 2,76$$

$$^{10)} \quad \frac{4\,130}{1\,082} = 3,8$$

TABLE 5: GROSS DOMESTIC PRODUCT (GDP)

Total GDP generated through forward and backward linkages of the wine industry of the Western Cape [R millions, 2003 Prices]

ECONOMIC SECTOR	Orange River	Olifants River	Klein Karoo	Paarl/Malmesbury	Robertson	Stellenbosch	Worcester	TOTAL	PERCENTAGE
A: PRIMARY AGRICULTURE									
1. Direct	200	303	81	295	55	177	483	1,593	
2. Indirect	157	251	89	472	481	277	414	2,140	
3. Total	357	554	170	766	536	454	897	3,733	16.6%
B: CELLARS									
1. Direct	27	43	11	55	70	20	43	270	
2. Indirect	56	79	23	98	141	46	58	501	
3. Total	82	123	34	153	211	67	101	770	3.4%
C: REFINING/MANUFACTURING									
1. Direct	106	170	50	195	185	103	274	1,082	
2. Indirect	299	479	140	549	521	290	771	3,048	
3. Total	405	648	190	743	706	392	1,045	4,130	18.3%
D: WHOLESALE and RETAIL and TRANSPORT									
1. Direct	290	465	136	533	507	281	750	2,963	
2. Indirect	463	741	217	850	807	448	1,194	4,721	
3. Total	753	1,206	353	1,383	1,314	730	1,944	7,684	34.1%
WINE INDUSTRY (total)									
1. Direct	623	982	278	1,078	816	582	1,549	5,907	
2. Indirect	974	1,550	469	1,968	1,951	1,061	2,437	10,410	
3. Total	1,597	2,531	748	3,046	2,767	1,643	3,986	16,318	72.4%
E: TOURISM									
1. Direct	195	313	92	359	341	189	504	1,993	
2. Indirect	415	666	195	763	725	403	1,073	4,239	
3. Total	611	978	287	1,122	1,066	592	1,577	6,232	27.6%
GRAND TOTAL									
1. Direct	818	1,294	370	1,436	1,157	771	2,053	7,900	
2. Indirect	1,389	2,215	664	2,731	2,676	1,464	3,510	14,649	
3. Total	2,208	3,510	1,034	4,168	3,832	2,235	5,563	22,549	100.0%

7. INCOME DISTRIBUTION

As was mentioned earlier the partial general equilibrium econometric model, based on the 2000 SAM's national accounting structures, was used to estimate the wine-industry's impact on various income categories in South Africa. It should be noted right at the start that due to the lack of more industry related information on employment structures, the consultants were forced to make certain assumptions that might have affected the quality of the results (for example income distribution ratios in accordance with the wine distilling in total was used).

In the case of agriculture, industry-specific information, especially with regard to the cost structures of various production areas, produced differences in percentages of low-income consumers vs. total labour remuneration. As shown in Table 6 in terms of the income to low-income households, the primary agriculture sector (20.81%) differs from the total wine industry's (18.01%), mainly because the primary agriculture sector is relatively more labour intensive than the latter, and using more lower skilled workers in its production processes.

In the case of the manufacturing sub-sector use was made of information on the employment structure of the wine distilling sector as contained in the SAM, to subdivide the total workers' income into high, medium and low categories. Again, more industry specific information is needed to provide a picture that would more closely reflect the real situation. As could be expected, the ratio of 18,5% is in line with the industry average.

Given the shortcomings of the information available, it is still significant to note from Table 6 that $\pm 18,0\%$ of the workers' remuneration generated by the wine industry as a whole is destined for the lower income groups.

