SEEDCORN OR CHAFF? UNEMPLOYMENT AND SMALL FIRM PERFORMANCE

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Abstract

It is commonly contended that unemployment is an important stimulus to new firm formation. It is also argued that this stimulus reduces the dynamism of the small firm sector as founders of firms who were previously unemployed are inferior entrepreneurs. This paper seriously questions this conclusion. Evidence from a national survey of small and medium-sized businesses is used to examine in detail the role of the unemployment push mechanism of new firm formation and the relative performance of firms established by unemployed founders. The empirical evidence, covering a range of indicators, shows that employment status of the founder produces no significant difference in firm performance.

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Introduction

The impact of unemployment on entrepreneurship is a contentious issue. Many commentators see unemployment as being an important stimulus to new firm formation; but a stimulus that reduces the dynamism of the small firm sector. In 1993 the review of the Economic and Social Research Council's Small Business Research Programme (Smith, 1993) reported that a broad conclusion of the research "is that the most successful small businesses are those set up for positive reasons, rather than as alternatives to redundancy or unemployment".[1] This paper seriously questions this conclusion. Evidence from the national survey of small and medium sized businesses conducted by Cambridge University's Small Business Research Centre (SBRC), itself part of the ESRC programme, is used to examine in detail the relative performance of firms established by unemployed founders. The results question the conventional wisdom that the unemployed are likely to become inferior entrepreneurs.

This paper is organised into 8 parts. Following this introduction sections II and III consider the relationship between unemployment and new firm formation. Section IV considers the case for the inferior performance of firms established by founders who were previously unemployed. Section V describes the SBRC survey data. Section VI presents evidence from the SBRC survey on unemployment and new firm formation. Section VII presents evidence from the SBRC survey on the relative performance of firms with founders who were previously unemployed. Finally, section VIII makes some concluding comments.

Unemployment and Firm Formation: The Processes

The impact of unemployment on firm formation is subject to dispute. This reflects different theoretical and empirical evaluations of the relative size of "recession push" processes such as unemployment and "demand pull" processes such as economic growth. Knight (1921)

argued that individuals would choose employment or self employment on the basis of relative expected returns. Under condition of low growth and high unemployment, the relative advantage for the unemployed of forming a business increases due to the low probability of re-entering the employed labour force. Conversely, the relative advantage for the employed of forming a new firm diminishes as the probability of achieving business success is reduced by the low level of economic activity and the uncertainty associated with such conditions.

Unemployment and economic growth constitute the simple mechanisms through which recession push and demand pull processes operate. Other factors will condition their impact such as the availability of resources, start up costs, market structure, government policy and cultural attitudes towards entrepreneurship. In particular, the recession push process may also operate through the size of redundancy payments, through any impact on the cost and availability of capital equipment and through any depression induced structural change in industrial organisation. Johnson (1991) has suggested that redundancy payments provide many businesses with the capital to start new businesses. Furthermore, it has been suggested that recession induced firm closure increases the supply of low cost second-hand capital equipment enabling new firm formation (Binks and Jennings, 1986a). An additional impact of the temporary shock of the 1979-81 recession was to generate a persistent change in industrial organisation. The severity of the recession caused larger firms, in the pursuit of cost minimisation, to contract out "peripheral functions" (Schutt and Whittington, 1987), also encouraging the growth of new businesses.

Demand pull processes of new firm formation do not depend solely on the rate of economic growth but also on the changing structure of demand. In particular it has been argued that rising real incomes lead to a shift in demand away from mass produced goods to customised products (Piore and Sabel, 1984). The subsequent development of fragmented and niche markets provides a commercial environment conducive to new small firm entry.

There are a number of other factors independent, at least directly, of recession push and demand pull mechanisms, but identified as potentially important in the changing pace of new firm formation. Firstly, increased personal wealth due to house price inflation may have been an important source of collateral for all founders (Keeble, Walker and Robson, 1993). Secondly, the desire to establish a firm during the 1980s may been facilitated, although temporarily, by financial deregulation and the easier availability of finance. Thirdly, technological change has led to the development of new products and processes creating opportunities for new firms (Rothwell, 1982; Keeble and Weaver, 1986) and in many industries reducing the minimum efficient scale of production and thus barriers to entry. Fourthly, it has been argued that the Thatcher experiment since 1979 has increased new firm formation directly through policy initiatives such as the Enterprise Allowance Scheme and the Business Expansion Scheme and indirectly through the creation of an "enterprise culture". The reliability of this argument has been seriously questioned (Hughes, 1992; Blanchflower and Oswald, 1990) and the evidence from the national SBRC (1992) survey indicated that SMEs were generally dissatisfied with the overall impact of government policy.

Unemployment and Firm Formation: Empirical Research

A number of studies have attempted to quantify the number of new firms established by the unemployed. The results are rather contradictory. At one end of the scale studies by Cross (1981), Mason (1982), O'Farrell (1986) and Keeble and Gould (1985) find that less than 10% of firms are established by founders that were previously unemployed. Conversely, other studies identify a much higher proportion of firms being established by the unemployed. Binks and Jennings (1986b) found that 30% of new manufacturing firms in Nottingham established between 1978 and 1982 had founders that were previously unemployed. A study of new firms established in Cleveland during the 1970s (Storey, 1982) found that 28% of founders were unemployed or likely to become unemployed immediately prior to starting their business. The follow up study (Storey and Strange, 1992) identified a significant increase in the 1980s, the share of

unemployed founders in the same location expanding to 44%. An increase following the unemployment shock of the 1979-81 recession was also found by Mason (1982 and 1989) in South Hampshire; 6% of founders were unemployed, or had been made redundant, in a panel of firms established before 1980 compared to 27% in a panel of firms established after 1979.

The fact that recession push and demand pull factors are, albeit imperfectly, inversely related - low or negative growth being associated with high and rising unemployment - has also served to complicate quantitative assessment of causal processes. Studies by Harrison and Hart (1983), Foreman-Peck (1985), Hamilton (1986 and 1989) and Robinson (1992) have identified a positive causal link between unemployment and new firm formation. Similarly, studies by Johnson, Lindley and Bourlakis (1988) and Robson and Shah (1991) have suggested a positive relationship between unemployment and self employment. Alternatively, other studies suggest that unemployment is acting to discourage new firm formation. Binks and Jenninigs (1986a) consider that there has been a secular trend in new firm formation since the early 1970s, independent of changes in unemployment and Keeble, Walker and Robson (1993) consider that demand pull factors have been the dominant influence in the UK during the 1980s.

