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SHORT-TERMISM ON TRIAL: AN EMPIRICAL APPROACH

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Short-termism on Trial: An Empirical Approach

> The Macmillan Gap has been in existence since the virtual disappearance of the individual capitalist and the private banker...
>
> *J.B. Kinross*
> *The Finance of Small Business*
> *May 1938*

> ...without facts we can do nothing: but with facts, until they have been passed through the mill of thought and their lessons educed from them by reason, we can still do nothing.
>
> *A.C. Pigou*
> *In Memoriam: Alfred Marshall*
> *April 1925*

I. Introduction

The influence of the private banker on industrial development and economic growth has been the subject of considerable historical debate. J. Bradford De Long asked "Did J.P. Morgan's Men Add Value?" (De Long 1991). The debate has questioned whether the finance capitalists of the late nineteenth and early twentieth centuries were either visionaries building firms which benefited from their entrepreneurial abilities or rather robber barons creating firms which extracted monopoly profits as a result of industry dominance. These private bankers included the large German credit banks, such as Deutsche Bank, and the American investment banks, such as J.P. Morgan & Co. The facts indicate that both played influential, if not dominate, roles financing those firms instrumental to industrialization. The distinguishing characteristics of the German and American finance capitalists were their close relations with and intimate knowledge of the firms they financed.[1]

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[1] See Tilly (1986) for the role which credit banks played in German industrialisation and Neuburger (1977) for the intimate knowledge and influence Deutsche Bank had on its client Siemens. See Davis (1963; 1966) for the role which investment banks played in financing U.S. industry and Corey (1930: Chapter 14) for J.P. Morgan's early rise as a finance capitalist. See De Long (1991) for a description of Morgan's influential role in the development of AT&T and International Harvester. See Tilly (1989) for a comparative perspective on U.S. and German banking institutions.

Measuring the private bankers' "valued added" has been difficult. German industry relied predominantly, and almost exclusively, upon credit banks. U.S. industry, as a result of risk averse commercial banks, understandably so without a central bank until 1914, depended upon private means, mergers and de facto public flotations for industrial finance (Navin and Sears 1955). Pre-War Britain also provides little help for an empirical analysis. With relatively sophisticated public capital markets beginning in the seventeenth century, early industrialization in sectors requiring limited amounts of capital and, again like the U.S., risk averse commercial banks, British industry did not rely upon private bankers for finance.

In recent years, as a result of the economic success of Japan and Germany relative to the United States and Great Britain, the finance capitalism debate has resurfaced (Marsh 1990; Porter 1993; Teitelman 1993). The question now asked is, "Have the close relationships between finance and industry contributed to the relative success of Japan and Germany?"[2] The debate has centred on the question whether capital market-dominated financial systems are flawed to such an extent as to harm national economic performance. There is a belief that impersonal capital markets have an inherent focus on short-term profitability which leads to shorter investment horizons both by suppliers and by users of capital. As a result, both agents, impatient with the length of time often required to develop commercial opportunities, do not make sufficient investment in R&D and capital formation which is required for long-term economic success (see TABLE 1). This behaviour has become known as short-termism or managerial myopia.

Unfortunately, the existing literature on the topic has been mainly theoretical (Black

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[2] See Francke and Hudson (1984) for a discussion of the reestablishment of close ties between German finance and industry following World War II. See Eckstein (1980), Cable (1985) and Edwards and Fischer (1991) for a discussion of more recent relations between German finance and industry. See Dore (1992) for an excellent discussion of Japanese kereitsus -- firms with interlocking ownership resulting in close relationships between finance and industry and among corporations themselves.

TABLE 1
Comparative Economic Performance
(1960 to 1989)

	Real GDP Growth	Capital Formation (% GDP)	Industry-Financed R&D (% GDP)
Japan	5.5%	25%	2.0%
Germany	2.8	16	1.8
USA	2.2	14	1.3
UK	2.1	14	1.1

Source: Marsh 1990, pg. 1.

1986; De Long et al. 1990; Shleifer and Vishny 1990; Stein 1988, 1989) or rhetorical (Marsh 1990; Porter 1993; Teitelman 1993). There have been few attempts to compare the behaviour and performance of firms funded by finance capitalists or by impersonal capital markets.[3] A popular alternative frequently attempted for comparing bank-dominated and capital market-dominated finance has been to compare the financial performance of German and Japanese firms to American or British firms. But such international comparisons introduce numerous complicating factors, including differences in accounting practices, educational systems and management style, as well as differing government policies and regulations. Thus an alternative approach to evaluating these two methods of business finance needs to be formulated. Great Britain provides such an alternative.

In November 1929, the British government, hoping to discover the reason and possible solutions for Britain's economic plight, appointed the Committee on Finance and Industry, or the Macmillan Committee, to investigate whether Britain's system of financial intermediation was contributing to the nation's economic problems. The Committee considered at length the close relationships between finance and industry in Germany and concluded in 1931, among other things, that existing channels of

[3] There is a plethora of research on capital market reaction to or influence on capital formation. The most interesting include Fazzari, Hubbard and Petersen (1988), Morck, Shleifer and Vishny (1990) and McConnell and Muscarrella (1985), but none of these include bank-financed firms for a comparative perspective.

financial intermediation, while adequately serving international finance and commerce, did not adequately serve the long-term capital needs of British industry. The Committee recommended the creation of institutions which would employ a finance capitalism operating approach. Although the Committee's recommendations were not immediately acted upon, following World War II two institutions were established based on the conclusions that the Macmillan Committee had reached some 14 years earlier -- the Finance Corporation for Industry (FCI) was founded to promote rationalization of Britain's troubled larger industries and the Industrial and Commercial Finance Corporation (ICFC) was established to serve the long-term capital needs of small and medium-sized firms.[4]

Although 3i was established to finance small and medium-sized firms, its largest clients were of equivalent size to publicly-floated firms. Thus, the existence of 3i allows for the unique evaluation of bank-oriented and capital market-oriented finance within a single nation eliminating the complicating factors associated with an international comparison. The purpose of this paper will be to investigate empirically the investment behaviour and financial performance of 3i-financed firms relative to publicly-floated firms of similar size and industry. But before the empirical analysis, in order to understand 3i as a finance capitalist, just as German credit banks and Japanese kereitsus have unique characteristics, it will be helpful to understand both the impetus for 3i and its organisational and operational structure.

II. The Impetus for British Finance Capitalism

In November 1929, the Treasury, at the request of the newly elected Labour Government, appointed the Committee on Finance and Industry "to enquire into banking, finance and credit, paying regard to the factors both internal and international which govern their operation, and to make recommendations calculated to promote the

[4] FCI was merged with ICFC in 1973 to create Finance for Industry (FFI). As part of an image change, FFI's name was changed to 3i (Investors in Industry) in 1983. The pre-1973 historical discussion of this paper relates to ICFC, and the name 3i will be used in place of ICFC except for quotations in which ICFC was used.

development of trade and commerce and the employment labour" (Parliamentary Paper Cmnd 3897: para 1).[5] The period was marked by great consternation within the British government as it tried to come to grips with the economic downturn which had begun in 1929 and whose severity had increased dramatically by the time the Committee's final report was delivered to Parliament in June 1931. The members of the Macmillan Committee were some of Britain's leading economic and political figures, including John Maynard Keynes, Reginald McKenna, former Chancellor of the Exchequer, and Ernest Bevin, Labour trade union leader. The scope of the report was wide, investigating the international gold standard, the monetary system of Great Britain, including the Bank of England, the joint stock banks and the accepting houses and discount markets, as well as the economic problems which Britain was encountering.

The Macmillan Committee opened its discussion of the banking system by praising the sophistication of the City of London, noting the scope and breadth of its markets, the role it played in financing international trade, providing overseas investment opportunities and generally serving British commerce.

> The City of London can still claim to be the most highly organised international market for money in the world. Its accepting houses and its discount market provide unequalled facilities for the financing of national and international commerce (Cmnd 3897: para 375).

However, subsequent discussion identified the City's weaknesses and delivered a scathing comment on the performance of recent flotations. The Committee noted that domestic new issues during 1928 had subsequently lost 47% of their value, and it attributed this in no small part to the absence of a perceived responsibility of Britain's financial institutions to both domestic industry and investors, responsibility which the Committee felt they had been providing to their international clients.

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[5] The debate on the adequacy of British financial markets had begun well before the Macmillan Committee in 1929. See Edelstein (1971) for an excellent historical discussion and numerous references.

The Macmillan Committee believed that the weak relationship and responsibility between finance and domestic industry was harming the British economy, and it considered at length the close relationships in Germany, France and the United States.

> But the relations between the British financial world and British industry, as distinct from British commerce, have never been so close as between German finance and German industry or between American finance and American industry (Cmnd 3897: para 276). In Europe, particularly in Germany, there has been a different relationship between banks and industries, and bankers have been forced to associate themselves more closely with industrial development. Accepting these heavy responsibilities, they were obliged to keep in more intimate touch with and maintain a more continuous watch over the industries with which they had allied themselves than were the English banks (Cmnd 3897: para 378).

Believing Britain could benefit from employing a similar finance capitalism approach, the Committee concluded Britain should establish institutions which could provide long-term capital as well as play an active role in directing and restructuring industry. Two firms were subsequently established. FCI was to serve Britain's larger industries, particularly promoting their rationalisation. ICFC, on the other hand, was to serve small and medium-sized enterprises. The Committee believed Britain's capital market-dominated financial system did not serve the financing needs of firms which required long-term capital in amounts less than £200,000, a defect which became known as the Macmillan Gap. ICFC was to provide both debt and equity capital, and it was to assume a level of responsibility in contributing to the financial success of its customers greater than Britain's clearing banks traditionally had assumed.

ICFC did not commence operations until 14 years after the Macmillan Committee presented its report, and during this period, in particular after World War II, there was considerable debate as to 3i's ownership, organisational structure and operating philosophy. Following the War, there was a move towards greater state intervention in the British economy as there were many within Whitehall who believed government should play an active role in facilitating the transition from a war-time to peace-time

economy. The parties involved in establishing 3i, including the Board of Trade, Treasury, Bank of England and the clearing banks, all held opinions as to the degree of influence which the British government should have on 3i's operations.

The Board of Trade saw 3i's lending philosophy not based on collateral but instead based on the quality of people and their experience. Without collateral, the Board of Trade believed such an institution would require some form of government participation or underwriting of financial facilities (ie, below market interest rates). As the opinions of the other participants were against this type of government involvement, the Board of Trade felt that it should have some form of less interventionist oversight, including reviewing successful and, more importantly, unsuccessful applications. It was the unsuccessful applicant, those with an unproven track record and no collateral, that the Board of Trade hoped 3i would promote. The Treasury wanted to use 3i as a macroeconomic tool, much as the Special Areas Reconstruction Association (SARA) and the Nuffield Trust were to have encouraged the redevelopment of depressed regions and the promotion of full employment (Heim 1984).

But while the Board of Trade and Treasury foresaw a close link between 3i and Whitehall, the Bank of England saw 3i more as a tool to quiet the raucous demands of a potentially interventionist government. In fact, Senior Executive Otto Neimeyer saw the small business community as having "political importance disproportionate to its real importance" (Kinross and Butt-Philip 1985: Neimeyer memo, May 10, 1945). Montagu Norman believed the British government should not be in the banking business as envisioned by the Board of Trade or Treasury, yet he knew a firm of some institutional form would be needed to quiet Whitehall.

The banks themselves were less than enthusiastic with the prospect of having to participate in such a venture, primarily for two reasons. First, they did not want to venture far from providing self-liquidating loans, and second they did not want to give

preferential treatment over their established customers (ie, government subsidised or below market interest rates). Realizing, as had the Bank of England, that an institution was inevitable, the clearing banks proposed in 1944 for each to establish a subsidiary for providing such finance. The Bank of England rejected this proposal "as being inadequate, comprising 'five sheep wandering at random' none with any particular competence, and lacking the publicity value of a single new institution." (Kinross and Butt-Philip 1985: Neimeyer memo, January 31, 1944). Ultimately the clearing banks, including Barclays, Lloyds, Midland, National Provincial, and Westminster, succumbed to pressure and agreed to participate in the formation of an independent institution. And although Barclays believed such an institution was not needed, it also believed an independent institution would allow it to have a reputation wholly separate from the British banking community, in particular, preventing the perception that British banks were adopting continental banking practices.

Thus, as Coopey and Clarke concluded, "Most of the participants in the process knew more clearly what they did not want rather than what they did. This indecision and mutual distrust allowed the first Chairman of ICFC to mould the corporation along the lines which were to form the basis of its longevity" (Coopey and Clarke forthcoming: Chapter 1). While the Macmillan Committee in 1931 and the participants in the debate during the intervening 14 year period clearly outlined the purpose of the new institution, that is providing longer term finance to small and medium-sized firms, as well as its very general form, an independent institution from both banks and government, its organisational structure and lending approach were left to 3i's first Chairman, William Piercy (later Lord Piercy).[6]

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[6] One of the most remarkable initial characteristics the participants did agree to was 3i's size. The targeted funding was £15 million of equity and £30 million of debt. No other existing institution which provided small firm finance, including Credit for Industry, Charterhouse Industrial Development Co. and Leadenhall Securities Corp., was of equal size. All three institutions had been established in the 1930's and had demonstrated less than resounding success. Credit for Industry and Leadenhall Securities each had provided only £250,000 of capital by the late 1930's and Charterhouse had provided less than £600,000 at September 1937 (Kinross and

III. The Development of a British Finance Capitalist

3i's organizational structure and operating approach was determined by Piercy who in turn was influenced largely by J.B. Kinross, 3i's first General Manager. Piercy and Kinross brought complementary skills. Both had successful backgrounds in finance; Piercy also brought government and political experience while Kinross contributed industrial experience.

