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## **Analyzing the Competitive Performance of the South African Wine Industry**

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### **Abstract**

This article describes a methodology and a four-step framework to measure and analyze competitive performance of the South African wine industry. Competitive performance is viewed as the ability to sustain trade against the competition in the global market. The economic sustainability of the South African wine industry is found to be highly dependent on its trading performance, with more than 40 percent of production consistently being exported since 2005.

The views and opinions of South African wine executives through the *Wine Executive Surveys* of 2005 and 2008 are used to identify, describe and explain these competitiveness trends and to qualitatively comment on factors impacting on performance. The *Porter Diamond* is applied to derive the most important industry determinants of competitive performance. From this analysis changes in the “competitiveness space” of the South African wine industry are described and analyzed and a wine industry agenda is proposed to enhance competitive performance.

**Keywords:** South African wine industry, competitive performance and competitive space, relative trade advantage (RTA), wine executive surveys, Porter Diamond.

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## **Introduction**

What determines the ability of an industry to perform competitively and sustain such performance?

How is competitiveness performance measured? How is it analyzed; and can such “industry intelligence” be used for the strategic positioning of an industry? What is the role of government viz-a-viz that of private firms to enhance competitiveness performance?

Answers to these questions are important as they provide the basis for understanding the evolving situation in an industry which needs to compete for survival and growth (Porter 1990; Masters 1995; Stroper 1995; Papanastassou and Pearce 1999; Veiyyath and Zahra 2000; Lall 2001; and Sledge 2005). Such answers thus support the notion of comprehensive industry level strategic planning.

A four-step framework is developed and applied in this article to advance answers to these questions. The framework is used to measure and analyze competitive performance of the South African wine industry - an export based agri-industry that recently faced many strategic challenges of a political, economic, technical, and social nature.

The focus of the study is on the environment in which wine industry players make decisions. Wine firms and the industry will therefore constitute the level of analysis (Stroper 1995; Sledge 2005). The analysis is based on the initial approach advanced by the ISMEA Report in 1999 and on earlier work on the competitiveness of the South African agribusiness sector (Van Rooyen and Van Rooyen 1998; Van Rooyen, Esterhuizen and Doyer 2000; ABC 2000; Esterhuizen 2006) and expanded on in the analysis of the wine industry by Esterhuizen and Van Rooyen in 2005 and 2007, SAWB, 2005 and Van Rooyen, 2007.

The research questions explored are:

- How competitive has the South African wine industry been over time and how can this be measured?
- Why did it perform as such and did the industry change over time?
- What are the factors determining this performance?
- How can such information be used to establish an industry agenda to promote greater competitiveness?

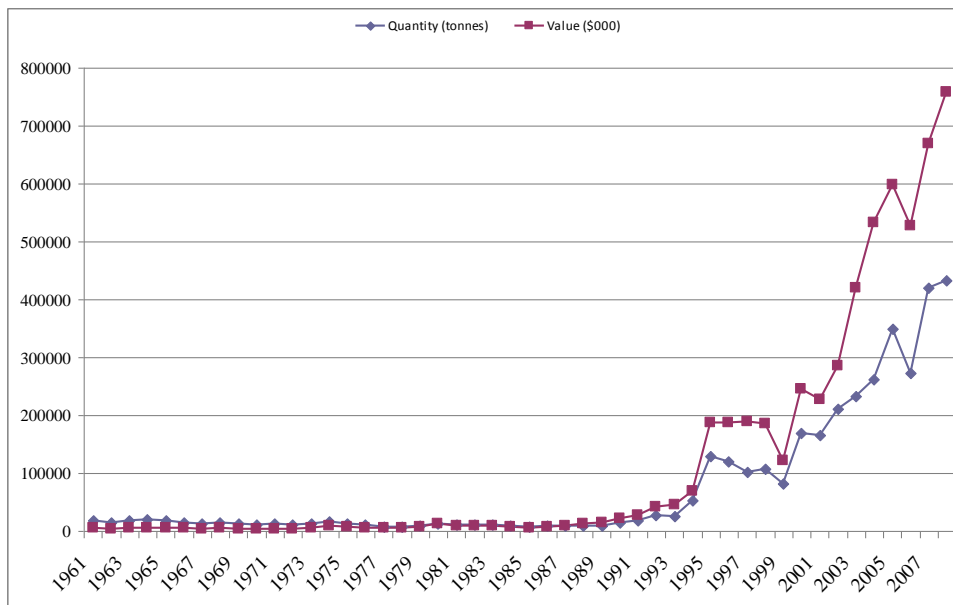
The next section gives a concise description of the South African wine industry and competitiveness is defined in section 3. A comprehensive four-step framework of analysis is then applied in section 4 to measure and analyses the competitive performance of the wine industry. Changes in the “competitiveness space” of the industry are considered and from this a wine industry agenda is proposed. Conclusions are drawn in section 5.

## The South African Wine Industry at a Glance

The wine industry contributed an estimated R20 billion (around USD \$ 1.6 billion) to the South African gross domestic product (GDP) in 2009. This figure rises to R23.5 billion when tourism is included. An amount of R4.2 billion per annum (2008) is contributed to government revenue via excise taxes and wine farm producers' income amounted to R3.32 billion in 2008. The industry sustains about 275,000 job opportunities (including around 20 percent through wine tourism), although some of this is seasonal in nature. Investment capital in 2008 is in excess of R50 billion (US\$5 billion).

In 2008, 124,993ha were cultivated for wine production (93,889 ha in 1995). 3,839 producers and 870 cellars – mostly in the Western Cape Province, with some in the Northern Cape and Free State – produced 1,089 million liters of wine, brandy and grape juice concentrate. This was done from a harvest of 1.4 million tons of grapes, making South Africa the world's 7th largest wine producer. About 63 million liters of drinking wine were produced from this harvest, of which 38% was red and 62% was white wine, compared to a yield of 12% red wine and 88% white wine in 1995.

South Africa produces 3.7% of the world's wines and exports 54% of its wine production or 411.8 million liters in 2008 to the value of R6.27 billion (US\$385 million). In 1994 only 50.7 million liters were exported or 12% of wine production. The South African wine industry is therefore characterized as highly trade oriented. In Figure 1 the long term export performance, in terms of value and volume is shown, noting the dramatic increase since the early 1990's. This feature is directly related to the competitive performance of the industry.