Unemployed Founders and Firm Performance: Conjectures and Evidence

The notion that unemployed founders of firms are likely to become inferior entrepreneurs is largely founded on conjecture rather than empirical evidence. This conjecture assumes that individuals pushed into entrepreneurship will be less able and will have less time to prepare an appropriate business strategy, to identify market niches and competitive conditions, and to develop new skills (Mason, 1989). This is supposed to lead to an undynamic small firm sector; recession induced new firms failing to generate significant new jobs and having a limited capacity for survival (Robson, 1992). Thus, in his analysis of new firm formation in interwar Britain, Foreman-Peck (1983)[2]

stated that firms founded by the unemployed would distort economic activity and "should not be regarded as seedcorn, but as chaff in the wind of economic recession" (p.403). Yet there is no evidence to support this contention; unemployment may have encouraged new firm formation in the interwar period but there is no evidence that subsequently these firms comprised an "inefficient sector of a dual economy"(p.406).

The argument for a "chaff" effect of unemployed founders is weak both theoretically and empirically. Implicit in the argument is an orthodox neoclassical model of labour market behaviour where the least productive worker is the first to be laid-off or made redundant. There are a number of flaws in this argument. First, in reality the process of labour market adjustment is less mechanistic and more random than in the orthodox model. Redundancy and unemployment affect a wide range of workers with different skills and attributes. Furthermore, the business cycle is an indiscriminate selector at the level of the firm. Following economic downturns it is often **not** the least efficient firms that go out of business. Second, even if unemployment is indicative of inferior job attributes it cannot be taken as indicative, *pari passu*, of inferior entrepreneurial attributes.

The search for recent empirical evidence[3] in support of the "chaff effect" in the British economy is a forlorn one. For instance in Mason (1989) it is stated that there is evidence that firms established due to redundancy, unemployment or job insecurity have a lower growth potential than firms started for 'positive reasons'. The references cited are Storey (1982) and Storey and Johnson (1987). Inspection of these two sources indicates that the latter (p.231) contains no independent evidence but itself refers to the former. The former reports the results of a study of 301 new firms in Cleveland in 1979 and concludes that firms established by 'forced' entrepreneurs "appear to perform well in terms of profitability, but relatively poorly in terms of employment size of their firms" (p.120).[4] Thus this evidence is inconclusive.[5] Furthermore, the results from more recent research (Storey and Strange, 1992), which repeated the Cleveland survey in 1990, suggests that it is not clear that previously unemployed founders performed less

well in terms of either profitability or firm size. Additionally, evidence from South Hampshire (Mason, 1989) indicates that there was no difference in major competitive strengths and marketing effort between firms established by unemployed and non-unemployed founders.

The SBRC Survey

The SBRC survey provides a unique source of data to assess the relationship between unemployment and new firm formation and growth. The survey was undertaken during the spring and summer of 1991 and provides a detailed national stock take of approximately 2000 small and medium-sized enterprises (SMEs). The sampling framework, and the respondents, was split equally between the manufacturing sector and the rapidly expanding business services sector, and within each was weighted towards larger SMEs in the 1-500 size range. Since it has been estimated that at the end of 1989, 98.8% of enterprises employed less than 50 people and 87.7% employed less than 5 (Daly and McCann, 1992), a sample design which was 'representative' in terms of all enterprises would have yielded insignificant numbers of respondents employing over 5 or even over 50 people (see SBRC (1992) for full details of the sampling framework and survey methods).

The survey requested a wide range of information on firm formation, markets, competition, employment, finance and technology. In terms of their origin the firms in the survey were asked "was your firm established as a result of the actual or potential unemployment of its founder(s)". The inclusion of the term "potential unemployment" was appropriate as it allowed the data to include those respondents who when threatened by potential unemployment, established firms and, therefore, never entered the unemployed ranks.

The survey provides a unique dataset that allows firstly, evaluation of the relationship between unemployment and firm formation and secondly, the comparative growth performance of firms established by unemployed founders. The dataset does not allow evaluation of the

comparative death rate of firms established by the unemployed although scrutiny of relative growth performance will allow us to speculate on any likely impact.

As with all survey data of this sort there a number of possible limitations that should be noted. Firstly, the quality of the data is dependent on the reliability of the respondents answers. It is possible that the reliability of the response to the question on the founder's employed status may decline with the age of the firm due to problems of recall and non-founder's completing the questionnaire on behalf of founders. Secondly, a number of firms may have been established by more than one founder, thus although one of more founders may have been previously unemployed, others may not. This may weaken the unemployment-push and "chaff" mechanisms although the former limitation only arises if there is some divisibility between the founders such that the firm would have been established without the unemployed founder - this will not always be the case. Thirdly, as the survey excludes single-person enterprises and parts of the service sector it does not provide evidence on those moving from unemployment to self-employment and those establishing businesses in such miscellaneous services as cleaning, hairdressing, vehicle repair etc. Fourthly, the vast bulk of the firms in the survey (87.5%) are limited companies whereas less than one in five of all business registered for VAT are incorporated. It has been argued (Storey, 1994a) that limited companies are more likely to be growth orientated. This bias, however, is more apparent than real. The larger representation of limited companies in the survey reflects, in the main[6], the sample framework being drawn equally from manufacturing and business service businesses and the added weight given to larger firms (see, SBRC (1992), Appendix). These imposed constraints increase the share of limited companies in the survey. Furthermore, the survey results indicate that the group of businesses founded by the unemployed and the group founded by the non-unemployed have similar proportions of limited companies.[7]

Unemployment and Firm Formation: Evidence from the SBRC Survey

There were 1808 respondents[8] to the question on the employed status of founder(s) and, as shown in Table I, 27.8% were pushed into entrepreneurship by actual or potential unemployment. This is consistent with those studies that see unemployment as a relatively important mechanism in new firm formation (see above). Unemployment was an equally important mechanism in manufacturing and services[9] but its importance varied according to firm size. Unemployment is a particularly important factor in the establishment of smaller firms. Using the employment indicator, nearly a third of firms in the 'micro' category report actual or potential unemployment as the reason for the formation of the firm. Similarly, nearly two in every five firms in the micro category, measured by turnover, cite it as a factor responsible for their business formation.

