Durban 1994

Degree of Master of Business Administration

A dissertation submitted to the Faculty of Business Administration, University of Witwatersrand

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Retail Purchasing Patterns During Economic Cycles
University for any examination or degree, and will not be submitted to any other.

I hereby declare that this dissertation is

DECLARATION
Economic. The results of the correlation indicated a

satisfaction of the data. The data represented the total retail

A correlation was carried out between the data. A linear

For the data was then processed in a form acceptable for

of Economic Research.

source indicating the University of Stellenbosch Bureau

were established from government and other recognized

reflects total retail liquor sales. Economic cycles
developed data were obtained to

economic cycles than will liquor with a low status.

perceived high status will be less influenced by

a secondary hypothesis proposed is that liquor with a

of both economic growth and decline.

there is a general growth trend in liquor sales. An

that the liquor market is immune to economic cycles and

The basic hypothesis concerns on the widespread belief

Spirit liquor and beer markets.

on the liquor market with specific emphasis on the

The study investigates the behaviour of retail

ABSTRACT
Seguently were rejected, and the secondary hypothesis were invalid and con-economical cycle pattern but exhibit read characteristics. Retail sales of spirit liquor and beer follow the two variables. The results of these results it was concluded that the perceived status of spirit liquor and beer has no noticeable affect on the retail sales.
TO THE MEMORY OF MY PATERA LOUIS GOMER


(114)
January 1984

P. Cowen

Report.

Susan Stander for their untiring effort in typing this
prima, a special note of thanks to Amelia Reeves and
procter. Mr. With address for supervising this research
Elizabeth Bowne of the University of Waterloo
Mr. Ken Hennecker of B. Small and Company
Mr. Caro Bury of South African Breweries
Mr. Mike de Rock of Stellenbosch Para-mure Wineries

Mr. Peter Ripley - Evans and Lilly - Dis-tillers Ltd.
Mr. J. E. von Colle
Mr. John Kueker of the C.M.S.I.
Mr. Bob Hughes and the A.C. Nielsen Company

undertaken.

and assistance this research would not have been
following persons and organizations without whose help
I would like to place on record my appreciation to the

Aknowledgements
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behaviour of economic cycles is supported by the
This concept of liquor being immune to the
economy as a whole. Independent of the performance of the
genral economic downturns, the consumption of alcohol
would (based on the above premises) appear to be
one of economic downturns. Conversely, in times of economic growth,
consumption is celebrated as a sign of success. In times of economic
crises, it is felt that in “good times” or
cycles, the liquor market is generally unaffected by
economic growth and prosperity, liquor is
There is a widely spread belief that the liquor

on the spirit liquor and beer markets,
the liquor market in South Africa and
Justified: this report will consider the

This report aims to investigate retail liquor

1.1 INTRODUCTION AND BASIC HYPOTHESES

1.2 N:0.2:0.1:0.2:0.1

CHAPTER: 1
In a state of decline, the phase up to mid-1987, after which it moved back to the growth rate period the economy moved through a period of 0.2 percent growth over the period 1976 to 1982. During 1977/1978 when percent change of GDP was between 5 percent per cent and 12 percent, growth varied between 5 percent per cent and 12 percent. Growth showed a positive increase of 12 percent per cent, both food and non-food. The exception of a period of twelve months.

Food and Groceries

Similar to that of other basic necessities, the growth of this market can be expected to be above the Consumer Price Index. A market can be considered as a 'necessary' if the demand for the market is 3.07 are found for the remaining groups income elasticities of about 0.3 to 0.1. The pattern of consumer behavior'.
and more specifically, certain social classes, become associated with certain social occasions. Years of certain types of alcoholic beverages have brought in usually a social occasion. Over the

These will be defined more closely later on.

Beer

Portfied Mines

Uncoftified (or natural) Mines

Spirts

Caffeines

The liquor market can be broken into four major

1.2. The nature of the liquor market and beer

of economic cycles.

Market sales are largely independent

of retail spirit liquor and beer.

This paper asserts, thus, can be stated as

cycles drive these to the hypotheses on which
produced, resulting to the effect of economic
supported by categorization as a necessarily
time celebration and bad time consolation.

Thus the original generalization of "good
will be omitted for the following reasons: beer, wines, both portrilled and unfortified, and either end of the spectrum i.e. spirits and made of the categories of the liquor market will be.

In order to test these hypotheses, we will be

1.3 Selection of the liquor market

Status liquor

Affected by economic cycles than low

Which status liquor will be less

Secondary hypotheses can be stated as follows: economic downturn than low income consumers, the to give up their luxury status in times of
cyclusical activity and they will be less likely will be less likely to be affected by economic income consumers. As these consumers, income higher status liquor being associated with upper hypotheses which is based on the concept of

This perceived status gives rise to a secondary

This paper will also be examined and tested in

speaking, the ranking is as given above, with

As a result, there is a definite level of stress
Paper is to examine the behaviour of retail
In summary therefore, the objective of this
Red.
into the genetic expression of white, rose and
The unfertilized tines are further subdivided

<table>
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</table>

SPARKLING

HIGH प्रतिभा

UNFERTILIZED

MEDIUM प्रतिभा

LOW प्रतिभा

FERTILIZED

WINE प्रतिभा

Size (mm) - 5.000 - 2.000 - 1.500 - 1.000 - 750 - 475 - 200

Smith and Co. (3) as follows:
A breakdown based on data provided by R.

Scope of the report.

Errors would require an analysis beyond the
the number of sub-groups of varying price and

single level of status.

status. As such, these do not represent any
range from very low status to very high
as a group, whose contains products that

---
Economic cycle indicators

- The spirit and beer markets

The data for the spirit and beer markets will be

- Economic cycle indicators

These are:

It will be necessary to research the market

In order to test the validity of these hypotheses

than low status liquor

Will show less correlation with economic cycles

being associated with higher income consumers

presents the idea that higher status liquor

Economic cycles. A secondary hypothesis

necessary product is largely measured by

sorrows and because of the nature of a recession and recession times, traumatic one.

The associated with both growth periods (celer).

that the liquor market, because the consumption

segments of the liquor market. It is suggested

concentrations on the spirit liquor and beer

Purchasing patterns during economic cycles.
The alcohol industry is a fine reflection of the market
to the liquor manufacturers and is accepted by
provided by a.c. Nielsen. This is data provided
a 10% sample with a 95% confidence level was
A.C. Nielsen company (FY) Ltd. data based on
produced by data gathered (c) 1981.
Computer printout of all liquor products,
August 1981.
Presentation by a.c. Nielsen company
&. Nielsen company
Lesser C. E. A. Commodity Group Expenditure
Cane spirit or cane product.

Fermented fruit, grain or cane product.

An alcoholic which is produced by distillation of a "corn" or "whiskey", while the remainder are classified as vodka. The remainder can be classified as brandy, whiskey, cane spirit (cane), gin, and there are five main products in this group being...

SPIRITED

These are briefly defined as follows:

Beer
Portland Wine
Unfortified (or natural) Wine
Spirit

Broken up into four main categories,

By convention the South African liquor market is...

2.1 DEFINITION OF THE SOUTH AFRICAN SPIRIT AND BEER MARKETS

CHAPTER 2
Sherry, Port, Vermouth and dessert.

