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DEMOGRAPHIC CONTRASTS BETWEEN FAMILY AND NON-FAMILY UNQUOTED COMPANIES IN THE UNITED KINGDOM

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ABSTRACT

Family firms are regarded as an important phenomenon throughout the world. Surprisingly, detailed empirical research surrounding the nature and scale of family firm activity in the United Kingdom is scarce. Drawing upon a stratified random sample of 427 independent unquoted companies the scale of family company activity, across five different definitions, is assessed in the United Kingdom. Additional analysis highlights significant demographic contrasts between family and non-family companies. We conclude the scale of family company activity in the United Kingdom's economy is, in part, definition dependent. Further, we suggest 'sample' differences between the two groups of companies could overwhelm univariate comparisons of family and non-family company performance. Implications for future research exploring the characteristics and performance of family and non-family companies are discussed.
INTRODUCTION

Studies of the economic importance of family firms in the United States have shown 80% of all businesses are small family owned firms (Kirchhoff and Kirchhoff, 1987) and generate between 40 and 60 per cent of the gross national product (Ward and Aronoff, 1990)\(^1\). Although family businesses are a subject of considerable interest in the United States (Hollander and Elman, 1988; Daily and Dollinger, 1993; Brockhaus, 1994; Hoy and Verser, 1994; Reynolds, 1995), and to a lesser extent in some European Community countries (Donckels and Fröhlich, 1991), such firms have not been an explicit focus of empirical research in the United Kingdom. Detailed research surrounding the nature and scale of family firm activity is surprisingly absent in the United Kingdom\(^2\). Research in the United Kingdom has primarily focused on detailed company histories of family firms (Barker, 1977; Rose, 1986), although exceptions include the work by Nenadic (1993) on small enterprises in Victorian Britain and by sociologists interested in family-related issues (Wheelock, 1992)\(^3\).

Nevertheless, there has been a call for additional research to provide insights into the nature and scale of family firm activity in the United Kingdom. For example, Stoy Hayward (1989) suggest additional research should focus upon the following areas: the size and relative importance of the family business sector within the United Kingdom economy, the structure of the family business sector in terms of the distribution of firms by size, age and sector and the profitability of family business concerns compared to non-family concerns. Moreover, this research gap still remains as pointed out by Cromie et al., (1995, p.29):

"Family firms are important entities in many economies and further research into their structure and dynamics is required urgently".

This paper contributes to the debate over the size and demographic characteristics of independent unquoted family companies in the United Kingdom. It begins with a critique of existing research on family firms. Hypotheses are then derived suggesting demographic contrasts between family and non-family companies. Alternative family company
definitions are then presented. The data upon which the univariate and multivariate analysis is conducted is described. Results are then presented and the derived hypotheses are formally tested. The final section concludes that the scale of family company activity in the United Kingdom's economy is, in part, definition dependent. Further, to avoid detecting 'sample' differences rather than 'real' characteristic and performance differences between family and non-family companies a 'matched' sample methodology is proposed for future univariate analysis.

CRITIQUING PRIOR WORK IN THIS AREA

Existing research on family firms is open to criticism. First, few studies have explored the characteristics and performance of family firms in the United Kingdom. Those which have been conducted have focused upon the characteristics and performance of quoted companies listed on the Stock Exchange (Stoy Hayward, 1992a). Analysis of quoted public companies, however,

"...while convenient from a data collection standpoint, are certainly confounded and limited in their explanatory power for the broad community of family firms" (Carsrud, 1994, p.40).

Second, there is also a

"...lack of consensus as to what defines a family firm" (Handler, 1989, p.259).

To date some studies have adopted a very broad definition (Cromie et al., 1995) whilst others have been more narrow (Binder Hamlyn, 1994). In some studies the definition is unclear (Birley, 1994).

Research in this area is also dogged by the absence of an agreed framework for either model development or for hypothesis formulation on the characteristics and performance of family and non-family firms (Brockhaus, 1994; Hoy and Verser, 1994). For example, Carsrud (1994, p.45) has recently concluded that,
"...family business is a field in search of a research paradigm".

Fourth, a number of studies have explored family firms in isolation. It is, however, now increasingly being appreciated that there is a need for more comparative studies to understand the differences between family and non-family firms as well as the relationship between the characteristics and performance of family versus non-family firms (Brockhaus, 1994; Dyer and Handler, 1994; Reynolds, 1995).

Fifth, a number of studies (Stoy Hayward, 1992b; Binder Hamlyn, 1994) have failed to control for the potentially distorting influence of having samples of family and non-family firms which are markedly different (Gartner, 1989) with regard to demographic variables (such as legal form, age of the business, principal industrial activity and location type of primary operational premises) which have been shown to be associated with business survival and growth (Birley and Westhead, 1990a; Storey, 1994a, 1994b). There is therefore the risk that sample differences may overwhelm any univariate analysis comparing the performance and strategic objectives of family and non-family firms. Consequently, strategic profile and performance differences previously identified between family and non-family firms may be due to 'sample' ('contextual') differences rather than 'real' family firm ownership and control factors.