**Figure 1.** Exports of South African wine in quantity (tons) and value (\$) – 1961 to 2008.

Source: FAOSTAT

The UK (27%), Germany (17%) and the Netherlands (7%) are currently the major export destinations for South African wines, with the African continent (Nigeria and Kenya) rapidly growing. Per capita consumption of wine in South Africa is stagnant at 7.5 liters in comparison with 53.9 liters in France, 22.4 liters in Australia, 28.1 liters in Argentina and 8.5 liters in the USA.

Comprehensive information on the South African wine industry can be obtained from the SA Wine Industry Directories, 1998 – 2011 and SAWIS ([www.sawis.co.za](http://www.sawis.co.za)).

## Defining Competitiveness in the Wine Business Environment

Competitiveness has always been a somewhat difficult and controversial concept, and there is also disagreement about its measurement and the appropriate indexes to be used. Several studies argue that trade performance measures do not adequately reflect the state of competitiveness. However, despite these views, it is noted that competitiveness is most often associated with trade performance (Roa and Lempriere 1992; Arndt 1993; Frohberg and Hartman 1997; Ezeala-Harrison 2005; Esterhuizen 2006). In this view industries and firms are competitive when they are able to continue to grow their trade in today's global environment, through product offers – qualities, prices and services- that are as good as, or better than their competitors. This will enable the most competitive players to attract sufficient scarce production factors - capital, land, labor, technology and management- from competing economic activities to sustain and expand their performance (Freebairn 1986; Van Rooyen, Esterhuizen and Doyer 2000; Cho and Moon 2002; Esterhuizen & Van Rooyen 2005). Actions such as opportunistic, short term 'price wars and cost cutting' therefore seldom sustain competitive performance. Measuring long-term, sustained performances are thus relevant in analyzing competitiveness performance (Boehlje 1996; Cho 1994; Esterhuizen 2006). In short, to be competitive in today's world is to be in a position to continue to trade successfully relative to the competition i.e. to consistently outperform the competition. With the above in mind and in view of the importance of open global trade, competitive performance in the South African wine industry is strongly linked to trade performance and is defined as:

*“The ability to expand the trade of South African wines relative to their competitors, in order to attract investment and other scarce resources to achieve sustainable returns”.*

## A Four-Step Framework for Analyzing Competitive Performance

The following sequential steps are followed to measure and analyze competitive performance and is derived from work by Ismea, 1999; Van Rooyen, Esterhuizen and Doyer, 2000, Esterhuizen and Van Rooyen, 2005, 2007; and Esterhuizen, 2006 and van Rooyen, 2007. Each step takes full cognizance of the information gathered in previous steps i.e. an interactive process is followed during the data gathering and analysis processes.

*Step 1:* Measure competitive performance through the Wine Competitiveness Rating (WCR), based on trade performance as measured by the Relative Trade Advantage (RTA) method (Balassa 1989; Volrath 1991).

*Step 2:* Identify through interviews with industry experts and knowledgeable stakeholders and through the Wine Executive Survey (WES) the major factors impacting on competitive performance;

*Step 3:* Analyze these factors and establish the Determinants of Competitiveness (DC), through “new” competitiveness theory (Porter, 1990);

*Step 4:* Use the above information to identify and analyze changes over time in the “competitive space” of the SA wine industry and from this determine an industry agenda for enhancing competitiveness performance.

*STEP 1: Measuring Competitive Performance of the South African Wine Industry*

**The Relative Trade Advantage (RTA) method:** To measure how competitive the wine industry in South Africa performed, it is necessary to determine how successful this sector competed with other wine producing countries i.e. how South Africa traded its products over time in the local and global environment in comparison with its trade competitors. To this measure must be added the ability of the sector to compete with other business opportunities to attract the required scarce economic resources. The Relative Trade Advantage (RTA) method, as originally developed by Balassa (1989) and extended by Volrath (1991) is based on actual trade performance and measures such performances. This method was used by many scholars over recent years (Van Rooyen and Van Rooyen 1998; ISMEA 1999; Van Rooyen, Esterhuizen and Doyer 2000; Valentine & Krasnik 2000; Pitts and Lagnevic 1997; Pitts, O’Connell & McCarthy 2001; Ferto & Hubbard 2001; Esterhuizen 2006; SAWB 2005; Esterhuizen and Van Rooyen 2005, 2007) for the quantitative measurement of competitive performance.

In this quantitative method, using global trade flows of all the competing industries viz-a-viz the industry under consideration, it is argued that competitive advantage is indicated by relative trade performance i.e. the ability to trade in the global market because this effectively reflects all relative market costs as well as all non-competitive factors, government policies and other measures affecting actual trade patterns between competitors (Balassa 1989; Volrath 1991).

This method therefore determine the “revealed” comparative advantage, reflecting competitive performance and competitiveness under real world conditions. Other more restricted measures only describe certain aspects influencing competitiveness, such as factor productivity, product characteristics, unit production cost and profit ratios, organizational performance and bench marking or applied comparative advantages analysis (Porter,1990) as quoted by Ezeala- Harrison 2005; Augusto et al. 2005). Situations such as “uneven economic playing fields” due to distorted economies, protective trade policies and trade regimes impact directly on trade patterns and competitive performance, but are effectively accounted for in the RTA measure.

The RTA is formulated as:

$$(1) RTA_{iv} = RXA_{iv} - RMP_{iv}$$

Where for (n + v) countries and (m + i) products,

$$(2) \text{RXA}_{iv} = \left[ \frac{X_{iv}}{\sum_{n=1}^h X_{in}} \right] / \left[ \frac{X_{mv}}{\sum_{m=1}^h \sum_{n=1}^u X_{mn}} \right]$$

$$(3) \text{RMA}_{iv} = \left[ \frac{M_{iv}}{\sum_{n=1}^h M_{in}} \right] / \left[ \frac{M_{mv}}{\sum_{m=1}^h \sum_{n=1}^u M_{mn}} \right]$$

Where X and M refer to exports and imports, respectively

The numerator in equations [2] and [3] is equal to a country’s export (imports) of a specific product category relative to the exports (imports) of this product from all countries except for the country in consideration. The denominator reveals the exports (imports) of all products except for the commodity in consideration from the respective country as a percentage of all other countries’ exports (imports) of all other products.

While the calculations of indices RXA and RMP are exclusively based on either export or import values, the RTA considers both export and import activities. This seems to be important in view of trade theory and globalization trends and due to the growth in intra-industry and/or entrepot trade, as this aspect is increasing in importance (ISMEA 1999). The level of these indicators represents the degree of revealed export competitiveness/import penetration and is based on the relative trade performance of all competitors. When this performance is measured over time the historical trend in competitive performance can be determined, viz-a-viz that of the competitors.