There are four main types of fortified wine:

- *Forlorned Wine* - The wine to which a grape spirit has been added.
- *Fermented Wine* - A wine with a strain that has been fermented.
- *Easter Wine* - A natural wine that has been fermented from the juice of freshly picked grapes.
- *Incapable Wine* - A natural wine that has been fermented from the juice of freshly picked grapes.

Other spirits include American, Canadian, South African, (converted to sugary) by the enzyme saccharified from a mash of cereal grains (in Scotland), from a mash of cereal grains by distillation without yeast, is a colourless grain spirit without juniper berries and other aromatics. Cognac is a neutral spirit of either grain, sugar molasses (a by-product of sugar).
3. Cane gin and vodka
2. Brandy
1. Whisky

The five products can be further broken up into

2.2 The nature of the spirit market

above, with the spirit and beer market as defined as noted in chapter 1, this report deals only

Evolved with hope.

drinks. It is deined from malted barley. beer is the generic term covering all malt
Regal Whisky or K.W.Y. Brandy. Typical examples are Chivas, a premium product, marketed eight years or longer and established.

Essentially the same as malt whisky except that it is a wholly or partly grain blend, and very often resembles the grain type of whisky.

Regal Whisky or K.W.Y. Brandy.

Typical examples are Chivas, a premium product, marketed eight years or longer and established.

It must be stressed that there are no hard and fast proprietary (or brand) lines between these groups.

Three loosely defined groups:

their age (or maturity). This gives rise to references to the whisky and brandy as groups.

Sometimes whisky and brandy are grouped together.

2.2.1 The Brown Spirits

Cane, gin and vodka are referred to as white spirits, and referred to as brown spirits. Group 3
Brown Spirits

Properly and non-properly blended for its characteristic taste and
flavoring agents. The major product
Furthermore, further refinement and addition to certain
sources, product differentiation is achieved by

Therefore, differentiated in form from the same
\textbf{2.2. The White Spirits}

and will advertise for a proprietary line and will
will not be supported by the level of
component making it less expensive. The
comprise a higher proportion of the less matured
established product. The blending will probably
a non proprietary line is usually a never, less
Alcohol content of 47 per cent by volume.
requires a minimum age of three years and an
product associated with the increased whole — usually be to take advantage of the increased brand. The reason for doing this will
bead. If the low mower to be a proprietary product into line with other proprietary increase the wholesale price to bring the
product into a proprietary brand will price. Thus a supplier, wishing to upgrade a constitute a proprietary brand other than
there is no absolute definition of what
advantage over any other.
proprietary brand will not have any price
within any one outlet be the same. Thus one
— the retail price of all proprietary brands
the same irrespective of supplier.
— the cost price of all proprietary brands are

causes reveal the following facts:

examination of the structure of these two proprietary brands being more expensive. An
distinguishable one from the other is price, which
proprietary brands. The only factor which
difference between proprietary and non
difference in the premium brands there is no similar
where there is a discernable quality difference
The figure shown is for the number of labels in each category. The number of labels in each category variances created costs, the main being advertising and sales price. Naturally there will be in-

<table>
<thead>
<tr>
<th>Number of Labels</th>
<th>Spirtites</th>
<th>Other</th>
<th>Whiskey</th>
<th>Vodka</th>
<th>Gin</th>
<th>Brandy</th>
</tr>
</thead>
<tbody>
<tr>
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<td>13 (1)</td>
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<td>43</td>
<td>-</td>
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<tr>
<td>42</td>
<td>21</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
</tbody>
</table>

Table 4

In Table 1, market estimation of the breakdown is given. Continuously new products enter and leave the market, to maintain the proprietary brand and maintain the rightful brand.
Less than 0.5% by volume. Source: A.C. Nielsen. Large percentage of the market by volume; restrictions and restrictions do not constitute a significant factor. Importers and distillers are however usually reluctant to exact import duties and unusually shaped packages are however usually concentrated around key amounts by volume. These cars, for instance, odd-shaped and odd-shaped bottles, are also packed in various shapes such as bottles, the gallon (4.500ml) and the half gallon (2.000ml) (4.000ml) (4.000ml). These two packages are the miniature (50ml) and the half (750ml) and are commonly used in the trade. The pints and quarts listed here are the

<table>
<thead>
<tr>
<th>Item</th>
<th>Size (ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 bottle or pint</td>
<td>375</td>
</tr>
<tr>
<td>Bottle or quart</td>
<td>750</td>
</tr>
<tr>
<td>One of the most common</td>
<td></td>
</tr>
</tbody>
</table>

*Follows:* Spirits are packed in three sizes by volume, as
Bottles are supplied in 4.5° Plato.
In addition, both the can and the non-returnable
- Cans 340ml
- Non-returnable Bottles (105ml) 340ml
- Returnable Bottles 750ml and 340ml
beer is supplied in three pack types:

2.3.1 BEER PACKAGING AND CONSUMPTION

Price

Product will be made on criteria other than
which becomes and selection of a particular
therefore no price incentive for the consumer to
beer is retail at the same price. There is
cent of the market, all of the locally produced
bottle each of which comprises less than 5 per
with the exception of Amstel and Castle
Milk Stout, all well as some imported lines.
which comprises 5° Plato, the remainder of the market is
the beer market. The remainder of the market is
together make up approximately 80 per cent of
lion lager and Carling Black Label, which
lie. The major brand names are Castle Laker,
one local supplier - the South African Breweries
the beer market is unique in that there is only

2.3 THE NATURE OF THE BEER MARKET
consumption.

To the following characteristics of beer preference for disposable packaging is due mainly.

At 0.9% to 4.0% per equivalent price. This is beer in disposable packs compared to containers cases from 82 to 44 per equivalent disposable pack. Whereas beer in returnable containers cases is prepared to pay for the convenience of delivery. It is clear however that the consumer—equal—52.1 per cent and 47.9 per cent respect—

for returnable and disposable packs is roughly from the above it can be seen that the market.

(SOURCE: A.C. Nielsen Inc. 509-601-151-600-5)

| Percentage of Total Market | 44.3 | 73.8 | 17.8 | 18.1 | 12.0 | 100.0%
|----------------------------|------|------|------|------|------|---------
| Bottle                     | 52.3 | 39.1 | 9.6  | 5.2  | 2.0  | 100.0%
| Cans                       | 47.7 | 60.9 | 80.4 | 94.8 | 98.0 | 100.0%
| Case-Size                  | 120ml | 340ml | 440ml | 490ml | Total |

Table 2

Size is given in Table 2 below.