Piercy had a diverse professional background. In 1914 he received a B.Sc. (Econ) from the London School of Economics. During World War I he worked as a civil servant for the Ministry of Munitions. He further strengthened his government and political skills during World War II, working for the Ministry of Production and Ministry of Supply as well as serving as a personal assistant to Deputy Prime Minister Attlee. His finance experience came as a result of an eight-year membership from 1934 to 1942 with the London Stock Exchange. During this period he developed unit trusts for channelling small savings of the general public into groups of quoted London Stock Exchange securities, and although he earned a considerable fortune from the management of these trusts, he pioneered the unit trust movement largely for social motives (Kinross and Butt-Philip 1985: 53). In February 1946, Piercy was appointed to the Court of the Bank of England by Hugh Dalton, Chancellor of the Exchequer and a friend from the LSE. Because of his public and private sector success, Piercy had become regarded as a successful financier and a Labour Party intellectual. Thus with his prior association with Attlee as well as with Dalton, it is not surprising that he was chosen to be 3i's first Chairman.

Butt-Philip 1985: 336-337). Even more important, these institutions generally did not provide equity capital and only lent against fixed assets. As Piercy noted in 1955, they were not a satisfactory source of long-term capital; they were either a "grooming house" preparing firms for a later public issue or they only lent against secured assets (Piercy 1955: 2). The March 1944 Memorandum of the Committee of London Clearing Banks suggested this lack of success may have been an indication that the Macmillan Gap did not exist (Kinross and Butt-Philip 1985: Appendix 2, Committee of London Clearing Banks memo, March 29, 1944), but failure simply may have been the result of restrictive lending practices and not properly addressing the Macmillan Gap.

Kinross brought industrial and finance experience; he was a professional engineer by training. After spending eight years as a practising engineer in Scotland, he accepted a position in 1928 with London's Gresham Trust where he was the manager of the new issues department, responsible for funding smaller businesses. He established his own firm, Cheviot Trust, in 1934 for raising capital for smaller firms. With a network of investors who were interested in smaller firms, Kinross utilised direct mail techniques to solicit interest in new issues, and during the five and one-half years prior to World War II he successfully completed 100 public issues (Kinross and Butt-Philip 1985: 61).

In 1938, Kinross wrote a 29-page memorandum entitled "The Finance of Small Business" which he gave to Sir Henry Clay at the Bank of England. In it he outlined the details of an organisation for funding smaller Scottish firms. Kinross thought his ideas were dead with the onset of World War II, but in 1945 an opportunity to enact his ideas, in response to the Macmillan Report, became a possibility. In July 1945, Kinross provided a copy of his memo to Piercy who responded by agreeing with nearly its entire contents. Kinross subsequently was selected as one of 3i's first employees, and many of his ideas formed the basis of 3i's lending approach.

Two elements stand out in Kinross' memo. First, he believed risk assessment for smaller firms should not be based upon financial statement analysis alone. Rather risk assessment also required an assessment of fundamental business risks. These risks could only be assessed via a thorough investigation by both accountants and industrial advisers. An industrial adviser, Kinross explained, would be a "man of wide business experience... who would look at the concern from the businessman's point of view" (Kinross and Butt-Philip 1985: Appendix 6, Kinross memo, May 1938). Second, Kinross believed such lending required ongoing monitoring and control.

The fundamental principle underlying all this would be that the Corporation would not

introduce money into a business and then leave the previous owners to run it without a reasonable measure of control... there are very few men running a small business who possess the necessary experience and breadth of vision to enable them to enlarge it to a bigger concern without making a good many mistakes in the process (Kinross and Butt-Philip 1985: Appendix 6, Kinross memo, May 1938).

Kinross envisioned this monitoring and control would be accomplished by a staff of industrial advisers keeping close tabs on financial performance as well as serving as non-executive board members.

During the first two years of operation, Piercy and Kinross established an organisation which reflected the details outlined in "The Finance of Small Business" memorandum. In the months immediately following 3i's establishment, they assembled a staff with a wide range of professional experience, including a banker, four experts on the issuing business (one of whom was a former employee of SARA who was adept at small firm investigations), two stockbrokers, three chartered accountants, a lawyer, an economist, a production engineer and a building expert (Tew 1955: 218). The production engineer and building expert assumed the titles Chief Inspector and Chartered Surveyor and Valuer. With respect to the Chief Inspector, the intention was to recruit "a man with wide industrial experience to take charge of the industrial team, who would investigate new applicants and also keep in touch with the progress of completed cases" (Kinross and Butt-Philip 1985: 80).

In February 1946, 3i's Board considered representation on client company boards and concluded

The appointment by the Corporation of its nominee as director to the Boards of Borrowing Companies in suitable cases was approved in principal, but it was agreed that it would be undesirable to select members of the Corporation's staff for such appointments (Kinross and Butt-Philip 1985: Board Minute 102, February 1946).

Kinross reveals in *ICFC 1945-1961* this issue was "discussed at considerable length" but during his entire tenure with 3i, from 1945 to 1974, it was rare for a member of 3i staff to be appointed to any client company board. Although 3i decided against such control, Kinross' historical account of the discussion does not reveal why the

Board reached this decision. One may conclude from *ICFC 1945-1961* a practical reason may have been that Board representation would have diluted the time of 3i's industrial advisers who, because of their required industrial expertise and ability to assess fundamental business risk, were in short supply and who as well were busy evaluating potential new clients. 3i generally did not rely upon non-employee board representatives either. It had taken the power to appoint a director in 135 of its 460 customers outstanding at the end of May 1954, but in only 53 cases had a director actually been appointed by 3i (Tew 1955: 232).

By late 1948, when the staff numbered nearly 60, 3i's basic organisational structure had been established. A Cases Committee was composed of senior executives who initially reviewed every case and who approved all final financing proposals. The Examinations Department included controllers who maintained client relationships, accountants who were responsible for financial risk assessment and the industrial advisers. In addition, there was a Legal Department, Secretarial Department and an Economic Intelligence Unit. Subsequent monitoring was accomplished principally by the Accounting Department. Monthly trends of sales, expenses and other financial items of its clients were monitored for unsatisfactory results. In addition, the Accounting Department assisted clients in developing cost and budgeting records not only for the benefit of the client but for the security of 3i's investment as well.

In 1948 it became evident that in its rush to expand 3i had made several poor investments. In November 1948, the list of companies for which loss provisions had been established had to be increased from 7 to 20, and bad debts of £135,000 were recorded against an operating profit of £219,834. Thus as Kinross noted it took the losses of only a few bad cases to wipe out the profit earned from 3i's entire £15 million investment portfolio of 273 companies (Kinross and Butt-Philip 1985: 137). As a result, a Management Team, or "Breakdown Gang" as it became known internally, was established. This "Gang" was a group of professionals who had industry, consultancy and industrial accounting experience. They became actively

involved in helping to diagnose and to resolve unsatisfactory trends revealed by the Accounting Department. Their role typically was to identify management weaknesses and to assist in making such managerial changes.

As a result of its experiences during the early years, 3i developed a "hands off" investment approach -- it carefully assessed potential customers and monitored subsequent performance, but it did not exercise board control or direct influence envisioned by Kinross. 3i largely has retained this "hands off" approach during its 45 year history. A 1976 survey of 3i clients by an independent consulting firm confirms this investment philosophy (Marketing and Opinion Research International 1976). Clients indicated that they thought of 3i as a specialist type of bank and chose 3i because of its hands off approach. Clients saw 3i's role as providing finance and advice on long-term strategic issues such as acquisitions but not necessarily general business strategy. In addition they revealed almost all subsequent contact had been initiated by themselves, not 3i. A discussion with a 3i industrial adviser confirms 3i's investment approach is still practised today (Wood August 18, 1993). 3i does not concern itself with daily operating decisions of its clients nor does it attend board meetings. 3i only becomes involved when its monthly monitoring process reveals negative trends, and the extent of its involvement at such times is identifying managerial weaknesses and "suggesting" changes. Thus it appears from historical records, client surveys, and discussions with 3i personnel that its success is the result of the initial assessment of fundamental business risk, requiring more sophisticated management techniques, such as cost and budgeting controls, and becoming actively involved only when potential trouble develops.

In sum, there are three characteristics which distinguish 3i as a finance capitalist. First, 3i provides long-term finance, including loans with less restrictive terms than normally available (for example, unsecured loans with terms as long as 12 to 15 years as compared to three to five year secured commercial bank loans) as well as equity capital (see TABLE 2 for an analysis of the financial facilities provided by 3i). In

TABLE 2
Selected 3i Portfolio Characteristics

(Pounds in Thousands)	1946[1]	1950[1]	1970	1990
Number of Companies	133	364	2,077	4,126
Total Investments:				
Nominal	£5,071	£20,643	£125,350	£2,019,588
Real (1946=100)	5,071	16,258	48,483	110,504
Average Investment:				
Nominal	£38	£57	£60	£489
Real	38	45	23	27
Facilities Provided:				
Secured Loans	37%	36%	60%	45%
Unsecured Loans	23	27	6	16
Preferred Shares	37	29	10	13
Ordinary Shares	3	8	24	26
Largest Invesments as a % of Portfolio:				
Nominal Investment Greater than	£100	£100	£200	£2,000
Real Amount Greater than	100	79	77	109
As a % of Companies	7%	14%	16%	5%
As a % of Investments	28%	45%	62%	48%

Notes: [1] Approved investment but not necessarily completed.

addition, 3i stands ready to provide additional funds such that clients need never rely on Britain's capital markets. At March 1990, nearly 50% of 3i's U.K. investments had been made prior to 1985, 7% had been made 21 or more years ago and just under 40% of investee companies had received a second or subsequent 3i investment (Bannock 1992: 1). Second, rather than utilizing an accounting-oriented evaluation process alone, 3i's industrial advisers carefully assess potential clients based on a thorough business investigation. As a result, 3i establishes close relations with its clients during its initial investigation process, while its direct influence is limited primarily to periods when its ongoing monitoring process identifies potential problems or when clients specifically ask for strategic advice. Finally, 3i is an organization independent from the British government. It is not used by Whitehall as a macroeconomic tool nor does it receive any special form of governmental assistance or funding (except for the government's initial pressure forcing the clearing banks and the Bank of England to establish 3i). Since July 1959 when 3i completed its first £10 million public debenture offering, it primarily has relied upon the public debt markets

for additional funding, not its clearing banks owners. As such, it must provide its funding at market rates, and it must take an interest in the financial success of its clients to ensure that both clients and 3i prosper.

In its more than 45 year history, 3i has acted as a finance capitalist to many British companies. Between 1945 and 1990 3i invested £5.7 billion in 11,500 companies, and at March 1990, 3i's portfolio contained 4,126 firms, 3,700 of which were UK-based. With nearly half of its investments in the manufacturing sector, its investee companies accounted for between seven and ten percent of Britain's manufacturing employment (Bannock 1992: 1). 3i also has funded larger firms since its inception. As a percentage of its portfolio, investments of approximately £100,000 pounds or greater have represented between five and 16 percent of total clients and 28 to 62 percent of its aggregate investment portfolio (see TABLE 2). Following the merger with FCI in 1973, which was established to rationalize Britain's larger industries, and the further consolidation of ICFC and FCI into 3i during the 1980s, 3i's portfolio contains a significant number of larger firms. Thus with its long-standing finance capitalism operating approach and investments in firms of similar size to publicly-floated firms, 3i provides a unique method for empirically analysing the short-termism debate.

IV. The Short-termism Debate

Paul Marsh of the London Business School and Michael Porter of the Harvard Business School have each published comprehensive analyses of the short-termism debate (Marsh 1990; Porter 1993). Each begins with similar opening statements. Porter begins, "The U.S. system of allocating investment capital is threatening the competitiveness of American firms and the long-term growth of the national economy.... As a result of this system, many American firms invest too little in those assets and capabilities most required for competitiveness (such as employee training), while wasting capital on investments with limited financial or social rewards (such as unrelated acquisitions)" (Porter 1993: 3). Marsh begins, "Short-termism - or the notion that Britain's and America's competitive edge has been dulled by the two

countries' failure to emphasize long-term investment, and that this, in turn, is the fault of their myopic financial markets - has been a hot issue now for several years" (Marsh 1990: 1). Although they have both identified the same factor which may contribute to short-termism, that is either reduced or inappropriate investment, they have not demonstrated either that the investment behaviour of publicly-floated firms differs significantly from that of bank-financed firms or that publicly-floated firms have inferior financial performance.

Marsh's arguments primarily are rhetorical, lacking a theoretical framework needed to develop a method for empirical analysis. Marsh argues that capital markets respond rationally to company-specific developments, including announcements related to R&D, capital expenditures and takeovers, but he does not address the issue if publicly-floated firms behave or perform differently relative to bank-financed firms. Porter provides a general framework for analysing short-termism.[7] He describes in exhaustive detail the faults of the U.S. capital allocation system relative to Germany and Japan, and in fact his analysis goes beyond arguing that the problem is simply due to impersonal capital markets, rather instead it includes additional factors such as the macroeconomic environment, corporate ownership structure and government investment incentives. And while he cites studies which reveal international differences in corporate investment behaviour, he assumes that superior national

[7] *Capital Choices* (Porter 1993) is a conclusion Porter reached based on 18 original research papers commissioned for the study. These research papers are to be published at a later date.

economic performance indicates superior corporate performance.[8] Interestingly, Porter indicates future research should include an analysis of the investment behaviour of private and public corporations (Porter 1993: 97).