This paper seeks to overcome these stated problems. The first is overcome by exploring the characteristics and performance of independent unquoted companies throughout the United Kingdom. The second is addressed by utilising five family company definitions. The third is overcome by the framing of specific testable hypotheses. The fourth problem is addressed by comparing the demographic characteristics of random samples of family and non-family unquoted companies. The fifth problem is overcome by isolating the demographic variables which may distort univariate comparisons of family and non-family firm characteristics and performance.
DERIVATION OF HYPOTHESES

This section formulates hypotheses derived from the literature to test whether there are statistically significant demographic differences between family and non-family companies.

Age of the Company

The average life-span of a family business in the United States is 24 years (Lansberg, 1983) and only 30% of family firms in the United States reach the second generation (Stoy Hayward, 1989). As a result, it has been suggested non-family firms will be older than family firms principally because the vast majority of family firms fail to survive the first generation (Ward, 1987). Supporting this hypothesis, Daily and Dollinger (1992) found small private family-owned and -managed manufacturing firms in Indiana in the United States were significantly younger than non-family firms. In marked contrast, the Stoy Hayward (1992b) survey of family and non-family unquoted and quoted companies in the United Kingdom showed family companies were longer established than non-family companies. The survival of individual small companies in the United Kingdom has, in part, been enhanced due to the advantages associated with limited liability status coupled with a rate of growth slow enough in small private firms to permit continued management by members of the founding family (Payne, 1984). This latter evidence lends to the following hypothesis:

\[ H_1: \] Family companies are older than non-family companies.

Size of the Company

Business size can be 'retarded' if a family management team is reluctant to raise external funds because they fear it will entail a loss of family control (for example, through the appointment of a 'stranger' to the board) (Church, 1969). Daily and Dollinger (1993) have
also argued that some family firms operate income substitution businesses with no plans to
grow in size\textsuperscript{4}. As a result, some family firms:

"...only grow at a pace consistent with meeting the advancement needs of
organizational members in the family system" (Daily and Dollinger, 1993, p. 81).

Supporting the above assertion, Daily and Dollinger (1993) found professionally managed
independent manufacturing firms with less than 500 employees were significantly larger in
terms of number of employees than family-owned and -managed firms. Similarly,
Reynolds (1995) study of new firms in Wisconsin in the United States noted non-family
firms were larger in employment size as well as sales revenue size\textsuperscript{5}. In marked contrast,
Donckels and Fröhlich (1991) in their study of independent small and medium sized
manufacturing firms with less than 500 employees in eight European countries noted the
highest shares of family firms were found in the smallest firm categories. Cromie et al.,
(1995) in their study of family and non-family quoted and unquoted companies in Ireland
also found family firms were smaller in terms of employment and sales turnover than non-
family firms\textsuperscript{6}. Conversely, in the United Kingdom, Stoy Hayward (1992b) found no
major differences in either employment or sales revenue size between family and non-
family companies. Nevertheless, we identify the following hypotheses:

H\textsubscript{2a}: Family companies are smaller in employment size than non-family companies.

H\textsubscript{2b}: Family companies are smaller in sales revenue size than non-family companies.

Principal Industrial Activity of the Company
In the United States, Reynolds (1995) found new family firms were less likely to be
engaged in manufacturing and business services. However, family firms in the United
Kingdom have been found to over-represented in a number of industrial sectors. For
example, in 1971, Merrett Cyriax Associates found over 67% of surveyed small firms
engaged in wholesale and retail activities were family firms compared with only 38% in manufacturing. More recently, Stoy Hayward (1992b) found a larger proportion of services businesses were family companies. Gasson et al., (1988) have also noted the majority of farms in the United Kingdom are family businesses. We, therefore, suggest the following hypotheses:

\( H_{3a} \): Family companies are over-represented in agriculture, forestry and fishing activities compared with non-family companies.

\( H_{3b} \): Family companies are under-represented in manufacturing activities compared with non-family companies.

\( H_{3c} \): Family companies are over-represented in construction activities compared with non-family companies.

\( H_{3d} \): Family companies are over-represented in services activities compared with non-family companies.

**Location of the Company**

Resource exchange theory (Pfeffer and Salancik, 1978) suggests the formation, survival and growth of firms is directly related to each firm's ability to gain access to a predictable, uninterrupted supply of critical resources. The availability of critical resources (such as customers, suppliers, finance, machinery, skilled labour, etc) (Birley and Westhead, 1993) may be spatially uneven with some environments (or locations) being more resource rich (or 'munificent') than others. However, the availability of resources is not the only factor influencing firm survival and growth (Porter, 1990). For example, population ecologists suggest the processes of density (and 'carrying capacity'), legitimisation and competition play a role in determining the size of organisational populations (Hannan and Freeman,
1989; Hannan and Carroll, 1992). Within this perspective, the formation as well as the survival and growth of firms is not only related to the availability of critical resources but also to the ability to gain legitimacy as well as the ability to compete in saturated markets. As a result,

"...environmental advantages must be juxtaposed with selective external pressures" (Vaessen and Keeble, 1995, p.491).