The breakdown for consumption according to pack.
goods alter the event. The tendency would be less likely to want to carry home empty or spilling events. In these situations, people prefer was most likely to be consumed at parties. Sheep, or American liquor market, which indicated that supported in a study produced by Newman (6) on friendship and camaraderie, this fact is enjpying the product in an environment of theme, incorporating a number of personal experiences who consistently use the outdoor activities. This fact is related by the consumption of beer as very much a social, 

CONSUMER ENVIRONMENT

Reasonable beer pack, whereas there is no practical advantage to a clean one hour from the consumer's point of departure. To unacceptable standards in terms of the consumer of the exposed product and it will be limited. It is not desired to be reopened by is opened; the neatliness as a container is required, the entire contents of a beer bottle is returned until the next drink as unless specified where a drink is poured and the

COMPLETE CONSUMPTION
disposable after consumption.

therefore be to look for a pack which would be
This chapter will examine two concepts in society: the status of a person as determined by the society, and the status of a person as determined by society. These two concepts are not always the same, and they are both subjectively perceived by the same body. The status of a person as determined by society is defined by the dictionary, as in "standing in society." The status of a person as determined by the South African liquor market is a secondary hypothesis. In this chapter, we will examine this concept in the terms of the status of the South African liquor market.
performance of larger is given below.

led place of machinery, a motor car, and a
comparison for three examples being a specia-
personal consumable item, almost impossible. A
technical level easy and on an expensive
these are relatively easy to measure, on the other
on a technical level, a place of machinery,

D - DURABILITY - how long will it last,
E - ECONOMY - how economically does it
me to be.
C - COMPACT - how unencumbered does it allow
(to myself, and to others).
A - APPEARANCE - how does it look
P - PERFORMANCE - how does it perform
S - SAFETY - how does it relate to my

E. Smith (1)

concept of SPARED benefits, derived by Taylor
in an attempt to do this, need will be made of
reason arises as to how to measure this stature.
The difficulty

have a high status in society, the dyestuff
himself with things (e. possessions) which
society. One way of doing this is to surround
will strive for the highest possible stature in
as a rule, it is reasonable to state that man

3.2 
STATURE IN TERMS OF PERCEIVED BENEFITS
An examination of this table indicates that only

<table>
<thead>
<tr>
<th>Perceived/Selected</th>
<th>Cost</th>
<th>Economy</th>
<th>Dependability</th>
<th>Relevance</th>
<th>Satisfaction</th>
<th>Safety</th>
<th>Performance/Maintenance</th>
<th>Technical</th>
<th>Personal</th>
<th>Financial</th>
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<td></td>
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<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td>No</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
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</tr>
</tbody>
</table>

Factors that are perceived to be of high importance are:
- Economy
- Dependability
- Relevance
- Satisfaction
- Safety
- Performance/Maintenance
- Technical
- Personal
- Financial
The results are given in Table 3 below.

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<td>2</td>
<td>Referred to positively</td>
</tr>
<tr>
<td>1</td>
<td>Referred to or mentioned</td>
</tr>
<tr>
<td>0</td>
<td>Not referred to</td>
</tr>
</tbody>
</table>

Mind, each benefit was scored as follows: a number of advertisements were examined, the importance of the spaced benefits in the literature as a first attempt to evaluate the relevance.
Nevertheless, it is clear that personalized subjectivity in drawing up such an evaluation is necessary. There will be a certain amount of

### Source: Hotellerie à Caractère October 1983

<table>
<thead>
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### AVERAGE

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</tr>
<tr>
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<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
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<td><strong>CATO</strong></td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>LA ROCHELIE CÔTÉ</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>CÔTE OCTOBER</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>CÔTE CÔTE</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>PÉRÉRIN GRAND</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td><strong>DURSTAD-HOF</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>HENRIMAL</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>POMERY</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td><strong>KALUA</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

### Benefits for Occupational Scoring of Benefits: In 22 Random

### TABLE 3
3. Economy and Durability have very low associations in which the product is consumed. Situations in which the product is associated with the idea of "beer" i.e., have a high grades. By implication, the consumer must be "the best" of the selected brands. The taste of "real Scottish" are aimed at "highest quality" and "selected brands". Words like "laid down" in terms of how "good" the product is rated highest. "Real brands" and society and concern being ranked with durability and economy showing a performance and appearance have the highest rated brands. Keener ranking, and society and concern being
Especially when benefits are perceived as relating to the product, the consumer is more likely to purchase a product whose performance is not only measured but also appreciated. Appearance and competitive behavior are important factors in determining whether or not a product is considered. Economy and durability are also significant levels in the advertising process. Appearance and performance features are from the above it can be seen that only in evaluating the criteria, the consumer is as little concerned with even the product has a certain health benefit that is of interest to him. It is more important that interest-related have almost no importance.

4. The concept of safety and comfort which are the and the words "value for money." Since this has so low rating it implies that economy does not mean low cost, but rather
Groups and Retail Outlets, 1980 (MRP Prototype)

Produced from Tastes, associated with Product

White were given in the tables which follow.

Low versus alcoholic beverages for Whites and

Whites and another White with differentials high and

White sample from Durban and Pretoria.

Sample was drawn from Soweto and Winterveld.

Black persons, both male and female, The Black

The usable sample comprised 75 White and 753

produces in the respondents' minds

What characteristics differentiate high and low

accept the task to answer the question.

In Chapter 4 of the above mentioned study an


Product Groups and Retail Outlets, 1980 (MRP

Market Research entitled Tastes associated with

A study has been carried out by the Bureau of

MARKET

ERECERIVED - 81.190. 01.1409. IN THE SOUTH AFRICAN
<table>
<thead>
<tr>
<th>Characteristic/Type</th>
<th>Z Strain Low Status</th>
<th>Z Strain High Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Total 100.0%**
- **11 Other Responses 12.3%**
  - 1% Champagne
  - 2.6% Red Wine
- **Expense/Ingrat**
  - 3.2% All Other Responses
  - 4.5% Wine In Large Containers
- **Priced Ingrat**
  - 4.1% Imported Ingrat
  - 8.4% Inexpensive/Moderately
- **9.7% Gene**
- **9.0% Wine**
- **2.2% Brandy**
- **11.6% Whiskey**
- **38.4% Beer**

**WHITE SAMPLES**
## White-Samples

<table>
<thead>
<tr>
<th>Characteristic/type</th>
<th>High Status</th>
<th></th>
<th>Low Status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Stated</td>
<td></td>
<td>% Stated</td>
<td></td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whisky</td>
<td>37.7</td>
<td>Beer</td>
<td>33.8</td>
<td></td>
</tr>
<tr>
<td>Wines/table wines</td>
<td>14.4</td>
<td>Wine</td>
<td>32.6</td>
<td></td>
</tr>
<tr>
<td>Liqueur</td>
<td>13.0</td>
<td>Brandy</td>
<td>13.4</td>
<td></td>
</tr>
<tr>
<td>Brandy</td>
<td>7.2</td>
<td>Cane</td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td>Gin</td>
<td>3.1</td>
<td>Inexpensive/moderately priced liquor</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Champagne</td>
<td>2.7</td>
<td>Sherry</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Sherry</td>
<td>2.4</td>
<td>Whisky</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Expensive liquor</td>
<td>2.4</td>
<td>All other responses</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td>Vodka</td>
<td>2.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beer</td>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;A large variety&quot;</td>
<td>1.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All other responses</td>
<td>11.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.0</td>
<td></td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
| Characteristic/Type | % Stated | High Status | Low Status | BLACK SAMPLE
---|---|---|---|---
ALL other responses | 8.5 | | | 
High quality liquor | 2.1 | | | 
Brandy | 2.1 | | | 
Strong taste/strength | 4.1 | | | 
Expensive | | | | 
Spirtis | | | | 
Wines | | | | 
Inexpensive/moderate | | | | 
Strong taste/strength | 0.6 | | | 
Brandy | 7.9 | | | 
Spirtis | | | | 
Beer | | | | 
(Home-made) | | | | 
Sorghum beer (including) | 3.5 | | | 
Meat | | | |
<table>
<thead>
<tr>
<th>Characteristica/Cup Type</th>
<th>Overall %</th>
<th>High Status</th>
<th>Low Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black &amp; Sambalos</td>
<td>31.0 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3.0 %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total 100.0%
A large variety of discount prices. A summary directly related to the products themselves.