To analyse the short-termism debate empirically, a theoretical framework has to be developed. The first point to make with respect to the capital allocation system to which Porter refers is that it is dominated by competition. There are a large number of intermediaries both in Britain and the U.S. competing for wealthholders' investment funds. Intermediaries are evaluated and compete for investment funds based upon the financial returns they achieve for wealthholders. Evaluated often on a quarterly basis, intermediaries are under greater pressure to earn higher returns more quickly than their competitors (although, as Marsh indicates, the selection of intermediaries by wealthholders may not be as frequent as performance measurement (Marsh 1990: 32-34)). Entrepreneurs, as well, compete for capital. They must demonstrate that they have the ability to provide competitive returns on invested capital, and although intermediaries may evaluate financial performance based on many factors, accounting profits are the dominant measure (Beaver 1968; Benston 1967; Porter 1993: 43-45).[9]

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[8] Certainly superior corporate performance in the aggregate is the basis for superior national economic performance, but such an argument also depends upon additional factors including those mentioned earlier such as educational systems and government policies and regulation. In addition, as a result of tax incentives, R&D expenditures may be excessive or directed to the wrong industries, and it has not been demonstrated that higher levels of R&D expenditures lead to superior economic performance. Japan contributes a greater proportion of its national R&D expenditures to pharmaceutical research yet competitively lags well behind American and European competitors (Patel and Pavitt 1987; Piekarz, et al. 1984; Thomas 1989). In addition, studies which indicate that leading Japanese firms spend more on intangible investments such as R&D than their American counterparts depend on accounting practices.

[9] As Rex Bates, Partner of institutional money manger Stein Roe & Farnham and discussant of Beaver's paper, stated, "Reported earnings is the name of the game!" (Beaver 1968: 93). The Beaver and Benston papers are dated, but Porter reaches the same conclusion based on two of the unpublished papers commissioned for *Capital Choices*.

Finally, with multi-divisional firms or firms with several potential investment projects, divisional employees are under pressure to demonstrate that they, as well, can commercialize their investment projects profitably.

A second important element of the theoretical argument is to recognize that capital markets exhibit excess volatility. Research has shown that security prices are more volatile than their underlying fundamentals (Barsky and De Long 1990; Roll 1984; Shiller 1990). This excess volatility is the result of trading which is not based on information with fundamental value but rather on "noise", either investor beliefs based on whim or attempts to outguess fellow investors; Black (1986) calls such investors "noise traders". Shleifer and Vishny (1990) argue long-term assets, which typically fund long-term investment projects, tend to be more mispriced than short-term assets -- a security representing a long-term investment project has the potential of remaining mispriced for a greater length of time before its price is driven to its fundamental value because it is subject to greater "second guessing" by noise traders.

The persistent mispricing of long-term assets has two results. First, it may lead to a misallocation of capital. If noise trading is persistent, volatility and risk may be increased by a magnitude greater than the asset's underlying fundamental risk.[10] As a result, firms may face an unnecessarily high cost of capital which ultimately distorts the allocation of capital. Second, mispricing may influence the capital allocation process within firms. Pressure from investors, including institutional investors and arbitrageurs who are under competitive pressure to report superior investment returns, may force a firm to reduce its long-term investments projects in order to reduce the potential for security mispricing. A firm with a mix of less risky and highly uncertain investment projects may witness its share price remaining undervalued and, as a result, could be susceptible to a hostile takeover where an acquirer can decrease uncertainty

[10] De Long, et al. (1990) have demonstrated theoretically securities prices can diverge significantly from fundamental values even in the absence of fundamental risk, and this enables noise traders, who are the source of the risk, to earn a higher expected return than rational investors.

and eliminate mispricing by reducing long-term investment projects (in effect, changing the underlying security to a shorter time horizon with less associated fundamental *and* noise trader risk).[11] Thus the interaction of fundamental and market or noise trader risk combined with pressure from both investors and management for near term accounting profits may lead firms to forgo rightly justified investment projects. These forgone projects ultimately may harm a nation's long-term economic performance.

This theoretical construct of uncertainty and noise can be applied to further explanations of short-termism posited by Marsh and Porter. For example, eliminating the potential of security mispricing by reducing uncertain investment projects also may be in the interests of management as its compensation often includes stock options tied to the near term share price performance. Investments which Porter refers to as intangible assets which are not capitalized, such as R&D, employee training and marketing expenses, may be subject to manipulation in an effort to meet short-term profit expectations. Consumer goods companies may not have the pricing flexibility to temporarily reduce product prices and "invest" in market share in order to build brand value and ultimately long-term profits (Stein 1989).

The noise framework provides three systematic tests for short-termism. First, most obviously, do publicly-floated firms exhibit superior financial performance as compared to privately-financed firms? Performance measurements might include sales and profit growth, return on invested capital and fluctuations in these indicators. Second, do capital markets sub-optimally allocate capital? This analysis could include an inter-industry analysis of external capital commitment. It also would be insightful to examine if capital commitment is correlated with economic cycles. Securities firms frequently make investment recommendations based on the stage of an economic

[11] Jensen (1989) interpreted the takeover trend of the 1980s as the elimination of poorly conceived investment projects pursued by growth-oriented managers. But at the same time, management may forgo uncertain investment projects simply because of the fear of a takeover.

cycle. This behaviour might only shorten investment horizons, harming those industries requiring capital but then currently out of favour with the general market. Third, do publicly-floated firms exhibit differing investment behaviour with respect to both fixed asset and intangible investments? Analysis of the rate and stability of both intangible and fixed asset investment as well as the profitability of such investment would be insightful.

V. An Empirical Analysis of the Short-termism Debate

With a finance capitalism investment philosophy, 3i provides a unique method for empirically analysing the short-termism debate. The overriding goal of the empirical analysis is to compare firms of similar size and industry.[12] An analysis of 3i's portfolio revealed that the electronics and electrical engineering; food, drink and tobacco (FD&T); textiles and distribution sectors contained the greatest number of firms with turnover in excess of £5 million (a reasonable lower limit which was found for publicly-floated firms). The FD&T industry would have been a most interesting segment to analyze as Britain has maintained a long-standing competitive advantage in this industry (Chandler 1990: 261-268, 366-388 and Tables 5 and 7; Patel and Pavitt 1987). But a careful examination of 3i's FD&T clients revealed these companies were quite heterogeneous, and it would have been difficult, for the scope of this paper, to identify a matched sample of 3i-funded and publicly-floated firms. Instead, the brewing subsegment was chosen because a rather homogeneous set of

[12] In addition, the time period has to be sufficiently long to allow for a statistically meaningful analysis. The time period of analysis for this paper, 1980 to 1990, was chosen for two reasons. First, to minimize my demands on 3i, identification of 3i's largest investments was accomplished using its mainframe computer. This database was begun in the late 1970s, and the percentage of companies whose records had been computerized as of 1975, 1980 and 1985 was 1%, 51% and 64%. Second, as I needed access to the actual financial statements of its investee companies, again to minimize my demands on 3i, I relied upon Companies House, the government agency with which limited liability companies must file their annual financial statements. Companies House only has financial statements from the mid to late 1970s (in addition, because Companies House charges a fee for providing such information, the period of analysis was limited due to financial constraints).

TABLE 3
Food, Drink & Tobacco (FD&T) and Brewery Investments

	1950	1960	1970	1980	1990
3i-Funded FD&T Clients as a % of its Investment Portfolio	3.0%	6.0%	2.1%	3.8%	4.2%
Breweries as a % of 3i FD&T Clients	--	--	--	38.5%	64.2%
Market Value of Publicly-Floated Brewery and Distillery Securities as a % of the Market Value of all Listed Securities	2.1%	4.1%	2.1%	1.6%	3.4%

Notes: 3i-funded FD&T clients as a percentage of its investment portfolio is based on the amount invested in both debt and equity securities. 3i breweries as a percentage of FD&T clients is calculated by dividing the number of breweries by the number of FD&T clients in its portfolio. The market value of publicly-floated securities includes all listed domestic debt and equity securities, including U.K. government debt securities.

Sources: 3i data from the 3i's Annual Report and Accounts for the respective years and its computer database. Public market data from *The Stock Exchange Official Year-Book, 1952, Volume 1*, pg. 1791; *The Stock Exchange Official Year-Book, 1960, Volume 1*, pg. 1669; *The Stock Exchange Official Year-Book, 1970*, pg. 2692; *The Stock Exchange Fact Book, March 1980*, pg. 2 and *Quality of Markets Quarterly Review, January-March 1990*, pg. 30.

public and 3i companies could be identified.

Brewing is an interesting industry for empirical analysis for two reasons. First, both the public capital markets and 3i have been active in this industry for an extended period of time and as such both should be "informed" investors, thus minimizing informational asymmetries (see TABLE 3).[13] Second, the brewing industry faced changing dynamics during the 1980s. These dynamics included decreased consumption, rationalization and government competitive inquiries. From 1979 to 1990 per capita consumption fell 11% while production fell 13% (Gourvish and Wilson forthcoming: 582, Table 14.1). As demand fell, rationalization increased. Between 1980 and 1986 the number of breweries declined by 16% to 68 (Gourvish and Wilson forthcoming: 587). Improvement in productivity was even more noteworthy. The workforce declined by 34% during the six-year period, and net output per employee increased 33% (Gourvish and Wilson forthcoming: 587). While

[13] It could be argued that informational asymmetries are a key cause of short-termism. But due to financial constraints, an analysis of a relatively "new" industry, such as electronics, could not be undertaken.

facing poor market conditions, the brewing industry also faced increased regulatory activity. Between 1966 and 1986 there were no fewer than fifteen investigations conducted by various government agencies, but Gourvish and Wilson concluded, "[Industry] change stemmed more from a variety of market forces than from government intervention" (Gourvish and Wilson forthcoming: 596). But a final report issued by The Monopolies and Merger Commission in 1989 (Parliamentary Paper Cmnd 651) will result in a radical reform of the industry's vertically integrated structure. The MMC, believing the tied house tradition of the British brewing industry is a 'complex monopoly' (Cmnd 651: 4), has recommended Britain's largest vertically-integrated brewers divest a part of their public houses. The result of the events of the 1980s is best summarized by Gourvish and Wilson.

> For two centuries brewing for retail sale was an important investment and an occupation for gentlemen; now, like publishing, which in some ways it resembles, it has been transformed by mergers and market change, and is dominated by accountants, business strategists and management consultants (Gourvish and Wilson forthcoming: 596).

The sum of these dynamics makes the brewing industry particularly interesting for an empirical analysis of the short-termism debate, for both Porter and Reich (1982) have argued, because of the short-term focus of capital markets, investors are unwilling to allocate funds to those industries which are undergoing fundamental change and which require external capital. The Macmillan Committee made similar accusations in 1931; it was Britain's highly efficient and impersonal capital markets which did not provide sufficient support to the steel and shipbuilding industries.

A search of 3i's investment portfolio yielded two 3i-funded brewery-related firms with 1980 turnover greater than £5 million. In order to select publicly-floated brewing companies, Lotus *Private+* database was utilized. Again, the minimum turnover selection criteria was £5 million. The upper limit for turnover was set arbitrarily at £20 million, primarily because the largest 3i firm had turnover of £12.9 million in 1980. These parameters initially yielded ten companies but five were eliminated

because they had activities in unrelated industries. The two 3i firms had average turnover and net income of £10.4 and £0.6 million in 1980 as compared to £14.7 and £1.1 million for the five public firms (see APPENDIX A and APPENDIX B for all financial data; code names have been used for 3i firms for confidentiality purposes).

The selection process and data employed introduces several sources of bias which could affect the outcome of the analysis. First, the analysis includes only those companies which survived the period of analysis. Survival is not an issue for the 3i database as it includes all firms which 3i had made an investment as of 1980, even if at 1990 they were no longer financed by 3i or had ceased trading. The search yielded two 3i-funded companies for the period 1980 to 1990, and they both have been included in the analysis.[14] The Lotus database includes all active publicly-floated firms as of a terminal date. For example, all firms which filed financial statements in 1990 or 1991 (depending on the month of fiscal year end) are included. Thus a "backwards" search to 1980 would include only those firms which were trading in 1990/1. It may be the case that breweries ceased trading prior to 1990/1, and thus were not included in the database (the database does include firms which were subject to a private buyout and so indicates; no such firms were identified). Performance results might be overstated if there were publicly-floated firms which ceased trading.

The second source of bias relates to the data analyzed -- accounting data. Such data is subject to accounting practices and rules. The most serious source of bias relates to asset reappraisals. British firms periodically reappraise fixed assets and adjust balance sheet valuations accordingly. All firms included in the analysis, both public and 3i, revalued their fixed assets at least once during the eleven year period. An analysis of the revaluations reveal significant differences in the number and size of revaluations. 3i companies revalued just once with an average write-up of 41%.

[14] As 3i's database included only 51% of its investments as of 1980, the sample may not include all 3i-funded breweries. This source of bias is mitigated by the fact that 3i computerised the data of its largest investments first.

TABLE 4
Asset Reappraisals

Firm	Year of Asset Reappraisal	Percentage Reappraisal
A. 3i-FUNDED FIRMS		
Alpha Company (Brewer/Public House Operator)	1981	52.8%
Zeta Company (Maltster)	1990	29.8%
B. PUBLICLY-FLOATED FIRMS		
Burtonwood Brewery plc	1982	120.1%
	1987	46.0%
	1990	32.7%
Fuller, Smith & Turner, plc	1983	157.7%
	1986	69.1%
	1990	38.5%
Hardys & Hansons plc	1981	126.7%
Joseph Holt plc	1984	66.0%
	1989	83.3%
Young & Co.'s Brewery plc	1981	182.7%
	1987	79.5%

Public companies revalued an average of two times, and each average write-up was 91% (see TABLE 4). These revaluations typically were real estate-related (ie, public houses, not manufacturing facilities). As one of the 3i firms was a maltster, which supplies raw ingredients to breweries, and not a public house operator, 3i asset revaluations accordingly should be lower. In addition, 3i's food and beverage industrial adviser believes there are three reasons why publicly-floated firms may have a greater impetus to revalue their assets (Wood August 18, 1993). First, he believes public shareholders look favourably upon greater net assets per share. Second, the amount of the asset write-up is added to shareholders' capital which reduces leverage. Finally, as a result of the takeover trend of the 1980s, firms which were potential takeover targets increased asset values as a negotiating tactic. If the book value of assets was undervalued significantly, an acquirer, as a matter of tactics, might stress

the substantial "premium" to book value it was offering for the target firm. 3i firms, on the other hand, are not required by 3i to revalue their assets, nor is it worth the associated costs of hiring an independent appraiser.[15]

A third source of potential bias relates to the aggregation of the accounting data. The financial results of each group of companies have been combined into an aggregate 3i-funded and publicly-floated company. These aggregations have combined financial results of companies with fiscal years ending in different months. Ideally one would want to calculate financial results all based on a twelve month period ending in the same month.