Many family and non-family firms are established in urban and prosperous areas responding to the availability of resources and market opportunities. These environments are associated with high levels of new firm entry (relative to the total stock of businesses) (Keeble and Walker, 1994). Over time environments with high levels of new firm entry (and growing business stocks) may reach their 'carrying capacity' level. In addition, there may be intense competition for resources. Competition and resource scarcity may 'push' a number of new as well as more established firms out of business. Consequently, some saturated urban areas (at their business stock carrying capacity level) associated with high levels of new firm entry as well as exit (Westhead and Birley, 1994) may not be conducive environments for the long-term survival of family businesses. Supporting this viewpoint, it has been suggested (O'Farrell and Hitchens, 1989; O'Farrell et al., 1992, 1993) that the South East of England provides a favourable 'munificent' environment for small firm growth. However, this environment is associated with sophisticated consumer demands and intense inter-firm competition which can influence business competitiveness and ultimately survival. In marked contrast, environments in peripheral and historically declining 'northern' regions (associated with Government 'assisted' area status) (Birley and Westhead, 1990b, 1992) are generally less 'munificent' environments for new firm formation, survival and growth. Nevertheless, in peripheral and historically declining areas businesses,

"...which are established may at least survive longer than in the South East precisely because of a lack of intense local competition..." (Vaessen and Keeble, 1995, p.491).
An historical analysis of the survival of English and Scottish companies has, in part, supported this assertion. Most notably, Payne (1984) found companies in Scotland (essentially a peripheral region of the United Kingdom) were more likely to survive.

We, therefore, tentatively identify the following hypotheses:

$H_{4a}$: Family companies are over-represented in 'rural' areas compared with non-family companies$^8$.

$H_{4b}$: Family companies are over-represented in government designated 'assisted' areas compared with non-family companies.

$H_{4c}$: Family companies are over-represented in peripheral standard regions compared with non-family companies$^9$.

DEFINITION OF A FAMILY COMPANY

Broad all-embracing definitions of a family company, such as those which focus on the degree to which the owners' family dynamics influence managerial behaviour (Donnelley, 1964), have been questioned on the grounds that they are too 'inclusive' (Lansberg et al., 1988). Similarly, a definition which requires both that majority ownership or control reside within a single family, and that at least two or more family members are involved in management of the business (Rosenblatt et al., 1985), has been regarded as being too 'restrictive' (Lansberg et al., 1988). Whilst no single definition of a family firm addresses all concerns it has been appreciated,

"...until researchers agree on what a family business is, they will find it difficult to build on each other's work and to develop a usable knowledge base" (Lansberg et al., 1988, p.2)$^{10}$. 


A review of the literature (Table 1) suggests any family firm definition should incorporate the following three intertwined areas (Churchill and Hatten, 1987; Hoy and Verser, 1994): ownership of the business, managerial control of the business and family issues.

These three areas are used in Figure 1 to produce five operational definitions of an independent unquoted family company. The first criterion shown in row 2 is the ownership of the company. Here we define a family company as one in which more than 50% of the voting shares are owned by a single family group related by blood or marriage. The second criterion is whether the company is perceived to be a family company by the owner(s). This is shown in row 3. The third criterion is whether the company is managed by the family, and this is shown in row 4. Finally, in row 5 we distinguish between first and subsequent generation companies.

Using these criteria it is then possible to identify five definitions of a family company as follows11, 12:

(1) More than 50% of voting shares are owned by a single family group related by blood or marriage (categories a, b, c, d, e, f and g combined in Figure 1).

(2) More than 50% of voting shares are owned by a single family group related by blood or marriage and the company is perceived to be a family business (categories a, b, c, d, e and f combined).

(3) More than 50% of voting shares are owned by a single family group related by blood or marriage, the company is perceived to be a family business and one or more of the management team is drawn from the largest family group who own the company (categories a, b, c, and d combined).

(4) More than 50% of voting shares are owned by a single family group related by blood or marriage, the company is perceived to be a family business and 51% or
more of the management team are drawn from the largest family group who own the company (categories a and b combined).

(5) More than 50% of voting shares are owned by a single family group related by blood or marriage, the company is perceived to be a family business, one or more of the management team are drawn from the largest family group who own the company and the company is owned by second generation or more family members (categories b and d combined)\textsuperscript{13}.

Each of these definitions will now be used to test the hypotheses outlined earlier.

DATA COLLECTED
No sampling frame of family and non-family firms exists in the United Kingdom. Nevertheless, sampling quotas by four broad industrial categories (agriculture, forestry and fishing, production, construction and services) and eleven standard regions were ascertained from summary tables detailing the population of legal units (or businesses) registered for Value-Added-Tax (VAT) in 1993 (Central Statistics Office, 1994). Based on this distribution, industry and locational sampling proportions were simultaneously identified for a stratified random sample of family and non-family private limited liability unquoted companies throughout the United Kingdom.

Since inter-generational issues are of particular importance for the owners of family firms, the sample comprises primarily independent unquoted companies which were at least ten years old\textsuperscript{14, 15}. Dun and Bradstreet provided the database for this stratified random sample of unquoted companies engaged in the manufacturing, selling or the provision of products or services for the purpose of making profits\textsuperscript{16}. Names and addresses of 2,950 companies were abstracted. Data on the employment sizes and sales revenues of selected companies as well as the year of registration, principal industrial activity (by Standard
Industrial Categories (SIC) (1980)) and the name of the key individual in the company were also collected.