TABLE 6: INCOME DISTRIBUTION

Household income (mostly salaries and wages) generated through forward and backward linkages of the wine industry of the Western Cape [R millions, 2003 Prices]

ECONOMIC SECTOR	Orange River	Olifants River	Klein Karoo	Paarl/Malmesbury	Robertson	Stellenbosch	Worcester	TOTAL
A: PRIMARY AGRICULTURE								
<i>1. Low Income</i>	45	71	21	89	67	53	113	459
<i>2. Total Income</i>	195	303	99	501	308	300	501	2,206
<i>3. Low income as % of Total income</i>	23.31%	23.31%	21.28%	17.82%	21.69%	17.62%	22.61%	20.81%
B: CELLARS								
<i>1. Low Income</i>	10	14	4	18	25	8	12	91
<i>2. Total Income</i>	56	81	23	101	142	46	62	512
<i>3. Low income as % of Total income</i>	17.16%	17.89%	17.46%	17.99%	17.34%	16.85%	19.62%	17.78%
C: REFINING/MANUFACTURING								
<i>1. Low Income</i>	48	77	23	88	84	47	124	490
<i>2. Total Income</i>	259	416	122	477	453	252	670	2,648
<i>3. Low income as % of Total income</i>	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.51%
D: WHOLESALE and RETAIL and TRANSPORTI								
<i>1. Low Income</i>	85	137	40	157	149	83	220	870
<i>2. Total Income</i>	514	823	241	943	896	498	1,326	5,241
<i>3. Low income as % of Total income</i>	16.60%	16.60%	16.60%	16.60%	16.60%	16.60%	16.60%	16.60%
WINE INDUSTRY (total)								
<i>1. Low Income</i>	188	299	88	352	324	190	470	1,910
<i>2. Total Income</i>	1,024	1,622	485	2,022	1,799	1,095	2,559	10,607
<i>3. Low income as % of Total income</i>	18.39%	18.41%	18.08%	17.42%	18.01%	17.33%	18.35%	18.01%
E: TOURISM								
<i>1. Low Income</i>	70	112	33	128	122	68	180	713
<i>2. Total Income</i>	403	645	189	740	703	390	1,039	4,108
<i>3. Low income as % of Total income</i>	17.4%	17.4%	17.4%	17.4%	17.4%	17.4%	17.4%	17.35%
GRAND TOTAL								
<i>1. Low Income</i>	258	411	120	481	446	257	650	2,623
<i>2. Total Income</i>	1,427	2,267	674	2,762	2,502	1,485	3,599	14,715
<i>3. Low income as % of Total income</i>	18.10%	18.11%	17.87%	17.40%	17.83%	17.33%	18.06%	17.83%

8. MACROECONOMIC EFFICIENCY OF THE WINE INDUSTRY

The “quality” of the macroeconomic impact can also be measured in terms of certain economic efficiency criteria. These establish the extent to which the wine industry utilises resources efficiently. Since capital is a scarce resource in South Africa, these criteria measure the effectiveness of the utilisation of capital in terms of its employment and GDP creation capabilities, relative to the rest of the economy. In order to make these comparisons, certain multipliers or ratios were calculated. The absolute impacts illustrated in Tables 3 to 6 were used to determine these ratios.

The accompanying Table 7a reflects the effect of the wine industry in the Western Cape on economic growth and job opportunities. It also reflects the Gross Domestic Product/Capital ratio (GDP/Capital ratio) and Labour/Capital ratio. The contribution towards economic growth and job creation, relative to the capital employed in the process, is established in this manner. If continuous economic growth in the long-term is considered more important than job creation in the short term, the GDP/Capital ratio is the more important of the two macroeconomic measures in question. On the other hand, if job creation, particularly in the short term, has priority, the Labour/Capital ratio is of more importance.

According to the Labour/Capital ratio it is obvious that capital is applied effectively regarding job creation and the ratio is higher than that of the economy as a whole. The average for the economy is 5,04 compared to 5,51 for the wine industry excluding tourism.

The GDP/Capital ratio for the wine industry (excluding tourism) of 0,46 is about the same as that of the economy as a whole, namely 0,47. The picture that emerges in Table 7b is that the wine industry per se (i.e., cellars, refining/manufacturing) is somewhat more capital intensive than the other parts of the beneficiation chain (tourism is excluded).

Table 7a also reflects the low income/total income ratio. This ratio shows the portion of household income that goes to the low-income households as generated by the wine industry. The ratio for the wine industry is 18%, which is slightly lower than for the total economy.