Table 4.4 shows all the responses detailed in the above.

WHITE GROUP

SUMMARY OF THE RESULTS OF THE STATUS ASSOCIATION
The majority of a low status drink, including sorghum beer which is regarded by the black group as of the finest quality and the black group sample. This should however be viewed in the context of the above. Whiskey is clearly perceived as a high status drink by the above.

The following conclusions can be drawn from the table:

<table>
<thead>
<tr>
<th>Quality and Expensiveness</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sorghum beer</td>
<td>3.8</td>
<td>5.4</td>
<td>7.7</td>
</tr>
<tr>
<td>Whiskey</td>
<td>6.0</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>Expensive liquor</td>
<td>6.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High quality</td>
<td>7.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expensive liquor</td>
<td>6.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>_Liqueurs</td>
<td>7.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beer</td>
<td>14.1</td>
<td>14.9</td>
</tr>
<tr>
<td>Whiskey</td>
<td>36.5</td>
<td>27.9</td>
</tr>
</tbody>
</table>

The table above shows the values for high quality liquor, medium quality liquor, and low quality liquor for men and women. The table also includes the values for sorghum beer and whiskey, which are considered high status drinks.
the study was

Consumer patterns, one of the objectives of
Harvey, Inc. (2) into the American Alcoholic
In a depth study has been commissioned by

MARKET

PERCENTages OF LIQUOR IN THE AMERICAN

The respondent to each particular product type
would be an assessment of the status attached by
status by the respondent. A truer indication
ratings (or products) are regarded as high or low,
formed around the question of what characteristic
fueled by the survey is the survey is
Given a true picture of the scenarios of all categories.
It should be noted that these results do not
be relatively uniform.
whereas the distribution in the black group
a greater percentage of low status respondents.
both groups. The white group tended to have
drinks by a relatively large percentage of
women are seen as both high and low status.
alcohol consumption patterns revealed the results of the study into the American
with regard to the status of alcoholic beverages

conducted in September 1981. They were 25-54 years old. The research was
household incomes of $25,000 a year or more. If in the 22-34 year age group bracket as having
in income, upscale was defined for those adults
alcoholic beverages in a week and who are upscale
adults who have at least two diets of an
aged 21-54, respondents were qualified as
interested in alcoholic beverages consumers
The method of sampling involved telephone

therefrom from the results.
American alcohol consumption can be
the status of alcoholic beverages in the
search was not directly correlated to establishment-
preference. Thus although the re-
trendship between interesting characteristics and
the research also aimed to establish the role

to pursue retailers.

especially from lunchon to after dinner
different situations ranging chronolo-

...
No similar evidence was found for brandy, society, but not to the same extent as whiskey. society, but not to the same extent as whiskey. whiskey is more usually associated with other upper classes and middle classes drink beer being an informal middle-class drink.

The above would seem to reinforce the concept of educated than by rural consumers.

- can be more likely to be chosen by college.

- endorsed or administered occupations.

- vodka tends to be preferred by consumers to respondents in any situation.

- Brandy was not drunk by more than 3 per cent.

- In any one situation.

- not by more than 10 per cent of respondents.

- can be drunk in a number of situations, but

- of respondents.

- discotheques and night clubs (17-21 per cent.

- Whiskey is primarily drunk at parties.

- respondents.

- barbecues and sporting events (49 per cent of.

- beer is most likely to be consumed at picnics.

- are more likely to drink whiskey.

- other more affluent college educated people.

- then women.

- younger and unmarried and more likely to be.

- those that drink beer are more likely to be.
the upper echelons of society.

Noble culture is deemed to satisfy the tastes of

associated with cheap, lower-class produce or a

South African experience where wine can be

and low status characteristics. This reflects

been to indicate that wine can have both high

beverage consumed in various settings could

The observation that wine is a versatile

the respondents consumed wine.

In all these situations, 26 per cent or more of

- Party before dinner
- Party outside the home
- Friends in the home after dinner
- Party in the home
- Home such as

social venues both in and outside the

associated. It is also consumed at

as well as meals with business

Wine appears to be a versatile bev-

indicate that

as far as wines are concerned, the results


take even higher than an aged whisky. As a
superior blended well-crafted red wine can
permanently will be positioned below even beer.
A cheap wine, bottled from the residual
any point on the alcohol percentage scale.
that it is possible for wine to be positioned at
The producers of the wine category are so varied.
The position regarding wine is not as clear cut.

have a "low" status.
In terms of status, beer can be considered to
consumed at informal "casual-free" occasions.
be generally regarded as a beverage to be
high position on the social status ladder.
beer on the other hand makes no such claims to a

Social classes.

These beverages are also associated with higher
findings discussed above would indicate that
the South African market's consumption of the
spirits being gin, vodka, brandy and Came for
are to the exact ranking of the remaining major
of society. Although there may be some debate
be a drink associated with the upper classes.
It is clear that whisky is generally regarded as

Jarvis

Conclusions
Chapter 4

INTRODUCTION

4.1

Chapter 2 dealt with the Spirit Liquor and Beer Market in terms of product-definition. In this chapter, the Retail Market for Spirit Liquor and Beer in South Africa is defined quantitatively.

This is dealt with in terms of:

- Annual consumption figures for the years 1975 to 1982 inclusive.

This will serve to define the market population within the boundaries of the research. The data will then be processed into an acceptable form for use in testing of the basic hypothesis.

THE RETAIL MARKET FOR SPIRIT LIQUOR AND BEER IN SOUTH AFRICA

This is detailed in Appendix I and covers all the products in the Spirit Liquor Category (being whisky, vodka, gin, brandy, cane) as well.
which the data is provided by the A.C. Nielsen
period of two months. This is the form in
It should be noted that each data element covers
be adjusted relative to a base year.
retail sales behaviour and does not require to
take the data as a true representation of the
due to the effects of inflation. This implies
measure if it is not subject to a change of scale
since this is a volumetric and not a monetary
The data is expressed in thousands of litres.

Prior to 1975 do not exist.
records of retail liquor sales in South Africa
company only began their work in 1975 and so
cycles, these were not possible. The A.C. Nielsen
even further to cover additional business
although it would have been useful to go back
covered.

1983, inclusive. A period of nine years is
the period February/March 1975 to February/March
retail sales for each commodity listed above for
This data represents the total South African

measured over a period of two months.
of litres and each value represents retail sales
as beer. The figures are expressed in thousands
The following scale, an examination of this graph reveals data presented in Appendix I, drawn on log/normal Figure I as a graphical representation of the. “BEHAVIORAL’ OP: THE SPIRIT-1400: AND. BERER/DERE

ity will be discussed in Chapter 5 “Behavior.” The method of handling this incorporated- containing indices are presented on a monthly index of the composite readings and indices namely the composite economic growth. The fact that the comparable economic growth monthly figure presents a problem in view of the monthly data as presented as a single figure. Though it thus represented by a single figure as recorded, the high peak followed by a very high figure for December followed by a lower figure for January, only a single figure illustrating this point, consider the values for smoothing at each two month modal point. The months data into one figure is to create local company. The effect of this averaging two
production should be questioned.