These data were then merged with One Source and the Financial Analysis Made Easy (FAME) databases as well as the Dun and Bradstreet Who Owns Whom directories to enable the ownership status of the 2,950 companies to be ascertained. Organisations which were either public limited companies or subsidiaries of larger groups were removed from the sampling frame. In addition, the British Telecom on-line telephone number database has been utilised to identify whether each company on the Dun and Bradstreet database had a telephone number at the address provided. Companies with no recorded telephone number at the addresses provided by Dun and Bradstreet were also removed from the sampling frame.

After a detailed 'cleaning' of the Dun and Bradstreet list 1,675 names and addresses of potential independent limited liability unquoted companies were identified. This list, however, failed to adequately correspond to the sampling proportions (by industry and region) identified from the VAT distribution. Hence using the VAT sampling proportions, a stratified random sample (by industry and region) of 905 companies was drawn from the 'cleaned' list of companies.

During May 1995, structured questionnaires were sent by post to the 905 contact points on the Dun and Bradstreet database (generally the owner/manager in charge of the company)\(^{17, 18}\). In total, 427 valid questionnaires were returned and a 48% valid response rate was achieved. This is a very favourable response rate when compared with other similar studies (Storey, 1994a, p.xvi-xvii).

Chi-square and Student's 't' test analyses revealed no statistically significant survey response bias between the respondents and non-respondents (with regard to industry; location of the business by standard region as well as urban and government designated 'assisted' area location; age of the company; employment size of the company; and the sales revenue of the company). As a result, a unique and representative stratified random sample of family and non-family independent unquoted companies has been carefully gathered across a wide variety of industries and regions throughout the United Kingdom.
RESULTS

Numbers of Family and Non-Family Companies

With regard to family definition (1) - the broadest definition - Table 2 shows 345 family unquoted companies (80.8%) meet the single ownership criterion that more than 50% of the voting shares are owned by a single family group by blood or marriage. This table (as well as Figure 1) also shows there is a reduction in the number of family companies when additional selection criteria are utilised to define a family company. Interestingly, 73 companies (17%) with more than 50% of voting shares owned by a single family group by blood or marriage do not perceive their company to be a family business (category g in Figure 1). As a result, only 272 companies (63.7%) have more than 50% of the voting shares owned by a single family group as well as having respondents who perceive their company to be a family business (definition (2)). Further, only 122 companies (28.6%) can be regarded as family companies with regard to selection criteria associated with definition (5).

Demographic Contrasts between Family and Non-Family Companies: Univariate Analysis

Student's 't' and chi-square tests were conducted to identify statistically significant demographic differences between family and non-family companies. Statistically significant differences are detailed in Table 3.

Row 1 in Table 3 shows family companies are significantly older than non-family companies using four out of the five family company definitions. As a result, hypothesis $H_1$ has been confirmed.

Family companies are also consistently smaller in employment (row 2) as well as sales revenue size (row 3) than non-family companies with regard to all five definitions. However, with reference to only definition (4) is a statistically significant contrast detected between the two groups. As a result, hypothesis $H_{2a}$ and $H_{2b}$ are tentatively supported.
With regard to definitions (2), (3) and (5) family companies are significantly over-represented in agriculture, forestry and fishing activities (SIC 0) (row 4). Consequently, hypothesis H3a has been confirmed.

As anticipated, a smaller proportion of family companies are engaged in manufacturing activities (SIC's 2, 3 and 4) than non-family companies (rows 5, 6 and 7). However, no statistically significant differences are recorded between the two groups across all five definitions. As a result, hypothesis H3b cannot be supported.

Family companies are over-represented in construction activities (SIC 5) with regard to definitions (3), (4) and (5), although not in a statistically significant direction (row 8). Hence, hypothesis H3c cannot be confirmed.

Using definitions (2), (3) and (5) family companies are significantly over-represented in 'distribution, hotels and catering; repairs' (SIC 6) (row 9). Moreover, using family company definitions (2), (4) and (5), family companies are significantly under-represented in 'banking, finance, insurance, business services and leasing' (SIC 8) (row 11). Although not in a statistically significant direction, non-family companies are generally over-represented in 'transport and communication' activities (SIC 7) (row 10). Overall, this implies that family companies are over-represented in activities with low capital requirements. Services activities which require large initial (as well as additional) capital requirements, however, are associated with markedly more non-family rather than family companies. Consequently, hypothesis H3d cannot be conclusively supported.

The majority of family and non-family companies are located in urban areas. Moreover, as anticipated, family companies are clearly and consistently over-represented in rural areas with regard to definitions (2), (3) and (4) (row 13). As a result, hypothesis H4a is confirmed.

