

PROFITABILITY DETERMINATION IN THE  
UNITED KINGDOM BREWING INDUSTRY

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## PROFITABILITY DETERMINATION IN THE UNITED KINGDOM BREWING INDUSTRY

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### ABSTRACT

This project analyses the determination of profitability in the United Kingdom brewing industry during the period 1972-1982. It is based on a sample of fifteen brewing companies including the major national and regional companies.

The study examines previous literature on the determination of profitability in industry in general, and the brewing industry in particular. (PIMS: Schoeffler 1977, Price Commission, 1977) It examines in some depth the debate as to whether higher market-share leads to greater profitability, and analyses the belief that an industry study should look at groups of firms within industries rather than aggregated data across industries. (Hatten and Schendel 1977, Porter 1980 and Woo 1984)

The study looks at the effect on profitability of nine independent variables paying special attention to the effects of market-share. The analysis categorises firms into strategic groups using a combination of qualitative and quantitative data. It also compares and contrasts the results with the experiences of the Dutch and United States brewing industries.

The results suggest that the size (in terms of turnover) of the brewery company determines the strategies they pursue and how these strategies affect profitability. A U-shaped curve relationship between market-share and profitability is identified and strategic groups are determined on the basis of how similar the brewers adopted strategies were during the study period. The results show the problems of transferring a methodology from one industry to another.

In comparison to the Dutch and United States experiences, the United Kingdom brewers have been subject to a more volatile industry environment due mainly to changing consumer tastes. The expensive manufacturing and marketing strategies adopted by the national brewers in an attempt to capitalize on these changes led to their generally lower profitability when compared to the regional and small brewers during the study period.

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SECTION ONE: INTRODUCTION

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## CHAPTER 1: INTRODUCTORY CHAPTER

### Aims of the investigation

This study aims to assess the determination of profitability in the United Kingdom brewing industry through analysis of a number of key manufacturing, marketing and market environment variables. The analysis aims to identify strategic groups of brewers (those that compete in a similar way) from a sample of fifteen national and regional companies.

Using a combination of quantitative and qualitative data the analysis will attempt to explain how and why different companies and groups of companies experienced differing levels of profitability during the 1972-1982 period. The study will also provide the opportunity to evaluate the Hatten and Schendel's (1977) methodology used in analysis

The analysis will compare the findings on the UK with the experiences of the United States and Dutch brewing industries to see what similarities and differences might exist between them.

## RELATIONSHIP TO PREVIOUS WORK

This study is related to previous work in three main ways:

1. It looks at the determination of profitability in the UK brewing industry. The PIMS programme (Schoeffler, 1977) suggested nine key variables that determine profitability. These including market-share and investment intensity. This work suggested that the greater the market-share the higher the profitability but used only across-industry data. Subsequent work (Hamermesh et al 1978 and Woo 1984) suggested that small share firms could also be highly profitable. (also using across industry data). The Price Commission (1977), in analysing the UK brewing industry, identified a negative relationship between market-share and investment with profitability. It found that costs related to administration, distribution and promotion also have an important role to play.
2. It will utilize the same methodology that Hatten and Schendel (1977) used in their analysis of the US brewing industry. Hatten and Schendel placed firms into similar or homogeneous groups based on the similarity of the effect of 8 key variables on profitability. The effect of these variables on the identified strategic

groups was then analysed. They found that different variables affected the companies in different ways according to their strategic grouping.

3. The analysis will refer to previous studies of profitability determination in two international markets, the United States (Keithahan, 1978, Hatten & Schendel, 1977 and Hatten and Hatten, 1982) and the Netherlands (Brouwer 1976), comparing their findings to those of the United Kingdom.

## THE IMPORTANCE OF THE RESEARCH

The study has two main areas of importance:

1. The understanding of determinants of profitability on an empirical and industry-specific basis, rather than using aggregated information from a number of different industries (as used by PIMS).

2. The value of transferring a methodology from one country to another.

1. Strategic marketing planning techniques such as Portfolio analysis (Henderson, 1970), Business position/market attractiveness assessment (Rothchild, 1976) and PIMS (op.cit) suffer from two pitfalls:

- a. The assumption that higher market-share necessarily leads to higher profitability.

- b. The use of across industry rather than single industry data.

These above techniques assume that higher market-share is a desirable or necessary goal. Moreover, although the PIMS study does use considerable empirical data, compared to Portfolio analysis and Business position/Market attractiveness assessment it actually only looks

at aggregated data from a whole range of industries, thus ignoring the particular circumstances of individual industries.

This study will show that the assumption that high market-share is beneficial to a business is not always necessarily so. The study will be of an empirical nature but based on the experiences of just one industry. Although qualitative data will be incorporated, this information will only supplement the quantitative analysis.

Managers are more interested in how changes in market-share and other variables affect their company in their particular industry, rather than across industries. The single industry, empirically based, analysis should be more relevant to "real life" situations.

2. One of the important aspects of the study is to test the transfer of a methodology from the same industry but to a different context. That is, from the United States brewing industry to the United Kingdom brewing industry. Part of it utilizes the methodology devised by Hatten and Schendel to analyse the US brewing industry. If their methodology is not easily transferable, the conclusions will cast doubts on its claim to be a useful tool of analysis. The question of



the adherence to statistical analysis only, in industry studies, will also be discussed. This is important since many practitioners in industry see business theory and research as "fine on paper but of little use in practice." Interviews with managers in the industry will provide information on how relevant this kind of analysis might be for the brewing industry.

## OUTLINE OF THE RESEARCH PROJECT

The research progresses through the following phases:

1. A discussion of previous literature on strategic marketing planning; the relationship between market share and profitability; and the role of competitor analysis.
2. A discussion on profitability in the Dutch, United States and United Kingdom brewing industries and recent studies of these industries.
3. An analysis of the relationship between market-share and profitability in the United Kingdom brewing industry.
4. The utilization of Hatten and Schendel's method to place firms into strategic groups according to influence by seven key manufacturing, marketing and market environment variables on firm profitability.
5. A further analysis of the relationship between the seven key variables with firm size and profitability; using a visual inspection of scattergrams.
6. The use of qualitative data from interviews to confirm the groups found in the previous analysis.
7. Conclusions

SECTION TWO: LITERATURE REVIEW

(Porter 1980) The profitability of Porter's groups depends on the circumstances of the industry in which they are operating, with competitive forces affecting different groups in different ways. Developments in this field have been very much influenced by the general change in market environment since the early 1960s.

### The changing marketing environment

Much of the change in strategic marketing planning has been caused by the development of slower growth economies in the mid seventies, as a result of the oil crisis and the decreasing proportion of truly free markets (Day, 1983).

Day says that;

"the 1960s was the era of marketing's greatest influence and promise, when a marketing orientation was accepted as an essential element of profitable progress in growing markets. Because of the inadequacies of corporate long range planning (Ansoff 1980), the marketing plan became an influential instrument for strategic change by guiding the product-market choice of the firms... During the 1970s the influence of marketing noticeably waned, while strategic planning was in ascendance. First, the pressure of environmental changes forced many firms towards a financially driven portfolio logic, within the context of an organisational framework where the strategic business unit was the focal point of analysis and planning. Consequently the strategic emphasis shifted to consolidating strong competitive positions and conserving scarce resources." (Day op.cit, pp79-80)

Another important shift away from traditional consumer orientated marketing was the move to much stronger competitor orientation since " the benefits of a marketing exchange depend on the ability of each prospective supplier

to create and sustain a competitive advantage over all other competitors... This has created the case for an extra dimension in marketing analysis, bringing the marketing function under the control of the strategic goal of "sustainable competitive advantage." (ibid, p82) As a result marketing as a discipline was in many respects absorbed into the overall strategic plan of the business entity. The Business Position assessment and work of PIMS which followed calls for an integrated "overall picture" of both the market and the financial position of the business involved.

The next section of the review looks at formal strategic marketing methods and the importance of market share as a determinant of profitability. Much of the following analysis can be found in more detail in Abell and Hammond (op.cit).

### Portfolio Analysis

Portfolio analysis was popularized by the Boston Consultancy Group (1968) to meet the planning requirements of multi-product, multi-market companies. The analysis assumes each product will have its own strategy and that resources should be allocated between products to optimise corporate performance. so that those needing help receive financial support from those that do not. The rationale

behind this method is that by breaking down large multi-product corporations into decentralized profit centres, each will then be treated as if it is an independent business. It differs from most other integrative planning techniques in that strategic roles for each product are assigned on the basis of the product's market growth rate and market share relative to competition. The objective is to get the best overall performance from the portfolio, while ensuring cash flow is in balance.

Market share is measured as relative share This is the ratio of the firm's unit sales of a product to the unit sales of a similar product by the firm's largest competitor, which gives a ratio of the two companies' market shares.

This method of analysis makes four assumptions:

1. The margins and cash generated increase with relative market-share, due to economies of experience (BCG 1972) and scale.
2. Sales growth requires cash input to finance additional capacity and working capital. Thus if market-share is maintained, cash input requirements will increase with the market growth rate.

3. An increase in market-share usually requires cash input to support increased advertising expenditure, lower prices and other share gaining tactics. The opposite is true for a decrease in share.
4. Growth in each market will slow as the product approaches maturity.
5. That there is a limit on cash flow/ finance available and it assumes that all products are internally financed.

Fig 2.1  
Product categories in the product portfolio chart

Growth rate	HIGH	"Star" Modest cash flow	"Problem child" Negative cash flow
	LOW	"Cow" Positive cash flow	"Dog" Modest cash flow
		HIGH	LOW
		Market-Share	

Source: Abell and Hammond 1979

The growth share matrix

The method used for showing the companies' product portfolio is the Growth/Share matrix. This plots the relationship between the revenue of a product (per annum), its relative market share and the growth rate of the market in which the product competes. Depending on the product

position, it can be classified in one of four categories as shown in Fig 1.1.

With these positions within the industry four basic strategies can be pursued with each given product; building share, holding share, harvesting or withdrawal. Which strategy is appropriate depends on the product's cost and market position as well as its relationship to competing products. A simplified resume of these strategies in the context of the market position and product life cycle stage is shown in table 1.

Table 2.1 Basic Strategies appropriate for various life cycle stages and competitive positions.

<u>COMPETITIVE POSITION</u>	<u>PRODUCT LIFE STAGE</u>		
	<u>GROWTH</u>	<u>MATURITY</u>	<u>DECLINE</u>
<u>LEADER</u> (HIGH SHARE)	Building share by reducing prices to discourage new competitive capacity.  Utilize own capacity fully adding in anticipation of needs.	Hold share by improving quality increasing sales effort and adverts	Harvest: maximize cash flow by reducing investment and adverts, development etc (market share will decline).
<u>FOLLOWER</u> (LOW SHARE)	Invest to increase share.  Concentrate on a segment which can be dominated.	Withdraw, or hold share by keeping prices and costs below the market leaders.	Withdraw from the market.

Source: Abell and Hammond, 1979



## Strategic analysis of the product portfolio

A six step strategic analysis of the firm's portfolio can be derived from the growth share matrix and it is briefly described below.

1. An even distribution of products should be maintained, with the majority of sales being from market leading "cash cows" to provide cash to underwrite the other products.
2. Trends should be identified from the path which each product has taken over the previous years (at least 5) to plan and decide on future movements.
3. Matrices should be developed for competitors products and compared to the company's own. This will of course be more difficult due to limited access to data.
4. Factors should be considered that are not covered in the portfolio analysis. eg management methods. (In some ways this shows the limitations of portfolio analysis which the other two strategic methods do take account of.)
5. Develop possible "target" portfolios, to decide in which direction products should develop given the information collected from the previous four steps.

6. Check cash flow balance between the products to ensure that the intended strategies will be financed correctly ie a strongly supported product has enough cash from products that are making surplus cash.

#### Problems and limitations of portfolio analysis

Abell (op.cit) points out two assumptions that portfolio analysis makes which may not be necessarily true.

The two assumption are that:

1. Cash flow from operations of products with higher relative market shares will be stronger than those with smaller shares. This supposed relationship between relative market-share and cash flow may be weak when:
  - a. experience or scale effects are low,
  - b. value added is relatively low,
  - c. a competitor has a low cost source of purchased materials unrelated to relative share position,
  - d. other strategic factors like product quality may be important,
  - e. there are differing capacity utilization rates.
2. Cash needs for products in rapidly growing markets will be greater than the cash needs for those in slower

growing ones. This assumed relationship between industry growth rate and cash flow may be weak when;

- a. capital intensity is low,
- b. entry barriers are high (not simultaneously with a),
- c. price competition depresses margins in maturity so that even though finance needs decline, cash flow deteriorates,
- d. legal intervention holds down profits in maturity,
- e. seasonal or cyclical factors produce short run supply-demand imbalances which affect profit and cash flow.

With this number of exceptions it is clear that information outside the portfolio matrix would have to be drawn on. This shows its limitation, and although it is a useful framework in which to consider broad alternatives, it cannot to be used on its own to assess the costs and benefits of strategic moves. Cash flow may not be as important as return on investment (ROI) as a basis for comparing the attractiveness of investing in one business or another. (Although it is understood that cash flow is more likely to be used for making comparisons of efficiency rather than ROI's major use in making investment decisions).

A further problem is that there is little empirical evidence to suggest that the two major assumptions are

correct. Beck(1980) points out that it also assumes that growth in an expanding market is preferable to growth in a mature or declining market. A major problem with this kind of analysis is that it looks only at the cash generated by the products, and neglects to look in detail at company structural variables or the strategy of competing firms. Although it treats product strategy as if inter-related it does not relate this to other aspects of the overall corporate strategy.

#### Market attractiveness-business position assessment analysis

The shortcomings in portfolio analysis are in some ways compensated for by the market attractiveness-business position assessment which uses a matrix of "market attractiveness" and "business position". It also uses considerably more factors in assessing the market and the business than the portfolio analysis.

Investment decisions are made according to the position of individual business units in the matrix, ie their strength, and the attractiveness of the market. The factors that determine an "attractive" market and a "strong" business unit are set out in appendix 3. For example the determination of a business unit's strength depends upon such factors as that business' market-share, the bargaining power of its suppliers and buyers as well as the

level of scale and experience of the business. Measures of market attractiveness include its growth, profit margins and market size. The analysis involves three formal steps:

1. The relevant, contributing factors in any given situation must be identified. The problem is in deciding which factors are relevant. The selection of the factors to be included in the matrix relies on managerial judgement and hence a weakness of the analysis.
2. The direction and form of these relationships must be determined, ie what makes a market "attractive". This once again relies on managerial judgement.
3. The contributing factors need to be weighted depending on their relative importance. Again, the only way this can be achieved is by judgement based assessment.

The current position of the business in the matrix can then be plotted. More difficult is the plotting of the future position of the business which relies heavily on expectations and subjective judgements on a host of factors including competitor and consumer actions and reactions. Once this information is compiled one of three strategic alternatives can be adopted: investing to hold market position, investing to penetrate alternative markets, or investing to rebuild a lost market.

## PIMS (Profit Impact of Marketing Strategy)

PIMS was established in the early 1970s to determine the impact of marketing strategies on profit. The first phase used empirical evidence from 350 businesses in a variety of industries. Information was gathered covering industry and market characteristics as well as financial operating results. A computer based regression model identified the most important factors and how each factor was related to performance and weighted them according to their relative importance. This method was devised to overcome the three problems market-attractiveness/business-position assessment had;

1. The factors that impact on "attractiveness" or "position" have to be identified by the analyst.
2. The strength and direction of the relationship between a particular factor and attractiveness or position has to be assessed by judgement.
3. Overall assessment of attractiveness of position depend on some implicit or explicit "weighting" of the different factors involved.

The PIMS method used both ROI and cash flow as measures of performance and established 37 key profit influences. (Schoeffler, 1977).

The current PIMS data bank draws on empirical experiences of over 1700 product and service businesses operated by around 200 customers in the US and Europe. From this data base the PIMS project expects to estimate the "approximate results (within 3.5 points of after tax ROI) of most businesses (close to 90%) over a moderately long period (3-5 years) on the basis of observable characteristics of the market and of the strategies employed by the business itself and its competitors". (Schoeffler, 1977, p1)

The findings and problems of the PIMS method.

The PIMS findings show that the "characteristics" of the served market, of the business itself, and of its competitors, constitute about 80% of the reasons for success or failure, and the operating skill or luck of the management constitute about 20%" (ibid, p2). PIMS cites nine major influences on cash flow and pre-tax ROI (ibid p3) which can be weighted in terms of importance into two groups which will be discussed in more detail later.

Table 2.2

The PIMS identified influences on profitability

<u>Group a</u>	<u>Group b</u>
Investment intensity	Innovation/differentiation
Market position	Growth of served market
Productivity	Vertical integration
Quality	Cost push
	Current strategic effort

Schoeffler(ibid) asserts that it is not the product that is important but the characteristics of the business; two businesses making entirely different products, but having similar investment intensity, productivity, market position etc will usually show similar operating results. This assertion tries to answer doubts as to whether the same 37 factors, or even the nine most important factors, predict performance in equal measure in for example a service industry or a manufacturing industry. Bass(1974) asked whether "it was appropriate to pool data from a sample of firms from different industries in estimating the long run relationship?" (p1) Bass's study of the Federal Trade Commission (FTC) data (1969) on consumer products showed strong evidence to support the conclusion that the relationship between industry structure (ie Advertising/Sales ratio, concentration, industry demand etc) and profitability are not homogeneous for all firms utilized in the FTC study.

However Schoeffler(op.cit) maintains that certain fundamental characteristics are true for all business



situations. In this respect PIMS differs from portfolio analysis and market attractiveness/business position assessment in that it draws on pooled empirical data, which are very comprehensive in scope, and not individual business situations, as part of the final analysis. Its results are appealing in that the determinates of profitability are identified so clearly.

The PIMS identified major influences on profitability and cash flow

#### Investment Intensity

"Investment Intensity generally produces a negative impact on percentage measures of profitability and net cash flow and businesses that are highly investment intensive are much less profitable than businesses with lower levels of investment per dollar of sales."  
(Schoeffler 1977, p3)

It would be expected that those businesses prepared to make substantial investment would reap the benefits through higher profitability (ROI). However Schoeffler(ibid) explains that the high investment business operate in highly competitive situations with price wars and expensive advertising budgets to maintain full capacity. If the business is aggressive enough high capital intensity should pay off in the long run, especially if the business remains one move ahead of its competitors. PIMS suggests that to avoid the effects of this problem it is best to concentrate on segments of the total potential market. This is the basis for the "served market" which PIMS use as their

market-share definition (see market position). This will ensure that investment expenditure is concentrated on a particular area which can be dominated and thus reap the expected advantages of market leadership in their served market. Savings in labour and other costs must also be made to make new capital investment worthwhile.

### Productivity

"Businesses producing high value added per employee are more profitable than those with low value added per employee. Productivity is especially profitable to the extent that it does not require additional investment"(ibid, p3).

However this also depends on the investment intensity of the business. Those making efficient use of capital investment may not need to maintain such high value added per employee.

## Market Position

The PIMS "Basic Fact" (Schoeffler op.cit) states that "businesses with a high share of their served market are generally, and often considerably more profitable than those with a low share." (p1) PIMS emphasises the importance of "served market" rather than the total potential market. Served market is defined as;

"the specific segment of the total potential market in which the business is making a serious competitive attempt, by offering a product or service that is suitable for that segment and by addressing its marketing effort to that segment." (ibid, p2)

The problem with the measure "served market" is that it ignores potential markets which, even though data may be difficult to collect on them, must be of major importance in either rapid growth industries or for a business in a stagnant industry looking for expansion.

Given the difficulties in defining market share the PIMS findings are very clear; Buzzell et al (1975) found that an average increase of 10% in market share was accompanied by an increase of about 5% in pre tax ROI. However this very positive relationship may alter in the following circumstances:

1. Market share is more important for infrequently purchased products than for frequently purchased products. Infrequently purchased products tend also to be high cost items. ie Hi-Fi equipment as compared to

beer.

2. Market share is more important to businesses when buyers are fragmented rather than concentrated (ie no small group of buyers account for a significant proportion of total sales).

The problem with this is that the analysis is across industries and will tend not to pick up industry-specific information and variations. The PIMS method is fairly dismissive of this kind of information. The market share debate is extensive and I will return to it later, suffice to say that PIMS draw on information from predominantly large businesses during a period of stable economic growth. The effect of concentration is not accounted for, although Gale and Branch (1982) found that market share was a considerably greater influence on profitability than industry concentration.

The PIMS project believes that there are three reasons why increased market-share improves profitability.

1. Economies of scale leading to lower costs: however this fails to realize that diseconomies of scale may set in at any time, but these are dependent on the nature of the industry, and thus cannot be detected at the inter-industry level.

2. The experience effect; businesses that have held high share for a long time have been able to move further down the learning curve.
3. Bargaining power; the high share business is less likely to be intimidated by competitors and customers into lower prices and can better reap the benefits of greater efficiency and higher quality.

However the influence of these factors are hard to gauge and their positive effects cannot be proven.

The logical conclusion to this reasoning suggests that there is no point in being in an industry if the business is not the market leader or has the potential to be the market leader. However as I will discuss later, success for non-market leaders is just as likely and equally rewarding as success for the market leader. (Woo and Cooper, 1982)

## Quality of the products and/or services offered.

This is defined as the customer's evaluation of the business' product/service package as compared to that of competitors. Quality normally has a positive impact on financial performance. Quality products can sell for a higher price and therefore gain greater profit, but tend to forfeit market share. However Chussil and Schoeffler (1978) suggest foregoing some of the premium price in order to gain share as this will lead to overall greater profitability. The quality-share trade-off depends on the business' original position in the industry. For example "snob value" will produce an inverse price demand curve for certain luxury items, which may damage a specialized business, eg fur coats. The problem with this factor is that measurement of relative quality is determined by the business' manager's perception of the customers evaluation and not by an independent arbiter.

## Growth of the served market

"This is generally favourable to dollar measures of profit, indifferent to percent measure of profit and negative to all measures of net cash flow"(Schoeffler op.cit, p3)

## Innovation/differentiation

"Effort in this area is only rewarded if that business has strong market position to begin with." (ibid, p4) The problem with this is that it implies that businesses not in the lead position should not bother with research and development or innovation. Woo and Cooper (op.cit) consider that this kind of effort by non-leaders in the right direction can bring very positive returns. (See chapter 8)

### Vertical integration

"For businesses located in mature and stable markets, vertical integration generally impacts favorably on performance. In markets that are rapidly growing, declining or changing in any way the opposite is true". (Schoeffler op.cit, p4)

### Cost push

"The rates of increase of wages, salaries and raw material prices and the presence of Trade Unions, have complex impacts on profit and cash flow, depending on how the business is positioned to pass along the increase to its customers, and to absorb the higher costs internally" (ibid, p4).

It is surprising that PIMS studies have not considered costs to be more important and dismiss them as unpredictable in their effect. The weakness of PIMS is shown when it ignores differences that exist between industries.

### Current Strategic effort.

"The current direction of change of any of the previous factors has effects on profit and cash flow that are frequently opposite to that of the factor itself. For example, having strong market share tends to increase net cash flow but getting share drains cash while the business is making that effort." (ibid, p4)

Since PIMS identifies a strong relationship between market-share and profitability, businesses ought to set market-share objectives in the form of the following three strategies:

#### 1. Building strategies

The aim being to increase market share by way of new product introduction, increased marketing effort etc.

The PIMS results point to the following findings;

- a. In most markets there is a minimum share that is required for viability.
- b. Big increases in share are rarely achieved quickly, and building strategies are likely to be expensive in the short run.
- c. Businesses contemplating building share should consider the cost in terms of capital investment, promotion and government intervention. If the costs of building are too high holding strategies should be considered.

## 2. Holding strategies

For a low share business this might involve reduced prices achieved by reduced R&D spending with the opposite for a high share business.

## 3. Harvesting strategies

Aimed at achieving high short-term earnings and cash flow by allowing market share to decline. Harvesting is often a matter of necessity rather than choice and generally only large-share businesses can harvest successfully.



## Summary

The PIMS programme is much more comprehensive than the previous two methods. Analysis of the vast data bank has been able to account for over 80% of observed variation in profitability. However PIMS fails to address the need for specific actions to reach a new strategic position, and instead just suggests only vague strategic improvements that may need to be made. PIMS does not provide any information on the actions of individual competitors, instead the information is based on across-industry aggregates. PIMS does not provide much insight into the impact of future changes in the market. The previous two methods do provide this insight, but without the empirical backing that PIMS has. Finally, the terms "Business" and "Market" can be difficult to define.

## Problems with PIMS

The PIMS programme throws up three important areas for discussion:

1. The importance of market-share to profitability
2. The role of competitor analysis
3. Across-industry versus industry-specific analysis.

## The importance of market share to profitability

Portfolio analysis assumed, and PIMS showed, that market share has a key role to play in the determination of a business' success, whether in terms of improved cash flow or higher ROI. However both methods were devised during a sustained period of stable economic growth. Buzzell et al (op.cit) used data for 1970-1972 which were good years in the US economy, and today's environment is quite different. Most of the companies involved in the analysis were very large in terms of market share (25% or more) and thus tended to be representative of industries of a highly concentrated nature.

It seems doubtful whether a business can really define its own served market and the measurement would often have to be based on judgement. Rumelt and Wensley (1981) concluded that " it is not in market share but in product, management and (management's reaction to) exogenous events that the value of market share resides... market share is not in itself a valid strategic goal since it measures success otherwise created". (p2) Even though high market share can lead to greater profitability it does not necessarily do so nor does low share necessarily mean a business will not be adequately profitable. I will return to some of these points in chapter 3.

## The role of competitor analysis

The PIMS analysis does not indicate the value of competitive actions of other businesses other than suggesting what the overall most successful strategies are. What the share-leaders are doing may not be the best thing for all businesses and PIMS provides no alternatives other than share leadership-orientated strategies. Portfolio analysis and market-attractiveness/ business position assessment do look at competitors but still emphasise the importance of gaining market share leadership. The importance of competitive analysis will be discussed in chapter 4.

## Across-industry versus industry-specific analysis.

Of the three methods only PIMS looks across industries and only PIMS has such strong empirical backing. However this may be far from relevant if we take the following example. A business in an industry sees itself producing a high quality product with high ROI and yet only a twentieth of the share of the market leader. The leader has a low ROI with a higher priced, lower quality, product. How does the low share business react to the PIMS analysis that the low share business should aim for high share? This is a problem that is not effectively tackled by PIMS because data of single industries and groups of businesses within

industries are not analysed .

### Summary

The formal strategic planning methods can help to explain what determines profitability and steer a business to a more profitable position. Having said this it is apparent that all three formal methods have their draw-backs and cannot be used in isolation from one another.

### CHAPTER 3: THE IMPORTANCE OF MARKET SHARE FOR PROFITABILITY

The PIMS findings on the power of market share suggest that

"companies with low market shares are doomed to marginal profits at best, while market share leaders show the best returns on investment." (Woo & Cooper, 1982 p106)

They continue by saying that:

"If the conventional wisdom is correct... most companies would be candidates for harvesting or liquidation. However, many companies with low market shares survive and even prosper." (ibid p106)

The PIMS advice to businesses with a small share is to either build share, harvest or divest from the industry. The logical outcome of this advice would leave only one business in any one industry. Since this is not the case in general, low share businesses must have some incentive to stay in industry.

#### The findings of Hamermesh et al (1978)

The above PIMS assumption ignores the fact that "in many industries, companies having a low market share consistently out-perform their larger rivals and show very little inclination to either expand their share or withdraw from the fight." p48 (ibid) Hamermesh looked at a sample of three businesses that had above-average return on equity and net profit margins but still held less than half

the industry leader's share. Four characteristics were identified which were common to each of these businesses which helps to explain why they enjoyed above average profit levels:

### 1. Segmentation

The companies were able to direct attention to specific markets and customers, competing in segments where its own strengths would be most highly valued and where its large competitors were unlikely to compete. The PIMS argument suggests that this is what they would consider operating in their "served market." Once again defining the market is a problem.

### 2. Efficient use of research and development

Correctly channelled research and development into the segment that has been selected; that is, the area which is most likely to produce the greatest benefits for the business.

### 3. Thinking small

The pursuit of market-share is costly and profit rather than sales growth or market-share should be emphasised. Diversification should be pursued with caution as it can also be costly. Diversification into non-synergic businesses should be avoided.

#### 4. The ubiquitous chief executive

Such a person can drive a company during his/her leadership although it tends to leave problems if he/she should retire or leave the business.

Hamermesh et al realize the limitations of low share businesses identified by PIMS but still believe that "not all low share businesses are 'dogs'."p55

#### The findings of Woo and Cooper (1982)

Woo and Cooper based their research on a much larger number of businesses(40) to find out what kinds of industry low share businesses are successful in, what kinds of products they offer and how they compete. The businesses in the sample were chosen from the PIMS data base and make a useful comparison to the original PIMS findings. These businesses, nearly all part of larger corporations, had to have at least 20% ROI and less than 20% of the combined share of their three largest competitors. Woo and Cooper grouped the businesses into six clusters of similar competitive environments and identified six characteristics common to such businesses.

1. Profitable low-market-share businesses exist in low-growth markets. These tend to provide a more stable environment with less intense competition.

2. Their products do not change often; high levels of change are costly and the R&D required is prohibitive for low-share businesses.
3. Most of their products are standardized and they provide few extra services. This is a result of heavy consumer-focusing creating little need for product flexibility.
4. Most of them make industrial components or supplies. Close customer relations, low advertising costs and purchases governed by contract make this area more advantageous for the low share business.
5. The products and supplies are purchased frequently, a point also noted by Buzzell et al (op.cit)
6. Profitable low share businesses are in industries with high value added.

Most of these businesses compete using some or all of the following strategies;

1. A strong focus tailored to the market segments where the business' own strengths will be most highly valued. This is similar to Hamermesh's finding (op.cit).



2. A reputation for high quality, complementing a medium to low relative price.
3. Low total costs arising from low relative marketing and R&D expenditure.

### Conclusions

Not only do these two studies seriously challenge the PIMS findings and the assumptions of Portfolio analysis, but they also point out the advantages of disaggregating data to look at differences in competitive strategy. The suggestion is that building strategies alone cannot guarantee success for the business. Success depends on the line of business and the industry in which it operates.

### The findings of Woo (1984)

More recent work by Woo looked at a comparison of 41 low performing leaders (ROI less than 10%) and 71 high performing leaders (ROI over 40%), reaching the conclusion that "the benefits of dominance are not universally enjoyed." Woo found that low-return market leaders were to be found in regional and fragmented markets (20 or more competitors) where the advantages of economies of scale and high barriers to entry were at a minimum. Low return leaders were also found in greater numbers in unstable, low

importance of the specific environment in these studies has taken precedence over the advantages of high market-share and market-leadership. Actual definition of market-share also makes this kind of analysis difficult.



Cost advantages independent of scale (The experience curve)

Access to distribution channels

Government policy

The sources are not static and can be altered by actions of the businesses in the industry and by factors outside, eg a change in government.

## 2. Power of suppliers

Suppliers can exert bargaining power on businesses in an industry by raising or reducing prices therefore affecting industry profitability. Suppliers' power depends on: how important the industry is to the supplier; how concentrated the suppliers are; how important the suppliers' product or variety of products is to the industry; and how likely the supplier is to integrate vertically into the industry.

## 3. Power of buyers

Customers can force down prices, demand higher quality or more service and play competitors off against each other. Buyer power depends on: the concentration of buyers; how differentiated the industry products are; the proportion of the buyers budget that the industry product has; and the likelihood of backward integration

by buyers.

#### 4. Substitute products

Substitutes can put a limit on industry profits, unless the existing products can be differentiated to dispel the substitute effect. The more attractive the price-performance alternative offered by substitutes, the firmer the lid on industry profits.

#### 5. Rivalry between businesses

Competition between businesses and groups of businesses will determine the individual and overall profitability in the industry. The intensity of competition is determined by the following factors, bearing in mind that the more intense the rivalry, the lower the profits:

- a. Number of competitors, relative size and concentration
- b. Growth rate of industry: high growth will lessen competition.
- c. The degree of product differentiation: more differentiation, less price competition.
- d. Fixed costs and durability of the product: determines

price cutting.

- e. Capacity augmentation: how easy and cheap is it to do?
- f. Height of exit barriers: how easy is it to leave the industry?
- g. Diversity of strategies: competing businesses have different ideas about how to compete.

#### Porter's three generic strategies

Given these forces, businesses in an industry have the option of three generic strategies with which to succeed. Each strategy works to create defensible positions for coping with the five competitive forces. These were briefly discussed in the previous chapter and are:

1. Overall cost leadership
2. Differentiation
3. Focus

1. Overall cost leadership: this is the most competitive and hardest strategy to adopt with a strong need for economies of scale, rigorous cost control and highly efficient plant utilization. Low cost must be accompanied by high turnover, thus high market share. PIMS would argue that this low cost position will yield the business above-average returns.

2. Differentiation: This entails differentiating the

product or service offered by the business to create something that is perceived industry-wide as being unique. Differentiation achieves brand loyalty by customers and hence is less sensitive to price competition. Differentiation accepts a trade-off against market share but the profit margins are greater.

3. Focus: a business aims the product or service at a particular buyer group, area or other subsection of the overall market. The strategy rests on the premise that the business is able to serve its narrow strategic target more effectively or efficiently than competitors who are competing more broadly.

#### Identification of strategic groups

Up to this point Porter follows a similar model to the previous planning methods, with an identification of the determinants of profitability (the competitive forces) and three suggested strategies for businesses to adopt. However Porter suggests the need to subdivide an industry into strategic groups since not all businesses in an industry compete alike. These competitive forces will affect different competing groups in different ways, thus causing businesses to adopt particular strategies relevant to their position in the industry and within their strategic group.

Not all industries divide into "similar" groups of

businesses but normally similarities do exist based on the following list of possible strategic options open to a business in a given industry. Each business' strategy can be defined along these dimensions and strategic groups can be identified.

Specialization

Brand identification

Push versus pull: brand identification with customers versus support of distribution channels

Channel selection

Product quality

Technological leadership

Vertical integration

Cost position

Degree of ancillary services provided

Pricing policy

Degree of financial and operational leverage

Relationship with parent company

Relationship with home and host government

#### The characteristics of strategic groups

Porter continues by stating that it is not only the industry-wide barriers that need to be examined, but that entry barriers depend on the characteristics of each strategic group. Barriers not only protect businesses in a



strategic group from entry by firms outside the industry, but they also provide barriers to businesses shifting from one strategic group to another. Factors that deter the movement of firms from one strategic position to another are known as mobility barriers. Thus businesses in strategic groups with high mobility barriers will have a greater profit potential than those in strategic groups with low mobility barriers.

Strategic groups will have differing amounts of power as regards suppliers and buyers, since their strategies will result in various degrees of vulnerability and may involve dealing with different suppliers and buyers. Strategic groups may also face different threats from substitute products.