TABLE 7a: A MULTIPLIER ANALYSIS OF THE WINE INDUSTRY IN THE WESTERN CAPE [2003 PRICES]

Macroeconomic indicators	<i>Wine industry only</i>	<i>Total (including tourism)</i>	<i>Average for the economy</i>
GDP [R millions]	16,318	22,549	
Total labour	197,579	256,908	
Total capital [R millions]	35,859	51,392	
Household income			
- Total [R millions]	10,607	14,715	
- Low-income groups [R millions]	1,910	2,623	
<i>GDP/Capital ratio</i>	<i>0.46</i>	<i>0.44</i>	<i>0.47</i>
<i>Labour/Capital ratio</i>	<i>5.51</i>	<i>5.00</i>	<i>5.04</i>
<i>Low-income/Total income (%)</i>	<i>18.01%</i>	<i>17.83%</i>	<i>18.41%</i>

In Table 7b the GDP/Capital and Labour/Capital ratios for each of the economic sub-sectors relating to the wine industry (primary agriculture, cellars, refining, etc.) are provided.

TABLE 7b: RATIOS RELATING TO THE WINE INDUSTRY

	<i>GDP/Capital ratio</i>	<i>Labour/Capital ratio</i>
1 <i>Primary agriculture</i>	0.36	5.91
2 <i>Cellars</i>	0.28	2.22
3 <i>Refining/Manufacturing</i>	0.41	4.69
4 <i>Wholesale and retail/and transport</i>	0.61	6.55
5 <i>Tourism</i>	0.40	3.82

9. SECTORAL IMPACT ANALYSIS

The sectoral impact analysis measures the nature and magnitude of the wine industry in the Western Cape on all other economic sectors in the South African economy such as the total agriculture sector, mining, manufacturing, etc. In Tables 8a and 8b the impact on all the sectors in the economy in terms of production and GDP are given respectively. Thus, these tables reflect how the production, and the subsequent GDP of each sector, is impacted by production activities in the wine industry in the Western Cape.

- **Primary agriculture**

The structure of the agricultural part of the wine industry's impact on the national economy is more a reflection of the national agricultural sector's backward linkage structure in South Africa, which was used for this exercise. The biggest impact is on the agriculture sector itself (intra impact), chemicals and the trade and accommodation sectors.

- **Cellars**

Cellars also have a big intra impact, reflecting the process of the beneficiation of wine "in-house".

- **Refining/Manufacturing**

The manufacturing part of the wine industry has a more evenly spread backward linkage structure than cellars, reflecting a more specialised process of wine making and distilling (more capital intensive and technology driven). As can be expected, the largest impact is on beverages sector itself again reflecting the large measure of value added that takes place within the wine making process itself.

- **Wholesale and retail trade/and transport**

This sector's impact structure portrays the classic business activity relating to trade. For example, 67% of the GDP impact is within itself, again reflecting the whole range of "in-house" value adding activities (packaging, labelling, bottling, distribution, etc.) that take place in the wholesale and retail trade sector.

- **Tourism**

The tourism GDP impact is much more widespread over the sectoral range in the economy, the largest impact being on trade activities, as well as transport.

- **Total**

In its totality the wine industry's sectoral impact structure reflects the "weighted average" of all the sub-sectors combined. It is important to note that the GDP impact coefficients make allowance for import "leakages" from overseas. The sectoral impacts therefore only reflect the impacts on the domestic production of the supplying sectors.

TABLE 8a: SECTORAL IMPACT: PRODUCTION [R MILLIONS, 2003 PRICES]