Family companies are over-represented in Government designated assisted areas in Great Britain with reference to definitions (3), (4) and (5). However, no statistically significant differences are observed between the two groups across all five definitions (row 14). Hypothesis H4b is, therefore, not conclusively supported.
As anticipated, family companies are under-represented in the core and more prosperous South East standard region of England (associated with the Greater London agglomeration). With regard to definitions (2), (3) and (5) family companies are significantly under-represented in this saturated region with a dense stock of businesses (row 19). Interestingly, in the rest of the 'south' of England (the East Anglia and South West standard regions) (Birley and Westhead, 1990b), associated with higher levels of employment in agricultural activities and rural locations, family companies are consistently over-represented across all five definitions (rows 15 and 20). However, only in the South West of England (row 20) are family companies significantly over-represented with reference to definition (1). In addition, a larger proportion of companies in the more peripheral areas associated with declining traditional industries such as Scotland (row 24), Wales (row 25) and the North West of England (row 18) family companies are markedly more prevalent than non-family companies, although not in a statistically significant direction. Interestingly, family companies are significantly over-represented in the East Midlands of England (row 16) with reference to definitions (2), (3) and (5). The diverse industrial structure of the East Midlands economy as well as the distribution of firms across a variety of employment size groups (Gudgin, 1978) appears, in part, not only to encourage the formation of family companies in this region but also their survival. Consequently, hypothesis H\textsubscript{4c} can be tentatively supported.

**Demographic Contrasts between Family and Non-Family Companies: Multivariate Analysis**

Demographic contrasts between family and non-family companies were also explored within a multivariate framework to identify the combination of characteristics which best discriminate between the two groups of companies. Logit regression analysis enables the effect on one demographic variable, such as the age of the company to be identified while controlling for other influences such as location and industry effects. Table 4 details five parsimonious 'best fit' logit models (Norusis, 1990) each of which identify a series of
demographic variables associated with family companies. In each of the models a binary dependent variable has been constructed. A score of '0' was given to non-family company respondents whilst a score of '1' was recorded for family company respondents.

Table 4 shows model 1 (utilising family company definition (1) which requires family companies to have more than 50% of voting shares owned by a single family group related by blood or marriage) is overall statistically significant at the 0.001 level of significance. As hypothesised, family companies are significantly more likely to be older (row 1). Moreover, they are significantly over-represented in the South West of England (row 4).

Turning now to family company definition (2) (which requires family companies to have more than 50% of voting shares owned by a single family group related by blood or marriage and the company is perceived to be a family business) model 2 is also statistically significant at the 0.001 level of significance. As found in model 1, family companies are significantly older (row 1). They are also significantly less likely to be engaged in the 'extraction of minerals and ores other than fuels; manufacture of metals, mineral products and chemicals' (SIC 2) (row 2). Contrary to expectation, family companies are, however, significantly over-represented in urban areas (row 6).

In model 3 (associated with definition (3) which requires family companies to have more than 50% of voting shares owned by a single family group related by blood or marriage, the company is perceived to be a family business and one or more of the management team is drawn from the largest family group who own the company) family companies are significantly older (row 1). As found in model 2, family companies are significantly under-represented in rural areas (row 6). In addition, they are significantly less likely to be engaged in the 'extraction of minerals and ores other than fuels; manufacture of metals, mineral products and chemicals' (SIC 2) (row 2). However, in marked contrast to models 1 and 2, family companies (but supporting the earlier univariate analysis) are significantly over-represented in the East Midlands of England (row 5).

Model 4 (associated with definition (4) which requires family companies to have more than 50% of voting shares owned by a single family group related by blood or
marriage, the company is perceived to be a family business and 51% or more of the
management team are drawn from the largest family group who own the company) is
overall statistically significant at the 0.01 level of significance. Two statistically significant
variables are included in this model associated with definition (4). Family companies are
significantly over-represented in urban areas (row 6) and in the South West of England
(row 4).

Model 5 (associated with definition (5) which requires family companies to have
more than 50% of voting shares owned by a single family group related by blood or
marriage, the company is perceived to be a family business, one or more of the
management team are drawn from the largest family group who own the company and the
company is owned by second generation or more family members) includes two statistically
significant demographic variables. This overall model is statistically significant at the
0.001 level of significance. As anticipated, family companies are significantly older (row
1). Further, supporting the univariate analysis, family companies are significantly under-
represented in 'banking, finance, insurance, business services and leasing' (SIC 8) (row 3).

Overall, the multivariate analysis confirms and strengthens the results from the
univariate analysis and suggests that a variety of demographic factors distinguish family
companies from non-family companies. However, an interesting feature when comparing
the univariate (Table 3) and multivariate results (Table 4) is that the predicted signs on the
rural variable changes from positive in the univariate tests to negative in a multivariate
framework. This suggests whilst there may be a significantly greater proportion of family
companies in rural areas per se, once other factors, primarily age and sector of the business
are controlled for, we find using definitions (2), (3) and (4) they are significantly over-
represented in urban areas.
CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

This study has shown that the scale of family company activity is sensitive to the definition employed. A broad and all-embracing definition (based on majority share ownership in a single family group) suggests 81% of independent unquoted companies (which are ten or more years of age) in the United Kingdom can be regarded as family companies. However, when additional criteria are incorporated into the definition, the scale of family company activity in the British economy is reduced. Thus, only 29% of companies can be regarded as family companies where the definition requires an ownership transition the majority of shares are owned by a single family group who manage the company and the company is perceived to be a family business.