There are four factors in Porter's analysis which will determine how strongly the strategic groups in an industry will compete amongst each other for customers:

1. Degree of market interdependence among the groups, ie whether all groups are competing for the same customers.
2. Degree of product differentiation in each group.
3. The number of strategic groups and their relative size.
4. The degree to which the strategies in different groups

SECTION THREE: PROFITABILITY IN THE BREWING INDUSTRY

## CHAPTER 5: PROFITABILITY IN THE DUTCH BREWING INDUSTRY

### Introduction

The purpose of this chapter is to compare the experiences of the Dutch brewing industry to those of the UK. In particular to look at the determinants of profitability and the effect of certain key variables for the brewers of the Netherlands. It is intended that this analysis will highlight the observations made in the previous chapter pointing out the differences between industries in different circumstances. It will also show whether the PIMS findings are applicable to the Dutch experience which is very different to that of the UK brewing industry. Although some of the data in this chapter are rather old, (1970-1973) the market structure has not changed dramatically since then, and Heineken still hold around 55% of the market. (Heineken report and accounts 1983 and Marketing in Europe 1982).

### The Dutch beer market

There are a number of important characteristics to the Dutch beer market which are now discussed.

The Dutch beer market has a very low degree of physical

product differentiation, with the vast majority of beer produced in the Netherlands being of the Pilsner type. Production of weaker table beer and extra strong beer has never been more than marginal, representing only 1.0% and 0.4% respectively of total 1972 output. Table 5.1 shows that these proportions have not changed very much since then. This single beer type dominance has meant that sub-markets are mostly created by brand promotion, advertising and packaging. eg Grolsch's swing top bottle.

Table 5.1

Beer production in the Netherlands, 1978-1981

(Hectolitres '000)	1978	1979	1980	1981	% change 1980/81
Table beer	66	61	63	65	+3.2
Pils	14,557	15,297	15,389	16,544	+7.5
Strong beer	28	29	31	30	-3.2
Total	14,651	15,387	15,483	16,639	+7.5

Source: Centraal Brouwerij Kantoor (CBK)

Beer packaging

In the Netherlands packaged beer rather than draught beer is the most important source of sales. Also, a considerable proportion of beer is consumed at home rather than in hotels, restaurants or cafes. (See table 5.3) In the Netherlands since 1961 there has been a steady move from draught to packaged beer sold almost exclusively in returnable bottles. (Table 5.2) This is in contrast to the UK, but may reflect a possible future scenario for UK drinking habits if the trend for drinking at home continues

to increase. In the UK at present however the vast majority

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to increase. In the UK at present however the vast majority of sales are still in draught form, sold in pubs. Because of this in UK it is the pub itself that tends to be the product, rather than the beer it sells, thus reducing the need for brand promotion.

Table 5.2

The changing proportion of packaged beer in the Netherlands, 1961-1975 (% volume)

1961	58
1968	60
1970	63
1973	65
1975	68

Source: Annual Reports "Produktschap voor bier"

Table 5.3

The proportion of beer drunk in the Netherlands at home, 1940-1974 (% volume)

	1940	1960	1974
Home consumption	5	30	55
Horeca*	95	70	45
Total	100	100	100

\* Hotels, resturants and cafes

Source: Marketing in Europe

Ownership of licenced outlets

Like the UK, the ownership of licensed outlets in the Netherlands is heavily controlled by the brewers with around 60% of the Horeca sector being more or less tied to a specific brewery, who either own the premises, have provided financial aid, or have loaned or given the pumps

and installations to the outlet.

### Regional variations

Regional variation in consumption is considerable with the highest consumption in the southern provinces of Limburg and Noord Brabant. It is in these areas that the majority of regional brewers are to be found, possibly reflecting a market more influenced by local brand loyalty than advertising. Consumption is higher than the national average in the eastern part of the country, and the lowest occurs in the northern provinces of Groningen and Friesland. Work on the demand for beer in the Netherlands (Leeftang and Van Duijn 1982) found that "instruments such as advertising volume and price were more effective in the West of the Netherlands than elsewhere. Broadly speaking the west versus the rest of the country dichotomy can be seen as an urban-rural one." They suggest that their results point to higher effectiveness of marketing instruments in urban and urbanized areas. It is the case that Heineken and Skol dominate the urban areas and are likely to see advertising as more cost effective in concentrated areas of population.

### Changes in exports and consumption

The Netherlands has a remarkable record in exporting beer.

almost entirely due to Heineken. 24.8% of total Dutch production was exported in 1981, with 3.3% of world wide beer sales attributable to Heineken. In return, foreign penetration into the Dutch beer market is very high with 27.0% of domestic sales being controlled by foreign brewers in 1974. As with the UK, over all sales in the Netherlands increased rapidly during the seventies, with an increase of 57% in the period 1970-1974. During the period 1978-1981 beer production increased at a steady rate, but decreased slightly from 1981-1982 due to a 100% increase in excise duty. This steady rise in production even after 1977 was the opposite to the UK experience and was probably due to two reasons. The Dutch economy did not undergo such a sharp decline during the late seventies and early eighties, and the per capita consumption of beer had started from a much lower base. Even by 1982 consumption per head in the Netherlands was 89.6 litres as compared to 111.5 litres in the UK.

### Summary

The Dutch beer market has a number of important aspects:

1. The vast majority of beer is of one type. (Pilsner lager)
2. A high proportion of beer is consumed at home and in a packaged form (mostly returnable bottles).
3. The brewers have considerable control over outlets, but the trend for independent supermarket sales is



increasing. (In 1974 85% of take home beer sales were through unlicensed supermarkets, and the biggest chain, Albert Heijin, accounted for 50% of these sales).

4. Advertising and price variation can be very effective in urban areas.
5. Foreign penetration is high but so are exports.
6. The market is much smaller (per capita and in total) than the UK and has greater growth potential.

### The Brewing industry

The Dutch brewing industry is highly concentrated and is dominated by Heineken who, since their merger with Amstel in 1968, have held around 55% of the domestic beer market. Historically the Dutch brewing industry has been very concentrated with 6 firm concentration (the combined market-share of the 6 biggest brewers) being as high as 85% of sales in 1931. In 1981 4 firm concentration was over 90% of sales as a result of a spate of mergers and takeovers in 1968/69. In 1968 Allied Breweries (a UK company) took over Drie Hoefijzers and Oranjeboom to form Skol with a market-share of 19.0% making it the Netherland's second biggest brewer. In 1969 Heineken acquired Amstel increasing their share from 35% to around 55% of the total Dutch beer market. This move was probably as a defensive measure against the preceding takeover. In the same year Stella Artois (a Belgian brewer) bought two small breweries,

Sommelsche and Schaapskaai. They followed this with the takeover of the Hengelosche brewery in 1974 making Artois the Netherland's third biggest brewer with around 8.5% of the market. This last move reduced imports from Belgium but increased foreign penetration. There are eleven other brewers in the industry but only three have more than 1% market-share; Grolsch, Brand and Bavaria. (See Table 5.4)

Table 5.4

Estimated Market-shares of the leading brewery groups in the Netherlands, 1973

Group	Market-share (per cent)
Heineken	55.0
Skol (Allied)	18.5
Artois	8.5
Grolsch	7.2
Bavaria	6.5
Brand	1.8
Others	2.5

Source: Marketing in Europe

Brouwer (op.cit) analysed concentration and the determination of profitability in the Dutch brewing industry.

Costs

Like the UK brewing industry, raw material costs are roughly the same for all the brewers., In the Netherlands hop prices are volatile as they are mostly imported from West Germany.

The Dutch equivalent to the Brewer's Society the "Centraal Brouwerij Kantoor" buys barley centrally for the whole industry and sells it to the brewers at a fixed price. As a result most brewers also malt their own barley. Brouwer(ibid) found that "no cost advantages relating to materials and labour are attained by the largest firms" Transport costs are of little importance since most Dutch brewers operate nationally in a market which is geographically small, and served by a good road network. An interesting feature is that firm size is not related to plant size with all the major brewers being multiple, small plant, users. This has changed to some extent with Heineken concentrating production in two rather than three breweries since 1981.

### Profitability

Little data were available for individual brewers and the data available was restricted to the only two public companies Heineken and Skol. However the comparisons are interesting with Heineken out performing Skol in terms of profitability and thus supporting the PIMS findings on market-share. (See table 5.5)

Table 5.5

Net profit as a percentage of sales for Heineken and Skol, 1971-1975

	Heineken	Skol
1971	7.7	1.6
1972	6.9	1.6
1973	5.8	2.0
1974	5.1	1.6
1975	3.8	1.5

Source: Brouwer 1976

To be fair, Skol had only just established itself, as opposed to Heineken's long standing position as market leader, but it was not until 1983 that Skol started its financial recovery. (Allied Lyons Report and Accounts, 1983) One reason for Heineken's higher profitability could be its lower domestic investment. (see Table 5.6) with most of its investment concentrating on overseas markets during the period. However Grolsch invested considerably more than either Heineken or Skol (proportionally) and appeared to reap the benefits. During the period 1970-1974 Grolsch's sales increased by 86% as compared to Skol's 43%. Heineken increased sales by 153%, but this includes worldwide sales as well.

Table 5.6

Domestic investment as a percentage of sales by Heineken, Skol and Grolsch, 1970-1974.

	Heineken	Skol	Grolsch
1970	3.0	6.5	10.0
1971	6.0	4.6	5.3
1972	7.0	9.5	27.5
1973	8.5	5.4	6.1
1974	4.8	7.6	19.7

Source: Brouwer 1976

Table 5.7

Estimated publicity expenditure for selected brands of beer  
in the Netherlands 1971-1973 (1000 Dfl)

Brand	1971	1972	1973
Heineken	1706	1841	1920
Amstel	1334	1292	654
Skol	na	1149	893
Grolsch	1194	1242	1615
Artois	na	89	122
Brand	23	26	28

Source: Brouwer 1976

Advertising expenditure

Advertising statistics were more readily available and are shown in Table 5.7. From these figures it appears Heineken has a much lower A/S ratio which may be because their strong brand name does not require as much support. Grolsch had a very high A/S ratio and Brouwer (ibid) found that a positive relationship exists between increased advertising and increased market-share. For example Grolsch has increased its advertising budget at the most rapid rate and is also the fastest growing of Dutch brewers. It would appear that Heineken has required a minimum of marketing effort to maintain its position. Brouwer also found that the national brands (Heineken, Amstel, Skol and possibly Grolsch) are more expensive than regional brands, with consumers willing to pay higher prices for well established brands.

## Conclusions.

The market conditions and structural determinants of the Dutch brewing industry appear to be in line with the PIMS belief in the idea of the successful market-leader. However, although Skol was having a difficult time for most of the 1968-1981 period, the other brewers, in particular Grolsch were very successful. Artois success in the Netherlands can be verified by the acquisition of their third Dutch brewery in 1974 indicating continuing expansion. The success of the non-share leaders is contrary to the PIMS analysis, although it could be argued that both Grolsch and Artois are of a more regional nature and therefore are leaders in their "served markets." This cannot be verified due to a lack of data.

While the UK brewing industry experienced rapid product changes and marketing U-turns, the Dutch brewing industry has been far more stable after the spate of takeovers in the late 1960s. Such takeovers also took place in the UK around the same time but the strength of the market leader was much less pronounced. Regional variations in taste, and a comparatively large number of beer types ensured that the UK brewing industry has remained far more fragmented than the Dutch industry. Consequently it is a much more complex marketing situation.

Re-investment in the Netherlands, whilst in evidence, was

not as pronounced as the UK since new lager and Keg beer facilities (as opposed to simply increasing capacity) were not required by brewers in the Netherlands. The largest brewer, Heineken, and the regional brewers have experienced reasonable success, while Skol appeared to have suffered from being "second place." This kind of scenario reflects Porter's suggestion of adopting one or two of the generic strategies to maintain high profitability. Heineken have adopted differentiation and the regionals (Grolsch in particular) have adopted a combination of focussed and cost leadership strategies. Skol appear to have failed to adopt any of these strategies and have suffered as a consequence.

Overall the Dutch brewing industry has produced a case of market-leadership=higher profitability, but certainly not to the exclusion of the successful regional brewers. The next chapter discusses the US brewing industry and the studies carried out on profitability determination.

CHAPTER SIX: PROFITABILITY IN THE UNITED STATES BREWING  
INDUSTRY

Introduction

The United States brewing industry provides some valuable comparisons for industry analysis and the application of theoretical models. There is also considerably more easily accessible data on the US brewing industry than in either the UK or the Netherlands. As well as financial statements, information was available on market-share for individual brewers of each state and national share data going back to the 1950s. This information was compiled for the US Federal Trade Commission (FTC) Report (Keithahn, 1978) and has enabled detailed research to be carried out into the market-share profitability relationship. (Hatten and Hatten, 1982) Studies have also analysed why different firms experienced different degrees of success, and looked at the determinants of profitability within the industry (Hatten and Schendel 1977, Schendel and Patton 1978) The models and methods used go some way to indicating how one can analyse the UK brewing industry and the problems that may be involved.

This chapter will outline the salient features of the US brewing industry drawing on the work of Keithahn (op.cit). It will then discuss other studies in detail and finally



suggest the application of some of their (Hatten and Schendel's) tools to analyse the UK brewing industry.

### The United States brewing industry

The United States produces a greater volume of beer than any other country in the world with an annual output of around 180 million hectolitres in 1981. This compares to the UK with around 62 million hectolitres and the Netherlands with around 16 million hectolitres. Per capita consumption is lower than the UK at around 82 litres (per capita per year) as compared to 117 litres in the UK and 73 litres in the Netherlands. (Jackson 1982) There is also a very traditional element to the US brewing industry which has only recently begun to change. Many of the brewers including the market leaders such as Anheuser-Busch, Schlitz or Coors are still owned by descendants of the German and East European families which founded them in the last century.

From the end of World War Two until the late 1950s, the US brewing industry experienced a decline in demand coupled with an average profitability far below most other US industries. This decline and low profitability encouraged many brewers to leave the industry. (Keithahn op.cit) Since 1945, four and eight firm concentration doubled but firms continued to leave the industry even after demand for beer

started to rise again in the late 1950s. Keithahn cites the success of the national brewers as the major reason for the continued concentration in the industry (see table 6.1).

Table 6.1  
Concentration in the US brewing industry, 1963-1974

Year	Number of Companies
1963	150
1967	125
1971	74
1974	58

Source: FTC 1978

After 1959 demand picked up, due not so much to a rise in real income, but to a change in tastes from spirits and of a relaxation of off-sales restrictions. (ibid)

#### Structural determinants of profitability

Virtually all US beer is of the Pilsner type and slightly weaker than its European counterpart (a throw back from prohibition). The move from darker to lighter beers has been almost universal in the USA. In comparison to the UK no equivalent movement to CAMRA persuaded the brewers or the drinking public to return to the old styles of beer. In the USA these darker more flavoursome brews have become a small proportion of total beer production with most Americans preferring the blander but more thirst quenching pilsner type beer.

Thus, as in the Netherlands, the variety of beers has become very limited and differentiation has to be created by advertising. This has been one of the market leaders greatest successes: to persuade consumers, using a national campaign, that premium (or high) priced beer equals premium quality. In a country where mobility is very high, the appeal of finding a "known" brand where ever one travels can be reassuring. The ability to sell a single brand of beer on a national scale must be instrumental for maintaining a profitable national presence by a national brewer, market leader or otherwise. (Keithahn, 1978)

#### The success of the market leaders

The leaders of the US industry, Anheuser-Busch (of Budweiser and Michelob fame), Schlitz, Pabst and Miller all adopted a very specific strategy of high national brand profile and Keithahn stresses that this was one of the reasons for the rise of the national brewers. The high brand profile was aided in its development by the increase in packaged beer. Traditionally the US beer market has been more packaged orientated than the UK or the Netherlands, with 66% of beer being packaged even by 1946. By 1976 this had increased to around 87%. Since packaged beer has a longer shelf life (and is therefore easier to transport long distances), and can be sold in all licensed outlets rather than just bars, it was these products that the

nationals promoted. Schendel and Patton (op.cit) found that;

"the national firms have been successful in gaining dominance in the market place by presenting a quality product and backing it up with intensive marketing expenditures and a strong distribution system." (p1618)

The strong distributive system was a result of expansion by constructing new plant in each new area being developed as a market. Expansion by this method rather than acquisition of existing plant, was in the long run a more cost effective investment. Keithahn (op.cit) identified the benefits of technological advancements and the cost savings on labour from a minimum plant size for new investment.

#### New plant strategy and merger control

Construction of new plant also avoided the problem of referral to the anti-trust laws which legislate over monopoly situations. When the national brewers started to expand from single to multi-plant operations the regional brewers sought to expand (as a defensive measure) in a less costly way by acquiring existing plant or brewers. However anti-trust laws severely restricted this development. Federal and State policy was in direct contrast to the UK, which had encouraged mergers during the sixties. Keithahn believed that "if mergers had been allowed the nationals might have acquired old small breweries and might have grown more slowly than they actually grew."(p51) It is

possible that this is what happened in the UK, with the national brewers acquiring old ineffective plant and closing them down at a high cost, while at the same time building new plant, also at considerable cost. The difference here is that the UK tied house system makes new market penetration much more difficult than in the USA. Overall, the blocking of US regional brewers merger attempts may have weakened their competitive position.(ibid)

As the analysis of the UK brewing industry will show high capital investment is not positively correlated with high profitability. However the US national brewers have been very profitable despite high capital expenditure. (Schendel and Patton op.cit) The explanation for some of this variance can be explained by the fact that the US national brewers embarked on expansion some time before those in the UK and the benefits of the investment have already been realized. The choice between acquisition or new plant is also important in this area (as mentioned earlier). Keithahn stated this point very clearly:

"That the national brewers were pursuing a profitable strategy was not obvious until the late 1960s. In the 1950s when the nationals were in the initial stages of expansion, competitors were predicting disaster for the national brewers due to the poor trend in sales and the large amount of debt they were incurring in order to expand... thus there was a considerable lag between the time national brewers began expansion and the time it became obvious that they were doing something right."p125

## Advertising

Although Keithahn and Schendel & Patton cite high marketing effort as one of the major reasons for the leaders success, Anheuser-Busch who experienced the greatest growth, did not have the highest average advertising/sales ratio. Keithahn considered that advertising's effect was difficult to gauge and it depended on other factors. The success of Miller "Lite" is an example. Miller were taken over by Philip Morris (the tobacco concern) who set about promoting a low carbohydrate beer not for slimmers, who were low beer drinkers anyway, but for young drinking men who were interested in being sporty. Miller "Lite" was successfully promoted as a sportsman's beer.

## Survival of the small brewers

Despite Keithahn suggesting that being big and national was the most advantageous position he also believed that some very small brewers would survive due to; local loyalty, knowledge of local taste, low transport and advertising costs, good labour relations and a special niche in the market. In the US small brewers have been protected by the anti-trust laws. In the UK these controls are not so powerful. There has been a reliance on strong consumer pressure (CAMRA), family control of small brewers and some protective action by Whitbread, to stop further

concentration. What is important is that it is not the high market-share which is gained that leads to greater profitability, but in the case of the US brewing industry, the method by which this share is acquired. As Rumelt and Wensley (1981) pointed out "market-share is not in itself a valid strategic goal since it measures success otherwise created."p2

Hatten and Schendel's analysis of the US brewing industry

Hatten and Schendel(op.cit) used the brewing industry as a laboratory for examining industry structure. They considered that "size was not the only factor affecting the market-structure profitability relationship."(p98) They formulated a model to explain inter-firm differences and the determination of profitability:

$$\text{Profitability} = f(\text{Market Conduct}, \text{Market Structure})$$

Profitability was measured by return on equity (ROE) and the independent variables are shown below:

Manufacturing strategy  
(market conduct)

Number of plants  
Newness of plants  
Capital intensity

Marketing strategy  
(market conduct)

Number of brands  
Price  
Debtors/sales ratio  
Firm size

Environment  
(market structure)

Eight firm concentration

Hatten and Schendel believed that the influences of market conduct and market structure would be different for individual brewers as compared to the whole industry. They thus saw a need to analyse brewers on an individual basis. However this was not possible due to the limited degrees of freedom (necessary for meaningful statistical analysis) resulting from the limited data base. Because of this problem the first stage of the analysis was to group similar firms together to increase the degrees of freedom. The groups of similar firms would be based on similarity between the combined influence of the variables on profitability, for each brewer.

#### Hatten and Schendel's results

Once the firms had been grouped together, the results showed that the market conduct and market environment variables did affect the profitability of groups of brewers in different ways:

1. The number of brands was highly significant and negative at the industry level but varying from significantly negative through to significantly positive at the group level. Thus the positive group, headed by Heileman, showed that the number of brands can be an effective determinant of profitability.



2. The number of plants is insignificant at the industry level. However for one group (Associated & Falstaff) it is positive and significant but for another (Iroquois & Lucky) it is very negative and significant. The researchers suggest that these companies, each of which were suffering a declining market-share, were utilizing their plant to different degrees.
3. The price is not significant at the industry level and in each group its effect is negative except for Iroquois & lucky. These small local brewers may have a loyal following of drinkers willing to pay a premium for their beer.
4. The debtors/ sales ratio is negative and significant at the industry level, but moderately significant for only two groups (Anheuser-Busch & Schlitz and Associated & Falstaff). Hatten and Schendel suggest that the larger brewers have been expanding via extended credit to their distribution outlets. However they do not suggest why for Associated and Falstaff the debtors/ sales ratio is negative and yet they are still not large firms in the industry.

Like Keithahn (op.cit) they found that the larger firms, through high investment, have been more successful. The small firms have tried expansion with varying degrees of success. They conclude that;

"relative success... depends on the conduct of the firms, on the coherence of their competitive decisions, and on the consistency of those decisions with the resources available to the firms involved."p109

In the second stage Hatten and Schendel wished to test the assumption that the data were homogeneous across time. They selected two points in time, 1958 and 1964. The reason for these particular cut off points were that, "in 1958, the two largest brewers, Anheuser-Busch and Schlitz began a new period of growth after a relative decline which began in the early 1950s. In 1964, after a period of almost frantic competitive activity, the industry's advertising expenditure per barrel began to decline."p109 (ibid)

Between these two points in time some variables for some groups did change in significance. Interestingly newness of plant changed from being significant to insignificant for the market leaders, Anheuser-Busch and Schlitz. The advantages of early expansion had clearly been gained before the other brewers.

Hatten and Schendel provide a useful framework with which to analyse the effect of variables on profitability of groups of firms. Importantly they state that;

"unless the homogeneity assumption is challenged in any study employing pooled cross-sectional and time series data, there must be doubts as to the reliability of the reported estimates."p110

Hatten and Schendel bring together a number of important

conclusions of relevance to any similar study that might be undertaken.

#### Hatten and Schendel's conclusions

1. The emphasis on homogeneity forces the use of more similar or "like" data. Due to this similarity generalisations from the results can be reduced.
2. The method reduces the degrees of freedom and thus the number of variables must be reduced and hence be highly selective. This may weaken the model. The model can be strengthened by use of "judgement" but this method of grouping will be subjective.
3. A unique model for each strategic group would be a more useful representation of the conduct of groups. However if one firm is not similar to any other firms the limited degrees of freedom will exclude it from any significant statistical analysis.
4. Structural variables may not vary either over time or from firm to firm. eg concentration. Without any variance statistical analysis is not possible.

Much of this work will be applied to the UK and will be discussed in more detail in chapter 13.

Schendel and Patton's analysis of the US brewing industry

Schendel and Patton (op.cit) build on Hatten and Schendel's work by examining the effects of controllable and non-controllable variables on three measures of performance. The variables and measures of performance are shown in table 6.2.

Table 6.2  
Schendel and Patton's brewing industry variables, 1978

<u>Non-controllable variables</u>	<u>Controllable variables</u>
Concentration	Acquisition
Industry advertising	Advertising
Industry material costs	Average capacity
Industry wage rate	Capacity utilization
Number of brewers	Capital expenditures
Per capita consumption	Capital intensity
Per cent package sales	Capital to labour
	Debt
<u>Performance variables</u>	Length of production cycle
Profitability	Material costs
Market-share	Newness of plants
Efficiency	Number of brands
	Number of plants
	Price per barrel
	Receivables to sales
	Size

Like Hatten and Schendel they were very keen to ensure homogeneity within groups and adopted the same statistical grouping method. They hypothesised three groups of firms; small regional, large regional and national. The homogeneity testing procedure confirmed these groups.

This coincidence might lead one to believe that groups could be identified without recourse to the complicated and statistically difficult methods employed. A good knowledge of the industry under study may be sufficient for initial identification of strategic groups. Analysis of an industry in the way suggested by Porter, for example, may be a more effective and flexible approach than the Hatten and Schendel grouping procedure. Having said this the identification of groups within an industry is important and it may be encouraging to know that the statistical grouping method produces the same results as the hypothesised groups. Patton & Schendel (op.cit) pointed out the advantages of this in their conclusions by stating that:

"Qualitative investigation of the sample under consideration is necessary to identify the relevant sets of performance measures, managerially controllable, and non-controllable factors used to specify the model. With a proper background study and model specification the benefits of explicit mathematical modelling can be more fully realized." p1620

Schendel and Patton found that results for each subgroup were substantially different from the industry level results. A significant result was the relationship between market-share and profitability (measured by ROE). At the industry level increasing market-share was found to have a significant positive effect on profitability. However for each sub group it was found to be negative. This qualified their belief that industry-level results are

misleading. They explain the factors that have most influenced the three strategic groups. Many of the findings are similar to Keithahn's and are described only briefly.

#### National firms

These firms benefited from;

- a. a high quality product backed up with intensive marketing expenditures and a strong distribution system,
- b. an initial trade off of profitability for market-share but only in the short run (5 to 10 years),
- c. and a successful multiple plant strategy utilizing new, rather than acquired, plant and machinery.

All this eventually provided cash resources for a continuing heavy marketing effort.

#### Large regional firms

These firms have been in direct competition with the expanding nationals and have had to indulge in a costly battle to maintain market-share. Concentration and the trend favouring packaged beer has had a strong negative effect, with the national expanding through packaged beers. (Packaged beers are easier to transport, and hence easier to distribute to new areas). Another problem the large

regionals have faced is too many brands without the necessary advertising support. The effect of advertising for the regional firms is much weaker than for the national firms.

Small regional firms.

These firms attempted a multiple brand strategy and found that it has a strong negative effect on profitability. Those firms who began a multiple plant strategy (by acquiring existing plant) initially found that profitability and market-share increase significantly. However this growth was not sustained and the relationship soon became negative. Overall these firms "did not possess the resources and expertise necessary to sustain a larger operation."p1619 Schendel and Patton concluded that as a rule "if you do not have the necessary resources for a market-share fight, do not start one."p1619 However they do identify a number of large regional firms who have been more profitable than the nationals. These firms have achieved this by adopting a multiple brand, rather than a multiple plant, strategy and by concentrating in specific geographical segments.

## Hatten and Hatten's analysis of the US brewing industry

This most recent work on the US brewing industry concentrates on three issues:

1. The robustness of the market-share profit relationship within the industry.
2. The information content of some alternate market definitions.
3. The nature and stability of industry structure.

This emphasis on the market-share issue is a departure from the previous studies which had looked at the more general determinants of profitability. It addresses the question "what is market-share?" and offers some guidelines for industry analysis by strategic marketers. Hatten and Hatten (op.cit) felt that although aggregated measures of market-share can be misleading, market-share "can become a major aid for self-diagnosis and strategy improvement."p9 (ibid) In addressing the market-share profitability relationship they suggest that managers should take less notice of share and profitability (ROI) and more notice of actual profit margins. Profitability can be maintained by underinvestment. Anticipation of the future market is thus of considerable importance if firms are to be successful in the long run.



### The first stage

Hatten and Hatten were able to use the FTC data which provided a much richer data base than the previous two studies. They started by analysing the correlation between five profitability measures and seven market-share definitions. They grouped the firms once again using Hatten and Schendel's grouping process. They found that share of the industry's profit was not necessarily related to profitability. They suggest that it is more important to achieve a disproportionate share of the industry's profits rather than to achieve higher profitability. They also found that those brewers who dominate the national market are not dominant in the regional markets. However hegemony in regional markets produces a low correlation with profitability suggesting that regional market dominance is not sufficient for sustained profitability. They identified the large regionals Olympia and Heileman (found to be very profitable by Schendel and Patton) to be vulnerable to competition due to a low share of the industry's profit, despite a high regional share and high profitability. Olympia and Heileman may be caught in regions in which they do not have the resources to break out, nor the resources to stop the national brewers moving in.

## The second stage

The second stage examined the impact of market-share strategy on profitability when the effects of the major marketing variables were controlled. These are Product (number of brands), Price (revenue/barrels), Promotion (advertising expenditure) and Place (number of plants per state). They found that:

1. "There appear to be substantial differences in the impacts of marketing variables on profitability between groups, and their combined impact is not particularly high;" p40
2. "The market share effect appears to be difficult to establish and probably varies across the brewing industry;" p40
3. "National market-share is very likely a proxy for many corporate resources and decisions".p40

However market-share may be defined in a number of ways and the use of "national share" only could be misleading.

4. "In the brewing industry, the structure of competition may be primarily regional. If so, it is a competition of national brewers against regionals isolated in their once safe niches." p40

Since the earlier studies the brewing industry has restructured. Anheuser-Busch has pulled away from the rest of the industry earning a disproportionate share of the industry profits especially during the 1970s. Miller has overtaken Schlitz as the number two brewer due to its heavy

advertising campaign. Hatten and Hatten suggest that marketing efficiency has, more than anything else, made Anheuser-Busch so successful.

Like the previous studies, Hatten and Hatten have identified the market leaders and the direction the brewing industry appears to be going. However they paint a gloomy picture of the future of many of the other brewers, even those which have been successful in recent years. eg Heileman.

Hatten and Hatten conclude with a number of guidelines for strategic analysis:

1. The market-share profitability relationship should be tested to determine whether it really is applicable to a particular competitive situation. This finding echoes Woo (1984) and Porter (1982) in their criticism of the aggregated data of PIMS.
2. "Market is a working hypothesis and good strategic marketing necessitates a wide choice of market options. These options should be developed through consideration of not only customers, but competitors' strategies and the firms internal capabilities." p50
3. In analysing competitors, marketing managers must exhaustively analyse those firms they are competing

with, especially those competing in the same way; their experiences may be relevant. Points 2 and 3 are similar to Porter's (op.cit) recommendations on analysing competitive situations.

4. Profitable niches can be non-growth traps when an industry restructures so it is important to monitor competitors' profit and growth rates, as well as changes in market-share.

These conclusions support Porter (ibid) in that an overall analysis of structural and competitive determinants of an industry must be examined, pointing out that knowledge about the industry in which you compete is paramount. The most significant finding is the belief that profit rather than profitability is the most important measure of success. Hatten and Hatten empirically monitored the decline of the very profitable regional brewers while the not so profitable nationals were absorbing the market. The implication is that market power will eventually control an industry, and as a logical conclusion, create a monopoly situation. This is a depressing scenario for all but the biggest US brewers, but with Anheuser-Busch earning around 60% of the industry profits (ibid) it is rapidly becoming a reality. The ability of the regionals to respond by amalgamation is hampered by the anti trust laws. (Business Week 1982)

Survival of non-market leaders depends on how well they can assert themselves as viable competitors with sufficiently differentiated or focused products. This is still the case in the Netherlands and, as will be explained in the next chapter, certainly the case in the UK.

#### Application of methods

As mentioned in the introduction to this chapter the methods developed by these US studies provide a valuable framework for analysing the UK brewing industry. The application of these methods will be looked at more closely in sections 4 and 5. However some of the important aspects are set out below:

1. Industry aggregates may cover up intra industry differences. There is therefore a need for a method to place firms into similar or homogeneous groups.
2. Purely statistical grouping methods cannot be relied on, and a strong element of qualitative analysis must be employed. Therefore a good knowledge of the industry to be analysed is paramount to be able to explain the results fully.
3. Profitability and market-share are ambiguous and can be measured in a number of different ways. Hence they should be treated with caution when analysed.

4. Industry structure is a dynamic process and is constantly changing over time; this must be taken into account.

The next chapter discusses the UK brewing industry and the studies carried out on profitability determination.

INDUSTRY

Introduction

This chapter describes some of the salient features of the UK brewing industry, the changes that have taken place over the past twenty years, and the type of industry that has emerged. It discusses studies that have looked at the issues of profitability determination in the UK brewing industry over the past ten years, and in reference to the US and Dutch experience. Utilizing knowledge of the industry, it will finally point to how analysis of the determination of profitability can be carried out.

Development of the market

The UK brewing industry is currently the fourth largest in the world and produced 36.7 million barrels in 1984. Production peaked in 1979, after around twenty years of continuous growth, and since then has been slowly declining. From 1959 to 1972 the UK brewing industry underwent a rapid period of concentration as did both the US and Dutch brewing industries. This resulted in over 70% of UK beer being produced by the six largest brewers by 1970, as compared to 25% in 1950 (see table 7.1).

Table 7.1 Number of UK breweries and brewery companies, 1940-1983

	1940	1950	1960	1970	1980	1983
Breweries (a)	840	567	358	177	142	130
Brewery companies (b)	n.a	n.a	247	96	81	78

(a) A brewery is defined as a site where beer is brewed and excise duty is paid on it.

(b) A brewery company is defined as a company actively brewing.

Source: Key Note: Breweries, 1984

Before the early 1960s the UK brewing industry had been predominantly regional although a few brands, most notably Worthington and Guinness, had achieved national status. The mergers and takeovers that took place during the 1960s were partly to secure continued trade, (by acquiring tied outlets) and partly to derive improved economies of scale from greater size. This concentration did not leave any distinct market leader and no single brewer has ever held more than 20% market-share.

Since 1972, the UK brewing industry has been dominated by the six national brewers and Guinness, (who are an exception in that they own no pubs). The market-share of these brewers is shown in table 7.2. It is noticeable that some brewers have concentrated on the on-licensed sector and some on the off-licensed sector.



Table 7.2

Market-shares of major UK brewers in the off and on licensed trades in 1982; by percentage of volume sales

	On-licensed	Off-licensed	Total
Bass	21.0	14.0	20.0
Allied	14.5	11.5	14.0
Scottish and Newcastle	12.0	18.5	12.5
Grand Metropolitan	11.5	12.0	11.5
Whitbread	11.5	11.5	11.5
Courage	9.0	9.0	9.0
Guinness	3.5	10.0	6.0
Others	17.0	13.5	15.5
Total	100.0	100.0	100.0

Note: Include factored and imported beers

Source: EIU and trade estimates

Distribution

An important feature of the UK brewing industry is the high proportion of brewery owned licensed premises. (see table 7.3) The brewers' products will be almost exclusive to that outlet.