ECONOMIC SECTOR	AGRICULTURE	%	CELLARS	%	REFINING/ MANUFACTURING	%	WHOLESALE & RETAIL	%	TOURISM	%	TOTAL	%
agric	1,567.44	31.0%	32.38	2.2%	305.54	3.3%	345.21	2.6%	692.34	5.6%	2,942.92	7.1%
gold-min	0.31	0.0%	0.09	0.0%	0.53	0.0%	0.86	0.0%	22.19	0.2%	23.98	0.1%
othr-min	75.93	1.5%	24.01	1.6%	98.33	1.1%	116.48	0.9%	147.24	1.2%	461.99	1.1%
food-mfg	274.34	5.4%	56.74	3.8%	509.39	5.5%	601.79	4.6%	1,486.05	12.0%	2,928.31	7.1%
beverage	57.14	1.1%	532	35.4%	3,645.87	39.6%	135.07	1.0%	471.49	3.8%	4,841.08	11.7%
tobacco	11.82	0.2%	2.26	0.2%	12.68	0.1%	23.40	0.2%	19.69	0.2%	69.84	0.2%
textiles	31.18	0.6%	6.99	0.5%	41.54	0.5%	73.07	0.6%	66.81	0.5%	219.58	0.5%
clothing	32.15	0.6%	7.45	0.5%	49.25	0.5%	83.49	0.6%	72.28	0.6%	244.63	0.6%
leather	4.86	0.1%	1.14	0.1%	6.55	0.1%	11.86	0.1%	11.90	0.1%	36.32	0.1%
footwear	12.92	0.3%	2.65	0.2%	15.05	0.2%	27.88	0.2%	22.75	0.2%	81.24	0.2%
woodprdt	26.13	0.5%	3.39	0.2%	28.77	0.3%	32.02	0.2%	29.70	0.2%	120.01	0.3%
furniture	17.21	0.3%	3.99	0.3%	22.65	0.2%	53.75	0.4%	37.78	0.3%	135.37	0.3%
paper	61.80	1.2%	13.96	0.9%	297.27	3.2%	237.01	1.8%	192.70	1.6%	802.74	1.9%
printing	27.82	0.6%	8.07	0.5%	68.60	0.7%	118.04	0.9%	76.28	0.6%	298.81	0.7%
chemicals	468.81	9.3%	146.12	9.7%	386.15	4.2%	620.52	4.7%	679.09	5.5%	2,300.69	5.6%
rubber	35.50	0.7%	3.47	0.2%	21.10	0.2%	35.36	0.3%	42.40	0.3%	137.84	0.3%
plastics	263.13	5.2%	8.65	0.6%	117.73	1.3%	99.67	0.8%	79.73	0.6%	568.91	1.4%
n-met-min	27.98	0.6%	8.65	0.6%	150.08	1.6%	50.43	0.4%	66.12	0.5%	303.27	0.7%
base-metal	19.42	0.4%	7.25	0.5%	41.14	0.4%	36.21	0.3%	41.52	0.3%	145.53	0.4%
fabr-metal	71.34	1.4%	15.73	1.0%	254.27	2.8%	100.10	0.8%	162.92	1.3%	604.36	1.5%
machines	62.58	1.2%	40.97	2.7%	74.13	0.8%	73.75	0.6%	74.62	0.6%	326.05	0.8%
elect-mach	16.36	0.3%	6.29	0.4%	22.20	0.2%	41.73	0.3%	43.30	0.3%	129.88	0.3%
trnsp-eqip	95.98	1.9%	24.69	1.6%	125.84	1.4%	255.90	1.9%	211.60	1.7%	714.00	1.7%
othr-mfg	6.74	0.1%	1.93	0.1%	11.58	0.1%	18.79	0.1%	485.19	3.9%	524.23	1.3%
elect/G&W	197.91	3.9%	71.73	4.8%	282.13	3.1%	372.08	2.8%	413.72	3.3%	1,337.57	3.2%
constr	15.74	0.3%	46.78	3.1%	24.67	0.3%	123.33	0.9%	58.75	0.5%	269.28	0.7%
civ-eng	8.13	0.2%	2.75	0.2%	12.13	0.1%	20.15	0.2%	28.15	0.2%	71.31	0.2%
trade	521.93	10.3%	120.58	8.0%	793.98	8.6%	6,368.75	48.5%	1,204.03	9.7%	9,009.27	21.8%
accom	42.92	0.8%	11.65	0.8%	65.83	0.7%	133.04	1.0%	1,348.74	10.9%	1,602.18	3.9%
transp	181.37	3.6%	67.64	4.5%	311.14	3.4%	425.22	3.2%	1,907.35	15.4%	2,892.72	7.0%
commun-srv	78.26	1.5%	17.75	1.2%	105.03	1.1%	204.02	1.6%	132.38	1.1%	537.45	1.3%
fin-serv	467.06	9.2%	123.72	8.2%	697.22	7.6%	1,700.18	12.9%	1,174.58	9.5%	4,162.75	10.1%
com-serv	274.29	5.4%	81.93	5.5%	609.52	6.6%	599.00	4.6%	886.58	7.2%	2,451.32	5.9%
TOTAL	5,056.51	100.0%	1,502.89	100.0%	9,207.88	100.0%	13,138.17	100.0%	12,389.97	100.0%	41,295.43	100.0%

