Predicting Company Failure in the UK Housebuilding Industry

By

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CEM

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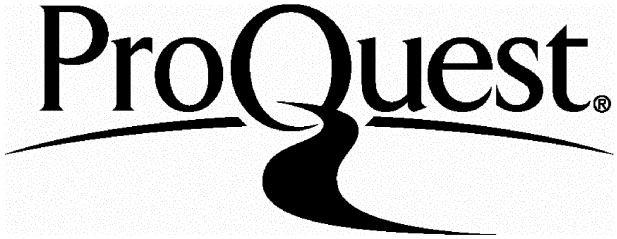

Abstract

This report describes the development of a predicting model for the identification of UK housebuilding companies in danger of failure. The model is developed using a combination of two techniques, 'financial ratio analysis' and a statistical technique known as 'multiple discriminant analysis'. This is a fairly new area of research in the UK housebuilding industry and is still open to further development. This report is an attempt to validate the technique and describe its capabilities. The predictive model is made up of four variables, measuring four different aspects of a company's financial structure (i.e financial risk, profit margin, efficiency and working capital position), and it provides good discrimination between 'solvent' and 'failed' companies. The results from the model support conclusions that this type of statistical model can be used as a classificatory tool, and it is possible to predict, with some confidence, who could be the next to fail.

Keywords: Insolvency, liquidation, housebuilders, financial ratios analysis, and multiple discriminant analysis.

(9618 words)

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Introduction

This research topic arises from an interest of the rising insolvency rate in construction sector which accounted nearly 16% of the total company insolvency in the UK in 1992 (Annual Abstract of Statistics,1994)[1]. Falling sales volumes and static selling prices has had a devastating impact on the profitability of the UK housebuilding industry. Size has not protected the major housebuilders from the effects of falling demand with leading names such as Beazer, Barrat, Wimpey, Bovis and Laing, all incurring loses in recent years (ICC, 1993)[2]. Housebuilding industry is distinctively different from other trades within the construction industry, especially in its financial structure. Table 1 compares the finance required by seven company types in the construction industry.

Purpose of Finance	Type of Business						
	Contracting	Housebuilding	Plant Hire	Materials Production	Mining	Property development	Property investment
Working Capital	1	2	2	2	2	2	2
Speculative stocks & WIP	-	3	-	2	1	3	3
Stocks ordered & WIP	1	1	1	1	1	1	-
Unexpected liabilities	3	1	2	1	3	-	2
Operating assets other than land	-	1	3	3	3	-	3
New ventures	-	1	-	2	1	2	3
Land	-	3	-	-	2	3	-

Notes

WIP = Work in progress

The numbers from 1 to 3 indicate the relative importance of requirement of finance for each type of business:

1 = low 2 = medium 3 = high

Source: Patricia M. Hillebrandt and Jacqueline Cannon "The Management of Construction Firms: Aspects of Theory" The MacMillan Press Ltd. 1989.

Table 1.Finance by various types of business

[1]CSO (1993), Annual Abstract of Statistics, Government Statistical Service

[2]ICC (1993), Business Report: An industry sector analysis "Major Housebuilders".

Evaluation of a company's performance in terms of its profitability alone, ignoring other characteristics such as its financial risk, working capital and degree of liquidity, can result only in an incomplete and potentially misleading view.

In this report, a statistical technique known as multiple discriminant analysis (MDA) is used to draw a comprehensive view of a company's performance, based on a collection of variables, such as liquidity, profitability and efficiency. The model developed in this report is aimed to distinguish among two groups - solvent companies (continuing) and insolvent (failed)companies, and to identify the variables that are important for distinguishing among the groups and to develop a procedure for predicting group membership for new cases whose group membership is undetermined. The available data are the values of the variables for cases whose group membership is known - that is, cases who have proved to be solvent (or continuing business) and insolvent.

In Chapter 1, an overview of the UK construction industry and liquidations among housebuilders are provided. Chapter 2 reviews three developed z-score models ;an asset-based model which was developed by Altman for American manufacturers in the 1960's; Taffler, a liquidity-based model which was constructed for the UK manufacturing and construction industries in 1983; and Mason and Harris's model which was developed in 1979 for the UK construction contractors. In Chapter 3, Altman and Tafflers' models are applied to the housebuilding industry and the results are analysed in an attempt to examine the discriminating power of liquidity-based model and asset-based model. A predicting model is constructed in Chapter 4, the model consists of four variables and it's discriminating power is found satisfactorily. Chapter 5 concludes the report, and limitations of MDA are dicussed.

Chapter One

An overview of the performance of the UK construction industry in between 1983-1992

One of the features of the UK construction industry that, in combination with others, sets it aside from many other industries is that the vast majority of its products are built to order. Housing is a partial exception with many contractors undertaking speculative housing developments, a fact noted from the very beginning of the capitalist era.[3]

In the early 1990s, the housebuilding industry and the housing market in Britain again experienced one of its periodic slumps. Activity in the owner-occupier housing market had virtually ceased in the early 90's, leading to the first actual falls in house prices since the 1950s.[4] Total private sector housing starts fell from 225,000 in 1988 to 160,000 in 1989, and only 90,000 for the first nine months of 1990 (ICC, Major Housebuilders, 1993).[5] After high profit margins for most of the 1980s, developers' profits had collapsed in the early 1990s.

By the nature of its end product, the housebuilding industry is a stock intensive industry. Stocks and work in progress account for the greater part of housebuilders' assets. The stocks to sales ratio averaged as high as 99.3% in 1990 (ICC, Housebuilder, 1993), indicating a situation in which many housebuilders were carry stocks, i.e. unsold houses and work in progress, almost equal to their annual sale.

Borrowing ratios tend to be high among housebuilders, as in addition to carrying stocks of unsold houses, they also have to invest in new building land. During the housing boom of the mid 1980s, many housebuilders took advantage of low interest rates to purchase landbanks for future building. However, much of this land was bought at inflated prices and many builders have had to make provisions, against profits for falling land values. At the same time, heavy interest charges on loans to purchase land have dented the pre-interest profits of housebuilders.

As shown in Figure 1, number of company insolvencies in the UK construction was peaked in 1992 which accounted nearly 16% of the total company insolvency in that year (1.86% of all construction companies failed in that year, see Figure 2). At the

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[3]Clarke, L. (1980), "The importance of a Historical Approach : Changes in Construction Industry". BISS vol.1.

[4]Barlow, J. (1991), Housebuilders and the housing system in Britain, France and Sweden, University of Sussex, Working Paper 74.

[5]ICC (1993), Business Report : An industry sector analysis "Major Housebuilders", ICC.

same period of time, the performance of the whole economy in the UK experienced the similar down fall as shown in Figure 3.

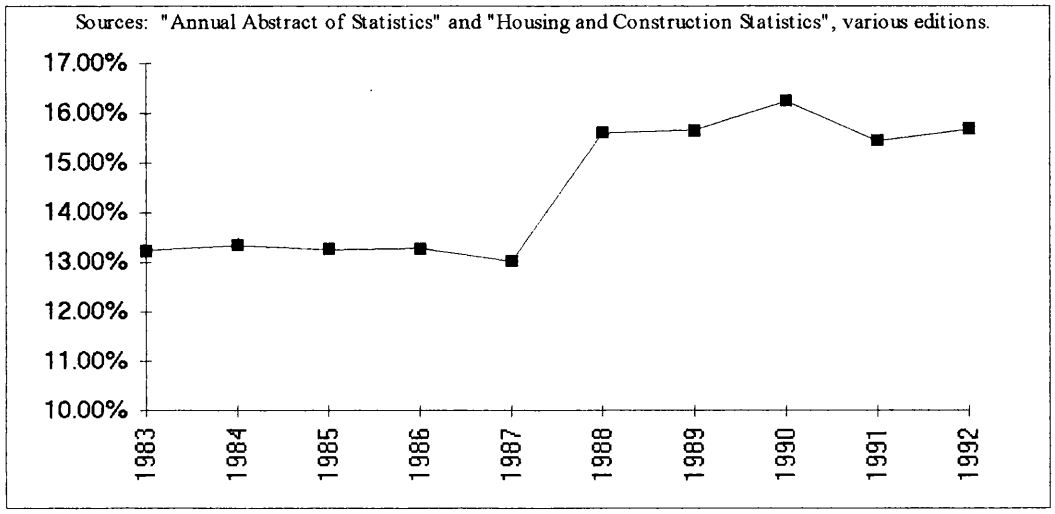

Figure 1. Failed construction companies as % of total companies failures

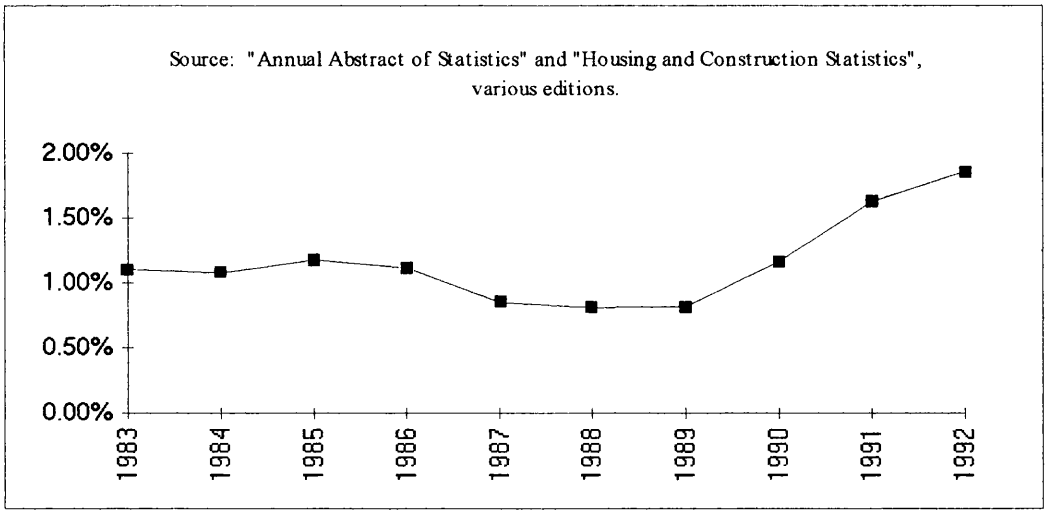

Figure 2. % of all construction companies failing during the year

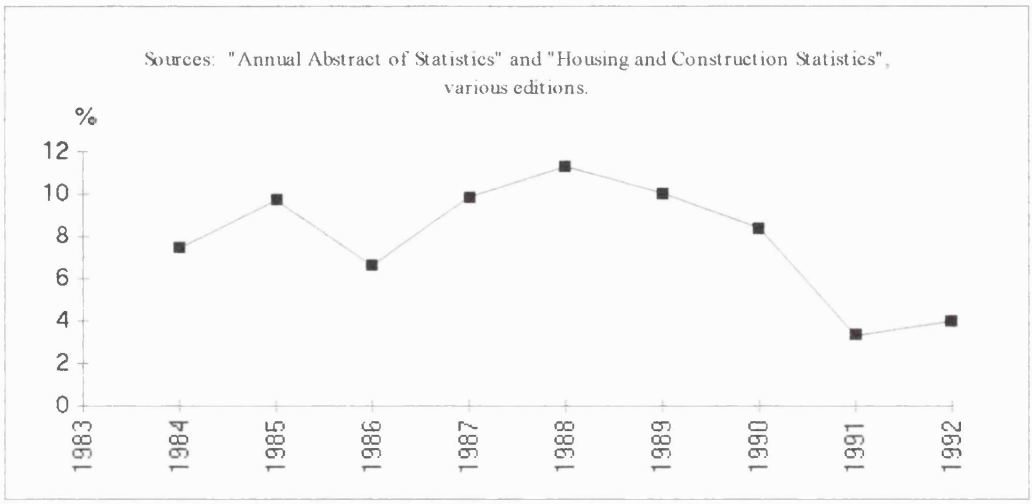

Figure 3. % change of GDP (at current prices)

Like all development endeavours, the financial risks in volume housebuilding are high. The wrong time, the wrong price, over-borrowing, can all have very serious effects on a company's stability. On the other hand, a successful venture can lead to profitability levels unlikely to be attained in general contracting. If this sort of venture appeals to a company, there is an opportunity to make substantial profits, but the risks are high.

Housebuilders using their own finances or funds borrowed from such sources as the institutions and pension funds have entered into property development with enthusiasm, and some have been very successful in doing so. Others have found that the financial problems involved were beyond their capabilities and have floundered. Every day some housebuilder or other tackles this type of development, and in doing so puts his finances at risk. Some will be successful, others will not.

The large housebuilders, however, can plan their building programs a number of years ahead. Market downturns may affect turnover temporarily but investment plans do not have to be altered. The major investment of speculative builders is in land, so these firms can take a long time but more importantly they are able to acquire and develop land at the most opportune times. This gradually strengthens their market position.[6] Moreover, housebuilding, which begins with the purchase of plots and ends

[6]Monk, S. (1991), The Speculative Housebuilder: A review of Empirical Research, Granta Editions Ltd.

with the sale of finished homes not more than two years later, has an enormous appetite for cash.[7] Does "Bigger" really mean "Better"?

Mason and Harris (1979) commented that *"construction is recognized as a high risk business. Whilst the smaller firms have always been considered as a potential risk, the larger companies were regarded as being reasonably secure"*.[8] The large companies are mainly quoted companies, financial difficulties can be managed by raising capital in the stock market or the ultimate holding companies can inject capital to save the subsidiaries. Some big firms even change the scope of their business, as described by Langford (1993), he says " *in the current economic climate many big firms are known to have trimmed their scope of operations and operating costs in order to avert insolvency*".[9]

Types of Housebuilder

The UK housebuilding industry is described by Ball (1983)[10] "*No Such thing as a minimum list heading, common for virtually every other industry, exists for construction. Some disaggregated pieces of information by trade of firm and by type of work are presented but no composite picture of sectors of the industry can be derived*".

However, Ball divides the current industry in five types of housebuilders:

(a) Petty capitalist housebuilders - these are small, producing up to 20 houses pa. but usually only 2 or 3 and sometimes none. Of the 21,000 registered private housebuilders in 1978, 12,000 did not build a house at all in that year.

(b) Small family capital housebuilders - these firms need to turn over their capital regularly so they usually build 25-120 houses pa. They often have long ties in a locality, maintaining sales through an image of quality tradition building, and acquiring land through intimate local knowledge.

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[7]Foster, G. (1994), 'Why the Whimpering Stopped?', Management Today, February 1994, pp40-44.
[8]Mason, R.J. and Harris, F.C. (1979) Predicting company failure in the construction industry. Proceedings Institution of Civil Engineers, 66, pp.301-7.
[9]Langford, D. , Iyagba, R. and Komba, D.M. (1993) Prediction of solvency in construction companies. Construction Management and Economics, 11, pp.317-325.
[10]Ball, M. (1983), Housing Policy and Economic Power - The Political Economy of Owner Occupation, Methuen, pp.43-96.

(c) Non-speculative housebuilding - these are firms whose main activity is not speculative housebuilding although they are involved in a certain amount. Therefore they tend to operate at a level of output which does not tie up too much capital but is not viable without the other activities. They usually produce 120-300 houses pa..

(d) Large capital housebuilding firms - these dominate the industry, building over 300 houses pa., and 89 firms accounted for 47% of the market in 1978. Even this is an underestimate because they often turn out to be regional subsidiaries of larger firms although they are registered separately. They are usually publicly quoted, and they generally have a three year land bank.

(e) Long term land development capital - Large firms have moved in through takeover to occupy leading positions, and their motives related predominantly to long-term, large-scale investment. A new and particular type of capital, therefore, has come to dominate speculative housebuilding. These housebuilders can plan building programme a number of years in advance, because they have the financial backing of large corporate enterprises. These firms tend to take a bigger share of an expanding market and then contract their share during downturns.

Liquidation and Receivership of housebuilders in the UK (1989-1992)

According to the figures disclosed by the National Housebuilders Council [11] (as shown in Figures 4, 5, 6 and 7), number of members deleted from the National Housebuilders (due to liquidation or in-receivership) reached its peak in 1991 which coincided with the economic trend as the growth of GDP in the UK fallen to the lowest level in 1991 in a decade (see Figure 3).

[11] Deleted members of the NHBC with deletion reasons , Liquidation or In receivership, between 1989-1992. (Courtesy National Housebuilders Council)

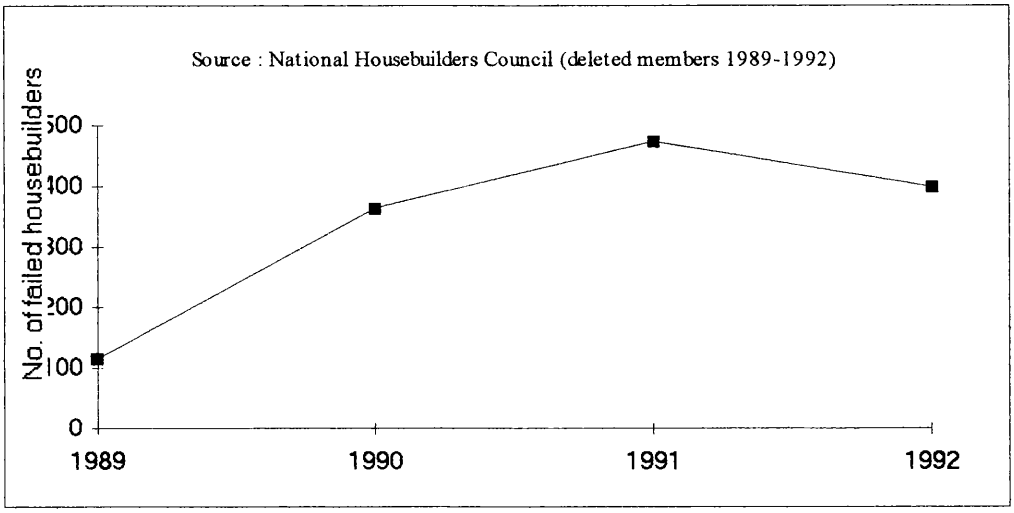

Figure 4. Total no. of Housebuilders failing during the year (Liquidation or in Receivership)

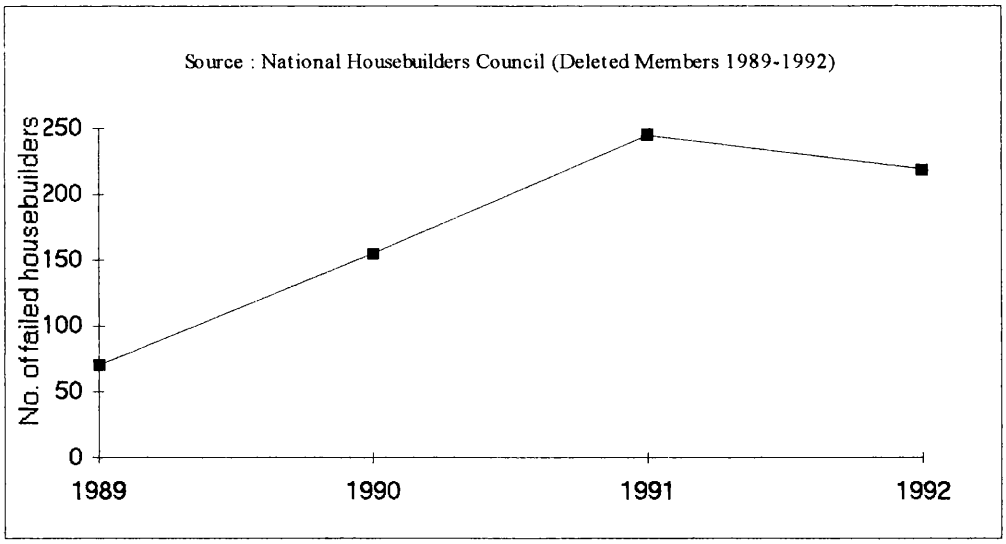

Figure 5. Total no. of Housebuilders in Liquidation during the year.

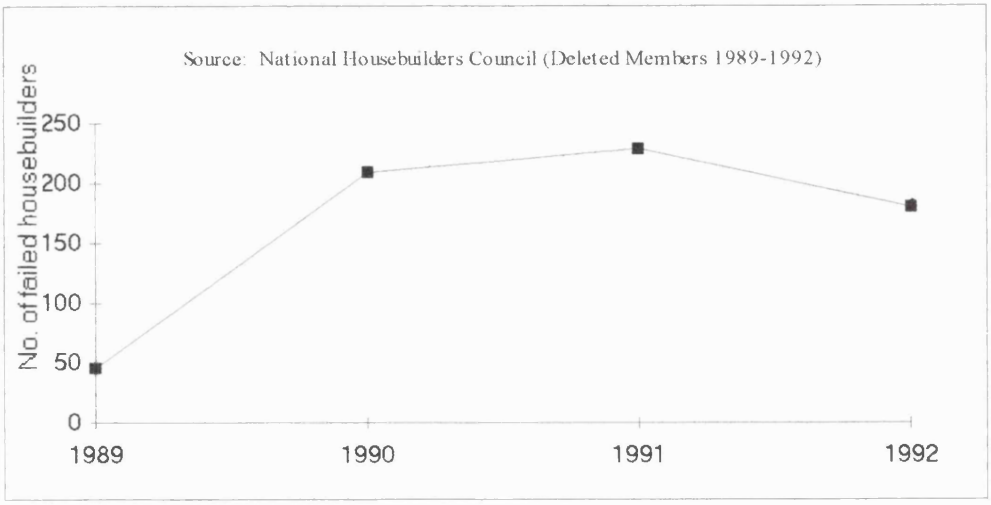

Figure 6. Total no. of Housebuilders in Receivership during the year.

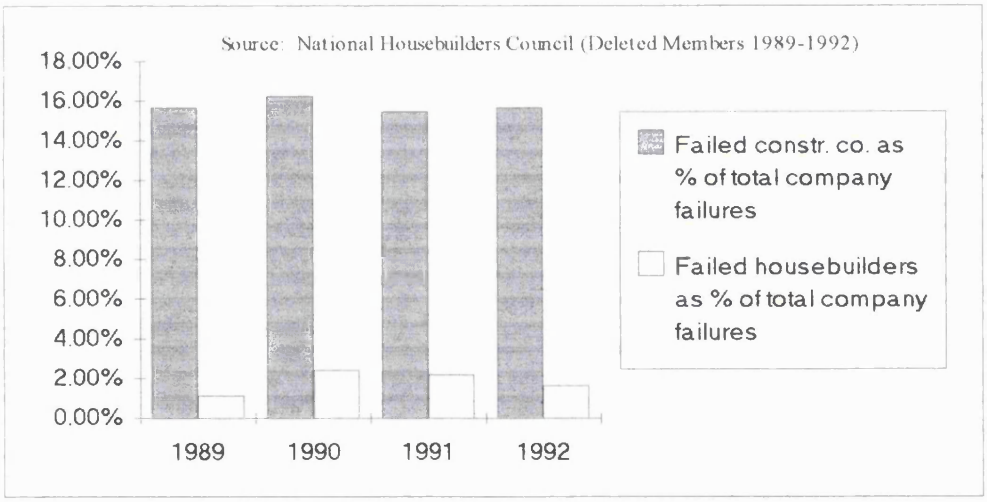

Figure 7. Comparison of the failed contractors and failed housebuilders

There is no doubt about the performance of each company that it is immensely affected by the economy as a whole, however, many companies manage to survive while others are failing. Reasons behind companies failures are complex and, efforts have been made by many scholars and economists in predicting company failure in an attempt to prevent impending failures or to improve companies' performances. The large firms obviously have their advantages over their smaller competitors but, it doesn't mean that they are exempted from failure completely. Obviously, there is need for a device to identify impending company failure. This report describes such a device which is known as a Z-Score model.