Results from the univariate as well as the multivariate analysis, across all five presented family company definitions, suggest 'sample' demographic differences exist between family and non-family companies. Overall, the univariate analysis revealed family companies are generally older (and smaller). Family companies are over-represented in sectors such 'agriculture, forestry and fishing' and 'distribution, hotels, catering; repairs'. They are under-represented in urban areas and in the South East of England. Within a multivariate framework presented logistic regression models also noted a series of effects (such as age of the company, location of the company and main industrial activity of the company) combine together to significantly differentiate family from non-family companies.

Results from the multivariate analysis suggest a combination of demographic variables (such as the age of the company and principal industrial activity and location type of the company) can potentially distort a univariate comparison of the size and performance of family and non-family companies. Consequently, future studies exploring the performance of family and non-family companies, however defined, should control for the potentially distorting influence of demographic characteristics. For example, researchers exploring performance differences between family and non-family firms solely within a univariate framework should consider using a matched pairs methodology (Westhead, 1995) to detect 'real' performance rather than 'sample' differences.
This study highlights the need for more careful and sophisticated multivariate analysis which will detect, across a wide variety of family firm definitions, whether family firms outperform non-family firms with regard to a variety of financial and non-financial performance indicators. Future research should explore whether family ownership (and family managerial control) is a key factor enhancing business performance. There is also an urgent need for more comparative empirical analysis surrounding the characteristics and performance of different 'types' of family firms in order to develop better theory (Dyer and Handler, 1994). This additional research will enhance our understanding of the issues influencing the stability and security of families who own and operate family businesses. In addition, it will provide policy-makers and advisers with detailed information to develop policies and programmes that foster family businesses.
FOOTNOTES

1. Donckels and Fröhlich (1991) noted 67% of independent small and medium-sized manufacturing firms in the United Kingdom were family firms whilst Stoy Hayward (1992b) in their study of unquoted and quoted companies found 76% of companies were family-owned. More recently, Binder Hamlyn (1994) reported 70% of surveyed private companies in the United Kingdom were traditional family-owned companies.

2. A notable exception to this is the work by Leach (1994), yet even here his focus has been upon managing the family business, rather than assessing its economic performance.

3. The form of previous research has generally reflected the particular strengths and skills of researchers and practitioners. However, Brockhaus (1994) has recently questioned the practical value of prescriptive research.

4. On two counts professional managers of non-family managed firms seeking personal gain may prefer to work in large sized businesses (by employment or sales revenue) which pursue activities to maximise sales revenues (Daily and Dollinger, 1993). First, larger firms generate slack resources that can be used to buffer the consequences of poor decisions or smooth out variations in performance. Second, the larger the size of the firm may justify higher wages for professional managers and other forms of executive compensation which may be expense of business profitability.

5. Reynolds (1995) noted marked industrial and locational contrasts between family and non-family firms. Consequently, the employment and sales revenue differences detected by Reynolds may simply reflect 'sample' rather than 'real' differences between the two groups of new firms.

6. On a number of counts reported size differences reported by Cromie et al., (1995) need to be treated with some caution. First, no attempt was made to identify any survey response bias with regard to the characteristics of the respondents and non-respondents. Second, important firm characteristics were identified between family
and non-family firms. They found family firms were younger and were less likely to be engaged in manufacturing activities than non-family firms. As a result, the employment and sales revenue size differences may reflect 'sample' rather than 'real' differences.

7. Because manufacturing firms have higher requirements for additional capital than services firms it has been suggested that additional equity investors can markedly decrease the likelihood of a manufacturing firm remaining a family controlled business (Daily and Dollinger, 1992).

8. In marked contrast, Reynolds (1995) found family firms were significantly over-represented in urban areas.

9. Vaessen and Keeble (1995, p.493) have suggested in peripheral areas, associated with more modest resource availability "...only' the best among potential entrepreneurs actually attempt to set up a business of their own, in South East England this is less the case, precisely because of lower barriers to entry due to favourable land environmental conditions".

10. A detailed discussion of alternative definitions of family business has been presented by Handler (1989). In her review she noted the following issues were frequently used to define family firms: the degree of ownership and/or management by family members; the degree of family involvement; the potential for generational transfer; and some have considered multiple conditions.

11. These definitions "...indicate current family involvement in the business, even though these family members may not necessarily be in line for succession, would qualify the organization as a family business" (Handler, 1989, p.262).

12. Externally owned but family managed firms (category h in Figure 1) are generally not regarded as family firms because the controlling interest does not reside within a single family group (Alcorn, 1982).

13. Churchill and Hatten (1987) and Ward (1987) have suggested a very conservative definition of a family firms were there must be the actual (or potential) transfer of the business from one generation to another.
14. Smallbone and North (1995) have recently asserted the contribution of more mature independent firms to economic performance should not be overlooked.

15. The family business surveyed conducted by Smyrnios and Romano (1994) in Australia also focused on established and mature businesses.

16. The Dun and Bradstreet database has been widely used by researchers exploring the performance of small firms (Cambridge Small Business Research Centre, 1992). In fact, Gallagher and Doyle (1986, p.53) suggest this database is "...probably the only one which can give an insight into the whole economy". Despite this, the Dun and Bradstreet credit-rating database suffers from a number of limitations. Most notably, the database does not exhaustively identify all new and small firms (Storey and Johnson, 1986). However, for a study of independent family and non-family unquoted companies which are ten or more years of age this is not a serious limitation.