An interesting exception to the inverse relationship between unemployment push and firm size is that the role of unemployment in business formation is higher in larger firms (using the employment measure) than in medium-sized firms. This is possibly explained by the importance of unemployment in new firms established through management buyouts. As shown in Table I unemployment is relatively more important for this method of start-up. This suggests that unemployment (actual or potential) amongst middle and senior management had an important role in the formation of larger firms through the use of management buyouts.

The share of firms established by unemployed founders categorised according to the date of formation is shown in Table II. The share remained relatively stable until the 1970s, varying between a low of 12.9% for the period covering the first half of this century and 15.8% for the 1960s period. The major upward shifts have taken place during the past two decades, with a 10 percentage point increase in the 1970s followed by a similar increase in the 1980s. Figure 1 shows the role of unemployment in firm formation and the national unemployment rate[10] on an annualised basis between 1970 and

1990.[11] The unemployed founder series is very volatile, which is not surprising as it is based on survey data. What is apparent is that the increase in national unemployment during the 1980s was much greater than the upward shift in the relative role of unemployment in firm formation. The former increased by over 300% in the 1980s compared to the 1970s, whereas the latter only increased by 35% over the same period. In part this may reflect the importance of other factors increasing new firm formation by the non-unemployed during the 1980s, thus dampening the share (as opposed to the number) of unemployed founders. Figure 2 shows the share of unemployed founders in manufacturing and services. Despite the volatility in the series both sectors show a similar increase in trend. Averages for the two decades indicate that the unemployment factor was marginally higher in manufacturing than in services; for the 1970s the former averaged 28.8% and the latter 24%, for the 1980s the respective figures were 38.5% and 32.2%.

The evidence from the SBRC survey can be used to test the role of recession push and demand pull factors in new firm formation. If national unemployment was an important factor in new firm formation it should have caused an increase in the share of new firms established by the unemployed. Additionally, if increases in economic activity encouraged new firm formation the share of firms established by the non-unemployed would have increased (and the share of the unemployed decreased) as a higher number of the employed would have established businesses and the unemployed would have had greater opportunity of becoming re-employed. To test these hypotheses we can estimate the following equation:

$$USHARE = a + b\ URATE + cY \qquad (1)$$

where USHARE is the share of firms established by founders previously unemployed, URATE is the % unemployed and Y is an indicator of economic activity.

The results of estimating various forms of equation 1 are shown in Table III. The activity variable is expressed in growth terms and the equation is estimated for manufacturing and services as well as for all firms; a reduced form equation without the activity variable is also shown.[12] Although the explanatory power of the various forms of the equation in Table III are weak the variables have the expected sign and many are statistically significant. In equation (ii), for all firms, a 1% point increase in the unemployment rate increases the share of unemployed founders by 1.16% points. For manufacturing firms only, there is no significant evidence of either recession push or demand pull effects. Conversely, in the case of service firms, both the unemployment and activity variables are significant. The general form of the equation (vi) for this sector indicates that a 1% point rise in unemployment increases the share of unemployed founders by 1.5% and 1% growth in service sector output decreases the share by 3% points.

The results of this simple regression exercise give limited support to the existence of both recession push and demand pull effects, particularly in the service sector. It should be noted that as the SBRC survey is of surviving firms, the above exercise implicitly assumes that firms established by the unemployed and the non-unemployed had a similar death rate (see Mason 1989). If they did not then looking at a cohort of survivors may not help explain the process of new firm formation. This criticism would be given particular support if the performance of surviving firms differed according to the employment status of the founder. Simply, if firms established by the unemployed exhibited an inferior performance to those established by non-unemployed founders, this would suggest that death rates of the former would be greater than that of the latter. This issue is examined in the next section.

Unemployed Founders and Firm Performance: Evidence from the SBRC Survey

A number of criteria, of varying reliability, can be used to evaluate the relative performance of firms established by the unemployed. The

three most obvious comparisons are firstly, the average size of firm; secondly, the number of jobs generated; and, thirdly, the growth rate of employment. This study considers all three measures but the limitations of the first two approaches indicates the superiority of analysing the growth rate of employment as well as other growth rate measures.

Table IV shows the average size in 1990 of the firms established both by unemployed and non-unemployed founders. A comparison of firm size, using either the employment or the turnover measure, shows that firms established by non-unemployed founders are larger. This observation, however, is not sufficient evidence to indicate the inferiority of firms established by unemployed founders. Although average firm size has been used as an indicator of performance (Storey 1982; Storey and Strange, 1992), it suffers from a number of drawbacks which can result in misleading inferences. Additional factors need to be considered such as the changing importance of unemployment over time and the life cycle of the new firm. Simply, younger firms will tend to be smaller (in both employment and turnover terms) and, if recession push mechanisms are important, they are more likely to be established by unemployed founders due to the relatively recent rise of mass unemployment, particularly during the 1980s (see Table II).

Similar problems arise when comparing the number of jobs generated in the two groups of firms. As shown in Table V firms established by non-unemployed founders, on average, have generated more jobs than those firms established by unemployed founders. However, as noted above, the firms established by the unemployed are likely to be younger and with a smaller employment base. As the average larger firm contributes more to absolute job generation than the average smaller firm (SBRC, 1992), simple comparisons based on the employment status of the founder could be misleading. To help overcome this bias Table V also provides the average job generation in the two groups of firms *disaggregated by firm size*. In contrast to the aggregate results the firms established by unemployed founders generated, on average, more jobs in all size classes except medium

sized enterprises. This indicates that the different aggregate averages reflects compositional differences due to the contrasting size structures of the two groups of businesses.

Comparing growth performance overcomes some, if not all, of the problems of using firm size and absolute number of jobs generated as comparative measures. The SBRC survey provides information on growth objectives and, more importantly, a range of growth performance indicators.

The firms in the survey were asked to categorise their growth objectives over the next three years. The aspirations of firms established by the unemployed do appear more modest. As shown in Table VI, the majority of firms wish to grow moderately. There is, however, some variation according to the employment status of the founder. Column 5, shows which reports the objectives of unemployed founders relative to non-unemployed founders, shows that the former are more likely to wish to grow smaller or remain the same while the latter are more likely to wish to grow substantially.