Table 8b: SECTORAL IMPACT: GDP [R millions, 2003 Prices]

ECONOMIC SECTOR	AGRICULTURE	%	CELLARS	%	REFINING/ MANUFACTURING	%	WHOLESALE and RETAIL	%	TOURISM	%	TOTAL	%
agric	1,182.52	31.7%	17.66	2.3%	185.20	4.5%	159.93	2.1%	430.38	6.9%	1,975.69	8.8%
gold-min	0.30	0.0%	0.05	0.0%	0.33	0.0%	0.41	0.0%	14.16	0.2%	15.26	0.1%
othr-min	68.45	1.8%	13.08	1.7%	56.45	1.4%	51.11	0.7%	86.69	1.4%	275.78	1.2%
food-mfg	88.22	2.4%	11.03	1.4%	104.31	2.5%	94.18	1.2%	324.83	5.2%	622.57	2.8%
beverage	30.36	0.8%	334.49	43.4%	1,481.36	35.9%	34.93	0.5%	176.35	2.8%	2,057.49	9.1%
tobacco	5.62	0.2%	0.65	0.1%	3.84	0.1%	5.41	0.1%	6.11	0.1%	21.63	0.1%
textiles	18.61	0.5%	2.52	0.3%	15.79	0.4%	21.22	0.3%	26.04	0.4%	84.18	0.4%
clothing	21.81	0.6%	3.05	0.4%	21.27	0.5%	27.56	0.4%	32.02	0.5%	105.71	0.5%
leather	2.62	0.1%	0.37	0.0%	2.25	0.1%	3.11	0.0%	4.19	0.1%	12.53	0.1%
footwear	8.36	0.2%	1.03	0.1%	6.20	0.2%	8.78	0.1%	9.61	0.2%	33.99	0.2%
woodprdt	16.55	0.4%	1.30	0.2%	11.61	0.3%	9.87	0.1%	12.29	0.2%	51.62	0.2%
furniture	11.03	0.3%	1.54	0.2%	9.24	0.2%	16.75	0.2%	15.80	0.3%	54.36	0.2%
paper	35.61	1.0%	4.86	0.6%	109.06	2.6%	66.45	0.9%	72.50	1.2%	288.48	1.3%
printing	21.47	0.6%	3.76	0.5%	33.71	0.8%	44.33	0.6%	38.44	0.6%	141.71	0.6%
chemicals	231.95	6.2%	43.69	5.7%	121.66	2.9%	149.41	1.9%	219.42	3.5%	766.14	3.4%
rubber	20.76	0.6%	1.23	0.2%	7.85	0.2%	10.06	0.1%	16.19	0.3%	56.10	0.2%
plastics	128.99	3.5%	2.56	0.3%	36.75	0.9%	23.78	0.3%	25.53	0.4%	217.60	1.0%
n-met-min	19.90	0.5%	3.72	0.5%	67.97	1.6%	17.46	0.2%	30.71	0.5%	139.75	0.6%
base-metal	13.67	0.4%	3.08	0.4%	18.44	0.4%	12.40	0.2%	19.09	0.3%	66.67	0.3%
fabr-metal	42.88	1.1%	5.71	0.7%	97.32	2.4%	29.28	0.4%	63.95	1.0%	239.16	1.1%
machines	41.11	1.1%	16.26	2.1%	31.00	0.8%	23.58	0.3%	32.01	0.5%	143.95	0.6%
elect-mach	10.90	0.3%	2.53	0.3%	9.42	0.2%	13.53	0.2%	18.83	0.3%	55.20	0.2%
trnsp-eqip	32.73	0.9%	5.09	0.7%	27.33	0.7%	42.47	0.6%	47.12	0.8%	154.73	0.7%
othr-mfg	6.95	0.2%	1.21	0.2%	7.61	0.2%	9.44	0.1%	339.71	5.5%	364.92	1.6%
elect/G&W	174.41	4.7%	38.20	5.0%	158.31	3.8%	159.58	2.1%	238.10	3.8%	768.60	3.4%
constr	6.90	0.2%	12.39	1.6%	6.89	0.2%	26.31	0.3%	16.82	0.3%	69.32	0.3%
civ-eng	4.03	0.1%	0.82	0.1%	3.82	0.1%	4.85	0.1%	9.10	0.1%	22.62	0.1%
trade	526.98	14.1%	73.58	9.6%	510.46	12.4%	5,171.96	67.3%	806.64	12.9%	7,089.62	31.4%
accom	24.61	0.7%	4.04	0.5%	24.03	0.6%	37.12	0.5%	517.77	8.3%	607.58	2.7%
transp	170.39	4.6%	38.40	5.0%	186.13	4.5%	194.41	2.5%	1,182.93	19.0%	1,772.26	7.9%
commun-srv	102.11	2.7%	14.00	1.8%	87.26	2.1%	129.55	1.7%	112.80	1.8%	445.71	2.0%
fin-serv	537.28	14.4%	86.01	11.2%	510.71	12.4%	951.83	12.4%	882.38	14.2%	2,968.21	13.2%
com-serv	124.91	3.3%	22.55	2.9%	176.74	4.3%	132.75	1.7%	403.31	6.5%	860.26	3.8%
TOTAL	3,733.0	100.0%	770.5	100.0%	4,130.3	100.0%	7,683.8	100.0%	6,231.8	100.0%	22,549.4	100.0%