Table 7.3

Brewers ownership of licensed premises in the UK as a percentage of the total, 1977-1979

	1977	1978	1979
On-licence	68.1	66.6	65.3
Off-licence	12.5	11.4	11.3
Total	34.3	32.9	32.0

(In 1978 the "Big Six" owned 51% of all licensed premises.)

Source: Brewers' society

A merger or acquisition of another brewer will result in, not just greater production capacity, but also greater distribution through the acquired brewers' pubs and off-licenses. Larger scale entry by new companies (other than takeover) into the brewing industry can only be effective if the consent of one of the major brewers is given in the form of a licensing or distribution agreement. Like the Netherlands the loan system is also heavily in evidence. (See table 7.5)

#### Product differentiation and development

A major change that has taken place over the past twenty years has been in consumer tastes. The most dramatic change has been the rise in demand for lager, from just 8.6% of the market (in volume) in 1972 to 18% by 1976 and around 40% in 1984. UK lager is the equivalent to Dutch Pils or US standard beer but often sold at a price higher than the equivalent strength bitter, the other major UK beer type, with around 45% of draught beer sales. Despite the predominance of bitter and lager the UK has a very wide range of beer types, and certainly far more variety than either the US or Dutch markets. Stout accounts for around 6% of the market (almost exclusively sold by Guinness) with Mild declining, but still with 7% of the market, being the fourth major beer sector.

Lager has been the one major growth sector in the UK beer market and as consequence the national brewers have invested heavily in production facilities for, and in the promotion of, the product. This expenditure has been seen by some observers as, at best, unnecessary and at worst, creating a demand that did not previously exist. (CAMRA 1981) The logic of high investment will be explained later, suffice to say that it was the nationals that spent most on new plant and machinery during a period which saw sustained growth in demand. Lager has continued to rise in popularity even though the overall beer market has declined since 1979. As can be seen from table 7.4 advertising expenditure has certainly been directed towards this segment, with the notable exception of Guinness.

Table 7.4  
UK TV and press advertising expenditure on beer in 1983 by the top 10 advertisers. (£000)

Brand	Product	£000
Guinness (Guinness)	Stout	9532
Carling Black Label (Bass)	Lager	6325
Heineken (Whitbread)	Lager	4162
Carlsberg (Carlsberg and Watneys)	Lager	3904
Skol (Allied)	Lager	3481
Fosters (Watneys)	Lager	3121
Harp (Harp and Guinness)	Lager	3065
Hofmeister (Courage)	Lager	2760
Kestrel (Scottish and Newcastle)	Lager	2425
Best (Whitbread)	Bitter	2237
Total advertising expenditure		79541

Source: MEAL

Another factor that has played an important role in the UK

brewing industry has been the development of keg beer. Keg beer was marketed in the 1960s and 1970s on a very large scale to replace cask conditioned or "Real" ale. Keg beer is a product of consistent quality with a longer shelf life and is thus easier to sell nationally. However many beer drinkers found that keg beer was bland and generally more expensive than cask conditioned ale. This dissatisfaction, combined with a dislike for the demise of regional beers (due to takeovers) led to the very successful consumer movement, CAMRA (Campaign for real ale). What CAMRA succeeded in achieving was the re-introduction of "real ale" to the majority of pubs in under 10 years, this being combined with a return to more regional variation in products from the national brewers.

This apparent U-turn by the national brewers was not entirely due to consumer pressure and CAMRA. One of the major reasons was the considerable success the regional brewers experienced. Most of these brewers had never attempted to switch to keg beers due to a strong sense of tradition and the high cost of switching production. The advantages of keg beer's stability were not so important as distribution was only over a limited geographical area. The regional brewers benefited from a strong local loyalty for their products, whereas the national brewers had to maintain loyalty by high advertising expenditure and promotion. The end result was lower costs for the regional brewers due to low distribution, administration and

promotion costs which enabled them to charge hence lower prices. (Price Commission 1977)

The success of "Real Ale" and the local image of the regional brewers persuaded the nationals to concentrate on a regional image of their brands and a partial return to cask conditioned beer. This reversal was significantly different to that of the US or the Dutch brewing industry. However this regional policy on the part of the large brewers does not disguise the fact that over 80% of the industry is still controlled by the "Big six" brewers.

Another important difference between the UK and the US and Dutch brewing industries is the predominance of draught, rather than packaged beer. Only around 20% of beer is sold in packaged form in the UK although it had been increasing steadily over the past ten years. Although the UK market is much smaller than the USA market the expense of transporting draught beer is high and unless the distribution system is very efficient, prices will reflect this (as noted above). Packaged beer is mostly sold as take home through off-licences, and this sector is much smaller in the UK than in the US or the Netherlands.

The proportion of draught beer consumed in on-licensed premises owned by the brewer had meant that the pub itself is as important a product as the drink it sells. This importance had been increasingly capitalized on in recent years with a shift in investment from plant and machinery to the licensed estate (mainly pubs). (See table 7.5)

Table 7.5

Net fixed investments in the UK brewing industry, 1976-1984. £ million

	1976	1979	1984
Production and distribution	113	161	135
Retailing	51	79	501
Free trade loans	17	22	n.a
Other	23	35	n.a
Total	204	307	1503

Source: Brewer's Society

The ownership of pubs and off-licences ensures a guaranteed market for most of the brewers. Another reason for the shift of resources was the enormous over capacity which has existed since the mid 1970s. At present this stands at around 16 million barrels, with total production around 38 million barrels. (Food manufacture 1984)

### Competition

Competition takes place in two sectors, indirectly through investment in pubs and directly through the much smaller,

but rapidly expanding free trade, especially the off-licenses. As mentioned earlier the brewers compete for the free on-trade by use of loans, hence the predominance of nationals in this sector (due to greater financial resources) (CAMRA op.cit). To some extent this has also been the case in the free off-trade. However with the relaxation of the licensing laws, multiple grocers (mainly supermarkets) have captured a large and increasing share of the retail beer trade. This has forced the brewers to compete heavily in terms of price, and to a lesser degree, differentiation and focusing

The much stronger competition in the free trade has led to a high price discrepancy between the on and off-trades. Pubs will charge whatever the market will tolerate (Price Commission op.cit) where as in the free off-trade, especially supermarkets, the price is very much related to price of the product on the shelf next to it. Some brewers have managed to produce sufficiently differentiated products to sustain higher prices (eg Greene King) but the bulk of the market is highly competitive.

#### Acquisition and diversification

Other than expansion through competition and product differentiation, the UK brewers have opted for two basic strategies of acquisition and diversification. Unlike the

USA, the UK anti-trust laws have been more lenient and mergers and acquisitions were, as mentioned above, very common until 1972. Since then opposition to this type of activity has been stronger and only the smaller brewers have been able to expand in this way without referral to the Monopolies Commission. The larger brewers have in many cases opted for diversification away from brewing.

Diversification has not always been that successful since many ventures have had little to do with brewing; as a consequence expertise in the new areas has often been lacking. A good example of this was Guinness with interests in plastics, oyster fishing and confectionary, all of which were sold soon after the appointment of a new chairman in 1980. The most successful diversifications have been in more related operations such as hotels, catering and wines and spirits. (Sawyer 1983) Even in this field results have not been as good as the brewing divisions. In 1984 Bass derived 25% of its revenues from leisure activities (ie betting, holidays, hotels etc) but only 14% of its profits. (The Economist, 1985)

The excessive increase in beer prices since 1979, mainly attributable to high tax increases had, along with high unemployment, contributed to a reduction in demand. On top of this, tax on wine was considerably reduced in 1984 making it far more competitive with beer.



The important features that have shaped profitability over the past 15 years in the UK brewing industry are summarized below.

1. A rapid phase of concentration accompanied by a steady increase in demand over the period; This left seven brewers to dominate the market, but with no one brewer having more than around 20% of the market. The market growth turned into a decline after 1979.
2. A very high proportion of licensed outlets are owned by the brewers, making market penetration difficult. The power of the brewers has declined with the growth of independent licensed grocers.
3. The UK has a wide diversity of beer types.
4. There has been a phenomenal rise in the demand for lager beer since the late 1960s.
5. Strong consumer reaction to national brand, keg beer caused a partial return to traditional beer and a more regionalized marketing approach by the national brewers.
6. UK beer is predominantly sold in draught rather than packaged form.
7. Investment has swung from plant and machinery to the

brewer's tied estate. ie pubs.

8. Competition is very fierce especially with nationally marketed products in the free off-licence trade.

9. Many larger brewers have attempted to reduce their reliance on this competitive and declining industry by diversifying into other businesses.

One further point is the high degree of regional concentration even by the national brewers. ie Scottish and Newcastle's concentration in Scotland and the North East. This is similar to the US and Dutch experience, despite concentration in all three industries in recent years.

Profitability studies on the United Kingdom brewing industry

The most important study carried out on profitability in the UK brewing industry and its profitability was the Price Commission report (1977) which identified a generally negative relationship between market-share and profitability. In the same year the NEDC (1977) produced a paper which listed the problems facing the UK brewers but went on to explain that the small regional brewers still had been very successful. The NEDC noted that the financial position of the industry had deteriorated as result of

inflation and price controls. They felt that new investment to meet the demand for lager would be successful only if the government held down excise duty. They also identified problems with the distribution system which was inefficient with under-utilization of delivery vehicles. Industrial relations were also a problem resulting in the closure of Allied's brewery in Birmingham and Whitbread's brewery in Luton. In contrast the NEDC stated that the smaller brewers have;

"flourished in the 1970s. Many have been able to increase sales at a faster rate than the national average and produce satisfactory profits even where their prices have been pitched rather lower than the average, and this partly due to their special ability to contain costs, particularly distribution." p20

This apparent dichotomy in the brewing industry is backed up by substantial evidence in the Price Commission's report. (op.cit)

The Price Commission was called to investigate:

- a. the high price of beer
- b. the frequency of price increases
- c. the coincidence of price increases with announcements of higher profits by the brewers.

This study pre-empted the US studies (eg Hatten and Schendel op.cit) in dividing the brewers into similar groups, this time along divisions based on geographical distribution areas. They looked at the period 1974-1977 and used a sample of the six large brewers, the six regional

brewers, the three specialist brewers and 12 of the 69 small brewers. The specialist brewers only brew lager or stout and do not own any licensed outlets. Although the sample of brewers is wide the number of years covered is small and can show little in the way of trend development or the outcome of any long term investments. What the report is really analysing is the state of profitability and the industry structure at one particular point in time. Having said this it does illustrate the advantages of dividing the UK brewers into strategic groups and shows clearly the differences between them.

### Prices

It was found that "although prices of small brewers were roughly similar to those of large brewers in 1974, by 1977 they were lower for their main products; bitter, mild and pale ale. Thus, the rate of price increase is higher for large brewers than for regional and small brewers."p9 Small brewers sold lager at a higher price but this was mainly because they bought in most of it from large brewers.

Prices in the pubs were set according to;

- a. brewer's policy (if managed)
- b. local competition
- c. profit targets

## Costs

The difference in cost of materials was insignificant between the brewers, although it was slightly less for the large brewers. However the large brewers spent more on selling, marketing, distribution and other overheads than the small and regional brewers. "Higher production and packaging costs of larger brewers appear to be partly due to the greater proportion of their production that they package in cans and bottles."p12(ibid) Any relationship between costs and prices appeared to be lacking and the Price Commission found that the brewers charged according to what they felt the customers were prepared to pay. The Price Commission (ibid) found that profits were larger for the smaller brewer; and were greater for brewing and wholesaling than profits in the tied estate. There appeared to be a negative correlation between increased number of pubs and off-licences, and profits. Since the larger the brewer the greater the tied estate (generally), one can conclude that share of profits are not related to market-share in the UK.

## Return on capital employed

One of the major problems the Price Commission found in measuring the profitability of UK brewers was the distinction between assets held in plant and machinery etc

and those held in tied estate. This issue will be examined closely in chapter 10, suffice to say that around 60% of the capital employed in the brewer's activities as a whole are in tied estate, and despite differing valuations of this property between brewers, tied estate cannot be excluded from a profitability analysis. The Price Commission found a sharp discrepancy between profitability (profit as a percentage of capital employed) for brewing and wholesaling, and for tied estate and loans to free trade customers. On top of this a strongly negative correlation between profitability and the size of the brewer was also identified (see table 7.6).

Table 7.6

Profit as a percentage of capital employed in the UK brewing industry, 1974-1976.

		1974	1975	1976
Large brewers:	Brewing and wholesaling	29	30	32
	Tied estate and loans	4	3	3
Regional brewers:	Brewing and wholesaling	*	*	46
	Tied estate and loans	*	*	3
Small brewers:	Brewing and wholesaling	*	*	53
	Tied estate and loans	*	*	3
Specialist brewers:	Brewing	14	15	11

Source: Price Commission 1977

Although the data were limited the results do suggest that the smaller the brewer the higher the profitability on brewing and wholesaling. The profitability on tied estate

and loans is around the same for all sizes of brewer. It may be argued that these figures show the large brewers in a poor light simply because the advantages of the mergers and investment of previous years have yet to show. (ibid) The high discrepancy between brewing and tied estate is according to the Brewer's Society (1977) an unfair comparison since investment in the tied estate and loans to the free trade are only part of the investment strategy.

### Investment

The Price Commission found;

"that the large brewers have derived no apparent advantage from larger-scale more concentrated operations. Their cost and prices are higher and their percentage profit margins lower than those of the regional and small brewers... this casts doubts on how efficient the investment has been."p24 (ibid)

The brewers replied by claiming the investment would prove worthwhile when exports of UK lager take place. (This has yet to become a reality.) The brewers also stated that constraint on price increases would stifle investment plans. (ibid)

### Criticism of the Price Commission report

Keithahn, (op.cit, discussed in the previous chapter) when talking about the US brewing industry, suggested that

it may be some time before investment shows its worth to industry observers. The following comments by Colin Humphreys (The Times 1984) go some way to substantiating this observation. Humphreys states that the regionals due to their reluctance in the 1970s to spend heavily on lager and its promotion have found that;

"their brands do not sell well in the free trade against nationally advertised names. They are dependent on the declining ales sector... and catching up and competing with the nationals with their greater resources will be hard."

Hawkins (1979) adds that the Price Commission is correct in saying that the advantages of acquisition, large scale production and national distribution are yet to be seen. However he suggests that the Price Commission fails to understand the time it takes for firms to recover from "post merger re-adjustment problems."p292 (Hawkins op.cit)

Hawkins also severely criticises the Price Commission for failing to grasp that,

"the traditional focus of competition in the on-trade (pubs)... derives essentially from the character of the retailing operation itself."p228

The Erroll Report (1972) suggested that;

"most pub customers were more influenced in their choice of pub by the opportunities for relaxation, social intercourse and the standard of amenities provided, rather than the brands of liquid on offer and the prices at which they are sold."pp59-60

This points out that brewers are not just in the business of selling beer, but also in the leisure business selling a product, "the Pub" which as an investment is very difficult



to assess. Hawkins also pointed out that different rates of property valuation make the comparative results for return on capital employed meaningless. Concluding that "as long as different firms revalue at different times, it will always be dangerous to draw conclusions about comparative rates of efficiency."

Hawkins criticised the Price Commission in its attempt to equate horizontal and vertical integration. He pointed out that the Price Commission considered the tied trade (vertical integration) to be detrimental to competition if owned by the large brewers. However they also considered that small firms, whose sales were still heavily dependent on their tied houses, were those who made most efficient use of their assets. However Hawkins does not take into account that the larger brewers were charging higher prices in their pubs and using regional monopoly situations to sustain these prices. (CAMRA 1981) A recent prices survey (Whats Brewing 1985) considered that the large number of small breweries in the north west of England has kept prices down compared to the rest of the country, due to the intensity of competition in the area.

### Summary

The general determination of profitability debate in the UK brewing industry appears to revolve around the following

points:

1. The role of the tied outlet is difficult to assess in terms of return on investment, not least because of differing methods of accounting.
2. The role of the tied outlet cannot be ignored as it has a dominant position in the beer market.
3. The tied trade has ensured decreased price competition but this has not resulted in high profitability for any brewer.
4. The larger brewers have invested heavily in new plant and machinery especially for lager and packaged beer. The benefits of this investment may only just be beginning to be reaped.
5. The larger brewers have been less profitable than the regional or small brewers due to the differences in marketing, distribution and other overhead costs.

It is worth noting that:

\*The Price Commission has used very limited data and the negative correlation between market-share and profitability found must be treated with caution.

\*Price competition in the tied trade is relatively weak, but in the take home trade it is relatively strong.

\*Unlike the US or Dutch brewing industry the UK brewers have considerable interests outside brewing.

These observations show that the UK brewing industry is very complex and any analysis of profitability determination will have to take these problems into account.

The suggestion by the Price Commission (op.cit) that the large brewers have not been as profitable as the smaller brewers is not denied by Hawkins, (op.cit) but that it is only a short term situation. Some recent analysts have suggested that their investments may be starting to pay off. (The Times op.cit) The analysis that is discussed in the following chapters will look at profitability determination in the UK brewing industry, utilizing the US methodologies but accounting for the complex problems related to the UK industry that have been discussed in this chapter.

SECTION FOUR: RESEARCH METHOD

## CHAPTER 8: SAMPLE SELECTION

### Introduction

The previous three chapters explained what factors have determined profitability in the Dutch, US and UK brewing industries, and gave some indication as to how analysis might be successfully carried out.

This section describes the analysis adopted to identify profit determination for strategic groups of UK brewing companies. The first two chapters describe the selection of the sample, the analysis undertaken and the selection of the variables. The second two chapters explain the measurement of the variables and the collection of the data.

### SAMPLE SELECTION

In this analysis of the UK brewing industry, data limitations and changes in industry structure proved to be barriers to the nature and scope of the sample.

The sample included 15 UK brewing companies representing a cross section of brewers. The sample included five of

the six national brewers, one specialist brewer, (Guinness) and a nine major and minor regional brewers. Between them, these 15 brewers produce over 90% of UK beer production and can effectively be considered as the backbone of the industry. (See table 8.8) Unfortunately Watney, Mann & Truman (the UK's third largest brewer) could not be included in the analysis since no disaggregated data from their parent company, Grand Metropolitan, were available.

Table 8.1  
List of brewing companies in the analysis.

Company	Previous name or parent company since 1972	Average market-share, 1972-82 % volume
Bass	Bass Charrington	20.0
Allied Lyons	Allied Breweries	15.5
Whitbread		12.8
Scottish and Newcastle		10.5
Courage	A division of Imperial group	9.3
Arthur Guinness and Sons		6.9
Greenall Whitley		2.5
Wolverhampton & Dudley		1.1
Greene King and Son		0.82
Marston, Thompson & Evershed		0.55
Vaux Breweries		1.6
Matthew Brown		0.45
Daniel Thwaites		0.52
Boddingtons		0.43
Young and Co's		0.41

Approximate total 83.4

Source: Trade estimates

Table 8.8 lists the brewers analysed, the first five are the national brewers, followed by Guinness and the regional brewers. NB: The terms "national" and "regional" were derived from a consensus of opinion from the brewing

industry and its observers. The analysis looks closely into the exact definition of these terms in chapter 15.

It would have been preferable to have included one or two mini or pub breweries, but data was very limited for these operations, not least because they have, in the main, been in existence for less than five years. Inclusion of more brewers, especially relatively large ones like Harp and Carlsberg may have helped the grouping process, as it would have increased the chances of more firms being similar. However a large number of brewers would have made statistical analysis more difficult as data over time was limited. This was one of the major problems with the Price Commission's report (1977). The 15 companies selected not only provided a good cross section of different types of company (in terms of marketing and manufacturing strategy) within the industry, but they also had more published data available on each of them, of a quantitative nature and of a qualitative nature.

The analysis covered the period 1972 to 1982 for two reasons:

1. The availability of some data, especially of a non-financial nature such as advertising expenditure and number of brands and pubs was very limited before 1972. Records of non-financial data generally only went back around ten years.

- a. CAMRA's extensive information on numbers of brands, number of breweries and number of pubs for individual brewers only dated from around 1974.
- b. Company records went back further but for reasons given in the next section (mainly changes in company ownership) this information was not used.
- c. The London Business School library collection of company report and accounts generally went back as far as 1972, and for the larger companies these records are available as far back as 1960.
- d. Companies House, London, keep records on microfiche as far back as 1972 for most of the companies in the sample and before this the original copies were available for inspection.

Because of the marketing data limitations, 1972 was a logical cut off point for data collection.

2. Mergers made tracking of certain company records difficult due to the dilemma of which company to follow after the merger had taken place. For example the mergers of Bass, Mitchell and Butler with Charrington in 1967 as well as the formation of Scottish & Newcastle and Allied in the 1960s. Takeovers were



less of a problem since the brewer making the takeover was be assumed to be the brewer to analysed. After 1972 most of the concentration in the industry was by acquisition rather than merger and the problem of which brewer to follow did not arise. However takeovers by non-brewing firms did present a problem if subsequent data were not disaggregated. eg Watneys accounts were not disaggregated from its parent company, Grand Metropolitan.

Criticism may be levelled at this exclusion process on the grounds that the effects of mergers are not analysed. However takeovers during the 1972-1982 period are covered and their effects are measured by changes in the numbers of breweries and its effect on profitability.

It would have been preferable to have had a greater data base but due to the above reasons it was just not possible. However these parameters ensured that the industry sample was relatively unimpaired by conflicting data caused by mergers.

## CHAPTER 9: THE PATH OF ANALYSIS

### Measures of performance

The over all aim of the analysis was to measure the performance effect of different strategies followed by competitive groups within the UK brewing industry, and a diagram of the path of analysis is show in fig 9.1.

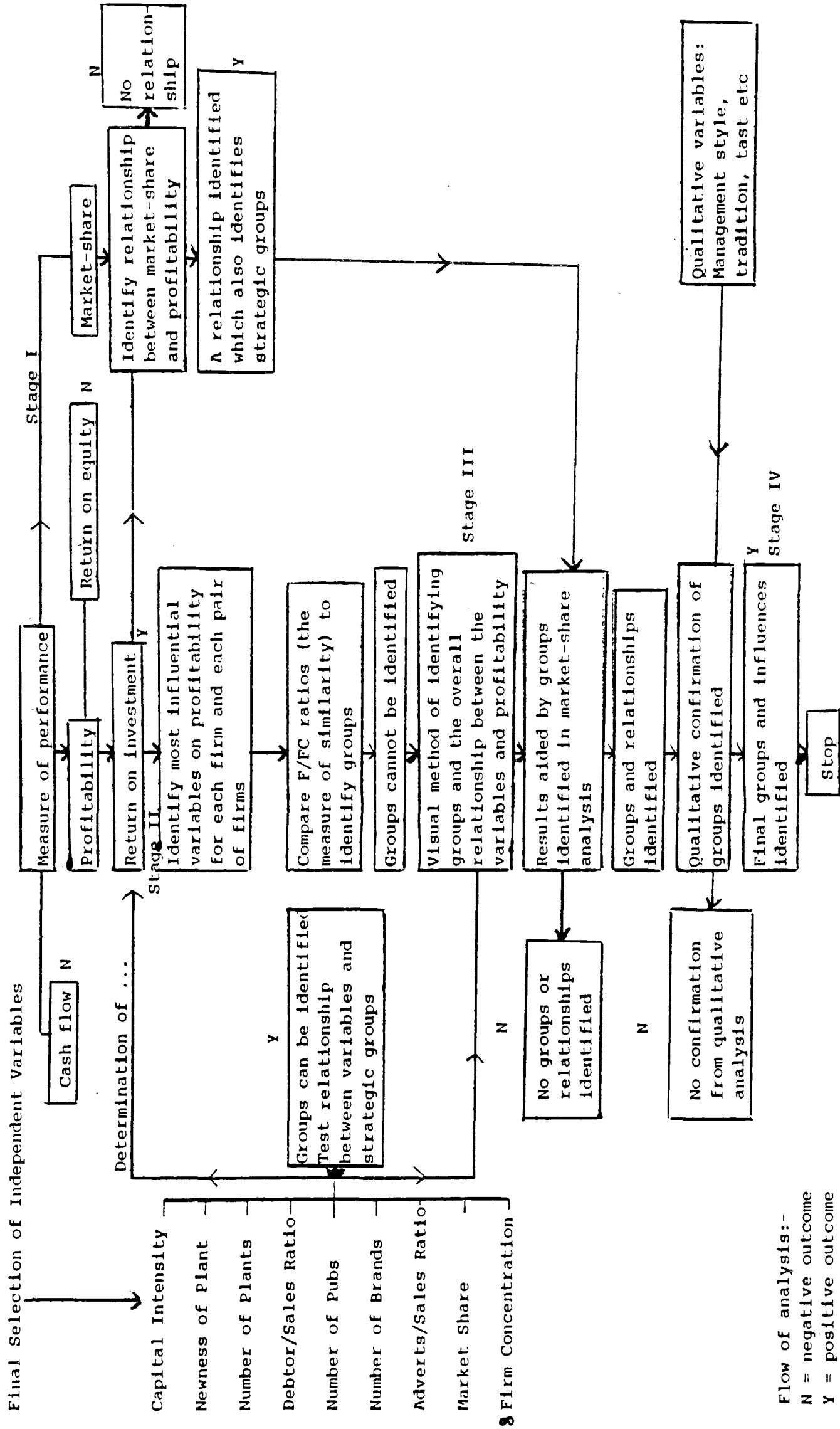
First a meaningful measure of "performance" had to be obtained. From the literature review it seemed that the most popular measure was the profitability of the company or business unit. This could be measured either by return on invested capital (ROI) or by return on shareholder's equity (ROE).

ROI was adopted as the measure of profitability rather than ROE, in order to compare results with previous studies. (ie PIMS) The widely different gearing ratios between the companies also make ROE a difficult measure for comparison purposes.

ROI as a profitability measure in the brewing industry did have a problem because different brewers re-valued their tied estate (pubs and off-licences) at different times during any five to ten year period. As this revaluation was not consistent for any two brewers it made comparison

**Fig 9.1**

**PATH OF ANALYSIS**



decided to test its relationship with profitability by running a separate analysis. The measurement of market-share is discussed in the next chapter. From the literature three possible outcomes were expected:

- a. Market-share was positively correlated with profitability. (Schoeffler, 1977)
- b. Market-share was negatively correlated with profitability. (Price Commission, 1977)
- c. No single relationship existed between the two variables. (Porter, 1982)

2. Cash-flow is a well used measure of performance for many companies. However since most of the analysis looked at in the literature used profitability (ROI) as the measure of performance, compatibility to these studies was considered preferable to using cash flow.

#### Selection of the independent variables

In any industry analysis it is obvious that much of the variance in profitability is determined by factors outside the company's control. Since this study was aimed at suggesting how individual brewers have affected their profitability through strategies adopted, only variables

that the brewers had an active role in determining were used. However Hatten and Schendel (1977) did include a market environment variable, 8 firm concentration. It was decided to include this market environment variable (following Hatten and Schendel *ibid*) since it measured one important result of competitive strategy, the changing share of the 8 largest brewers.

The variables to be analysed were adopted from the Hatten and Schendel analysis. It was decided to adopt these variables so that a comparison could be made with their study of the US brewing industry. A number of these variables had also been suggested as being significant both across industry (PIMS) and for the brewing industries of the US and the Netherlands (Keithahn 1978, Brouwer 1976). The variables were adjusted by combining with them those variables that were important in determining profitability in the UK brewing industry. (ie number of pubs and the advertising/sales ratio)

The selected variables were categorized into three areas; manufacturing strategy, marketing strategy and the market environment. Hatten and Schendel (*op.cit*) used these divisions as they found that the US brewers "compete by allocating resources to the two principal functional areas: manufacturing and marketing."

Table 9.2

Variables correlated with profitability in the analysis

Manufacturing variables

Capital intensity  
Number of plants  
Newness of plant  
Size of brewer

Marketing variables

Debtors/sales ratio  
Number of pubs  
Number of brands  
Adverts/sales ratio

Market environment

8 firm concentration

It would have been preferable to have included price as an independent variable in the analysis. However the variations in wholesale and retail mark-up made comparison between companies difficult. Further, volume production figures (used to calculate price) were only available for the largest companies and hence it was not possible to use price as a variable.

The measurement of these variables are discussed in the next chapter.

Strategic group identification

The literature review identified the importance of differences between firms in the same industry. These differences are in the way similar strategies adopted by firms produce very different results. The Price Commission (1977) actually divided the UK brewers into 4 groups of

"similar" brewers. Hatten and Schendel (1977) also stressed that analysis of an industry as a whole may obscure information about strategic groups within the industry. This view was supported by Porter (1982) who saw an industry as being made up of a number of strategic groups, with the effects of competitive strategy of a particular firm being determined by which strategic group the firm happened to be in.

In view of these findings it was decided to analyse the brewers in the study by dividing them into strategic groups of "similar" firms rather than look at the determination of profitability aggregated for the whole sample. Hatten and Schendel provided a useful methodology for this process. They compared the combined effect of the variables on profitability for each brewer and clustered those brewers together which had a similar  $F/F_c$  ratio. (The measure of the combined effect of the independent variables on the dependent variable). The actual process that was involved is discussed more fully in chapter 13.

It was expected that the brewers would either divide into strategic groups or remain as individual strategic units. In the event it was found that firms could not be placed into groups using the Hatten and Schendel method, (due to insufficient data for the results to be statistically significant) and another method of grouping had to be found. The answer was to use a visual inspection of

scattergrams showing each variable's relationship with profitability and market-share. (Used as a measure of firm size) This type of analysis was also used to look at the market-share/profitability relationship. From this analysis a series of relationships were identified between profitability, market-share/firm-size and the independent strategy variables, for the industry as a whole and for groups of brewers in particular.

On each scattergram graph the average position of the brewers were plotted. The average correlation figure given at the bottom of each graph is the average correlation coefficient between the two variables on the graph. Thus for each independent variable (capital intensity, Debtors/sales ratio etc) three graphs were presented. The first graph plotted the relationship between the independent variable and national market-share; the second graph plotted the relationship between the independent variable and ROI including property; and the third graph plotted the relationship between the independent variable and ROI excluding property.

In the market-share/profitability analysis two graphs were presented. The first showed the relationship between

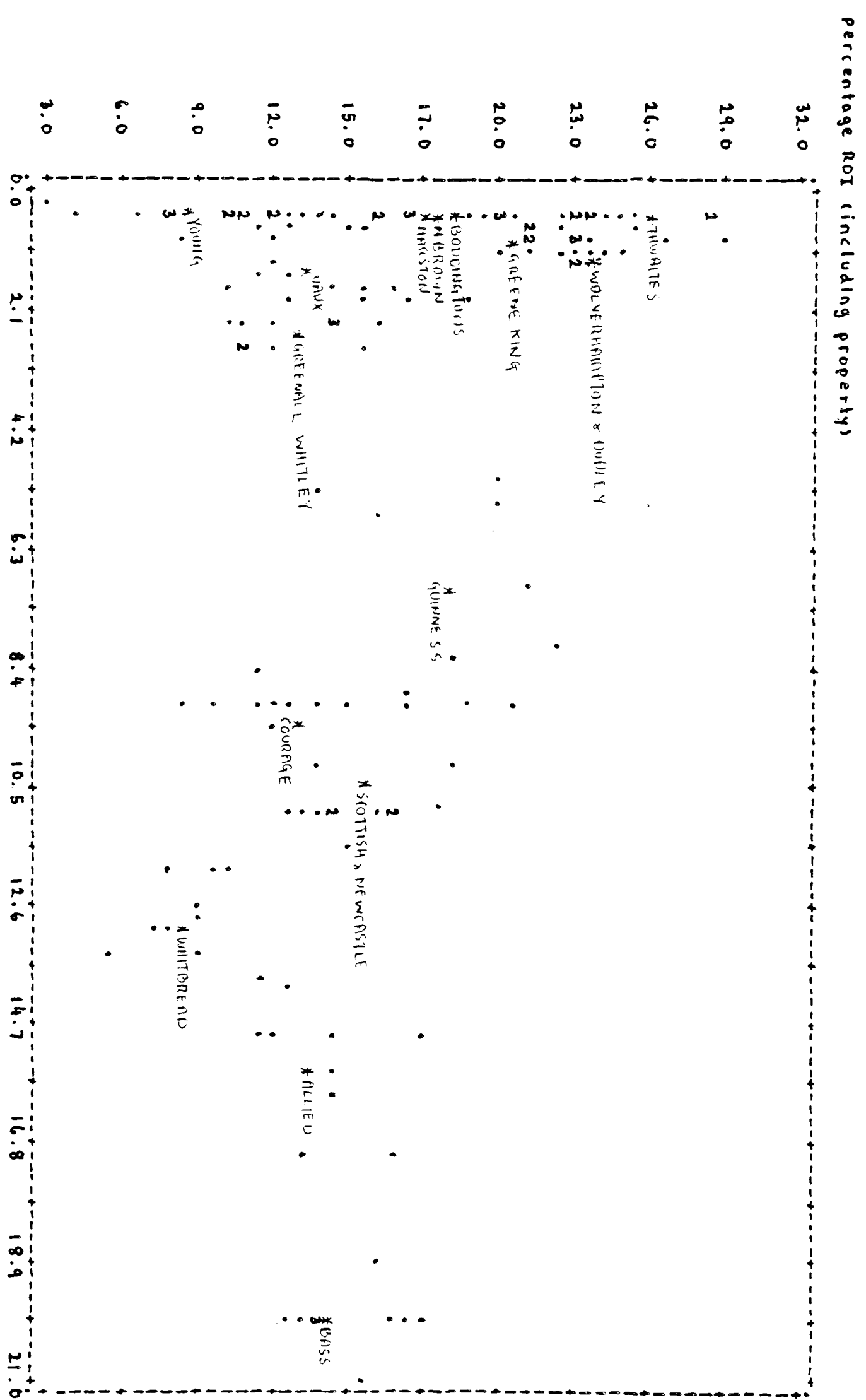


national market-share and ROI including property and the second showed the relationship between national market-share and ROI excluding property.

To further clarify this stage of the analysis an example graph is shown (fig 9.2) On the vertical axis is ROI including property. On the horizontal axis is percentage national market-share. The graph shown plots the relationship between the variables for each of the 11 years of data for each brewer. Numbers on the graph signify more than one data point in the same place. The stars besides the brewers' names denotes the average position of the brewer over the 11 year period.

The advantage of this method of analysis over the previous statistical grouping technique is that conclusions are drawn from a simple visual inspection rather from a statistical analysis limited by a lack of data.

Fig 9.2 THE RELATIONSHIP BETWEEN MARKET-SHARE AND RETURN ON INVESTMENT (INCLUDING PROPERTY) FOR 16 SELECTED UK BREWERS, 1972-1982



## CHAPTER 10: MEASUREMENT OF THE VARIABLES

The previous chapter explained the path of analysis taken and the variables that were used. This chapter explains how these variables were measured and the problems experienced.

### Market-share

The literature showed that the definition of market-share is a matter of some debate (Hatten and Hatten, 1982) and any market-share data will be subject to criticisms from one quarter or another. This study has used volume share of the total national UK beer market.