Finally, the most crucial source of bias relates to the influence of capital markets on firm behaviour. The short-termism debate centres upon the pressures exerted by public capital markets. As revealed in TABLE 5, the five publicly-floated firms have been public for an extended period of time and have significant family involvement, thus one may question if these firms are influenced by investors to the same extent as recently floated firms.[16]

Financial Performance. Financial analysis reveals 3i firms exhibited superior turnover growth. Average turnover growth was 8.6% per annum while public firms experienced a 3.7% growth rate. Real net income growth was -0.3% for 3i

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[15] With the current recession and the MMC report of 1989 requiring the large vertically integrated breweries to reduce their number of tied houses, public house valuations have fallen. Accounting rules require losses associated with the sale of public houses to be recognized in the income statement. As a result, many publicly-floated brewers are now reducing the value of their fixed assets in one adjustment rather than having to recognize losses as individual public houses are divested. Obviously, this points to the pitfalls of an empirical analysis based on accounting data.

[16] An additional issue may be the extent of ownership by family or management. A very general shareholder profile is included in TABLE 5. More detailed shareholder information is available from Companies House, but because of financial constraints I have not attempted such a shareholder analysis.

TABLE 5
Capitalization and Shareholder Profile

Firm	Founded	Registered as Public Company	Equity Securities
Burtonwood Brewery plc	1867	1964	Ordinary (OL) -24.8% held by Directors & Family -19.7% held by Institutional 5% Holders 4.9% Preference (OL) -18.2% held by Directors & Family
Fuller, Smith & Turner, plc	1845	1929	Ordinary A (USM) -29.0% held by Directors -9.8% held by Whitbred & Co. Ordinary B -35.6% held by Directors 4.2% Preference (OL) 8.0% Preference
Hardys & Hansons plc	Not Available	1897	Ordinary (OL) -15.6% held by Institutional 5% Holders -9.3% held by Whitbred Investment Co. 5% Preference 6% Preference
Joseph Holt plc	1849	1951	Ordinary (OL) -56.4% held by Directors & Family -5.8% held by Institutional 5% Holders
Young & Co.'s Brewery plc	Not Available	1890	Ordinary A -13.6% held by Institutional 5% Holders Ordinary B -Privately held Non-voting Ordinary (OL) 4.2% Preference (OL) 9.0% Preference (OL)

Notes: OL - Officially Listed; USM - Unlisted Securities Market
Institutional 5% Holders indicates percentage of shares outstanding held by institutions with a 5% or larger holding.
Source: *The International Stock Exchange, Official Yearbook 1989-1990*

companies as compared to 8.6% for public companies (see TABLE 6). The average turnover growth rate of 8.6% for 3i companies compares to a 3.8% average growth rate for the four largest publicly-floated brewery and public house operators (Allied-Lyons, Bass, Scottish & Newcastle and Whitbread). The average net income growth

TABLE 6
Comparative Financial Statistics

	3i	Public		3i	Public
1980 Average:					
Turnover	£10.4 mln	£14.7 mln	Leverage:		
Net Income	£ 0.6 mln	£ 1.1 mln	LT Debt/Equity[1]	32.9%*	6.2%
			ST+LT Debt/Equity[1,5]	90.3%*	8.5%
Average Growth Rate:					
Turnover[1]	8.6%*	3.7%	Cash as a % of:		
Net Income[1]	(0.3)%	8.6%	Current Assets[1]	1.7%*	42.3%
			Turnover[1]	0.8%*	12.6%
Average Margin:					
Gross Profit[3]	21.0%*	60.8%	Fixed Assets as a %		
Operating Income[2]	5.7%*	15.3%	of Turnover[1]:	30.3%*	127.7%
Net Income[1]	4.4%*	8.5%			
			Average Return:		
			Return on Assets[2,4]	7.3%	7.0%
			Return on Equity[1]	12.2%*	7.0%

Notes: ST - Short Term; LT - Long Term. Averages are arithmetic averages of annual levels or year over year growth rates as appropriate. Growth rates are based on real levels which have been calculated using a GDP at market prices deflator.
* Indicates that the 3i and public company figures are statistically different at the 2% error level (average turnover growth rate at the 10% error level and return on equity at the 5% error level).
[1] 1980 to 1990 [2] 1983 to 1990 [3] 1984 to 1990 [4] Return on Assets = Operating Income/End of Period Assets
[5] Short term debt includes bank overdrafts

rate for these four companies was 10.0%.

3i firms had noticeably lower margins. The lower net margin can be partially explained by greater interest expenditures as 3i firms are more highly leveraged with a long-term debt to shareholders' capital ratio of 32.9% as compared to 6.2% for public companies. If short-term debt, including bank overdrafts, is included, 3i firms appear even more leveraged with a total debt to equity ratio of 90.3% as compared to 8.5%.[17] The lower operating margins can also be attributed partially to greater

[17] Due to the differences in the magnitudes of the asset reappraisals, 3i fixed assets may remain undervalued as compared to public companies thus creating the illusion 3i firms are less leveraged. As a result of the reappraisals listed in TABLE 4, public company assets would be increased in value approximately 259% more than 3i fixed assets. Adjusting shareholders' capital for this difference produces long-term debt and total debt to shareholders' capital ratios of 12.7% and 34.9%. This adjustment may be too large, however, for one of the 3i firms was not real-estate intensive and in addition the level of capital expenditures for 3i companies was greater than public

leverage as interest expenditures related to bank overdrafts (3i firms rely on such overdrafts to a greater extent than public firms as evidenced by the much higher total debt to equity ratio) are not reported separately but are included in operating expenditures. Finally, gross margins are lower because one of the 3i-firms is a maltster rather than a public house operator. Public houses typically have higher gross margins due to greater associated overhead costs (Wood August 18, 1993).

Although 3i firms have lower profit margins, it appears they may employ and utilize capital more effectively. Cash as a percentage of current assets and as a percentage of turnover (which is not subject to distortion by asset revaluations) averaged 1.7% and 0.8% for 3i firms and 42.3% and 12.6% for public firms. It also appears 3i firms may utilize fixed assets more effectively. Fixed assets as a percentage of turnover averaged 30.3% for 3i firms (52.2% excluding the maltster) as compared to 127.7% for public firms.[18] Finally, although 3i firms have lower margins, because they are more leveraged and may utilize fixed assets more effectively, their return on capital is slightly greater. Return on assets was 7.3% for 3i firms and 7.0% for public firms; return on equity was superior as well, 12.2% for 3i firms and 7.0% for public firms.

Tangible Investment. Porter (1993) evaluates capital allocation in terms of an external capital market and an internal capital market, and this framework will be utilized in this paper as well. If Porter and Reich's capital commitment argument mentioned earlier is true then one would expect differences in the commitment of funds to the brewing industry during the 1980s. The U.K. facts do not necessarily support their argument. Only one firm had a large equity floatation, and this firm was the publicly-

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companies during the 1980 to 1990 period -- 3i balance sheets *ex ante* may have been more accurately valued.

[18] Again, this measurement is dependent upon balance sheet reappraisals discussed previously. Adjusting 3i fixed assets for this difference yields a fixed assets to turnover ratio of 78.5% -- still superior to the ratio for public firms of 127.7%.

floated Burtonwood Brewery (see APPENDIX B). Importantly, an examination of its operating results reveals its performance was not particularly superior to the public company average; average sales and net income growth rates were 4.3% and 5.4% as compared to 3.7% and 8.6% for the aggregate five public companies.[19] Thus it appears the capital markets were willing to commit equity to an average performer in an industry experiencing substantial change.

With regard to the internal "capital market", 3i companies committed a greater proportion of their funds to fixed assets. Fixed asset investment represented 63.0% of total funds generated as compared to 46.3% for public companies (see Section A of TABLE 7). Fazzari, Hubbard and Petersen (1988) in an analysis of publicly-floated U.S. firms found capital expenditures exhibited virtually no relationship with cash flow for larger firms, whereas they found a strong correlation for smaller firms. In addition, they found smaller firms relied to a greater extent upon internally generated cash. They concluded investment decisions for smaller firms may be dependent upon and negatively affected by fluctuations in cash flow. A similar analysis of 3i and public firms yields similar interesting results.

Capital expenditures exhibited a very small correlation with internally generated funds for 3i firms but a 0.70 correlation for publicly-floated firms (see Section B of TABLE 7). On the other hand, including externally raised funds yields a correlation between

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[19] Nor was performance following the equity issuance in 1986 particularly robust as compared to public companies.

Comparative Growth Rates

	1980-86	1987-90
Burtonwood **Turnover**	6.4%	1.1%
Aggregate Turnover	4.8	2.0
Burtonwood Net Income	2.6	9.6
Aggregate Net Income	8.5	8.7

TABLE 7
Fixed Asset Investment

A. SOURCES AND USES OF FUNDS

	3i	Public		3i	Public
Sources of Funds:			Uses of Funds:		
Operations	80.0%	87.3%	Fixed Assets	63.0%	46.3%
Debt	19.2	7.3	Dividends	3.5	13.9
Equity	0.1	1.3	Taxes	16.7	23.6
Other	0.7	4.0	Working Capital	5.6	8.6
Total	100.0%	100.0%	Other	11.3	7.5
			Total	100.0%	100.0%

B. CORRELATION COEFFICIENTS WITH RESPECT TO FIXED ASSET INVESTMENT

	3i	Public
Funds from Operations	0.15	0.70
Number of Observations	11	11
Total Sources of Funds	0.86	-0.13
Number of Observations	11	11

C. LOG GROSS PROFIT REGRESSED ON LOG FIXED ASSET INVESTMENT (FA)

	FA(-1)	FA(-2)	Time	Observations	DW	R^2
3i	0.06	0.10	0.04	8	1.9	0.97
	1.82[4]	2.99[2]	6.39[1]			
Public	-0.57	-0.25	0.12	7	2.9	-0.13
	-0.96	-0.44	1.44			

D. LOG RETURN ON EQUITY REGRESSED ON LOG FIXED ASSET INVESTMENT (FA)

	FA(-1)	FA(-2)	Time	Observations	DW	R^2
3i	0.52	0.48	-0.17	9	2.1	0.85
	3.00[2]	2.97[2]	-6.55[1]			
Public	0.30	-0.06	-0.04	9	1.9	0.16
	1.51	-0.36	-2.09[3]			

Notes: Method of estimation for Sections C and D is OLS. Constant terms are not reported. T-statistics are reported under coefficients.
[1] Significant at 1% [2] Significant at 5% [3] Significant at 10% [4] Significant at 13%

fixed asset investment and total sources of funds of 0.86 for 3i firms and -0.13 for public firms. These results are in line with the findings of Fazzari, Hubbard and Petersen (1988) -- publicly-floated British firms may be equally constrained in their investment decisions as publicly-floated U.S. firms.

A regression of lagged fixed asset investment on gross profit (which is *not* subject to

distorting influence of asset revaluations) indicates that for 3i firms a 10% increase in such investment results in a 0.6% increase in gross profit in the year following investment and 1.0% in the subsequent year; there appears to be no relationship for public firms as the coefficients of the independent variables are insignificant (and negative) and the r^2 is quite low (see Section C of TABLE 7). It also appears fixed asset investment has a lagged association with return on equity. A 1% increase in fixed asset investment is associated with a 0.52% increase in return on equity in the year following investment for 3i firms and a 0.48% increase in the subsequent year; public firms do not exhibit a similar statistically significant relationship -- the first year is positive and the second year is negative (see Sections D of TABLE 7).[20]

The correlation and regression evidence seems to indicate 3i firms budget fixed asset investment not based on simply the amount of internally generated capital but rather based on the expected returns from such investment. Any shortfall in required funds is obtained from external sources. The lower levels of cash and greater leverage may force 3i firms to be more conscious of their capital budgeting decisions. Publicly-floated firms, on the other hand, simply may budget fixed asset investment based on internally generated funds (which may constrain such investment) without regard to subsequent profitability.

Intangible Investment. Central to the short-termism argument is the vulnerability of intangible investments, that is expenditures which are expensed in the period incurred rather than being capitalized. These intangible investments include activities which commonly are reported in financial statements such as research and development, and activities which are not reported separately in financial statements, such as advertising and employee training. Porter has argued because capital markets are so keenly focused on short-term profits, when turnover is down or profits do not appear that

[20] Although shareholders' capital may not be stated correctly due to asset revaluations, the important point is not necessarily the magnitude of the coefficients but rather the statistically significant association between fixed asset investment and subsequent profits.

they will meet estimates projected by securities firms, public companies intentionally reduce intangible investments to meet expectations. But in the process of meeting short-term profit forecasts, the long-term viability of the firm is harmed.

Without disclosure of these intangible expenditures by either public or 3i companies this is a difficult argument to analyze empirically. A simple response to this argument would be to point to the lower margins of 3i companies; this might indicate they spend more on longer term intangible investments. But this does not answer if there is true long-term benefit from such expenditures, nor does it address the accusation that public companies sacrifice these investments for the sake of current profits. This paper has attempted an empirical analysis of Porter's argument.

The first step of the argument is to posit capital markets do not like surprises -- witness the 46% drop in Medeva plc's share price on July 20, 1993 when it announced profits would be approximately 20% below expectations (*Financial Times* July 20, 1993). Security analysts often project profits based on expected turnover. If turnover is projected to increase, profits should move in some similar relationship and if turnover is projected to be flat or down then profits will be expected to react accordingly. Without the pressures of securities analysts, 3i firms are not held to the same degree of predictability; if sales are down intangible investments can be treated as fixed costs -- not subject to short-term manipulation. A simple correlation analysis of 3i-funded and publicly-floated firms supports this argument (see Section A of TABLE 8). While the correlation between gross profit and turnover is not strong for public firms, a correlation coefficient of 0.97 at the operating income and net income levels indicates public firms are able to provide a predictable relationship between turnover and profits; 3i firms' operating profit and net income exhibit a correlation of 0.55 and -0.48 with turnover.