10. THE REGIONAL IMPACT

For this study the 1993 SAM of the Western Cape was used to determine the impact in 2003 on this region's economy of the wine producing and selling activities originating from this area as well as on the rest of the South African economy. It should be noted that in terms of this SAM, production activities in the Northern Cape are excluded.

For each of the various wine beneficiation levels as well as the selling thereof (primary agriculture, cellars, trade etc.) the economic impact that occurs in the Western Cape itself was determined as well as the impact in the rest of the country.

The exercise was based on the direct, indirect and induced GDP effects flowing from the production of wine in the Western Cape. It was assumed that all the direct GDP impacts emanating from the production of wine would occur in the Western Cape. On the other hand, it was assumed that only 70% and 50% of the direct GDP of refining and wholesale and retail trade would occur in the Western Cape respectively. (This assumption was based on the 1993 Manufacturing Census for the Western Cape).

The SAM for the Western Cape was then used to determine what portions of the indirect and induced production activities resulting from the wine industry's production and selling activities in the Western Cape, would occur in the region as opposed to the rest of South Africa (and possibly also overseas).

The results are provided in Table 9 below. For primary agriculture, 86.04% of the GDP impact resulting from the production of wine producing grapes in the Western Cape occurs in the region itself, while 13.96% will take place outside the region.

TABLE 9: IMPACT OF DIFFERENT COMPONENTS OF THE WINE PRODUCING AND SELLING CHAIN INSIDE THE WESTERN CAPE AND OUTSIDE THE REGION (GDP)

Economic sector	Western Cape	Rest of RSA	Total
Primary agriculture	86.04%	13.96%	100.00%
Cellars	82.21%	17.79%	100.00%
Refining/Manufacturing	57.63%	42.37%	100.00%
Wholesale and retail/and transport	41.85%	58.15%	100.00%
Tourism	80.59%	19.41%	100.00%
Total	69.66%	30.34%	100.00%

As can be seen in Table 9, the bulk of the impact on GDP (direct, indirect and induced) resulting from wine related activities such as primary agriculture, cellars and tourism, will occur in the Western Cape. As far as wine refining/manufacturing and trade (wholesale en retail) are concerned, roughly 57.63% and 41.85% respectively of their GDP creation will occur in the Western Cape.

It is interesting to compare these results with a similar exercise in the 2000 study. It is quite clear that based on the Western Cape SAM, a much larger portion of the wine producing and selling activities actually remain in the region than was previously thought. This goes for each one of the distinguished components shown in Table 9. Based on the weighted average for the region as a whole the overall percentage attributed to regionally based GDP creation associated with the wine industry increased from 63 % in 1999 to 70 % in 2003. The same exercise was also done for labour. (See Table 10).