Most of the market-share data for the 7 largest of the 15 brewers were available in percentage volume of the total UK market from stockbrokers reports and industry research surveys. Data for the remaining brewers were considerably harder to acquire since stockbroker's estimates were unavailable and the brewers themselves were unwilling to disclose production figures. However it was possible to calculate the remaining brewers approximate share from their turnover as a percentage of the annual UK retail expenditure on beer. Although the brewers sales figures have been taken at wholesale rather than retail value, the

figures were still compatible since there was a negligible difference in prices between brewers of this size. (Price Commission, 1977) Further, none of these brewers exported any significant proportion of their beer during the study period which might have led to price or share discrepancies. The small brewers had generally limited interests outside brewing, and beer made up the best part of their turnover. Hence the figures were reasonably comparable to the volume market-share figures of the larger brewers.

Regional market-share data in the UK would have also been a useful measure, as many of the brewers analysed had a strong regional bias. However this information was restricted to the free trade off-licence sector only (for individual ITV regions) and could not be used.

### Profitability

The two ROI variables which were discussed and decided upon in the previous chapter were measured in the following way:

ROI including property: Pre-tax profit/Total net assets  
including property

ROI excluding property: Pre-tax profit/Total net assets  
excluding property

\*Pre-tax profit is profit before tax and interest.

## Manufacturing variables

### 1. Number of plants

This was a simple count of the number of operating plants owned by each brewer, for each year of the analysis. The data were collected from a wide variety of sources such as stockbroker's reports, company report and accounts, year books, and other secondary sources.

### 2. Newness of plant

This was measured by :

Net book value of fixed assets (£)/

Gross book value of fixed assets (£)

This measured the age of plant and machinery; fixed assets in property were excluded. The data were collected from company report and accounts.

### 3. Capital intensity

This was measured by: Net fixed assets (£)/ Sales (£)

this measured the companies' manufacturing assets and only capital invested in plant, machinery and vehicles were included. The data were collected from company report and accounts.

## Marketing Variables

### 1. Number of brands

This was measured by a count of brewers brands for each of the 11 years. The term "brand" was rather open to interpretation since brand names, beer types and company names can become rather confused, and the data must be treated with caution. In collecting the data, any discrepancies between sources were normally solved by taking the average number of brands from the sources. The data were collected primarily from "Off-licence News", company report and accounts and CAMRA.

### 2. Advertising

Advertising expenditure data were available in detail. (Information that Hatten and Schendel were unable to access). Advertising expenditure was measured as a percentage of sales per year;

Advertising expenditure (£)/Sales (£).

Advertising expenditure data were collected from MEAL (Media Expenditure Analysis limited) by aggregating expenditure on brands for each brewer, per year.

### 3. Distribution

#### a. Number of Pubs

This variable was measured by a count of pubs owned by each brewer. Since ownership of tied estate was important it was felt that the number of pubs should be included as one of the marketing variables. Numbers of off-licences owned would have also been useful but data were limited. The data were collected from CAMRA and industry survey reports.

#### b. Debtors/sales ratio

This was measured by: Debtors (£)/ Sales (£)

The variable indicated how much in loans brewers gave to customers. Loans are given as a way to ensure new or continued custom from clients in the free trade. Thus this strategy is a tool for increasing the number of outlets. The data for this variable were collected from company report and accounts.

### 4. Market-share (Firm size)

This variable was used as a measure of the brewers' size in the industry and was measured as before (p119).

## Market Environment variable

### 1. Concentration

Eight firm concentration was used as a measure of the market environment. This was measured by the sum of the market share of the eight largest brewers. This measure gave some indication of the state of competition in the industry. The data were aggregated from the market-share figures.

Variables were automatically excluded from the regression analysis if they did not vary over the period of analysis (1972-1982) and thus did not make an impact on profitability; or were of little importance to a particular firm. eg pubs were not included for Guinness as they own none. The excluded variables are shown in appendix 2.



SECTION FIVE: RESEARCH ANALYSIS

## CHAPTER 11: INTRODUCTION TO THE RESEARCH ANALYSIS

This research investigation aimed to look at the determination of profitability of a sample of 15 UK brewing companies, and if possible the determination of profitability in strategic groups from the sample. A separate analysis on the relationship between profitability and market-share was carried out due to the highly controversial nature of the relationship. (Discussed in the previous chapter). The analysis followed a path which utilized the statistical and interview based data to identify groups and to assess the collective and individual determinants of profitability.

### 1. The relationship between market-share and profitability:

This analysis confined itself to a two variable relationship based on statistical analysis. Firms were grouped according to the averages of these two variables. Conclusions were drawn from this as well as a visual inspection of scattergrams showing the over all interaction between the two variables and correlation coefficients for each identified group.

### 2. Having established the market-share/profitability relationship and having been able to point to possible strategic groups, the second stage of the analysis

attempted to place the firms into strategic groups, determined by the combined influence of seven independent variables on profitability. This grouping process was tackled in several different ways, but attempting to adhere to the general methods used by Hatten and Schendel (op.cit). This method failed to successfully identify strategic groups from the analysis (due to statistical limitations) but it did suggest how the variables might affect the brewers in the industry sample.

3. Due to the inability of the statistical analysis to place the brewers into strategic groups the next phase of the analysis returned to the methodology of the market-share/profitability analysis, and looked at the relationship between the size of the brewer (as measured by market-share) its profitability and the 7 independent variables using scattergram graphs. This method avoided the statistical pitfalls that the Hatten and Schendel method.

4. The final stage of the analysis brought together statistical information and information gathered from interviews with managers in the industry to place firms into strategic groups highlighting the groups distinguishing characteristics.

## CHAPTER 12: THE MARKET-SHARE/PROFITABILITY RELATIONSHIP

### Expected outcomes

The purpose at this stage of the analysis was to see what relationship existed between market-share and profitability in the particular circumstances of the UK brewing industry. The outcome of the analysis was expected to be negative, given the findings of the Price Commission. (1977) This was also supported by Woo (1984) who found that "low return leaders were also found in greater numbers in unstable, low return consumer markets where costs were high and value added was low." (p52) Although stable, the brewing industry did as a whole have a low mark-up on beer and very high plant and machinery costs. Woo (ibid) also found that low return leaders were more likely to be found in regional and fragmented markets (20 or more competitors) where the advantages of economies of scale were at a minimum. These circumstances were also similar to those in the UK beer market.

### The analysis: Step one

The relationship was first tested on a visual inspection of tables which grouped individual firms in three time periods, [1972-75, 1976-79, 1980-82] into ROI categories. An

"a priori" theory was developed from the Price Commission's report which divided these brackets into broadly local, regional and national brewers. The average position, over the 3 time periods, of each firm was plotted into one of these ROI categories.

Table 12.1 shows the brewers average ROI over the 11 year period with and without property ranked in order of average national market share over the same period. Tables 12.2 and 12.3 show the ROI positions and market share averages for the brewers. Table 12.2 includes property in assets (for ROI measurement). Table 12.3 excludes property.

Table 12.1  
Average return on investment and average market share, 1972-1982.

BREWER	ROI EXCLUDING PROPERTY	ROI INCLUDING PROPERTY	AVERAGE MARKET-SHARE
Bass	47.3	14.6	20.0
Allied	30.6	14.0	15.4
Whitbread	22.4	8.6	12.9
Scots & Newc	33.4	15.1	10.6
Courage	33.2	12.5	9.5
Guinness	33.3	17.6	6.8
Greenall.W	60.9	12.5	2.5
Vaux	101.0	13.1	1.65
Wolves&Dudley	107.2	23.2	1.2
Greene King	73.5	21.0	0.82
Marstons	54.4	17.6	0.55
Thwaites	78.2	26.1	0.52
M. Brown	185.7	17.8	0.45
Boddingtons	169.6	18.1	0.43
Young	76.7	8.3	0.41

Table 12.2

Comparative profitability [ROI] and market-share including property (market share in brackets)

LOW ROI-----		MEDIUM ROI-----			HIGH ROI	
9.0%	10-15%	15-17%	17-18%	18-22%	23%+	
Whitbread [12.9]	Courage [9.5]	S&N [10.6]	Guinness [6.8]	Boddingtons [.43]	Thwaite [.52]	
Young [.41]	Greenall Whitley [2.5]		M. Brown [.45]	Greene.k [.83]	Wolves & Dudley [1.2]	
	Allied [15.4]		Marstons [.55]			
	Bass [20.]					
	Vaux [1.65]					

Table 12.3

Comparative profitability [ROI] and market-share excluding property (market share in brackets)

LOW ROI-----		MEDIUM ROI-----		HIGH ROI	
-45%	46-65%	66-85%	86-105%	100%+	
Whitbread [12.9]	Bass [20.0]	Young [0.41]	Vaux [1.65]	Boddingtons [0.43]	
Courage [9.5]	Greenall Whitley [2.5]	Thwaites [0.52]		Wolves & Dudley [1.2]	
Allied [15.4]	Marston	Greene King		M. Brown [0.45]	
Scots & Newc [10.6]	[0.55] [.41]	[0.82]			
Guinness [6.8]					

In very broad terms it was found that higher ROI was related to lower market-share. This relationship was substantially more significant when property was excluded from the ROI measurement. However this was not a universal result and certain anomalies existed. Young with a very low national market share consistently performed badly in terms of profitability. Further, those with the highest

national market shares (Bass and Allied) were not those with the lowest ROI. The majority of brewers with higher ROI and less than 2% of the market were spread over a large range of ROI values. Thus the market-share/profitability relationship could not be considered a water tight relationship either negatively or positively and the results suggested that no constant relationship existed across the sample.

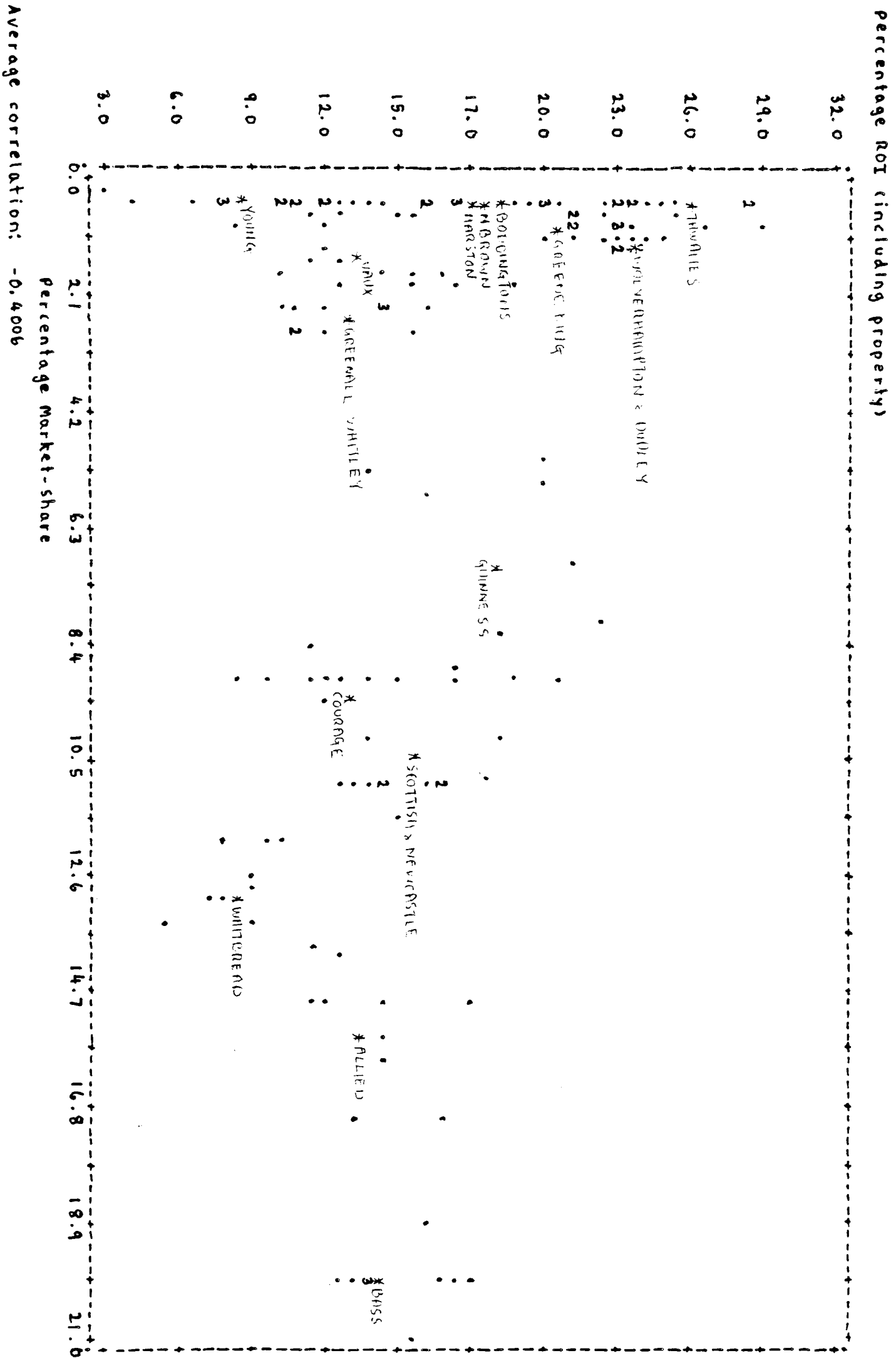
In step two companies were split into strategic groups to show where the market-share/profitability relationship altered as market-share increased.

#### The analysis: Step two

The next stage used two scattergrams graphs to show the relationship between national market-share and ROI including and excluding property, for the sample. The graphs show the average positions of each brewer for the 11 year period as well as the individual yearly points. The graph also shows the average correlation coefficient between the variables for the sample during the 11 year period.

From the scattergram graphs, four groups were visually identified, and confirmed by correlation analysis, to exist within the sample of firms. Table 12.5 sets these out and

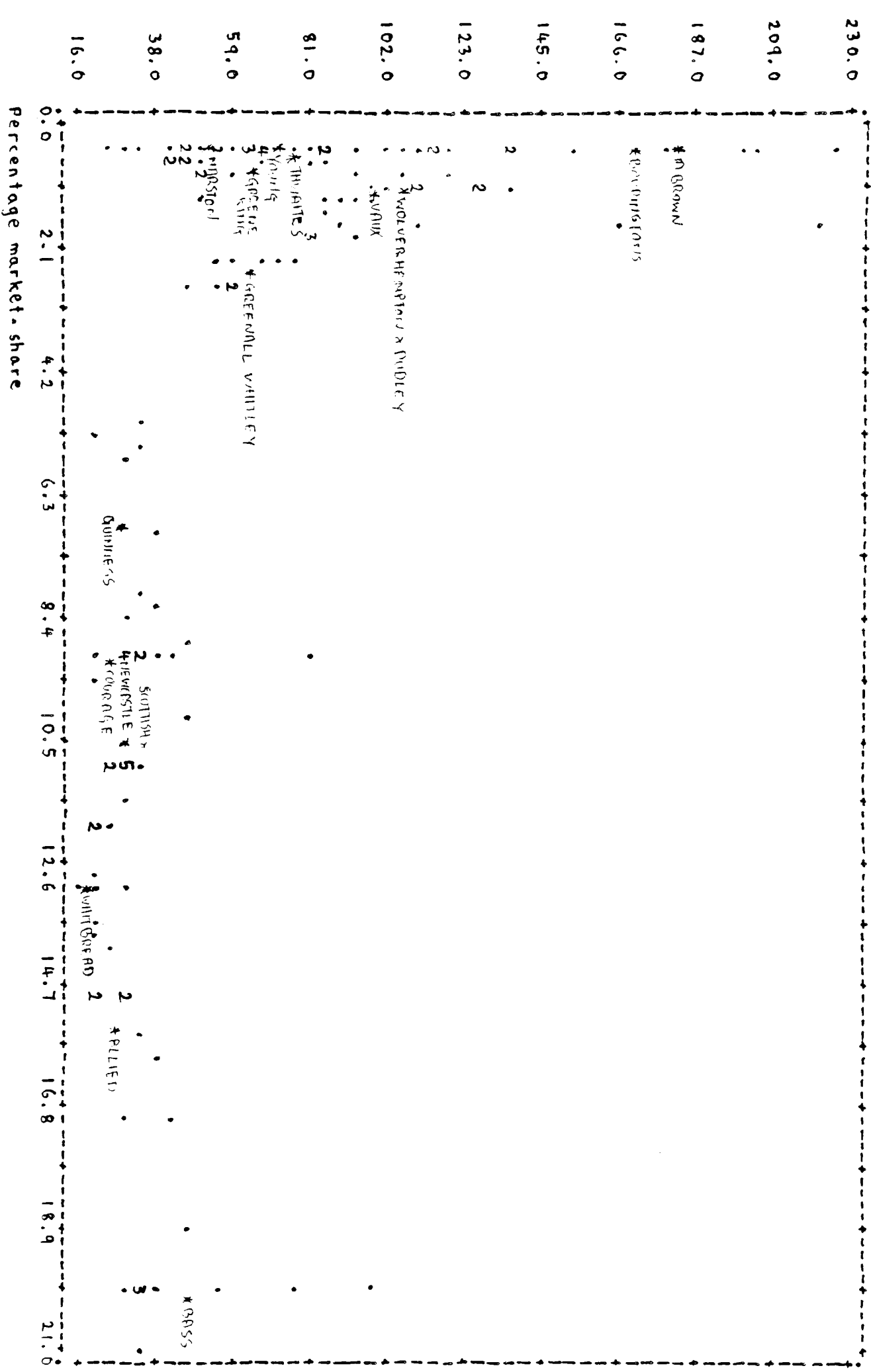
Fig 12.1 THE RELATIONSHIP BETWEEN MARKET-SHARE AND RETURN ON INVESTMENT (INCLUDING PROPERTY) FOR 16 SELECTED UK BREWERS, 1972-1982





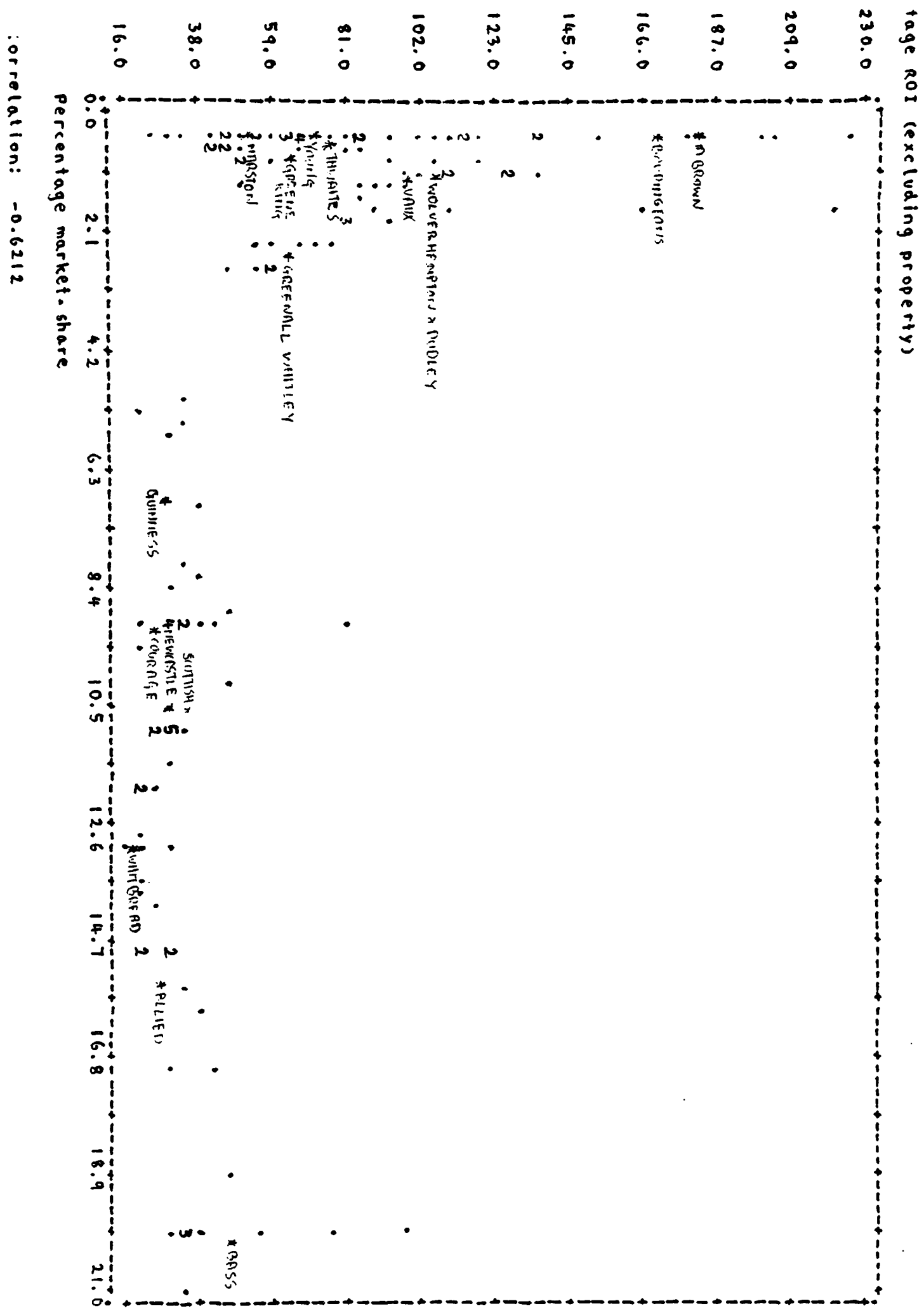
1702

ntage ROI (excluding property)



Correlation: -0.6212

Fig 12.2 THE RELATIONSHIP BETWEEN MARKET-SHARE AND RETURN ON INVESTMENT (EXCLUDING PROPERTY) FOR 15 SELECTED UK BREWERS, 1972-1982.



figures 12.1 and 12.2 show the total sample and the differing slopes involved.

Table 12.4

National market share and profitability correlation

Market Share	<u>coefficients</u>	
	Correlation with property	Coefficients without property
0.0-0.7	*	*
0.7-2.8	-0.6803	*
2.8-14.7	-0.6452	-0.5492
11.9-21.0 [top 3 brewers]	0.7278	0.5201
14.9-21.0 [top 2 brewers]	*	*
All Industry	-0.3192	-0.4661

\* not statistically significant

Results

The scattergram graphs showed that there was a substantial difference in relative ROI between ROI including property and ROI excluding property. When property was excluded the minor and major regional brewers attained a far higher average ROI than the national brewers. This finding lent some support to Hawkins' (1979) claim that the exclusion of the undervalued property of the regional brewers made them appear relatively more profitable. However the scattergram which employed ROI including property showed that despite this, on average the regional brewers were still achieving higher ROI during the study period. The two national brewers who displayed the highest ROI when property was included, Guinness and Scottish & Newcastle both had

relatively small interests in property. (Guinness owns no pubs at all.) Greenall Whitley's relatively low ROI when property was included may be explained by the fact that for the average 2.5% market-share during the study period, they owned a disproportionate number of pubs. (An average of 1683 during the study period). This division of profitability between property included and excluded highlighted the importance of the tied estate (pubs and off-licenses) to the UK brewers.

Within groups of brewers identified from the correlation table and visual inspection of the scattergrams, the following conclusions were drawn.

1. For the five smallest brewers, with market-share under 0.7%, share gains or losses made no significant difference to profitability. However their good performance and high profitability over all may have been due to high market-share on a regional rather than on a national level.
2. The four regional brewers with market-share of between 0.7% and 2.8% had a slightly negative relationship. This may imply that as they tried to move out of their regions, their profitability started to suffer.
3. The four minor-national brewers had a strong negative relationship. One of the reasons for this could be that

the minor-national brewers may have actually had smaller market-share (ie thinly spread over the UK) than the concentrated regional brewers. This was one of the conclusions reached by Hatten and Hatten (1982) on the US brewing industry. These brewers may also not be so profitable due to an over spreading of resources as a result of trying to maintain a strong national presence. ie high advertising and distribution costs, (Price Commission, 1977).

4. The two large nationals showed a small positive, but statistically insignificant, correlation. When the market share threshold was lowered to 11.9% and hence included Whitbread, the relationship became significantly positive. This suggested that the improved profitability with increase in share was taking place at market-share levels below those of the top two brewers.

### Conclusions

1. The minor and major regional brewers with a national market-share of 3% or under were the most profitable sector. However when property was included (in the ROI measurement) the distinction between the regional and the national brewers was far less significant. Over all the smaller brewer may have benefited from reduced competition due to the local strength of their products,

and thus low advertising costs. Distribution costs were also kept low due to the local nature of these brewers. (Price Commission 1977) High regional market-share may have also been a factor in their favour although this could not be proven.

2. The large-national brewers with a substantial market share showed tendencies of increased profitability after gaining around 15% of national market-share. This compared with a general decrease in profitability shown by the minor-national brewers (approximately 5% to 12.5% market-share). The large-national high-share brewer may have gained from a well organised national distribution system, and from being further down the experience curve. This may have been as a result of a longer history of national influence, (Boston Consulting Group 1968) Bass and Allied had achieved almost national status by the mid 19th century. (Hawkins op.cit) Once again these brewers were not as relatively successful when property was included in the ROI measurement.

3. The major thrust of competition in the industry took place between the minor-national brewers competing in new regions, new product areas and through new distribution outlets, hence keeping costs high. This general pattern worked to the exclusion of Guinness who had a near complete national distribution

CHAPTER 13: THE STATISTICAL GROUPING PROCEDURE UTILIZING  
THE HATTEN AND SCHENDEL METHODOLOGY

Introduction

The previous chapter looked specifically at the market-share profitability relationship. However the overall aim of this research project was to assess the effect of selected marketing, manufacturing and market environment variables on the profitability of 15 United Kingdom brewing companies. The Hatten and Schendel study (1977) of the US brewing industry provided a methodology for analysing the influence of these variables. The study provided some valuable advice on how to identify strategic groups within an industry, which, as the market-share/profitability study in the previous chapter demonstrated, appeared to exist within the UK brewing industry. The use of the Hatten and Schendel method also provided an opportunity to test analytical techniques in differing circumstances and to test its validity

Expected Outcomes

From the previous chapter on the market-share/profitability relationship it was clear that certain groups were distinguishable from the 15 companies studied. It was

expected that the groups identified in this analysis would fall into similar categories. The market-share/profitability analysis identified four general groups which are set out in table 13.1

Table 13.1

Expected competitive groups within the UK brewing industry

<u>Major-National</u>	<u>Minor-National</u>	<u>Major-Regional</u>	<u>Minor-Regional</u>
Bass	Whitbread	Greenall.W	Marstons
Allied	Scots & Newc	Vaux	Thwaites
	Courage	Wolves/Dudley	Boddingtons
	Guinness	Greene King	Young
			M. Brown

In the same way that Hatten and Schendel used judgement to help aid their grouping procedure it was intended that these groups should give some guidance to the statistical grouping analysis.

The analysis: Stage one

The first stage produced a correlation matrix for the industry so that the individual firms and competitive groups could be compared with the industry as a whole. A list of the variables that were correlated with ROI are shown in table 13.2. The measurement of these variables was explained in detail in chapter 10. Only ROI including property was used in this analysis since it was felt that this measurement would more fairly distinguish the regional brewers from the large national



brewers. ROI (excluding property) may not have done this given the bias identified in the market-share analysis, towards the regional brewers when property was included.

Table 13.2

List of variables correlated with ROI

Capital intensity  
Newness of plant  
Number of plants  
Number of pubs  
Debtors/sales ratio  
Number of brands  
Market share  
8 firm concentration

The correlation matrix is shown in table 13.3. As was found in the market-share/ profitability analysis an aggregate of all the brewers' data may well have disguised relationships within groups of similar brewers. Having said this some fairly strong correlations did emerge from the analysis. The strongest correlation was between the number of breweries and market-share. (0.4483) This was a predictable result since the largest brewers, and hence those with the greatest market-shares, on average operated more plants than the smaller brewers.

The only two noticeable correlations with ROI were with the debtor/sales ratio and capital intensity, both of which were negative. As conventional wisdom (Price Commission, 1977) suggested capital intensity was expected to have a negative correlation, since high capital expenditure would hold down ROI for some time after the investment. Given the cost of maintaining a high debtors/sales ratio this

**Table 13.3** AVERAGE CORRELATION COEFFICIENTS: 15 SELECTED UK BREWING COMPANIES, 1972-1982.

	BRANDS	DIST	ADVERTS	PUBS	NEWNESS	BREW	CAPITAL	MKT%
ROIC	-.1232	-.2868	-.1123	.0166	.0312	-.1765	-.2577	.105
BRANDS		.1788	.3824	.0647	.0343	-.1053	.0652	-.1149
DIST			*	-.2425	-.2054	-.3478	.1078	*
ADVERTS				-.14	.0311	.1953	*	-.2764
PUBS					.1069	.1049	.0332	.14
NEWNESS						-.3083	.0892	.1881
BREW							.077	.4483
CAPITAL								.1666
MKT%								

\* Not statistically significant

relationship was also expected to be negative.

8 firm concentration was correlated separately since it was a measure of the total industry environment and results of previous competitive action, rather than that of individual brewers. (see table 13.4) The correlation between average ROI (including and excluding property) for the sample (per year) was highly positive, slightly more so for ROI excluding property. This high correlation suggested that greater concentration in the industry had led to greater average profitability. The high correlations explain why later in this analysis 8 firm concentration was such an important determinant of profitability for many of the brewers. This is the opposite to what Gale and Branch found. (1982)

Table 13.4

CORRELATION COEFFICIENTS: 8 firm concentration with ROI per year, 1972-1982

	8 firm concentration
ROI: including property	0.6368
ROI: excluding property	0.6640

The analysis: Stage two

In attempting to carry out the same procedure firm by firm it was found that insufficient degrees of freedom existed to produce a meaningful result. To overcome this problem

regression analysis was carried out on groups of 4/5 variables at a time. The reduction in the number of variables would increase the degrees of freedom necessary to deduce meaningful results.

The two groups were made up of variables that were not highly correlated with each other to avoid problems of multicollinearity:

Group 1.

Capital Intensity  
Newness of plant  
Advertising/Sales ratio  
Number of Pubs  
8 firm concentration

Group 2.

Number of Brands  
Debtors/Sales ratio  
Number of Plants  
Market Share

This method did not produce statistically significant results since the degrees of freedom were still far too small. The next stage therefore, at the risk of excluding variables, was to concentrate on the more important variables, that predicted ROI. These were identified by a stepwise regression analysis which took the first most important variable, analysed its effect and then moved onto the second variable and so on. Given the fact that there were only 11 data points per brewer the stepwise regression was only statistically significant for the first two variables. The results in table 13.5 show the two variables that were the strongest predictors of ROI for each brewer.

Table 13.5

The two most significant variables for explaining ROI per brewer, 1972-1982: Correlations and influence (+ or -)

COMPANY	1st variable	2nd variable
Bass	Pubs +0.9218	Dist -0.2827
Allied	Newness -0.8711	Dist -0.1754
Scottish & Newc	Newness +0.6803	Dist +0.0049
Guinness	Dist -0.6598	Con% +0.3134
Whitbread	Adverts -0.4025	Dist +0.3586
Courage	Pubs -0.796	Dist -0.7177
Boddingt ons	Newness +0.537	Capital -0.0221
Thwaites	Capital -0.8662	Adverts -0.1274
Greenall Whitley	Con% +0.8749	Newness +0.0435
Matthew Brown	Adverts +0.7996	Pubs +0.4723
Vaux	Dist -0.8896	Brands +0.4723
Wolves & Dudley	Capital +0.4006	Dist -0.2979
Marstons	Con% +0.1928	Capital +0.0508
Young	Con% +0.5953	Dist -0.2736
Greene King	Newness +0.5326	Con% +0.3946

The similarities that did occur are shown below. There were a number of groups who had similar "First most important variables" but the relationships were neither all negative nor all positive.

The Identified "Groups" (similar variable in brackets)

- a. Boddingtons, Greene King, Scottish & Newcastle (Newness of plant).
- b. Greenall Whitley, Marston, Young (8 firm concentration).
- c. Guinness, Vaux (Distribution).
- d. Thwaites, Wolverhampton and Dudley (Capital intensity).

None of these groups comprised expected "similar" brewers and the result may well be spurious. It was apparent that groups may not be easy to find using this method. However a

final test was run to see if any similarities existed between pairs of brewers. This was done in two stages:

1. Identification of the two most important ROI predicting variables for each pair of brewers (see table 13.6). The identification was achieved by using stepwise regression analysis as used in the previous stage.
2. A comparison of F/Fc ratios between each pair of brewers and each brewer individually, to check how similar or "close" the two brewers were. This was done by comparing the sum of squares of the residuals for each individual brewer with the sum of squares for each pair of brewers using the two most important variables for each pair of brewers. This process was to show how close the two most important variables for each individual brewer were to the combined regression of the pair of brewers, by measuring the difference between the individual and combined regression equations. This analysis used the following formula:

$$F = (RSSC - RSST)df / 2(RSST)$$

When: df = total degrees of Freedom for the two residuals  
 RSST = residual sum of squares for two brewers individually  
 RSSC = residual sum of squares combined

The lower the "f" value the more similar the two brewers would be. The matrix for the F/Fc ratios is shown in table 13.7.

Table 13.6 THE TWO MOST IMPORTANT VARIABLES FOR EACH PAIR OF BREWERS, 1972-1982.