The second step of the empirical analysis is to imagine turnover fitted against a time trend. There are periods when turnover is buoyant and is above trend and periods

TABLE 8
Intangible Investment

	3i	Public
A. CORRELATION COEFFICIENTS WITH RESPECT TO TURNOVER		
Gross Profit	0.98[1]	0.41
Number of Observations	8	7
Operating Income	0.55	0.97[1]
Number of Observations	8	7
Net income	-0.48[2]	0.97[1]
Number of Observations	8	7
B. CORRELATION COEFFICIENTS OF RESIDUALS WITH RESPECT TO FITTED TURNOVER RESIDUALS		
Costs of Goods Sold	0.88[1]	0.33
Number of Observations	8	7
Operating Expenses	-0.01	0.74[2]
Number of Observations	8	7

Notes: Operating expenses exclude depreciation charges. The statistical significance of the correlation coefficients can be determined by regressing each of the variables against turnover as the estimated regression coefficient is directly related to the correlation coefficient (they differ by only a multiplicative constant). The statistical significance of the regression coefficients is as follows: [1] Significant at 1% [2] Significant at 5%.

when turnover is below trend.[21] One can imagine a similar trend line for manufacturing costs and operating expenditures, with manufacturing costs moving in close parallel with turnover (assuming there are no severe economic shocks). On the other hand, operating expenses might be subject to short-term manipulation. Thus one can imagine for public firms the residuals of actual operating expenditures fitted against a time trend to move in tandem with turnover residuals -- when turnover is above trend, discretionary operating expenses are increased and when turnover is below trend discretionary expenses are reduced. For 3i firms on the other hand, not concerned with short-term profits, the correlation between turnover and expense residuals should exhibit little or no relation. Section B of TABLE 8 reports the results of analysing the residuals of fitted time trends for real turnover against costs of goods

[21] Real turnover for both 3i-funded and publicly-floated firms has been regressed against a time trend utilizing an equation of the type $lnT_t = lna_o + a_1t + e_t$ where T is turnover and t is time. The t-statistics for the a_1 coefficients were 11.8 (3i) and 13.8 (public) indicating both groups of firms demonstrated equally stable turnover (not digressing significantly from trend).

sold and operating expenses.[22] As hypothesized there is essentially no correlation between turnover and operating expense residuals for 3i-funded companies (-0.01) and a strong correlation for public companies (0.74). This might indicate public firms are able to increase intangible investment during upturns and still meet profit expectations, but during downturns intangible investment is reduced, whereas 3i firms treat these intangible investments as fixed, not compelled to manipulate them to meet short-term profit expectations.[23] On the other hand, one might conclude this simply indicates publicly-floated firms are better able to manage their operating expenses with changes in turnover. But recalling that 3i firms had greater turnover growth rates, these intangible investments may contribute to the superior turnover growth.

VI. Conclusion

This paper was motivated by the long-standing finance capitalism debate. From 1929 to 1931, the Macmillan Committee considered at length the weaknesses of Britain's capital market-dominated financial system and concluded the British economy could benefit from establishing closer relations between finance and industry more akin to German finance capitalism. As a result, an institution, 3i, was created to employ a British-style of finance capitalism -- an investment approach largely the result of 3i's initial Chairman and General Manager.

In more recent years, as a result of the economic success of the bank-dominated economies of Japan and Germany, the finance capitalism debate has resurfaced. The most recent debate has been either theoretical or rhetorical. The theoretical research

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[22] Depreciation charges have been excluded from operating expenses as these expenses are not subject to immediate short-term manipulation by management. In a sense, this adjustment "magnifies" potential manipulation of discretionary intangible expenses.

[23] This analysis can be criticized as turnover may not have been expected to move in a linear relation, and thus the residuals do not properly reflect deviations from projected results. But as noted earlier, a *linear* time trend fits the turnover observations equally well for both groups of firms.

largely has appeared in the economics literature and has been noticeably absent of public policy recommendations. The rhetorical arguments, on the other hand, either have been independently published or have appeared in the popular press and have not been hesitant to recommend public policy and institutional changes. The lack of empirical support places doubt on both approaches to the debate and makes public policy changes risky at best.

This paper has tried to add empirical facts to the debate. Several interesting results were uncovered by the analysis. The most significant discovery was the superior turnover growth of 3i-funded companies. Faced with difficult economic and demographic trends during the 1980s, increasing market share, while maintaining acceptable returns on invested capital, may have been a more appropriate goal to that of reporting near term profit growth. Both the theoretical and rhetorical short-termism research have argued that publicly-floated firms inappropriately place short-term profits before long-term competitive success -- a strategy which ultimately harms a nation's economic success.

A second significant discovery was the strong correlation between internally generated funds and fixed asset investment for publicly-floated firms and a similar strong correlation for 3i-funded firms but with total funds, including externally raised funds. This might indicate fixed asset investment of publicly-floated firms may be dependent upon and negatively affected by fluctuations in such internally generated funds. Recalling the evidence of Fazzari, Hubbard and Petersen (1988) that smaller publicly-floated U.S. firms exhibit a similar relationship between internal funds and fixed asset investment, the Macmillan Gap may be a pervasive characteristic of capital-market dominated economies.

A third significant discovery was the association between fixed asset investment and subsequent profitability for 3i-funded firms -- an association which was noticeably absent for publicly-floated firms. This evidence bears heavily on the behavioural

aspects of the short-termism debate -- "Does public floatation lead to differing managerial behaviour which ultimately affects corporate and economic performance?" Earlier in the paper I questioned if the publicly-floated breweries truly were subject to short-termism behaviour as they had been publicly-floated for an extended period of time and had significant family ownership. Recalling the comments of 3i's food and beverage industrial adviser with respect to the reasons for asset revaluations and the fact that the publicly-floated breweries revalued their assets to a greater extent than their 3i counterparts, then the decisions of the publicly-floated breweries must have been influenced as a result of their being publicly-floated. Unfortunately, because of time and financial constraints, this paper lacks the historian's customary weapon of hindsight -- only time will tell if the investment behaviour of 3i-funded firms results in superior long-term financial performance.

Finally, the results should be viewed with caution. I had hoped to utilize a much larger set of publicly-floated and 3i-funded food, drink and tobacco companies, but because of financial constraints and technical problems (*after* monies had been spent to obtain data from Companies House) the analysis was narrowed to include brewery-related companies. This paper leaves many questions related to the theoretical short-termism model developed in this paper unanswered. But with a history of funding both small and large firms for more than 45 years, 3i presents the unique opportunity for further empirical analysis, and it is only through further empirical analysis that short-termism can be better understood and that potential public policy and institutional changes can be recommended. As Professor A.C. Pigou stated, "...without facts we can do nothing: but with facts, until they have been passed through the mill of thought and their lessons educed from them by reason, we can still do nothing."

TABLE 8
Intangible Investment

	3i	Public
A. CORRELATION COEFFICIENTS WITH RESPECT TO TURNOVER		
Gross Profit	0.98[1]	0.41
Number of Observations	8	7
Operating Income	0.55	0.97[1]
Number of Observations	8	7
Net income	-0.48[2]	0.97[1]
Number of Observations	8	7
B. CORRELATION COEFFICIENTS OF RESIDUALS WITH RESPECT TO FITTED TURNOVER RESIDUALS		
Costs of Goods Sold	0.88[1]	0.33
Number of Observations	8	7
Operating Expenses	-0.01	0.74[2]
Number of Observations	8	7

Notes: Operating expenses exclude depreciation charges. The statistical significance of the correlation coefficients can be determined by regressing each of the variables against turnover as the estimated regression coefficient is directly related to the correlation coefficient (they differ by only a multiplicative constant). The statistical significance of the regression coefficients is as follows: [1] Significant at 1% [2] Significant at 5%.

Appendix A

Financial Data

3i-Funded Companies

Consolidated 3i Funded Companies

(pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Average	Std Dev	Coef Var
OPERATING STATISTICS:														
Gross Margin	NA	NA	NA	22.0%	20.6%	21.2%	21.9%	21.1%	20.7%	21.8%	19.9%	21.0%	0.6%	0.03
EBITDA Margin	NA	NA	NA	8.6%	7.2%	6.8%	7.4%	7.7%	9.1%	7.3%	6.5%	7.6%	0.8%	0.11
Operating Margin	NA	NA	NA	7.0%	5.6%	5.0%	5.5%	5.7%	7.1%	5.4%	4.5%	5.7%	0.8%	0.15
Net Margin	6.0%	8.6%	7.8%	6.0%	4.0%	2.8%	2.8%	3.1%	3.2%	2.4%	2.0%	4.4%	2.2%	0.49
BALANCE SHEET:														
LT Debt/Equity	45.6%	37.0%	27.0%	15.2%	13.6%	12.5%	18.5%	49.7%	41.8%	48.0%	53.2%	32.9%	15.3%	0.46
(ST + LT Debt)/Equity	109.5%	67.5%	70.4%	95.6%	73.9%	57.3%	47.4%	89.6%	101.4%	129.8%	150.9%	90.3%	30.8%	0.34
Cash/Turnover	0.4%	0.4%	0.3%	0.6%	0.5%	0.6%	0.9%	0.7%	0.9%	1.4%	1.5%	0.8%	0.4%	0.49
Cash/Current Assets	0.7%	1.0%	0.7%	1.1%	1.2%	1.7%	2.3%	1.7%	2.2%	2.7%	3.2%	1.7%	0.8%	0.46
Fixed Assets/Turnover	24.6%	32.9%	31.6%	28.3%	24.8%	26.1%	28.9%	35.4%	31.3%	34.6%	35.2%	30.3%	3.9%	0.13
Operating Income/Assets	NA	NA	NA	8.1%	7.7%	7.6%	7.8%	6.8%	9.2%	6.1%	5.2%	7.3%	1.2%	0.16
Net Income/Equity	18.8%	20.8%	18.0%	15.8%	11.5%	8.1%	7.5%	9.3%	10.3%	7.8%	6.9%	12.2%	4.9%	0.40
COST OF CAPITAL:														
ST + LT Debt	7,226	6,645	8,360	13,312	11,475	9,578	8,585	17,321	21,681	30,308	37,489			
Less: Zeta Company*	4,390	3,168	5,298	9,516	7,189	4,860	3,200	11,694	14,819	19,202	23,129			
Net Debt	2,836	3,477	3,062	3,796	4,286	4,718	5,385	5,627	6,862	11,106	14,360			
Interest	837	986	885	1,037	421	450	647	1,051	1,304	1,548	2,451			
Less: Zeta Company*	493	530	448	720	48	80	83	454	688	576	827			
Net Interest	344	456	437	317	373	370	564	597	616	972	1,624			
Effective Interest Rate	12.1%	13.1%	14.3%	8.4%	8.7%	7.8%	10.5%	10.6%	9.0%	8.8%	11.3%	10.4%	2.0%	0.19
Equity	6,600	9,849	11,883	13,924	15,518	16,718	18,099	19,339	21,388	23,353	24,841			
Dividend	77	89	127	127	133	151	151	151	211	217	214			
Effective Dividend Rate	1.2%	0.9%	1.1%	0.9%	0.9%	0.9%	0.8%	0.8%	1.0%	0.9%	0.9%	0.9%	0.1%	0.11
REAL VALUES:														
GDP at Market Prices	100.0	111.3	119.8	126.1	131.9	139.5	144.4	151.5	161.5	172.9	183.7			
Turnover	20,806	21,444	22,865	29,171	33,746	34,530	33,386	37,803	42,578	43,225	45,988			
Growth Rate	--	3.1%	6.6%	27.6%	15.7%	2.3%	-3.3%	13.2%	12.6%	1.5%	6.4%	8.6%	8.5%	0.99
Cost of Goods Sold	NA	NA	NA	22,762	26,801	27,220	26,073	29,832	33,774	33,817	36,820			
Operating Income	NA	NA	NA	2,048	1,882	1,741	1,848	2,136	3,008	2,324	2,071			
Gross Profit-EBITDA	NA	NA	NA	3,891	4,519	4,968	4,846	5,077	4,911	6,248	6,200			
Net Income	1,238	1,837	1,781	1,746	1,356	966	934	1,182	1,360	1,052	933			
Growth Rate	--	48.4%	-3.1%	-2.0%	-22.3%	-28.8%	-3.2%	26.5%	15.1%	-22.6%	-11.3%	-0.3%	22.9%	(67.96)
Fixed Asset Investment	1,466	1,543	1,063	1,567	993	1,736	1,483	3,773	1,306	2,796	1,257			
Funds from Operations	1,636	2,057	2,294	2,302	2,175	2,087	2,097	2,380	2,991	2,361	2,031			
Total Sources of Funds	1,842	2,375	2,275	3,372	2,139	2,098	3,134	6,407	2,461	3,152	1,324			

* Zeta Company does not provide interest expense related to all of its outstanding debt, thus it has been eliminated.