Evidence concerning the aspirations of firms, although interesting, is no substitute for evidence on growth rates. Table VII provides some summary data on growth rates in terms of both employment and turnover. This evidence suggests that, in contrast to the assertions in the literature, firms established by unemployed founders had a **superior** growth performance compared to the other surviving firms. Firms established by unemployed founders were more likely to have had fast growth during 1987-90 and less likely to have had zero or negative growth during the same period compared to firms established by non-unemployed founders. In employment terms, 30% of firms established by the unemployed were in the fast growth category compared to 25% of firms established by the non-unemployed. Similarly, in turnover terms, 39% of firms established by unemployed founders were in the fast growth category compared with 32% of firms established by non-unemployed founders.

To analyse the chaff effect in more detail Table VIII presents further evidence on comparative growth performance. Four indicators of performance during the period 1987-90 are examined; the % changes in employment, turnover, exports and pre-tax profit margins (pre-tax profits / turnover). The results indicate that whichever measure of central tendency is used, the mean or the median[13], firms established by unemployed founders had higher average employment, turnover and export growth than firms established by non-unemployed founders. For instance the mean employment growth of the unemployed group for the three year period was 98% compared to 72% for the non-unemployed group. When the sample of firms is classified by activity or date of establishment the broad results are similar as that for all firms[14]. The one performance indicator where the average performance of non-unemployed group is relatively superior is the increases in profit margins. Whereas the mean performance of the unemployed group indicates an average decline in pre-tax profit margins of 31%, the non-unemployed group maintained its profitability over the three year period. The contrast in profits performance may suggest that although the unemployed group are relatively successful in generating jobs and output their long run potential for survival and success **may** be inferior.

Although the overall evidence in Table VIII is suggestive of superior average growth performance of the unemployed group - the unemployed founder as "seedcorn" - there are two important caveats. Firstly, for the vast majority of the comparisons, the differences between the two groups are not statistically significant. Only in the case of turnover growth for all firms, as measured by the **mean** growth rate, is the superior performance of the unemployed statistically significant (at the 5% level), and even in this case the difference in the **median** growth rate is not significant. Thus, according to conventional confidence levels, it is not possible to distinguish a significant difference in most measures of performance between the two groups. Secondly, the performance indicators in Table VIII do not take into account the life-cycle of the firm. As noted above younger firms are more likely to have a smaller employment base and are more likely to be established by unemployed

founders. Additionally, although larger firms are likely to generate more net jobs, it has been suggested that smaller firms, which are likely to be younger, are more likely to have a faster percentage rate of growth (SBRC, 1992). They may be in the early stage of development, a phase characterised by rapid growth. Furthermore, the use of percentage growth rates means that relatively small absolute increases in output and employment levels will have a large impact on the percentage growth of smaller firms.

To test for the existence of an age effect on percentage growth rates simple regressions were estimated with each of the four performance indicators acting as the dependent variable and a constant and the firm's age acting as independent variables. As Table IX shows, the results for all firms in the survey strongly supports the contention that older firms have slower percentage growth of employment, output and exports. As a firm became one year older its employment growth, on average, decreased by 1.2% and its output growth slowed by 2.7%, over the 1987-90 period . The one indicator where age improved firm performance is profitability as one years' maturity increased profit margins by 1.3% over the three year period. For firms established since 1979, the age effect had a particularly large impact on growth. This is consistent with very rapid growth in the early stages of development for those firms established during this period and surviving until the end of the decade.

This presence of an age effect indicates that it must be accommodated in any analysis of the performance of firms established by the unemployed. As unemployment has increased in importance in the formation of younger firms it is possible that the existence of poor performance of unemployed founders, the chaff effect, is being obscured by the age effect. To examine this regressions similar to those reported in Table IX were estimated with the addition of a dummy variable (U) to capture the impact of the founder being unemployed. If a chaff effect was present it would be expected that the coefficients on the dummy variable would be negative and statistically significant. In fact the results presented in Table X show that the coefficient on the unemployment dummy is usually positive,

the main exception being the profitability indicator, and is not statistically significant at acceptable levels.

The performance of the firms in the SBRC survey indicates that the notion that firms established by unemployed founders are likely to be inferior is a myth. The empirical evidence, covering a range of indicators, indicates that employment status of the founder produces no significant difference in subsequent firm performance. The one area this study has not directly considered is whether firms established by unemployed founders have a higher death rate than other firms. The performance evidence, however, does provide some indirect evidence pertinent to this issue; as there is no significant difference in performance between the two groups of surviving firms this suggests that there may additionally be no difference in death rates.[15]

Conclusions

The unemployed can become successful entrepreneurs. This is not to suggest that the formation of a business can be readily used by most individuals as a response to unemployment. For the majority, unemployment provides few or no opportunities but instead leads to declining living standards and widespread misery. Some of the unemployed do become self-employed and form single person enterprises. The performance of this group has not been assessed in this study as the SBRC survey focused on larger SMEs which have thus demonstrated some capacity for growth. Furthermore, as an analysis of surviving firms the survey does not provide empirical evidence of the death rates of firms established by either employed or unemployed founders. What the survey of surviving firms does suggest, however, is that the unemployed, or at least a small fragment of it, may be a potentially untapped source of entrepreneurship. Entrepreneurship that can create successful businesses and promote job generation. Policies to release this potential should be encouraged. Improved access to capital markets, training provision and business advice may help some of the jobless, albeit a small number, to escape the blight of unemployment and contribute to a dynamic small firm sector.

Notes

1. A similar conclusion has been made by Storey (1994b) who reports the findings of eight studies analysing firm growth. He finds that in terms of the relationship between unemployment push and firm growth, four studies found no impact and four found a negative impact. He therefore infers that "Overall, this suggests that if the founder is unemployed prior to starting a business, that firm is unlikely to grow as rapidly as where the founder is employed" (p.128).

2. The link between Foreman-Peck's article and this chapter is evident by the title of the former: 'Seedcorn or chaff? New firm formation and the performance of the interwar economy'.