The Z-Score model (Multiple Discriminant Analysis, MDA) has been widely used by the UK accountants since the late 1970s. Several theories based on the concept of Z-Score are developed in an attempt to predict the company failure, unfortunately, none of them is tailored for the UK housebuilders. In Chapter 2, we look at the development of MDA in America and in the UK.

Chapter Two

Multiple Discriminant Analysis (MDA)

Z-Score Model - An Overview

Multiple Discriminant Analysis (MDA) has been used in different areas by scientists and academics since its first application in the 1930's.[12] The basic ideas of discriminant analysis is defined by Lachenbruch (1975)[13] *"Discriminant Analysis is concerned with the problem of assigning an unknown observation to a group with a low error rate".*

The commercial use of the z-score technique was originally developed by E I Altman in the US in 1968. In the paper published in 1968[14], Altman criticized the traditional ratio analysis technique in predicting companies' performances was questionable and confusing. Using the MDA technique, he developed a z-score model to predict company's failure.

The z-score model approach consists of constructing the solvency profile of a company on the basis of its published financial accounts and comparing it with the profile of known financially healthy, or previously bankrupt, firms. The closer the company in question resembles previous failures the more likely it is to fail itself and vice versa. Its solvency profile is summarized in a single index, known as a z-score, derived from the Z model.

Altman's z-score model is as follows.

$$Z = .012X_1 + .014X_2 + .033X_3 + .006X_4 + .999X_5 \qquad \text{Equation 1}$$

Where X_1 = Working Capital/Total assets
X_2 = Retained Earnings/Total assets
X_3 = Earnings before interest and taxes/Total assets
X_4 = Market value equity/Book value of total debt
X_5 = Sales/Total assets
Z = Overall Index

[12]Fisher, R.A.(1936) "The Use of Multiple Measurements in Taxonomic Problems", Annuals of Eugenics, No.7 (September), pp. 179-188.
[13]Lachenbruch, P.A. (1975), "Discriminant Analysis", Hafner Press, pp. 1.
[14]Altamn, E. I. (1968) "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy", Journal of Finance, Vol 23, No.4 (September), pp 589-609.

X_1 - Working Capital/Total Assets. It is a measure of the net liquid assets of the firm relative to the total capitalization. Working capital is defined as the difference between current assets and current liabilities.

X_2 - Retained Earnings/Total Assets. It is a measure of cumulative profitability over time was cited earlier as one of the "new" ratios. The age of a firm is implicitly considered in this ratio. Retained earnings is defined as the account which reports the total amount of reinvested earnings and/or losses of a firm over its entire life. The account is also referred to as Earned Surplus or Retained Profits (or Reserves in UK).

X_3 - Earnings Before Interests and Taxes/Total Assets. This measures the true productivity of the firm's assets, abstracting from any tax or leverage factors. Earnings is defined as Operating Profits.

X_4 - Market Value of Equity/Book Value of Total Debt. Market Value of Equity is measured by the combined market value of all shares of stock, preferred and common (preference and ordinary), while debt includes both current and long-term. The measure shows how much the firm's assets can decline in value (measured by market value of equity plus debt) before the liabilities exceed the assets and the firm become insolvent.

X_5 - Sales/Total Assets. This measures the management's capability in dealing with competitive conditions. Sales is defined as raising cash by selling assets.

Altman concluded his results that all firms having a Z score of greater than 2.99 clearly fall into the "non-bankrupt" sector, while those firms having a Z below 1.81 are all bankrupt. The area between 1.81 and 2.99 will be defined as the "zone of ignorance" or "gray area" because of the susceptibility to error classification.

Recent development of the z-score model

Mason and Harris (1979)[15] carried out a study in predicting company failure in the construction industry. A z-score model was developed as follows:

$$Z = 25.4 - 51.2R_1 + 87.8R_2 - 4.8R_3 - 14.5R_4 - 9.1R_5 - 4.5R_6 \qquad \text{Equation 2}$$

Where

R_1 = Profit before interest and tax/opening balance sheet net assets

R_2 = Profit before interest and tax/opening sheet net capital employed ($PBIT / NCE_{open}$)

R_3 = Debtors/creditors

R_4 = Current liabilities/current assets

R_5 = $\log_{10}$ (days debtors (cf. equation (3))

R_6 = Creditors trend measurement (cf. equation (4))

$$\text{days debtors for year } n = \frac{D_{n-1} + D_n}{\text{turnover}} x \frac{365}{2} \qquad \text{Equation 3}$$

Where D_{n-1} = debt for year n-1, D_n = debt for year n

$$\text{trend creditors for year n} = \frac{C_n + C_{n-1}}{2C_{n-2}} - 1 \qquad \text{Equation 4}$$

Where C_{n-1} = Creditors for year n-1, C_n = creditors for year n, etc.

The six discriminant ratios developed by Mason and Harris measure five distinct aspects of the company structure. These are profitability (1 and 2), working capital position (3), financial leverage (4), quick assets position (5) and trend (6).

[15]Mason R.J. and Harris F.C.(1979), "Predicting company failure in the construction industry", Proceedings Institution of Civil Engineers (1979) 66, pp.301-307.

R_1 - Profit Before Interest and Tax/Opening Balance Sheet Net Assets. "Profit" is defined as the Total Profit and "Opening Balance Sheet Net Assets" is defined as the previous year's closing net assets (Net Assets = Fixed Assets + Current Assets - Current Liabilities).

R_2 - Profit Before Interest and Tax/ Opening Sheet Net Capital Employed. "Opening Sheet Net Capital Employed" is defined as the previous year's closing net capital employed (Net Capital Employed = Fixed Assets + Current Assets).

R_3 - Debtors/Creditors. Debtors is defined as trade debtors and bills receivable within one year. Creditors is defined as trade creditors and bills payable within one year.

R_4 - Current Liabilities/Current Assets. Current Liabilities is defined as Liabilities which are expected to have been paid within one year from the date of the balance sheet (e.g., trade creditors, proposed final dividend, current taxation).

Mason and Harris concluded their results that all firms having a Z score of greater than 0 clearly fall into the "solvent" sector, while those firms having a Z below 0 are all "failed". The success rate of the model was 100% in this particular survey.

Mason and Harris's model was used by Langford (1993)[16] to predict the construction companies' insolvencies. Langford's paper, however, is very questionable in its value because the size of his sample is too small (only three companies were examined !) and he didn't make any adjustment of the model (he used exactly the same model developed by Mason and Harris in 1979!).

Taffler published his formula in 1977[17], and this is:

$$Z = 0.53X_1 + 0.13X_2 + 0.18X_3 + 0.16X_4 \qquad \text{Equation 5}$$

[16]Langford D., Iyagba R. & Komba D.M. (1993), "Prediction of solvency in construction companies", Construction Management and Economics ,11, pp.317-325.
[17]Taffler, R. J. (1977) "Going, going, gone", Accountancy, March.

Where

X_1 = Net profit before taxation/ Current liabilities

X_2 = Current assets/ Total liabilities

X_3 = Current liabilities/ Total assets

X_4 = No - credit interval

X_1 - Net Profit Before Taxation/Current Liabilities. This measures an enterprise's profitability. Current Liabilities means those liabilities which are expected to have been paid within one year from the date of the balance sheet (e.g., trade creditors, proposed final dividend, current taxation)

X_2 - Current Assets/Total Liabilities. It is a measure of a company's working capital position. Current Assets means any asset other than fixed assets. Current Assets are either already cash or can reasonably be expected to become cash within one year from the date of the balance sheet (e.g., debtors, stock-in-trade). Total Liabilities means the sum of short-term liabilities and long-term liabilities.

X_3 - Current Liabilities/Total Assets. This measures the financial risk of a company. Total Assets means the sum of fixed, intangible, intermediate and total current assets.

X_4 - No-Credit Interval. This measures the company's short term liquidity position. It is defined as

$$\frac{\text{Immediate assets - Current liabilities}}{\text{Operating costs - Depreciation}}$$

"Immediate Assets" is defined as the amounts such as gross investments in subsidiary and associated companies, gross inter-group balances, trade investments, advance corporation tax due after one year, investment properties and other long term financial assets or those with no stated repayment terms.

"Operating Costs" include wages and salaries, cost of bought-out materials and services, and overhead costs.

"Depreciation" is defined as the depreciation provision for the year on tangible fixed assets, this includes 'accelerated' charges but exclude supplementary transfers to reserves.

A paper published in 1983[18]by Taffler which focused on one particular system for the analysis of listed industrial (manufacturing and construction) concerns to illustrate the principles involved. Taffler concluded his results that all firms having a Z score of greater than 0 clearly fall into the "solvent" region, while those firms having a Z below 0 are all "at risk" region.

Altman score is strongly asset-based. By contrast, Taffler model is liquidity-based as described by Inman (1991)[19]. Both of these models have their values in predicting the performances of the speculative housebuilders (both liquidity and assets are important to the speculative housebuilders). Although, Mason and Harris's model has less recognition than Altman's and Taffler's, it is almost the only study in this area in the UK construction industry!

However, Mason and Harris's model is considered inappropriate for the explanatory model in the following chapter. The main reason is because of the correlation between two ratios, R_1 and R_2. The only difference between these two ratios is that "goodwill" is excluded in R_2 [20]. The term "goodwill" in many companies' accounts (in the sample) simply doesn't exist, it is because the lack of acquisition activities in the sampled companies and the problems associated with accounting tactics, and these will be discussed in later chapter. In other words, R_1 and R_2 can be mis-interpreted as the same ratio in term of absolute mathematical value. Moreover, the coefficients and the resultant z-scores are not harmonised and, this issue is discussed in chapter 5.

In the following chapter, Taffler model and Altman model are examined in an attempt to select an appropriate explanatory model for the development of a predicting model for the UK housebuilders.

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[18]Taffler, R. J (1983). "The z-score approach to measuring company solvency", The Accountant's Magazine, March, pp.91-96.

[19]Inman, M. L. (1991) "Z-scores and recent events: do they shed any light?", Management Accounting, (January), pp. 44-48.

[20]Letters from Mr. Mason an Mr. Harris on August 1st, 1994.

Chapter Three

Explanatory Model

Purposes of the Explanatory Model

- To apply Altman and Taffler models to the UK housebuilding industry, and evaluate the capability of the two models in the industry.

- To identify important financial measures which can highly discriminate and distinguish failed and solvent housebuilders.

- Drawn from the findings , establish a predicting model for the UK housebuilders performances.

Selection Criteria of explanatory model

In this report, an explanatory model is selected from the models developed by Altman and Taffler. Criteria considered in the selection process are as follows:

- Higher success rate in prediction
- Duration of Warning

Altman and Taffler models are chosen because their models are constructed with strong asset-based and liquidity-based variables. And these variables, it is believed, are influencing the housebuilders' financial structures substantially. Mason and Harris's model is not considered because it is specially constructed for the UK contracting industry which is distinctively different from the housebuilding industry (See Table 1), and the ratio X1 and X2 are virtually the same in many cases which may lead to a misleading result.

Higher success rate in prediction

The results can be compared by using a very simple probability technique.

$$\text{Probability of event happen, } P(A) = \frac{\text{Number of times event occurred in past}}{\text{Total number of observations}} \qquad \text{Equation 6}$$

Duration of Warning

Duration of warning is a measure of the capability of a z-score model which provides warning by indentifying financial distress of a company before failure (e.g receiver called in, administrators appointed or ceased trading, etc).

The company sample

In constructing the explanatory model, two sets of financial ratios were used. The first set was derived from the final year's accounts of 11 housebuilding companies failing in 1991and 1992, and the other from the 1992 accounts of 14 housebuilding companies that were thought to be particularly sound on a traditional financial ratio analysis basis.

Companies' Type

Unfortunately, there is little national data on speculative housebuilding published separately from the construction as a whole, as explained in Chapter 1. The company sample in this report, therefore, is drawn from accessible published information.

The sample is drawn from the Inter-Company Comparison's reports. Companies selected in the ICC reports are believed to be among the leaders in the medium-sized housebuilding sector.

Companies' size

£1 million $\leq$ Turnover $<$ £15 million (Medium-sized Housebuilders)

This report is only concerned with the medium-sized housebuilders in the UK housebuilding industry. Large housebuilders and small housebuilders are excluded from the report, it is because the large housebuilders are less vulnerable during the recession (backed by large enterprises and their shareholders) , and the information available in the publication on small housebuilders almost doesn't exist.

Data Period (5 years)

Predictive Accuracy of a MDA model is weakened as the lead time increases, and the results of Altman, Taffler and Morris have proven this. A 5 accounting year basis, therefore, is chosen in examining each company in the sample (except in the test model , only the final year's accounts are examined). Accounting period is from 1987 to 1991 (except "Wessex Retirement Homes" and "A.F. Ward" which final year's accounts published in 1990).

Definition of Failure

Failure is defined as receivership, voluntary liquidation (creditors), winding up by court order, ceased trading or equivalent.

Assumptions

Due to the limitation of the scale of this report and the differences between the American accounting method and the British accounting method, assumptions are made in evaluating the z-scores in both Altman and Taffler models. These assumptions are made in the manner of minimizing the distortion of results and, maintaining the originality of the ratios. The assumptions are as follows.

Altman model

- X_2 - "Retained Earnings" are replaced" by "Reserves"in the UK company account.

- X_4 - "Market value equity" is replaced by "Net book value of shareholders funds. The value of "Market value equity" is rather complicated to obtain in the publications and "Net book value of shareholders funds" are comparatively obtainable in the UK company account.

Taffler model

- X_4 - No-Credit Interval. "Immediate assets" refers to those assets which can be immediately transferred into cash, therefore, cash is supposed to be a very good measure of the "immediate assets". Unfortunately, "Cash" item in most of the accounts in the sample are found unreliable, as most of them declared that they almost didn't held any cash at all! Therefore, "Immediate assets" are measured as "Total Current Assets" excluding "Stocks".

The company sample is shown in Table 1. (Accounts detail are shown in Appendices A and B):

Table 2: Company Sample

	Company Name	Principal Activities	Turnover (1990) £000	Status
1	Alath Construction Ltd	The construction and sale of private houses.	5255	Receivership 8/8/92
2	Allison(Contractors) Ltd	The building of private houses for sale.	1734	Receivership 25/6/92
3	Fairbriar Homes Ltd	Property development.	14816	Liquidation 7/10/ 91
4	Jarvis Bros. & Brewster (Construction) Ltd	Construction of residential property.	7233	Ceased Trading 28/3/91
5	Wessex Retirement Homes Ltd	The construction and management of retirement homes.	1045	Receivership 8/5/92
6	Chelmsford Development Ltd	Building and estate development	11632	Receivership 8/2/93
7	Fradley & Son Ltd	Housebuilding and estate development	12451	Receivership 9/9/93
8	Standen Homes Ltd	The construction and sale of private houses.	12430	Receivership 31/12/91
9	Stepney Homes Ltd	Private housing and property development.	1852	Receivership 26/1/93

	Company Name	Principal Activities	Turnover (1990) £000	Status
10	D.F. O'Connor & Co. Ltd	Building and construction	3552	Liquidation 25/6/93
11	A. F. Ward (Builders) Ltd	Housebuilders.	1316	Receivership 27/1/93
12	K.B. Benfield & Co. (Midlands) Ltd	Housebuilding.	3453	Live
13	Brackenlea Ltd	Housebuilding.	3144	Live
14	Davies Holdings (Somerton) Ltd	Housebuilders, building contractors, dry liners and retailers.	14758	Live
15	Deeks & Steere Ltd	Builders and contractors.	27	Live
16	Eden Homes Ltd	Housing estate development.	4391 (1991)	Live
17	Flower & Hayes Ltd	A group engaged in housebuilding and civil engineering, the hire and sale of plant and activities related to the building industry.	2610	Live
18	Heavestow Ltd	Housebuilders	2108	Live
19	Jennings Homes Ltd	The construction of houses.	6054	Live
20	Moody Homes Ltd	Housebuilders and building contractors.	11620	Live
21	Muir Homes Ltd	The construction and sale of private houses.	8915	Live
22	D. North Homes Ltd	Residential building.	5077	Live
23	Orion Development Ltd	Housebuilders.	5457	Live
24	J. A. Pye (Oxford) Holdings Ltd	Housebuilders and estate developers.	7384	Live
25	Walton Homes Ltd	Housebuilders and property developers.	9105	Live

Results of the explanatory models

Using the data as shown in Appendices A and B, the two models are compared and the results are as follows:

Altman model

	Percentage classified by the model as failed	Percentage classified by the model as solvent
Failed group	85	15
Solvent group	88	12

Table 3. Classification of solvent and failed companies with Altman's model

P(A) = 0.43

Average duration of warning = 3.54 years

Taffler model

	Percentage classified by the model as failed	Percentage classified by the model as solvent
Failed group	85	15
Solvent group	59	41

Table 4. Classification of solvent and failed companies with Taffler's model.

P(A) = 0.6

Average duration of warning = 2.31 years

Discussions of the results

Although, Taffler model has a higher predicting power, P(0.6) seems insufficient to establish a sound predicting model from his model.

The results are disappointing, neither "Liquidity-based model" nor "Assets-based model" can effectively discriminate the failed and the continuing companies in the sample. Although both models can classify successfully the failed companies, they can't identify those companies who are continuing their businesses (Or, perhaps the surviving companies exhibit danger signals of impending insolvency!).

As illustrated in Figures (8 to 16), except the EBIT/ TA (Altman's model) and the PBT/CL ratio (Taffler's model), all ratios failed to identify the continuing group, Why?

As mentioned in Chapter 1, housebuilding by its nature is very much a stock intensive industry and stocks and work in progress account for the greater part of housebuilders' assets. In addition to carrying stocks of unsold houses, housebuilders also have to invest in new land for future building.

This means that liquidity is generally under strain in the housebuilding industry, and individual companies could hardly use any other alternatives to control their liquidity position due to their inflexible financial structures. And stocks piled up in the recession could hardly find the way out because of depressing market conditions.

Housebuilding firms have always been sensitive to the extent of their borrowing(Ball, 1988).[21] Overgear problems in the housebuilding industry are worsen by the British banking system which, is notorious for its failure to provide long-term capital to high risk-ventures (Ingham, 1984)[22]. Unlike the large capital housebuilders, raising internal or external funds to diversify or to invest into other business is difficult to the medium-sized firms. The growing importance of access to plentiful supplies of credit, for example, has been one of the principal causes of a rapid centralisation of capital in the British speculative housebuilding industry over the past 20 years (Ball, 1988).

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[21]Ball, M. (1988), Housing and Social Change in Europe and the USA,Routledge, Chapter 5.
[22]Ingham, G. (1984), Capitalism Divided?, Macmillan, Basingstoke.

The results of the two models surface a serious problem - although both liquidity and total assets contribute so much to the housebuilers' financial structures, the discriminating performances of these two variables imply that they are not suitable to be applied to the comparison between companies in the housebuilding industry. In Chapter 4, a predicting model is constructed for the UK housebuilding industry.

Results of each variables in the models are illustrated as in the following figures.