The Wine Competitiveness Rating (WCR) data is shown in Table 1 and trends from 1960 to 2008 are illustrated in Figure 2.

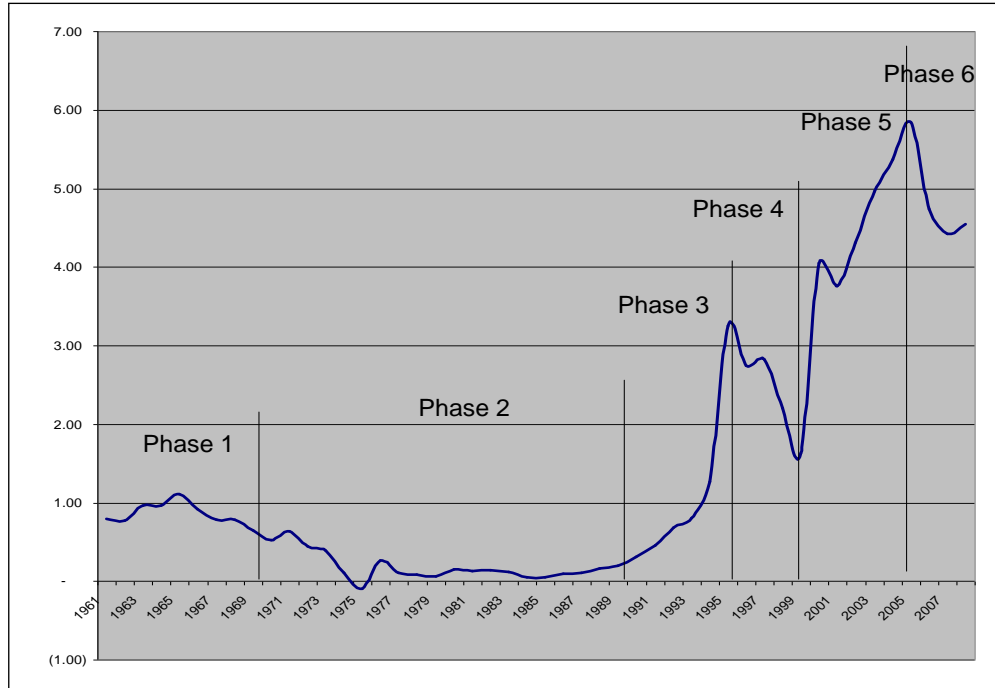
**Table 1.** The competitiveness rating of the wine industry in South Africa (2000 – 2008) based on the Relative Revealed Trade Advantage (RTA)

Product	RTA 2000	RTA 2001	RTA 2002	RTA 2003	RTA 2004	RTA 2005	RTA 2006	RTA 2007	RTA 2008
Wine	4.05	3.76	4.31	4.96	5.36	5.84	4.74	4.42	4.55

**Source:** Own calculation based on data from FAOSTAT; Esterhuizen and van Rooyen 2005, 2007.

From this graph it can be noted that South Africa’s wines performed increasingly internationally competitive over the past two decades, reached a high point in 2005. Recently some decline is being recorded to levels just above 2002 levels. The impacts of the regulation period and political sanctions (until early 1990s) and the changes related to political liberation, deregulation of the wine industry and increased exports due to the open access to global markets since the early 1990’s, are dramatically captured in the competitive performance of the wine industry. Events related to changing consumer preferences and style changes, trade policies, exchange rate fluctuations and technological innovation are also reflected in the WCR. These trends are analyzed in the Step 2.

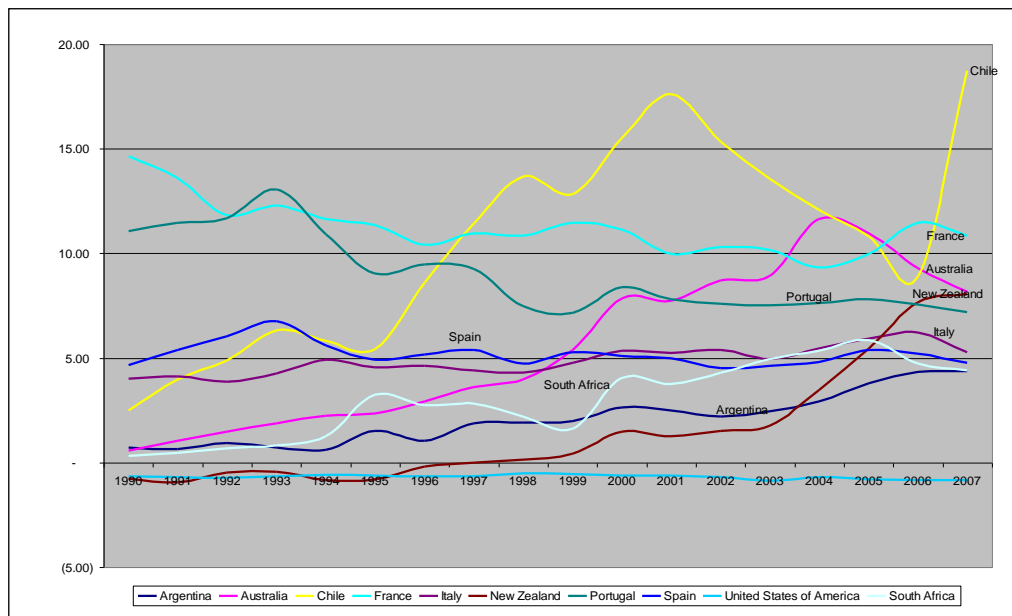
In Figure 3 the general upward and relative “middle” position of South African is indicated. The recent decline is also shown. Countries with recent increasing performances are Argentina, New Zealand and particular the highly competitive Chile, after its considerable decline from 2000 to 2005.



**Figure 2.** Competitive trends of the wine industry in South Africa (1960 – 2008)

Source: FAOSTATS

Notes: Competitive ( $RTA > 1$ ), marginally competitive ( $1 > RTA > 0$ ), not competitive ( $RTA < -0$ );



**Figure 3.** Trends in the competitiveness of selected wine producing countries (1990-2007)

Source: FAOSTATS



*International comparisons:* Wine trading (both at import and export levels) is one of the most dynamic and competitive activities in the agri-food environment. Since the late 1980s, the share of wine production that is traded internationally has nearly doubled and wine trade has brought major gains to participants in expanding countries, but pain to many traditional producers (Anderson, 2004). A view of South African competitive performance measured by the RTA, in comparison with some other major wine trading economics is instructive.