Sales during December/January, the continued
Product Range) not experience an upsurge in
that should a Product (or a brand within a
The inference that can be drawn from this is
shown clearly for all the other products.
Prevalent for Gin and Vodka sales, but the
Prevalent for Gin and Vodka sales, but it is

a further point to note is that irrespective

reflects this downturn accordingly.
During winter, when summer, and beer sales
are less likely to be enjoyed, the outdoors
consumed out of doors. Naturally consumer
consumed out of doors. Naturally consumer

(2) that beer is most likely to be
consumed out of doors. Naturally consumer
consumed out of doors. Naturally consumer

2. The sales for the remainder of the year are

The Christmas Period.

Peak binge recorded in December/January i.e.
unquestionably seasonal with an unmistakable

1. The retail market for spirits liquor is
FIG 1: TOTAL REPUBLIC 
NIELSEN RAW DATA

- Beer
- Brandy
- Whisky
- Cane
- Gin
- Vodka
TABLE 5

**Conversion of Average Retail Selling Price per Drink**

The average retail selling price per drink is an important factor in comparing the cost of different beverages. The average price of a drink is generally calculated based on the cost of the ingredients and the profit margin of the restaurant or beverage retailer.

### 4.4 Price Comparison

<table>
<thead>
<tr>
<th>Drink</th>
<th>17%</th>
<th>12%</th>
<th>8%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine</td>
<td>£4.99</td>
<td>£3.99</td>
<td>£2.99</td>
</tr>
<tr>
<td>Beer</td>
<td>£3.50</td>
<td>£2.50</td>
<td>£1.50</td>
</tr>
<tr>
<td>Spirits</td>
<td>£6.00</td>
<td>£4.00</td>
<td>£2.00</td>
</tr>
</tbody>
</table>

### 4.4.1 Price Equivalents

To compare the price of different drinks, it is necessary to convert the price of each drink to a common unit. This can be done by dividing the price by the volume of the drink.

For example, if a drink costs £4.99 and has a volume of 0.75 litres, the price per litre would be £4.99 / 0.75 = £6.65 per litre.

### 4.4.2 Conversion Factors

- Wine: £1 per litre = 0.67 litres per £1
- Beer: £1 per litre = 0.5 litres per £1
- Spirits: £1 per litre = 0.25 litres per £1

### 4.4.3 Price Comparison

<table>
<thead>
<tr>
<th>Drink</th>
<th>17%</th>
<th>12%</th>
<th>8%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine</td>
<td>£4.99</td>
<td>£3.99</td>
<td>£2.99</td>
</tr>
<tr>
<td>Beer</td>
<td>£3.50</td>
<td>£2.50</td>
<td>£1.50</td>
</tr>
<tr>
<td>Spirits</td>
<td>£6.00</td>
<td>£4.00</td>
<td>£2.00</td>
</tr>
</tbody>
</table>

### 4.4.4 Conclusion

The price comparison shows that wine is generally the most expensive, followed by spirits, and then beer. The price per litre can be used to make a more accurate comparison of the cost of different drinks.
The selling price per drink purchased can be influenced by the pack size. The smaller pack sizes are generally more popular and have a higher selling price.

2. The total market includes the market for spirits, unprotected wines, fortified wines, and beer. The A.C. Nielsen Company's figures are based on data supplied by the companies, and are reported in December, January, February, and March 1963.

I. The above figures are calculated on 12 month period.

### NOTES:

<table>
<thead>
<tr>
<th>Product</th>
<th>1962/63</th>
<th>1963/64</th>
<th>1964/65</th>
<th>1965/66</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vodka</td>
<td>78.00</td>
<td>77.78</td>
<td>77.44</td>
<td>77.11</td>
</tr>
<tr>
<td>Gin</td>
<td>0.45</td>
<td>0.47</td>
<td>0.49</td>
<td>0.49</td>
</tr>
<tr>
<td>Whiskey</td>
<td>0.70</td>
<td>1.15</td>
<td>1.13</td>
<td>1.13</td>
</tr>
<tr>
<td>Brandy</td>
<td>2.10</td>
<td>3.10</td>
<td>4.75</td>
<td>4.75</td>
</tr>
<tr>
<td>Beer</td>
<td>7.10</td>
<td>7.90</td>
<td>9.60</td>
<td>9.60</td>
</tr>
</tbody>
</table>

### Table 6:

Breakdown of market share by product - Total Republic
Drink Equivalents:

two to five times the price of off-compassion
consumption. Drink Equivalents is anything from
being considered, as a guide, the price for on-
according to the standard of the establishment.
price of on-compassion will vary enormously,
fixtures and fittings), the actual selling
environment (decor and general furnishing
of the bar, and snacks) and the cost of the
brick and masonry (fence, doory, corridor)
cost of labour, (servicing a drink, these include the
costs of serving a drink, these include the
accompanied consumption. This is due to the fact that on-
expensive than the equivalent cost of off-
liquor, on-compassion liquor is far more
brinks equivalent purchased as on-compassion
be confused with prices that would be paid for
consumption liquor. (3) These prices should not
prices are based on the retail sale of off-
it should be noted that the drink equivalent
that is higher than actual price.
Retail-selling price per drink equivalent
sales in the smaller pack size will have a
Thus a product that has a higher percentage of
per equivalent litre than the 750ml size.
packs (i.e., 375ml and 200ml will cost more
Drink Equivalent

Two to three times the price of off-consumption

consumption drink equivalent is anything from

being considered. As a guide, the price for on-

according to the standard of the establishment

price of on-consumption will vary enormously.

fixtures and fittings), the actual selling

environment (decor and general furniture)

stick and snack) and the cost of the

the cost of ancillaries (ice, doilies, cocktail

cost of labour, (barman, waiters, waiting staff)

these include the

consumption must include all the accompanying

consumption. This is due to the fact that on-

expensive than the equivalent cost of off-

Egger, on-consumption liquor is far more

drink as on-consumption purchased at on-consumption

be confused with prices that would be paid for

consumption liquor. (2) These prices should not

prices are based on the retail sale of off-

It should be noted that the drink equivalent

that is higher than anticipated.

Egger's selling price per drink equivalent

sales in the smaller pack size will have a

Thus a product that has a high percentage of

per equivalent litre than the 750ml size.

packs i.e., 375ml and 200ml will cost more
Restaurant

Premises such as en bocet, public bar or
to liquor sold for consumption on the
licensee will not be referred to a bottle or-
in particular this would refer to a bottle of-
licenced premises.

sold for consumption of the licenced
the licence premises.

"no-occurrence" and "no-consumption"

3) Total Research Corporation, op. cit.

2) supplied by A.D. Nielsen Company

This data is collected from various sources

Follow:ing at 27 cents.

the next most expensive at 33 cents vodka
and 71.5 per cent in volume terms, whiskey is
43.6 per cent of the total market in brand terms.

yet despite this high price, "beer represents
and more than double the price of cane and gin.

price of vodka, 1.8 times the price of whiskey, 1.7 times the
price of brandy, 3.4 times the price of whiskey per
price of brandy.