3. Storey (1982) does refer to historical studies (Dahmen, 1970; Oxenfeldt, 1940) in support of the inferior performance of firms established by unemployed founders.

4. This may reflect the different ages of the firms in the survey (see section VI).

5. This is based on the conclusions contained in Storey (1982). In Storey and Strange (1992), however, it is stated that "the 1979 survey suggested that the unemployed performed less well" (p.22). This change in perspective seems to be based on a reinterpretation of the profitability evidence. In Storey (1982) it is suggested that there is no evidence of firms founded by the unemployed being significantly less profitable. A review of the empirical evidence does indicate that a higher share of firms established by unemployed founders failed to make profits, compared with firms established by non-unemployed founders, but it also indicates that a higher share of firms established by unemployed founders achieved profits in the highest profitability band (10%+), compared with firms established by non-unemployed founders. Storey and Strange (1992) just focus on the former observation.

6. The Dun and Bradstreet database, used in the construction of the sampling frame, is also known to under-represent sole proprietorships, partnerships and single person self-employed enterprises compared to the overall enterprise sector.

7. 86.9% of firms established by unemployed founders were limited companies compared to 87.4% of firms established by non-unemployed founders.

8. The 1808 respondents excludes those who responded "don't know" to this question.

9. It should be noted that services in the SBRC survey mainly consisted of professional, technical and business services. Caution should therefore be observed in treating these results as representative of the service sector as a whole.

10. For the purposes the national unemployment estimate used is based on the claimant count. It is questionable whether this method of counting gives a complete picture of UK unemployment (see Wells, 1993).

11. It is inappropriate to use data prior to 1970 due to the low number of observations.

12. A number of alternative forms of equation 1 were also estimated using lagged independent variables, the activity variable in level form, a time trend and a dummy variable to test for any impact of an "enterprise culture" effect in the 1980s. These results are not reported as none of the above variables improved the performance of the equation.

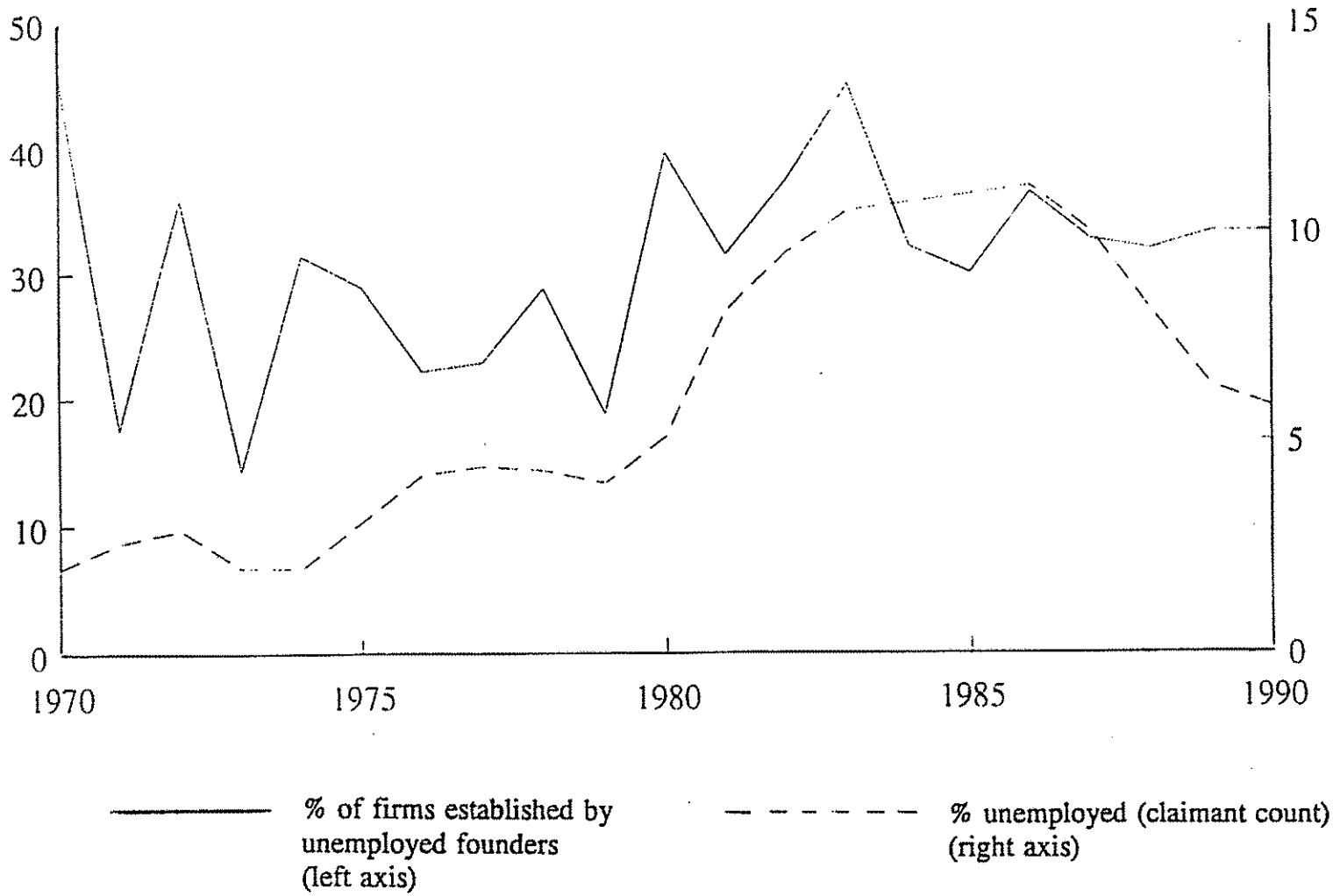
13. There are some large differences between the mean and the median as the former is influenced by extreme values in the sample.

14. In a few cases the results are reversed, the non-unemployed group had higher export growth in services and in the group of firms established pre-1979 (mean only) and higher turnover in the group of firms established in 1979 and after (median only).

15. Of course one could speculate on different life cycles of the two groups of firms such that firms established by unemployed founders initially have a higher death rate but that after a period of infancy the survivors establish a similar growth pattern to firms established by non-unemployed founders. Even if this was the case we would expect to see some supporting evidence in the survey results as an a higher death rate should be reflected in an inferior growth performance prior to firm death. Full analysis of these issues are, however, outside the scope of this paper and constitute an additional research agenda.