### *STEP 2: Factors of Competitiveness in the SA Wine Industry*

Step 2 of the comprehensive analysis employs a qualitative methodology, based on opinions and perceptions of persons responsible for strategic direction and executive decisions in the SA wine industry. This qualitative approach, based on personal discussions, focus group sessions and qualitative surveys, explain the measured trends and then identify and analyze the factors influencing these competitive trends in the wine industry.

## **Commenting on Trends and Phases in Competitiveness Performance**

From the graphical illustrations in Figures 2 and 3, and based on interviews with prominent wine analysts, executives and stakeholders, a number of phases in the competitiveness performance of the South African wine industry since 1960 can be constructed and described i.e. a short commentary on the recent history of the competitive performance of the South African wine industry (SAWB 2005; SAWC 2007, 2010; Van Rooyen 2007; Bayley 2008; Le Roux 2008; Joubert 2010; Bruwer 2010).

**Phase 1 - Regulated competitiveness ( – up to 1970):** During this period (effectively starting in the late 1930s), the South African wine industry was heavily regulated through centralized controls on varietal choices and vine material, wine and wine grape production quotas, production cost based regulated pricing, surplus removal schemes and price agreements. The KWV (Koperatiewe Wijnboere Vereniging) established in 1918 and representing wine grape producers, was granted statutory powers to regulate supply in the industry. This period was characterized by a focus on high volume production of relatively lower quality wines, producer income stabilization and an overall orientation towards brandy and fortified wine production as a “surplus removal” type scheme (Vink, Williams and Kirsten 2004).

**Phase 2 – Competing in a constrained economic and political environment (1970-1990):** Increasing political pressures on South Africa by the international environment during the 1970s and the imposing of “anti-apartheid” trade sanctions brought the highly regulated industry almost to a halt. Economic survival was possible through occasional exports of large volumes of low quality wine to Eastern Europe and domestic consumption (Vink, Williams and Kirsten 2004). One important technical innovation during this period was the introduction of the “Wine of Origin” scheme which brought strictly enforced local wine industry regulations in line with those in European countries. Cultivar based and classic wines also became more popular. Wine tourism and ‘wine routes’ were introduced, together with the “estate wine label” concept where estates produced their own brands.

**Phase 3 – The ‘Madiba Magic’ period (1990-1995):** With the release of Nelson “Madiba” Mandela in 1990 and the following political liberation of the South African society, the wine industry started with a remarkable period of activity and transformation. Economic sanctions were lifted, leading to international business exposure, access to international markets, interaction with trade supply chains and increased investments. The South African wine business scene however also changed dramatically as the impact of international competitiveness hit “local shores”. By 1997 the industry was fully deregulated and wine surpluses, quota allocations, and administrative pricing schemes were removed. The Wine of Origin scheme was maintained and the Integrated Production of Wine (IPW) programme, to support environmentally sustainable production and wine making practices, was widely implemented. International sales of South African wines increased from 20 million liters in 1992 to over 72.8 million liters (still only 14.6 % of the wine crop) in 1995.

**Phase 4 – Facing competitive realities (1996-2000):** Despite increased sales (at relative low price points) certain cracks started to appear in 1996 in the South African wine success story. Internationally renowned wine writers and wine judges called for changes in style and quality and the need for South Africa to produce internationally accepted “new world” wines – fruity, non-grassy, less tannins, great consistency, more quality reds, etc.. Australia also became a much more aggressive player in the UK, South Africa’s most important market – especially in the super market environment.

This resulted in a range of technical innovations, including the planting of improved grape varieties and virus-free plant material. The terroir system was extended, together with cultivar specific site solutions and the planting of more red varieties to strengthen the “Wine of Origin” scheme. Supply chain efficiency and reliability became a major success factor for the wine business (SAWB, 2002 and 2005). At the start of the new millennium, the South African wine industry responded positively on competitive realities, producing “good value for money” wines in the new world style, and with a distinctly South African character. Exports rose from 99.9 million liters in 1996 (17.3% of the wine crop), to 141 million liters in 2000 (26% of the wine crop).

**Phase 5 – Towards becoming a global player (2000 - 2005):** The industry mobilized and jointly decided on a strategic ‘course for excellence’ through the acceptance of Vision 2020, the establishment of the SA Wine & Brandy Company (SAWB) [trading as the SA Wine Industry Council (SAWC) since 2007] as a coordinating body and the setting of a framework for a partnership with government through the ‘Wine Industry Strategy Plan’ (WIP) in 2003. This phase also records a sustained increase in exports, in particular to the UK, Netherlands and Germany. Brand development and promotion became noted business strategies, with a particular effort by the wine industry to establish an identity through unique ‘Brand SA’ properties, emphasizing the great diversity and value for money of South African wines. “Variety is our nature” with an increasing environmental focus (the Wine Bio-Diversity Initiative) and social responsibility and transformation - see the Wine Industry Transformation Charter and Score Card (SAWC, 2007), featured prominently in this “Brand SA” drive. Concepts such as integrity, authenticity and sustainability became key pointers in the industry (see the SA Wine Industry Directory, 2002-2010) as well as the notion of unique and typical South African wines (Pinotage-red; Chenin Blanc-white).

The impact of world market changes, in style and content, fluctuating exchange rates and the presentation of unique lifestyle experiences (wine + food + tourism + value for money) became integrated in South African wine business strategies. Efforts to expand the local market were also implemented, in particular through the expanding of “black diamonds” markets and in the historical black townships (Ndanga, Louw and Van Rooyen 2010). Since 2000, exports again increased to 281 million liters or 44.7% of wine production in 2005.

**Phase 6 - Operating in a constrained competitive environment (since 2006):** Since the 2005 high point, the wine industry in South Africa is in a declining phase in terms of competitive performance relative to its competitors. This negative trend in competitiveness started in 2006 after the definite positive trend in competitiveness which started in 1990. The main reasons for this decline in competitiveness can be found in the broader wine industry environment in which South African wine businesses now operate. This constrained environment includes factors such as the world economic slowdown, declining levels of wine consumption, sustained international strengthening in the value of the local currency, global warming/drought conditions and climatic fluctuations, increases in interest rates, lack of infrastructure maintenance and export facilities, lack of skilled labor, and government’s inability to provide sufficient regulatory, certification and support services to the needs of the dynamic wine industry.

Exports dropped in 2006 to 271 million liters – 38.3 percent of the total wine production. In 2008, 39 percent of wine production was exported, although the export volume increased to 411 million liters.