Altman's model

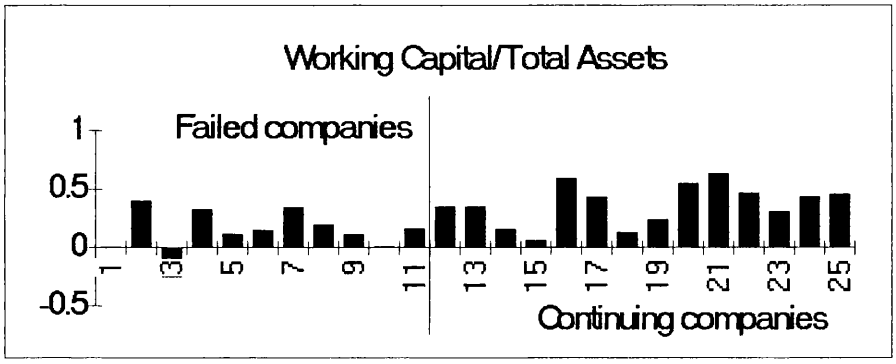

Figure 8 Working Capital to Total Assets ratios

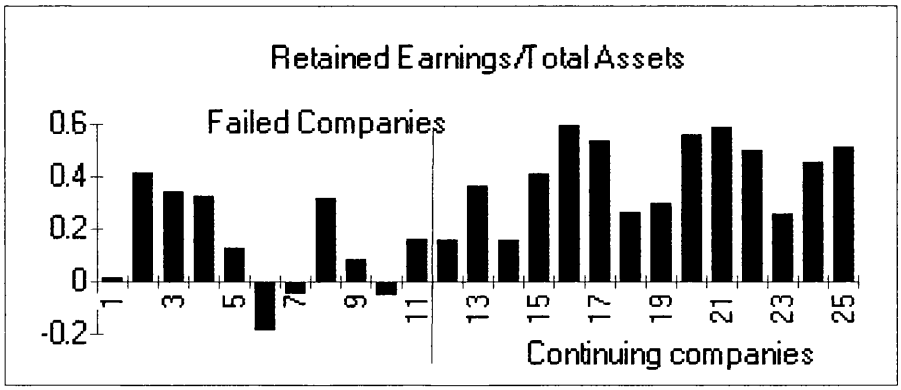

Figure 9. Retained Earning to Total Assets ratios

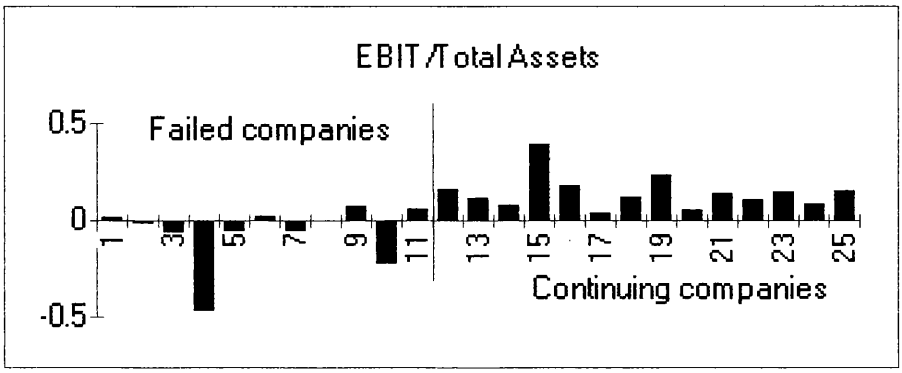

Figure 10. Earning Before Interest and Tax to Total Assets ratios

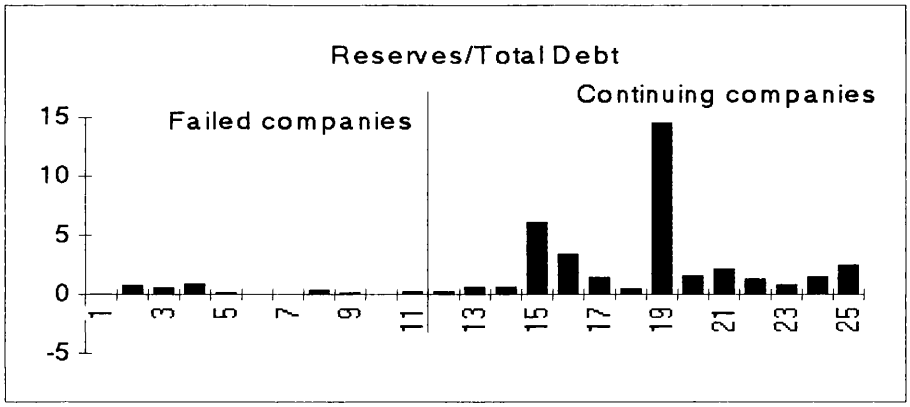

Figure 11. Reserves to Total Debt ratios

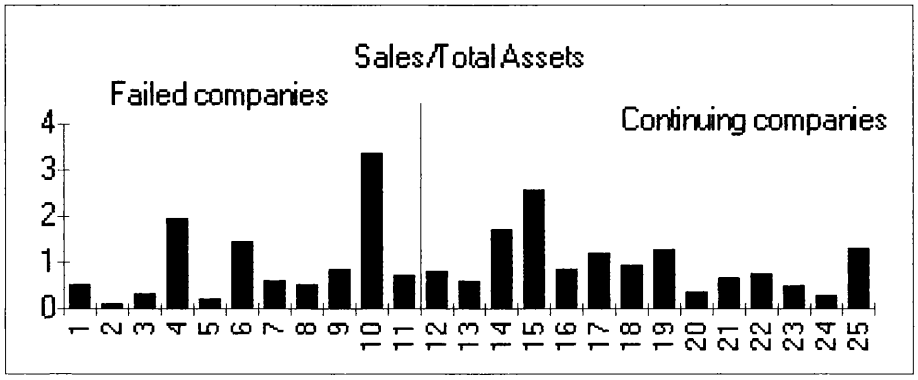

Figure 12. Sales to Total Assets ratios

Taffler's model

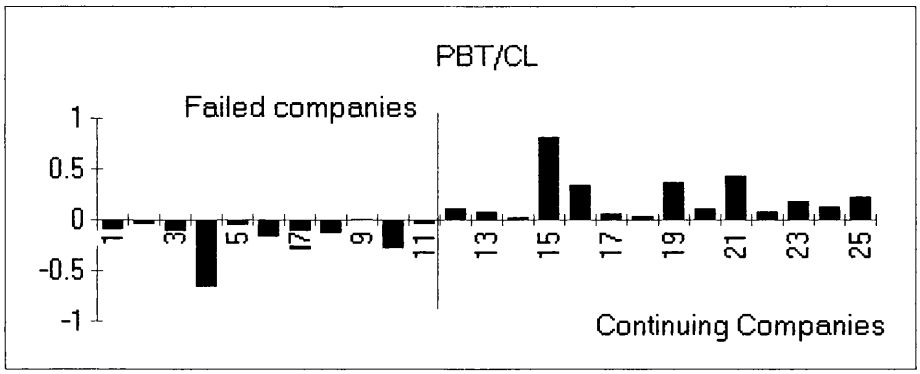

Figure 13. Net Profit before Tax to Current Liabilities Ratios

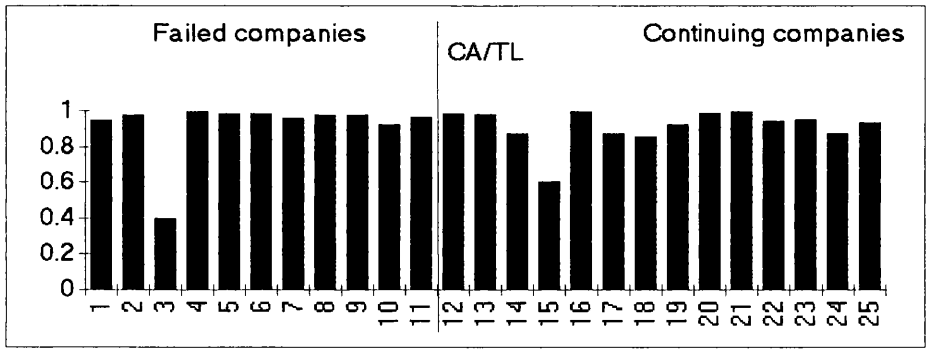

Figure 14. Current Assets to Total Liabilities Ratios

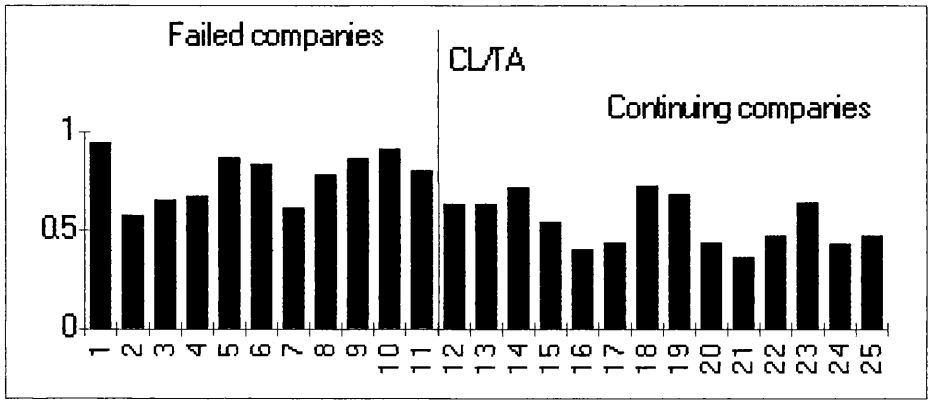

Figure 15. Current Liabilities to Total Assets Ratios

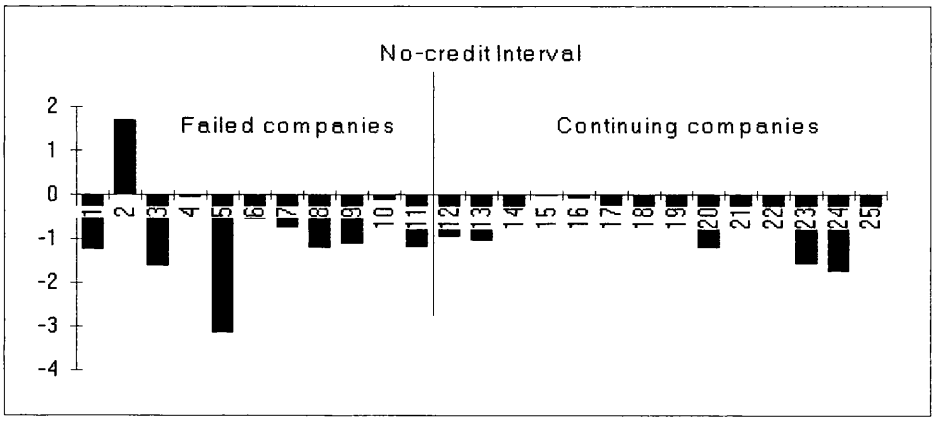

Figure 16. No-credit Interval

Chapter Four

Predicting Model

A predicting model is constructed in this chapter, as seen in chapter 3, Taffler and Altman models are found unsuitable for discriminating solvent and failed companies in the UK housebuilding industry.

Purposes of the Predicting Model

- To apply MDA technique to the UK housebuilding industry
- To identify variables which have high discriminating power.
- To evaluate the suitability of MDA in the industry.

Company's Sample

The proposed model is based on the companies' data as shown in Chapter 3. In addition, 8 other independent companies' accounts are used for testing the proposed model.

Table 5. Testing Sample

	Company Name	Principal Activities	Turnover (1990) £000	Status
1	Weathercock Properties Ltd	Builders and property developers and property management.	1089	Receivership 28/1/92
2	Hasall Homes (Western) Ltd	Private Housebuilding	9940	Ceased Trading 30/6/91
3	McInerney Developments	Building houses and flats under contract and for private sale.	1123(1989)	Liquidation 28/1/92
4	Mill wood Homes PLC	Housebuilders	2731	Liquidation 31/10/91

5	Abbey Manor Homes Ltd.	Residential housebuilders	1503	Live
6	MacBryde Homes Ltd.	Housebuilding	10230	Live
7	Penta Homes Ltd	General builders and developers.	7384	Live
8	Beazer Homes (Anglia) Ltd	Housebuilding.	14483	Live

The Analysis

The discriminant analysis is done using the 'SPSS' analysing computer package[23] which is readily available. In this study 28 discriminating variables were considered (including variables from Taffler and Altmans' models) and the package was used to find a small number of these that produced high discriminating power.

The package begins by finding the variable that discriminates most between the groups of known 'failed' and 'solvent' (or continuing) companies. It then combines this variable with each of the other variables in turn until it finds the variable which contributes most to any further discrimination of groups. The process then continues in a similar manner until very little discrimination is gained by inclusion of a further variable.

Having found a set of variables that provide a high level of discrimination the package is then able to mathematically combine the variables to produce the discriminate function that is required. This function is of the form

$$Z= \quad C_0 + C_1 X_1 + C_2 X_2 + \ldots\ldots + C_n X_n \qquad \text{Equation 7}$$

where

Z is the z-score

[23] SPSS Professional Statisitics® for Windows™, Release 6.0,.(1993)

C_0 is a constant

$C_1 \ldots\ldots C_n$ are the ratio weights

$X_1 \ldots\ldots X_n$ are the discriminating financial ratios.

The Variables

A model is constructed from a number of discriminating variables derived from the published ICC financial ratios, to reflect the characteristics of both failed and continuing companies. The data are then mathematically combined and a single dimension is evaluated which describes the point of separation of the two groups of companies along a scale of solvency.

The main reason of using ICC financial ratios is because of its consistency of measurement standard and , its ratios represent most of the contemporary financial ratios which are being currently used by financial sectors. In this report, 19 ratios from ICC are considered as constituent variables are as follows.

Profitability Ratios

Net Profit Before Tax/Capital Employed: This ratio is often taken as the primary measure of profitability for a company as it can be roughly regarded as the sum the business yields for the money invested into it.

Net Profit Before Tax/Total Assets: It is different from NPBT/CE as it encompasses the degree to which a company has been successful in (or forced into) relying on creditors or current liabilities for financial support.

Net Profit Before Tax/Shareholders Funds: If this ratio is as subsidiaries of larger companies often have only a nominal number of shares issued, their finance coming mainly from the inter-company loans.

Trading profit/Turnover & Operating profit/Turnover: These ratios can not be judged in isolation, for example a higher sales volume may be achieved by lowering prices. Overheads or fixed costs would then be spread over a larger base and as total profits should have risen (although not in proportion to sales) return on capital may rise while the profit margin falls.

Efficiency Ratios

Turnover/Total Assets: This ratio is generally higher the better. A high result, however, might be achieved because the fixed assets are old (and therefore probably undervalued) and in need of replacement. A further reason is that some of the assets are not reflected on the balance sheets, this would be the case if the company was labour intensive as opposed to capital intensive. Turning this around, a low result might not be unsatisfactory if it merely indicates a higher degree of automation. Asset utilisation levels can be explained in part by three other ratios below.

Turnover/Fixed Assets: Simply the ratio between sales and fixed assets and is sometimes referred to as fixed asset.

Stock/Turnover: Generally the lower the better. However, if the stock to turnover ratio becomes too low the company might experience stock shortages. Furthermore, if it is involved in numerous diverse businesses, finds raw materials hard to come by or is planning expansion the stock level would rise and the ratio increase which obviously in those cases is not bad.

Trade Debtors/Turnover: Credit period. If the figure is too high the company may bear interest charges that would be avoided by better credit control while if it is too low the company may not be extending favourable credit terms to customers and may lose business.

Trade Creditors/Turnover. The higher this ratio is the less capital that is tied up unnecessarily, although if a company lets the ratio get too high it may find it difficult to obtain further credit in the future.

Working Capital/Turnover: This should indicate whether, in comparison with previous years or similar companies, the total volume of working capital is too high and the company is over capitalised, as least in this respect.

Liquidity Ratios

Total Current Assets/Total Current Liabilities: A low result indicates a lack of working capital and the possibility that a company would not be sufficiently solvent to meet its current liabilities when they fall due for payment.

(Total Current Assets - Stock)/Total Current Liabilities: Known as the Acid Test. Stocks are excluded because of the time taken to convert them first into debtors and then into cash.

Gearing Ratios

Total Debt/(Shareholders Funds - Immediate Assets): The higher the result then the higher the gearing and the greater the susceptibility of overall performance to changes in the money market.

Shareholders Funds/Total Liabilities: The lower the ratio the higher the gearing. This is different from the above gearing ratio in that the TD/(SF - IA) ratio deals mainly with the relatively fixed investment required while this ratio brings into consideration the more immediate trade creditors figure.

Interest Paid/(Net Profit Before Tax - Interest Paid): Interest as a portion of pre-interest profit, or that portion of a company's profits required to finance external loans. The reciprocal of this ratio is often referred to as Interest Cover.

Total Debt/Working Capital: Total debt expressed as a ratio of working capital.

Long Term Loans/(Shareholders Funds - Immediate Assets): Similar to TD/(SF - IA) although excluding the affects of short term loans.

RATIOS	DEFINITIONS
PROFITABILITY	
NPBT/CE	Cd = Creditors
NPBT/TA	CE = Capital Employed
NPBT/SF	FA = Fixed Assets
TP/TO	IA = Intangible Assets
OP/TO	IP = Interests Paid
NPBT/TO	LTL = Long Term Loans
	NPBT = Net Profit Before Tax
	OP = Operating Profit
EFFICIENCY	SF = Shareholders Funds
TO/TA	ST = Stocks
TO/FA	TA = Total Assets
TO/ST	TCA = Total Current Assets
Td/TO x 1/365	TCL = Total Current Liabilities
Cd/TO x 365	Td = Trade Debtors
WC/TO	TD = Total Debts
	TO = Turnover (Sales)
LIQUIDITY	TP = Trading Profit
TCA/TCL	WC = Working Capital
(TCA - ST)/TCL	
GEARING	
TD/(SF - IA)	
SF/(CE + TCL)	
IP/(NPBT - IP)	
TD/WC	
LTL/(SF - IA)	

Table 6. ICC Financial Ratios

The Resultant Model

A four variables model was arrived at which was considered the "best" for our purposes. Subsequent discussions will be restricted to this model. Its structure is as follows:-

$$Z = C_0 + C_1X_1 + C_2X_2 + C_3X_3 + C_4X_4 \qquad \text{Equation 8}$$

Where: -

$C_0 =$ 6.540
$C_1 =$ -7.796
$C_2 =$ 0.127
$C_3 =$ -0.010
$C_4 =$ -0.009

The X's are the constituent discriminate variables. A list of these variables and the aspect of company structure that they measure appears in Table 7. It can be seen that the variables measure 4 distinct aspects of the company structure.

The Constituent Variables

X1: $\dfrac{\text{Current Liabilities}}{\text{Total Assets}}$

This measures the financial risk of a company. Its value appears lower in solvent companies than in failed companies. It indicates the ability of an enterprise to cover its current liabilities through its total assets.

X2: $\dfrac{\text{Net Profit Before Taxation}}{\text{Turnover}}$

This ratio is often taken as the primary measure of the profit margin for a company and it is expressed as a percentage. Its value appears positive in solvent companies and tends toward the negative in failed companies. Care should be taken in this ratio, for example a higher sales volume may be achieved by lowering prices.

X3: $\frac{\text{Turnover}}{\text{Fixed Assets}}$

It measures the efficiency of a company. Its value appears lower in solvent companies than in failed companies.

X4: $\frac{\text{Working Capital}}{\text{Turnover}}$

Working Capital divided by sales expressed as a percentage. This should indicate whether, in comparison with previous years or similar companies, the total volume of working capital is too high and the company is over capitalised, at least in this respect. Its value appears lower in solvent companies than in failed companies.

Constituent Variables	Structural Aspect of Ratio
Current Liabilities/Total Assets	Financial Risk
Net Profit Before Tax/Turnover	Profit Margin
Turnover/Fixed Asset	Efficiency
Working Capital/Turnover	Working Capital Position

Table 7.What the constituent ratios are measuring.

The relationship between the ratios

Since interdependencies among the variable affect most multivariate analyses, it is worth examining the correlation matrix of the predictor variables. Table 8 is the pooled within-groups correlation matrix.

"Net Profit Before Tax /Turnover" and Working Capital/Turnover" are extremely correlated with a value of 0.9999, however, the two mentioned ratios measure different aspects of the company as shown in Table 4. Ideally we could probably have replaced these two ratios by a single ratio measuring the relationship between Working Capital and Net Profit Before Tax. Unfortunately no such ratio was included in the analysis initially.

Some previous works, such as Taffler's[24], have made restrictions that only ratios measuring distinctly different aspects should be in the same model. The apparent reason for this was that by making these restrictions it reduced the complexity of the model and reduced the likelihood of sample bias being present in the models construction, and Taffler's fears of "collinearity and potential bias".

	CL/TA	*NPBT/TO*	*TO/FA*	*WC/TO*
CL/TA	1			
NPBT/TO	-0.032	1		
TO/FA	-0.031	0.1117	1	
WC/TO	-0.039	0.9999	0.11	1

Table 8. Correlation of the constituent variables.

Interpreting the discriminant function coefficients

The interpretation of the coefficients is similar to that in multiple regression. Since the variables are correlated, it is not possible to assess the importance of an individual variable. The value of the coefficient for a particular variable depends on the other variables included in the function.

[24]Taffler, R. J. (1983)"The Assessment of Company Solvency and Perfromance Using a Statistical Model", Accounting and Business Research, Autumn, pp.295-307.

It is sometimes tempting to interpret the magnitudes of the coefficients as indicators of the relative importance of variables. Variables with large coefficients are thought to contribute more to the overall discriminant function. However, the magnitude of the coefficients is not a good index of relative importance when the variables differ in the units in which they are measured.

Interpretation of model results

The model produced a diagram of Z scores for the failed and continuing groups as shown in Figure 17. Companies with positive Z scores are classified as solvent and those with negative scores as insolvent. Table 9 is the classification table for the two groups used to form the model.

The success rate of the model is 100% with no misclassifications, P(A) = 1 . However, the true test of the model is its performance on independent data. A further four failed and four continuing companies were therefore used as a test group and their classifications were also found to be good (misclassification was not found in the test group). Accounts detail of the test group can be found in Appendix C.

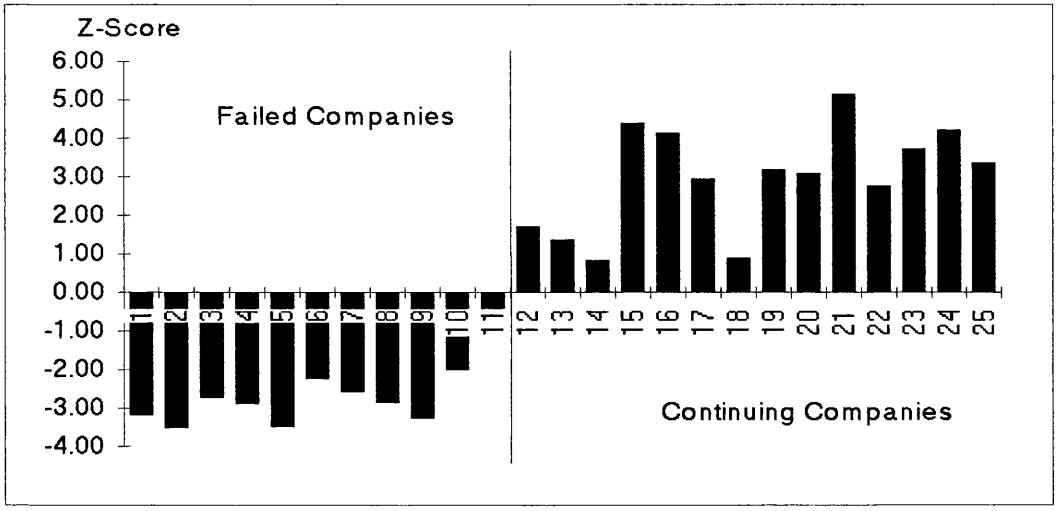

Figure 17. Z-scores of the constructed model

	Percentage classified by the model as failed	Percentage classified by the model as solvent
Failed group	100	0
Solvent group	0	100

Table 9. Classification of solvent and failed companies with the resultant model (P (A) = 1)

To see how much the two groups overlap and to examine the distribution of the discriminant scores, it is often useful to plot the discriminant function scores for the groups. Figure 10 shows histogram of the scores for each group separately. The row of 0's and 1's below the plot denotes the group to which scores are assigned.