Figures and Tables

Figure 1 National Unemployment and New Firm Formation, 1970-90



Sources: SBRC Survey and Employment Department (various editions)

Figure 2 Firms established by unemployed founders in manufacturing and services (% of total)

Source: SBRC Survey

Table I Unemployment and Firm Characteristics

	Unemployed founders		Non-unemployed founders		Total
	No.	%	No.	%	No.
ALL FIRMS	503	27.8	1305	72.2	1808
Sector					
- manufacturing	262	28.4	659	71.6	921
- services	241	27.3	642	72.7	883
Firm size (employees)					
- micro (1-9)	168	33.1	339	66.0	507
- small (10-99)	257	27.3	684	72.7	941
- medium (100-199)	24	16.4	172	83.6	146
- larger (200-499)	25	19.8	101	80.2	126
Firm size (turnover)					
- micro	31	36.9	53	63.1	84
- small	416	28.1	1067	71.9	1483
- medium	22	20.2	87	79.8	109
- larger	0	0	6	100.0	6
Method of Formation					
- spin off	71	21.6	258	78.4	329
- management buyout	38	40.9	55	59.1	93
- merger	16	21.1	60	78.9	76
- new start	376	28.8	928	71.2	1320

Source: SBRC Survey

Table II Unemployment and the Date of Firm Formation

	Unemployed founders		Non-unemployed founders		Total
Date of Formation	No.	%	No.	%	No.
Pre 1900	6	13.3	39	86.7	45
1900-1949	18	12.9	122	87.1	140
1950-1959	10	13.9	62	86.1	72
1960-1969	26	15.8	139	84.2	165
1970-1979	110	25.7	318	74.3	428
1980-1989	320	34.7	601	65.3	921
1990-	8	32.0	17	68.0	25

Table III Regression Results for the Share of Founders Previously Unemployed, 1970-90

Dependent Variable = USHARE

Equation No.	a	URATE	ΔlogY	$\bar{R}^2$	DW
All Firms					
(i)	24.94 (6.93)	0.99 (1.89)	-	0.1	2.52
(ii)	26.75 (7.47)	1.16 (2.28)	-132.77 -(1.73)	0.2	2.43
Manufacturing Firms					
(iii)	26.76 (4.64)	1.13 (1.35)	-	0.04	2.27
(iv)	26.41 (4.49)	1.25 (1.43)	-42.26 -(0.63)	0.01	2.23
Service Firms					
(v)	21.45 (4.66)	1.13 (1.70)	-	0.09	1.89
(vi)	26.63 (5.36)	1.52 (2.35)	-296.83 -(2.03)	0.21	1.79

Notes

1. t-values are in parenthesis.
2. USHARE is the % of firms established in each year in each year by founders previously unemployed; a is a constant; URATE is the % unemployed based on the claimant count; Y is an output index, GDP at factor cost for equations (i) and (ii), the index of total manufacturing output for equations (iii) and (iv) and the index total services output for equations (v) and (vi); Δ is a first difference operator.
3. Sources

   USHARE: SBRC survey.
   URATE: EMPLOYMENT DEPARTMENT (various editions)
   Y: CSO (Various editions).

Table IV Average Firm Size in 1990

	Unemployed Founders		Non-Unemployed Founders	
	No. of firms	Median Size	No. of firms	Median size
Employment				
All Firms	495	15.0	1294	25.0
Manufacturing	259	18.0	652	33.5
Services	236	11.0	638	17.0
Turnover (£'000)				
All Firms	469	650.0	1214	1074.5
Manufacturing	246	750.0	614	1500.0
Services	223	500.0	597	850.0

Table V Average Employment Change, 1987-90

	Unemployed Founders			Non-Unemployed Founders		
		Number of jobs created			Number of jobs created	
	No. of firms	Total	Average	No. of firms	Total	Average
All Firms	415	4328	10.5	1107	14147	12.8
Manufacturing	226	1807	8.0	576	6065	10.5
Services	189	2521	13.3	530	8072	15.3
Established pre-1979	145	1243	8.6	587	7116	12.1
Established 1979 and after	266	3092	11.6	515	6982	13.6
Firm Size						
Micro (1-9)	135	44	0.3	270	-51	-0.2
Small (10-99)	232	1929	8.3	631	4406	7.0
Medium (100-199)	24	600	25.0	114	3235	28.4
Larger (200-499)	23	1760	76.5	91	6625	72.8

Table VI Unemployment and Growth Objectives

	Unemployed founders		Non-unemployed founders		Index of relative growth objectives
	(1)	(2)	(3)	(4)	(5)
	No.	% (of unemployed founders)	No.	% (of non-unemployed founders)	(2)/(4)
Grow-					
- smaller	12	2.4	22	1.7	141.2
- same	58	11.7	130	10.0	117.0
- moderately	329	66.6	825	63.6	104.7
- substantially	95	19.2	320	24.7	77.7
	494	100.0	1297	100.0	-

Table VII Unemployment and Growth Performance: Summary Indicators

	Unemployed founders			Non-unemployed founders			Total
	No.	% (of growth category)	% (of unem-ployed founders)	No.	% (of growth category	% (of unem-ployed founders)	No.
Employment Growth (87-90)							
- stable/declining	117	25.4	28.4	344	74.6	31.4	461
- medium	170	26.1	41.3	481	73.9	43.9	651
- fast	125	31.6	30.3	271	68.4	24.7	396
Turnover Growth (87-90)							
- stable/declining	41	21.5	10.2	150	78.5	14.1	191
- medium	207	26.4	51.4	576	73.6	53.3	783
- fast	155	31.5	38.5	337	68.5	31.7	492

Definitions:

Employment Growth

- stable/declining: zero or negative growth
- medium: growth greater than 0% and less than 75%
- fast: growth at 75% or greater.

Turnover Growth

- stable/declining: zero or negative growth
- medium: growth greater than 0% and less than 100%
- fast: growth of 100% or greater.