17. The strengths and weaknesses of the postal questionnaire method data collection method have been highlighted elsewhere (Moser and Kalton, 1971; de Vaus, 1991).

18. After four weeks, 278 valid questionnaires were returned. In order to increase the response rate to the survey a reminder letter as well as a questionnaire was sent out to all non-responding companies. A further 101 valid questionnaires were returned as a result of this second 'hit'. A third and final reminder letter and questionnaire was sent out eight weeks later to all non-responding companies. During this third 'hit' 48 valid questionnaires were returned. Also, during the four month data collection period a further 18 companies indicated they were either subsidiaries, currently not trading or were now public limited companies. These non-valid respondents have subsequently been removed from the sampling frame. Overall, 427 valid responses have been obtained from a valid sample of 887 unquoted companies.
REFERENCES


<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Family business definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family ownership</strong></td>
<td></td>
</tr>
<tr>
<td>Donckels and Fröhlich (1991, p.149).</td>
<td>Family members in one family own 60% or more of the equity in the business.</td>
</tr>
<tr>
<td><strong>Family involvement</strong></td>
<td></td>
</tr>
<tr>
<td>Binder Hamlyn (1994, p.10).</td>
<td>The directors in the company had a family relationship.</td>
</tr>
<tr>
<td>Carsrud (1994, p.40).</td>
<td>A firm's ownership and policy making are dominated by members of an 'emotional kinship group' whether members of that group recognise the fact or not.</td>
</tr>
<tr>
<td><strong>Family management</strong></td>
<td></td>
</tr>
<tr>
<td>Daily and Dollinger (1992, p.126; 1993, p.83).</td>
<td>Two or more individuals with the same last name were listed as officers in the firm and/or the top/key managers were related to the owner working in the business.</td>
</tr>
<tr>
<td><strong>Multiple conditions (family ownership; family involvement; family management; generational transfer)</strong></td>
<td></td>
</tr>
<tr>
<td>Church (1969, p.211).</td>
<td>The whole capital is privately held, practically all the important and administrative posts are filled by members of the family.</td>
</tr>
<tr>
<td>Channon (1971, p.161).</td>
<td>A family member was a chief executive officer, if there had been at least two generations of family control and a minimum of 5 per cent of the voting stock was still held by the family or trust interests associated with it.</td>
</tr>
<tr>
<td>Gasson et al., (1988, p.2).</td>
<td>A family business satisfied one or more of the following conditions: a) the principals are related by kinship or marriage, b) business ownership is usually combined with managerial control and c) control is passed from one generation to another within the same family.</td>
</tr>
<tr>
<td>Stoy Hayward (1992b, p.3)</td>
<td>The family body has a considerable impact on the ongoing and future operations of the business and can also be considered where any one of the three following criteria are true: a) more than 50% of the voting shares are owned by a single family; b) a single family group is effectively controlling the firm; and c) a significant proportion of the firm's senior management is drawn from the same family.</td>
</tr>
<tr>
<td>Smyrnios and Romano (1994, p.5)</td>
<td>A family business satisfied one or more of the following conditions: a) more than 50% of the ownership is held by a single family; b) more than 50% of the ownership is held by more than one family; c) a single family groups is effectively controlling the business; and d) a significant proportion of the senior management is drawn from the same family.</td>
</tr>
<tr>
<td>Cromie et al., (1995, p.15).</td>
<td>A family business satisfied one or more of the following conditions: a) more than 50 per cent of the shares are owned by one family; b) one family can exert considerable control over the business; c) a significant number of top managers are drawn from one family.</td>
</tr>
<tr>
<td>Reynolds (1995, p.8)</td>
<td>Three types of family businesses are identified: (a) sole proprietorships; (b) family businesses where more than 50% of the ownership is owned by family or kin and 50% or more of family or kin are on the management team; and (c) family businesses where more than 50% of the ownership is owned by family or kin but less than 50% of family or kin on the management team.</td>
</tr>
<tr>
<td>Family company definition</td>
<td>Family company</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>(1)</td>
<td>345</td>
</tr>
<tr>
<td>(2)</td>
<td>272</td>
</tr>
<tr>
<td>(3)</td>
<td>265</td>
</tr>
<tr>
<td>(4)</td>
<td>139</td>
</tr>
<tr>
<td>(5)</td>
<td>122</td>
</tr>
</tbody>
</table>