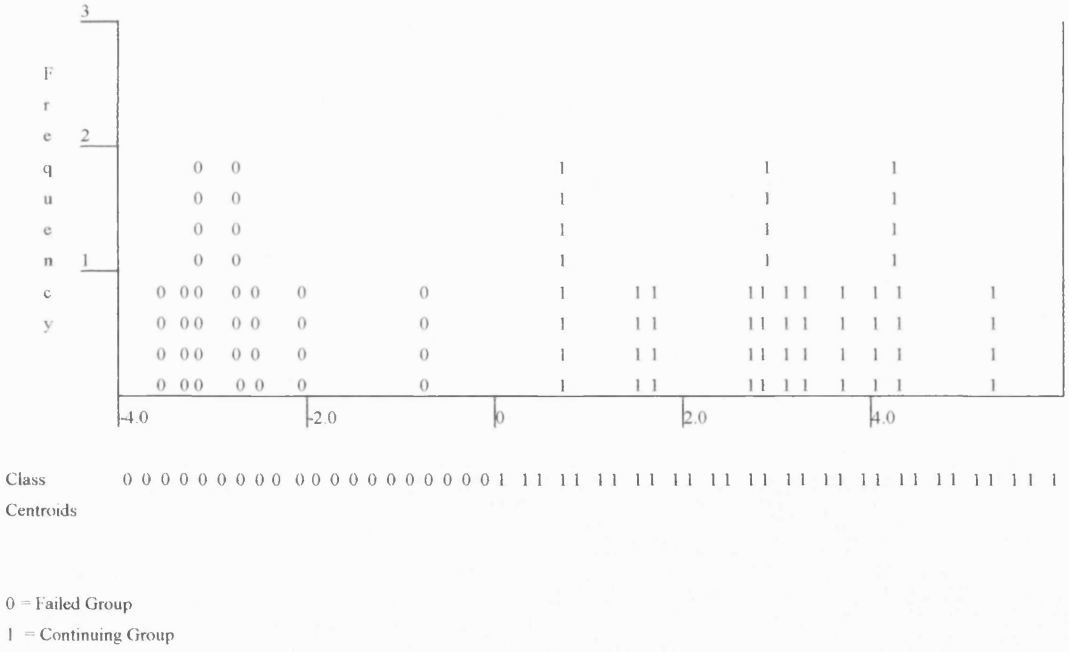

Table 10. All-groups Stacked Histogram

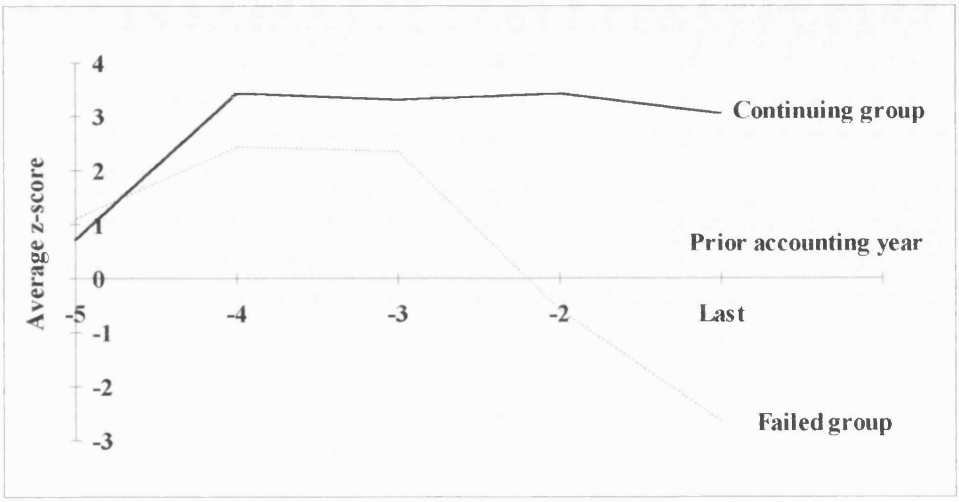

Figure 18. The path to failure

Prior accounting Year	Last	-2	-3	-4	-5
1 Alath	-3.18	-0.93	1.12	2.59	2.07
2 Allison	-3.62	-15.15	5.77	4.16	2.56
3 Fairbriar	-2.17	4.52	6.98	6.78	6.19
4 Jarvis Bros.	-2.61	1.99	1.19	1.18	0.75
5 Wessex Retmt	-3.5	2.93	1.17	0.77	-
6 Chelmsford	-2.27	0.82	-1.94	1.45	-2.04
7 Fadley & Son	-2.61	1.12	4.59	2	-0.59
8 Standen Homes	-2.87	0.51	3.05	4.14	2.86
9 Stepney Homes	-3.36	-2.57	0.29	1.02	-1.94
10 D.F. O'Connor	-2.02	-0.38	-0.66	-1.23	0.12
11 A.F. Ward	-0.87	0.67	4.33	3.83	-
12 K.B. Benfield	1.68	1.88	4.63	4.45	2.97
13 Brackenlea	1.73	-27.17	-10.18	-4.38	-2.81
14 Davies Holdings	0.83	0.9	2.51	5.51	3.73
15 Deeks & Steere	4.39	3.27	2.76	0.74	-0.32
16 Eden Homes	4.5	-55.04	-24.12	-12.26	-3.4
17 Flower & Hayes	2.93	3.74	3.7	3.79	3.96
18 Heavestow	0.88	-0.22	6.77	6.34	-5.67
19 Jennings Homes	3.17	4.4	4.4	4.25	2.31
20 Moody Homes	3.03	3.76	3.94	7.7	5.87
21 Muir Homes	5.5	4.86	4.14	2.68	1.26
22 D. North Homes	2.74	3.24	4.72	3.84	4.33
23 Orion Develpmt.	3.7	3.87	5.01	2.21	1.69
24 JA Pye Oxford	4.16	5.16	6.46	4.85	2.48
25 Walton Homes	3.34	6.16	4.11	2.57	-6.32
~~Continuing~~ failed Companies					
	Last	-2	-3	-4	-5
Average Z-Score	3.04	3.42	3.31	3.43	0.72
Maximum Score	-0.87	4.52	6.98	6.78	6.19
Minimum Score	-3.62	-15.15	-1.94	-1.23	-2.04
~~Failed~~ continuing Companies					
	Last	-2	-3	-4	-5
Average Z-Score	-2.64	-0.59	2.35	2.43	1.11
Maximum Score	5.5	6.16	6.77	7.7	5.87
Minimum Score	0.83	-55.04	-24.12	-12.26	-6.32

Table 11. Z-scores for the Accounting Years Prior to failure

How far in advance of actual failure do firms look in danger? The path to failure can be highlighted by Figure 18, which shows the mean Z scores for the failed companies plotted for the accounting years prior to failure. In comparison the mean Z scores for the solvent set are also shown in both Figure 18 and Table 11. It can be seen that the solvent set continually appears in the "solvent region" and, the failed set ~~stops~~ starts appearing in the "danger region" 2¼ years prior to failure (the average duration between receiver called-in and the last year account is 12 months in the sample). The results coincide with the UK economic cycle in between 1987 and 1991 (see Figure 3 in Chapter 1) when economic activities peaked in 1988. The results in this report imply that the failed companies' performances relied immensely on the economic performance. Recessions, which force up interest rates and lower turnover, often bring overgeared builders into liquidation.[25] As shown in Figure 13, profit margin of housebuilding works depends mainly on factors determining the demand for residential works, ie. economic trends.

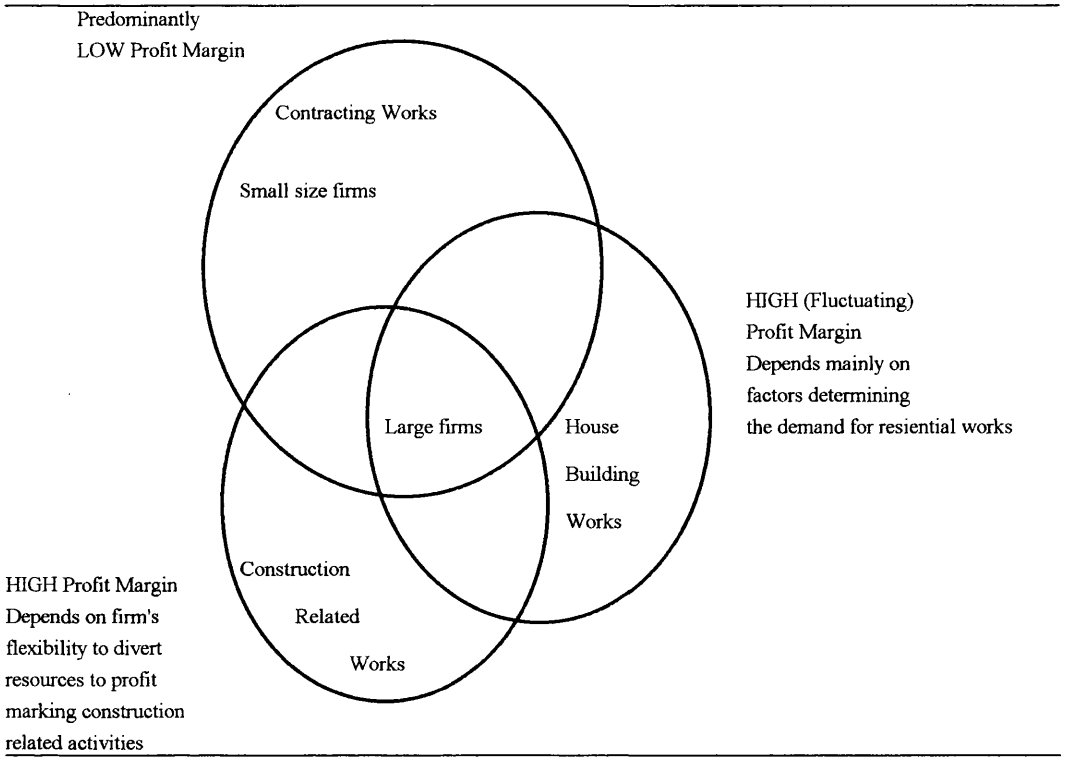

Figure 19. Profitability enhancement in the UK construction industry.[26]

[25]Ball, M. (1988), Housing and Social Change in Europe and the USA,Routledge, Chapter 5.
[26]Akintoye, A. & Skitmore, M. (1991), "Profitability of UK construction contractors", Construction Management and Economics, 9, pp. 311-325.

Chapter Five

Conclusions and Recommendations

'Any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes.' - Goodhart's Law

Conclusions

The main body of the report consists in an exploration of applying multiple discriminant analysis to the UK housebuilding industry. It illustrates the multi-dimensional nature of conventional financial statements and, in a particular decision situation, the benefits that derive from explicit recognition of this through the adoption of appropriate multivariate tools of analysis.

A UK Housebuilder-based discriminant function, termed a z-model, is derived for the evaluation of company solvency on the basis of published accounting information alone. This exhibits both true predictive ability and clear operational utility on the basis of its performance in the report and, the constructed model's exhibits predictive ability for a period of about 2¼ years. Although the z-model described in this report can predict company failure with considerable accuracy, the model is more appropriately used in practice to highlight potential financial distress.

Profit, once again has been proven to be responsible for company's failure, however, extra care should be taken of the importance of those variables hidden behind the model (i.e. liquidity and company's assets). If variables' performances are a phenomenon in the industry, those variables should not be ignored when individual company's performance is evaluated, otherwise, a very misleading picture can be drawn easily.

The constructed model is not only a useful reference for the housebuilders, but other parties could also find it useful as an analysing tool, i.e. suppliers, financiers and shareholders. Negative z-score signals latent financial problems of a company, such as over capitalised, inefficient output, lower than average profit margin and high financial risk, etc. Once a distressing signal is detected in a company, decision makers of the company and its creditors should investigate in detail, but not to jump into the conclusion that impending failure is unavoidable.

Applications

- Business Loan Evaluation. A fast and efficient device for detecting unfavourable credit risks might enable the loan manager to avoid potentially disastrous decisions. The discriminant Z score index can be used, however, as a guide in

efforts to lower the costs of investigation of loan applicants. Also, the method would be particularly efficient in the case of short-term loans or relatively small loans where the normal credit evaluation process is very costly relative to the expected income from the loan.

- Internal Control Consideration and Investment Criteria. An extremely important, but often very difficult, task of corporate management is to periodically assess honestly the firm's present condition. By doing so, important strengths and weaknesses may be recognised and , in the latter case, changes in policies and actions will usually be in order. The suggestion here is that the discriminant model, if used correctly and periodically, has the ability to predict corporate problems early enough so as to enable management to realise the gravity of the situation in time to avoid failure. If failure is unavoidable, the firm's creditors and stockholders may be better off if a merger with a stronger enterprise is negotiated before bankruptcy.

As mentioned in the previous chapter, the British banking system is notorious for its failure to provide long-term capital to high risk-ventures. This phenomenon not only makes the UK housebuilders become vulnerable, but also, it has a devastating effect on the whole economy. Long-term plannings in the high risk-ventures (e.g. housebuilding) could hardly be achieved due to inflexible borrowing criteria set out by the banking system. Different industries have different financial structures, therefore, adjustments must be taken, in order to, improve individual financial structure in a constructive perspective, the results of Taffler's model has demonstrated this. Contracting and housebuilding are presumably within the same area, however, their financial structures are rather different. A "Multi-purposes z-score model" obviously has advantaged "busy" decision makers, but if it is not monitored properly, potential business could be jeopardised and, vice versa.

Limitations of Z-score Model

The published annual accounts of companies are not designed for economic analysis so such an exercise is fraught with difficulties. The problem is made worse in that an examination of individual companies' performance also is a comparison between companies, and there is every reason to expect that different firms with the same

economic performance will report dissimilar accounting results. As Ball (1983)[27] commented most companies publish the minimum required by company law. Within that legal framework some firms, wishing to impress shareholders, will try to present a rosy picture of current profit, whereas others will be more intent on avoiding taxation. Any analysis of company accounts, therefore, can give only a rough guide to economic performance, and many interesting issues cannot be explored. Limitations of Z-Score model are summarized as follows:

- Individual financial ratio could well indicate some financial distress of a company, however, during the computation process some ratio is eliminated in which useful information could be hidden and excluded.

- Financial figures can be manipulated easily by individual company who knows best in avoiding taxation in one hand, and hiding financial distress from shareholders on the other.

- Time lag between preparation and publication of an account could delay actions taken for impending insolvency.

- Variables provide valuable information on individual's financial performance and may not be suitable for comparison purpose. Extra care should be taken on individual companies, otherwise, important variables will be misinterpreted as unimportant.

Recommendations and Further developments

No attempt is made in this report to suggest that the results published here are conclusive predictors of company's failure in the UK housebuilding industry. Housebuilders and their financiers could find this report an interesting area in comparing companies' financial performances within the industry. Students and researchers who are interested in this area, are required and suggested to have more research in this area (which is rather limited in this report) in order to strengthen both the discriminating power and reliability of a model. Further developments of the model should concentrate on the area are as follows;

[27]Ball, M.(1983) Housing Policy and Economic Power, Methuen, pp.43-96.

- Size of sample. In this report 25 companies' accounts are analysed for the constructed model which is rather small, compared with Altman's model with 66 companies' accounts and Taffler's model with 46 companies' accounts. Is bigger the sample, the better? Not necessarily[28], however, a bigger sample could allow more desirable cases (accounts with reasonable reliabilities in their information) to be analysed.

- Updating the constructed model. New data should be incorporated with the original observation set and the discriminating function respecified to take account of the additional information(Morrison, 1969[29]; Joy and Tollefson, 1975[30]).

- Testing the constructed model. Performances of the continuing companies in the sample should be tested by researchers in the future so as to evaluate the strength of the constructed model.

- Predictive Ability. New research should focus improvement on the duration of warning. As can be seen in the results, the average warning is around 2¼ years before failure. Individual's performance, however, is rather poor compared with the average warning. Longer the duration of warning, better the companies in the position that they can adjust themselves in avoiding impending insolvency.

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[28]Mason, R.D. and Lind (1993), Statistical Techniques in Business and Economics, International Student Edition, Irwin.
[29]Morrison, D. G. (1969), "On the Interpretation of Discriminant Analysis", Journal of Marketing Research, 6, pp 156-163.
[30]Joy, O.M. and Tollefson, J.O. (1975), "On the Financial Applications of Discriminat Analysis", Journal of Financial Quantitative Analysis, 10, pp. 723-739.

Bibliography

Akintoye, A. & Skitmore, M. (1991), "Profitability of UK construction contractors", Construction Management and Economics, 9, pp. 311-325.

Altamn, E. I. (1968) "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy", Journal of Finance, Vol 23, No.4 (September), pp 589-609.

Ball, M. (1983), Housing Policy and Economic Power - The Political Economy of Owner Occupation, Methuen, pp.43-96.

Ball, M. (1988), Housing and Social Change in Europe and the USA,Routledge, Chapter 5.

Barlow, J. (1991), Housebuilders and the housing system in Britain, France and Sweden, University of Sussex, Working Paper 74.

Clarke, L. (1980), "The importance of a Historical Approach : Changes in Construction Industry". BISS vol.1.

CSO, Annual Abstract of Statistics, Government Statistical Service, various editions.

CSO, Housing and Construction Statistics, Government Statistical Service, various editions.

CSO, United Kingdom National Accounts, Government Statistical Service, various editions.

Fisher, R.A.(1936) "The Use of Multiple Measurements in Taxonomic Problems", Annuals of Eugenics, No.7 (September), pp. 179-188.

Foster, G. (1994), 'Why the Whimpering Stopped?', Management Today, February, pp40-44.

ICC , Business Report : An industry sector analysis "Major Housebuilders", ICC. various editions.

ICC , Business Report : An industry sector analysis "Intermediate Housebuilders", ICC. various editions.

Ingham, G. (1984), Capitalism Divided?, Macmillan, Basingstoke.

Inman, M. L. (1991) "Z-scores and recent events: do they shed any light?", Management Accounting, (January), pp. 44-48.

Joy, O.M. and Tollefson, J.O. (1975), "On the Financial Applications of Discriminat Analysis", Journal of Financial Quantitative Analysis, 10, pp. 723-739.

Lachenbruch, P.A. (1975), Discriminant Analysis, Hafner Press, pp. 1.

Langford, D. , Iyagba, R. and Komba, D.M. (1993), "Prediction of solvency in construction companies", Construction Management and Economics, 11, pp.317-325.

Letters from Mr. Mason an Mr. Harris on August 1st, 1994.

Mason, R.D. and Lind (1993), Statistical Techniques in Business and Economics, International Student Edition, Irwin.

Mason, R.J. and Harris, F.C.(1979), "Predicting company failure in the construction industry", Proceedings Institution of Civil Engineers (1979) 66, pp.301-307.

Monk, S. (1991), The Speculative Housebuilder: A review of Empirical Research, Granta Editions Ltd.

Morrison, D. G. (1969), "On the Interpretation of Discriminant Analysis", Journal of Marketing Research, 6, pp 156-163.

SPSS Professional Statisitics® for Windows™ Release 6.0,.(1993).

Taffler, R. J. (1977) "Going, going, gone", Accountancy, March.

Taffler, R. J (1983). "The z-score approach to measuring company solvency", The Accountant's Magazine, March, pp.91-96.

Taffler, R. J. (1983)"The Assessment of Company Solvency and Perfromance Using a Statistical Model", Accounting and Business Research, Autumn, pp.5-307.

Whiting, E. (1986), A Guide to Business Performance Measurements, Macmillan.

Appendix A

Failed Companies' Accounts (1987-1991)

ALATH CONSTRUCTION LTD

Date or Accounts	1/31/91	3/31/90	3/31/89	3/31/88	3/31/87
Number of Weeks	43	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**4786**	**5255**	**10452**	**4441**	**2915**
Net Profit Before Tax	**-831**	**-217**	**1306**	**855**	**392**
Interest Paid	1025	1163	848	123	295
Non Trading Income	34	42	57	23	4
Operating Profit	160	904	2097	955	683
Depreciation	37	43	40	21	13
Trading Profit	197	947	2137	976	696
Employee Remun.	311	243	344	177	100
Director Remun.	185	309	418	359	80
No. of Employees	13	12	15	11	7
Fixed Assets	456	463	449	426	400
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	27	0
Total	456	463	449	453	400
Stocks	5724	7062	7909	6796	3860
Trade Debtors	3	1	1	10	5
Other Current Assets	2924	1731	731	193	75
Total Current Assets	8651	8794	8641	6999	3940
Total Assets	**9107**	**9257**	**9090**	**7452**	**4340**
Less:					
Creditors	406	393	417	307	182
Short term Loans	7327	6537	5717	4904	2896
Other current Liabl.	887	1013	1678	567	205
Total Current Liabl.	8620	7943	7812	5778	3283
Net Assets	**487**	**1314**	**1278**	**1674**	**1057**
Shareholders Funds	156	987	1203	1545	1057
Long Term Loans	331	327	75	129	0
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**487**	**1314**	**1278**	**1674**	**1057**
Reserve	**156**	**987**	**1203**	**1518**	**1057**
Rate of Return					
Return on Capital	-206.4	-16.5	102.2	51.1	37.1
Return on Assets	-11.0	-2.3	14.4	11.5	9.0
Return on Shrhldrs Fund	-644.2	-22.0	108.6	55.3	37.1
Profit Margins					
Trading Profit Margin	4.1	18.0	20.4	22.0	23.9
Operating Profit Margin	3.3	17.2	20.1	21.5	23.4
Pre Tax Profit Margin	-17.4	-4.1	12.5	19.3	13.4
Turnover Ratios					
Asset Utilisation	63.6	56.8	115.0	59.6	67.2
Sales/Fixed Assets	12.7	11.3	23.3	10.4	7.3
Sales/Stocks	0.8	0.7	1.3	0.7	0.8
Credit Period	0	0	0	1	1
Creditors Ratio	25.6	27.3	14.6	25.2	22.8
Working Cap./Sales	0.5	16.2	7.9	27.5	22.5
Liquidity Ratio					
Liquidity	1.0	1.1	1.1	1.2	1.2
Quick Ratio	0.3	0.2	0.1	0.0	0.0
Gearing Ratio					
Borrowing Ratio	4909.0	695.4	481.5	325.8	274.0
Equity Gearing	0.0	0.1	0.1	0.2	0.2
Income Gearing	528.4	122.9	39.4	12.6	42.9
Total Debt/Work. Cap.	247.0	8.1	7.0	4.1	4.4
Debt Gearing	212.2	33.1	6.2	8.3	0.0

ALLISON (CONTRACTOR LTD

Date or Accounts	3/31/91	3/31/90	3/31/89	3/31/88	3/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**1719**	**1734**	**7748**	**3982**	**7064**
Net Profit Before Tax	**-356**	**-1902**	**2341**	**1055**	**1146**
Interest Paid	538	577	15	39	310
Non Trading Income	374	182	0	8	0
Operating Profit	-192	-1507	2356	1086	1456
Depreciation	62	70	63	38	51
Trading Profit	-130	-1437	2419	1124	1507
Employee Remun.	227	407	550	326	284
Director Remun.	41	100	119	55	32
No. of Employees	21	38	43	30	29
Fixed Assets	286	349	345	280	233
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	286	349	345	280	233
Stocks	2534	5268	3477	3129	3120
Trade Debtors	0	0	0	328	302
Other Current Assets	11281	9874	10686	2731	3178
Total Current Assets	13815	15142	14163	6188	6600
Total Assets	**14101**	**15491**	**14508**	**6468**	**6833**
Less:					
Creditors	249	147	485	607	339
Short term Loans	7541	8365	3138	2606	3082
Other current Liabl.	356	720	2886	1084	1410
Total Current Liabl.	8146	9232	6509	4297	4831
Net Assets	**5955**	**6259**	**7999**	**2171**	**2002**
Shareholders Funds	5867	6167	7901	2049	1898
Long Term Loans	90	87	87	78	89
Other Long Term Liabl.	0	5	11	44	15
Capital Employed	**5957**	**6259**	**7999**	**2171**	**2002**
Reserve	**5866**	**6166**	**8031**	**2048**	**1897**
Rate of Return					
Return on Capital	-6.0	-30.4	29.3	48.6	57.2
Return on Assets	-2.5	-12.3	16.1	16.3	16.8
Return on Shrhldrs Fund	-6.1	-30.8	29.6	51.5	60.4
Profit Margins					
Trading Profit Margin	-7.6	-82.9	31.2	28.2	21.3
Operating Profit Margin	-11.2	-86.9	30.4	27.3	20.6
Pre Tax Profit Margin	-20.7	-109.7	30.2	26.5	16.2
Turnover Ratios					
Asset Utilisation	12.2	11.2	53.4	61.6	103.4
Sales/Fixed Assets	6.0	5.0	22.5	14.2	30.3
Sales/Stocks	0.7	0.3	2.2	1.3	2.3
Credit Period	0	0	0	30	16
Creditors Ratio	52.9	30.9	22.8	55.6	17.5
Working Cap./Sales	329.8	340.8	98.8	47.5	25.0
Liquidity Ratio					
Liquidity	1.7	1.6	2.2	1.4	1.4
Quick Ratio	1.4	1.1	1.6	0.7	0.7
Gearing Ratio					
Borrowing Ratio	130.1	137.1	40.8	131.0	167.1
Equity Gearing	0.4	0.4	0.5	0.3	0.3
Income Gearing	295.6	-43.5	0.6	3.6	21.3
Total Debt/Work. Cap.	1.3	1.4	0.4	1.4	1.8
Debt Gearing	1.5	1.4	1.1	3.8	4.7