Table VIII Unemployment and Growth Performance (Median and Mean growth rates)

Growth Indicator (% change 1987-90)	Median			Mean		
	Unemployed	Non-unemployed	Chi-Square Statistic	Unemployed	Non-unemployed	t-value
All Firms						
- employment	29.3	25.0	0.40	98.4	71.5	1.69*
- turnover	61.1	55.6	1.97	223.2	144.5	2.02**
- exports	66.7	50.0	1.75	249.8	203.6	0.53
- profits	-21.8	-18.0	0.33	-31.0	0.7	-1.29
Manufacturing						
- employment	22.2	16.3	3.08*	55.1	47.2	0.83
- turnover	57.3	42.9	6.53**	167.0	94.3	1.80*
- exports	63.6	50.0	3.07*	284.2	188.9	0.78
- profits	-17.2	-16.0	0.19	-33.3	22.6	-1.45
Services						
- employment	50.0	41.7	0.59	150.6	97.9	1.61
- turnover	75.0	71.8	0.01	292.7	200.9	1.30
- exports	77.4	80.0	0.00	186.9	236.3	-0.45
- profits	-24.9	-18.6	1.29	-28.2	-22.9	-0.17
Established Pre-1979						
- employment	16.7	12.2	1.28	30.5	29.5	0.12
- turnover	45.5	40.4	0.46	67.4	56.7	0.76
- exports	50.0	40.0	0.57	77.1	153.9	-1.30
- profits	-15.3	-12.4	0.65	-21.7	16.4	0.94
Established 1979 and after						
- employment	50.0	50.0	0.41	138.0	119.8	0.72
- turnover	95.0	98.8	0.24	312.2	247.8	1.03
- exports	115.0	100.0	0.13	403.5	289.5	0.72
- profits	-25.7	-27.0	0.00	-38.1	-14.9	-0.86

Notes:
1. t values are separate variance estimates
2. * significant at 10%
   ** significant at 5%

Table IX Growth Performance and Firm's Age: Regression Results

Equation No.	Dependent Variable	Independent Variables a	AGE	Number of Observations
All Firms				
(i)	ΔEMP	104.74	-1.24	1499
		(13.71)***	-(5.34)***	
(ii)	ΔY	222.38	-2.69	1457
		(12.51)***	-(5.00)***	
(iii)	ΔE	284.58	-2.79	463
		(5.32)***	-(2.00)**	
(iv)	Δπ	-34.90	1.32	1154
		-(2.03)**	(2.55)**	
Manufacturing				
(v)	ΔEMP	68.42	-0.73	790
		(11.12)***	-(4.62)***	
(vi)	ΔY	162.13	-1.85	779
		(8.96)***	-(3.91)***	
(vii)	ΔE	276.67	-2.34	318
		(4.14)***	-(1.51)	
(viii)	Δπ	-37.47	1.69	600
		-(1.20)	(2.14)**	
Services				
(ix)	ΔEMP	138.54	-1.74	708
		(9.66)***	-(3.05)***	
(x)	ΔY	280.44	-3.52	676
		(8.86)***	-(2.87)***	
(xi)	ΔE	336.72	-6.68	144
		(3.48)***	-(1.66)	
(xii)	Δπ	-25.41	0.18	552
		-(1.77)*	(0.30)	
Established pre-1979				
(xiii)	ΔEMP	36.20	-0.19	717
		(6.71)***	-(1.62)	
(xiv)	ΔY	69.44	-0.31	717
		(10.31)***	-(2.11)**	
(xv)	ΔE	189.08	-1.34	283
		(2.66)***	-(0.91)	
(xvi)	Δπ	-37.63	1.34	567
		-(1.1)	(1.74)*	
Established 1979 and after				
(xvii)	ΔEMP	308.99	-24.01	768
		(8.95)***	(5.58)***	
(xviii)	ΔY	747.83	-62.55	740
		(8.98)***	-(6.04)***	
(xix)	ΔE	784.45	-56.53	180
		(3.31)**	(2.02)**	
(xx)	Δπ	-76.44	7.01	587
		-(1.93)	(1.42)	

Notes
1. t-values are in parenthesis.
2. *** significant at 1%; ** significant at 5%; * significant at 10%.
3. Dependent variables are changes in performance between 1987 and 1990; ΔEMP is the % change in employment; ΔY is the % change in nominal turnover; ΔE is the % change in nominal exports; Δπ is the % change in nominal pre-tax profit margins.

Independent variables are: a which is a constant and AGE which is the firm's age in 1991.

Table X Growth Performance and Unemployment: Regression Results

Equation No.	Dependent Variable	Independent Variables a	AGE	U	Number of Observations
All Firms					
(i)	ΔEMP	98.61	-1.19	19.08	1499
		(11.22)***	-(5.10)***	(1.42)	
(ii)	ΔY	202.73	-2.54	60.36	1457
		(9.91)***	-(4.68)***	(1.94)*	
(iii)	ΔE	276.18	-2.74	28.82	463
		(4.61)***	-(1.94)*	(0.31)	
(iv)	Δπ	-27.06	1.27	-24.24	1154
		-(1.37)	(2.42)**	(0.80)	
Manufacturing					
(v)	ΔEMP	67.95	-0.73	1.36	790
		(9.52)***	(4.53)***	(0.13)	
(vi)	ΔY	142.99	-1.70	33.86	779
		(6.80)***	(3.54)***	(1.78)*	
(vii)	ΔE	253.34	-2.21	80.13	318
		(3.42)***	-(1.41)	(0.69)	
(viii)	Δπ	-23.89	1.59	-37.43	600
		-(0.65)	(1.98)**	-(0.71)	
Services					
(ix)	ΔEMP	124.66	-1.62	46.10	708
		(7.64)	-(2.82)***	(1.77)*	
(x)	ΔY	256.30	-3.33	80.59	676
		(7.11)***	-(2.70)***	(1.40)	
(xi)	ΔE	363.69	-6.70	-81.40	144
		(3.30)***	(1.71)*	-(0.52)	
(xii)	Δπ	-22.55	0.15	-9.87	552
		(1.39)	(0.27)	-(0.38)	
Established pre-1979					
(xiii)	ΔEMP	36.30	-0.19	-0.39	731
		(6.23)***	-(1.62)	-(0.04)	
(xiv)	ΔY	67.42	-0.30	8.33	717
		(9.27)***	-(2.03)**	(0.74)	
(xv)	ΔE	207.00	-1.40	-84.00	283
		(2.74)	-(0.95)	-(0.71)	
(xvi)	Δπ	-30.62	1.31	-27.99	567
		-(0.79)	(1.69)*	-(0.46)	
Established 1979 and after					
(xvii)	ΔEMP	303.34	-23.94	14.78	768
		(8.52)***	(5.55)***	(0.65)	
(xviii)	ΔY	726.33	-62.26	55.62	740
		(8.46)***	-(6.07)***	(1.02)	
(xix)	ΔE	743.45	-55.24	91.88	180
		(3.01)***	-(1.96)**	(0.61)	
(xx)	Δπ	-68.21	6.95	-22.75	587
		-(1.67)*	(1.41)	-(0.89)	

Notes: 1. t-values are in parenthesis.
2. *** significant at 1%; ** significant at 5%; * significant at 10%.
3. Variables as Table 8 with U being a dummy variable, U=1 where the founder was previously unemployed, U = 0 where the founder was not previously unemployed.