TABLE 10: IMPACT OF DIFFERENT COMPONENTS OF THE WINE PRODUCING AND SELLING CHAIN INSIDE THE WESTERN CAPE AND OUTSIDE THE REGION (LABOUR)

Economic sector	Western Cape	Rest of RSA	Total
Primary agriculture	87.83%	12.17%	100.00%
Cellars	68.60%	31.40%	100.00%
Refining/Manufacturing	49.95%	50.05%	100.00%
Wholesale and retail/and transport	39.38%	60.62%	100.00%
Tourism	69.93%	30.07%	100.00%
Total	63.13%	36.87%	100.00%

It is immediately clear from this table that the job-creating role of the wine industry in the Western Cape does not equal that of the GDP impact in all respects. As far as primary agriculture is concerned, the job-creating role of the sector on the region is indeed higher than the GDP impact. Various reasons can be responsible for the fact that the job-creating role of the wine industry does not equal the GDP impact in other sectors (cellars, refining, etc.). This can mainly be attributed to the fact that the Western Cape based producing and selling portion of the wine industry tend to be less labour intensive than previously thought. It is also possible that the input structures of the various components of the wine industry in the Western Cape tend to favour the more capital intensive kind of products in the production processes. These are only superficial conclusions based on the existing information. More indepth research is required before more fixed conclusions can be attained on this score.

11. SUMMARY AND CONCLUSIONS

- The South African wine industry has gone through a tough period of major changes over the past 10 years, as largely reflected by the changes in its economic structure and institutional framework indicated in this report. Its re-introduction into the world trade set-up has brought huge opportunities, as reflected by the increase in exports, but on the other hand has brought pressure on its competitiveness, both locally and overseas.

Because of this situation, the industry has embarked on a process of strategic planning and re-focussing over the past number of years. The project, named Vision 2020, aim to design specific strategies for the three wine sectors, being wine, brandy, wine distillates and other grape-based products. The industry, to be successful, has to transform itself and shape its destiny, in order to fully exploit the great possibilities and challenges that lie ahead.

The Wine Industry Plan (WIP) that was prepared, by the South African Wine and Brandy Company (SAWB) through consultations with the chambers representing Wine Production, Labour, Cellars and the Wholesale Trade; the South African Wine Industry Trust (SAWIT); relevant government departments and agencies; and other important stakeholders in the industry, as the strategic framework for co-operation and action in the South African wine industry. The purpose of the WIP is to align the industry's Vision 2020 initiative (designs for future prosperity and global competitiveness) with the Strategic Plan for South African Agriculture (national drive for a "untied and prosperous agricultural sector").

The strategic goals of the South African wine industry are:

- To increase global competitiveness and profitability;
- To generate equitable access and participation within the wine value chain
- To enable environmentally sustainable production systems; and
- To promote socially responsible consumption of the produce of the vine.

The WIP is a commitment by the South African wine industry to deal with the legacy of a highly regulated economic environment and the many challenges of our times, increasing global competitiveness and discrimination along racial and gender lines.

- In terms of the Wine industry's actual impact on the South African economy, the study again produced some interesting results. Of these the following warrants attention:
 - The total capital asset base (direct and indirect) of the wine industry (excluding tourism) is estimated at R35 859 billion. The corresponding number of job opportunities that are supported by the wine industry amounts to a significant 197 579.
 - In terms of GDP, the annual total impact (direct and indirect) of the wine industry situated mainly in the Western Cape (excluding tourism) amounts to R16,3 billion. This amounts to 1,5% of the total GDP of South Africa in 2003.

- The wine industry generates an amount of R10,607 billion of private disposable income. Of this amount 18% is destined for low-income households which is slightly lower than the average for the economy as a whole.
- The Labour/Capital ratio for the wine industry amounts to 5.57 which is higher than that of the economy as a whole. This is mainly brought about by the relative labour-intensiveness of the primary agriculture and wholesale/retail trade subsectors.
- The GDP/Capital ratio for the wine industry in total (excluding tourism) (0.46) is almost the same than that of the economy as a whole (0.47). With the exception of the wholesale and retail portion, all the other sectors of the wine industry show smaller GDP/Capital ratios than the average of the economy.
- In terms of the low-income/total income ratio (excluding tourism), the ratio for the wine industry is 18%, which is only slightly lower than for the total economy.
- For purposes of this study, the regional impacts emanating from the wine industry on the Western Cape for GDP and labour were also calculated. Of the total impact that the wine industry has on GDP, approximately 70% occurs in the Western Cape. For employment the percentage amounts to 63%.