FAIRBRIAR HOMES LTD

Date or Accounts	3/31/91	3/31/90	3/31/89	3/31/88	3/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**12728**	**14816**	**12528**	**14335**	**11493**
Net Profit Before Tax	**-4803**	**2470**	**4438**	**6037**	**4586**
Interest Paid	2551	3354	1683	464	336
Non Trading Income	14	2	43	12	12
Operating Profit	-2266	5822	6078	6489	4910
Depreciation	68	72	66	48	30
Trading Profit	-2198	5894	6144	6537	4940
Employee Remun.	1066	906	711	535	370
Director Remun.	-	30	26	23	15
No. of Employees	56	64	62	54	37
Fixed Assets	4931	747	755	351	600
Intangible Assets	0	0	0	0	0
Intermediate Assets	17791	24629	17683	3058	1
Total	22722	25376	18438	3409	601
Stocks	14425	21726	24305	15100	12784
Trade Debtors	429	585	0	0	0
Other Current Assets	280	1958	595	1325	2015
Total Current Assets	15134	24269	24900	16425	14799
Total Assets	**37856**	**49645**	**43338**	**19834**	**15400**
Less:					
Creditors	1095	1414	2013	1370	793
Short term Loans	21609	21251	11241	7332	6877
Other current Liabl.	2134	2882	6247	2394	1835
Total Current Liabl.	24838	25547	19501	11096	9505
Net Assets	**13018**	**24098**	**23837**	**8738**	**5895**
Shareholders Funds	13018	22298	19884	8738	5895
Long Term Loans	0	1800	3953	0	0
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**13018**	**24098**	**23837**	**8738**	**5895**
Reserve	**13018**	**22298**	**19884**	**8738**	**5895**
Rate of Return					
Return on Capital	-36.9	10.2	18.6	69.1	77.8
Return on Assets	-12.7	5.0	10.2	30.4	29.8
Return on Shrhldrs Fund	-36.9	11.1	22.3	69.1	77.8
Profit Margins					
Trading Profit Margin	-17.3	39.8	49.0	45.6	43.0
Operating Profit Margin	-17.8	39.3	48.5	45.3	42.7
Pre Tax Profit Margin	-37.7	16.7	35.4	42.1	39.9
Turnover Ratios					
Asset Utilisation	33.6	29.8	28.9	72.3	74.6
Sales/Fixed Assets	2.6	19.8	16.6	40.8	19.2
Sales/Stocks	0.9	0.7	0.5	0.9	0.9
Credit Period	12	14	0	0	0
Creditors Ratio	31.4	34.8	58.6	34.9	25.2
Working Cap./Sales	-76.2	-8.6	43.1	37.2	46.1
Liquidity Ratio					
Liquidity	0.6	0.9	1.3	1.5	1.6
Quick Ratio	0.0	0.1	0.0	0.1	0.2
Gearing Ratio					
Borrowing Ratio	166.0	103.4	76.4	83.9	116.7
Equity Gearing	0.3	0.4	0.5	0.4	0.4
Income Gearing	-113.3	57.6	27.5	7.1	6.8
Total Debt/Work. Cap.	-2.2	-18.0	2.8	1.4	1.3
Debt Gearing	0.0	8.1	19.9	0.0	0.0

JARVIS BROTHERS & BREWSTER (CONSTRUCTION) LTD

Date or Accounts	3/31/91	3/31/90	3/31/89	3/31/88	3/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**2040**	**7233**	**11154**	**14278**	**11544**
Net Profit Before Tax	**-465**	**-1231**	**271**	**1447**	**993**
Interest Paid	1	5	7	11	1
Non Trading Income	23	49	29	25	16
Operating Profit	-487	-1257	249	1433	978
Depreciation	0	0	125	34	35
Trading Profit	-487	-1257	374	1467	1013
Employee Remun.	20	115	432	432	457
Director Remun.	20	25	52	24	23
No. of Employees	1	6	35	43	51
Fixed Assets	0	0	174	328	260
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	0	0	174	328	260
Stocks	464	2333	10134	16746	14818
Trade Debtors	0	0	408	0	0
Other Current Assets	578	376	364	1125	1555
Total Current Assets	1042	2709	10906	17871	16373
Total Assets	**1042**	**2709**	**11080**	**18199**	**16633**
Less:					
Creditors	308	265	400	760	448
Short term Loans	367	286	5974	12082	12064
Other current Liabl.	28	12	261	1069	702
Total Current Liabl.	703	563	6635	13911	13214
Net Assets	**339**	**2146**	**4445**	**4288**	**3419**
Shareholders Funds	339	2146	4445	4288	3419
Long Term Loans	0	0	0	0	0
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**339**	**2146**	**4445**	**4288**	**3419**
Reserve	**339**	**2146**	**4445**	**37**	**3419**
Rate of Return					
Return on Capital	-137.2	-57.4	6.1	33.7	29.0
Return on Assets	-44.6	-45.4	2.4	8.0	6.0
Return on Shrhldrs Fund	-137.2	-57.4	6.1	33.7	29.0
Profit Margins					
Trading Profit Margin	-23.9	-17.4	3.4	10.3	8.8
Operating Profit Margin	-23.9	-17.4	2.2	10.0	8.5
Pre Tax Profit Margin	-22.8	-17.0	2.4	10.1	8.6
Turnover Ratios					
Asset Utilisation	195.8	267.0	100.7	78.5	69.4
Sales/Fixed Assets	84.7*	50.0*	64.1	43.5	44.4
Sales/Stocks	4.4	3.1	1.1	0.9	0.8
Credit Period	0	0	13	0	0
Creditors Ratio	55.1	13.4	13.1	19.4	14.2
Working Cap./Sales	16.6	29.7	38.3	27.7	27.4
Liquidity Ratio					
Liquidity	1.5	4.8	1.6	1.3	1.2
Quick Ratio	0.8	0.7	0.1	0.1	0.1
Gearing Ratio					
Borrowing Ratio	108.3	13.3	134.4	281.8	352.9
Equity Gearing	0.3	0.8	0.4	0.2	0.2
Income Gearing	-0.2	-0.4	2.5	0.8	0.1
Total Debt/Work. Cap.	1.1	0.1	1.4	3.1	3.8
Debt Gearing	0.0	0.0	0.0	0.0	0.0

*Average

WESSEX RETIREMENT HOMES LTD

Date or Accounts	3/31/90	3/31/89	3/31/88	3/31/87
Number of Weeks	52	52	52	52
	£000	£000	£000	£000
Turnover (Sales)	**1045**	**2055**	**1377**	**1789**
Net Profit Before Tax	**-216**	**480**	**53**	**45**
Interest Paid	7	7	54	101
Non Trading Income	48	51	5	0
Operating Profit	-257	436	102	146
Depreciation	31	18	12	10
Trading Profit	-226	454	114	156
Employee Remun.	273	177	117	120
Director Remun.	51	58	40	70
No. of Employees	44	22	12	10
Fixed Assets	66	51	29	18
Intangible Assets	0	0	0	0
Intermediate Assets	0	0	0	0
Total	66	51	29	18
Stocks	4562	2559	1061	719
Trade Debtors	16	8	0	193
Other Current Assets	151	425	148	16
Total Current Assets	4729	2992	1209	928
Total Assets	**4795**	**3043**	**1238**	**946**
Less:				
Creditors	34	59	36	29
Short term Loans	3896	1897	647	549
Other current Liabl.	237	333	131	20
Total Current Liabl.	4167	2289	814	598
Net Assets	**628**	**754**	**424**	**348**
Shareholders Funds	615	754	418	342
Long Term Loans	13	0	6	6
Other Long Term Liabl.	0	0	0	0
Capital Employed	**628**	**754**	**424**	**348**
Reserve	**615**	**754**	**418**	**342**
Rate of Return				
Return on Capital	-34.4	63.7	12.5	12.9
Return on Assets	-4.5	15.8	4.3	4.8
Return on Shrhldrs Fund	-35.1	63.7	12.7	13.2
Profit Margins				
Trading Profit Margin	-21.6	22.1	8.3	8.7
Operating Profit Margin	-24.6	21.2	7.4	8.2
Pre Tax Profit Margin	-20.7	23.4	3.8	2.5
Turnover Ratios				
Asset Utilisation	21.8	67.5	111.2	189.1
Sales/Fixed Assets	15.8	40.3	47.5	99.4
Sales/Stocks	0.2	0.8	1.3	2.5
Credit Period	6	1	0	39
Creditiors Ratio	11.9	10.5	9.5	5.9
Working Cap./Sales	53.8	34.2	28.7	18.4
Liquidity Ratio				
Liquidity	1.1	1.3	1.5	1.6
Quick Ratio	0.0	0.2	0.2	0.3
Gearing Ratio				
Borrowing Ratio	635.6	251.6	156.2	162.3
Equity Gearing	0.1	0.2	0.3	0.4
Income Gearing	-3.3	1.4	50.5	69.2
Total Debt/Work. Cap.	7.0	2.7	1.7	1.7
Debt Gearing	2.1	0.0	1.4	1.8

CHELMSFORD DEVELOPMENT LTD

Date or Accounts	6/30/91	6/30/90	6/30/89	6/30/88	6/30/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**7040**	**11632**	**9783**	**8879**	**4986**
Net Profit Before Tax	**-675**	**519**	**-1425**	**488**	**472**
Interest Paid	797	1513	1142	326	103
Non Trading Income	2	0	2	3	5
Operating Profit	120	2032	-285	811	570
Depreciation	87	112	121	85	18
Trading Profit	207	2144	-164	896	588
Employee Remun.	369	365	364	400	117
Director Remun.	90	78	50	199	0
No. of Employees	31	45	45	32	1
Fixed Assets	73	2003	1873	511	18
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	153	1850	1850	0
Total	73	2156	3723	2361	18
Stocks	4474	7015	9529	7786	4847
Trade Debtors	0	0	0	0	0
Other Current Assets	256	304	312	636	145
Total Current Assets	4730	7319	9841	8422	4992
Total Assets	**4803**	**9475**	**13564**	**10783**	**5010**
Less:					
Creditors	286	404	423	670	1010
Short term Loans	3616	6999	11219	6291	2377
Other current Liabl.	127	189	118	692	1054
Total Current Liabl.	4029	7592	11760	7653	4441
Net Assets	774	1883	1804	3130	569
Shareholders Funds	-8	1036	967	1616	560
Long Term Loans	782	847	837	1514	9
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**774**	**1883**	**1804**	**3130**	**569**
Reserve	**-882**	**163**	**1203**	**743**	**535**
Rate of Return					
Return on Capital	-87.2	27.6	-79.0	15.6	83.0
Return on Assets	-14.1	5.5	-10.5	4.5	9.4
Return on Shrhldrs Fund	8437.5	50.1	-147.4	30.2	84.3
Profit Margins					
Trading Profit Margin	2.9	18.4	-1.7	10.1	11.8
Operating Profit Margin	1.7	17.5	-2.9	9.1	11.4
Pre Tax Profit Margin	-9.6	4.5	-14.6	5.5	9.5
Turnover Ratios					
Asset Utilisation	146.6	122.8	72.1	82.3	99.5
Sales/Fixed Assets	96.4	5.8	5.2	17.4	277.0
Sales/Stocks	1.6	1.7	1.0	1.1	1.0
Credit Period	0	0	0	0	0
Creditors Ratio	14.8	12.7	15.8	27.5	73.9
Working Cap./Sales	10.0	-2.3	-19.6	8.7	11.1
Liquidity Ratio					
Liquidity	1.2	1.0	0.8	1.1	1.1
Quick Ratio	0.1	0.0	0.0	0.1	0.0
Gearing Ratio					
Borrowing Ratio	-54975.0	757.3	1246.7	483.0	426.1
Equity Gearing	0.0	0.1	0.1	0.1	0.1
Income Gearing	653.3	74.5	-403.5	40.0	17.9
Total Debt/Work. Cap.	6.3	-28.7	-6.3	10.1	4.3
Debt Gearing	-9775.0	81.8	86.6	93.7	1.6

FRADLEY & SON LTD

Date or Accounts	6/30/91	6/30/90	6/30/89	6/30/88	6/30/87
Number of Weeks	52	52	43	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)	**7088**	**12451**	**9005**	**6690**	**9560**
Net Profit Before Tax	**-2049**	**-58**	**849**	**-159**	**-1350**
Interest Paid	1452	1291	746	462	579
Non Trading Income	9	7	18	5	17
Operating Profit	-607	1226	1577	298	-788
Depreciation	106	85	85	95	60
Trading Profit	-501	1311	1662	393	-728
Employee Remun.	775	930	629	616	521
Director Remun.	360	531	249	380	331
No. of Employees	47	56	48	33	27
Fixed Assets	424	492	469	441	239
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	275	0	0	0
Total	424	767	469	441	239
Stocks	9610	10932	10887	10490	6170
Trade Debtors	1211	4532	37	868	2415
Other Current Assets	171	292	352	1160	107
Total Current Assets	10992	15756	11276	12518	8692
Total Assets	**11416**	**16523**	**11745**	**12959**	**8931**
Less:					
Creditors	1502	2352	1541	1883	830
Short term Loans	4270	6053	670	1694	3062
Other current Liabl.	1277	1521	1210	1558	1397
Total Current Liabl.	7049	9926	3421	5135	5289
Net Assets	**4367**	**6597**	**8324**	**7824**	**3642**
Shareholders Funds	-649	1006	1158	620	1033
Long Term Loans	5013	5589	6782	6820	2474
Other Long Term Liabl.	3	2	384	384	135
Capital Employed	**4367**	**6597**	**8324**	**7824**	**3642**
Reserve	**-665**	**990**	**1143**	**610**	**1024**
Rate of Return					
Return on Capital	-46.9	-0.9	12.3	-2.0	-37.1
Return on Assets	-17.9	-0.4	8.7	-1.2	-15.1
Return on Shrhldrs Fund	315.7	-5.8	88.7	-25.6	-130.7
Profit Margins					
Trading Profit Margin	-7.1	10.5	18.5	5.9	-7.6
Operating Profit Margin	-8.6	9.8	17.5	4.5	-8.2
Pre Tax Profit Margin	-28.9	-0.5	9.4	-2.4	-14.1
Turnover Ratios					
Asset Utilisation	62.1	75.4	92.7	51.6	107.0
Sales/Fixed Assets	16.7	25.3	23.2	15.2	40.0
Sales/Stocks	0.7	1.1	1.0	0.6	1.5
Credit Period	62	133	1	47	92
Creditors Ratio	77.3	68.9	51.7	102.7	31.7
Working Cap./Sales	55.6	46.8	72.1	110.4	35.6
Liquidity Ratio					
Liquidity	1.6	1.6	3.3	2.4	1.6
Quick Ratio	0.2	0.5	0.1	0.4	0.5
Gearing Ratio					
Borrowing Ratio	-1430.4	1157.3	643.5	1373.2	535.9
Equity Gearing	-0.1	0.1	0.1	0.0	0.1
Income Gearing	-243.2	104.7	46.8	152.5	-75.1
Total Debt/Work. Cap.	2.4	2.0	0.9	1.2	1.6
Debt Gearing	-772.4	555.6	585.7	1100.0	239.5

STANDEN HOMES LTD

Date or Accounts	12/31/91	12/31/90	12/31/89	3/31/88	3/31/87
Number of Weeks	52	52	39	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**11292**	**12430**	**12264**	**11686**	**8349**
Net Profit Before Tax	**-2245**	**-24**	**2743**	**1383**	**779**
Interest Paid	2442	2398	1043	483	304
Non Trading Income	5	87	153	11	28
Operating Profit	192	2287	3633	1855	1055
Depreciation	32	117	128	146	129
Trading Profit	224	2404	3761	2001	1184
Employee Remun.	1122	1290	831	833	853
Director Remun.	164	182	55	189	240
No. of Employees	94	110	120	120	104
Fixed Assets	258	290	1131	906	712
Intangible Assets	0	0	0	0	0
Intermediate Assets	144	218	442	0	0
Total	402	508	1573	906	712
Stocks	17580	16136	16337	7202	7426
Trade Debtors	1719	1221	5562	406	978
Other Current Assets	1775	2252	5158	746	905
Total Current Assets	21074	19609	27057	8354	9309
Total Assets	**21476**	**20117**	**28630**	**9260**	**10021**
Less:					
Creditors	1518	1594	3588	1921	1274
Short term Loans	11805	6058	10815	1353	3263
Other current Liabl.	3518	5536	7195	815	1056
Total Current Liabl.	16841	13188	21598	4089	5593
Net Assets	**4635**	**6929**	**7032**	**5171**	**4428**
Shareholders Funds	4629	6892	7006	4140	3090
Long Term Loans	6	37	26	1002	1282
Other Long Term Liabl.	0	0	0	29	56
Capital Employed	**4635**	**6929**	**7032**	**5171**	**4428**
Reserve	**6841**	**6842**	**6956**	**4090**	**3040**
Rate of Return					
Return on Capital	-48.4	-0.3	52.0	26.7	17.6
Return on Assets	-10.5	-0.1	12.8	14.9	7.8
Return on Shrhldrs Fund	-48.5	-0.3	52.2	33.4	25.2
Profit Margins					
Trading Profit Margin	2.0	19.3	30.7	17.1	14.2
Operating Profit Margin	1.7	18.4	29.6	15.9	12.6
Pre Tax Profit Margin	-19.9	-0.2	22.4	11.8	9.3
Turnover Ratios					
Asset Utilisation	52.6	61.8	57.1	126.2	83.3
Sales/Fixed Assets	43.8	42.9	14.5	12.9	11.7
Sales/Stocks	0.6	0.8	1.0	1.6	1.1
Credit Period	56	36	124	13	43
Creditors Ratio	49.1	46.8	80.1	60.0	55.7
Working Cap./Sales	37.5	51.7	33.4	36.5	44.5
Liquidity Ratio					
Liquidity	1.3	1.5	1.3	2.0	1.7
Quick Ratio	0.2	0.3	0.5	0.3	0.3
Gearing Ratio					
Borrowing Ratio	255.2	88.4	154.7	56.9	147.1
Equity Gearing	0.2	0.3	0.2	0.4	0.3
Income Gearing	1239.6	101.0	27.5	25.9	28.1
Total Debt/Work. Cap.	2.8	0.9	2.0	0.6	1.2
Debt Gearing	0.1	0.5	0.4	24.2	41.5

STEPNEY HOMES LTD

Date or Accounts	12/31/91	12/31/90	12/31/89	12/31/88	12/31/87
Number of Weeks	52	52	52	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)	**1852**	**2637**	**1801**	**2138**	**1640**
Net Profit Before Tax	**9**	**178**	**346**	**292**	**52**
Interest Paid	170	233	88	28	94
Non Trading Income	12	0	0	0	0
Operating Profit	167	411	434	320	146
Depreciation	3	3	0	3	5
Trading Profit	170	414	434	323	151
Employee Remun.	99	199	203	194	160
Director Remun.	52	64	62	62	44
No. of Employees	6	17	17	18	17
Fixed Assets	6	9	9	0	7
Intangible Assets	0	0	0	0	0
Intermediate Assets	37	0	0	0	0
Total	43	9	9	0	7
Stocks	2107	2413	1661	591	723
Trade Debtors	1	165	0	2	0
Other Current Assets	5	20	23	28	9
Total Current Assets	2113	2598	1684	621	732
Total Assets	**2156**	**2607**	**1693**	**621**	**739**
Less:					
Creditors	127	596	184	200	190
Short term Loans	1691	1568	1007	289	402
Other current Liabl.	52	157	233	65	22
Total Current Liabl.	1870	2321	1424	554	614
Net Assets	**286**	**286**	**269**	**67**	**125**
Shareholders Funds	286	286	269	67	-190
Long Term Loans	0	0	0	0	315
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**286**	**286**	**269**	**67**	**125**
Reserve	**186**	**186**	**169**	**66**	**-190**
Rate of Return					
Return on Capital	3.1	62.2	128.6	435.8	41.6
Return on Assets	0.4	6.8	20.4	47.0	7.0
Return on Shrhldrs Fund	3.1	62.2	128.6	435.8	-27.4
Profit Margins					
Trading Profit Margin	9.2	15.7	24.1	15.1	9.2
Operating Profit Margin	9.0	15.6	24.1	15.0	8.9
Pre Tax Profit Margin	0.5	6.8	19.2	13.7	3.2
Turnover Ratios					
Asset Utilisation	85.9	101.2	106.4	344.3	221.9
Sales/Fixed Assets	308.7	293.0	200.1	27.11*	234.3
Sales/Stocks	0.9	1.1	1.1	3.6	2.3
Credit Period	0	23	0	0	0
Creditors Ratio	25.0	82.5	37.3	34.1	42.3
Working Cap./Sales	13.1	10.5	14.4	3.1	7.2
Liquidity Ratio					
Liquidity	1.1	1.1	1.2	1.1	1.2
Quick Ratio	0.0	0.1	0.0	0.1	0.0
Gearing Ratio					
Borrowing Ratio	591.3	548.3	374.3	431.3	-377.4
Equity Gearing	0.1	0.1	0.2	0.1	-0.3
Income Gearing	95.0	56.7	20.3	8.8	64.4
Total Debt/Work. Cap.	7.0	5.7	3.9	4.3	6.1
Debt Gearing	0.0	0.0	0.0	0.0	-165.8

*Average

D.F. O'CONNOR & CO. LTD

Date or Accounts	12/31/91	12/31/90	12/31/89	12/31/88	12/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**2337**	**3552**	**3582**	**2208**	**2334**
Net Profit Before Tax	**-180**	**48**	**63**	**-66**	**75**
Interest Paid	35	27	21	12	14
Non Trading Income	9	9	7	6	5
Operating Profit	-154	66	77	-60	84
Depreciation	13	14	13	11	7
Trading Profit	-141	80	90	-49	91
Employee Remun.	142	136	121	80	53
Director Remun.	65	65	62	49	39
No. of Employees	16	16	19	18	18
Fixed Assets	52	63	61	61	49
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	52	63	61	61	49
Stocks	293	308	273	193	114
Trade Debtors	312	455	517	316	363
Other Current Assets	36	8	18	31	12
Total Current Assets	641	771	808	540	489
Total Assets	**693**	**834**	**869**	**601**	**538**
Less:					
Creditors	284	264	374	279	168
Short term Loans	256	293	20	137	99
Other current Liabl.	94	139	367	126	170
Total Current Liabl.	634	696	761	542	437
Net Assets	**59**	**138**	**108**	**59**	**101**
Shareholders Funds	-15	124	92	54	101
Long Term Loans	74	9	11	5	0
Other Long Term Liabl.	0	5	5	0	0
Capital Employed	**59**	**138**	**108**	**59**	**101**
Reserve	**-35**	**123**	**91**	**53**	**100**
Rate of Return					
Return on Capital	-305.1	34.8	58.3	-111.9	74.3
Return on Assets	-26.0	5.8	7.2	-11.0	13.9
Return on Shrhldrs Fund	1200.0	38.7	68.5	-122.2	74.3
Profit Margins					
Trading Profit Margin	-6.0	2.3	2.5	-2.2	3.9
Operating Profit Margin	-6.6	1.9	2.1	-2.7	3.6
Pre Tax Profit Margin	-7.7	1.4	1.8	-3.0	3.2
Turnover Ratios					
Asset Utilisation	337.2	425.9	412.2	367.4	433.8
Sales/Fixed Assets	44.9	56.4	58.7	36.2	47.6
Sales/Stocks	8.0	11.5	13.1	11.4	20.5
Credit Period	49	47	53	52	57
Creditors Ratio	44.4	27.1	38.1	46.1	26.3
Working Cap./Sales	0.3	2.1	1.3	-0.1	2.2
Liquidity Ratio					
Liquidity	1.0	1.1	1.1	1.0	1.1
Quick Ratio	0.5	0.7	0.7	0.6	0.9
Gearing Ratio					
Borrowing Ratio	-2200.0	243.5	33.7	263.0	98.0
Equity Gearing	0.0	0.1	0.1	0.1	0.2
Income Gearing	-24.1	36.0	25.0	-22.2	15.7
Total Debt/Work. Cap.	47.1	4.0	0.7	-71.0	1.9
Debt Gearing	-493.3	7.3	12.0	9.3	0.0