This downward trend in competitiveness is also in line with the findings of the IMD in their World Competitiveness Yearbook on South Africa (IMD, 2001-2011), which showed a drop in South Africa's ranking, from 38th to 50th out of 55 countries in 2007 to 48th out of 57 countries in 2009. In explaining South Africa’s drop in global competitiveness rankings, the five most problematic factors for doing business in South Africa were identified by the IMD to be: crime and theft, inefficient government bureaucracy, inadequately educated workforce, restrictive labor regulations and inadequate supply of infrastructure.

A general comment on performance over time is the relative absence of impacts due to climate variations, especially droughts; no serious droughts or adverse climatic conditions were experienced in the wine industry over the last twenty years (SAWID). The SA industry is also quite diverse across a range of climatological types and this, together with the “Integrated Production of Wine (IPW)” scheme mitigated climate risk for the industry as a whole (Le Roux, 2008; Bayley 2008; Bruwer 2010).

## **The Wine Executive Survey (WES)**

*Executive views and expert opinions:* The WES aim to determine the key factors enhancing or constraining the competitive performance of wine businesses. The focus of this inquiry is at the firm level i.e. individual firms. Executives surveyed are responsible for the success and failure of strategy and operations. Whereas the hard/quantitative data in Step 1 was used to measure competitiveness performance over a specific period, the qualitative survey data of the WES is used to identify factors determining competitive performance - as it is perceived at certain points in time at strategic levels of decision making. The WES provides many unique measures and captures

the informed judgments of business leaders and decision-makers in the wine industry of South Africa.

Data base and time periods of analysis: Whereas Step 1 of the analysis measured the long term trends in competitive performance (1960-2008), the WES was only implemented in 2005 and repeated in 2008.

The WES's provides information on the prevailing perceptions of wine executives and specialists during two periods, situated within the most recent two phases of the competitive performance of the industry i.e. phases 5 and 6 (see Figure 1). The 2005 survey was at the height of competitive performance and the 2008 survey recorded views during the recent declining phase. Respondents were asked to identify and rate factors impacting competitive performance in terms of most enhancing (3), modestly enhancing (2) and most constraining (1).

The 2005 WES: The 50 respondents identified the following as the five most enhancing factors:

- size of the export market;
- opportunities in “environmentally aware” markets for wine;
- local infrastructure and transportation networks;
- technical information flows;
- competitiveness amongst local suppliers to the industry;

The five most constraining factors in 2005 were:

- the strong currency (Rand);
- cost of crime;
- difficulty of starting a new business;
- trust in the political system;
- the incompetency of government administration and bureaucracy;

The 2008 WES: The factors affecting the competitiveness in the wine industry in South Africa in 2008 were identified and rated through responses from 46 executives in the wine industry. The five most enhancing factors for the industry were:

- the strong competition and rivalry in the local market;
- strong international competition;
- the affordability of high quality South African products;
- the entry of new competitors in to the local market;
- quality production services and processes;

The five most constraining factors for the industry during the 2008 period were:

- the low confidence and trust in the political/governance environment;
- reliability of electricity supply;
- the high cost of crime;
- the incompetence of service personnel in the public sector;
- the quality of low skilled labor.

The full list of factors and their ratings are shown in Table 3.

### STEP 3: Determinants of Competitive Performance

The third step in the analysis compliments the first two, where competitive performance was firstly quantitatively measured; and secondly qualitatively explained and the various factors impacting on competitiveness identified by industry experts and executives. The methodology developed by Michael Porter (1990) to analyze competitiveness (Porter's Diamond) is used, in an adapted form, in Step 3 to derive the determinants of competitive performance in the wine industry in South Africa from the data previously generated.

The four key determinants of competitive performance of the Porter Diamond – factor conditions, demand conditions, related and supporting industries and firm strategy, structure and rivalry – are all well suited to determine the forces and factors driving competitiveness performance in the trade orientated South African wine industry. However, due to the high degree of regulation of the South African wine industry, related to aspects of quality, certification and also to social, labor and political transformation, the concept of government policy and interventions must be considered in this enquiry. The notion of “luck or chance” is also relevant, as the South African wine industry is highly exposed to changes in macro-economic trends and international factors such as changes in currency values, as well as a range of external factors impacting on costs, such as crime and health situations.

In Step 3 of the analysis, Porter's Diamond is extended to include the impacts that government and chance forces have on competitiveness (Sledge 2005; Esterhuizen and Van Rooyen 2001 and 2005). Accordingly six broad criteria or attributes that shape the environment in which firms compete are analyzed, namely:

- *Factor conditions*– the industry's endowment in factors of production, such as climate, terroir, skilled labor, infrastructure, etc. necessary to compete.
- *Demand conditions*– the nature, changes and knowledge of the market demand for the industry's products or service.
- *Relating and supporting industries*– the presence or absence of competitive supplier and other related industries.
- *Firm strategy, structure and rivalry*– the way companies are created, organized and managed, as well as the nature of domestic rivalry.
- *Government support and policy*– government plays a vital role. Government can influence each of the above determinants, either positively or negatively, through policies and the environment that is created, funding support and the provision of public goods to support private operational capacity and social stability.
- *The role of chance (or luck)* – chance factors/events/ luck are occurrences largely beyond the power of firms and national governments. Such events can nullify sources of competitive advantage and create new ones. The South African wine industry, operating in an “open” global environment and under free market policies with limited government protection and subsidies, will be highly prone to such influences.

In Table 3 the factors listed and rated in the WES's are grouped in terms of the various Porter Diamond determinants. From these the impact of the determinants is then rated to allow for comparisons between the 2005 and 2008 surveys.

**Table 3a.** The determinants of competitive performance in the South African wine industry- 2005 and 2008.

Determinants	2005	2008	Determinants	2005	2008
<b><u>(i) Production factor conditions</u></b>	<b>1.9</b>		<b><u>(ii) Related &amp; supporting industries</u></b>	<b>1.9</b>	<b>1.6</b>
Quality of low-level skilled labor	2	1	Electricity supply	1.5	0.5
Cost of Transport	NA	1.4	Collaboration with scientific research institutions in R&D	2	1.5
Cost of financing	1		Telecommunication	2	1.5
Availability of Skilled labor	2	1	Suppliers of packaging material	2	1.5
Overall cost of doing business	1.5	1	Financial institutions	1	1.5
labor administration cost	1	1	Transport companies	2	1.5
Cost of quality technology	2	1	Internet service providers	1.5	2
Quality of skilled labor	1.5	1.5	Specialized information services	2	2
Cost of skilled labor	2	1.5	Sustainability of local suppliers	2.5	2
Cost of infrastructure	1.5	1	Status of scientific research institutions	2.5	2
Cost of low level skilled labor	2	1.5	Quality of local suppliers		2
Efficiency of general infrastructure	2	1.5			
Credit availability	1.5	2			
Availability of quality technology	2.5	2			
Quality of technology	2.5	2			
Availability of water for industrial purposes	2	2			
Availability of low level skilled labor	3	2			