Consolidated 3i Funded Companies

(pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Year End	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
INCOME STATEMENT:											
Turnover	20,806	23,867	27,392	36,785	44,511	48,169	48,210	57,271	68,763	74,736	84,480
COGS	NA	NA	NA	28,703	35,350	37,972	37,650	45,196	54,545	58,469	67,638
Gross Profit	NA	NA	NA	8,082	9,161	10,197	10,560	12,075	14,218	16,267	16,842
Depreciation	NA	NA	NA	593	719	839	894	1,147	1,429	1,446	1,649
EBITDA	NA	NA	NA	3,176	3,201	3,267	3,563	4,383	6,287	5,465	5,453
Operating Income	NA	NA	NA	2,583	2,482	2,428	2,669	3,236	4,858	4,019	3,804
Interest	837	986	885	1,037	421	450	647	1,051	1,304	1,548	2,451
Net Income	1,238	2,045	2,134	2,202	1,789	1,347	1,349	1,790	2,196	1,819	1,714
Declared Dividend	77	89	127	127	133	151	151	151	211	217	214
BALANCE SHEET:											
Cash	75	92	91	223	240	300	427	420	652	1,010	1,283
Debtors	2,734	1,912	2,460	4,685	5,398	5,570	5,735	7,593	8,378	11,369	11,187
Inventory	7,687	7,653	10,607	14,539	13,630	11,548	12,248	17,281	20,352	25,091	27,438
Current Assets	10,496	9,657	13,158	19,447	19,268	17,418	18,410	25,294	29,382	37,470	39,908
Fixed Assets	5,116	7,848	8,650	10,424	11,022	12,551	13,955	20,289	21,540	25,837	29,709
Investments	449	1,144	1,396	1,758	1,938	2,063	2,058	2,000	1,937	2,429	2,949
Other	0	0	0	145	0	0	0	0	0	0	0
Total Assets	16,061	18,649	23,204	31,774	32,228	32,032	34,423	47,583	52,859	65,736	72,566
Creditors	1,502	1,590	2,081	3,703	4,431	4,309	6,717	9,544	7,906	10,491	8,914
ST Debt	4,215	3,005	5,148	11,190	9,364	7,483	5,228	7,700	12,737	19,110	24,264
Other	444	336	609	453	418	840	342	583	599	442	185
Current Liabilities	6,161	4,931	7,838	15,346	14,213	12,632	12,287	17,827	21,242	30,043	33,363
LT Debt	3,011	3,640	3,212	2,122	2,111	2,095	3,357	9,621	8,944	11,198	13,225
Other	289	229	271	382	386	587	680	796	1,285	1,142	1,137
Equity	6,600	9,849	11,883	13,924	15,518	16,718	18,099	19,339	21,388	23,353	24,841
Total Liabilities & Equity	16,061	18,649	23,204	31,774	32,228	32,032	34,423	47,583	52,859	65,736	72,566
STATEMENT OF FUNDS:											Total	%
Sources of Funds:												
Operations	1,636	2,289	2,748	2,903	2,869	2,912	3,028	3,606	4,830	4,082	3,731	34,634	80.0%
Other	0	56	0	122	0	33	69	2	0	0	0	282	0.7%
Debt	206	298	(22)	1,227	(111)	(18)	1,429	6,099	(856)	1,368	(1,299)	8,321	19.2%
Equity	0	0	0	0	64	0	0	0	0	0	0	64	0.1%
Total Sources of Funds	1,842	2,643	2,726	4,252	2,822	2,927	4,526	9,707	3,974	5,450	2,432	43,301	100.0%
Uses of Funds:													
Fixed Assets	1,466	1,717	1,273	1,976	1,310	2,422	2,141	5,716	2,109	4,834	2,309	27,273	63.0%
Dividends	49	77	95	132	123	133	151	151	174	215	214	1,514	3.5%
Taxes	17	33	38	281	353	(13)	765	409	3,011	1,178	1,142	7,214	16.7%
Other	163	0	144	924	180	144	7	2,263	25	499	524	4,873	11.3%
Working Capital and Cash	147	816	1,176	939	856	241	1,462	1,168	(1,345)	(1,276)	(1,757)	2,427	5.6%
Total Uses of Funds	1,842	2,643	2,726	4,252	2,822	2,927	4,526	9,707	3,974	5,450	2,432	43,301	100.0%

Alpha Company (pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
Fiscal Year End	March	March	March	March	March	March	March	March	March	March	March		
INCOME STATEMENT:													
Turnover	7,866	8,937	10,493	11,095	13,011	14,253	16,284	17,893	19,310	21,440	24,209		
COGS	NA	NA	NA	6,503	7,306	7,956	9,557	10,318	11,284	12,045	13,633		
Gross Profit	NA	NA	NA	4,592	5,705	6,297	6,727	7,575	8,026	9,395	10,576		
Depreciation	NA	NA	NA	146	176	228	220	231	266	311	403		
EBITDA	NA	NA	NA	1,285	1,309	1,304	1,569	1,884	2,000	1,380	2,090		
Operating Income	NA	NA	NA	1,139	1,133	1,076	1,349	1,653	1,734	1,069	1,687		
Interest	344	456	437	317	373	370	564	597	616	972	1624		
Net Income	230	665	662	807	468	436	604	657	984	225	98		
Declared Dividend	0	0	0	0	0	0	0	0	0	0	0		
Cash	74	91	90	222	238	239	373	75	91	99	33		
Debtors	1,016	759	698	790	903	881	1,212	1,444	1,667	2,025	2,302		
Inventory	1,225	1,183	1,491	1,574	1,841	1,908	2,320	2,612	3,250	3,403	4,177		
Current Assets	2,315	2,033	2,279	2,586	2,982	3,028	3,905	4,131	5,008	5,527	6,512		
Fixed Assets	2,807	4,941	5,210	6,334	6,911	8,219	9,289	9,885	11,531	15,883	17,537		
Investments	448	1,142	1,395	1,731	1,899	2,014	2,002	1,944	1,881	2,356	2,870		
Other	0	0	0	0	0	0	0	0	0	0	0		
Total Assets	5,570	8,116	8,884	10,651	11,792	13,261	15,196	15,960	18,420	23,766	26,919		
Creditors	864	980	1,169	1,462	1,641	1,720	2,711	2,344	2,733	3,455	3,529		
ST Debt	0	0	0	1,812	2,300	2,736	2,128	2,094	2,606	4,021	6,503		
Other	385	255	500	321	312	715	217	459	437	279	20		
Current Liabilities	1,249	1,235	1,669	3,595	4,253	5,171	5,056	4,897	5,776	7,755	10,052		
LT Debt	2,836	3,477	3,062	1,984	1,986	1,982	3,257	3,533	4,256	7,085	7,857		
Other	251	211	271	272	265	281	269	256	66	15	13		
Equity	1,234	3,193	3,882	4,800	5,288	5,827	6,614	7,274	8,322	8,911	8,997		
Total Liabilities & Equity	5,570	8,116	8,884	10,651	11,792	13,261	15,196	15,960	18,420	23,766	26,919		
Sources of Funds:												Total	%
Operations	367	599	857	959	932	995	990	1,449	1,495	351	241	9,235	65.2%
Other	0	56	0	0	0	0	67	0	0	0	0	123	0.9%
Debt	219	311	(9)	1,240	(98)	(5)	1,442	112	157	1,681	(240)	4,810	33.9%
Equity	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Total	586	966	848	2,199	834	990	2,499	1,561	1,652	2,032	1	14,168	100.0%
Uses of Funds:	8.9%	9.1%	3.6%	10.4%	5.6%	10.8%	7.0%	4.9%	9.7%	17.4%	7.5%	8.6%	
Fixed Assets	697	815	377	1,150	728	1,539	1,140	880	1,870	3,724	1,815	14,735	104.0%
Dividends	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Taxes	0	0	0	195	304	(111)	697	172	347	426	250	2,280	16.1%
Other	163	0	144	336	168	36	0	48	25	482	518	1,920	13.6%
Working Capital and Cash	(274)	151	327	518	(366)	(474)	662	461	(590)	(2,600)	(2,582)	(4,767)	-33.6%
Total	586	966	848	2,199	834	990	2,499	1,561	1,652	2,032	1	14,168	100.0%

Zeta Company (pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
Fiscal Year End	March	March	March	March	March	March	March	March	March	March	March		
INCOME STATEMENT:													
Turnover	12,940	14,930	16,899	25,690	31,500	33,916	31,926	39,378	49,453	53,296	60,271		
COGS	NA	NA	NA	22,200	28,044	30,016	28,093	34,878	43,261	46,424	54,005		
Gross Profit	NA	NA	NA	3,490	3,456	3,900	3,833	4,500	6,192	6,872	6,266		
Depreciation	NA	NA	NA	447	543	611	674	916	1,163	1,135	1,246		
EBITDA	NA	NA	NA	1,891	1,892	1,963	1,994	2,499	4,287	4,085	3,363		
Operating Income	NA	NA	NA	1,444	1,349	1,352	1,320	1,583	3,124	2,950	2,117		
Interest	493	530	448	720	48	80	83	454	688	576	827		
Net Income	1,008	1,380	1,472	1,395	1,321	911	745	1,133	1,212	1,594	1,616		
Declared Dividend	77	89	127	127	133	151	151	151	211	217	214		
BALANCE SHEET:													
Cash	1	1	1	1	2	61	54	345	561	911	1,250		
Debtors	1,718	1,153	1,762	3,895	4,495	4,689	4,523	6,149	6,711	9,344	8,885		
Inventory	6,462	6,470	9,116	12,965	11,789	9,640	9,928	14,669	17,102	21,688	23,261		
Current Assets	8,181	7,624	10,879	16,861	16,286	14,390	14,505	21,163	24,374	31,943	33,396		
Fixed Assets	2,309	2,907	3,440	4,090	4,111	4,332	4,666	10,404	10,009	9,954	12,172		
Investments	1	2	1	27	39	49	56	56	56	73	79		
Other	0	0	0	145	0	0	0	0	0	0	0		
Total Assets	10,491	10,533	14,320	21,123	20,436	18,771	19,227	31,623	34,439	41,970	45,647		
Creditors	638	610	912	2,241	2,790	2,589	4,006	7,200	5,173	7,036	5,385		
ST Debt	4,215	3,005	5,148	9,378	7,064	4,747	3,100	5,606	10,131	15,089	17,761		
Other	59	81	109	132	106	125	125	124	162	163	165		
Current Liabilities	4,912	3,696	6,169	11,751	9,960	7,461	7,231	12,930	15,466	22,288	23,311		
LT Debt	175	163	150	138	125	113	100	6,088	4,688	4,113	5,368		
Other	38	18	0	110	121	306	411	540	1,219	1,127	1,124		
Equity	5,366	6,656	8,001	9,124	10,230	10,891	11,485	12,065	13,066	14,442	15,844		
Total Liabilities & Equity	10,491	10,533	14,320	21,123	20,436	18,771	19,227	31,623	34,439	41,970	45,647		
STATEMENT OF FUNDS:												Total	%
Sources of Funds:													
Operations	1,269	1,690	1,891	1,944	1,937	1,917	2,038	2,157	3,335	3,731	3,490	25,399	87.2%
Other	0	0	0	122	0	33	2	2	0	0	0	159	0.5%
Debt	(13)	(13)	(13)	(13)	(13)	(13)	(13)	5,987	(1,013)	(313)	(1,059)	3,511	12.1%
Equity	0	0	0	0	64	0	0	0	0	0	0	64	0.2%
Total Sources of Funds	1,256	1,677	1,878	2,053	1,988	1,937	2,027	8,146	2,322	3,418	2,431	29,133	100.0%
Uses of Funds:													
Fixed Assets	769	902	896	826	582	883	1,001	4,836	239	1,110	494	12,538	43.0%
Dividends	49	77	95	132	123	133	151	151	174	215	214	1,514	5.2%
Taxes	17	33	38	86	49	98	68	237	2,664	752	892	4,934	16.9%
Other	0	0	0	588	12	108	7	2,215	0	17	6	2,953	10.1%
Working Capital and Cash	421	665	849	421	1,222	715	800	707	(755)	1,324	825	7,194	24.7%
Total Uses of Funds	1,256	1,677	1,878	2,053	1,988	1,937	2,027	8,146	2,322	3,418	2,431	29,133	100.0%

Appendix B

Financial Data

Publicly-Floated Companies

Consolidated Publicly Floated Companies

(pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	Average	Std Dev	Coef Var
OPERATING STATISTICS:														
Gross Margin	NA	NA	NA	NA	57.2%	58.0%	59.1%	61.6%	61.2%	63.8%	64.8%	60.8%	2.7%	0.04
EBITDA Margin	NA	NA	14.5%	13.9%	13.9%	14.9%	14.7%	15.8%	16.2%	16.5%	16.6%	15.2%	1.0%	0.07
Operating Margin	NA	NA	12.1%	11.4%	11.2%	12.1%	11.9%	12.4%	12.9%	13.1%	13.1%	12.2%	0.7%	0.05
Net Margin	7.4%	11.2%	7.7%	6.9%	6.8%	7.8%	7.9%	8.6%	8.9%	9.0%	10.1%	8.5%	1.3%	0.15
BALANCE SHEET:														
LT Debt/Equity	10.5%	7.4%	6.8%	4.5%	3.7%	6.8%	6.4%	5.2%	4.7%	6.3%	6.5%	6.2%	1.1%	0.18
(ST + LT Debt)/Equity	13.4%	8.8%	8.5%	5.8%	6.5%	9.1%	9.0%	6.9%	6.8%	8.5%	9.6%	8.5%	1.2%	0.15
Cash/Turnover	8.4%	6.5%	7.6%	11.9%	10.8%	13.1%	13.4%	13.6%	15.6%	19.2%	18.4%	12.6%	3.9%	0.31
Cash/Current Assets	33.0%	26.5%	31.0%	42.1%	39.2%	43.8%	43.9%	46.3%	50.2%	55.6%	54.1%	42.3%	8.8%	0.21
Fixed Assets/Turnover	64.0%	110.6%	99.4%	121.4%	120.7%	114.9%	126.2%	162.7%	156.6%	157.7%	170.4%	127.7%	30.4%	0.24
Operating Income/Assets	NA	NA	9.2%	7.3%	7.2%	8.0%	7.3%	6.2%	6.6%	6.6%	6.2%	7.2%	0.9%	0.12
Net Income/Equity	12.2%	10.1%	7.6%	5.5%	5.6%	6.8%	6.2%	5.2%	5.5%	5.6%	5.9%	6.9%	2.1%	0.31
COST OF CAPITAL:														
ST + LT Debt	6,031	7,991	8,189	7,672	8,927	13,232	16,027	16,768	17,390	23,553	32,116			
Interest	525	811	940	859	781	1,072	1,669	1,753	1,600	1,809	3,000			
Effective Interest Rate	8.7%	10.1%	11.5%	11.2%	8.7%	8.1%	10.4%	10.5%	9.2%	7.7%	9.3%	9.6%	1.2%	0.12
Equity	44,881	91,039	96,758	131,252	137,524	144,923	178,686	244,403	253,888	277,340	332,891			
Dividend	1,574	1,832	2,088	2,454	2,881	3,301	3,834	4,376	4,833	5,581	6,509			
Effective Dividend Rate	3.5%	2.0%	2.2%	1.9%	2.1%	2.3%	2.1%	1.8%	1.9%	2.0%	2.0%	2.2%	0.4%	0.21
REAL VALUES:														
GDP at Market Prices	100.0	111.3	119.8	126.1	131.9	139.5	144.4	151.5	161.5	172.9	183.7			
Turnover	73,837	74,148	79,312	82,542	86,353	90,850	97,807	98,172	98,194	99,584	105,847			
Growth Rate	--	0.4%	7.0%	4.1%	4.6%	5.2%	7.7%	0.4%	0.0%	1.4%	6.3%	3.7%	2.8%	0.75
Cost of Goods Sold	NA	NA	NA	NA	36,947	38,121	39,967	37,744	38,123	36,017	37,225			
Gross Profit-EBITDA	NA	NA	NA	NA	37,398	39,154	43,427	44,906	44,163	47,133	51,070			
Operating Income	NA	NA	9,566	9,443	9,674	10,969	11,619	12,151	12,702	13,024	13,899			
Net Income	5,483	8,299	6,143	5,707	5,880	7,099	7,725	8,399	8,715	8,994	10,722			
Growth Rate	--	51.3%	-26.0%	-7.1%	3.0%	20.7%	8.8%	8.7%	3.8%	3.2%	19.2%	8.6%	19.0%	2.22
Fixed Asset Investment	8,333	6,230	4,151	4,013	6,970	7,468	9,164	7,006	6,929	8,712	12,458			
Funds from Operations	11,002	10,370	11,424	11,951	12,336	13,655	14,215	15,513	16,220	17,386	19,229			
Total Sources of Funds	11,663	13,143	11,393	12,889	12,346	16,692	18,078	17,941	16,259	22,440	21,967			