An examination of Table 2 reveals that beer has
activity is, as noted by de Rock (1969), a well
The existence of business cycles in economic

5.2 THE BUSINESS CYCLE

This is not to be the case. Where there is a low (or zero) correlation of economic performance with retail purchase, correlation will indicate that retail purchasing is low. Whether or not there is any correlation, a high establishment of data can then be measured to establish the

consumption

meaningful data of national

performance

indicators of the national economic

basic sets of data!

patterns during: Economic cycles change on two
longer and peer markets and retail purchasing

The evaluation of the behaviour of the spirit

I NTRODUCTION

METH FOR

CHA P T ER 5
business investment patterns, spending of income, savings habits, movement of interest rates, consumer and is evident in the flow of funds benefits to a greater or lesser extent reflected in nearly all economic time sectors. Such cyclical behavior is diffracted throughout all business economic expansion and contraction cycles recurrent waveform sequences of realty recurring waveform sequences which are tendency to move in cycles which are widespread activity has an established

J.B. W. von Coler (3) makes the following

net income, income and product, involves such major effects as a multitude of economic processes and contractions, which are diffused over periodic cumulative expansions and ceases includes recurrent but non-business cycles of historic experience. A widely accepted conception of

follows:

tion to the business cycle today is quoted as established fact. Zawodnik (4) in his introduction.
determined by the Reserve Bank (4) as follows:

Turning points for the economy as a whole are

stated. These peaks and troughs separate these two
event periods of periods of both growth and decline

The above gives weight to the concept of the

fortunes of firms concerned.

which have a direct effect on the

seemingly changes in trading conditions

business sector, because they

troughs are of particular interest to

these various cycles both at peaks and

troughs. The turning points in

peaks and troughs are of constant

cycles; not the amplitudes between

rather the duration of complete

The cycles are not periodic, that is,

employment and manufacturing output.
Turnings points (reference points, spread of lead) the basic reference series whose peaks and troughs occur in one of three groups. Economic time series can usually be classified.

5.3 Development of Composite Indicators published in Trends (5).

Composite Index of Cyclic Indicators and the Composite Index of Leading Indicators and the different business cycles, were made of the In order to reflect the behaviour during the partake during the cycle.

Any indication of the consumption behaviour by acceptable correlation, not do they provide patterns are not sufficient to give a satisfactory economic behaviour. However these few change consumption patterns mirror the national cycle boundaries, this may indicate that minor sales coincides with these identified economic hypotheses. If the volume of retail lag a basis for a very crude test of the basic and decline can be established. This representation boundaries between periods of economic growth.
Another reason for using a composite indicator is to facilitate the prediction of economic cycles and to improve advanced leading indicators, which can be expected to lead by a particular group. Thus, in particular, the case of a cyclically consistent through the composite index, the smoothening out the variances of the individual series and reflecting the characteristic of the movement of the variances of the particular group (leading, coinciding or lagging) becomes evident, evidencing the characteristic of the particular group. However, by identifying series whose behaviour will fluctuate among all three naturally, some series will be so extreme that

After (I) is the Reference Points.

(II) Series whose peaks and troughs occur

(III) Series with the Reference Points.

(II) Series whose peaks and troughs coincide.
of an unusual situation relating to one particular indicator) is much reduced. Such situations may arise in the case of a simple index where data is provisional and must be revised or a change is introduced which has a major bearing on the data e.g. the introduction of G.S.T. on Retail Sales. A composite index is less likely to be affected by one such factor and so more closely reflect the true situation of the Economic Cycles which fall into that time series group.

5.4 CRITERIA AND PROCEDURES FOR SELECTION OF INDICATORS (6)

In order to select those time series which would be most applicable to the determination of a composite index, certain selection criteria were employed. Zamowitz and Boschen (7) identified six criteria and attached a weighting to each according to its importance. These were modified by Von Coller (8) to suit South African conditions. A comparison of the two systems is given below.
The reference points, though slightly a part of a function of the series behaviour relative to the selection of a large series, as being relatively their turning points. It should be noted that modified series were then examined for sinking of summation of series of stature market. These behave inversely to the general economy and the interest rates (e.g., insolvencies tend to randomness). Other modifications included to remove the effects of seasonality and series were modified where necessary. These South African economy were identified. These initially fifty time series relating to the

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...and Bosporus Current

6. Convergence of Three
5. Smoothness
4. Cycles
3. Convergence of Time
2. Seasonal Adjustment
1. Economic Significance
1. Import (Depleted)
2. Employment (FCL Reconstructed)
3. Consumer Indicators
4. Insolvences (Reconstructed)
5. New Companies Registered
6. Utilized Orders - Particles
7. Building Plans - Planting
8. Car Sales
9. Industrial Share Index
10. 12 month change in Money (M1)
11. Gold and Foreign Exchange Reserves
12. Mining Production

Indices Indicators. These are detailed below:

Selection of nine leading and five coinciding
The process outlined above resulted in a classification.

Attempts to make conclusions on the reasons for the
has been determined in this manner can only once the classification of the time series
turning points relative to the Reference Points.
With the above, as well as in terms of the
in extremely broad on the basis of the scoring
a particular category, it is necessary to test
lar series may appear by its nature to fall into
cent rate, with 1970 as the base year. Other time series they are expressed as a per

the index is to be used for comparison with

in both graphical and tabular form. In order for

and are presented in the

the Composite Indicators are published in the

compositional business cycle indicator.

changes, for example those shown by the

that the composite observed business cycle

aggregate business cycle indicator does however note that "the advantage of this

produces graphs of all three indicators. The

Economic cycle behaviour. B. van der Walt

are not of much use in analysis of prediction

Indicators reflect the historic changes. They

there is the further point that since Bagging

Indicators which were sufficiently accurate.

that this method did not produce Bagging

discussion with R. Van Coller it was revealed

No. Bagging Indicators were identified. In

2. Retail Sales (Deflated)

3. Wholesale Sales (Deflated)

(1963/4=100)

4. Index of Manufactured Production

3. Index of Manufactured Production
Mathematics.

performance of the Spiritus Librorum and Peer
tests for the basis of a measure of the economic
indices. Composite leading and coincident indices

The process has not been incorporated.

In fact, where the indices have not been
pounding-based reference points, as this would
the coincident indicator peaks off the course
decreasing the indices has the effect of moving
discussion with Mr. John Collier. It was noted that
the trend component has not been removed. To

3 x 3 moving average.

individual component series were smoothed by a
smoothed logarithmic step. In addition, the
original data series very little from the
tion of the step will indicate that the

obscured in the coincident process. An impulse
indicates the random components with have been
seasonally adjusted, because it is a composite
guide correct as the data has in fact been
Although termed "coincidence data" this is not
indices are presented in their original form.
indices are presented in their original form, whereas the trend

tion is expressed at both the original data, as
It should be noted that the graphical presence


Generated by sales to non-white customers less than 50 per cent of their turnover below these are stores not mentioned above but with

Imported-Soups

In, Marcus and Pretoria Kassel's, Boland's, Drop Negro (Nepal), Fine Paint, Happiness, and Sear's your town, Solid Kramers, Nederland's, Gilbeys following groups: Western Province Cellars, 1. This includes all stores belonging to the

Chain-Soups

are defined as follows: independent stores and non-white stores. These types of stores belong chain stores (or groups) then being weighted to account for the different outliers in South Africa, with the store selected to 10 per cent of the total number of retail

The A.C. Nielsen (11) data is based on sample of

The primary source of data for this research was

Source of Data
There were two indicators. For illustrative this for every element of data on retail lagging sales on a monthly basis. The effect of this is then with the composite indicators, which are presented in a separate presentation of the problem of incomparability. The facet that the data is produced in a monthly

this data is not available.

would have covered two full economic cycles, would have been preferable to employ data which spanned just over eight years. Although it far as February 1978. This gives a base.