Notes:
1. More than 50% of voting shares are owned by a single family group related by blood or marriage (categories a, b, c, d, e, f and g combined in Figure 1).
2. More than 50% of voting shares are owned by a single family group related by blood or marriage and the company is perceived to be a family business (categories a, b, c, d, e and f combined).
3. More than 50% of voting shares are owned by a single family group related by blood or marriage, the company is perceived to be a family business and one or more of the management team is drawn from the largest family group who own the company (categories a, b, c, and d combined).
4. More than 50% of voting shares are owned by a single family group related by blood or marriage, the company is perceived to be a family business and 51% or more of the management team are drawn from the largest family group who own the company (categories a and b combined).
5. More than 50% of voting shares are owned by a single family group related by blood or marriage, the company is perceived to be a family business, one or more of the management team are drawn from the largest family group who own the company and the company is owned by second generation or more family members (categories b and d combined).
<table>
<thead>
<tr>
<th>Demographic variables (a)</th>
<th>(1)</th>
<th>Family company definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age of the company (years)</td>
<td>++</td>
<td>--</td>
</tr>
<tr>
<td>2. Number of employees</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>3. Sales revenues (£'s)</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>4. Agriculture, forestry and fishing (SIC 0) (0 = no; 1 = yes)</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>5. Extraction of minerals and ores other than fuels; manufacture of metals, mineral products and chemicals (SIC 2) (0 = no; 1 = yes)</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>6. Metal goods, engineering and vehicle industries (SIC 3) (0 = no; 1 = yes)</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>7. Other manufacturing industries (SIC 4) (0 = no; 1 = yes)</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>8. Construction (SIC 5) (0 = no; 1 = yes)</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>9. Distribution, hotels and catering; repairs (SIC 6) (0 = no; 1 = yes)</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>10. Transport and communication (SIC 7) (0 = no; 1 = yes)</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>11. Banking, finance, insurance, business services and leasing (SIC 8) (0 = no; 1 = yes)</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>12. Other services (SIC 9) (0 = no; 1 = yes) n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>13. 'Rural' location (0 = no; 1 = yes) (b)</td>
<td>+++</td>
<td>+++</td>
</tr>
<tr>
<td>14. Government designated 'assisted' area in Great Britain (0 = no; 1 = yes)</td>
<td>++</td>
<td></td>
</tr>
<tr>
<td>15. East Anglia (0 = no; 1 = yes) n.a.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. East Midlands (0 = no; 1 = yes) n.a.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. North (0 = no; 1 = yes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. North West (0 = no; 1 = yes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. South East (0 = no; 1 = yes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. South West (0 = no; 1 = yes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. West Midlands (0 = no; 1 = yes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Yorkshire &amp; Humberside (0 = no; 1 = yes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Northern Ireland (0 = no; 1 = yes) n.a.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Scotland (0 = no; 1 = yes) n.a.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Wales (0 = no; 1 = yes) n.a.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: (a) Based on data supplied by Dun and Bradstreet.
(b) Companies located in an area with less than 10,000 people were regarded as being ‘rural’ companies (Westhead, 1995).

+ Family companies significantly over-represented.
++ Family companies significantly over-represented. Chi-square statistic statistically significant at the 0.1 level of significance.
+++ Family companies significantly over-represented. Chi-square statistic statistically significant at the 0.05 level of significance.
++++ Family companies significantly over-represented. Chi-square statistic statistically significant at the 0.01 level of significance.
+++++ Family companies positively associated with the demographic variable. Student’s ‘t’ test statistic (one-tailed test) statistically significant at the 0.001 level of significance.
- Family companies significantly under-represented. Chi-square statistic statistically significant at the 0.1 level of significance.
-- Family companies significantly under-represented. Chi-square statistic statistically significant at the 0.05 level of significance.

n.a. Due to the assumptions of the chi-square test it was not possible to calculate a coefficient based on the data supplied by Dun and Bradstreet.
Table 4 Logit Models of Demographic Variables Associated with Family Company Respondents (0 = Non-Family Company; 1 = Family Company)

<table>
<thead>
<tr>
<th>Demographic variables (a)</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
<th>MODEL 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>S.E.</td>
<td>β</td>
<td>S.E.</td>
<td>β</td>
<td>S.E.</td>
</tr>
<tr>
<td>1. Age of the company (years)</td>
<td>0.02***</td>
<td>0.01</td>
<td>0.02***</td>
<td>0.01</td>
<td>0.02***</td>
<td>0.01</td>
</tr>
<tr>
<td>2. Extraction of minerals and ores other than fuels; manufacture of metals; mineral products and chemicals (SIC 2) (0 = no; 1 = yes)</td>
<td>-1.10*</td>
<td>0.65</td>
<td>-1.15*</td>
<td>0.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Banking, finance, insurance, business services and leasing (SIC 8) (0 = no; 1 = yes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. South West (0 = no; 1 = yes)</td>
<td>0.17**</td>
<td>0.09</td>
<td></td>
<td></td>
<td>0.07</td>
<td>0.04</td>
</tr>
<tr>
<td>5. East Midlands (0 = no; 1 = yes)</td>
<td></td>
<td></td>
<td></td>
<td>0.49**</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>6. ‘Rural’ location (0 = no; 1 = yes)</td>
<td></td>
<td></td>
<td>-0.79***</td>
<td>0.27</td>
<td>-0.88***</td>
<td>0.27</td>
</tr>
<tr>
<td>Constant</td>
<td>43.67***</td>
<td>15.19</td>
<td>48.44***</td>
<td>11.55</td>
<td>48.71***</td>
<td>11.36</td>
</tr>
</tbody>
</table>

Model chi-square
Model chi-square significance
-2 log likelihood
Number of companies

Notes: (a) Based on data supplied by Dun and Bradstreet.
* Significant at the 0.1 level of significance.
** Significant at the 0.05 level of significance.
*** Significant at the 0.01 level of significance.
**** Significant at the 0.001 level of significance.
Figure 1  Numbers of Family and Non-Family Unquoted Companies