Consolidated Publicly Floated Companies

(pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Fiscal Year End	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
INCOME STATEMENT:											
Turnover	73,837	82,525	95,019	104,070	113,933	126,708	141,186	148,696	158,589	172,224	194,422
COGS	NA	NA	NA	NA	48,747	53,168	57,693	57,168	61,571	62,288	68,375
Gross Profit	NA	NA	NA	NA	65,186	73,540	83,493	91,528	97,018	109,936	126,047
Depreciation	1,707	1,870	2,273	2,578	3,079	3,634	4,033	5,106	5,178	5,899	6,711
EBITDA	NA	NA	13,733	14,484	15,843	18,932	20,805	23,511	25,692	28,423	32,241
Operating Income	NA	NA	11,460	11,906	12,764	15,298	16,772	18,405	20,514	22,524	25,530
Interest	525	811	940	859	781	1,072	1,669	1,753	1,600	1,809	3,000
Net Income	5,483	9,236	7,360	7,196	7,758	9,901	11,151	12,722	14,076	15,554	19,694
Declared Dividend	1,574	1,832	2,088	2,454	2,881	3,301	3,834	4,376	4,833	5,581	6,509
BALANCE SHEET:											
Cash	6,179	5,357	7,182	12,430	12,314	16,557	18,898	20,179	24,672	33,102	35,816
Debtors	6,072	6,729	7,433	8,220	8,840	10,007	11,971	10,278	11,032	12,712	14,713
Inventory	6,482	8,147	8,550	8,853	10,251	11,265	12,140	13,133	13,480	13,725	15,673
Current Assets	18,733	20,233	23,165	29,503	31,405	37,829	43,009	43,590	49,184	59,539	66,202
Fixed Assets	47,269	91,246	94,415	126,295	137,539	145,613	178,193	241,903	248,411	271,546	331,375
Investments	3,459	5,662	7,269	7,098	7,769	8,861	9,533	10,009	10,893	11,353	12,063
Other	56	65	0	0	0	0	0	0	0	0	0
Total Assets	69,517	117,206	124,849	162,896	176,713	192,303	230,735	295,502	308,488	342,438	409,640
Creditors	13,795	15,256	16,646	19,440	22,707	26,102	28,452	26,975	30,827	36,471	39,592
ST Debt	1,313	1,270	1,643	1,807	3,837	3,449	4,600	3,954	5,401	6,063	10,591
Other	342	422	542	797	0	0	0	0	0	0	0
Current Liabilities	15,450	16,948	18,831	22,044	26,544	29,551	33,052	30,929	36,228	42,534	50,183
LT Debt	4,718	6,721	6,546	5,865	5,090	9,783	11,427	12,814	11,989	17,490	21,525
Other	4,468	2,498	2,714	3,735	7,555	8,046	7,570	7,356	6,383	5,074	5,041
Equity	44,881	91,039	96,758	131,252	137,524	144,923	178,686	244,403	253,888	277,340	332,891
Total Liabilities & Equity	69,517	117,206	124,849	162,896	176,713	192,303	230,735	295,502	308,488	342,438	409,640

STATEMENT OF FUNDS:												Total	%
Sources of Funds:													
Operations	11,002	11,542	13,687	15,068	16,276	19,044	20,520	23,496	26,197	30,068	35,320	222,220	87.3%
Other	43	1,056	27	1,460	138	1,372	270	1,837	241	2,622	1,112	10,178	4.0%
Debt	618	2,030	(65)	(278)	(125)	2,864	2,069	1,841	(178)	6,109	3,734	18,619	7.3%
Equity	0	0	0	0	0	0	3,237	0	0	10	183	3,430	1.3%
Total	11,663	14,628	13,649	16,250	16,289	23,280	26,096	27,174	26,260	38,809	40,349	254,447	100.0%
Uses of Funds:													
Fixed Assets	8,333	6,934	4,973	5,059	9,196	10,416	13,228	10,612	11,191	15,067	22,883	117,892	46.33%
Dividends	1,440	1,650	1,888	2,144	2,560	3,000	3,401	3,976	4,511	5,018	5,807	35,395	13.9%
Taxes	2,442	2,873	3,224	3,218	4,969	4,614	5,390	8,126	6,833	7,223	11,225	60,137	23.6%
Other	189	2,828	1,278	2,118	1,212	2,441	765	1,785	1,678	2,740	2,150	19,184	7.5%
Working Capital and Cash	(741)	343	2,286	3,711	(1,648)	2,809	3,312	2,675	2,047	8,761	(1,716)	21,839	8.6%
Total	11,663	14,628	13,649	16,250	16,289	23,280	26,096	27,174	26,260	38,809	40,349	254,447	100.0%

Burtonwood Brewery plc (pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
Fiscal Year End	March	March	March	March	March	March	March	March	March	March	March		
INCOME STATEMENT:													
Turnover	14,597	16,429	18,295	20,051	22,245	25,287	30,460	30,553	31,825	35,413	40,278		
COGS	NA	NA	NA	12,470	13,815	15,589	19,161	18,689	18,603	20,799	23,717		
Gross Profit	NA	NA	NA	7,581	8,430	9,698	11,299	11,864	13,222	14,614	16,561		
Depreciation	264	294	344	425	548	751	893	1,594	1,133	1,387	1,647		
EBITDA	2,411	2,821	2,941	3,077	2,552	3,706	3,383	4,006	4,012	4,813	5,635		
Operating Income	2,147	2,527	2,597	2,652	2,004	2,955	2,490	2,412	2,879	3,426	3,988		
Interest	89	82	75	82	103	352	775	778	667	562	1,030		
Net Income	1,197	1,588	1,717	1,471	1,581	2,340	1,744	1,861	1,957	2,424	3,156		
Declared Dividend	214	243	267	390	410	448	585	631	680	762	851		
BALANCE SHEET:													
Cash	589	638	1,352	1,080	25	42	110	219	297	340	569		
Debtors	2,019	2,307	2,535	2,725	3,018	3,674	5,050	2,897	2,960	3,267	3,591		
Inventory	816	1,079	1,220	1,372	1,764	1,822	2,178	2,150	2,266	2,244	2,838		
Current Assets	3,424	4,024	5,107	5,177	4,807	5,538	7,338	5,266	5,523	5,851	6,998		
Fixed Assets	7,645	8,213	8,998	20,879	23,526	27,803	31,622	47,255	48,142	51,940	71,845		
Investments	1,176	1,379	2,025	2,576	2,990	3,747	4,501	4,475	5,139	5,249	7,079		
Other	56	65	0	0	0	0	0	0	0	0	0		
Total Assets	12,301	13,681	16,130	28,632	31,323	37,088	43,461	56,996	58,804	63,040	85,922		
Creditors	3,301	3,395	4,408	5,156	5,574	5,804	6,403	5,212	6,207	7,921	8,358		
ST Debt	0	0	0	0	1,193	2,144	2,658	653	479	421	293		
Other	0	0	0	0	0	0	0	0	0	0	0		
Current Liabilities	3,301	3,395	4,408	5,156	6,767	7,948	9,061	5,865	6,686	8,342	8,651		
LT Debt	1,011	952	938	828	905	3,817	4,838	6,788	6,661	7,787	12,326		
Other	0	0	0	0	0	63	0	0	0	0	140		
Equity	7,989	9,334	10,784	22,648	23,651	25,260	29,562	44,343	45,457	46,911	64,805		
Total Liabilities & Equity	12,301	13,681	16,130	28,632	31,323	37,088	43,461	56,996	58,804	63,040	85,922		
STATEMENT OF FUNDS:													
Sources of Funds:												Total	%
Operations	2,429	2,845	3,109	3,198	2,607	2,972	2,348	2,957	3,582	4,498	5,375	35,920	70.5%
Other	0	0	0	0	0	0	0	200	0	1,091	0	1,291	2.5%
Debt	(48)	(59)	(14)	(110)	(3)	2,899	973	2,000	(124)	1,000	4,000	10,514	20.6%
Equity	0	0	0	0	0	0	3,237	0	0	0	0	3,237	6.4%
Total	2,381	2,786	3,095	3,088	2,604	5,871	6,558	5,157	3,458	6,589	9,375	50,962	100.0%
Uses of Funds:													
Fixed Assets	1,155	652	1,018	1,502	3,195	4,837	4,432	2,667	1,875	4,967	4,594	30,894	60.6%
Dividends	196	232	247	271	410	410	471	585	620	696	762	4,900	9.6%
Taxes	726	958	1,095	1,280	1,316	314	510	506	473	677	1,649	9,504	18.6%
Other	175	203	591	500	559	683	687	50	585	1,032	2,238	7,303	14.3%
Working Capital and Cash	129	741	144	(465)	(2,876)	(373)	458	1,349	(95)	(783)	132	(1,639)	-3.2%
Total	2,381	2,786	3,095	3,088	2,604	5,871	6,558	5,157	3,458	6,589	9,375	50,962	100.0%

Fuller, Smith & Turner plc

(pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Fiscal Year End	March	March	March	March	March	March	March	March	March	March	March
INCOME STATEMENT:											
Turnover	19,829	21,510	25,318	28,236	32,255	36,214	40,643	44,893	49,054	52,935	59,449
COGS	NA	NA	NA	4,479	4,697	5,190	5,412	5,702	5,657	5,847	6,009
Gross Profit	NA	NA	NA	23,757	27,558	31,024	35,231	39,191	43,397	47,088	53,440
Depreciation	536	601	703	770	902	1,011	1,165	1,353	1,553	1,752	2,007
EBITDA	2,274	2,244	2,930	3,394	3,855	4,582	5,800	6,938	8,033	8,807	9,758
Operating Income	1,738	1,643	2,227	2,624	2,953	3,571	4,635	5,585	6,480	7,055	7,751
Interest	211	261	240	210	204	198	214	332	330	488	892
Net Income	868	3,663	1,431	1,524	1,648	2,075	3,049	3,719	4,328	4,837	5,605
Declared Dividend	198	219	273	337	459	581	703	847	977	1,181	1,433
BALANCE SHEET:											
Cash	502	14	651	3,201	3,294	5,361	5,891	5,164	5,285	10,443	9,443
Debtors	1,147	1,320	1,556	1,969	2,106	2,417	2,579	2,810	3,145	3,293	4,142
Inventory	2,342	3,362	3,175	3,245	3,756	4,287	4,599	5,068	5,323	5,329	6,243
Current Assets	3,991	4,696	5,382	8,415	9,156	12,065	13,069	13,042	13,753	19,065	19,828
Fixed Assets	9,669	11,217	11,691	29,991	31,804	33,113	59,160	61,118	64,852	69,845	101,282
Investments	93	122	95	127	149	167	190	210	216	288	387
Other	0	0	0	0	0	0	0	0	0	0	0
Total Assets	13,753	16,035	17,168	38,533	41,109	45,345	72,419	74,370	78,821	89,198	121,497
Creditors	2,881	3,612	3,532	5,215	6,681	8,607	9,342	8,281	9,436	10,938	12,604
ST Debt	0	221	0	0	0	0	0	0	182	0	0
Other	107	128	160	192	0	0	0	0	0	0	0
Current Liabilities	2,988	3,961	3,692	5,407	6,681	8,607	9,342	8,281	9,618	10,938	12,604
LT Debt	1,889	1,961	1,834	1,773	1,654	1,697	2,834	2,788	2,600	8,000	8,000
Other	2,656	375	423	445	1,274	1,410	1,438	1,460	1,457	1,419	1,237
Equity	6,220	9,738	11,219	30,908	31,500	33,631	58,805	61,841	65,146	68,841	99,656
Total Liabilities & Equity	13,753	16,035	17,168	38,533	41,109	45,345	72,419	74,370	78,821	89,198	121,497
STATEMENT OF FUNDS:											
Sources of Funds:											
Operations	2,166	1,999	2,705	3,368	3,981	4,911	6,078	7,340	8,348	9,167	10,523
Other	5	0	27	142	0	0	0	0	0	0	0
Debt	184	96	(29)	(160)	(114)	88	1,108	(144)	(44)	5,122	0
Equity	0	0	0	0	0	0	0	0	0	5	11
Total	2,355	2,095	2,703	3,350	3,867	4,999	7,186	7,196	8,304	14,294	10,534
Uses of Funds:											
Fixed Assets	2,606	2,112	856	631	2,588	1,391	4,349	3,139	5,332	6,627	6,573
Dividends	206	201	243	305	392	520	624	746	905	1,032	1,255
Taxes	194	320	(12)	308	781	1,033	1,439	3,214	2,076	1,402	3,056
Other	0	29	0	37	22	17	23	20	6	72	194
Working Capital and Cash	(651)	(567)	1,616	2,069	84	2,038	751	77	(15)	5,161	(544)
Total	2,355	2,095	2,703	3,350	3,867	4,999	7,186	7,196	8,304	14,294	10,534