**Table 3b.** The determinants of competitive performance in the South African wine industry-2005 and 2008

Determinants	2005	2008	Determinants	2005	2008
<b><u>(iii) Firm strategy, structure &amp; rivalry</u></b>	<b>2.3</b>	<b>2.1</b>	<b><u>(iv) Government support &amp; policies</u></b>	<b>1.3</b>	<b>1.5</b>
Expenditure on R&D	2	1.5	Confidence/ trust in political systems and governance	0.5	0.5
Incentives for management	2	1.5	Competence of personnel in the public sector	1	1
Flow of information from Customers	1.5	2	Labor policy and regulation	1	1
Information flow from primary suppliers to company	1.5	2	Administrative/bureaucratic regulations in South Africa	1	1
Substitutes of your company's product or services	2.5	2	Land reform policy	1	1
Continuous innovation	2.5	2	Black Economic Empowerment policy	1	1
Regulatory standards	2.5	2	The tax system	1	1.5
Efficiency of technology in production processes	2.5	2	Political changes	1	2
Environmental awareness	2	2	Environmental regulations	2	2
Invest in staff	2.5	2	Trade policy	2	2
Unique services & processes	NA	2	Macro-economic policy	2	2
Entry of new competitors	3	2.5	Competition law	NA	2
International entry in local market	NA	2.5	Complying with environmental standards	2.5	2
Affordable high quality products	NA	2.5			
Competition in the local market	3	3			
Industry structure and rivalry	2	NA			

**Table 3c.** The determinants of competitive performance in the South African wine industry- 2005 and 2008

Determinants	2005	2008	Determinants	2005	2008
<b><u>(v) Demand conditions</u></b>	<b>2</b>	<b>1.8</b>	<b><u>(vi) Chance factors</u></b>	<b>1.3</b>	<b>1.4</b>
Growth in local market	1.5	1.5	Cost of Crime	0.5	0.5
Local market size	1.5	1.5	Cost of HIV/Aids	NA	1.5
Demand for environmental friendly products	2	1.5	Exchange rate	1.5	1.5
Internationalization of local Buyers	NA	1.5	Global developments	2	2
Growth in international markets	2.5	2			
Knowledge of markets	2.5	2.5			
Sophistication of local buyers	NA	2			

\***Ratings:** 1 = most constraining; 2 = modestly enhancing; 3 = most enhancing

**Source:** Adapted from the “the Agricultural Business Chamber and SAWB/SAWC Wine Executive Surveys 2005, 2008”

The factors with an enhancing effect on the competitiveness of the wine industry in South Africa in both 2005 and 2008 are the availability/cost of low-level skilled labor, the quality and availability of technology in South Africa, water availability and the general efficiency of infrastructure.

From 2005 to 2008 most factors however decline. In 2005 the high cost of financing and labor administration cost were rated as most constraining. These were also included as the most constraining factors in 2008, in addition to the quality of low-skilled labor, cost of transport, infrastructure and technology, availability of skilled labor and the overall cost of doing business.

This all indicates that on average the production factor conditions in South Africa have an increasingly constraining effect on the wine industry’s competitive performance.

*Related and supporting industries:* The related and supporting industries, as a determinant of competitiveness in 2008, were rated 1.6, which records a modestly constraining impact on the South African wine industry (Table 3a). In 2005 this factor were rated to have contributed at 1.9. For this determinant 2008 therefore shows a decline in the competitive space of the industry. Most factors, except financial institutions and internet services, which recorded higher ratings in 2008, showed declining ratings, with electricity supplies recording the biggest decline. The status of supporting research institutions and the sustainability of local suppliers rated as the highest contributors in both periods.



*Firm strategy, structure and rivalry:* The third determinant of competitive advantage is the context in which firms are created, organized and managed as well as the nature of rivalry in the industry (Table 3b). With an average score of 2.1 for 2008, firm strategy, structure and rivalry as a whole, have an enhancing impact on competitiveness of wine businesses in South Africa. The only constraining factors, even though only slight constraining, are the declining expenditure on R&D and incentives to support management performance. In 2008, the most enhancing factors were the ease of entry of new competitors, international entry into the local market, affordability of high quality products and the fierce competition in the local market.

This determinant was rated as highly enhancing in 2005 with 2.5, with the strong enhancing factors the industry regulatory structures and standards, integrity systems, intense internal competition, entry of new competitors on a regular basis, the production of affordable high quality products, firm level investment in human resources, employment of quality technology, the production of unique products, services and processes, the production of environmental friendly products, and continuous technical innovation.

A positive status is generally experienced in this determinant, although a decline from 2005 to 2008 is observed. This can be related to tighter market conditions and factors constraining innovation and technical progress.

*Government support and policies:* The wine industry in South Africa is highly regulated and to a large degree dependent on good partnership arrangements and effective lobby strategies with government departments and agencies (Table 3b). Government policy and support on matters related to export and trading, science and innovation, empowerment and transformation, tax and excise duties, access to natural resources such as land and water, labor relations, financial arrangements to name some, directly impact this sensitive and highly market orientated industry.

With an average score of 1.5 in 2008, government services, policies and support systems are viewed to act in a constraining manner to the competitive success of the wine industry. However in 2005, with a rating of 1.3, this determinant was rated as more constraining with the major constraining factors burdensome administrative regulations, the impact of legal change, the competence of personnel in the public sector and the tax system's impact on investment and risk-taking. South Africa's resources policies (labour and land) and the lack of clarity of transformation policy also negatively impacted competitive performance in 2005.

Government support and policies were however viewed to become less constraining in 2008. It shows a positive trend towards, partly due to many policy and government level interactions by the industry; the finalisation of the Transformation Charter and Score Card, the Wine Industry Plan, the restructuring of the wine industry's body to become more representative (the SA Wine Industry Council (SAWC)), and on-going supportive trade and promotion interactions. In 2008, the trust in the honesty of politicians, competence of personnel in the public sector, the current impact of the labour policies, administrative regulation in South Africa, the land reform process and the tax system were considered the most constraining factors resulting in the sustained negative overall rating of this determinant.

It is interesting to note that complying with environmental regulations were rated by the wine industry in South Africa in 2005 to have a positive impact on their competitiveness, while macro-economic and trade policy provided moderate enhancements. In 2008, again the compliance with environment standards is considered to enhance competitiveness, as well as trade-, and macro-economic policies and competition law.