	ALLIED SN	GUIN	WHIT	BOD	THWA	GW	MB	VAUX	WD	MAR	YOUNG	COUR	CHRENE.K
BASS	CON% DIST	CON% CAPITA NEWNES	DIST PUBS	NEWNES CAPITA	PUBS CAPITA	CON% PUBS	DIST BREW	CON% BRAND	BRAND ADS	CON% NEWNES	PUBS CON%	PUBS DIST	CON% DIST
ALLIED	NEWNES CON%	DIST CON%	BREW NEWNES	NEWNES CON%	PUBS CAPITA	CON% DIST	DIST NEWNES	CON% BRAND	DIST NEWNES	CAPITA CON%	PUBS NEWNES	PUBS DIST	ADS NEWNES
SN	BRAND DIST	BRAND DIST	PUBS CON%	CAPITA NEWNES	CAPITA PUBS	DIST CON%	DIST NEWNES	CON% BRAND	DIST CON%	DIST CAPITA	PUBS CON%	BRAND ADS	DIST CAPITA
GUINNESS	BREW NEWNES	CAPITA PUBS	CAPITA DIST	CAPITA PUBS	CAPITA DIST	NEWNES CON%	ADS DIST	NEWNES CON%	ADS ADS	ADS CON%	ADS CON%	- -	CON% NEWNES
MILTBIEAD	NEWNES CAPITA	PUBS CAPITA	PUBS CAPITA	PUBS CAPITA	PUBS CAPITA	PUBS CON%	PUBS DIST	PUBS CON%	PUBS ADS	PUBS CAPITA	CON% DIST	PUBS DIST	PUBS CON%
BODDINGTONS	ADS NEWNES	NEWNES CON%	NEWNES CON%	NEWNES CON%	NEWNES CON%	NEWNES CON%	ADS ADS	DIST CAPIT	CAPITA DIST	NEWNES CON%	NEWNES CON%	NEWNES CAPITA	CON% DIST
THWAITES	PUBS CAPITA	PUBS CAPITA	PUBS CAPITA	PUBS CAPITA	PUBS CAPITA	PUBS CON%	PUBS ADS	PUBS CAPITA	DIST CAPITA	ADS DIST	PUBS CAPITA	PUBS CAPITA	NEWNES CAPITA
GW	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND	ADS BRAND
M. BROWN	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%
VAUX	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%	ADS CON%
WD	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND	DIST BRAND
HAISTONS	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES	CAPITA NEWNES
YOUNG	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST	BRAND DIST
COURAGE	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST	PUBS DIST

**Table 13.7 F/Fc MATRIX AFTER "SUM OF RESIDUAL TEST" FOR CLOSENESS OF FIT BETWEEN TWO BREWERS.**

	ALLIED SN	GUIN	WHIT	BOD	THWA	GW	NB	VAUX	WD	HAR	YOUNG	COUR	GREEN.K	
BASS	3.964	1.205	11.334	4.258	12.871	10.783	-	1.801	2.339	1.521	0.178	-	4.55	4.657
ALLIED	-	17.338	5.105	0.832	-	.529	8.0	2.734	52.81	2.718	-	4.754	3.251	
SCIS .NEWC	-	-	-	-	3.296	.616	2.422	.374	4.681	1.402	1.292	-	1.429	
GUTHNESS	-	-	-	-	21.972	.28	3.891	1.532	3.482	-	12.817	-	3.094	
WHITBREAD	-	-	-	15.083	1.68	-	-	-	.202	1.75	8.608	2.911	-	
BODDINGTONS	-	-	-	-	-	.8402	11.913	12.065	48.337	1.271	6.35	5.608	1.806	
THWAITES	-	-	-	-	-	1.341	6.359	6.464	6.564	.47	2.757	1.078	8.0	
G.WHITLEY	-	-	-	-	-	.799	.0641	3.549	1.118	1.118	.103	2.495	6.438	
M.BROWN	-	-	-	-	-	-	1.979	3.212	-	4.495	3.861	2.619	-	
VAUX	-	-	-	-	-	-	-	9.455	-	3.81	-	1.776	-	
WD	-	-	-	-	-	-	-	-	1.61	2.784	2.539	3.7	-	
MARKTONS	-	-	-	-	-	-	-	-	-	1.802	1.913	-	-	
YOUNG	-	-	-	-	-	-	-	-	-	-	7.824	.478	-	
COURAGE	-	-	-	-	-	-	-	-	-	-	-	-	4.071	

NB: - Not statistically significant



Results of the test of "Sum of Residuals" for "closeness"  
between pairs of brewers

No particularly strong groups were identified from the results, and the number of likely groups was matched by a similar number of unlikely groups (see table 13.8). Thus for example Young was very similar to Greenall Whitley and Greene King with the two most important variables being "Pubs" and "8 firm concentration", which might have been expected (given their similar "regional" status). However the grouping of Marston, Bass and Thwaites, with different variables for each pairing, was unexpected in the light of knowledge of the brewing industry. (Bass being a major-national brewer and Marston and Thwaites being minor-regional brewers) Futhermore, Marston's two most influential variables, "8 firm concentration" and "Capital Intensity" did not feature at all in the paired analysis.

When faced with over 50% of the "similarities" not being to prior expectations 3 general conclusions were drawn;

1. The statistical testing method was inappropriate to the brewing industry:

The major problem with the statistical grouping method was the large number of variables that were used (8).

Table 13.8 SIMILARITY BETWEEN THE 2 MOST IMPORTANT VARIABLES FOR EACH PAIR OF BREWERS.

Brewer and its 2 most important variables ( )	more similar ----- Measure of similarity ----- Less similar			
	Similar brewer and the combined 2 most important variables ( )			
	0.0	1.0	2.0	
BASS (pubs, dist)	MARSTONS (con, new)		BN (con, cap) MB (dist, brew) WD (brand, ads)	
ALLIED (new, dist)		GW (con, dist)	BODDINGTONS (new, con)	
SCOTTISH & NEWCASTLE (new, dist)	VAUX (con, brand) GW (dist, con)		YOUNG (pubs, con) MARSTONS (dist, cap) BASS (con, cap) GK (dist, cap)	
GUINNESS (dist, con)		GW (dist, con)		VAUX (new, con)
WHITBREAD (ads, dist)	WD (pubs, ads)			THWAITES (pubs, cap) MARSTONS (pubs, cap)
BODDINGTONS (new, cap)		ALLIED (new, con) GW (new, con)	MARSTONS (new, con) GK (con, dist)	
THWAITES (cap, ads)		MARSTONS (ads, dist)	COURAGE (new, cap) WHITBREAD (pubs, cap) GW (pubs, cap)	
GREENALL WHITNEY (con, new)	YOUNG (pubs, con) VAUX (con, brands)	GUINNESS (new, con) ALLIED (con, dist)	BN (dist, con) MB (ads, brands) BODDINGTONS (new, con) MARSTONS (pubs, con)	THWAITES (pubs, cap)
H. BROWN (ads, pubs)		BN (ads, brands)		BASS (dist, brew) VAUX (ads, con)
VAUX (dist, brands)	GW (con, brands) BN (con, brands)			GUINNESS (new, con) MB (ads, con)
WOLVERHAMPTON & DUDLEY (cap, dist)	WHITBREAD (pubs, ads)			BASS (brands, ads) MARSTONS (cap, new)
MARSTONS (con, cap)	BASS (con, new) THWAITES (ads, dist)		GW (pubs, con) BN (dist, cap) WHITBREAD (pubs, cap) BODDINGTONS (new, con) WD (cap, new) YOUNG (brands, dist)	

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Brewer and its 2 most important variables ( )	Similar brewer and the combined 2 most important variables ( )		
	0.0	1.0	2.0
YOUNG (con,dist)	GW (pubs,con)    GK (pubs,con)	SN (pubs,con)	MARSTONS (brands,dist)
COURAGE (pubs,dist)		THWAITES (pubs,cap)	MARSTONS (pubs,dist)
GREENE KING (new,con)	YOUNG (pubs,con)		VAUX (pubs,dist)    SN (dist,cap) BODDINGTONS (con,dist)

ABBREVIATIONS USED IN THIS, AND THE PREVIOUS TABLES:	
CAPITAL INTENSITY:	CAPITAL, CAPITA, CAPIT, CAP.
NEWNESS OF PLANT:	NEWNESS, NEWNES, NEW.
NUMBER OF BREWERIES:	PLANT, BREW.
NUMBER OF BRANDS:	BRANDS, BRAND.
DEBTORS, SALES RATIO:	DIST.
ADVERTISING, SALES RATIO:	ADVERTS, ADS.
MARKET-SHARE:	MARKS
NUMBER OF PUBS:	PUBS
% FIRM CONCENTRATION:	CON%, CON
BASS:	BASS
ALLIED:	ALLIED
SCOTTISH AND NEWCASTLE:	SCOTS & NEWC, SN
GUINNESS:	GUIN
WHITBREAD:	WHIT
BODDINGTONS:	BOD
THWAITES:	THWA
BREWERY HALL WHITLEY:	GH
MATHEW BROWN:	M.BROWN, MB
VAUX:	VAUX
HOLVERHAPTON AND DUDLEY:	HD
MARSTON, THOMPSON AND EVERSHERD:	MARSTONS, MAR
YOUNG:	YOUNG
COURAGE:	COUR
GREENE KING:	GREENE.K, K

the small number of brewers analysed (15) and the limited number of data points (11). However, to recap, there were good reasons for the limited data points and the small number of brewing companies studied:

- a. The remaining brewers in the UK were not analysed because of a lack of data. Data from published reports and accounts was lacking due to the private status of many of the brewers. Also due to the small size of these brewers there was a lack of other published information from secondary sources covering data such as market-share, numbers of pubs, number of breweries etc.
  - b. Data points before 1972 were more difficult to collect, due to uncertainty of company history (due to mergers and takeovers) and limited information on marketing data such as brands, advertising expenditure etc.
2. The large number of variables have been unsuitable for this kind of analysis. Although the final groups were based on the two most influential variables, the combinations of 8 variables (28) made comparison difficult with only 15 brewing companies to compare with.
  3. There were no identifiable groups in the brewing industry from 1972 to 1982.

It may be that in terms of manufacturing, marketing and market environment variables no groups existed within the brewing industry from 1972 to 1982. During this period many other factors influenced the profitability of the brewers as well as those in the analysis. Further, these variables, as well as those in the analysis could only be expected to influence the profitability of a brewer, or group of brewers, over a much longer period of time. (ie 15-20 years) Unless a very distinct relationship can be identified one must assume that no particular relationships exist either for the industry as a whole or for groups within the industry during the period studied. A further point is that since the brewers analysed were selected to represent a cross-section of different strategies in the brewing industry it may be the case that they are, by definition, different rather than similar to one another.

#### Testing heterogeneity across time

Hatten and Schendel wished to know whether the variables' influence on profitability were the same after certain "breakpoints" (important changing points in time) for the groups of brewers identified. However it was

decided not to pursue this stage of their analysis for two reasons:

1. The number of data points would be even smaller than in the previous analysis and the statistical significance would be very low.
2. No particular "breakpoints" could easily be identified during the period, as most changes were over a period of time rather than in a particular year. Because of this the changes in the UK brewing industry, were discussed in chapter 7 and further discussed in the conclusions.

The next step was to return to the previous analysis combining the market-share variable as a measure of size with a variable by variable analysis with profitability.

CHAPTER 14: ANALYSIS OF MANUFACTURING AND MARKETING  
VARIABLES' RELATIONSHIP WITH THE SIZE AND  
PROFITABILITY OF THE BREWERS.

The market-share/profitability analysis revealed a series of relationships between the two variables for different groups of brewers. The groups of brewers divided reasonably convincingly along market-share (also a measure of size) divisions. The utilization of Hatten and Schendel's study to group the brewers showed that no two brewers had much in common in terms of determination of profitability. Two conclusions were drawn from the analysis:

- a. The statistical analysis was inappropriate to the data.
- b. The brewers were not similar in such a specific, "two most important" variable, way.

The objective of this analysis was to discover whether the groups identified in the market-share/profitability stage of the analysis were also to be found when looking at the remaining variables' relationships with size and profitability. It was expected therefore that the variables would be size related and take the U-shaped form identified in the market-share/profitability analysis. It was expected that this would be the case for the variables' relationship with profitability as well as market-share/firm size.

The manufacturing and marketing variables are set out in table 14.1. It should be noted that 8 firm concentration has been excluded from this analysis. This is because the variable had only 11 data points (one for each year of the analysis) which resulted in the scattergrams simply showing 11 clusters of data points rather than any meaningful relationship.

Table 14.1  
Variables correlated with market-share and ROI

MANUFACTURING VARIABLES

Capital intensity  
 Newness of plant  
 Number of breweries

MARKETING VARIABLES

Debtors/sales ratio  
 Number of Pubs  
 Number of brands  
 Advertising/Sales ratio

The groups were identified by a visual inspection of Scattergrams, three for each variable. The first scattergram shows the variables' relationship with market-share/size the other two illustrate the variables' relationship with the two measures of profitability. Table 14.2 shows the average correlation coefficient of the independent variables with market-share and profitability (including and excluding property). These coefficients gave an indication of the relationship between the variables in the analysis for whole sample. The scattergrams showed the differences and similarities within an industry. On each scattergram, the brewer's average positions were plotted to give an idea as



to their position within the sample. The sample average correlation coefficients are shown at the bottom of each graph.

Over all this analysis showed the interaction between Market-share, Profitability and the remaining variables for the sample as a whole and for the strategic groups in particular.

Table 14.2

Industry-wide average correlation coefficients

	Brands	Dist	Adverts	Pubs
Size/Share	0.8608	-0.1633	0.1938	0.6212
ROI.1	-0.3260	0.1035	-0.3282	0.3537
ROI.2	-0.4368	0.4656	-0.3020	-0.6008

	Capital	Plant	Newness
Size/Share	0.6947	0.7870	0.2370
ROI.1	-0.2233	-0.5042	0.2500
ROI.2	-0.4200	-0.4599	0.1123

ROI.1 ROI including property  
 ROI.2 ROI excluding property

## MANUFACTURING VARIABLES

### Capital intensity (See figs 14.1-14.3)

A generally positive correlation existed between the size of the brewer and capital intensity, although the two largest brewers, Allied and Bass, were not the most capital intensive. Marstons were also a highly capital intensive brewer and are an exception to the otherwise low capital intensive regionals. No significant correlation existed between capital intensity and ROI although the generally negative result when property was excluded did support the PIMS findings that high capital intensity reduces profitability, especially in the highly competitive minor-national segment. However some minor and major regional did not have high capital intensity but still had low profitability. Overall there was a slightly negative relationship between capital intensity and profitability but it was very weak and bore little relationship to the size/share correlation with capital intensity.

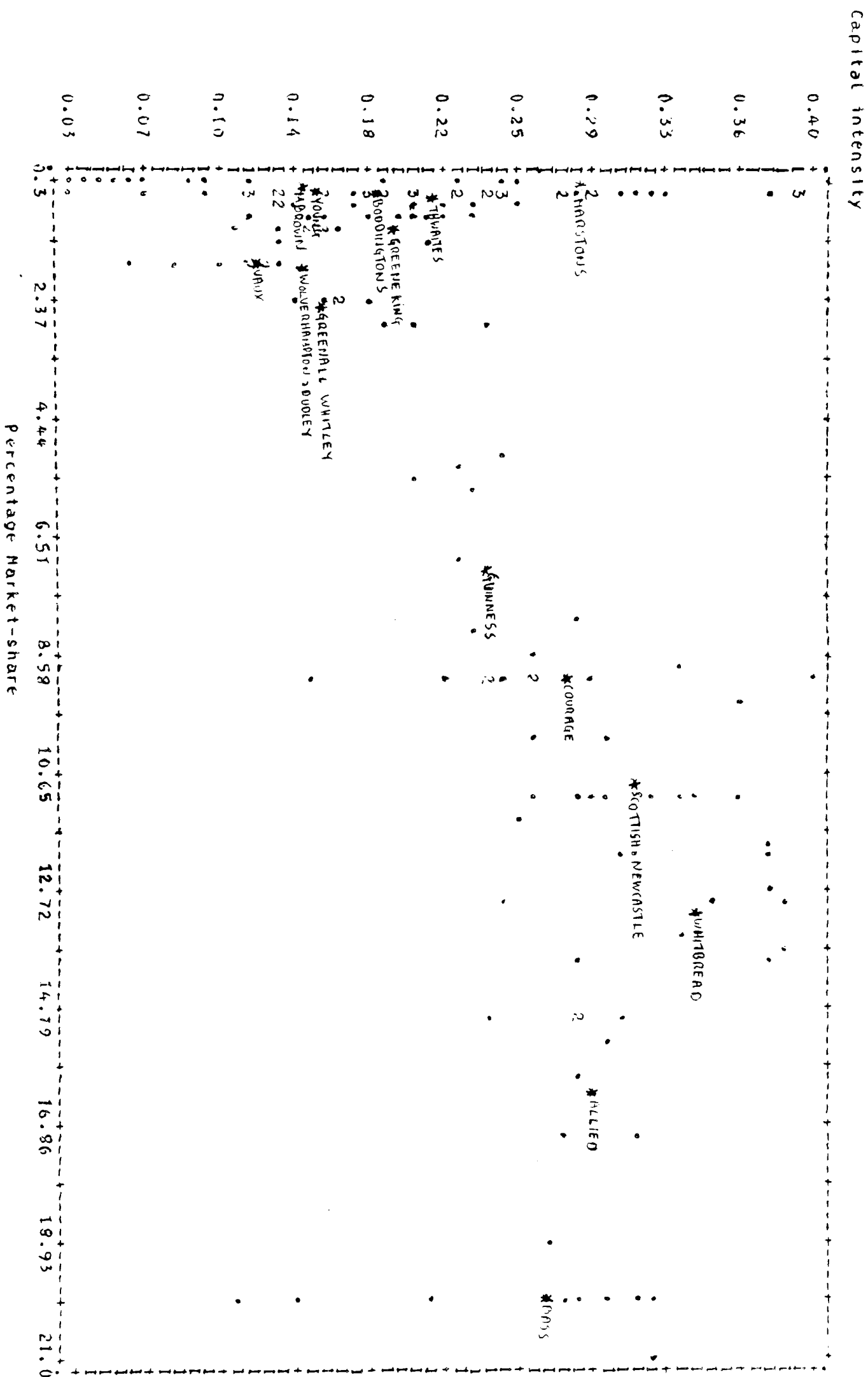
Whitbread had the highest capital intensity, possibly due to the large number of breweries they operated during this period. Allied and Bass operated considerably less breweries but at the same time had much greater volume sales and profitability implying greater economies of scale from larger plant operation. The smaller brewers probably had much lower capital intensity due to lower transport

needs (included in capital intensity). This was mainly due to smaller and more local distribution areas than the national brewers. (Price Commission 1977)

There appears to have been two general strategic groups, the nationals with high capital intensity and the regionals with low capital intensity. The capital intensity/Profitability relationship did not distinguish any distinct strategic groups although the regionals did seem to fare better than the other brewers when property was excluded.

Fig 14.1

THE RELATIONSHIP BETWEEN MARKET-SHARE AND CAPITAL INTENSITY OF 15 SELECTED UK BREWERS, 1972-1982



**Fig 14.2** THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (INCLUDING PROPERTY) AND CAPITAL INTENSITY OF 15 SELECTED UK BREWERS, 1972-1982

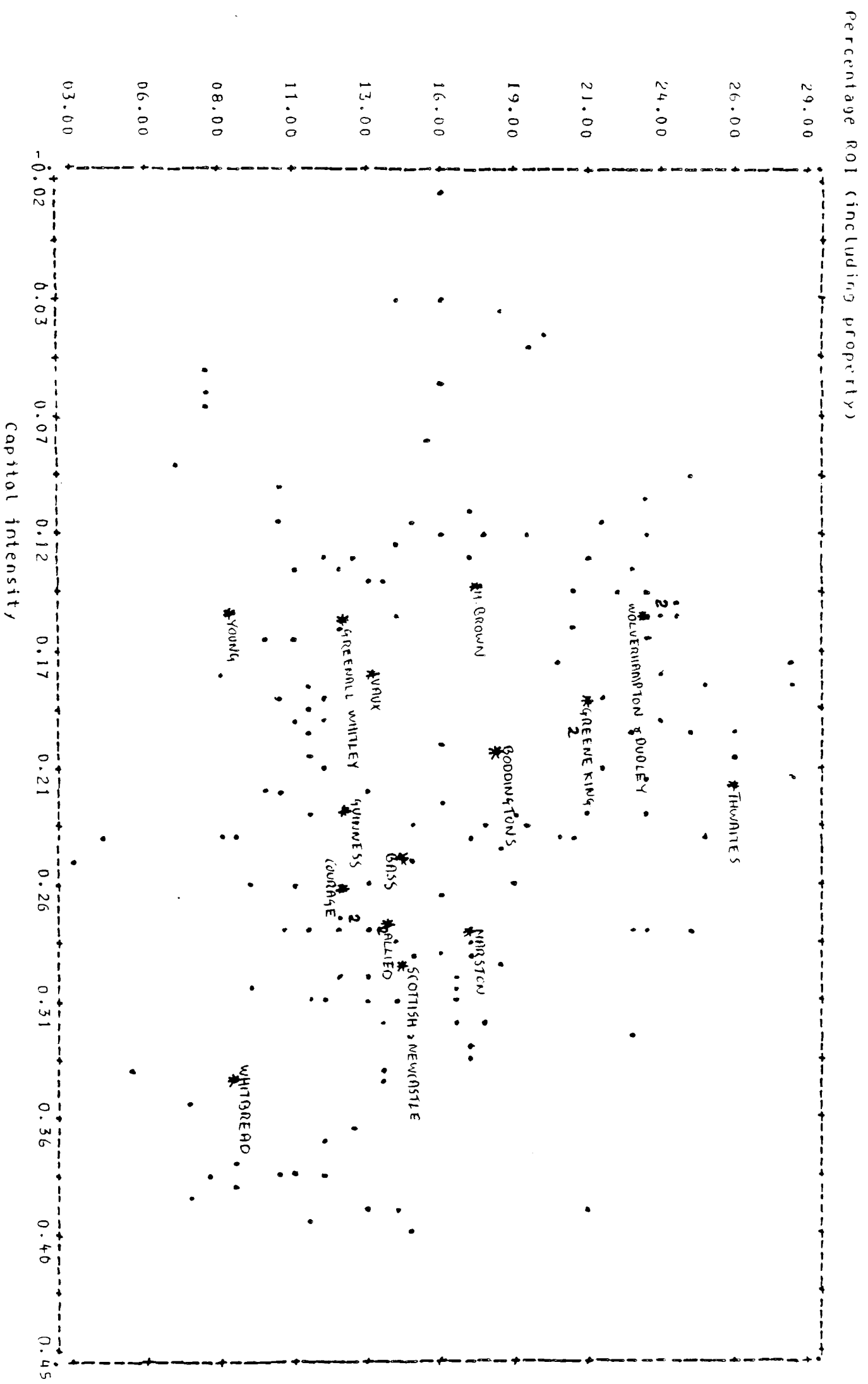
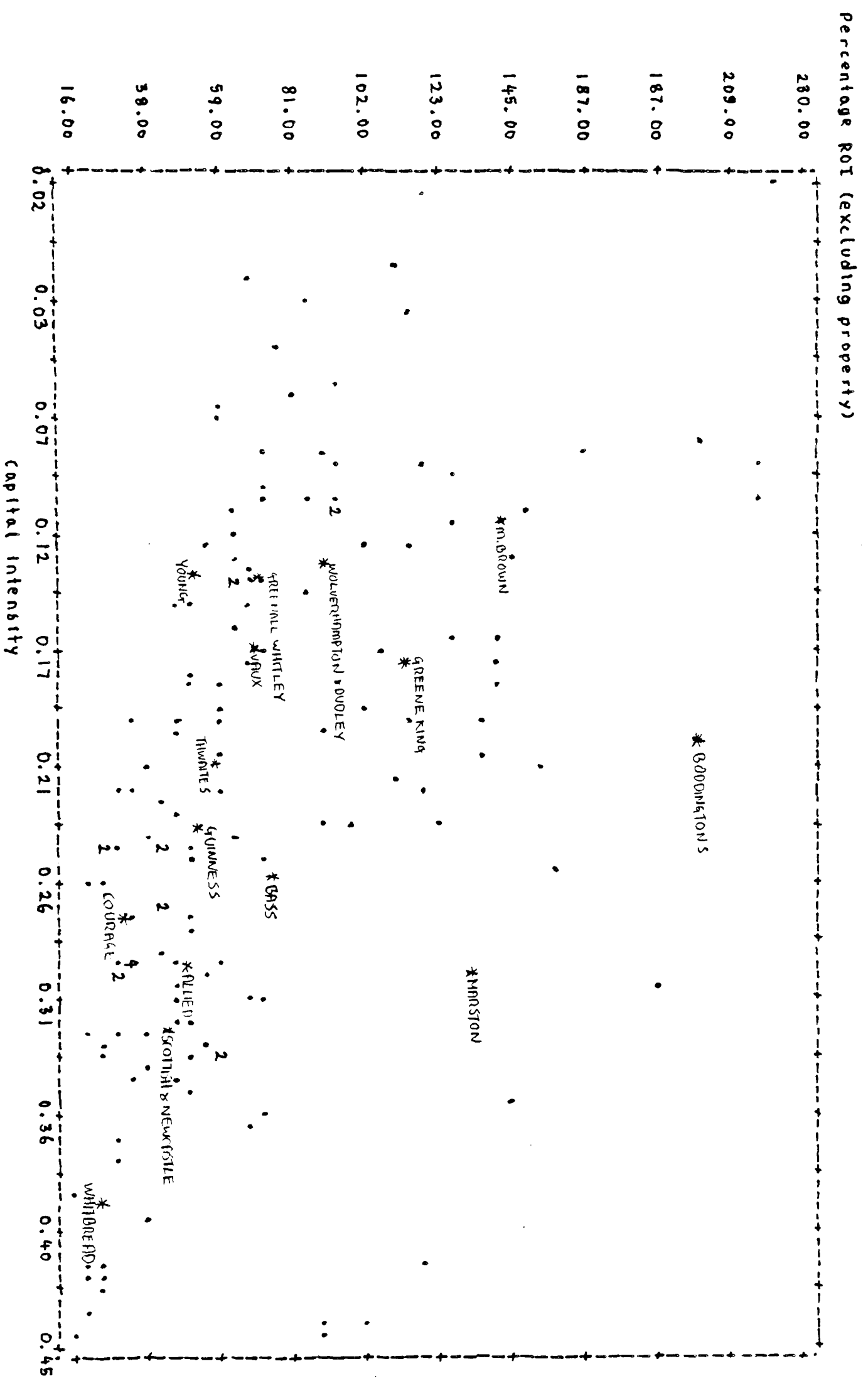


Fig 14.3 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (EXCLUDING PROPERTY) AND THE CAPITAL INTENSITY OF 15 SELECTED UK BREWERS, 1972-1982



Newness of plant (see figs 14.4-14.6)

The relationship between the size of the brewer and the newness of its plant and machinery was very slightly positive but statistically insignificant. This result suggested that all the brewers studied updated their plant and machinery at about the same rate. It appears that during the study period all the brewers were actively investing in new plant, but it was the larger brewers who were investing a far higher proportion of expenditure, thus the higher capital intensity.

The age of the brewer's plant made little or no difference to the overall profitability of the industry. The market leader, Bass did not seem to have needed any more modern plant to maintain its effective lead, possibly because their share was built up before 1972, and the benefits of modern plant and machinery were being reaped prior to any new investment.

From interviews in the industry it was apparent that modern equipment and continual high investment was of considerable importance from the smallest to the very largest of the brewer's questioned. This is especially since this period saw the rise in importance of Keg beer, followed by lager and, more recently, (notably for the smaller brewers), packaged beer for the free trade. Investment in lager and packaging facilities were cited as the most important

investment areas.(Price Commision, op.cit) NB. This investment does not include property investment.

No particular strategic groups were identified from the relationship between newness of plant and market-share/size or profitability.



Fig 14.4 THE RELATIONSHIP BETWEEN MARKET-SHARE AND NEWNESS OF PLANT OF  
19 SELECTED UK BREWERS, 1972-1982.

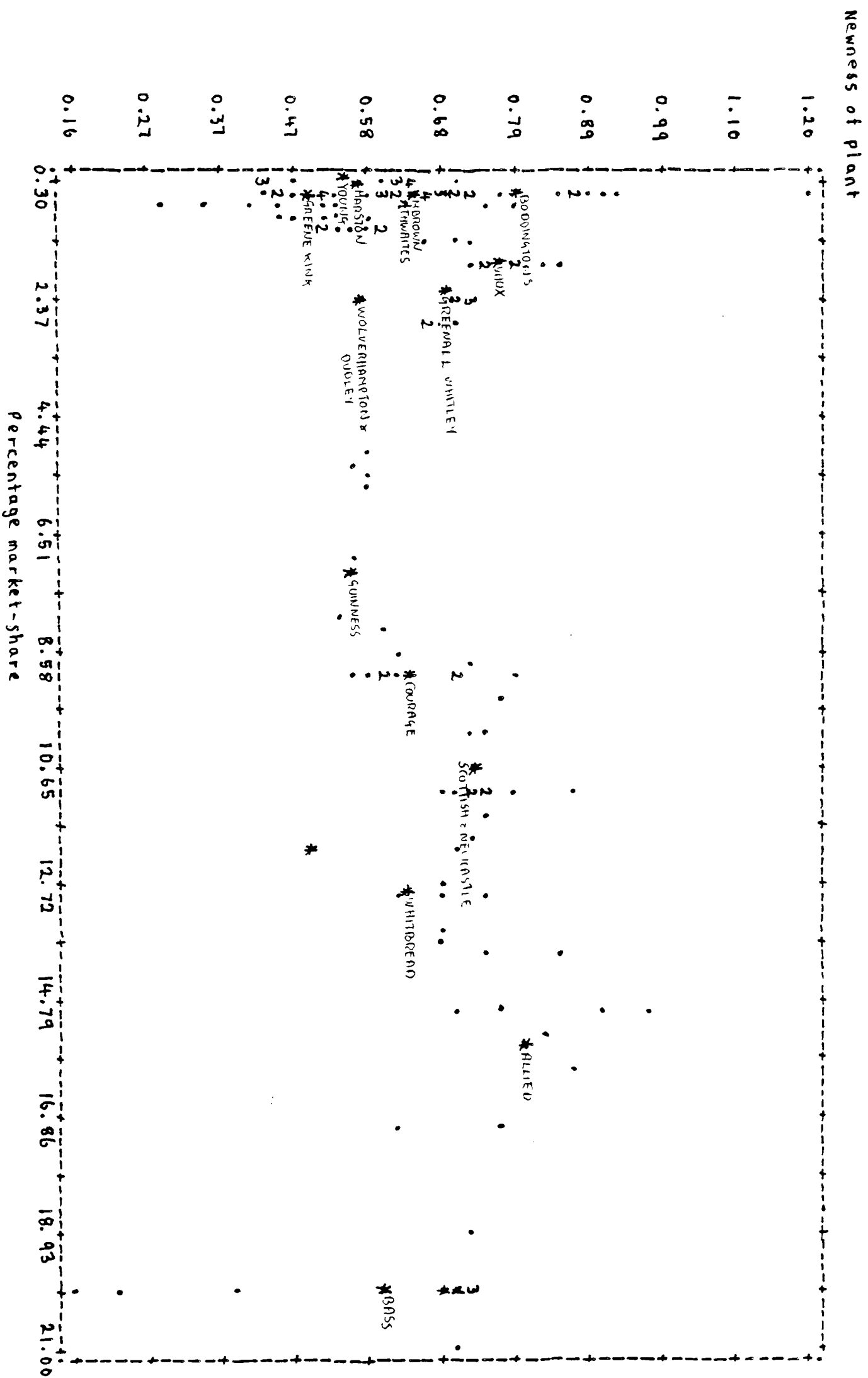


Fig 14.5 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (INCLUDING PROPERTY) AND THE NEWNESS OF PLANT OF 15 SELECTED UK BREWERS, 1972-1982

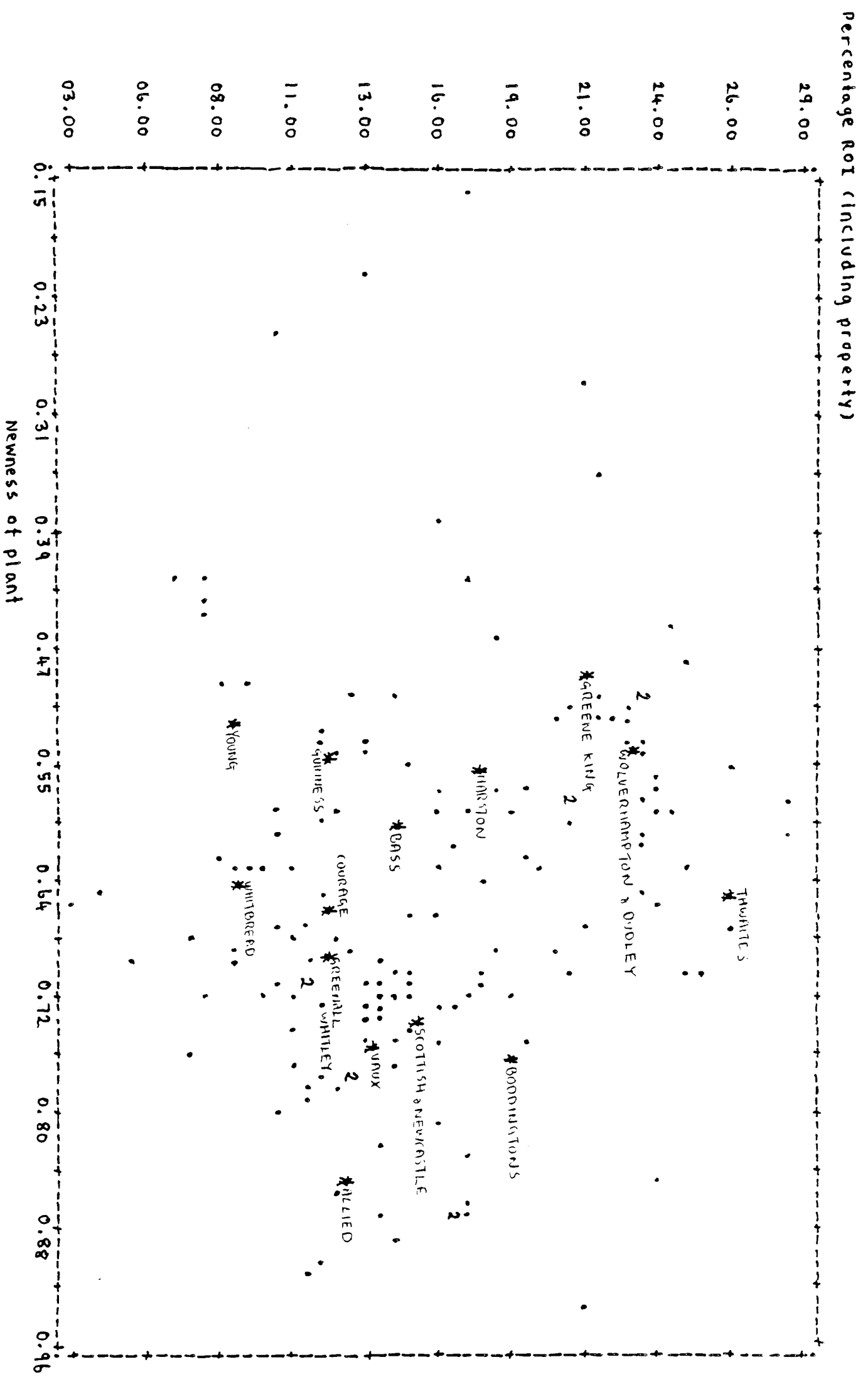
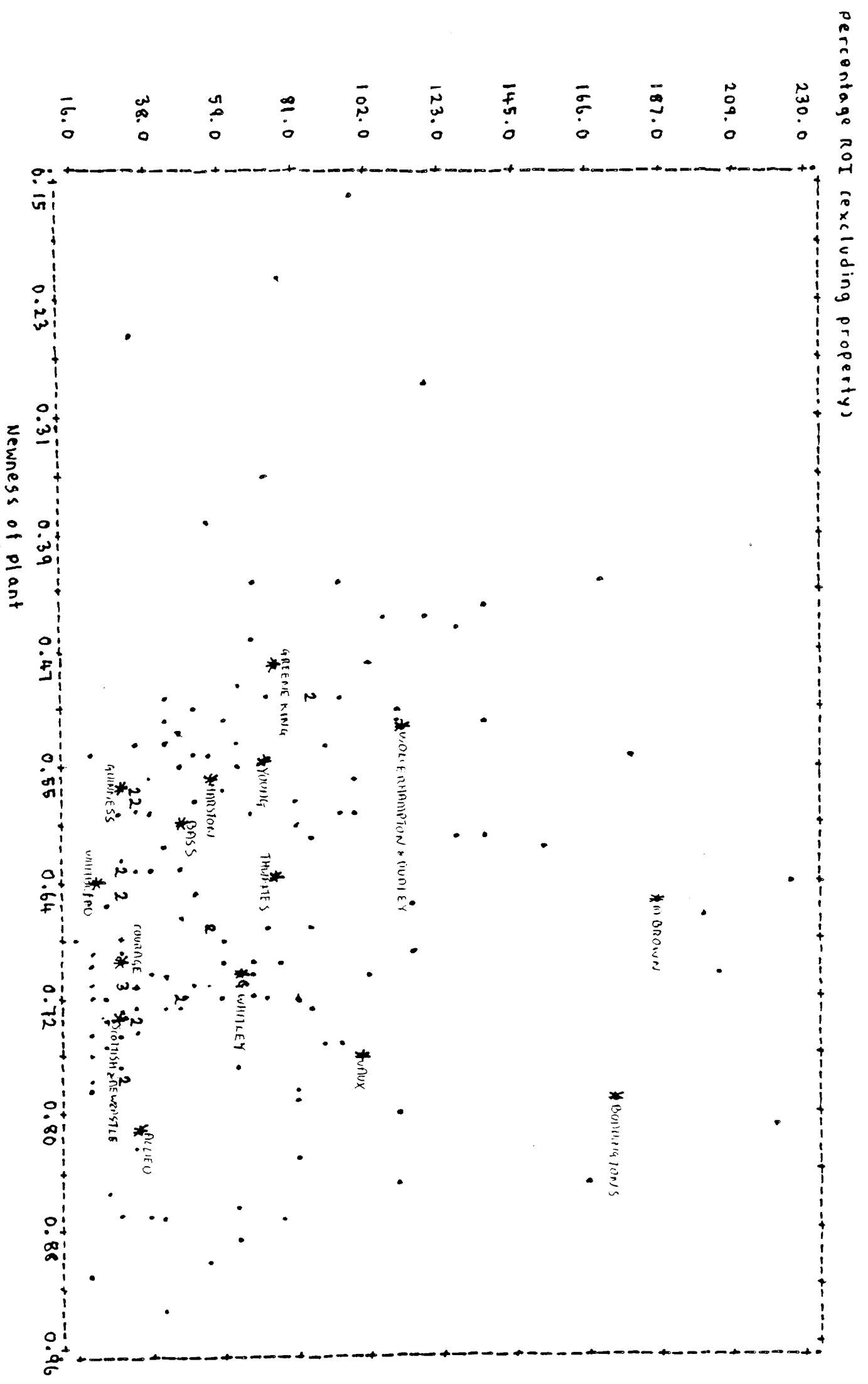


Fig 14.6 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (EXCLUDING PROPERTY) AND THE NEWNESS OF PLANT OF 15 SELECTED UK BREWERS, 1972-1982



Number of breweries (see figs 14.7-14.9)

The number of breweries was positively correlated with market-share/size. There was a slight negative relationship with profitability suggesting that over all more breweries do not lead to greater profitability. The capital intensity and newness of plant were of greater importance. A number of exceptions to this overall pattern did exist;

Guinness had only one brewery in the UK as around 30% of their beer was imported from Eire.