	Total	%
Sources of Funds:		
Operations	60,586	90.6%
Other	174	0.3%
Debt	6,107	9.1%
Equity	16	0.0%
Total	66,883	100.0%
Uses of Funds:		
Fixed Assets	36,204	54.1%
Dividends	6,429	9.6%
Taxes	13,811	20.6%
Other	420	0.6%
Working Capital and Cash	10,019	15.0%
Total	66,883	100.0%

Hardys & Hansons plc (pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Fiscal Year End	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept
INCOME STATEMENT:											
Turnover	13,075	14,577	15,913	16,469	17,650	19,619	20,252	20,867	21,484	22,817	24,891
COGS	NA	NA	8,735	9,036	9,721	10,776	10,662	10,560	10,475	10,732	11,344
Gross Profit	NA	NA	7,178	7,433	7,929	8,843	9,590	10,307	11,009	12,085	13,547
Depreciation	332	383	378	421	438	477	519	529	588	632	618
EBITDA	2,535	2,572	2,654	2,702	2,982	3,431	3,687	4,077	4,278	4,706	5,113
Operating Income	2,203	2,189	2,276	2,281	2,544	2,954	3,168	3,548	3,690	4,074	4,495
Interest	8	8	8	8	8	8	8	8	8	8	8
Net Income	1,236	1,186	1,304	1,277	1,531	1,946	2,281	2,686	2,851	3,467	4,099
Declared Dividend	562	602	657	682	752	852	942	1,082	1,182	1,412	1,682
BALANCE SHEET:											
Cash	2,183	2,074	2,639	2,879	2,929	3,958	5,169	6,395	7,959	10,823	11,769
Debtors	816	837	1,047	986	1,071	992	1,210	1,408	1,375	1,743	2,331
Inventory	663	733	774	835	855	1,019	1,029	1,039	954	995	1,125
Current Assets	3,662	3,644	4,460	4,700	4,855	5,969	7,408	8,842	10,288	13,561	15,225
Fixed Assets	7,798	17,943	18,238	18,398	18,811	19,030	19,320	19,975	20,527	20,840	22,475
Investments	2,047	2,979	3,148	3,536	4,306	4,453	4,317	4,517	4,688	4,908	3,479
Other	0	0	0	0	0	0	0	0	0	0	0
Total Assets	13,507	24,566	25,846	26,634	27,972	29,452	31,045	33,334	35,503	39,309	41,179
Creditors	3,024	3,108	3,502	3,555	3,753	3,905	4,155	4,445	4,478	6,439	5,941
ST Debt	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
Current Liabilities	3,024	3,108	3,502	3,555	3,753	3,905	4,155	4,445	4,478	6,439	5,941
LT Debt	200	200	200	200	200	200	200	200	200	200	200
Other	1,637	2,051	2,214	2,231	2,133	2,083	1,660	1,642	1,710	521	578
Equity	8,646	19,207	19,930	20,648	21,886	23,264	25,030	27,047	29,115	32,149	34,460
Total Liabilities & Equity	13,507	24,566	25,846	26,634	27,972	29,452	31,045	33,334	35,503	39,309	41,179
STATEMENT OF FUNDS:											
Sources of Funds:											
Operations	2,977	2,894	3,056	3,078	3,371	3,905	4,189	4,705	4,992	5,990	7,018
Other	38	0	0	0	0	0	160	43	116	0	112
Debt	0	0	0	0	0	0	0	0	0	0	0
Equity	0	0	0	0	0	0	0	0	0	0	0
Total	3,015	2,894	3,056	3,078	3,371	3,905	4,349	4,748	5,108	5,990	7,130
Uses of Funds:											
Fixed Assets	1,928	651	666	528	812	618	682	1,005	1,016	(32)	2,691
Dividends	507	592	617	663	698	781	882	972	1,128	1,292	1,502
Taxes	915	978	927	1,213	1,355	1,359	1,389	1,549	1,517	1,495	3,069
Other	12	844	100	326	498	70	(3)	(4)	4	107	(1,492)
Working Capital and Cash	(347)	(171)	746	348	8	1,077	1,399	1,226	1,443	3,128	1,360
Total	3,015	2,894	3,056	3,078	3,371	3,905	4,349	4,748	5,108	5,990	7,130

	Total	%
Sources of Funds:		
Operations	46,175	99.0%
Other	469	1.0%
Debt	0	0.0%
Equity	0	0.0%
Total	46,644	100.0%
Uses of Funds:		
Fixed Assets	10,565	22.7%
Dividends	9,634	20.7%
Taxes	15,766	33.8%
Other	462	1.0%
Working Capital and Cash	10,217	21.9%
Total	46,644	100.0%

Joseph Holt plc (pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990		
Fiscal Year End	December	December	December	December	December	December	December	December	December	December	December		
INCOME STATEMENT:													
Turnover	5,746	6,287	7,545	8,704	9,418	10,022	10,583	11,504	13,410	15,159	17,824		
COGS	NA	NA	4,332	5,087	5,445	5,695	5,707	6,082	6,871	7,464	8,803		
Gross Profit	NA	NA	3,213	3,617	3,973	4,327	4,876	5,422	6,539	7,695	9,021		
Depreciation	85	86	73	73	94	90	88	97	79	116	153		
EBITDA	NA	NA	1,786	1,691	2,271	2,391	2,613	2,749	3,173	3,301	4,056		
Operating Income	NA	NA	1,713	1,618	2,177	2,301	2,525	2,652	3,094	3,185	3,903		
Interest	9	9	9	9	9	0	0	0	0	0	0		
Net Income	683	1,002	1,069	1,033	1,486	1,852	2,088	2,219	2,686	2,895	3,724		
Declared Dividend	225	270	300	330	420	480	540	600	690	780	935		
BALANCE SHEET:													
Cash	2,873	2,602	2,521	5,249	6,043	7,161	7,686	8,374	11,000	11,400	13,967		
Debtors	270	455	606	568	534	750	945	829	827	907	1,389		
Inventory	390	433	471	495	831	594	674	702	759	821	917		
Current Assets	3,533	3,490	3,598	6,312	7,408	8,505	9,305	9,905	12,586	13,128	16,273		
Fixed Assets	6,443	6,729	7,007	7,491	12,558	12,695	13,680	14,297	14,214	26,759	27,664		
Investments	143	892	1,479	244	210	380	411	693	736	859	1,069		
Other	0	0	0	0	0	0	0	0	0	0	0		
Total Assets	10,119	11,111	12,084	14,047	20,176	21,580	23,396	24,895	27,536	40,746	45,006		
Creditors	1,875	2,112	2,311	2,292	2,441	2,582	2,871	2,815	4,419	3,773	5,073		
ST Debt	0	0	0	0	223	0	0	0	0	0	0		
Other	0	0	0	0	0	0	0	0	0	0	0		
Current Liabilities	1,875	2,112	2,311	2,292	2,664	2,582	2,871	2,815	4,419	3,773	5,073		
LT Debt	223	223	223	223	0	0	0	0	0	0	0		
Other	51	72	77	1,059	1,042	1,044	1,023	960	0	0	0		
Equity	7,970	8,704	9,473	10,473	16,470	17,954	19,502	21,120	23,117	36,973	39,933		
Total Liabilities & Equity	10,119	11,111	12,084	14,047	20,176	21,580	23,396	24,895	27,536	40,746	45,006		
STATEMENT OF FUNDS:												Total	%
Sources of Funds:													
Operations	1,400	1,802	2,215	2,402	2,594	2,949	3,257	3,388	4,011	4,528	5,795	34,341	80.5%
Other	0	1,056	0	1,318	138	1,372	110	1,594	125	1,531	1,000	8,244	19.3%
Debt	0	0	0	0	0	(112)	0	0	0	0	0	(112)	-0.3%
Equity	0	0	0	0	0	0	0	0	0	5	172	177	0.4%
Total	1,400	2,858	2,215	3,720	2,732	4,209	3,367	4,982	4,136	6,064	6,967	42,650	100.0%
Uses of Funds:													
Fixed Assets	157	291	321	537	215	154	1,030	676	(122)	820	1,090	5,169	12.1%
Dividends	180	225	300	330	435	495	570	630	720	811	4,996	11.7%	
Taxes	398	618	1,008	156	1,072	1,182	1,248	1,276	1,249	2,337	1,648	12,192	28.6%
Other	2	1,752	587	1,255	20	1,671	58	1,719	1,083	1,529	1,210	10,886	25.5%
Working Capital and Cash	663	(28)	(1)	1,472	1,095	767	536	741	1,296	658	2,208	9,407	22.1%
Total	1,400	2,858	2,215	3,720	2,732	4,209	3,367	4,982	4,136	6,064	6,967	42,650	100.0%

Young & Co.'s Brewery plc (pounds in thousands)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Fiscal Year End	March	March	March	March	March	March	March	March	March	March	March
INCOME STATEMENT:											
Turnover	20,590	23,722	27,948	30,610	32,365	35,566	39,248	40,879	42,816	45,900	51,980
COGS	NA	NA	NA	NA	15,069	15,918	16,751	16,135	19,965	17,446	18,502
Gross Profit	NA	NA	NA	NA	17,296	19,648	22,497	24,744	22,851	28,454	33,478
Depreciation	490	506	775	889	1,097	1,305	1,368	1,533	1,825	2,012	2,286
EBITDA	2,238	2,509	3,422	3,620	4,183	4,822	5,322	5,741	6,196	6,796	7,679
Operating Income	1,748	2,003	2,647	2,731	3,086	3,517	3,954	4,208	4,371	4,784	5,393
Interest	208	451	608	550	457	514	672	635	595	751	1,070
Net Income	1,499	1,797	1,839	1,891	1,512	1,688	1,989	2,237	2,254	1,931	3,110
Declared Dividend	375	450	543	667	792	892	1,016	1,166	1,253	1,377	1,539
BALANCE SHEET:											
Cash	32	29	19	21	23	35	42	27	131	96	68
Debtors	1,820	1,810	1,689	1,972	2,111	2,174	2,187	2,334	2,725	3,502	3,260
Inventory	2,271	2,540	2,910	2,906	3,045	3,543	3,660	4,174	4,178	4,336	4,550
Current Assets	4,123	4,379	4,618	4,899	5,179	5,752	5,889	6,535	7,034	7,934	7,878
Fixed Assets	15,714	47,144	48,481	49,536	50,840	52,972	54,411	99,258	100,676	102,162	108,109
Investments	0	290	522	615	114	114	114	114	114	49	49
Other	0	0	0	0	0	0	0	0	0	0	0
Total Assets	19,837	51,813	53,621	55,050	56,133	58,838	60,414	105,907	107,824	110,145	116,036
Creditors	2,714	3,029	2,893	3,222	4,258	5,204	5,681	6,222	6,287	7,400	7,616
ST Debt	1,313	1,049	1,643	1,807	2,421	1,305	1,942	3,301	4,740	5,642	10,298
Other	235	294	382	605	0	0	0	0	0	0	0
Current Liabilities	4,262	4,372	4,918	5,634	6,679	6,509	7,623	9,523	11,027	13,042	17,914
LT Debt	1,395	3,385	3,351	2,841	2,331	4,069	3,555	3,038	2,528	1,503	999
Other	124	0	0	0	3,106	3,446	3,449	3,294	3,216	3,134	3,086
Equity	14,056	44,056	45,352	46,575	44,017	44,814	45,787	90,052	91,053	92,466	94,037
Total Liabilities & Equity	19,837	51,813	53,621	55,050	56,133	58,838	60,414	105,907	107,824	110,145	116,036
STATEMENT OF FUNDS:											
Sources of Funds:											
Operations	2,030	2,002	2,602	3,022	3,723	4,307	4,648	5,106	5,264	5,885	6,609
Other	0	0	0	0	0	0	0	0	0	0	0
Debt	482	1,993	(22)	(8)	(8)	(11)	(12)	(15)	(10)	(13)	(266)
Equity	0	0	0	0	0	0	0	0	0	0	0
Total	2,512	3,995	2,580	3,014	3,715	4,296	4,636	5,091	5,254	5,872	6,343
Uses of Funds:											
Fixed Assets	2,487	3,228	2,112	1,861	2,386	3,416	2,735	3,125	3,090	2,685	7,935
Dividends	351	400	481	605	730	854	929	1,103	1,228	1,278	1,477
Taxes	209	(1)	206	261	445	726	804	1,581	1,518	1,312	1,803
Other	0	0	0	0	113	0	0	0	0	0	0
Working Capital and Cash	(535)	368	(219)	287	41	(700)	168	(718)	(582)	597	(4,872)
Total	2,512	3,995	2,580	3,014	3,715	4,296	4,636	5,091	5,254	5,872	6,343

	Total	%
Sources of Funds:		
Operations	45,198	95.5%
Other	0	0.0%
Debt	2,110	4.5%
Equity	0	0.0%
Total	47,308	100.0%
Uses of Funds:		
Fixed Assets	35,060	74.1%
Dividends	9,436	19.9%
Taxes	8,864	18.7%
Other	113	0.2%
Working Capital and Cash	(6,165)	-13.0%
Total	47,308	100.0%

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