*Demand conditions:* In 2008, the demand conditions had a rating of 1.8 which indicates that the demand conditions may be somewhat constraining the South African wine industry's competitiveness (Table 3c). The rating in 2005 of 2 reflects a more positive view on the market conditions facing South African wines. This view can be partly related to currency revaluation and fluctuations and tighter competition in the global markets.

The Wine Executive Survey (WES) in both 2005 and 2008 indicated that the size of and growth in the local market are constraining the competitiveness of the wine industry in South Africa. The issue of buyers of South African wine being knowledgeable, demanding and buying environmentally friendly products and being concerned of ethics and the integrity of production methods were viewed to have a modestly positive impact on the South African wine industry's competitiveness.

*Chance factors:* Chance events are occurrences that have little directly to do with circumstances in an industry and are largely outside the power of the firms or a country to influence. Chance events, however, are important because they create opportunities and discontinuities that could allow shifts in competitive performance. Chance events can nullify the advantage of previously established competitors and create the potential that a new firm can supplant them to achieve competitive advantage in response to new and different conditions (Porter, 1998).

For the wine industry of South Africa, the impact of chance factors is considered the most constraining to competitive performance (Table 3c). In 2008 this factor was rated 1.4 against 1.3 in 2005.

The strengthening of the South African exchange rate and the global political/economic developments were rated to have highly constraining impacts, both in 2005 and 2008.

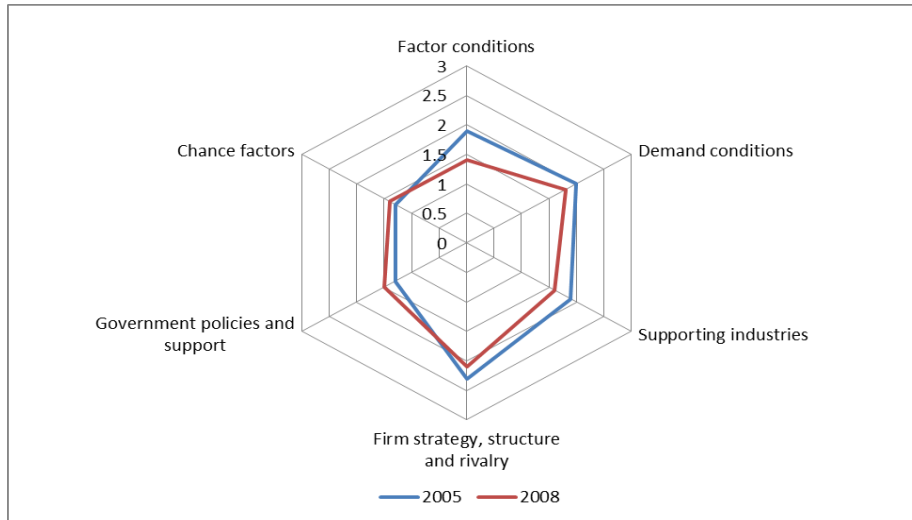
The cost of crime was viewed to be the most constraining factor amongst the chance factors in 2005 and 2008, at a rate of 0.5. The cost of HIV/Aids was rated as the second most constraining chance factor in 2008; in 2005 this was not considered.

#### *STEP 4: Determining the Changing "Competitive Space" of the SA Wine Industry*

The "competitive space" for the South African wine industry changed considerably from 2005 to 2008 due to a pronounced decline in most of the determinants and related factors. This view is confirmed by the RTA measurement of the declining competitive performance of the industry.

- Wine industry executives consistently rated firm strategy and rivalry, together with demand/market conditions to have an enhancing impact on competitiveness. However in 2008, firm strategy and rivalry showed a decline. Supporting industries also showed an enhancing effect in 2005, although declining in 2008 (Figure 4);

- Production factor conditions were modestly constraining in 2005 and became more constraining in 2008;
- In both the 2005 and 2008 WES's, executives indicated that the chance related factors and the government support and policies were the most constraining determinants. However, in 2008, these two factors were rated somewhat less constraining - indicating a modestly positive trend.



**Figure 4.** The “Porter” determinants of competitiveness in the South African wine industry, 2005 and 2008.

**Ratings:** 1 = most constraining; 2 = modestly enhancing; 3 = most enhancing.

**Production factor conditions:** The average score in 2008 achieved for production factor conditions is 1.4; in 2005 it recorded 1.9, showing a decline from a modestly enhancing state to increasingly constraining in 2008 (Figure 3a).

*A strategic agenda for the SA wine industry:* In strategic planning work sessions, where these findings and the changing competitive space were discussed with industry representatives (Wine Industry Council, 2005-2008), the decline in the competitive space were noted, in particular the low rating of government support. The importance of a consistent and intelligent “lobby action” with government - an open ‘red telephone line’ - was viewed as highly relevant for a competitive wine economy in particular as it relates to domestic factors constraining wine trade.

The above analysis identifies a number of aspects to focus such “lobby discussions” and to build the necessary trust between industry and government as important players in this environment. These factors would include: trade agreements and policy development; international market development - regulation and export promotion; infrastructure expansion, in particular exportation facilities and transportation networks; research support and technological innovation; economic empowerment and transformation support; the combating of crime; the simplification of labor regulations; and a reduction in bureaucratic ‘red tape’ to name the main items on the agenda (Van Rooyen 2007).

## Conclusions

This article focused on the measurement and analysis of the competitive performance of the South African wine industry. By applying a four step framework of analysis, the competitive performance of the South African wine industry was traced and analyzed. The analysis established that South Africa's wines are increasingly internationally competitive, with a strong positive trend since 1990. However, recently this trend started to decline.

The determinants of this declining performance were established and analyzed. The openness of the South African wine economy was confirmed as factors such as fluctuating exchange rates and changing market trends play an important role. The role of regulation and a supportive government policy environment were also found to be highly relevant for the competitive performance of the industry.

The continued application of the four step framework will enable the industry to measure and analyze its performance and to determine an agenda for industry level action and the lobbying required to position the industry to operate more competitively.

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## References

- Agricultural Business Chamber (ABC). 2000. *How competitive is the South African agricultural industry?* Pretoria, South Africa.
- Agricultural Business Chamber and the South African Wine and Brandy Company. 2005. *The Wine Executive Survey*.
- Agricultural Business Chamber and the South African Wine and Brandy Company. 2008. *The Wine Executive Survey*.
- Augusto, M., J. Figueira, L. Lisboa, and M. Yasin. 2005. A performance assessment approach to the pursuit of competitiveness excellence. *Global Competitiveness*. 13: 1&2.
- Anderson, K. 2004. *The world's wine markets: Globalization at work*. Cheltenham, UK: Edward Elgar Publishing.
- Arndt, H.W. 1993. *Competitiveness, Discussion Paper No.20*. Centre for Economic Policy Research: Australian National University.
- Balassa, B. 1989. *Comparative advantage, trade policy and economic development*. London: Harvester/Wheat Sheaf.