Whitbread started the period with a very large number of breweries as a result of acquisitions and steadily shut them down over the period. Whitbread's larger number of breweries may have contributed to their low profitability as previously mentioned in conjunction with capital intensity. This point was emphasised by Keithahn (op.cit) who found that it was the brewers who concentrated on new plant rather than acquiring old plant that were, in the long run more profitable.

The number of breweries was a poor indicator of profit performance and better explained the differences and similarities in the way brewers compete indicating the type of organisation they were. Size of the brewery would also be an important factor, but data on capacity were not easily available.

Fig 14.7 THE RELATIONSHIP BETWEEN MARKET-SHARE AND THE NUMBER OF PLANTS OWNED BY 15 SELECTED UK BREWERS, 1972-1982

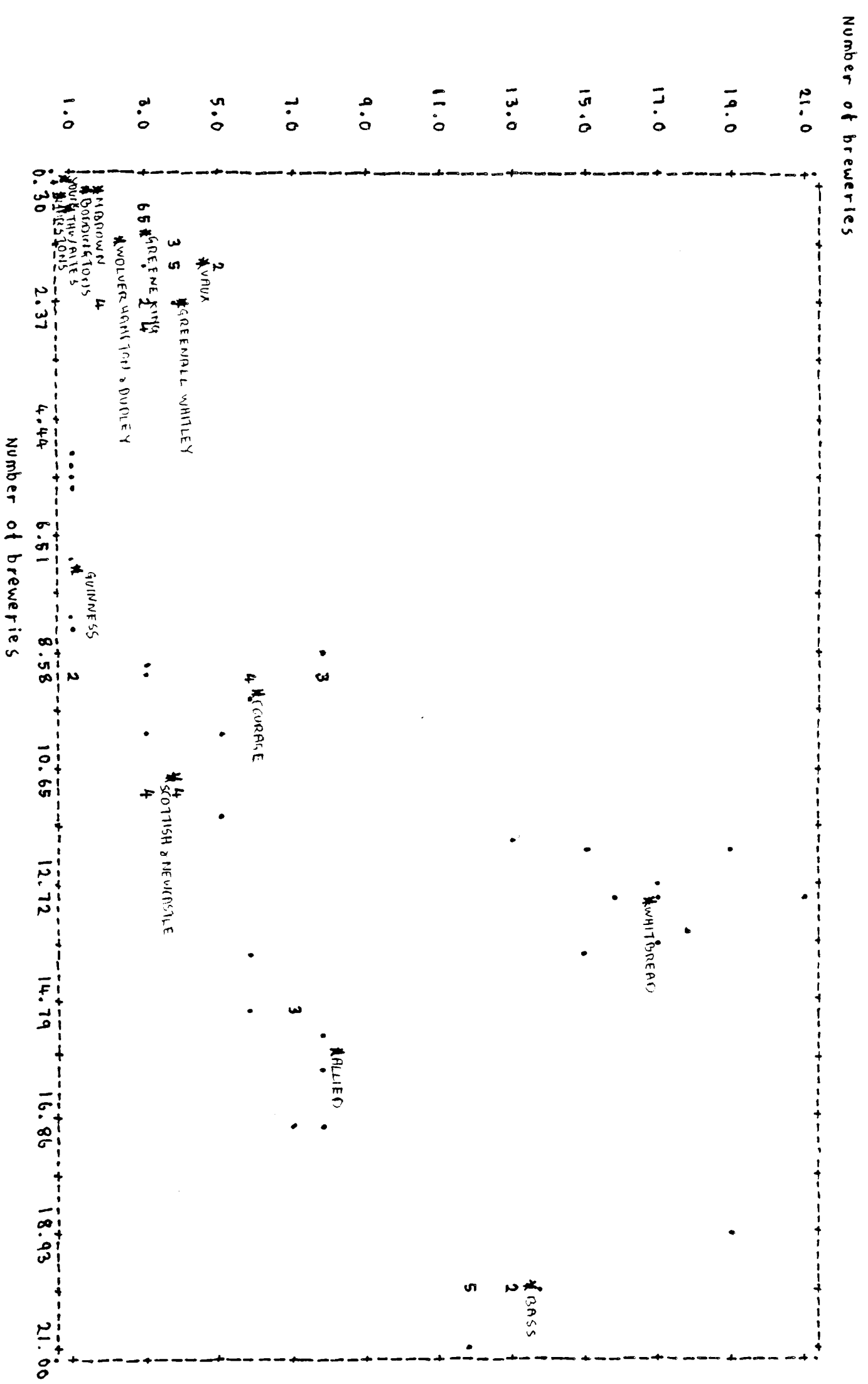


Fig 14.8 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (INCLUDING PROPERTY) AND NUMBER OF PLANTS OWNED BY 15 SELECTED UK BREWERS, 1972-1982

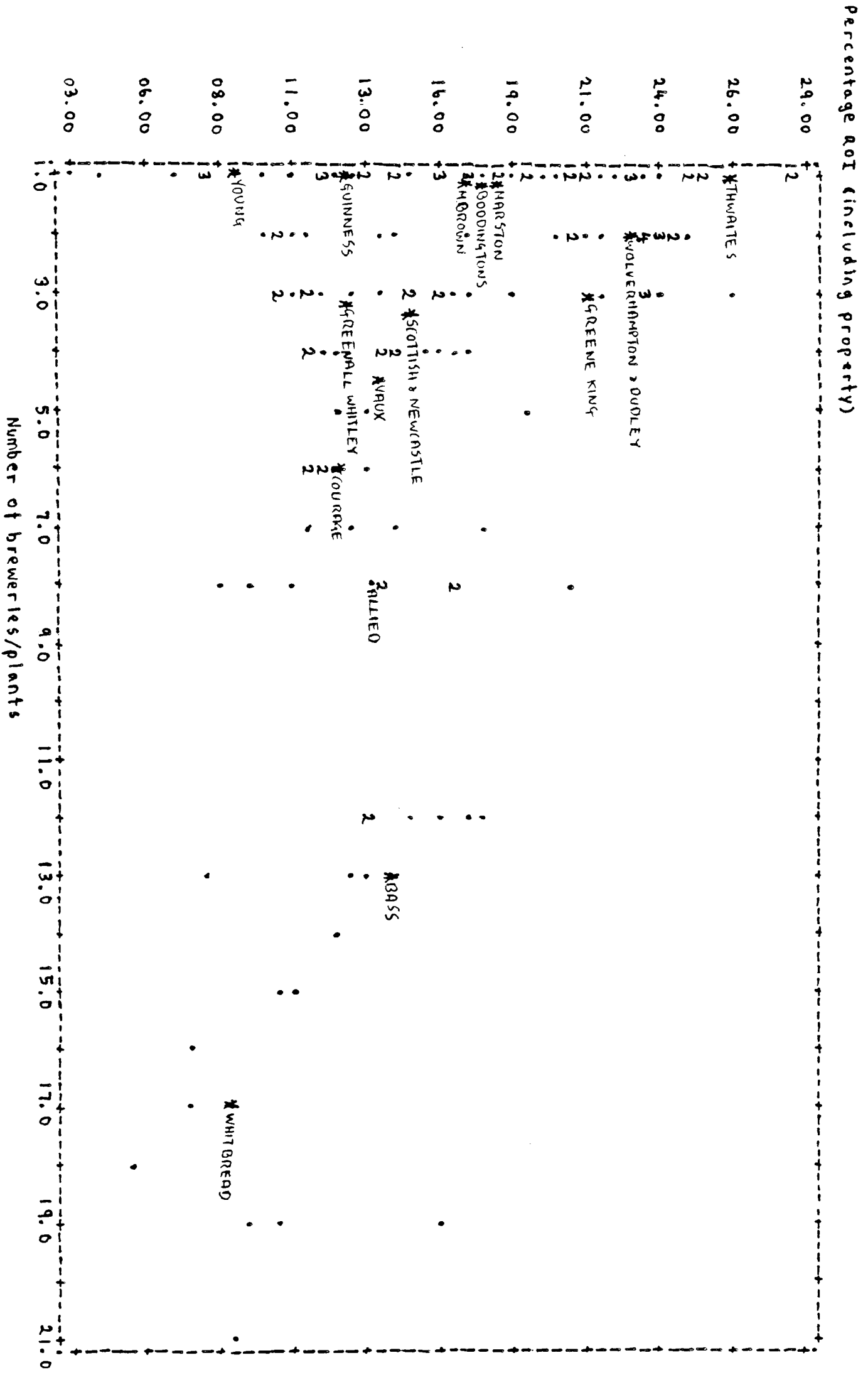
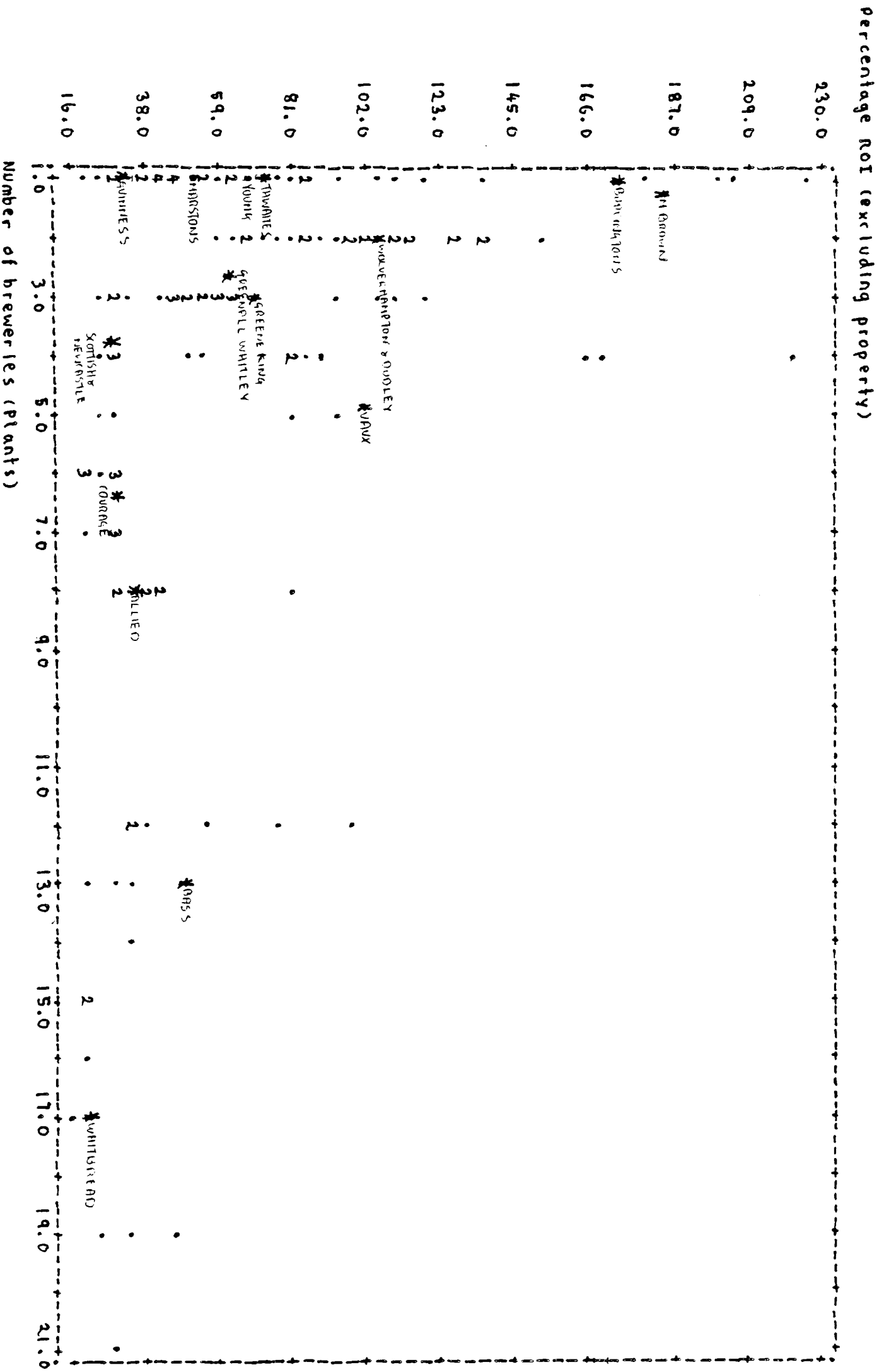


Fig 14.9 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (EXCLUDING PROPERTY) AND THE NUMBER OF PLANTS OWNED BY 15 SELECTED UK BREWERS, 1972-1982



## MARKETING VARIABLES

### Distribution measure one:

#### Number of pubs (see figs 14.10-14.12)

The number of pubs was size related since the larger brewers tended to own more pubs, although there were exceptions. Guinness did not own any pubs and Scottish & Newcastle had a disproportionally small number for their size. In terms of pubs Scottish & Newcastle are more of a major regional than a national brewer. This was also partially true of Courage who have a strong South England bias. Conversely, Greenall Whitley, normally considered a regional brewer, had on average more pubs than Scottish & Newcastle but still maintained a relatively high average ROI. This may have been due to their keeping to the regions they were strong in rather than attempting national distribution.

There was a correlation between the number of pubs and the profitability of the the brewers a relationship which was much stronger when property was excluded from ROI. However by excluding property from ROI the relationship showed the return on the sales of beer per pub (much higher for the regionals due to overall lower costs) rather than the return on the investment made in the property itself. It was this problem of how performance of a brewer's tied estate was assessed that had made previous measurement of



the UK brewer's profitability so difficult. (Price  
Commission 1977)

Fig 14.10 THE RELATIONSHIP BETWEEN MARKET-SHARE AND THE NUMBER OF PUBS OWNED BY 15 SELECTED UK BREWERS, 1972-1982

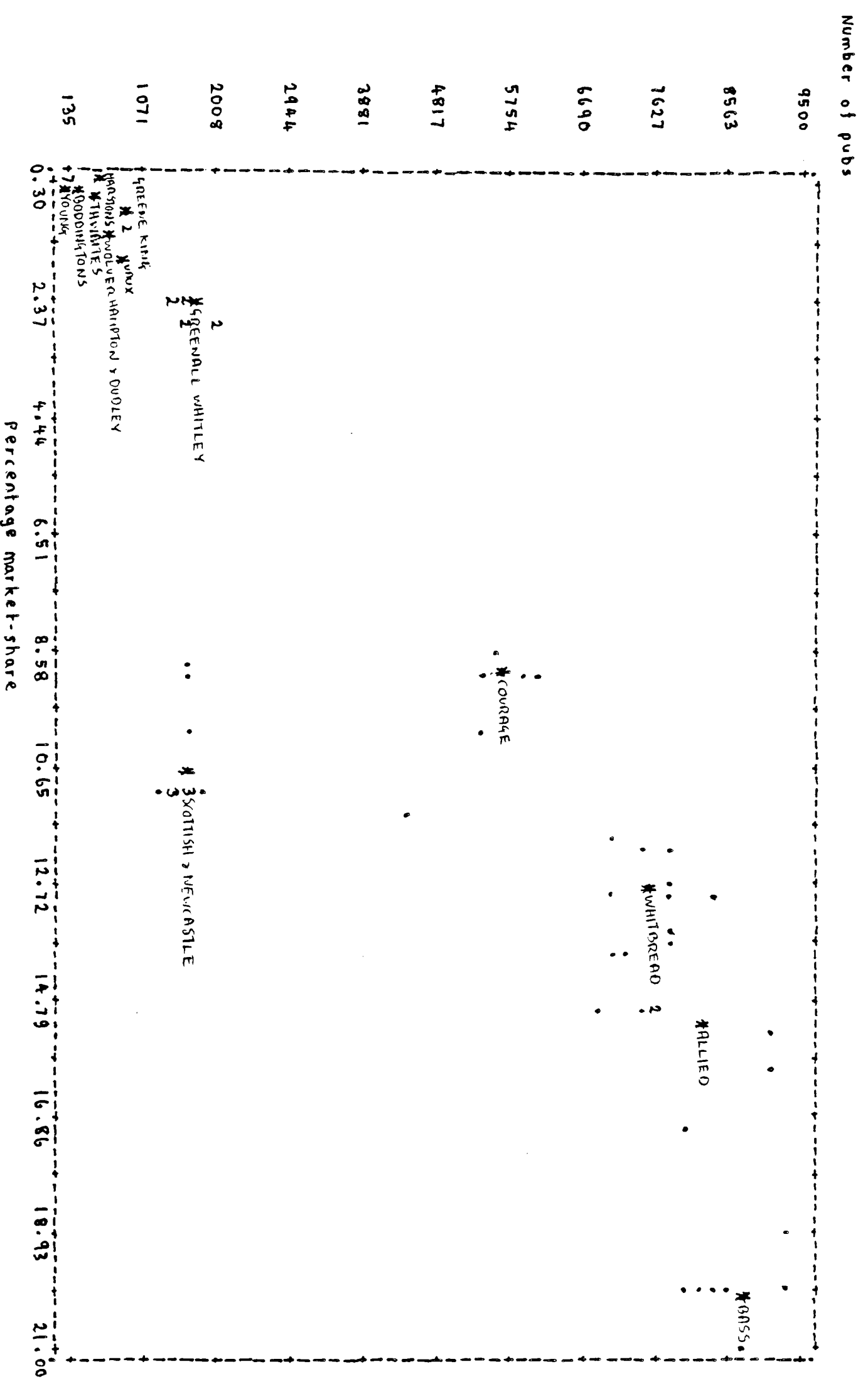


Fig 14.11 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (INCLUDING PROPERTY) AND PUBS OWNED BY 19 SELECTED UK BREWERS, 1972-1982

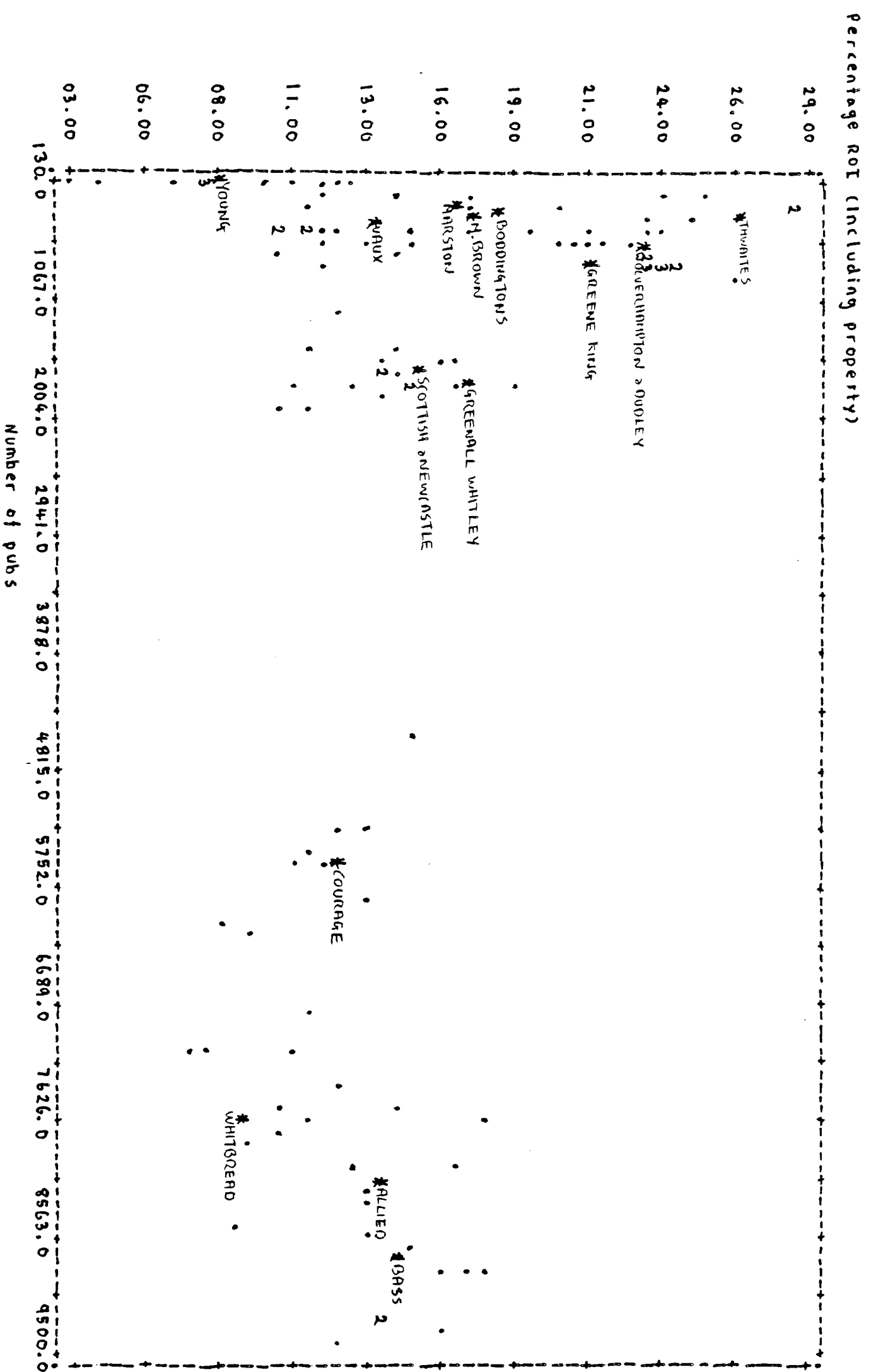
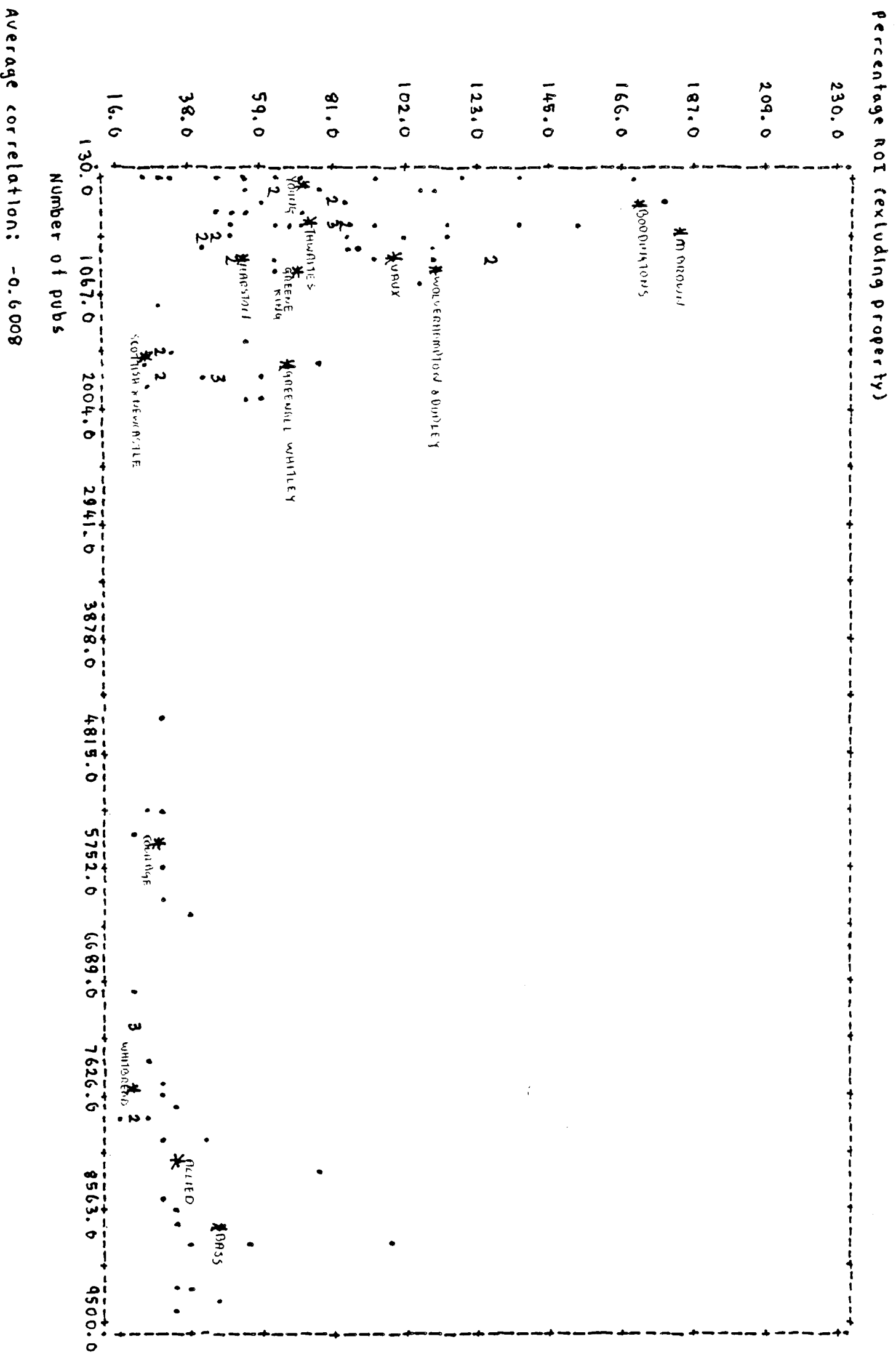


Fig 14.12

THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (EXCLUDING PROPERTY) AND PUBS OWNED BY 15 SELECTED UK BREWERS, 1972-1982.



Distribution measure two:

Debtors/sales ratio (D/S ratio) (see figs 14.13-14.5)

This measured the resources that were allocated by the brewer to give loans. Most of the loans given by brewers were to free trade outlets in return for selling the brewers' products. It was expected therefore that those brewers most active in the free trade would have the highest D/S ratios.

There was a weak negative correlation between the size of the brewer and the D/S ratio. A strong positive correlation might have been expected given the record of loans given to free trade clients of the big brewers. Since the smaller brewers did not as a rule give loans, (from interviews) it can only be assumed that they had slow debt repayment by customers.

A high D/S ratio hardly affected profitability and appears to have been financially well controlled. This might have been expected in the brewing industry where debt has become an integral part of the sales and marketing strategy for many of the brewers. Wolverhampton & Dudley stood out as a brewer who had avoided giving loans on the same scale as the other brewers and perhaps as a consequence had been very profitable. The D/S ratio was high for Scottish & Newcastle and Guinness who had considerably less pubs than the other nationals (Guinness have none) and may, as a

consequence, had a greater reliance on free trade accounts and thus very often, loans. Sources in the brewing industry believe that Scottish & Newcastle have been "over keen" to give large loans to free trade customers. The other important free trade national, Whitbread, appeared to have made do with a far lower D/S ratio and it may be that Guinness and Scottish & Newcastle have something to learn from them.

Other than these exceptions no particular strategic groups could be identified from this analysis.

Fig 14.13

THE RELATIONSHIP BETWEEN MARKET-SHARE AND THE DEBTORS/SALES RATIO OF 15 SELECTED UK BREWERS, 1972-1982.

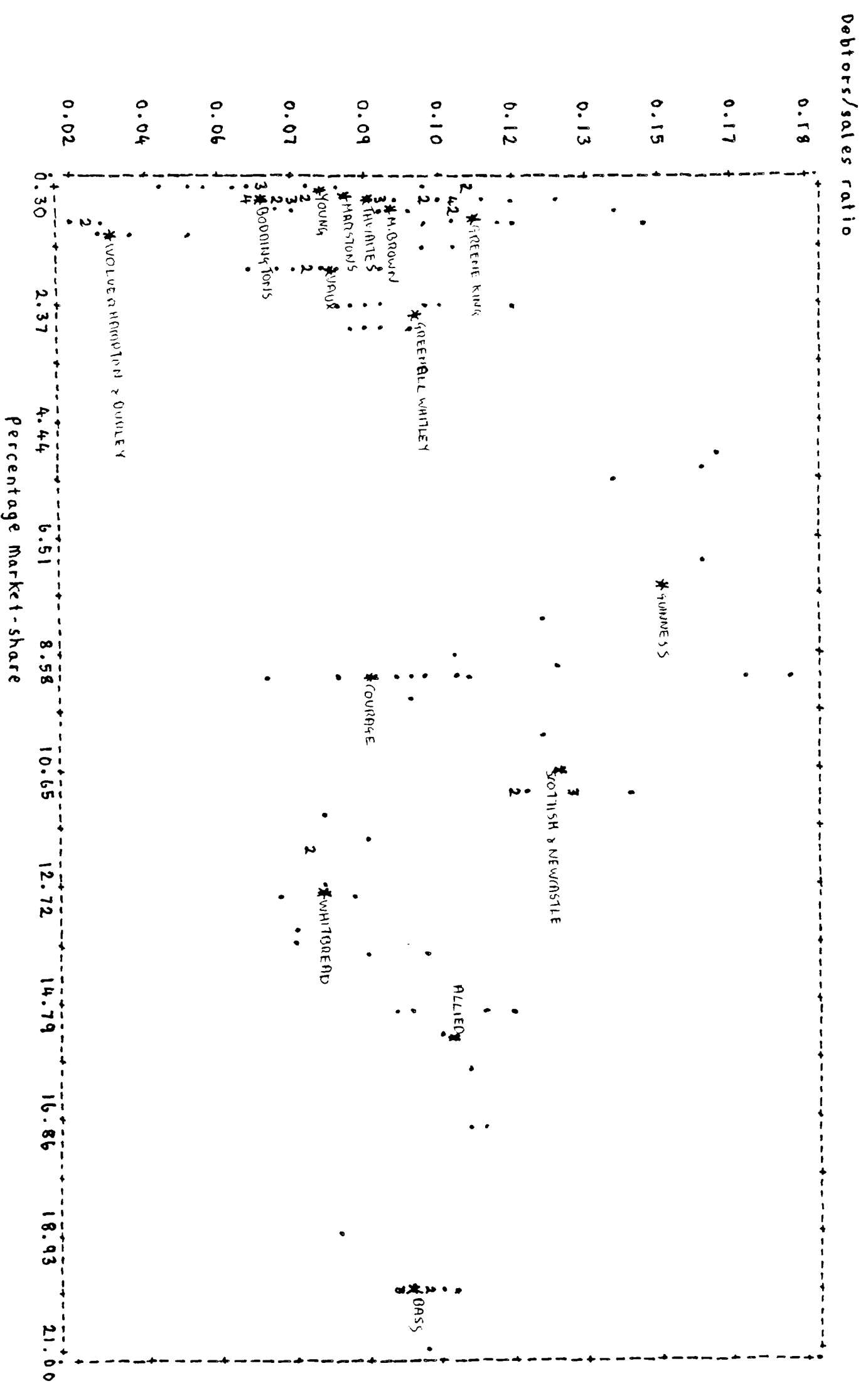


Fig 14.14 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (INCLUDING PROPERTY) AND THE DEBTORS/SALES RATIO OF 15 UK BREWERS, 1972-1982.