A.F. WARD (BUILDERS) LTD

Date or Accounts	10/31/90	10/31/89	10/31/88	10/31/87
Number of Weeks	52	52	52	52
	£000	£000	£000	£000
Turnover (Sales)	**1316**	**2059**	**1121**	**697**
Net Profit Before Tax	**-61**	**51**	**135**	**66**
Interest Paid	173	123	29	83
Non Trading Income	0	0	4	4
Operating Profit	112	174	160	145
Depreciation	15	15	12	7
Trading Profit	127	189	172	152
Employee Remun.	72	63	50	59
Director Remun.	254	269	76	26
No. of Employees	6	5	5	5
Fixed Assets	38	54	34	20
Intangible Assets	0	0	0	0
Intermediate Assets	22	22	20	18
Total	60	76	54	38
Stocks	1712	1304	430	308
Trade Debtors	12	98	4	5
Other Current Assets	25	21	54	12
Total Current Assets	1749	1423	488	325
Total Assets	**1809**	**1499**	**542**	**363**
Less:				
Creditors	165	141	89	70
Short term Loans	1077	850	12	41
Other current Liabl.	215	97	121	45
Total Current Liabl.	1457	1088	222	156
Net Assets	**352**	**411**	**320**	**207**
Shareholders Funds	293	343	303	207
Long Term Loans	59	68	15	0
Other Long Term Liabl.	0	0	2	0
Capital Employed	**352**	**411**	**320**	**207**
Reserve	**293**	**343**	**303**	**207**
Rate of Return				
Return on Capital	-17.3	12.4	42.2	31.9
Return on Assets	-3.4	3.4	24.9	18.2
Return on Shrhldrs Fund	-20.8	14.9	44.6	31.9
Profit Margins				
Trading Profit Margin	9.7	9.2	15.3	21.8
Operating Profit Margin	8.5	8.5	14.3	20.8
Pre Tax Profit Margin	-4.6	2.5	12.0	9.5
Turnover Ratios				
Asset Utilisation	72.7	137.4	206.8	192.0
Sales/Fixed Assets	34.6	38.1	33.0	34.9
Sales/Stocks	0.8	1.6	2.6	2.3
Credit Period	3	17	1	3
Creditiors Ratio	45.8	25.0	29.0	36.7
Working Cap./Sales	22.2	16.3	23.7	24.2
Liquidity Ratio				
Liquidity	1.2	1.3	2.2	2.1
Quick Ratio	0.0	0.1	0.3	0.1
Gearing Ratio				
Borrowing Ratio	387.7	267.6	8.9	19.8
Equity Gearing	0.2	0.2	0.6	0.6
Income Gearing	154.5	70.7	17.7	55.7
Total Debt/Work. Cap.	3.9	2.7	0.1	0.2
Debt Gearing	20.1	19.8	5.0	0.0

Appendix B

Continuing Companies' Accounts (1987-1991)

K.B. BENFIELD & CO. (MIDLANDS) LTD

Date or Accounts	3/31/91	3/31/90	3/31/89	3/31/88	3/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**2878**	**3864**	**5923**	**4943**	**2976**
Net Profit Before Tax	242	197	1468	1327	440
Interest Paid	334	353	209	73	118
Non Trading Income	6	0	7	4	0
Operating Profit	570	550	1670	1396	558
Depreciation	69	86	93	66	41
Trading Profit	639	636	1763	1462	599
Employee Remun.	171	223	238	206	179
Director Remun.	80	76	73	58	43
No. of Employees	21	20	21	20	20
Fixed Assets	49	113	190	137	85
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	49	113	190	137	85
Stocks	3368	3833	4671	3872	2139
Trade Debtors	7	0	0	0	1
Other Current Assets	81	94	68	115	160
Total Current Assets	3456	3927	4739	3987	2300
Total Assets	**3505**	**4040**	**4929**	**4124**	**2385**
Less:					
Creditors	231	279	431	325	319
Short term Loans	1823	1871	718	609	870
Other current Liabl.	174	240	1667	1648	294
Total Current Liabl.	2228	2390	2816	2582	1483
Net Assets	**1277**	**1650**	**2113**	**1542**	**902**
Shareholders Funds	586	584	563	524	774
Long Term Loans	691	1066	1550	1018	128
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**1277**	**1650**	**2113**	**1542**	**902**
Reserve	**560**	**559**	**538**	**499**	**749**
Rate of Return					
Return on Capital	19.0	11.9	69.5	86.1	48.8
Return on Assets	6.9	4.9	29.8	32.2	18.4
Return on Shrhldrs Fund	41.3	33.7	260.7	253.2	56.8
Profit Margins					
Trading Profit Margin	22.2	16.5	29.8	29.6	20.1
Operating Profit Margin	19.8	14.2	28.2	28.2	18.8
Pre Tax Profit Margin	8.4	5.1	24.8	26.8	14.8
Turnover Ratios					
Asset Utilisation	82.1	95.6	120.2	119.9	124.8
Sales/Fixed Assets	58.7	34.2	31.2	36.1	35.0
Sales/Stocks	0.9	1.0	1.3	1.3	1.4
Credit Period	1	0	0	0	0
Creditors Ratio	29.3	26.4	26.6	24.0	39.1
Working Cap./Sales	42.7	39.8	32.5	28.4	27.5
Liquidity Ratio					
Liquidity	1.6	1.6	1.7	1.5	1.6
Quick Ratio	0.0	0.0	0.0	0.0	0.1
Gearing Ratio					
Borrowing Ratio	429.0	502.9	402.8	310.5	128.9
Equity Gearing	0.2	0.1	0.1	0.1	0.3
Income Gearing	58.0	64.2	12.5	5.2	21.1
Total Debt/Work. Cap.	2.0	1.9	1.2	1.2	1.2
Debt Gearing	117.9	182.5	275.3	194.3	16.5

BRACKENLEA LTD

Date or Accounts	9/30/91	9/30/90	9/30/89	9/30/88	9/30/87
Number of Weeks	52	52	52	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)	**3002**	**5847**	**6621**	**4956**	**3563**
Net Profit Before Tax	**226**	**521**	**931**	**464**	**199**
Interest Paid	360	209	209	175	195
Non Trading Income	21	19	0	0	-4
Operating Profit	565	711	1140	639	398
Depreciation	2	3	4	13	4
Trading Profit	567	417	1144	652	402
Employee Remun.	277	263	253	179	130
Director Remun.	0	0	0	0	0
No. of Employees	20	21	21	17	16
Fixed Assets	0	2	5	8	10
Intangible Assets	0	0	0	0	0
Intermediate Assets	79	79	79	79	79
Total	79	81	84	87	89
Stocks	4436	4239	3724	2926	2793
Trade Debtors	6	1	5	1	46
Other Current Assets	362	949	21	53	92
Total Current Assets	4804	5189	3750	2980	2931
Total Assets	**4883**	**5270**	**3834**	**3067**	**3020**
Less:					
Creditors	184	212	416	252	233
Short term Loans	2739	2651	1600	1795	2123
Other current Liabl.	177	768	490	229	117
Total Current Liabl.	3100	3631	2506	2276	2473
Net Assets	**1783**	**1639**	**1328**	**791**	**547**
Shareholders Funds	1783	1639	1328	791	526
Long Term Loans	0	0	0	0	21
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**1783**	**1639**	**1328**	**791**	**547**
Reserve	**1783**	**1639**	**1328**	**791**	**526**
Rate of Return					
Return on Capital	12.7	31.8	70.1	58.7	36.4
Return on Assets	4.6	9.9	24.3	15.1	6.6
Return on Shrhldrs Fund	12.7	31.8	70.1	58.7	37.8
Profit Margins					
Trading Profit Margin	18.9	7.1	17.3	13.2	11.3
Operating Profit Margin	18.8	12.2	17.2	12.9	11.2
Pre Tax Profit Margin	7.5	8.9	14.1	9.4	5.6
Turnover Ratios					
Asset Utilisation	61.5	110.9	172.7	161.6	118.0
Sales/Fixed Assets	30.35*	2923.5	1324.2	619.5	356.3
Sales/Stocks	0.7	1.4	1.8	1.7	1.3
Credit Period	1	0	0	0	5
Creditors Ratio	22.4	13.2	22.9	18.6	23.9
Working Cap./Sales	56.8	26.6	18.8	14.2	12.9
Liquidity Ratio					
Liquidity	1.5	1.4	1.5	1.3	1.2
Quick Ratio	0.1	0.3	0.0	0.0	0.1
Gearing Ratio					
Borrowing Ratio	153.6	161.7	120.5	226.9	407.6
Equity Gearing	0.4	0.3	0.3	0.3	0.2
Income Gearing	61.4	28.6	18.3	27.4	49.5
Total Debt/Work. Cap.	1.6	1.7	1.3	2.5	4.7
Debt Gearing	0.0	0.0	0.0	0.0	4.0

*Average

DAVIES HOLDINGS (SOMERTON) LTD

Date or Accounts	3/31/91	3/31/90	3/31/89	3/31/88	3/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**15635**	**15440**	**3661**	**4658**	**3228**
Net Profit Before Tax	**164**	**432**	**616**	**1082**	**511**
Interest Paid	579	625	253	39	72
Non Trading Income	0	0	0	2	6
Operating Profit	743	1057	869	1119	577
Depreciation	152	161	63	37	33
Trading Profit	895	1218	932	1156	610
Employee Remun.	1538	1368	312	219	183
Director Remun.	137	133	108	77	66
No. of Employees	135	154	26	24	23
Fixed Assets	1122	1149	185	187	184
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	1122	1149	185	187	184
Stocks	6267	7144	5687	2551	2302
Trade Debtors	998	978	3	6	2
Other Current Assets	665	204	69	72	93
Total Current Assets	7930	8326	5759	2629	2397
Total Assets	**9052**	**9475**	**5944**	**2816**	**2581**
Less:					
Creditors	1196	1079	226	270	326
Short term Loans	3769	4302	3475	338	871
Other current Liabl.	1562	1648	568	644	253
Total Current Liabl.	6527	7029	4269	1252	1450
Net Assets	**2525**	**2446**	**1675**	**1564**	**1131**
Shareholders Funds	2479	2411	1662	1552	872
Long Term Loans	41	26	8	5	252
Other Long Term Liabl.	5	9	5	7	7
Capital Employed	**2525**	**2446**	**1675**	**1564**	**1131**
Reserve	**1430**	**1361**	**612**	**502**	**22**
Rate of Return					
Return on Capital	6.5	17.7	36.8	69.2	45.2
Return on Assets	1.8	4.6	10.4	38.4	19.8
Return on Shrhldrs Fund	6.6	17.9	37.1	69.7	58.6
Profit Margins					
Trading Profit Margin	5.7	7.9	25.5	24.8	18.9
Operating Profit Margin	4.8	6.8	23.7	24.0	17.9
Pre Tax Profit Margin	1.0	2.8	16.8	23.2	15.8
Turnover Ratios					
Asset Utilisation	172.7	163.0	61.6	165.4	125.1
Sales/Fixed Assets	13.9	13.4	19.8	24.9	17.5
Sales/Stocks	2.5	2.2	0.6	1.8	1.4
Credit Period	23	23	0	0	0
Creditors Ratio	27.9	25.5	22.5	21.2	36.9
Working Cap./Sales	9.0	8.4	40.7	29.6	29.3
Liquidity Ratio					
Liquidity	1.2	1.2	1.3	2.1	1.7
Quick Ratio	0.3	0.2	0.0	0.1	0.1
Gearing Ratio					
Borrowing Ratio	153.7	179.5	209.6	22.1	128.8
Equity Gearing	0.3	0.3	0.3	0.6	0.3
Income Gearing	77.9	59.1	29.1	3.5	12.3
Total Debt/Work. Cap.	2.7	3.3	2.3	0.2	1.2
Debt Gearing	1.7	1.1	0.5	0.3	28.9

DEEKS & STEERE LTD

Date or Accounts	9/30/91	9/30/90	9/30/89	9/30/88	9/30/87
Number of Weeks	52	52	52	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)	**2834**	**3116**	**3470**	**2710**	**2241**
Net Profit Before Tax	**485**	**304**	**251**	**120**	**90**
Interest Paid	11	58	40	1	1
Non Trading Income	62	40	0	0	0
Operating Profit	434	322	291	121	91
Depreciation	23	28	28	16	14
Trading Profit	457	350	319	137	105
Employee Remun.	133	231	187	170	170
Director Remun.	80	67	-	4	35
No. of Employees	18	27	27	24	24
Fixed Assets	435	534	535	70	56
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	435	534	535	70	56
Stocks	126	50	23	91	112
Trade Debtors	203	298	114	226	288
Other Current Assets	335	330	622	6	9
Total Current Assets	664	678	759	323	409
Total Assets	**1099**	**1212**	**1294**	**393**	**465**
Less:					
Creditors	268	286	206	189	196
Short term Loans	82	138	93	8	106
Other current Liabl.	247	268	471	104	114
Total Current Liabl.	597	692	770	301	416
Net Assets	**502**	**520**	**524**	**92**	**49**
Shareholders Funds	502	226	154	89	46
Long Term Loans	0	294	367	0	0
Other Long Term Liabl.	0	0	3	3	3
Capital Employed	**502**	**520**	**524**	**92**	**49**
Reserve	**452**	**226**	**154**	**89**	**46**
Rate of Return					
Return on Capital	96.6	58.5	47.9	130.4	183.7
Return on Assets	44.1	25.1	19.4	30.5	19.4
Return on Shrhldrs Fund	96.6	134.5	163.0	134.8	195.7
Profit Margins					
Trading Profit Margin	16.1	11.2	9.2	5.1	4.7
Operating Profit Margin	15.3	10.3	8.4	4.5	4.1
Pre Tax Profit Margin	17.1	9.8	7.2	4.4	4.0
Turnover Ratios					
Asset Utilisation	257.9	257.1	268.2	689.6	481.9
Sales/Fixed Assets	6.5	5.8	6.5	38.7	40.0
Sales/Stocks	22.5	62.3	150.9	29.8	20.0
Credit Period	26	35	12	30	47
Creditors Ratio	34.5	33.5	21.7	25.5	31.9
Working Cap./Sales	2.4	-0.4	-0.3	0.8	-0.3
Liquidity Ratio					
Liquidity	1.1	1.0	1.0	1.1	1.0
Quick Ratio	0.9	0.9	1.0	0.8	0.7
Gearing Ratio					
Borrowing Ratio	16.3	191.2	298.7	9.0	230.4
Equity Gearing	0.5	0.2	0.1	0.2	0.1
Income Gearing	2.2	16.0	13.7	0.8	1.1
Total Debt/Work. Cap.	1.2	-30.9	-41.8	0.4	-15.1
Debt Gearing	0.0	130.1	258.3	0.0	0.0

EDEN HOMES LTD

Date or Accounts	12/31/91	12/31/90	12/31/89	12/31/88	1/31/88	1/31/87
Number of Weeks	52	52	52	48	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)	**4391**	**5932**	**5501**	**4094**	**3557**	**4280**
Net Profit Before Tax	**707**	**1093**	**903**	**436**	**353**	**514**
Interest Paid	225	405	540	256	181	220
Non Trading Income	0	0	0	0	0	0
Operating Profit	932	1498	1443	692	534	734
Depreciation	0	1	1	2	5	7
Trading Profit	932	1499	1444	694	539	741
Employee Remun.	653	646	837	665	511	544
Director Remun.	39	35	0	0	0	0
No. of Employees	62	76	87	75	64	63
Fixed Assets	0	1	2	3	6	27
Intangible Assets	0	0	0	0	0	0
Intermediate Assets	0	0	0	0	0	0
Total	0	1	2	3	6	27
Stocks	3310	3523	4886	3901	3147	2848
Trade Debtors	53	8	9	11	1	37
Other Current Assets	1744	1105	559	196	33	98
Total Current Assets	5107	4636	5454	4108	3181	2983
Total Assets	**5107**	**4637**	**5456**	**4111**	**3187**	**3010**
Less:						
Creditors	342	461	458	181	234	141
Short term Loans	884	880	2239	2143	1750	1723
Other current Liabl.	841	1209	740	354	54	226
Total Current Liabl.	2067	2550	3437	2678	2038	2090
Net Assets	**3040**	**2087**	**2019**	**1433**	**1149**	**920**
Shareholders Funds	3040	2087	2019	1433	1149	920
Long Term Loans	0	0	0	0	0	0
Other Long Term Liabl.	0	0	0	0	0	0
Capital Employed	**3040**	**2087**	**2019**	**1433**	**1149**	**920**
Reserve	**3037**	**2084**	**2015**	**1429**	**1145**	**916**
Rate of Return						
Return on Capital	23.3	52.4	44.7	33.0	30.7	55.9
Return on Assets	13.8	23.6	16.6	11.5	11.1	17.1
Return on Shrhldrs Fund	23.3	52.4	44.7	33.0	30.7	55.9
Profit Margins						
Trading Profit Margin	21.2	25.3	26.2	17.0	15.2	17.3
Operating Profit Margin	21.2	25.3	26.2	16.9	15.0	17.1
Pre Tax Profit Margin	16.1	18.4	16.4	10.6	9.9	12.0
Turnover Ratios						
Asset Utilisation	86.0	127.9	100.8	107.9	111.6	142.2
Sales/Fixed Assets	30.35*	5932.0	2750.5	1478.4	592.8	158.5
Sales/Stocks	1.3	1.7	1.1	1.0	1.1	1.5
Credit Period	4	0	1	1	0	3
Creditors Ratio	28.4	28.4	30.4	14.9	24.0	12.0
Working Cap./Sales	69.2	35.2	36.7	32.2	32.1	20.9
Liquidity Ratio						
Liquidity	2.5	1.8	1.6	1.5	1.6	1.4
Quick Ratio	0.9	0.4	0.2	0.1	0.0	0.1
Gearing Ratio						
Borrowing Ratio	29.1	42.2	110.9	149.5	152.3	187.3
Equity Gearing	0.6	0.5	0.4	0.3	0.4	0.3
Income Gearing	24.1	27.0	37.4	37.0	33.9	30.0
Total Debt/Work. Cap.	0.3	0.4	1.1	1.5	1.5	1.9
Debt Gearing	0.0	0.0	0.0	0.0	0.0	0.0

*Average

FLOWER & HAYES LTD

Date or Accounts	3/31/91	3/31/90	3/31/89	3/31/88	3/31/87
Number of Weeks	52	52	52	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)	**4193**	**5325**	**4866**	**2246**	**1906**
Net Profit Before Tax	**92**	**693**	**682**	**248**	**169**
Interest Paid	146	166	66	54	45
Non Trading Income	86	84	13	11	0
Operating Profit	152	775	735	291	214
Depreciation	102	115	117	111	75
Trading Profit	254	890	852	402	289
Employee Remun.	401	495	300	264	202
Director Remun.	174	143	324	132	123
No. of Employees	37	43	37	36	31
Fixed Assets	324	402	408	380	365
Intangible Assets	0	0	1	2	0
Intermediate Assets	108	90	42	29	15
Total	432	492	451	411	380
Stocks	2462	2628	2780	1559	1014
Trade Debtors	202	361	463	422	327
Other Current Assets	354	312	0	0	18
Total Current Assets	3018	3301	3243	1981	1359
Total Assets	**3450**	**3793**	**3694**	**2392**	**1739**
Less:					
Creditors	177	320	2026	1155	120
Short term Loans	1261	1170	0	0	526
Other current Liabl.	84	502	0	0	106
Total Current Liabl.	1522	1992	2026	1155	752
Net Assets	**1928**	**1801**	**1668**	**1237**	**987**
Shareholders Funds	1861	1725	1595	1151	938
Long Term Loans	25	35	34	49	21
Other Long Term Liabl.	42	41	39	37	28
Capital Employed	**1928**	**1801**	**1668**	**1237**	**987**
Reserve	**1860**	**1724**	**1589**	**1150**	**937**
Rate of Return					
Return on Capital	4.8	38.5	40.9	20.0	17.1
Return on Assets	2.7	18.3	18.5	10.4	9.7
Return on Shrhldrs Fund	4.9	40.2	42.8	21.5	18.0
Profit Margins					
Trading Profit Margin	6.1	16.7	17.5	17.9	15.2
Operating Profit Margin	3.6	14.6	15.1	13.0	11.2
Pre Tax Profit Margin	2.2	13.0	14.0	11.0	8.9
Turnover Ratios					
Asset Utilisation	121.5	140.4	131.7	93.9	109.6
Sales/Fixed Assets	12.9	13.2	11.9	5.9	5.2
Sales/Stocks	1.7	2.0	1.8	1.4	1.9
Credit Period	18	25	35	69	63
Creditors Ratio	15.4	21.9	152.0	187.7	23.0
Working Cap./Sales	35.7	24.6	25.0	36.8	31.8
Liquidity Ratio					
Liquidity	2.0	1.7	1.6	1.7	1.8
Quick Ratio	0.4	0.3	0.2	0.4	0.5
Gearing Ratio					
Borrowing Ratio	69.1	69.9	2.1	4.3	58.3
Equity Gearing	0.5	0.5	0.4	0.5	0.5
Income Gearing	61.3	19.3	8.8	17.9	21.0
Total Debt/Work. Cap.	0.9	0.9	0.0	0.1	0.9
Debt Gearing	1.3	2.0	2.1	4.3	2.2