- Bayley, D. 2008. Chairman, Certification Panel, SA Wine and Spirits Council. Personal communication. Stellenbosch, South Africa.
- Boehlje, M. 1996. Industrialization of Agriculture. What are the implications? *Choices*. First Quarter: 30-33.
- Bruwer, F. 2010. Chairman, Wine Cellars SA, Personal communication. Stellenbosch, South Africa.
- Cho, D. S. 1994. A Dynamic approach to international competitiveness: The case of Korea. *Journal of Far Eastern Business* 1(1): 17-36.
- Cho, D.S. and H.C. Moon. 2002. From Adam Smith to Michael Porter. *Evolution of Competitiveness Theory*. Singapore, New Jersey, London, Hong Kong: World Scientific.
- Esterhuizen, D. 2006. *An inquiry into the competitiveness of the South African agribusiness sector*. PhD-thesis, University of Pretoria, Pretoria.
- Esterhuizen, D. And C.J. Van Rooyen. 2001. “Winners”, “losers” and “turnarounds” in the South African Agro-food and fiber industry. *Agrekon* 40(4).
- Esterhuizen, D. And C.J. Van Rooyen. 2005. An inquiry into factors impacting on the competitiveness of the South African wine industry. *Agrekon* 45(4).
- Esterhuizen, D. And C.J. Van Rooyen. 2007. Determinants of competitiveness of South African agricultural export firms. *Competitiveness Review* 16(3&4).
- Ezeala-Harrison, F. 2005. On competing notions of international competitiveness. *Advances in Competitive Research* (13)1.
- Ferto, I. and L.J. Hubbard. 2001. Regional comparative advantage and competitiveness in Hungarian agri-food sectors. Paper presented at the 77<sup>th</sup> EAAE Seminar, 17 –18 August 2001, Helsinki.
- Freebairn, J. 1986. Implications of wages and industrial policies on competitiveness of agricultural export industries. Paper presented at the Australian Agricultural Economics Society Policy Forum, Canberra.
- Frohberg, K. and M. Hartman. 1997. Comparing measures of competitiveness. *IAMO Discussion Paper No. 2*. Halle/Saale.
- ISMEA. 1999. *The European Agro-Food System and the Challenge of Global Competition*. Rome.
- Joubert, E. 2010. Wine writer and analyst. Personal communication. Stellenbosch, South Africa.

- Lall, S. 2001. *Competitiveness, Technology and Skills*. Cheltenham, UK: Edward Elgar.
- Le Roux, E. 2008. Chairman, Winetech. Personal communication. Stellenbosch, South Africa.
- Masters, W.A. 1995. *Guidelines on National Comparative Advantage and Agricultural Trade. Agricultural Policy Analysis Project, Phase III*. USAID.
- Nadanga, L., Louw, A., and C.J. Van Rooyen. 2010. Increasing Demand for SA Wines: Identifying the Key Market Segments of the “Black Diamonds”. *Agrekon* 49(3).
- Papanastassou, M. and R. Pearce. 1991. *Multinationals, Technology and National Competitiveness*. Cheltenham: Edgar Elgar.
- Pitts, E. and M. Lagnevik. 1997. What determines food industry competitiveness? In: Traill, W.B. & Pitts, E. (Eds.), *Competitiveness in the Food industry*. London: Blackie Academic & Professional.
- Pitts, E., L. O’Connell, and B. McCarthy. 2001. *The competitiveness of the Irish Food Processing industry*, The National Food Centre, Castleknock, Dublin.
- Porter, M.E. 1990. *The competitive advantage of nations*. New York: The Free Press.
- Rao, P.S. and T.L. Lempriere. 1992. A comparison of the total factor productivity and total cost performance: US and Canada. Working Paper Economic Council of Canada.
- Stroper, M. 1995. Competitiveness policy options. *Growth and Change* 26( 2).
- Sledge, S. 2005. Does Porter’s Diamond hold in the global automotive industry? *Advances in Competitive Research* 13( 1).
- South African Wine Industry Directory (2002-2010). ISBN 978-0-620-38730-9. Goodwood, South Africa: Ampersand Press.
- South African Wine and Brandy Company (SAWB). 2002. *Setting the strategic course for excellence*. Paarl: VR Graphics.
- South African Wine and Brandy Company (SAWB) . 2005. *The Competitiveness of the South African Wine Industry*. [www.sawb.co.za](http://www.sawb.co.za) . Stellenbosch, South Africa.
- South African Wine Industry Council (SAWC). 2007. Strategic planning work sessions with council members and invited industry experts. Stellenbosch, South Africa.
- South African Wine and Brandy Company (SAWB). 2010. The Wine Industry Transformation Charter and Score Card, Stellenbosch, South Africa.
- South African Wine Industry Information and Systems. 2010. [www.sawis.co.za](http://www.sawis.co.za).

- Van Rooyen, I.M. and C.J. Van Rooyen. 1998. Economic aspects of the South African flower industry. *Agrekon*. December.
- Van Rooyen, C.J., D. Esterhuizen, and O.T. Doyer. 2000. How competitive is agribusiness in the South African food commodity chain? In J.H. Trienekens and P.J.P. Zuurbier (Eds). *Chain Management in Agribusiness and the Food Industry*. Wageningen, The Netherlands: Wageningen Press.
- Van Rooyen, C.J. 2007. Considering competitiveness in the wine industry. Keynote paper, *Bodegas Argentina*, Mendoza, Argentina. September.
- Valentine, N. and G. Krasnik. 2000. SADC Trade with the rest of the world: Winning export sectors and Revealed Comparative Advantage Ratios. *The South African Journal of Economics* 68(2).
- Veiyyath, R. and S. Zahra. 2000. Competitiveness in the 21st century: Reflections on the growing debate about globalisation. *Advances in Competitiveness Research* 13(1).
- Vink, N., G. Williams, and J.F. Kirsten. 2004. In K Anderson (Ed). *The world's wine markets: globalisation at work*. Cheltenham, UK: Edward Elgar Publishing.
- Volrath, T.L. 1991. *A theoretical evaluation of alternative trade intensity measures of revealed comparative advantage*. *Weltwirtschaftliches Archiv* 127 (2).