The data available from Helens goes back to

that interval.

Aggregate retail sales for the period covered by monthly intervals, each interval represents the data is presented in a time series of the

outliers.

naturally includes all administration boards of their turnover on non-white customers (this cuales who are reliant for more than 50 per cent.

This sector includes all stores mentioned under

non-white stores.
Incorrection statement of the time position.
and half to January would clearly be an
December/January is to half to December
Thus, to simply allocate the figures for
Trading is an excess of that of January:
Industries clearly indicate that December
General observation of the retail liquor

(1) MODIFICATION OF LIQUOR PAIN

售 the liquor data:

(II) Modificaton of the Composite Index to

Weekly to each the Composite Index.

(1) Modification of Liquor Price (in this case

Two ways:

This inconsistency can be handled in one of

the key data of Whisky is used.

More that for the purpose of this illustration

100%,

- Composite Conglomerate Indicater: January 1977

- Composite Conglomerate Indicater: December 1976

- Composite Conglomerate Indicater: December 1977

- Composite Conglomerate Indicater: December/January

- Composite Conglomerate Indicater: December/January

consider the data for Whisky and the Composite
This would be calculated as follows:

1. Use an average index based on the mean December-January liquor data. Select the January Composite Correlation Monthly pair, i.e., in the example above.
2. Use the second or odd month of the pair.
3. December-January liquor data. Index (100) for testing against the Index (101.5) for testing against the December-Composite Correlation Monthly pair, i.e., in the example above.

Three alternative methods were considered:

1) MODIFICATION OF CORRELATION

Could be determined.

Raw pl-mortality data to a monthly basis for method of reallocation allocating the trading months. No allocations weighting different degrees for the other ten.

A similar situation is true (advice to
be noted that the liquor market
indicators each of the three modelled forms
three different modelisations of the composite
In order to assess the effect of each of the

\[
\text{Average Composite Collectible Index for Decem} = (101.2 + 100.8)/2 = 101.15
\]
In order to be able to utilize the same bearers of economic research, University of Stellenbosch (Vol. 3 of Trends, No. 3 published by the Bureau of the Research, on page 75 of the September 1983 "{I}ssue Index of leading and coincident indicators and the data presented in Appendix 1 with the composite tables will be done by testing the correlation of market sales and independent retail sales into price changes.

Chapter 4. Testing of the basic hypotheses as stated in this chapter is concerned primarily with the

6.1 INTEGRATION

ANALYSIS AND RESULTS

CHAPTER 6
allowed to remain in the ligament data.

Accordingly, this trend component has been
the composite heading and confronting indices.
the component has not been removed from both
as this reduced the usefulness of the index.
points of the corresponding reference points.
due to the removal of the count of the
value and the effect of counting the turning
of the trend component from the composite count-
other than the mentioned previously, it was noted in the-

\[ T_{\text{RFS2}} \cdot \text{adj} \cdot \text{PH} \]

6.2

Sets of data.
the degree of interrelationship between the two
linear correlations can be employed to assess
once both sets of data have been modified,

\[ r_{\text{RFS2}} \cdot \text{adj} \cdot \text{PH} \]

is presented in the monthly aggregates.
takes into account the fact that the ligament data
This data must be presented in a form which

Composite. Interpolated. Data

Comparable with the composite indices,
movements of these time series, in order to be
moving average of this twelve month moving average 

The month as for the other December a two month 
successive months instead of in the middle of 

since results thus obtained fall between 

A twelve month moving average is computed. 

liquor data and as briefly described as follows:

Averaged method. This method was applied to the 

The percentage point average or ratio to Hodges 

data in trends is described by Siegel (1). 

The method used in the deseasonalization of the 
necessary to remove the effects of seasonality. 

reduce the data to a comparable base. Let it be 
to various seasonal influences. In order to 

are expressed based on regular time periods they are expressed 
because time series by the very definition are 

ESTABLISHMENT 

correlation. 

business cycles which are to be treated for 

the very cyclical movement which represent the 

comprehensive indicators. Thus is because in 

movement from either the liquor data or the 

no attempt is made to remove any of the cyclical 

CYCLICAL-NOVEMBER
accommodate the contiguity preservation of the
the Composite Indicators to be adjusted to
the Composite Indicators, that remaining was for
of the Liquor Datas being in the same format as
the above adjustments resulted in the element.

same method was applied to the Liquor Datas.
were achieved by a × j moving average.
the random movements for the Composite Indicators.

random of irregular movements.

average monthly index
variation by dividing it by the calculated
is then deseasonalized or adjusted for seasonal
average 100 percent. The original monthly data
average. These are adjusted to ensure that they
are related and averaged, giving the required
percentage for corresponding months are then

average corresponding to its
percentage of the centered twelve month moving
The original data is then expressed as a
"centered twelve month moving average."
average is computed. This is referred to as the
Appendix II

The adjusted indicator data and composite indices were processed on a Sharp XZ-60 Micro.

The composite index was calculated on the average of

1. Use of the monthly index of the previous period corresponding to the second (or odd) month
2. Use of the composite index of the month corresponding to the third (or even) month

of the bi-monthly period of the indicator data.

different forms

adjusted and checked for correlation in three "source of data", the composite indices will be

as was discussed in Chapter 5 Section 3.5

6.3
Tables 7 to 10 below.

The results of this correlation are given in case

\[ x, y \text{ variables under consideration}, \quad \text{in this} \]

\[ N \text{ = number of variables being considered} \]

\[ r \text{ = coefficient of correlation} \]

where

\[ r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}} \]

(1)

coefficient of correlation as defined by Spearman.

correlation. The formula used is that for the

correlation was carried out using linear

correlation.
<table>
<thead>
<tr>
<th>Product</th>
<th>Leading Index</th>
<th>Correlation Coefficient for Group Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vodka</td>
<td>0.7760</td>
<td></td>
</tr>
<tr>
<td>Beer</td>
<td>0.5565</td>
<td></td>
</tr>
<tr>
<td>Cane</td>
<td>0.5199</td>
<td></td>
</tr>
<tr>
<td>Brandy</td>
<td>0.6363</td>
<td></td>
</tr>
<tr>
<td>Gin</td>
<td>0.7124</td>
<td></td>
</tr>
<tr>
<td>Whiskey</td>
<td>0.5001</td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Correlation Index</td>
<td>醛类含量</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Vodka</td>
<td>0.705</td>
<td>0.775</td>
</tr>
<tr>
<td>Beer</td>
<td>0.545</td>
<td>0.65</td>
</tr>
<tr>
<td>Brandy</td>
<td>0.62</td>
<td>0.656</td>
</tr>
<tr>
<td>Gin</td>
<td>0.64</td>
<td>0.769</td>
</tr>
<tr>
<td>Whiskey</td>
<td>0.48</td>
<td>0.52</td>
</tr>
</tbody>
</table>

**Mean Correlation of the Logarithm of the Product Concentration with the Concentration of the Aldehydes.**

Table: Correlation of selected aldehydes with product concentrations.
With the heading indicators then with the
larger and deeper more closely correlated
Generally speaking, retail sales of spirit

6.5

6.4

moderately

published in Trends may be used without further
Correlation and reading Composite Indicators as
of forecast analysis, this implies that the
the mean of the Even and Odd Months. In terms
of that of the Even and Odd Month, the odd month or
what it makes no difference whether the Index
The correlation that can be drawn from this is the