HEAVESTOW LTD

Date or Accounts	9/30/91	9/30/90	9/30/89	9/30/88	9/30/87
Number of Weeks	52	52	52	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)	**2293**	**3543**	**2731**	**2464**	**151**
Net Profit Before Tax	**56**	**-644**	**821**	**601**	**-60**
Interest Paid	247	264	147	151	11
Non Trading Income	4	4	2	4	0
Operating Profit	299	-384	966	748	-49
Depreciation	46	52	48	20	11
Trading Profit	345	-332	1014	768	-38
Employee Remun.	149	176	127	65	26
Director Remun.	29	477	-	-	-
No. of Employees	9	11	7	7	5
Fixed Assets	128	150	192	132	58
Intangible Assets	0	0	0	0	0
Intermediate Assets	216	216	215	214	0
Total	344	366	407	346	58
Stocks	1292	1783	2739	1231	841
Trade Debtors	5	1	2	8	40
Other Current Assets	766	893	56	51	33
Total Current Assets	2063	2677	2797	1290	914
Total Assets	**2407**	**3043**	**3204**	**1636**	**972**
Less:					
Creditors	47	121	79	47	40
Short term Loans	1257	978	109	321	427
Other current Liabl.	447	433	1011	231	355
Total Current Liabl.	1751	1532	1199	599	822
Net Assets	**656**	**1511**	**2005**	**1037**	**150**
Shareholders Funds	656	634	1064	632	6
Long Term Loans	0	877	941	405	144
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**656**	**1511**	**2005**	**1037**	**150**
Reserve	**645**	**623**	**1053**	**621**	**6**
Rate of Return					
Return on Capital	8.5	-42.6	40.9	58.0	-40.0
Return on Assets	2.3	-21.2	25.6	36.7	-6.2
Return on Shrhldrs Fund	8.5	-101.6	77.2	95.1	-1000.0
Profit Margins					
Trading Profit Margin	15.0	-9.4	37.1	31.2	-25.2
Operating Profit Margin	13.0	-10.8	35.4	30.4	-32.5
Pre Tax Profit Margin	2.4	-18.2	30.1	24.4	-39.7
Turnover Ratios					
Asset Utilisation	95.3	116.4	85.2	150.6	15.5
Sales/Fixed Assets	17.9	23.6	14.2	18.7	2.6
Sales/Stocks	1.8	2.0	1.0	2.0	0.2
Credit Period	1	0	0	1	97
Creditors Ratio	7.5	12.5	10.6	7.0	96.7
Working Cap./Sales	13.6	32.3	58.5	28.0	60.9
Liquidity Ratio					
Liquidity	1.2	1.7	2.3	2.2	1.1
Quick Ratio	0.4	0.6	0.0	0.1	0.1
Gearing Ratio					
Borrowing Ratio	191.6	292.6	98.7	114.9	9516.7
Equity Gearing	0.3	0.2	0.3	0.4	0.0
Income Gearing	81.5	-69.5	15.2	20.1	-22.4
Total Debt/Work. Cap.	4.0	1.6	0.7	1.1	6.2
Debt Gearing	0.0	138.3	88.4	64.1	2400.0

JENNINGS HOMES LTD

Date or Accounts	7/31/91	7/31/90	7/31/89	7/31/88	7/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**5206**	**5072**	**3742**	**3911**	**2860**
Net Profit Before Tax	**1012**	**1631**	**1273**	**929**	**306**
Interest Paid	29	25	21	10	47
Non Trading Income	84	43	18	9	12
Operating Profit	957	1613	1276	930	341
Depreciation	35	27	24	22	16
Trading Profit	992	1640	1300	952	357
Employee Remun.	241	222	233	210	152
Director Remun.	119	107	122	105	125
No. of Employees	16	16	16	14	12
Fixed Assets	158	82	71	72	63
Intangible Assets	0	0	0	0	0
Intermediate Assets	142	142	123	0	2
Total	300	224	194	72	65
Stocks	2352	2662	1527	1079	956
Trade Debtors	140	27	5	7	63
Other Current Assets	1243	1011	756	279	247
Total Current Assets	3735	3700	2288	1365	1266
Total Assets	**4035**	**3924**	**2482**	**1437**	**1331**
Less:					
Creditors	1053	1444	593	410	430
Short term Loans	44	132	176	18	73
Other current Liabl.	1667	1159	1086	429	352
Total Current Liabl.	2764	2735	1855	857	855
Net Assets	**1271**	**1189**	**627**	**580**	**476**
Shareholders Funds	1206	1149	595	531	430
Long Term Loans	39	22	16	22	16
Other Long Term Liabl.	26	18	16	27	30
Capital Employed	**1271**	**1189**	**627**	**580**	**476**
Reserve	**1206**	**1149**	**594**	**530**	**429**
Rate of Return					
Return on Capital	79.6	137.2	203.0	160.2	64.3
Return on Assets	25.1	41.6	51.3	64.6	23.0
Return on Shrhldrs Fund	83.9	141.9	213.9	175.0	71.2
Profit Margins					
Trading Profit Margin	19.1	32.3	34.7	24.3	12.5
Operating Profit Margin	18.4	31.8	34.1	23.8	11.9
Pre Tax Profit Margin	19.4	32.2	34.0	23.8	10.7
Turnover Ratios					
Asset Utilisation	129.0	129.3	150.8	272.2	214.9
Sales/Fixed Assets	32.9	61.9	52.7	54.3	45.4
Sales/Stocks	2.2	1.9	2.5	3.6	3.0
Credit Period	10	2	0	1	8
Creditors Ratio	73.8	103.9	57.8	38.3	54.9
Working Cap./Sales	18.7	19.0	11.6	13.0	14.4
Liquidity Ratio					
Liquidity	1.4	1.4	1.2	1.6	1.5
Quick Ratio	0.5	0.4	0.4	0.3	0.4
Gearing Ratio					
Borrowing Ratio	6.9	13.4	32.3	7.5	20.7
Equity Gearing	0.3	0.3	0.2	0.4	0.3
Income Gearing	2.8	1.5	1.6	1.1	13.3
Total Debt/Work. Cap.	0.1	0.2	0.4	0.1	0.2
Debt Gearing	3.2	1.9	2.7	4.1	3.7

MOODY HOMES LTD

Date or Accounts	6/30/91	6/30/90	6/30/89	6/30/88	6/30/87
Number of Weeks	52	52	52	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)	**7895**	**9428**	**9266**	**14268**	**12023**
Net Profit Before Tax	**959**	**895**	**1598**	**5298**	**2421**
Interest Paid	251	637	131	28	3
Non Trading Income	24	12	49	56	137
Operating Profit	1186	1520	1680	5270	2287
Depreciation	121	119	123	120	82
Trading Profit	1307	1639	1803	5390	2369
Employee Remun.	677	565	537	500	345
Director Remun.	198	219	214	169	130
No. of Employees	52	62	57	57	43
Fixed Assets	256	233	302	443	318
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	256	233	302	443	318
Stocks	19514	16035	18844	13731	7939
Trade Debtors	1118	240	140	872	1657
Other Current Assets	133	119	121	83	214
Total Current Assets	20765	16394	19105	14686	9810
Total Assets	**21021**	**16627**	**19407**	**15129**	**10128**
Less:					
Creditors	970	880	1239	1041	823
Short term Loans	7562	3803	6692	1968	1232
Other current Liabl.	710	710	704	2089	992
Total Current Liabl.	9242	5393	8635	5098	3047
Net Assets	**11779**	**11234**	**10772**	**10031**	**7081**
Shareholders Funds	11779	11234	10772	10031	7081
Long Term Loans	0	0	0	0	0
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**11779**	**11234**	**10772**	**10031**	**7081**
Reserve	**11771**	**11226**	**10765**	**10023**	**7073**
Rate of Return					
Return on Capital	8.1	8.0	14.8	52.8	34.2
Return on Assets	4.6	5.4	8.2	35.0	23.9
Return on Shrhldrs Fund	8.1	8.0	14.8	52.8	34.2
Profit Margins					
Trading Profit Margin	16.6	17.4	19.5	37.8	19.7
Operating Profit Margin	15.0	16.1	18.1	36.9	19.0
Pre Tax Profit Margin	12.1	9.5	17.2	37.1	20.1
Turnover Ratios					
Asset Utilisation	37.6	56.7	47.7	94.3	118.7
Sales/Fixed Assets	30.8	40.5	30.7	32.2	37.8
Sales/Stocks	0.4	0.6	0.5	1.0	1.5
Credit Period	52	9	6	22	50
Creditors Ratio	44.8	34.1	48.8	26.6	25.0
Working Cap./Sales	146.0	116.7	113.0	67.2	56.3
Liquidity Ratio					
Liquidity	2.2	3.0	2.2	2.9	3.2
Quick Ratio	0.1	0.1	0.0	0.2	0.6
Gearing Ratio					
Borrowing Ratio	64.2	33.9	62.1	19.6	17.4
Equity Gearing	0.6	0.7	0.6	0.7	0.7
Income Gearing	20.7	41.6	7.6	0.5	0.1
Total Debt/Work. Cap.	0.7	0.3	0.6	0.2	0.2
Debt Gearing	0.0	0.0	0.0	0.0	0.0

MUIR HOMES LTD

Date or Accounts	1/31/91	1/31/90	1/31/89	1/31/88	1/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**5617**	**7759**	**7187**	**5462**	**5229**
Net Profit Before Tax	**1310**	**1487**	**1174**	**657**	**347**
Interest Paid	81	45	0	31	44
Non Trading Income	198	277	323	185	35
Operating Profit	1193	1255	851	503	356
Depreciation	0	0	0	0	0
Trading Profit	1193	1255	851	503	356
Employee Remun.	896	816	622	535	596
Director Remun.	47	45	50	71	80
No. of Employees	70	74	60	60	56
Fixed Assets	0	0	0	0	0
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	0	0	0	0	0
Stocks	7463	5156	3117	3600	4872
Trade Debtors	34	275	0	0	3
Other Current Assets	845	1710	2667	1481	327
Total Current Assets	8342	7141	5784	5081	5202
Total Assets	**8342**	**7141**	**5784**	**5081**	**5202**
Less:					
Creditors	193	254	82	49	16
Short term Loans	1931	1745	2019	2241	2866
Other current Liabl.	929	1102	767	822	875
Total Current Liabl.	3053	3101	2868	3112	3757
Net Assets	**5289**	**4040**	**2916**	**1969**	**1445**
Shareholders Funds	4918	4040	2916	1969	1445
Long Term Loans	363	0	0	0	0
Other Long Term Liabl.	8	0	0	0	0
Capital Employed	**5289**	**4040**	**2916**	**1969**	**1445**
Reserve	**4918**	**4040**	**2916**	**1969**	**1445**
Rate of Return					
Return on Capital	24.8	36.8	40.3	33.4	24.0
Return on Assets	15.7	20.8	20.3	12.9	6.7
Return on Shrhldrs Fund	26.6	36.8	40.3	33.4	24.0
Profit Margins					
Trading Profit Margin	21.2	16.2	11.8	9.2	6.8
Operating Profit Margin	21.2	16.2	11.8	9.2	6.8
Pre Tax Profit Margin	23.3	19.2	16.3	12.0	6.6
Turnover Ratios					
Asset Utilisation	67.3	108.7	124.3	107.5	100.5
Sales/Fixed Assets	30.35*	25.57*	24.02*	28.98*	24.56*
Sales/Stocks	0.8	1.5	2.3	1.5	1.1
Credit Period	2	13	0	0	0
Creditors Ratio	12.5	11.9	4.2	3.3	1.1
Working Cap./Sales	94.2	52.1	40.6	36.0	27.6
Liquidity Ratio					
Liquidity	2.7	2.3	2.0	1.6	1.4
Quick Ratio	0.3	0.6	0.9	0.5	0.1
Gearing Ratio					
Borrowing Ratio	46.6	43.2	69.2	113.8	198.3
Equity Gearing	0.6	0.6	0.5	0.4	0.3
Income Gearing	5.8	2.9	0.0	4.5	11.3
Total Debt/Work. Cap.	0.4	0.4	0.7	1.1	2.0
Debt Gearing	7.4	0.0	0.0	0.0	0.0

*Average

D. NORTH HOMES LTD

Date or Accounts	9/30/91	9/30/90	9/30/89	9/30/88	9/30/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**5406**	**5091**	**12231**	**8109**	**5710**
Net Profit Before Tax	**256**	**576**	**2828**	**1026**	**419**
Interest Paid	515	443	270	148	127
Non Trading Income	15	12	10	14	15
Operating Profit	756	1007	3088	1160	531
Depreciation	116	115	121	107	80
Trading Profit	872	1122	3209	1267	611
Employee Remun.	712	801	737	660	576
Director Remun.	174	142	147	104	81
No. of Employees	54	57	61	60	62
Fixed Assets	378	461	374	355	266
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	378	461	374	355	266
Stocks	6544	6224	4585	1646	1350
Trade Debtors	22	21	90	51	85
Other Current Assets	65	908	2185	1794	775
Total Current Assets	6631	7153	6860	3491	2210
Total Assets	**7009**	**7614**	**7234**	**3846**	**2476**
Less:					
Creditors	338	222	845	819	525
Short term Loans	2586	2988	1260	116	105
Other current Liabl.	409	758	1805	990	231
Total Current Liabl.	3333	3968	3910	1925	861
Net Assets	**3676**	**3646**	**3324**	**1921**	**1615**
Shareholders Funds	3527	3405	3001	1567	1284
Long Term Loans	149	241	323	353	326
Other Long Term Liabl.	0	0	0	1	5
Capital Employed	**3676**	**3646**	**3324**	**1921**	**1615**
Reserve	**3517**	**3395**	**2990**	**1545**	**1272**
Rate of Return					
Return on Capital	7.0	15.8	85.1	53.4	25.9
Return on Assets	3.7	7.6	39.1	26.7	16.9
Return on Shrhldrs Fund	7.3	16.9	94.2	65.5	32.6
Profit Margins					
Trading Profit Margin	16.1	22.0	26.2	15.6	10.7
Operating Profit Margin	14.0	19.8	25.2	14.3	9.3
Pre Tax Profit Margin	4.7	11.3	23.1	12.7	7.3
Turnover Ratios					
Asset Utilisation	77.1	66.9	169.1	210.8	230.6
Sales/Fixed Assets	14.3	11.0	32.7	22.8	21.5
Sales/Stocks	0.8	0.8	2.7	4.9	4.2
Credit Period	1	2	3	2	5
Creditors Ratio	22.8	15.9	25.2	36.9	33.6
Working Cap./Sales	61.0	62.6	24.1	19.3	23.6
Liquidity Ratio					
Liquidity	2.0	1.8	1.8	1.8	2.6
Quick Ratio	0.0	0.2	0.6	1.0	1.0
Gearing Ratio					
Borrowing Ratio	77.5	94.8	52.7	29.9	33.6
Equity Gearing	0.5	0.4	0.4	0.4	0.5
Income Gearing	66.8	43.5	8.7	12.6	23.3
Total Debt/Work. Cap.	0.8	1.0	0.5	0.3	0.3
Debt Gearing	4.2	7.1	10.8	22.5	25.4

ORION DEVELOPMENTS

Date or Accounts	1/31/91	1/31/90	1/31/89	1/31/88	1/31/87
Number of Weeks	52	52	52	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)	**4568**	**4013**	**4010**	**2564**	**2358**
Net Profit Before Tax	**1022**	**1250**	**1138**	**312**	**201**
Interest Paid	315	105	59	106	91
Non Trading Income	0	0	9	3	1
Operating Profit	1337	1355	1188	415	291
Depreciation	52	40	35	38	36
Trading Profit	1389	1395	1223	453	327
Employee Remun.	317	217	244	199	220
Director Remun.	103	74	54	52	86
No. of Employees	31	18	20	20	19
Fixed Assets	410	89	113	94	115
Intangible Assets	0	0	0	0	0
Intermediate Assets	15	79	69	7	0
Total	425	168	182	101	115
Stocks	7773	6561	1953	1768	1343
Trade Debtors	448	145	141	218	230
Other Current Assets	337	545	398	46	68
Total Current Assets	8558	7251	2492	2032	1641
Total Assets	**8983**	**7419**	**2674**	**2133**	**1756**
Less:					
Creditors	701	542	589	515	341
Short term Loans	3239	548	146	566	598
Other current Liabl.	1848	4416	834	399	319
Total Current Liabl.	5788	5506	1569	1480	1258
Net Assets	**3195**	**1913**	**1105**	**653**	**498**
Shareholders Funds	2928	1788	960	471	297
Long Term Loans	267	125	145	182	201
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**3195**	**1913**	**1105**	**653**	**498**
Reserve	**2314**	**1715**	**898**	**409**	**235**
Rate of Return					
Return on Capital	32.0	65.3	103.0	47.8	40.4
Return on Assets	11.4	16.8	42.6	14.6	11.4
Return on Shrhldrs Fund	34.9	69.9	118.5	66.2	67.7
Profit Margins					
Trading Profit Margin	30.4	34.8	30.5	17.7	13.9
Operating Profit Margin	29.3	33.8	29.6	16.2	12.3
Pre Tax Profit Margin	22.4	31.1	28.4	12.2	8.5
Turnover Ratios					
Asset Utilisation	50.9	54.1	150.0	120.2	134.3
Sales/Fixed Assets	11.1	45.1	35.5	27.3	20.5
Sales/Stocks	0.6	0.6	2.1	1.5	1.8
Credit Period	36	13	13	31	36
Creditiors Ratio	56.0	49.3	53.6	73.3	52.8
Working Cap./Sales	60.6	43.5	23.0	21.5	16.2
Liquidity Ratio					
Liquidity	1.5	1.3	1.6	1.4	1.3
Quick Ratio	0.1	0.1	0.3	0.2	0.2
Gearing Ratio					
Borrowing Ratio	119.7	37.6	30.3	158.8	269.0
Equity Gearing	0.3	0.2	0.4	0.2	0.2
Income Gearing	23.6	7.7	4.9	25.4	31.2
Total Debt/Work. Cap.	1.3	0.4	0.3	1.4	2.1
Debt Gearing	9.1	7.0	15.1	38.6	67.7

J.A. PYE (OXFORD) HOLDINGS LTD

Date or Accounts	4/7/91	4/7/90	4/7/89	4/7/88	4/7/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**6762**	**9803**	**9350**	**6720**	**8117**
Net Profit Before Tax	**1310**	**2706**	**3227**	**1806**	**990**
Interest Paid	824	541	418	762	820
Non Trading Income	64	20	54	71	55
Operating Profit	2070	3227	3591	2497	1755
Depreciation	85	76	84	59	76
Trading Profit	2155	3303	3675	2556	1831
Employee Remun.	541	512	416	380	369
Director Remun.	244	284	229	129	119
No. of Employees	26	26	26	26	30
Fixed Assets	970	998	835	838	241
Intangible Assets	0	0	0	0	0
Intermediate Assets	2000	0	0	0	0
Total	2970	998	835	838	241
Stocks	18369	17693	12065	11679	10023
Trade Debtors	144	26	129	538	3097
Other Current Assets	2024	4570	4694	3025	489
Total Current Assets	20537	22289	16888	15242	13609
Total Assets	**23507**	**23287**	**17723**	**16080**	**13850**
Less:					
Creditors	625	1773	615	492	1089
Short term Loans	8951	8728	6378	7042	5954
Other current Liabl.	684	801	934	968	1273
Total Current Liabl.	10260	11302	7927	8502	8316
Net Assets	**13247**	**11985**	**9796**	**7578**	**5534**
Shareholders Funds	13148	11664	9147	5914	3602
Long Term Loans	0	321	649	1664	1883
Other Long Term Liabl.	99	0	0	0	49
Capital Employed	**13247**	**11985**	**9796**	**7578**	**5534**
Reserve	**10698**	**9164**	**6559**	**3414**	**1102**
Rate of Return					
Return on Capital	9.9	22.6	32.9	23.8	17.9
Return on Assets	5.6	11.6	18.2	11.2	7.1
Return on Shrhldrs Fund	10.0	23.2	35.3	30.5	27.5
Profit Margins					
Trading Profit Margin	31.9	33.7	39.3	38.0	22.6
Operating Profit Margin	30.6	32.9	38.4	37.2	21.6
Pre Tax Profit Margin	19.4	27.6	34.5	26.9	12.2
Turnover Ratios					
Asset Utilisation	28.8	42.1	52.8	41.8	58.6
Sales/Fixed Assets	7.0	9.8	11.2	8.0	33.7
Sales/Stocks	0.4	0.6	0.8	0.6	0.8
Credit Period	8	1	5	29	139
Creditors Ratio	33.7	66.0	24.0	26.7	49.0
Working Cap./Sales	152.0	112.1	95.8	100.3	65.2
Liquidity Ratio					
Liquidity	2.0	2.0	2.1	1.8	1.6
Quick Ratio	0.2	0.4	0.6	0.4	0.4
Gearing Ratio					
Borrowing Ratio	68.1	77.6	76.8	147.2	217.6
Equity Gearing	0.6	0.5	0.5	0.4	0.3
Income Gearing	38.6	16.7	11.5	29.7	45.3
Total Debt/Work. Cap.	0.9	0.8	0.8	1.3	1.5
Debt Gearing	0.0	2.8	7.1	28.1	52.3

WALTON HOMES LTD

Date or Accounts	3/31/91	3/31/90	3/31/89	3/31/88	3/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**10315**	**11456**	**10264**	**6631**	**869**
Net Profit Before Tax	**841**	**2884**	**2201**	**1097**	**-386**
Interest Paid	380	474	450	261	286
Non Trading Income	0	0	0	0	0
Operating Profit	1221	3358	2651	1358	-100
Depreciation	123	118	82	40	18
Trading Profit	1344	3476	2733	1398	-82
Employee Remun.	814	477	433	232	117
Director Remun.	477	196	225	78	35
No. of Employees	30	25	24	19	11
Fixed Assets	464	504	576	133	80
Intangible Assets	0	0	0	0	0
Intermediate Assets	46	23	13	2	0
Total	510	527	589	135	80
Stocks	7316	6597	6452	3343	3060
Trade Debtors	0	0	0	0	0
Other Current Assets	48	410	92	393	160
Total Current Assets	7364	7007	6544	3736	3220
Total Assets	**7874**	**7534**	**7133**	**3871**	**3300**
Less:					
Creditors	601	1060	645	471	340
Short term Loans	1667	715	2955	1290	2158
Other current Liabl.	1464	1153	783	938	347
Total Current Liabl.	3732	2928	4383	2699	2845
Net Assets	**4142**	**4606**	**2750**	**1172**	**455**
Shareholders Funds	4142	3606	1750	172	-545
Long Term Loans	0	1000	1000	1000	1000
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**4142**	**4606**	**2750**	**1172**	**455**
Reserve	**4042**	**3507**	**1650**	**72**	**-645**
Rate of Return					
Return on Capital	20.3	62.6	80.0	93.6	-84.8
Return on Assets	10.7	38.3	30.9	28.3	-11.7
Return on Shrhldrs Fund	20.3	80.0	125.8	637.8	70.8
Profit Margins					
Trading Profit Margin	13.0	30.3	26.6	21.1	-9.4
Operating Profit Margin	11.8	29.3	25.8	20.5	-11.5
Pre Tax Profit Margin	8.2	25.2	21.4	16.5	-44.4
Turnover Ratios					
Asset Utilisation	131.0	152.1	143.9	171.3	26.3
Sales/Fixed Assets	22.2	22.7	17.8	49.9	10.9
Sales/Stocks	1.4	1.7	1.6	2.0	0.3
Credit Period	0	0	0	0	0
Creditors Ratio	21.3	33.8	22.9	25.9	142.8
Working Cap./Sales	35.2	35.6	21.1	15.6	43.2
Liquidity Ratio					
Liquidity	2.0	2.4	1.5	1.4	1.1
Quick Ratio	0.0	0.1	0.0	0.1	0.1
Gearing Ratio					
Borrowing Ratio	40.2	47.6	226.0	1331.4	-579.4
Equity Gearing	0.5	0.5	0.2	0.0	-0.2
Income Gearing	31.1	14.1	17.0	19.2	-286.0
Total Debt/Work. Cap.	0.5	0.4	1.8	2.2	8.4
Debt Gearing	0.0	27.7	57.1	581.4	-183.5