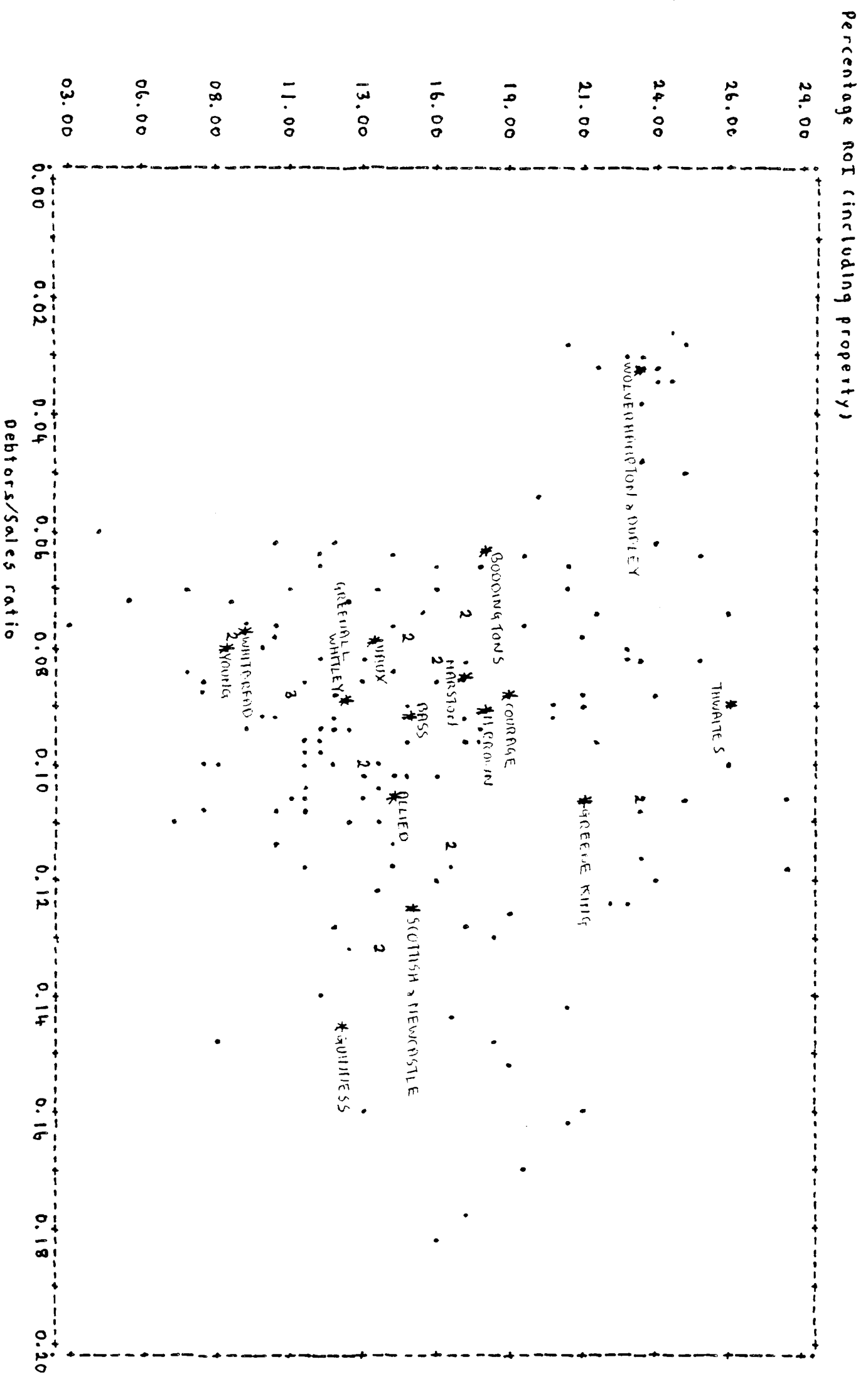
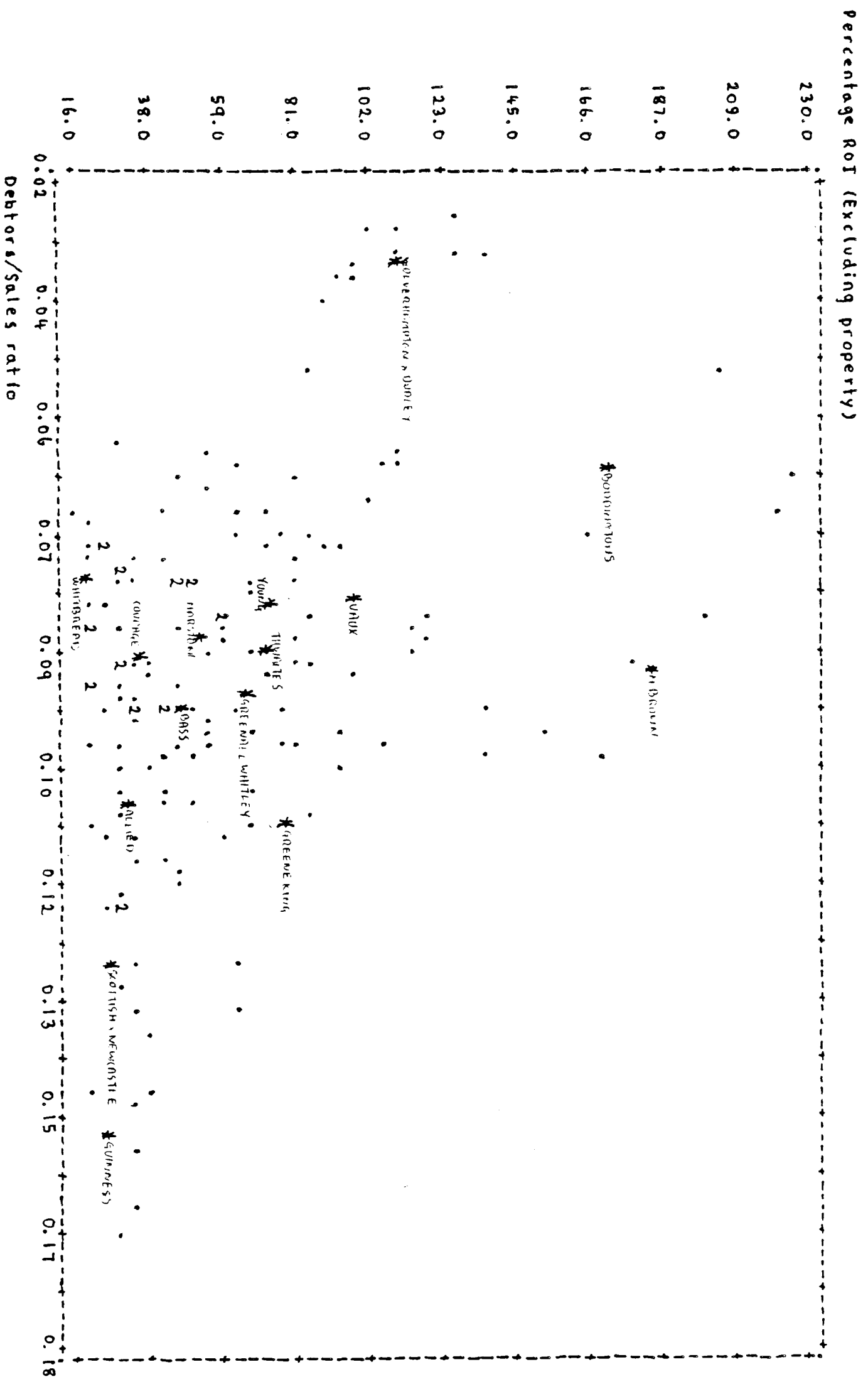




Fig 14.15

THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (EXCLUDING PROPERTY) AND THE DEBTORS/SALES RATIO IN SELECTED UK BREWERS, 1972-1982.



Number of brands (see figs 14.16-14.18)

There was a strong correlation between the number of brand names and the size of the brewing company. However one has to be careful in analysing these results as brand identification and thus data collection, was difficult. As a rule the smaller regionals based their product portfolio on one brand name, often the name of the company. The larger regionals, through takeovers, had tended to promote more brands by adopting acquired brewers' brand names. The exception to the national brewers was Guinness whose single brand name represents almost the entire stout market. During the 1970s it was the strategy of the national brewers to concentrate on a selected few national brands, only Bass maintained a large number. Despite this the national and major regional brewers still maintained, on average, more brands during the study period, than the minor-regional brewers.

From previous results it was expected that the larger the number of brands the lower the profitability, with the exception of Bass and Allied. The scattergrams did not support this and the number of brands appeared to be irrelevant to the brewer's profitability. It is worth noting that the strategy of the small regionals in keeping the number of brands to a minimum may have ensured continued brand loyalty which did not require heavy promotional expenditure, and thus allowed higher

profitability. However the number of brands and their effect on profitability was hard to isolate from the effects of other marketing strategies, due to the limited data and the changing brand strategies during the study period.

Fig 14.16 THE RELATIONSHIP BETWEEN MARKET-SHARE AND NUMBER OF BRANDS OF BEER PER SELECTED UK BREWER, 1972-1982.

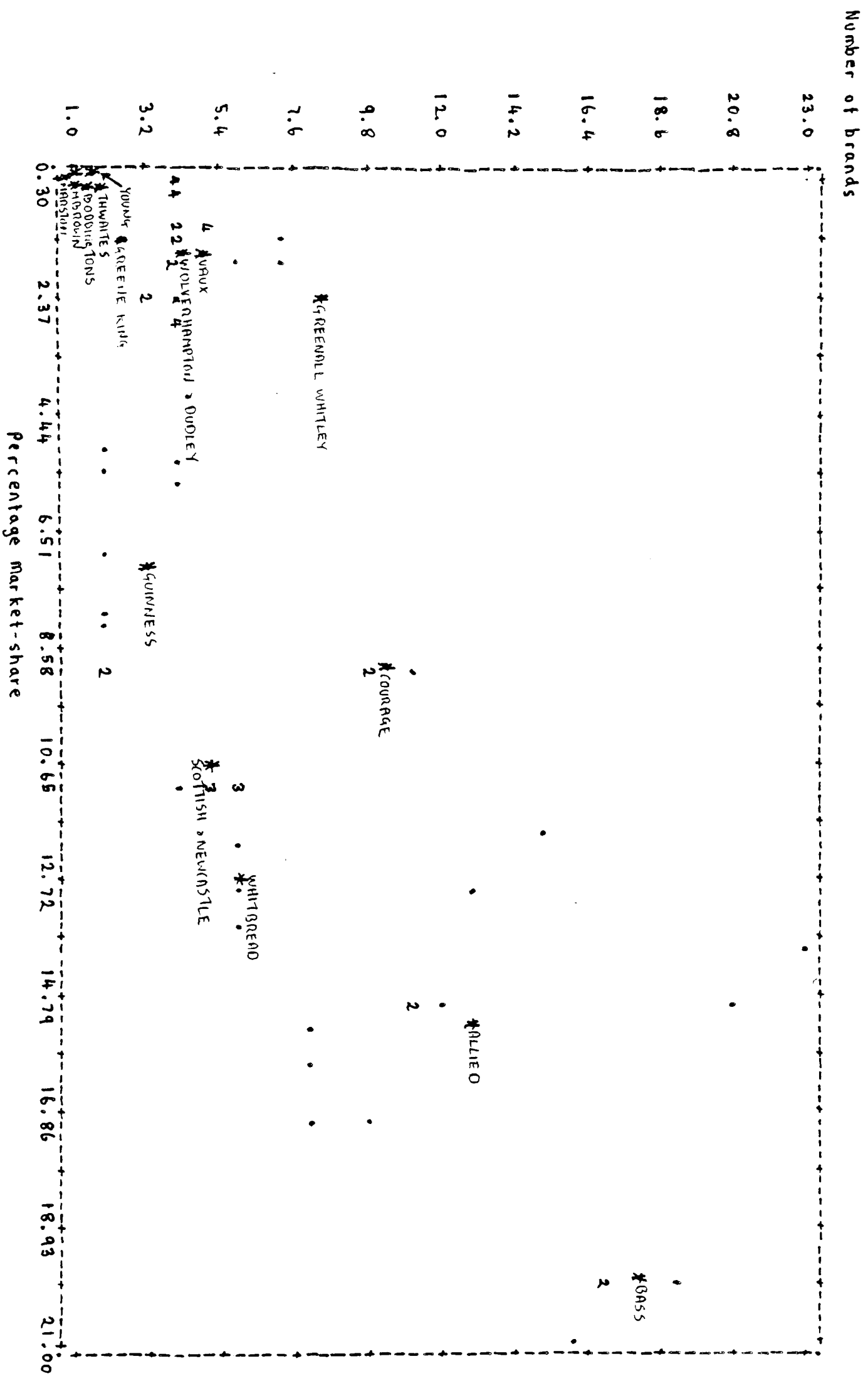


Fig 14.17

THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (INCLUDING PROPERTY) AND NUMBER OF BRANDS OF BEER PER SELECTION UK BREWER, 1972-1982.

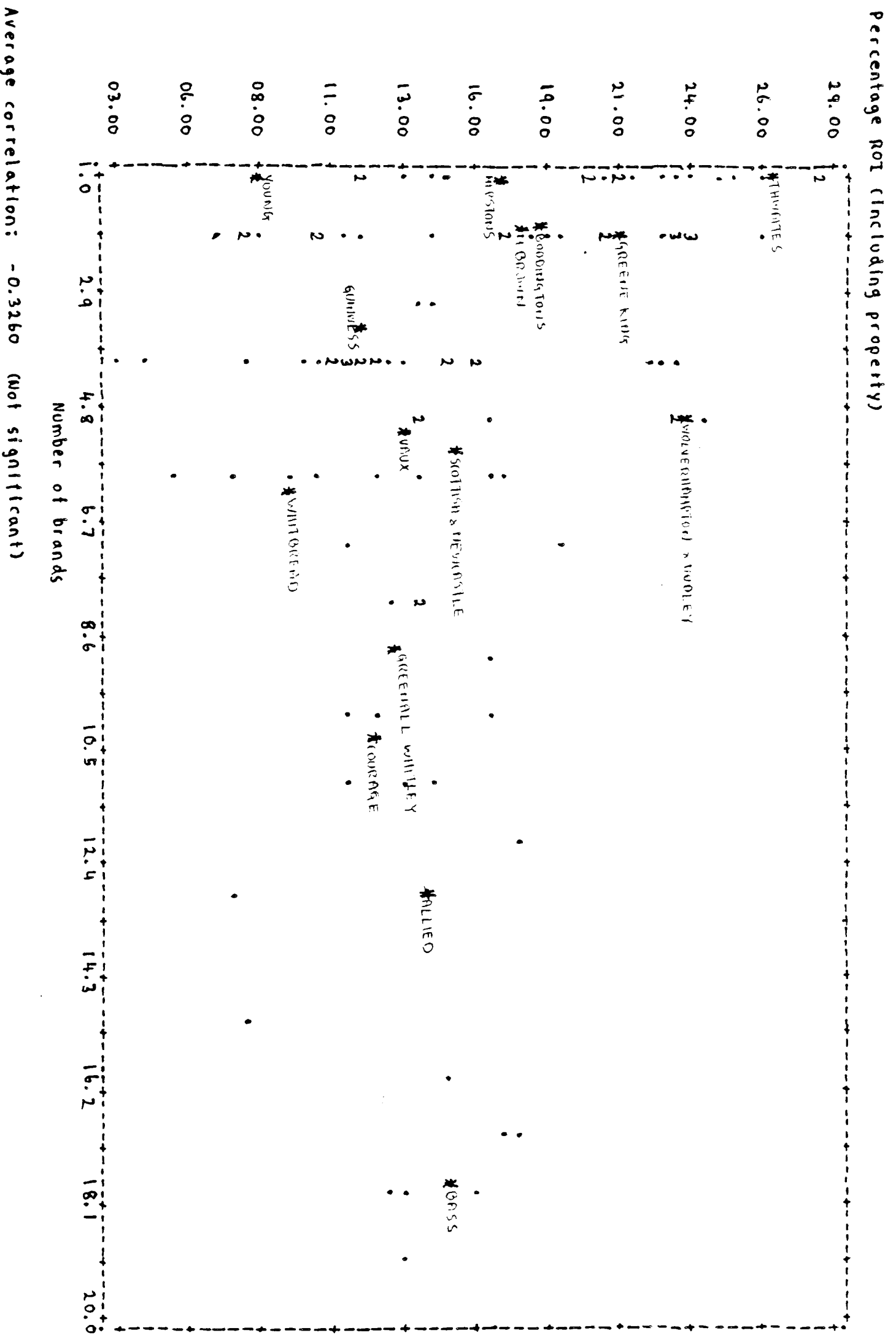
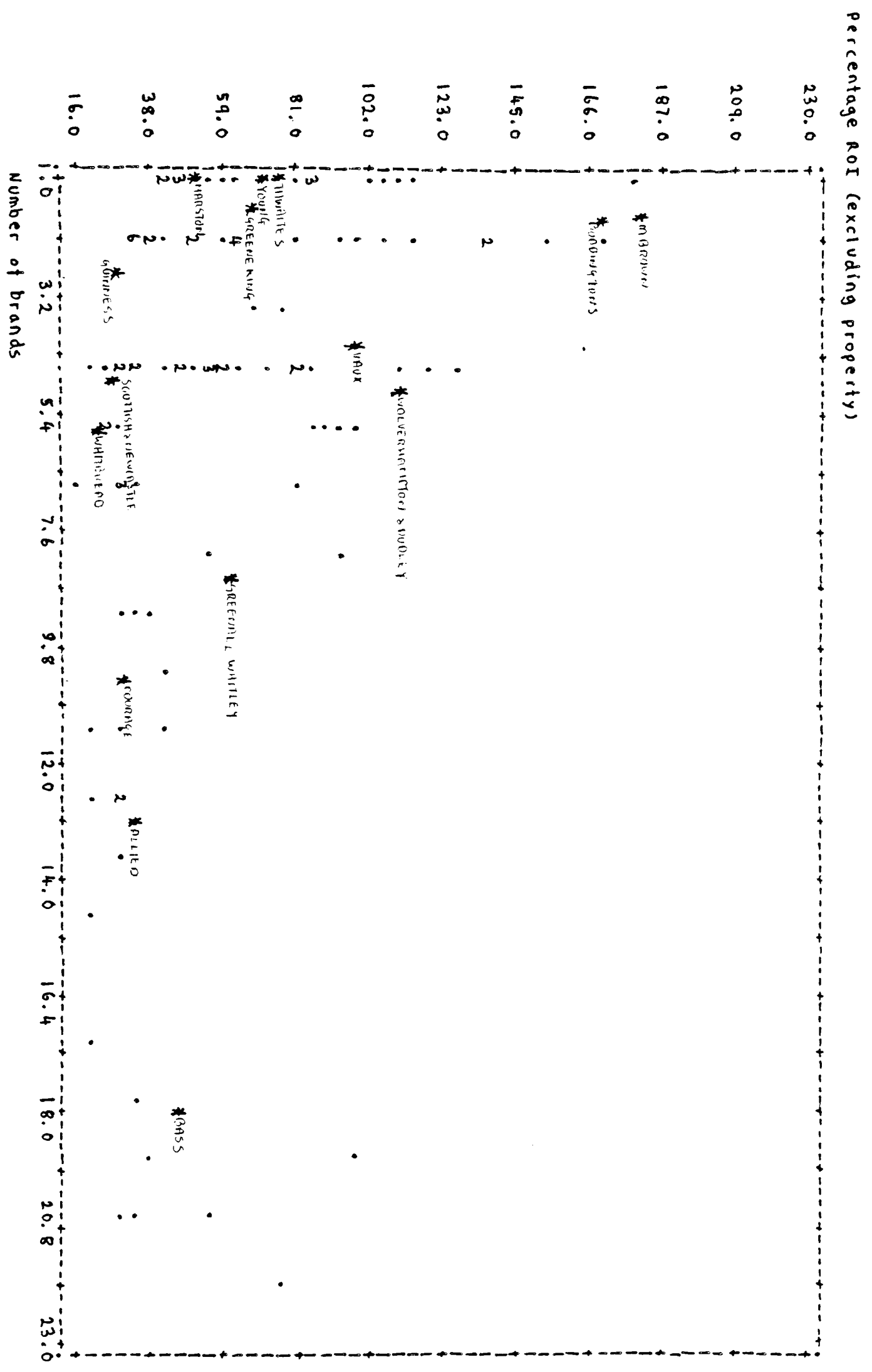


Fig 14.18 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (EXCLUDING PROPERTY) AND THE NUMBER OF BEER BRANDS PER SELECTED UK BREWER, 1972-1982.



Advertising/sales ratio (A/S ratio) (see figs 14.19-14.21)

The over all relationship between the size of the brewer and the proportion spent on advertising was insignificant. However Guinness, Whitbread and Scottish & Newcastle spent considerably more (proportionally) than the other brewers but did not really see the returns in profitability as might have been expected. A possible reason for this was their greater reliance on the free trade and thus the need to spend more in this competitive market. The cost of sustaining national brands must have been high, but this does not explain why Courage, Allied and Bass had much lower A/S ratios. Given Bass' dominance in pubs and brewery owned off-licences Bass may not have needed to advertise proportionally as much as the other national brewers, but this cannot be proven. There was a small negative correlation between ROI and the A/S ratio, more significant when property was excluded from the ROI measurement.

Fig 14.19 THE RELATIONSHIP BETWEEN MARKET-SHARE AND ADVERTISING EXPENDITURE BY 15 SELECTED UK BREWERS, 1972-1982.

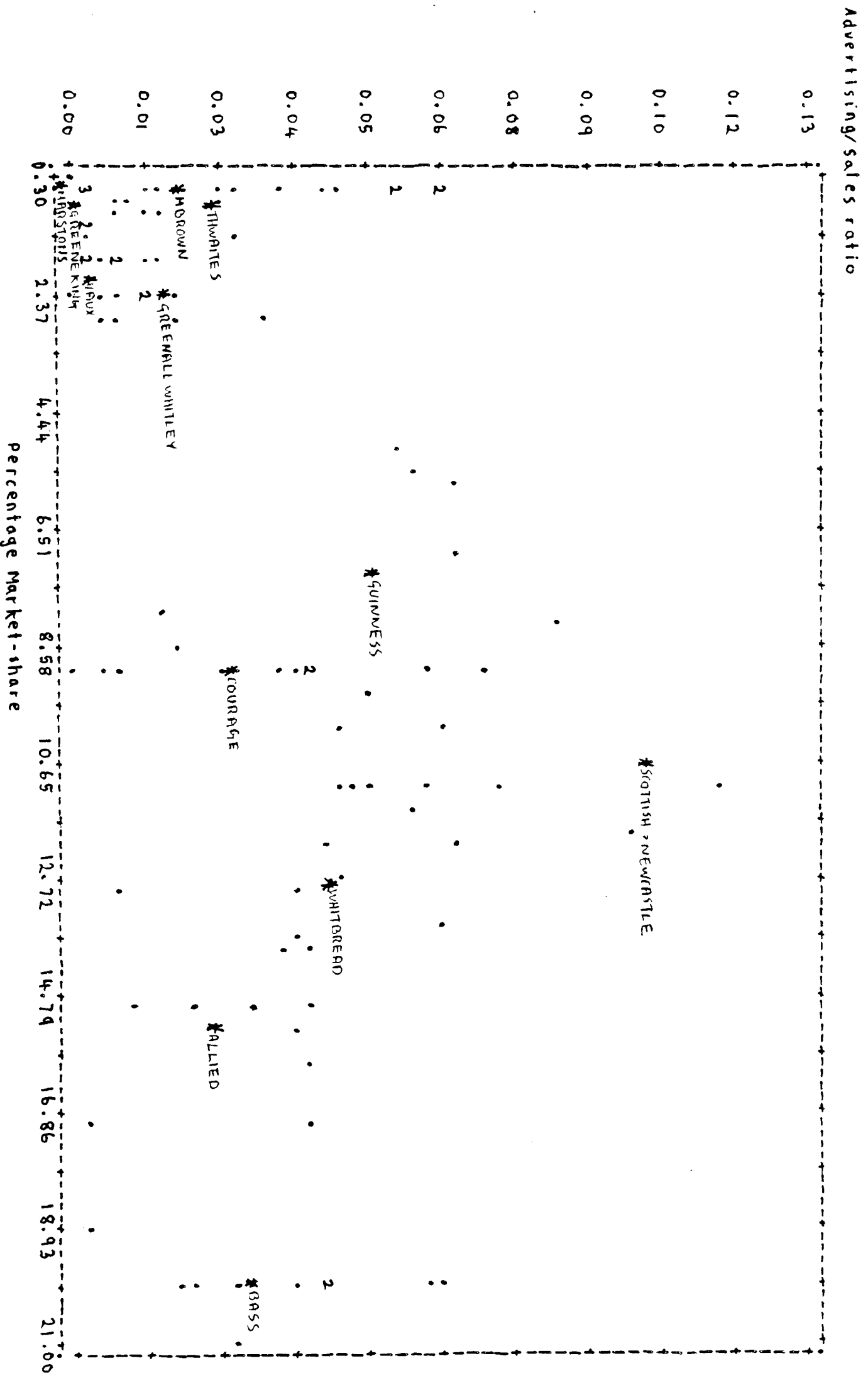




Fig 14.20 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (INCLUDING PROPERTY) AND ADVERTISING EXPENDITURE BY 15 SELECTED UK BREWERS, 1972-1982

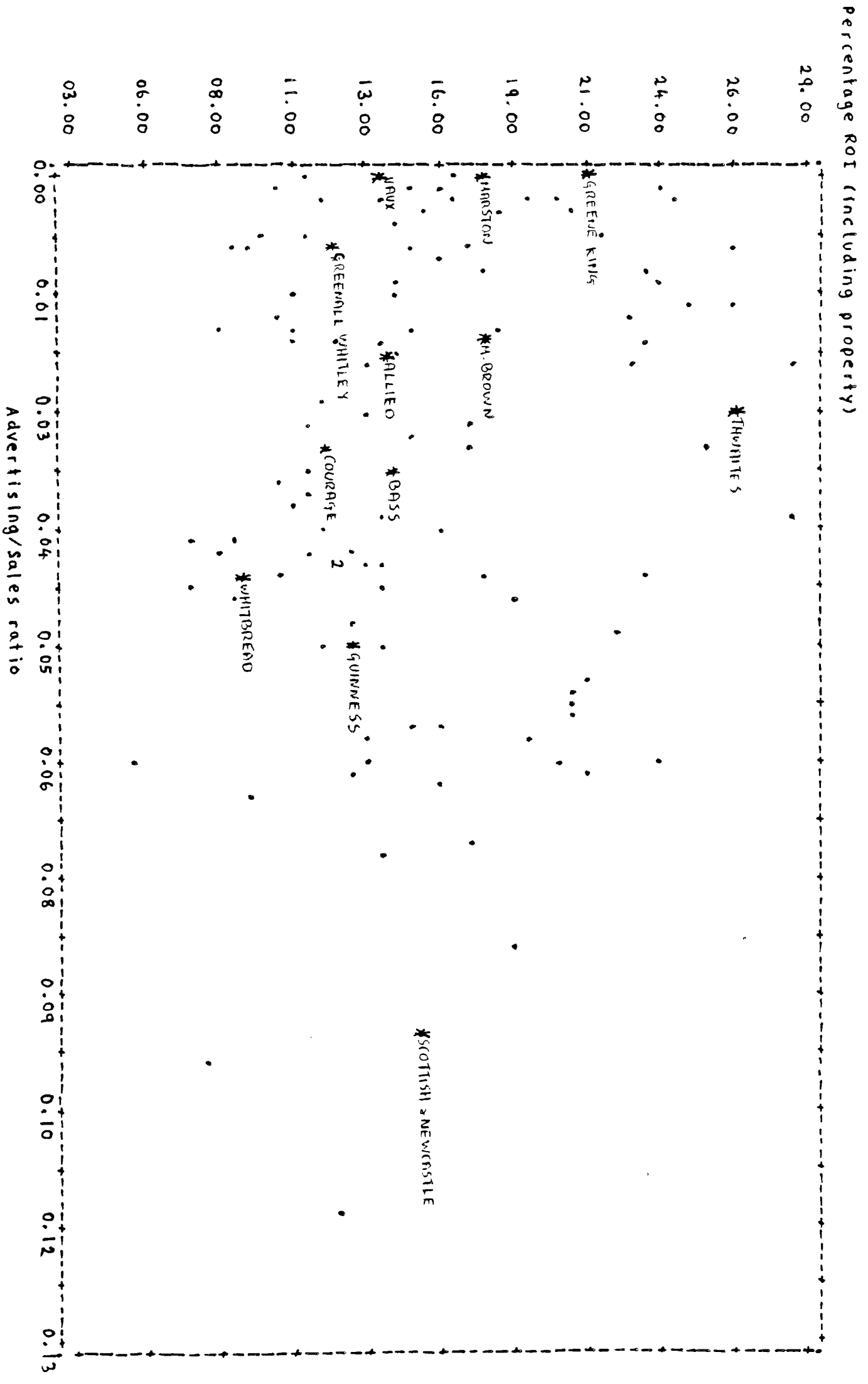
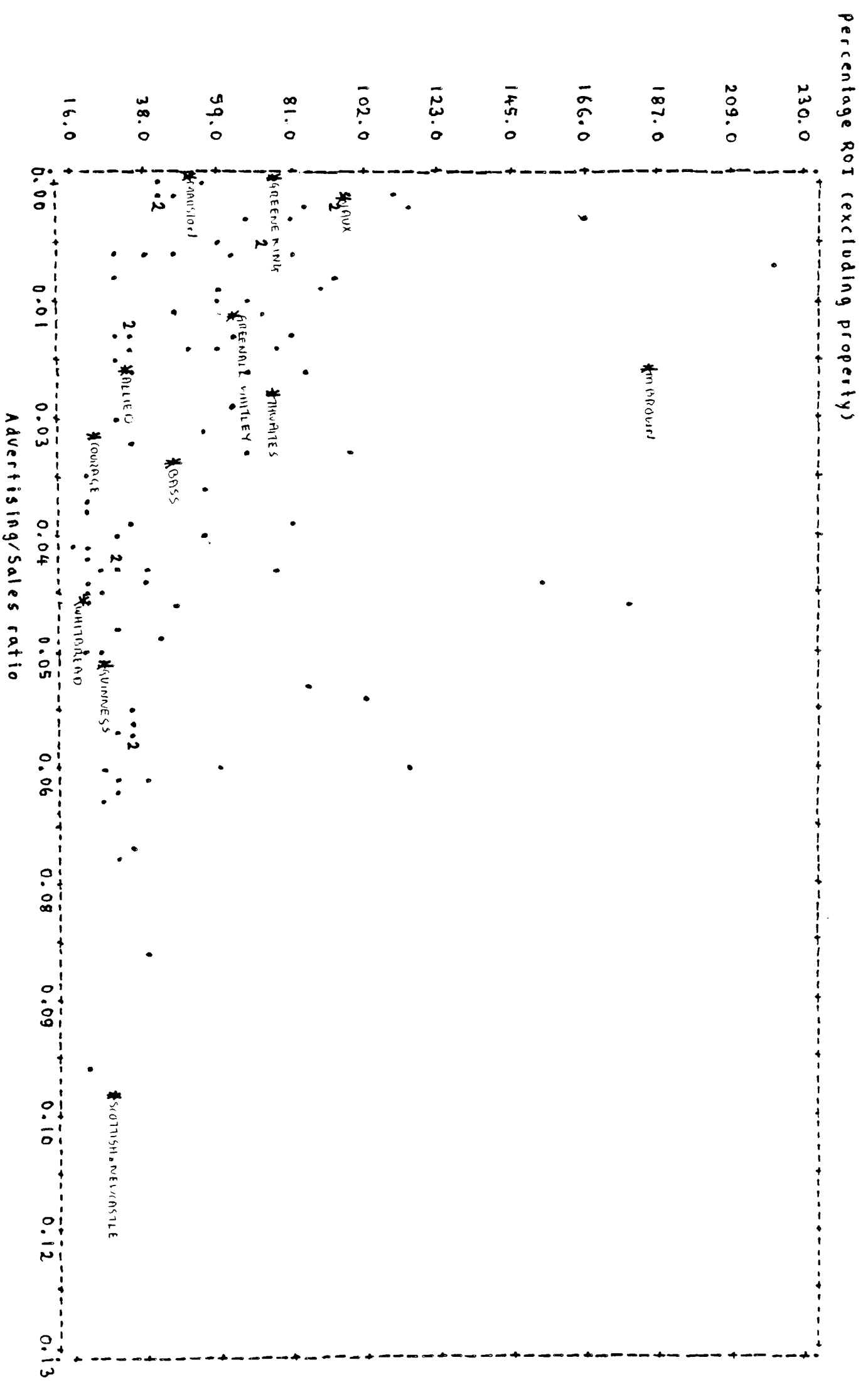


Fig 14.21 THE RELATIONSHIP BETWEEN RETURN ON INVESTMENT (EXCLUDING PROPERTY) AND ADVERTISING EXPENDITURE BY 15 SELECTED UK BREWERS, 1972-1982.



## General results

The scattergram analysis identified the following:

1. The brewers pursued manufacturing strategy in a manner related to their position within the UK market. ie number of breweries and capital intensity are positively correlated with market-share/ firm size. Number of breweries and capital intensity were not significantly correlated with profitability.
2. The newness of the plant was reasonably similar for all the brewers analysed and was neither size nor profit related.
3. The brewers also pursued marketing strategies in a manner related to their position within the UK market. ie number of brands, number of pubs and advertising/sales ratio tended to increase with the size of the brewer although there were exceptions.
4. The debtors/sales ratio was similar for all the brewers and did not fluctuate with either size or profitability.
5. The relationship of manufacturing and marketing variables with ROI excluding property tended to cast the regional brewers in a more favourable light. Despite this, the general pattern was similar between

the two scattergrams for each variable analysed. A number of relative positions of firms did shift but the over all pattern remained the same.

Thwaites had a much lower ROI when excluding property and this may have been due to a very low valuation on their property thus increasing ROI. Boddingtons and Matthew Brown experienced very high ROI when property was excluded from the ROI measure.

### Conclusions

What the scattergrams illustrated was that with or without property included in the ROI measure the smaller brewers still tended to be more profitable than the large brewers. As in the market-share/ profitability analysis the results do lend some support to Hawkins' (op.cit) contention that division between ROI including and ROI excluding property distorts the results. However the distortion was minimal and the regional brewers were still more profitable during the study period.

Although many of the variables bore a close relationship to market-share/ firm size, they did not show much correlation with profitability, even given the two measures, including and excluding property. From this analysis we can conclude that the brewers pursued differing strategies according to

their size. However these strategies did not affect profitability in any uniform way. Because of this the next step in the analysis introduced qualitative data to see if the size based groups were similar in any non-quantifiable way. It was hoped that factors other than the marketing and manufacturing variables would help to explain the differing profitability levels.