Months,

not show a pattern any different from the odd
extreme points. In addition, the Even months do
That the data is smooth and continuous with no
inspection of the Composite Indicators will show
This is not entirely unexpected since a visual
Composite Indicators for Even and Odd Months,
difference between the correlation among
the results is that there's only very slight
The direct point to emerge from an examination of

Composites Indicators

Use of Even and Odd Numbers and Mean of
Spirit liquor and beer data and Figure 2 shows the deseasonalized
Figure 1 shows the raw spirit liquor and beer

6.6. Graphical representation of data and results

National Economy.

regarded as leading the behavior of the
The sales of spirit liquor and beer can thus be

(0.8135) and beer (0.9005).
(0.6635), cane (0.5859), whiskey (0.6971), gin
index. In ascending order these are proceed
showed a positive correlation with the leading
the leading index (0.7733). All the remainder
with the construction index (0.7925) (3) than with
was vodka which showed a much higher correlation
coinciding indicators. The expectation to this
FIG 2: TOTAL REPUBLIC NIELSEN DATA DESEASONALIZED
(3) Spelegi, M. G. C. H.
(2) Spelegi, M. G. C. H. Page 287
(1) Spelegi, M. G. C. H. - Scientific Series - Heritage Hill Company

---

For convenience all correlation indices refer to correlation with composite indices for even numbers (Table 9).
Interpretations of observations on the liquor market will be discussed and the results presented in Chapter 6. These basic conclusions can be drawn from the

1. All spirit liquor and beer sales have a positive correlation with reading and smoking.

2. With the exception of vodka, all produce than reading indicators.

3. Beer and whiskey have correlations of the same order of magnitude.

4. Examined.
The hypothesis entertained a low correlation of economic cycles. Beer and spirit liquor sales are not directly independent.

The basic hypothesis which states that, whatever other economic factors influence the national economy, those experienced by the beer and spirit liquor and beer sales do not behave independently of the economic factors of the national economy. In other words, the beer and spirit liquor and beer sales do not behave independently of each other.

There are two points of major significance which emerge from this statement:

- A high positive correlation between both commodities.
- All spirit liquor and beer sales have a.

Discussion of Correlation: 7.2
The reason for vodka's different behavior is more closely associated with the quickness of the hypothesis and the consistent rejection of the basic combination of both sets of recovery leave particulates. In the leading composite indicators, and the leading composite indicators in are in face a function of the national economy, sales not independent of economic cycles, they say, in that not only are spirit liquor and beer reinforce the reflection of the basic hypothesis in the same direction as the economy as a whole. Sales experience periods of growth and decrease. The second point, that spirit liquor and beer hypotheses can be rejected. The behavior of economic cycles, the basic behavior of the national economy represents the indicators of the national economy. Since this
In various degrees the otherspirits are higher.There has been a slow in cheaper 3 their Whisky (and)

"Single Malt" which is no more expensive than now, and effectsby Economic Cycles there fore,

This is of little influence when considering the secondary hypotheses which states that,

THE SAME NAGGER

1. Beer and Whisky have correlated 95% of much of

In processed spirit liquor and beer sales, they can also be used as indicators for changes of impending change in the economic cycles, leading indicators can be used as an indication to the forecasting aspect. Since considering the importance of leading indicators, the fact that the leading products are reduced, which also exhibits the reduced growth rate. This is more related to the concurrence indicator this slower growth rate of vodka that tends to increase gap over vodka. It is possible much steeper growth rate and have materialized a

1979, After this pointgin anales experienced a
Economic cycles based on the perceived state of the behaviour of spirits trader or beer, during that no reliance can be placed on projections of the conclusion that can be drawn from the facts.

The conclusion that must be reached is that the secondary hypotheses is invalid. The correct and must be reached, premise of the secondary hypotheses is not as the low status beer indicators that the economic cycles by the same order of magnitude and can show themselves to be affected by the fact that high status spirits such as whiskey and 0.659 and vodka at 0.5795.

Brandy and cane are of the same magnitude (0.6595) gin is even higher at 0.6593 with beer (0.9005) gin is even higher with 10.4 per cent beam less than that of 0.8010 of whiskey with the leading composite effects of economic cycles. The correlation of economic cycles, whiskey at the highest while the beer does not prove to be true to the alcoholic beverage of low stature. Thus if the secondary hypotheses were true one would expect economic indicators of whiskey to have the lowest beer to have the highest correlation with the remaining spirits to fall in between.
the economy and general business cycle.

- indicators related to the future course of expenditure.
- indicators related to future production and growth of goods and services.
- indicators related to the foreign demand for

To examine cycle indicators as follows:

Will make reference to three groups of leading cycle changes in South Africa (1), D.E. Van der In the strictest utilitarian indicators of business deeply.

the hopes that others may pursue this more in detail examination of some possible reasons in this research, which will be presented as a cyclical behaviour is outside the scope of clearly, an in depth study in to the reason for whole to lead the general economy.

particulate why these two markets tend on the markets exhibit cyclical tendencies and in beer to the question of why the spirit and beer the rejection of the basic hypothesis gives rise
The process is a

investment plan and also to invest more

Investment expenditure on new cap-

clear that, in order to expand their

private and public enterprises have a

then with increasing momentum, both

activity rising, slowly at first but

automobiles consumption. Both economic
dwelling income and this in turn

The rising expenditure on an-

exports is noted by G. de Rok, (2)

the South African economy with a growth in

overseas economies with precedence a growth in

the United States and Europe. A growth in those

speaking the South African cycle lies that of

business cycle must be examined, generallProsperity the nature of the South African

In considering retail liquor sales as a leading

and general business cycle.

that related to the future course of the economy

cycle indicator. The most probable group as

cycle indicator. For possible inclusion as a leading business

sales in general should be examined more closely

results of this research indicate that liquor

general or liquor sales in particular. The

none of these groups include retail sales in
...conversely applies as the economy approaches a
expenditure on non-essential purchases. The
excess of expectations of excess income available for
investment will begin to take off as a result
whereas economy moves towards a growth period
behaviour of the economy as a whole. As the
non-essential purchases which preempt the
this implies that higher rates are in reality
can take place.
that expenditure on non-essential consumables
wholly has moved into a period of real growth
income is generated but before the economy as a
is as in the early stages, when additional
...average...
well in excess of the long term
excess domestic product to a figure
increase in the rate of growth of real
domestic expenditure. Accordingly, this
in all the major components of excess
have a strong upswing with increases
of the upswing. In due course, then we
circular flow analysis in the early stages
encouraged by the favourable financial
...
In conclusion, economic indicators are sensitive to the leading behavior of the economy as a whole and to the behavior of the retail liquor market, which is positively related to the general economy. The research has shown that the spirit liquor market cycles longer than the actual business cycle.

This is not the case. In this paper, economic cycles, the retail liquor market is less affected by economic cycles, and a secondary hypothesis based on the premise that the primary hypothesis is based on the leading economic indicators. Following a cyclical pattern closely related to the concept of retail liquor sales support the examination of the behavior of disposable income during economic cycles would appear to be shown.
Recent changes in the business cycle in South Africa -

The Bank of South Africa, Quarterly Bulletin, 1975

Changes in South Africa's business cycle and indicators of business cycle

Racial labor sales are involved in forecasting and predictions

It is hoped that these findings will prove a