Appendix C

Test Group's Accounts (Final Year's accounts)

WEATHERCOCK PROPERTIES LTD — Failed

Date or Accounts	12/31/91	12/31/90	12/31/89	12/31/88	12/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**2**	**253**	**1089**	**3945**	**1377**
Net Profit Before Tax	**-3327**	**-1512**	**-1123**	**572**	**2**
Interest Paid	1250	1142	476	157	40
Non Trading Income	157	116	3	0	1
Operating Profit	-2234	-486	-650	729	41
Depreciation	6	56	80	44	16
Trading Profit	-2228	-430	-570	773	57
Employee Remun.	97	49	546	409	224
Director Remun.	218	167	786	418	95
No. of Employees	4	5	15	19	28
Fixed Assets	317	1692	2036	594	309
Intangible Assets	0	0	0	0	0
Intermediate Assets	1728	3989	1951	1028	0
Total	2045	5681	3987	1622	309
Stocks	1695	2427	2427	1004	492
Trade Debtors	362	575	838	236	258
Other Current Assets	142	494	750	289	33
Total Current Assets	2199	3496	4015	1529	783
Total Assets	**4244**	**9177**	**8002**	**3151**	**1092**
Less:					
Creditors	10	38	433	494	408
Short term Loans	7072	7225	4738	1261	547
Other current Liabl.	1806	416	184	360	60
Total Current Liabl.	8888	7679	5355	2115	1015
Net Assets	**-4644**	**1498**	**2647**	**1036**	**77**
Shareholders Funds	-4644	58	2629	792	42
Long Term Loans	0	1440	8	36	35
Other Long Term Liabl.	0	0	10	208	0
Capital Employed	**-4644**	**1498**	**2647**	**1036**	**77**
Reserve	**-4644**	**58**	**2629**	**792**	**42**
Rate of Return					
Return on Capital	-	-100.9	-42.4	55.2	2.6
Return on Assets	-78.4	-16.5	-14.0	18.2	0.2
Return on Shrhldrs Fund	-	-2606.9	-42.7	72.2	4.8
Profit Margins					
Trading Profit Margin	-111400.0	-170.0	-52.3	19.6	4.1
Operating Profit Margin	-111700.0	-192.1	-59.7	18.5	3.0
Pre Tax Profit Margin	-166350.0	-597.6	-103.1	14.5	0.1
Turnover Ratios					
Asset Utilisation	0.0	2.8	13.6	125.2	126.1
Sales/Fixed Assets	0.0	0.1	0.5	6.6	4.5
Sales/Stocks	0.0	0.1	0.4	3.9	2.8
Credit Period	66065	830	281	22	68
Creditors Ratio	1825.0	54.8	145.1	45.7	108.1
Working Cap./Sales	-334450.0	-1653.4	-123.0	-14.9	-16.8
Liquidity Ratio					
Liquidity	0.2	0.5	0.7	0.7	0.8
Quick Ratio	0.1	0.1	0.3	0.2	0.3
Gearing Ratio					
Borrowing Ratio	-	14939.7	180.5	163.8	1385.7
Equity Gearing	-	0.0	0.3	0.3	0.0
Income Gearing	-60.2	-308.6	-73.6	21.5	95.2
Total Debt/Work. Cap.	-1.1	-2.1	-3.5	-2.2	-2.5
Debt Gearing	-	2482.8	0.3	4.5	83.3

HASSALL HOMES (WESTERN) LTD — Failed

Date or Accounts	6/30/90	6/30/89	6/30/88
Number of Weeks	52	52	52
	£OOO	£OOO	£OOO
Turnover (Sales)	**9940**	**6736**	**6149**
Net Profit Before Tax	**277**	**1504**	**491**
Interest Paid	615	262	60
Non Trading Income	3	98	-84
Operating Profit	889	1668	635
Depreciation	16	32	50
Trading Profit	905	1700	685
Employee Remun.	525	479	330
Director Remun.	143	160	129
No. of Employees	52	49	44
Fixed Assets	24	37	68
Intangible Assets	0	0	0
Intermediate Assets	976	967	1757
Total	1000	1004	1825
Stocks	5723	8789	4466
Trade Debtors	1046	17	11
Other Current Assets	138	97	572
Total Current Assets	6907	8903	5049
Total Assets	**7907**	**9907**	**6874**
Less:			
Creditors	1894	1949	1553
Short term Loans	2452	4209	2068
Other current Liabl.	827	1070	333
Total Current Liabl.	5173	7228	3954
Net Assets	**2734**	**2679**	**2920**
Shareholders Funds	2668	2622	2132
Long Term Loans	0	0	773
Other Long Term Liabl.	66	57	15
Capital Employed	**2734**	**2679**	**2920**
Reserve	**549**	**503**	**14**
Rate of Return			
Return on Capital	10.1	56.1	16.8
Return on Assets	3.5	15.2	7.1
Return on Shrhldrs Fund	10.4	57.4	23.0
Profit Margins			
Trading Profit Margin	9.1	25.2	11.1
Operating Profit Margin	8.9	24.8	10.3
Pre Tax Profit Margin	2.8	22.3	8.0
Turnover Ratios			
Asset Utilisation	125.7	68.0	89.5
Sales/Fixed Assets	414.2	182.1	90.4
Sales/Stocks	1.7	0.8	1.4
Credit Period	38	1	1
Creditiors Ratio	69.5	105.6	92.2
Working Cap./Sales	17.4	24.9	17.8
Liquidity Ratio			
Liquidity	1.3	1.2	1.3
Quick Ratio	0.2	0.0	0.1
Gearing Ratio			
Borrowing Ratio	91.9	160.5	133.3
Equity Gearing	0.3	0.3	0.3
Income Gearing	68.9	14.8	10.9
Total Debt/Work. Cap.	1.4	2.5	2.6
Debt Gearing	0.0	0.0	36.3

MCINERNEY DEVELOPMENTS LTD — Failed

Date or Accounts	12/31/89	12/31/88	12/31/87	12/31/86
Number of Weeks	52	52	52	52
	£000	£000	£000	£000
Turnover (Sales)	**1123**	**3795**	**3966**	**26102**
Net Profit Before Tax	**-507**	**155**	**217**	**1838**
Interest Paid	468	216	159	232
Non Trading Income	0	0	0	8
Operating Profit	-39	371	376	2062
Depreciation	1	2	2	53
Trading Profit	-38	373	378	2115
Employee Remun.	154	651	673	4059
Director Remun.	0	69	28	134
No. of Employees	10	52	55	313
Fixed Assets	6	13	15	1012
Intangible Assets	0	0	0	0
Intermediate Assets	0	0	0	2
Total	6	13	15	1014
Stocks	4076	2898	1428	5925
Trade Debtors	0	0	585	7255
Other Current Assets	71	10	0	3905
Total Current Assets	4147	2908	2013	17085
Total Assets	**4153**	**2921**	**2028**	**18099**
Less:				
Creditors	195	205	536	4726
Short term Loans	0	0	0	4766
Other current Liabl.	12	73	61	697
Total Current Liabl.	207	278	597	10189
Net Assets	**3946**	**2643**	**1431**	**7910**
Sharcholders Funds	64	512	416	4584
Long Term Loans	3882	2131	1015	3121
Other Long Term Liabl.	0	0	0	205
Capital Employed	**3946**	**2643**	**1431**	**7910**
Reserve	**64**	**512**	**416**	**4584**
Rate of Return				
Return on Capital	-12.8	5.9	15.2	23.2
Return on Assets	-12.2	5.3	10.7	10.2
Return on Shrhldrs Fund	-792.2	30.3	52.2	40.1
Profit Margins				
Trading Profit Margin	-3.4	9.8	9.5	8.1
Operating Profit Margin	-3.5	9.8	9.5	7.9
Pre Tax Profit Margin	-45.1	4.1	5.5	7.0
Turnover Ratios				
Asset Utilisation	27.0	129.9	195.6	144.2
Sales/Fixed Assets	187.2	291.9	264.4	25.8
Sales/Stocks	0.3	1.3	2.8	4.4
Credit Period	0	0	54	101
Creditiors Ratio	63.4	19.7	49.3	66.1
Working Cap./Sales	350.8	69.3	35.7	26.4
Liquidity Ratio				
Liquidity	20.0	10.5	3.4	1.7
Quick Ratio	0.3	0.0	1.0	1.1
Gearing Ratio				
Borrowing Ratio	6065.6	416.2	244.0	172.1
Equity Gearing	0.0	0.2	0.2	0.3
Income Gearing	-1200.0	58.2	42.3	11.2
Total Debt/Work. Cap.	1.0	0.8	0.7	1.1
Debt Gearing	6065.6	416.2	244.0	68.1

MILLWOOD HOMES PLC — Failed

Date or Accounts	10/31/92	10/31/91	10/31/90	10/31/89	10/31/88	10/31/87	10/31/86
Number of Weeks	52	52	52	52	52	52	52
	£OOO	£OOO	£OOO	£OOO	£OOO	£OOO	£OOO
Turnover (Sales)			**2731**	**4070**			
Net Profit Before Tax			**-694**	**325**			
Interest Paid			45	13			
Non Trading Income			0	0			
Operating Profit			-649	338			
Depreciation			18	14			
Trading Profit			-631	352			
Employee Remun.			130	91			
Director Remun.			30	19			
No. of Employees			11	8			
Fixed Assets			1003	988			
Intangible Assets			0	0			
Intermediate Assets			30	30			
Total			1033	1018			
Stocks			3215	2363			
Trade Debtors			1224	385			
Other Current Assets			206	389			
Total Current Assets			4645	3137			
Total Assets			**5678**	**4155**			
Less:							
Creditors			164	136			
Short term Loans			2761	1225			
Other current Liabl.			1125	968			
Total Current Liabl.			4050	2329			
Net Assets			**1628**	**1826**			
Shareholders Funds			867	1080			
Long Term Loans			556	746			
Other Long Term Liabl.			205	0			
Capital Employed			**1628**	**1826**			
Reserve							
Rate of Return							
Return on Capital			-42.6	17.8			
Return on Assets			-12.2	7.8			
Return on Shrhldrs Fund			-80.0	30.1			
Profit Margins							
Trading Profit Margin			-23.1	8.6			
Operating Profit Margin			-23.8	8.3			
Pre Tax Profit Margin			-25.4	8.0			
Turnover Ratios							
Asset Utilisation			48.1	98.0			
Sales/Fixed Assets			2.7	4.1			
Sales/Stocks			0.8	1.7			
Credit Period			164	35			
Creditiors Ratio			21.9	12.2			
Working Cap./Sales			21.8	19.9			
Liquidity Ratio							
Liquidity			1.1	1.3			
Quick Ratio			0.4	0.3			
Gearing Ratio							
Borrowing Ratio			382.6	182.5			
Equity Gearing			0.2	0.3			
Income Gearing			-6.9	3.8			
Total Debt/Work. Cap.			5.6	2.4			
Debt Gearing			64.1	69.1			

ABBEY MANOR HOMES LTD — Live

Date or Accounts	12/31/91	12/31/90	12/31/89	12/31/88	12/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**2397**	**1824**	**5329**	**6802**	**6528**
Net Profit Before Tax	**-210**	**108**	**1177**	**615**	**271**
Interest Paid	4	91	27	47	29
Non Trading Income	12	3	33	21	34
Operating Profit	-218	196	1171	641	266
Depreciation	2	0	2	2	2
Trading Profit	-216	196	1173	643	268
Employee Remun.	48	43	61	50	18
Director Remun.	37	42	43	35	54
No. of Employees	6	9	8	9	8
Fixed Assets	28	30	28	30	32
Intangible Assets	0	0	0	0	0
Intermediate Assets	154	43	24	0	0
Total	182	73	52	30	32
Stocks	3488	4585	4356	3849	2389
Trade Debtors	13	0	9	7	11
Other Current Assets	247	1966	1074	834	1191
Total Current Assets	3748	6551	5439	4690	3591
Total Assets	**3930**	**6624**	**5491**	**4720**	**3623**
Less:					
Creditors	79	77	255	626	333
Short term Loans	832	3322	1717	1483	1337
Other current Liabl.	71	67	462	294	43
Total Current Liabl.	982	3466	2434	2403	1713
Net Assets	**2948**	**3158**	**3057**	**2317**	**1910**
Shareholders Funds	2948	3158	3057	2317	1910
Long Term Loans	0	0	0	0	0
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**2948**	**3158**	**3057**	**2317**	**1910**
Reserve	**2943**	**3153**	**3052**	**2312**	**1905**
Rate of Return					
Return on Capital	-7.1	3.4	38.5	26.5	14.2
Return on Assets	-5.3	1.6	21.4	13.0	7.5
Return on Shrhldrs Fund	-7.1	3.4	38.5	26.5	14.2
Profit Margins					
Trading Profit Margin	-9.0	10.7	22.0	9.5	4.1
Operating Profit Margin	-9.1	10.7	22.0	9.4	4.1
Pre Tax Profit Margin	-8.8	5.9	22.1	9.0	4.2
Turnover Ratios					
Asset Utilisation	61.0	27.5	97.0	144.1	180.2
Sales/Fixed Assets	85.6	60.8	190.3	226.7	204.0
Sales/Stocks	0.7	0.4	1.2	1.8	2.7
Credit Period	2	0	1	0	1
Creditors Ratio	12.0	15.4	17.5	33.6	18.6
Working Cap./Sales	115.4	169.1	56.4	33.6	28.8
Liquidity Ratio					
Liquidity	3.8	1.9	2.2	2.0	2.1
Quick Ratio	0.3	0.6	0.4	0.3	0.7
Gearing Ratio					
Borrowing Ratio	28.2	105.2	56.2	64.0	70.0
Equity Gearing	0.8	0.5	0.6	0.5	0.5
Income Gearing	-1.9	45.7	2.2	7.1	9.7
Total Debt/Work. Cap.	0.3	1.1	0.6	0.6	0.7
Debt Gearing	0.0	0.0	0.0	0.0	0.0

MACBRYDE HOMES LTD — Live

Date or Accounts	12/31/91	12/31/90	12/31/89	12/31/88	12/31/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**9384**	**9677**	**8686**	**8635**	**2354**
Net Profit Before Tax	**-818**	**832**	**701**	**1987**	**173**
Interest Paid	260	337	248	187	39
Non Trading Income	7	10	26	33	1
Operating Profit	-565	1159	923	2141	211
Depreciation	101	90	81	55	39
Trading Profit	-464	1249	1004	2196	250
Employee Remun.	508	447	325	286	148
Director Remun.	301	320	237	198	20
No. of Employees	48	45	38	31	21
Fixed Assets	471	386	356	273	161
Intangible Assets	0	0	0	0	0
Intermediate Assets	0	0	0	0	0
Total	471	386	356	273	161
Stocks	3399	5114	4279	2742	1078
Trade Debtors	58	206	0	0	0
Other Current Assets	554	364	99	798	109
Total Current Assets	4011	5684	4378	3540	1187
Total Assets	**4482**	**6070**	**4734**	**3813**	**1348**
Less:					
Creditors	507	603	453	381	188
Short term Loans	1706	2288	1648	824	542
Other current Liabl.	348	614	599	982	209
Total Current Liabl.	2561	3505	2700	2187	939
Net Assets	**1921**	**2565**	**2034**	**1626**	**409**
Shareholders Funds	1903	2457	1920	1464	218
Long Term Loans	18	108	114	162	191
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**1921**	**2565**	**2034**	**1626**	**409**
Reserve	**1903**	**2457**	**1920**	**1464**	**218**
Rate of Return					
Return on Capital	-42.6	32.4	34.5	122.2	42.3
Return on Assets	-18.3	13.7	14.8	52.1	12.8
Return on Shrhldrs Fund	-43.0	33.9	36.5	135.7	79.4
Profit Margins					
Trading Profit Margin	-4.9	12.9	11.6	25.4	10.6
Operating Profit Margin	-6.0	12.0	10.6	24.8	9.0
Pre Tax Profit Margin	-8.7	8.6	8.1	23.0	7.3
Turnover Ratios					
Asset Utilisation	209.4	159.4	183.5	226.5	174.6
Sales/Fixed Assets	19.9	25.1	24.4	31.6	14.6
Sales/Stocks	2.8	1.9	2.0	3.1	2.2
Credit Period	2	8	0	0	0
Creditiors Ratio	19.7	22.7	19.0	16.1	29.2
Working Cap./Sales	15.5	22.5	19.3	15.7	10.5
Liquidity Ratio					
Liquidity	1.6	1.6	1.6	1.6	1.3
Quick Ratio	0.2	0.2	0.0	0.4	0.1
Gearing Ratio					
Borrowing Ratio	90.6	97.5	91.8	67.3	336.2
Equity Gearing	0.4	0.4	0.4	0.4	0.2
Income Gearing	-46.6	28.8	26.1	8.6	18.4
Total Debt/Work. Cap.	1.2	1.1	1.1	0.7	3.0
Debt Gearing	0.9	4.4	5.9	11.1	87.6

PENTA HOMES LTD — Live

Date or Accounts	9/30/91	9/30/90	9/30/89	9/30/88	9/30/87
Number of Weeks	52	52	52	52	52
	£000	£000	£000	£000	£000
Turnover (Sales)	**1840**	**1926**	**3038**	**3368**	**2273**
Net Profit Before Tax	**-47**	**-29**	**59**	**102**	**102**
Interest Paid	71	140	186	108	57
Non Trading Income	4	0	0	0	0
Operating Profit	20	111	245	210	159
Depreciation	30	31	27	31	21
Trading Profit	50	142	272	241	180
Employee Remun.	14	8	9	8	4
Director Remun.	106	105	105	63	56
No. of Employees	2	2	2	2	1
Fixed Assets	50	78	89	109	113
Intangible Assets	0	0	0	0	0
Intermediate Assets	293	304	257	0	0
Total	343	382	346	109	113
Stocks	559	610	985	1250	997
Trade Debtors	113	58	53	87	223
Other Current Assets	45	64	60	68	77
Total Current Assets	717	732	1098	1405	1297
Total Assets	**1060**	**1114**	**1444**	**1514**	**1410**
Less:					
Creditors	195	302	230	285	368
Short term Loans	491	376	705	724	645
Other current Liabl.	17	39	57	92	83
Total Current Liabl.	703	717	992	1101	1096
Net Assets	**357**	**397**	**452**	**413**	**314**
Shareholders Funds	282	322	354	311	237
Long Term Loans	75	75	98	102	77
Other Long Term Liabl.	0	0	0	0	0
Capital Employed	**357**	**397**	**452**	**413**	**314**
Reserve	**280**	**320**	**352**	**309**	**235**
Rate of Return					
Return on Capital	-13.2	-7.3	13.1	24.7	32.5
Return on Assets	-4.4	-2.6	4.1	6.7	7.2
Return on Shrhldrs Fund	-16.7	-9.0	16.7	32.8	43.0
Profit Margins					
Trading Profit Margin	2.7	7.4	9.0	7.2	7.9
Operating Profit Margin	1.1	5.8	8.1	6.2	7.0
Pre Tax Profit Margin	-2.6	-1.5	1.9	3.0	4.5
Turnover Ratios					
Asset Utilisation	173.6	172.9	210.4	222.5	161.2
Sales/Fixed Assets	36.8	24.7	34.1	30.9	20.1
Sales/Stocks	3.3	3.2	3.1	2.7	2.3
Credit Period	22	11	6	9	36
Creditiors Ratio	38.7	57.2	27.6	30.9	59.1
Working Cap./Sales	0.8	0.8	3.5	9.0	8.8
Liquidity Ratio					
Liquidity	1.0	1.0	1.1	1.3	1.2
Quick Ratio	0.2	0.2	0.1	0.1	0.3
Gearing Ratio					
Borrowing Ratio	200.7	140.1	226.8	265.6	304.6
Equity Gearing	0.3	0.3	0.2	0.2	0.2
Income Gearing	295.8	126.1	75.9	51.4	35.8
Total Debt/Work. Cap.	40.4	30.1	7.6	2.7	3.6
Debt Gearing	26.6	23.3	27.7	32.8	32.5

BEAZER HOMES (ANGLIA) LTD Live

Date or Accounts	9/30/92	6/30/91	6/30/90
Number of Weeks	13	52	52
	£OOO	£OOO	£OOO
Turnover (Sales)	**5240**	**14483**	**12789**
Net Profit Before Tax	**499**	**699**	**230**
Interest Paid	0	715	1065
Non Trading Income	46	8	6
Operating Profit	453	1406	1289
Depreciation	4	21	24
Trading Profit	457	1427	1313
Employee Remun.	165	641	630
Director Remun.	34	192	188
No. of Employees	62	59	57
Fixed Assets	154	171	202
Intangible Assets	0	0	0
Intermediate Assets	224	453	420
Total	378	624	622
Stocks	11982	16839	18060
Trade Debtors	106	36	9
Other Current Assets	2974	281	91
Total Current Assets	15062	17156	18160
Total Assets	**15440**	**17780**	**18782**
Less:			
Creditors	1402	1324	1690
Short term Loans	8333	9516	10707
Other current Liabl.	313	730	327
Total Current Liabl.	10048	11570	12724
Net Assets	**5392**	**6210**	**6058**
Shareholders Funds	5392	6159	5942
Long Term Loans	0	45	116
Other Long Term Liabl.	0	6	0
Capital Employed	**5392**	**6210**	**6058**
Reserve	-	-	-
Rate of Return			
Return on Capital	37.0	11.3	3.8
Return on Assets	12.9	3.9	1.2
Return on Shrhldrs Fund	37.0	11.3	3.9
Profit Margins			
Trading Profit Margin	8.7	9.9	10.3
Operating Profit Margin	8.6	9.7	10.1
Pre Tax Profit Margin	9.5	4.8	1.8
Turnover Ratios			
Asset Utilisation	135.8	81.5	68.1
Sales/Fixed Assets	136.1	84.7	63.3
Sales/Stocks	0.4	0.9	0.7
Credit Period	2	1	0
Creditors Ratio	24.4	33.4	48.2
Working Cap./Sales	23.9	38.6	42.5
Liquidity Ratio			
Liquidity	1.5	1.5	1.4
Quick Ratio	0.3	0.0	0.0
Gearing Ratio			
Borrowing Ratio	154.5	155.2	182.1
Equity Gearing	0.3	0.3	0.3
Income Gearing	0.0	50.6	82.2
Total Debt/Work. Cap.	1.7	1.7	2.0
Debt Gearing	0.0	0.7	2.0