CHAPTER 15: THE IDENTIFICATION OF STRATEGIC GROUPS IN THE  
UK BREWING INDUSTRY

Introduction

Knowledge of the industry and qualitative data have been cited in the literature as crucial to the understanding of competitive strategy within an industry. (Porter 1982) It was felt therefore that these factors should be taken into account by using a qualitative based analysis in addition to the previously described quantitative based analysis.

The aim of this stage of the analysis was to place the brewers into strategic groups and to identify the particular competitive features associated with each group. It was expected that the groups identified would closely conform to those already identified from the previous analysis and it was hoped that the qualitative variables would serve to illuminate the quantitative findings.

Data collection

The data for this analysis was derived from interviews with managers in the industry, other industry knowledge, and the results of the previous analyses of this study.

The interviews were carried out with the intention of obtaining information on how the company operated in terms of manufacturing and marketing strategy, and how the company saw itself in terms of strategy and the competitive background of the industry.

The interviews also aimed to assess how relevant the analysis was to the realities of the industry and whether the brewers used any of the formal strategic marketing planning methods discussed previously. Once these areas had been discussed, information about the manager himself was sought. In addition, an attempt was made to gain a general overview of how the company worked, in terms of management, industrial relations and other related information that might reveal the structure of that company. Some information collected in this way was considered confidential by the interviewees, and as a result the strategic group analysis does not delve too deeply into individual company detail.

The response to requests for interviews was best amongst the regional brewers. The larger brewers cited sensitivity of the topics to be discussed as the main reason for declining an interview. This is hardly surprising when one realises the highly competitive nature of the industry at national level. Eight brewers from the sample of 15 were interviewed with the distribution over the sample being: one major-national, three minor-nationals, two

major-regionals and two minor-regionals. The format of the questions asked are set out in appendix 5.

### Expected outcomes

From the previous analysis it appeared that the brewers divide along size divisions. The exact division between the regional and the national brewers was rather blurred with elements of both overlapping each strategic group and the results did not provide cut off points for each strategic group. It was expected that the groups indentified would be similar to those already identified in the previous analysis. Before setting out these groups it must be made clear that the groups were of a flexible nature and exceptions and anomalies exist, and that the brewers in each strategic group were "similar to" rather than "the same as" each other.



Strategic group one:            Minor-Regionals

Young  
Thwaites  
Marstons, Thompson and Evershed  
Matthew Brown  
Boddingtons

Market environment:            Small market share even in their  
own served market or region  
Small distribution area

Marketing strategy:            Single brand  
Little or no advertising  
Low relative prices

Manufacturing strategy:        Low capital intensity  
Single brewery  
Emphasis on traditional products

Other:                            Mainly family run and owned  
Very little diversification from  
brewing and selling beer  
High relative profitability

Since 1982 Thwaites, Marstons and Matthew Brown have all taken over other brewers. This represented a change in strategy from the 1970s and reflected a general desire to expand through the tied trade rather than the very competitive free trade, if possible. For Thwaites and Marstons this resulted in the closure of the acquired brewery with the tied estate (previously owned by the acquired brewery) being used to sell the new owner's products. During the study period the minor-regional brewers experienced considerable growth in their traditional product area of cask-conditioned bitter and were late in, or have yet to start, brewing lager. This may become a financial drawback in the future if the proportion of lager consumed continues to rise.

Strategic group two:

Major-regional

Wolverhampton & Dudley  
Greenall Whitley  
Greene King  
Vaux

Market Environment: At least the second largest share of their served market or region

Marketing strategy: Normally 2/3 distinct brands  
Limited advertising and promotion  
Low relative prices

Manufacturing strategy: Normally 2/3 breweries  
Definite expansion plans either through acquisition or diversification  
Mainly traditional beer as the major product

Other: Mainly family run and owned  
Little overseas interest  
High relative profitability

The major-regionals were less homogeneous than group one. Greene King and Wolverhampton and Dudley, despite their size, operated in a more similar way to the minor regionals. The other two major-regionals, Greenall Whitey and Vaux, operated substantially outside the field of brewing, where as Greene King and Wolverhampton and Dudley were almost exclusively in the business of brewing and selling beer. Like the minor-regionals these brewers were slow to opt for lager production, but were keen to expand within their traditional product range. Greenall Whitley stood out as having made very successful gains in the vodka market. These brewers have also moved more towards a product rather than outlet orientation, by establishing formal marketing functions to promote their products outside their own tied estate.

Strategic group three: Specialist brewer

Guinness

Market Environment: The main brand "Extra stout" has over 95% of the UK bitter stout market

Marketing strategy: No tied outlets  
High advertising and promotion

Other: High overseas interests  
Considerable diversification  
Limited family interest

Guinness, although in terms market share and turnover are more like a Minor-national brewer, it is unique in that it owns no public houses, and has a near monopoly and national distribution of the UK stout market.

<u>Strategic group four:</u>	<u>Minor-national</u>
	Courage Watneys (not in the analysis but important) Whitbread Scottish & Newcastle
Market environment:	Dominant share of their own served market or region plus over 6% of the national market.
Marketing strategy	High advertising and promotion Initially heavy promotion of a limited number of national brands; change to promotion of regional brands after 1977/78. High expenditure on loans to free trade. High relative prices.
Manufacturing strategy	High expenditure on increasing capacity. High proportion of Keg bitter and lager.
Other:	Large wine and spirits interests. Considerable diversification; or owned by a parent company. Varying overseas interests. Small family influence. Low relative profits

Scottish & Newcastle were slightly different in that they owned considerably less pubs than the other national brewers (on average even less than Greenall Whitley) but achieved national distribution through the free-trade. Scottish & Newcastle have a poor standing amongst other brewers not least because of their excessive use of loans and poor quality of their products. Whitbread are seen as being rather more traditional in their approach while, on the other hand, to quote one observer of the business, "Watneys have a reputation for being run by second hand car salesmen."

Strategic group five:      Major national

Bass  
Allied Lyons

Market Environment:      The biggest or second biggest share  
of the national market  
Dominance in one or more regions  
A Long period of national influence  
and operation

Marketing strategy:      Moderate relative prices  
High profitability  
Other strategies similar to minor  
regionals

Manufacturing strategy: Similar to minor nationals

Other:                      Very large number of pubs  
High overseas involvement  
Much reduced family involvement  
Considerable wines and spirits  
interests  
Considerable diversification

In many respects the major nationals were similar to those brewers in strategic group four but tended to have the edge in terms of performance and market share. Bass did have a number of important differences from Allied. They adopted a multiple brand strategy some time before Allied and were quick to gain share leadership in the expanding lager market. It was found from the interviews that Bass were considered the leading brewer in terms of quality of management. These skills were based on very short term objectives and tight financial control. Although one regional brewer considered Allied to have been more successful than Bass in competing with them, not all those interviewed shared this opinion.

## Summary

A large number of qualitative variables contributed to the identification of similarities between brewers which were not covered in the multivariate analysis. ie family control, diversification, overseas interests and regional influence. The importance of these variables was difficult to measure but from the interviews and knowledge of the industry they were certainly important in determining profitability in the industry. This dichotomy between the importance of these qualitative variables and the quantitative variables used in the previous analysis is important. Even if the major determinants of profitability are identifiable, the undefinable effect of the qualitative variables must still be taken into account. In effect this leaves this kind of analysis an art rather than a science.

The interviews and other qualitative knowledge of the industry were instrumental in understanding the context in which the quantitative analysis was carried out. It was clear that neither a wholly quantitative nor wholly qualitative analysis was possible in this industry. The course of competitive strategy taken by individual brewers partly depends on the attitudes and ideas of those in the company, and these are very hard to define in any quantifiable way. However this combined analysis has pointed out some of the strategies adopted and whether they have been profitable to the brewers or not.

CHAPTER 16: CONCLUSIONS ON COMPETITIVE STRATEGY IN THE UK  
BREWING INDUSTRY.

Introduction

The conclusions are divided into three areas; conclusions on the determination of profitability in the UK brewing industry and the identification of strategic groups; a comparison with the US and Dutch experience; and conclusions on the analysis and methodology adopted. These are followed by recommendations for further research in the area.

Profitability determination and strategic groups in the UK  
brewing industry

The results of the analysis (quantitative and qualitative) made it clear why the small and regional brewers have been more successful, in terms of profitability, than the large brewers. They spent less on new products, promotion, distribution and administration. They could not afford to give loans to the free trade to secure new business so they did not. They were not able to produce lager which had the brand strength to compete in the free trade so their lager remained in their own tied outlets. Whatever the long term prospects are, the small and regional brewers had succeeded

by doing what they do best, selling traditional beer to an appreciative local customer via the safety of their own licensed estate.

From the interview based, qualitative data the following conclusions can be drawn. Within their catchment area the regional brewers were able to capitalize on the free trade due to the local or regional strength of their name. The work of CAMRA made the names of many of these smaller brewers well known in the larger urban areas, especially London. Those regional brewers that had been able to establish free trade accounts or even buy pubs in the capital found that the extra margins on the beer more than made up for the increased distribution costs. There is no doubt that there will always be a market for their beer, but the inroads lager has made in recent years leads one to wonder just how much of a market will be left. The regional brewers so far have been quite adept at maintaining their position as much of the fierce competition has taken place away from their traditional product areas. This has been seen to be quite clear from the analysis with small brewers consistently outperforming their larger rivals in terms of profitability. A further reason may be because the national brewers have been so inept at competing against them. These strategies clearly reflect a combination of cost leadership and focused strategies. Due to cost limitations the small brewers remained where they were and experienced considerable success. This success may not continue as the



industry settles down after the rapid change of the sixties and seventies and in its maturity, as Porter suggests, competition becomes more intense.

The analysis clearly indicated that the national brewers in comparison experienced a rather difficult past 15 years, with over all strategy taking drastic U-turns and altogether showing a distinct lack of foresight, most especially in the bitter market. This is with the notable exception of Bass who, through a well organised strategy managed to maintain over all share-leadership. Perhaps more importantly, they have been able to maintain a proportionally greater share in the growing lager market than in the stagnant bitter, and declining mild sectors.

Once again, from the interviews, one can explain the environment that produced the general divergence in success between the brewers. At about the time of the beginning of the study period (1972) the national brewers had embarked on two major strategies. The first strategy was to promote national brands of beer, replacing the regional names acquired during the 1950s and 1960s. This strategy for all intents and purposes was a disaster. The national keg bitters were not popular, and beer drinkers opted for either lager or, if they could find it, traditional bitter; especially from the regional brewers. Once again Bass were able to capitalize on this reaction, for although they did

adopt a national brand strategy many of their regional brands remained. Coupled with this Bass consistently maintained the largest proportion of traditional bitter of all the national brewers. Even if Bass' national brands were unpopular, their strong lager and traditional beer portfolios would still benefit. It can be seen from the results of the analysis and these conclusions why Bass have fared so well when compared to the other national brewers.

The second major strategy was to invest in modern plant and machinery to develop a series of large centralized breweries capable of producing both lager and bitter almost exclusively in keg form. This high investment in the 1970s ensured that the national brewer's profitability was well below that of the regionals with or without property valuations.

The UK brewers within the identified strategic groups (major and minor nationals, major and minor regionals) did have considerable characteristics in common, covering manufacturing and marketing strategies and management style. Having pinpointed these strategic groups, and from the market-share/profitability analysis, identified the most profitable, we must conclude that over all a whole range of factors contributed to the relative profitability of the 15 brewers analysed. No individual variables had any strong effect on the brewers profitability other than the size of the brewer. Size related groups thus seem to best

explain differences and similarities of strategies between brewers in the UK.

It appears however that no hard and fast rules govern those who are most profitable on an individual basis, with some brewers profitability being totally out of character with the general profitability of their strategic group. This may well be due to differing management ability. Having said this, the previous literature and comments (press articles and so on) covering the UK brewing industry during the study period were similar to the findings and conclusions of this analysis. This finding is significant and shows that even if firms are placed into strategic groups of "similar brewers" they still may not necessarily experience similar levels of success. It is at this point that statistical analysis becomes difficult due to reduced data and thus reduced degrees of freedom (a problem Hatten and Schendel found). To analyse differences between firms within groups, more subjective analysis is necessary as was used in the final qualitative analysis. This trade off between quantitative and qualitative analysis will be returned to later. At this point it is worth mentioning that if analysing data on groups within single industries produces so much variance, the worth of PIMS type analysis, using only aggregated across industry data, must be seriously questioned.

## The future of the UK brewing industry

By 1977/78 it was apparent to most of the national brewers that national brand keg beer was not an overwhelming success and as a result, a profusion of regional traditional beers were introduced together with a more regionalized management structure. There are signs that even this strategy change will be short lived with the merging of regional divisions and reduction of the number of regional beers already taking place amongst the national brewers. eg Watney's merger of their Webster's and Wilson's divisions in March 1985 and Whitbread's merger of their East Midlands and Yorkshire divisions in May of the same year.

A further problem remains as to whether the high capital investment will pay off. During the period of analysis (1972-1982) it was apparent that it did not. With the stagnant and highly competitive market it seems unlikely that the excess capacity created during the 1970s will ever be utilized. Certainly no great export drive in lager seems to be looming on the horizon (as promised in the 1977 NEDC report). The only other alternative would be to close the smaller, usually traditional beer producing, breweries. Other than loosing traditional beer facilities, this would appear to be a sound strategy. The analysis suggests that Whitbread, who have been most active in this way, did benefit from such a strategy.

The need to utilize excess capacity has not led to many serious price wars, not least due to the limited scenarios in which to fight one. (Mainly because of the security of the tied trade). Heavily differentiated products also makes price differences less important. This takes into account the pub as a "product" as well as the drink it serves. (Erroll op.cit)

Given the already strong position of the brewers in the retail trade and the spare capacity problems encountered with brewing, one possible suggestion is for the national brewers to pull out of brewing and concentrate on retail outlets instead. In this way they could act as wholesalers for other companys' products, such as imported, packaged premium beer, a particularly strong growth market at present. Along with wines and spirits, bottled premium beer and the growing pub food sector, have substantially higher profit margins than draught bitter or lager. An example of retail diversification is Guinness who have a reasonably safe, if rather dull, market in stout plus the successful Harp lager brand. They have recently become the UK's largest newsagent and also established a series of general grocers, the 7-Eleven chain. Unlike previous diversifications this strategy appears to be working well and may have relieved some pressure from the competitive beer market.

There are doubts as to whether the successes of the

regional brewers and the problems of the national brewers will continue. Given the present state of the industry, expansion would be expensive and possibly provoke strong reaction from competitors and the Monopolies Commission. Not all the smaller brewers have been as highly profitable as the analysis suggests, and similarly, at the other end of the scale, not all the nationals have fared badly. One manager in the industry believed in a future scenario of six or so regional brewers, the nationals and Bass (the market leader) as the only remaining competitors. This implies that as the market retracts the small and regional brewers will start to acquire one another. This process has been quite noticeable in recent years. ie Marston's acquisition of Border (1984), Matthew Brown's acquisition of Theakstons (1984) and Boddington's acquisition of Higsons (1985).

The adoption of these differing strategies to off set the problems of excess capacity and stiffening competition reflect a need to adapt to the transition taking place. This the brewers have done, with, as the quantitative analysis showed, varrying success. However the industry is becoming harder to define with some brewers having large interests in growth industries related to brewing, (eg wine and food) making the industry boundaries blurred. This has made definning the industry, and thus what stage of growth it is in (as suggested by Porter) increasingly difficult.

## Summary

It can be said that the UK brewers are pursuing two general goals. The majority of the regionals are set to gain share and increase in size through their beer products, if possible by acquisition of new outlets, but they are not afraid to compete in the competitive free trade if necessary relying on quality and price, rather than loans. The large, national brewers, with the exception of Scottish and Newcastle, would prefer to expand into leisure in general and away from the beer market in which meaningful growth on a large scale is limited. For example investment in individual pubs and projects on a site by site basis has been more aimed at holding rather than expanding share. As far as perception of what industry the brewers are in, the most common difference is that the regionals are in "brewing" and the nationals are in "leisure". To sum, up one manager put the difference down to the fact that the regional brewers just cannot afford to throw money at every new fad in the drinks/leisure industry as the national brewers have been able to do. As a result the brewers present a dichotomy between traditional conservatism and dynamic, if sometimes misguided, innovation.

Comparison with the United States and Dutch brewing industries.

Compared to the US, the UK brewing industry does have some interesting similarities. The market leaders in both countries are obviously very strong companies and do not look to be seriously threatened by other competitors. It is also considered in the US that many regional and small national brewers will fail due to an inability to successfully adopt cost leadership, focus or differentiation strategies. (Hatten and Hatten 1980) There is a belief that the small specialised brewers will continue to thrive and there are signs of a small but growing consumer movement in favour of more traditional beer. (Keithahn op.cit) However this movement in no way compares to that of the UK CAMRA campaign and the smaller US brewers do not have the protection of tied outlets or the market strength of non-lager type beers.

The Dutch brewing industry is very different to those of the UK and the US, with Heineken dominating the market. However, since their merger with Amstel in 1969 Heineken have found it more lucrative to export than to compete for a limited home market. This has enabled a number of regional brewers to thrive, as well as the Belgian owned, Stella Artois. Ironically the second largest and one of the least profitable brewers in the Netherlands is Skol, owned by the UK brewers Allied-Lyons. Skol is the the UK's



biggest overseas lager operation and it appears that all the time and effort to produce and promote lager in the UK has not rubbed off on Allied's operation abroad. It is obvious that lessons can be learnt from Heineken, although to be fair Heineken have been in the international lager business for over 100 years as compared to the UK brewers 15 to 20 years experience.

The predominance of more than one major beer type in the UK has ensured that the regional and local brewers have survived. Even in a "single beer type" market like the USA or the Netherlands, the smaller brewers have been able to continue in business or even thrive. In some ways the US and Dutch industries demonstrate that despite continued concentration in the industry the smaller and often more profitable brewers do have a role to play; not least in providing local beer to suit local tastes, at competitive prices.

Having said this in some ways the US and Dutch industries display the type of scenario that could take shape in the UK brewing industry if:

- a. the tied house system was greatly relaxed allowing greater product mobility. ie ease of access to new regions,
- b. the taste for one type of beer became almost universal,

(ie lager)

c. the monopoly controls were relaxed,

d. the consumer pressure for traditional beers weakened.

Over all the comparisons with these industries allows us to appreciate under what circumstances certain strategies may or may not be successful. For example in the Dutch beer market Heineken have been able to dominate with a premium priced product, due to the effectiveness of urban advertising and the control over tied outlets. However to achieve this (as in the US market) low product differentiation is necessary and where perceived quality is more important than actual quality. Once again analysis such as PIMS may obscure the obvious differences between these industries and the lessons that might be learnt. Only by analysing individual industries and groups and firms within that industry can sure qualitative or quantitative results be obtained.

## Summary

What the analysis shows is that there are different brewers, who, by pursuing strategies in combinations unique to that company, have experienced different rate of profitability. The way in which the brewers analysed have tackled the changes in the market underlines some of the problems and advantages in trading in a volatile environment possibly reaching maturity.

The statistical grouping process

It must be said from the outset that the adoption of Hatten and Schendel's (1977) methodology was not as successful as anticipated. The statistical method was unable to cope with the small number of data points combined with the large sample of brewers and variables. This meant that much of the analysis had to depend upon qualitative data to produce strategic groups. This made judgement much more prominent in the analysis than was originally intended.

Hatten and Schendel's (op.cit) methodology was found to be weak in that it could not cope with short to medium term analysis. The large amount of data over time required for the analysis to work properly did tend to make the analysis less relevant to current business decision making. If the model cannot cope with short term analysis and forecasting it is debatable how useful it is in a business environment. The use of stepwise regression did, however, manage to identify the two most important variables for predicting ROI for each company. This type of information could be of some value to managers when resource allocation decisions are being made between manufacturing and marketing strategies. Although the identification of the

"two most important variables" did not strictly adhere to the Hatten and Schendel (op.cit) method it did show that this type of analysis could be useful in explaining ROI determination.

The Hatten and Schendel (op.cit) method may be more suited to long term econometric analysis in which results do not have to bear any immediate relevance to a particular industry or business. To be fair, Hatten and Schendel (op.cit) only used the brewing industry as a laboratory for testing the model. The motive for this study was to look more at the brewing industry rather than to explore differing ways of analysing and grouping data. As a consequence the study was more prepared to use other means of extracting information from the data, rather than adhering to any particular model. There were elements of this kind of flexibility in Hatten and Schendel's (op.cit), (eg use of judgement) in identifying groups. However it was not used to the same extent as it was in this study.

This analysis demonstrates the difficulties in trying to apply econometrics to a Business strategy problem. To make effective use of the quantitative methods used in this study far more data would be needed. This would require more openness from those in the industry under examination in providing data, or greater use of more "historic" information. However the openness of managers in the business tends to be dictated by the degree of competition

in the industry. Further, the increased use of historical data does reduce the relevance of the results to current management decision making. How relevant older data is depends on how long term decisions (investment, marketing etc) are in the industry.

The use of the method did not identify homogeneous groups in the brewing industry but strategic groups may very well not exist in the form that Hatten and Schendel (op.cit) envisaged. Further analysis showed that the UK brewers may act in a similar manner, according to their strategic group, but the effects of the strategies may not affect any two brewers in the the same or even a similar way. This became more clear as the qualitative analysis was introduced. Doing the same thing did not necessarily bear the same fruit. It may be that a combination of strategies would produce similar results in the end but this would ignore the effect of individual strategies. However it could also be due to the fact that even very minor differences in strategy, or even luck, possibly undetected in the analysis, may lead to considerable differences in profitability. It was because of these non-quantifiable differences that the use of qualitative information was necessary.

## The market-share profitability relationship

The analysis was able to identify distinct groups based on the relationship between market-share/firm size and profitability. The U-shaped curve which the analysis produced which was similar to one of the scenario's proposed by Porter (1980) with the successful adoption of the three generic strategies of cost-leadership, focus or differentiation. However the numerous exceptions to the general curve do cast doubts on the usefulness of the results. The method used in the analysis was also rather simplistic in its use of statistics, relying on just scattergram diagrams. Despite these criticisms the method did manage to visually describe a relationship without recourse to statistical analysis which may not have been as reliable. The results point out that "big can be beautiful" and "small can be best" at the same time. It does show that this research supports to some extent previous work (ie PIMS, Woo, 1984 and the Price Commission, 1977) in this area. Importantly it also challenges the assumption that market-share is a desirable and necessary goal. (Portfolio analysis, market attractiveness, business position assessment and PIMS). The results suggest the importance of looking at empirical data for the industry and firms within the industry before using any analytical techniques that make assumptions about particular relationships between variables.

The lack of any clear cut results is a disappointment. However it would be fair to conclude that a relationship would be hard to identify when only 15 brewers are in the analysis. By using this small sample the results can only be considered an indicator of the relationship between market-share and profitability in the industry. However it is worth pointing out that these 15 brewers (out of around 78 in the UK) produce over 85% of UK output and thus represent most of the brewing industry in terms of volume.

#### The multivariate analysis

The multivariate analysis which looked at the relationship between profitability and market-share with the selected manufacturing and marketing variables utilized a similar methodology to the market-share /profitability analysis. Unlike the complex statistical problems of the Hatten and Schendel method, the use of just scattergrams allowed the results to be presented in the simplest possible manner. Although this type of analysis explained little in the way of cause and effect it did clearly state how the relationships between the variables exist. The comparison between each variable, the brewer's size and profitability enabled the research to identify this tri-variate relationship for each variable. The results suggested how individual strategies have been adopted by the brewers, and whether they had a positive effect on profitability and



market-share in the sample as a whole. Although the positions plotted on the graphs were only averages, the variations in positions of the brewers were such that conclusions on strategic moves could be made. This was aided to a large extent by prior knowledge of the industry.

Some of the results were surprising in that so little correlation actually existed between the independent variables and profitability, either including or excluding property in the profitability measure. The graphs utilizing ROI excluding property did improve the results, probably because they excluded property which has been so erratic in its valuation in the industry. Otherwise one must conclude that many of the selected independent variables had little bearing on profitability on an individual basis and only collectively, with other non-quantifiable variables, did they explain variations in profitability.

#### The introduction of qualitative data

In the final section of the analysis the strategic groups and strategies identified were confirmed by introducing non-quantifiable variables into the analysis. The exercise was useful in that it ensured that any relationships identified, or conclusions drawn, could be supported by qualitative data (collected by interview) from the industry itself.

From the interviews it was apparent that management attitudes and perceptions of the industry and the role the business played in that industry, were as important to the operation of the company as the quantitative variables were. The aims of these companies were different even to the degree as to what industry they were in (eg brewing or leisure). There was a fair degree of correlation between what kind of company (in terms of management style) and the influence of certain variables on profitability and their relationship with the size of the company. Thus for example, it was no surprise that the small regional family run business had a very low advertising/sales ratio and relatively high profitability.

#### Quantitative or qualitative analysis?

From the analysis it is clear that Porter's (op.cit) use of more qualitative analysis is paramount to understanding competition and hence profitability determination in an industry. Even in the highly statistical based studies of Schendel & Patton (op.cit) and Hatten and Schendel (op.cit) they stressed a need for knowledge of the industry and its structure. That there was a need for qualitative analysis

of the industry was never in doubt, what was unknown was how reliant the results and conclusions were to be on non-statistical data. This is not to underestimate the importance of the statistical analysis, in some areas, words are no substitute for figures for stressing a relationship. This was shown most significantly in the market-share profitability analysis. It also lends support to trend identification in the industry. ie we know that the small brewers did well from focused strategies, but by how much?

Of significant importance, and a factor brought out by the interviews, was how subjective the brewing industry actually is. Many decisions are based, not on appraisal of strategies using formal econometric techniques, but on hunches, sentiments and the like. Hence this kind of industry may be better suited to analysis that reflects the way the industry is run, rather than any particular qualitative method. Porter does stress this by looking at individual components of the industry as well as the industry as a whole. Porter produces a framework to assess the industry but without the use of statistical analysis. The statistical analysis may be unable to cope with many un-quantifiable factors and subtiles which explain the way in which the industry operates.

There are two important lessons to be learnt from the analysis if further work is to be carried out in this

field.

1. Never make assumptions about relationships before testing them in the particular environment in which the analysis is being carried out. eg the market-share profitability relationship.
2. Be more guided by intuition rather than any overstructured analysis that could limit or ignore important factors. eg take into account subjective data.

These statements support a combined use of quantitative and qualitative analysis. Being guided by intuition may well lead to assumptions that are not necessarily empirically proven, eg big firms are more profitable is intuitively appealing, and may often be the case, but may not be so in the particular circumstances being examined.

The statistical methods employed to analyse the US brewing industry (Hatten & Schendel and Hatten & Patton) are certainly not sufficient to explain profitability in the UK brewing industry. However to actually test or prove information gathered by a qualitative, Porter style analysis is not possible without the use of hard statistical data. Statistical analysis may be crude and difficult to carry out, but qualitative data is difficult to assess in any measureable way.

## Summary

The analysis can be considered a cautious success and has certainly produced some interesting results. The main purpose of the analysis was to identify the determinants of profitability using statistical data. The extensive use of qualitative data reduced the reliance on the quantitative data rather more than was anticipated. Thus the importance of qualitative analysis.

Justification for adopting this method is clear since the statistical analysis, even if more substantial data base had been available, was inadequate for an industry in which non-quantifiable factors such as family control and tradition played such an important role.

## CHAPTER 18: SUGGESTIONS FOR FUTURE RESEARCH

The analysis has been able to point out how different brewers have adopted different strategies with varying degrees of success. It would be useful to undertake a comparative analysis of some selected European brewing industries to see what strategic patterns emerge given their differing structure to the UK brewing industry. It would be wise to extend the period of analysis to around 20 years or 20 data points (if the data was quarterly or bi-annually). The analysis of the determination of profitability abroad should provide valuable lessons as to how and why some European brewers have been so successful in an international market as compared to UK brewers. Since this study compared the UK and the US brewing industries both very large producers, a comparison between between the Belgian and Dutch brewing industries both relatively small but with many elements in common (ie Stella Artois) would be an interesting start. It is also apparent that more qualitative data should be employed, especially when analysing differences within strategic groups.

The analysis spent some time looking at the market-share profitability relationship. However it tended to concentrate on national volume-share when many of the brewers analysed tended to operate on a regional rather

than national level. Further work should look at this relationship, utilizing regional data to look at how important regional strength might be in determining profitability. This analysis could be carried out either in the UK or in an overseas brewing industry, depending on the availability of data. The Netherlands may be an interesting comparison in this respect due to the significant difference between Heineken and the "rest". Another important area of analysis would be to look at competition within market segments, not just on a geographical basis but in terms of either products or type of outlets. This kind of analysis may be better able to pinpoint competitive action in the brewing industry and how and where the profits have been made.

The analysis pointed out the necessity of qualitative data when attempting a quantitative analysis. Further research should look at ways of reconciling these two important, if not conflicting factors. This would help to ensure the relevance of this kind of analysis to "real life" situations. A possible way to achieve this would be to utilize Porter's framework, with in depth statistical analysis in certain key areas such as capital intensity and advertising.

SECTION SIX: CONCLUSIONS



FACTORS CONTRIBUTING TO MARKET ATTRACTIVENESSAND BUSINESS POSITIONATTRACTIVENESS OF YOUR MARKET      STATUS/POSITION OF YOUR BUSINESS

## MARKET FACTORS

Size (Value, units or both)	Your share (in equivalent terms)
Size of key segments	Your share of key segments
Growth rate per year:	Your annual growth rate
Total	Total
Segments	Segments
Diversity of market	Diversity of your participation
Sensitivity to price, service features and external factors	Your influence on the market
Cyclicalities	Lags or leads in your sales
Seasonality	
Bargaining power of upstream suppliers	Bargaining power of your suppliers
Bargaining power of downstream suppliers	Bargaining power of your customers

## COMPETITION

Types of competitors	Where you fit, how you compare, in terms of products, marketing capability, service production strength
Degree of competition	financial strength, management
Changes in type and mix	
Entries and Exits	Segments you have entered or left
Changes in share	Your relative share change
Substitution by new technology	Your vulnerability to new technology
Degrees and types of integration	Your own level of integration

## FINANCIAL AND ECONOMIC FACTORS

Contribution margins	Your margins
Leveraging factors, such as economies of scale and experience	Your scale and experience
Barriers to entry or exit (both financial and non-financial)	Barriers to your entry or exit (both financial and non-financial)
Capacity utilisation	Your capacity utilisation

## TECHNOLOGICAL FACTORS

Maturity and volatility  
Complexity  
Differentiation

Your ability to cope with change  
Depth of your skills  
Types of your technological  
skills

Patents and copyrights  
Manufacturing process  
technology required

Your patent protection  
Your manufacturing technology

## SOCIO-POLITICAL FACTORS IN YOUR ENVIRONMENT

Social attitudes and trends

Your company's responsiveness  
and flexibility

Laws and government agency  
regulations

Your company's ability to cope

Influence with pressure  
groups and government  
representatives

Your company's aggressiveness

Human factors, such as  
unionisation and  
community acceptance

Your company's relationships

Source: "Strategic Market Planning - Problems and Analytical  
Approaches" - Abell and Hammond - Prentice Hall, 1979

APPENDIX 2

PORTER'S MARKET SHARE/PROFITABILITY CURVE



Source: Porter, M.E. "Competitive Strategy- techniques for analysing industries and competitors" The Free Press, New York 1980.

## APPENDIX 3

### GLOSSARY OF BREWING TERMS

Beer	An alcoholic drink made from fermented barley, hops and water.
Draught beer	Beer sold direct from a tank or barrel for immediate consumption.
Packaged beer	Beer sold in a bottle or can.
Lager	A pale, bottom fermented beer universally drunk throughout the world.
Bitter	The traditional top fermented beer of the UK.
A brewer	A company actively brewing.
A brewery	A site where beer is brewed and excise duty paid on it.
Managed house	A public house owned by a brewery company and managed by an employee of the company.
Tenanted house	A public house owned by a brewery company an let to a tenant, who runs it as his/hers own business.
Tied estate	The managed and tenanted public houses and off-licenced premises owned by a brewer.
Free trade	Licensed premises, including public houses, clubs, off-licensed premises, supermarkets, hotels and resturants, not owned by a brewer. Some premises may be obliged to take a some of their throughput of beer, wine or spirits from one or more brewers, having entered into a short-term contractual obligation to do so.
Take home	Off-licensed premises, mainly supermarkets, trade grocers, and specialist off-licences through which packaged beer and wines and spirits are sold mainly for comsumption at home. This trade is largely free (non brewery owned) but is partly tied (because some off-licences are owned by brewers.
Barrel	A measure of beer (288 pints)

APPENDIX 4

LIST OF VARIABLES EXCLUDED FOR EACH BREWER IN THE  
STATISTICAL GROUPING PROCEDURE DUE TO A LACK OF DATA OR  
VARIANCE OVER TIME.

<u>BREWER</u>	<u>VARIABLES</u>
Bass	None
Allied	None
Scots & Newc	Breweries
Guinness	Breweries, Pubs, Brands
Whitbread	Brands
Boddingtons	Breweries, Pubs, Brands, Adverts
Thwaites	Breweries, Brands
G. Whitley	None
M. Brown	Breweries
Vaux	None
Wolves & Dudley	Breweries, Adverts
Marstons	Breweries, Pubs, Brands, Adverts
Young	Breweries, Brands, Adverts
Courage	Breweries, brands

APPENDIX 5

THE FORMAT OF QUESTIONS USED IN INTERVIEWS WITH MANAGERS IN  
THE UK BREWING INDUSTRY AND THE COMPANIES INTERVIEWED

1. How has the company developed since 1972?  
-covering overall product, management (in particular marketing) and manufacturing developments.
  
2. What are the company's current strategic policies and decisions in the fields of;
  - a. capacity,
  - b. distribution- supermarkets, free trade, tied trade etc,
  - c. product development- lager, cider, bitter etc,
  - d. diversification,
  - e. overseas interests.
  
3. Who are your main competitors?
  - a. How do they compete?- ie price, advertising, loans, quality etc.
  - b. Do you think there are lessons to learn from them? If so, what?
  - c. Do you monitor their moves? If so, how?
  
4. What do you see as your "market" or "markets"?
  
5. Do you have any formal methods of strategy evaluation?

6. What indicators of success do you employ? - ie ROI, ROE, market-share etc.

7. Future developments - if this area has not been covered elsewhere.

#### THE BREWERS INTERVIEWED

Allied (Taylor Walker, Allied's London division)

Whitbread (Ex marketing manager)

Guinness (Financial services manager and marketing manager.)

Scottish and Newcastle (Public relations manager)

Wolverhampton and Dudley (Marketing manager)

Greene King (Marketing manager)

Marstons (Marketing manager)

Young (Group sales manager)

APPENDIX 6

STATEMENT OF RELATED STUDIES UNDERTAKEN

Attendance of research workshops for postgraduate research.

Attendance of degree courses in statistics and marketing.

Foundation course in computing and systems analysis.



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