References

Binks, M. and Jennings, A. (1986a), "Small Firms as a Source of Economic Rejuvenation", in Curran, J. Stanworth, J. and Watkins, D. (eds), *The Survival of The Small Firm*, Vol.1, Gower, pp.19-38.

Binks, M. and Jennings, A. (1986b), "Small Firms as a Source of Industrial Regeneration", in Scott, M., Gibb, A., Lewis, J. and Faulkner, T. (eds) *Small Firm Growth and Development*, Gower, pp.3-32.

Blanchflower, D. G. and Oswald, A.J. (1990), "Self-Employment and the Enterprise Culture" in R. Jowell et al (eds) *British Social Attitudes: The 7th Report*, Gower, Aldershot.

CSO (various editions), *Economic Trends: Annual Supplement*, Central Statistical Office, HMSO, London.

Cross, M. (1981), *New Firm Formation and Regional Development*, Gower, Farnborough.

Dahmen, E. (1970), *Entrepreneurial Activity and the Development of the Swedish Industry, 1919-1939*, Richard D. Irwin, Illinois.

Daly, M and McCann, A. (1992), "How Many Small Firms?", *Employment Gazette*, February, pp.47-51.

Employment Department (various editions), *Employment Gazette*, HMSO, London.

Foreman-Peck, J. (1985), "Seedcorn or Chaff? New Firm Formation and the Performance of the Interwar Economy", *Economic History Review*, Vol. 38, pp.402-422.

Hamilton, R. (1986), "The Influence of Unemployment on the Level and Rate of Company Formation in Scotland, 1950-74," *Environment and Planning A*, Vol.18, pp.1401-4.

Hamilton, R. (1989), "Unemployment and Business Formation Rates: Reconciling Time Series and Cross Section Evidence", *Environment and Planning A*, Vol.21, pp.249-55.

Harrison, R. and Hart, M. (1983), "Factors Influencing New Business Formation: A Case Study of Northern Ireland", *Environment and Planning A*, Vol. 15, pp.1395-1412.

Hughes, A. (1992) "Big Business, Small Business and the 'Enterprise Culture'", in Michie, J. (ed.), *The Economic Legacy*, 1979-92, Academic Press, London.

Johnson, S. (1991), "Small Firm and the UK labour Market: Prospects for the 1990s", in Curran, J and Blackburn, R. (eds) *Paths of Enterprise: The Future of the Small Business*, Routledge, London.

Johnson, S., Lindley, R. and Bourlakis, C. (1982), "Modelling Aggregate Self-Employment: A Preliminary Analysis", Institute for Employment Research, University of Warwick.

Keeble, D. and Gould, A. (1985), "Entrepreneurship and Manufacturing Firm Formation in Rural Regions: the East Anglian Case" in Healey, M. and Ilbery, B. (eds), *The Industrialisation of the Countryside*, pp. 197-219, Geo, Norwich.

Keeble, D., Walker, S. and Robson, M. (1993), "New Firm Formation and Small Business Growth in the United Kingdom: Spatial and Temporal Variations and Determinants", Research Paper 15, Department of Employment.

Keeble, D, and Weaver, E. (1986) "Introduction" in Keeble, D, and Weaver, E. (eds), *New Firms and Regional Development in Europe*, Croom Helm, London, pp.1-34.

Knight, (1921), *Risk, Uncertainty and Profit*, Houghton Miffin, Boston.

Mason, C. (1982), "New Manufacturing Firms in South Hampshire: Survey Results", Discussion Paper No.13, Geography Department, University of Southampton.

Mason, C. (1989), "Explaining Recent Trends in New Firm Formation in the UK : Some Evidence from South Hampshire, *Regional Studies*, Vol 23.4, pp.331-346.

O'Farrell, P., (1986), *Entrepreneurs and Industrial Change*, Irish Management Institute, Dublin.

Oxenfeldt, A. (1943), *New Firms and Free Enterprise*, American Council on Public Affairs, Washington.

Piore, M. and Sabel, C.F. (1984), *The Second Industrial Divide*, Basic Books, New York.

Robson, M. (1992), "New Firms and Economic Activity: the UK Experience", *Economic Notes*, Vol.21, pp.137-147.

Robson, M. and Shah, A. (1991), "A Capital Theoretic Approach to Self-Employment in the UK", mimeo, University of Newcastle.

Rothwell, R. (1982), "The Role of Technology in Industrial Change: Implications for Regional Policy", *Regional Studies*, Vol. 16, pp. 261-9.

SBRC (1992), *The State of British Enterprise: Growth, Innovation and Competitive Advantage in Small and Medium-Sized Firms*, Small Business Research Centre, University of Cambridge.

Shutt, J. and Whittington, R. (1987), "Fragmentation Strategies and the Rise of Small Units: Cases from the North West", *Regional Studies*, Vol.21, pp.13-23.

Smith, D. (1993), *Small Businesses in Britain*, A Review of the ESRC Small Business Research Programme, ESRC.

Storey, D. (1982), *Entrepreneurship and the New Firm*, Croom Helm.

Storey, D. (1994a), "The Role of of Legal Status in Influencing Bank Financiang and New Firm Growth", *Applied Economics*, Vol.26, pp. 129-36.

Storey, D. (1994b), *Understanding the Small Business Sector*, Routledge, London.

Storey, D. and Johnson, S. (1987), *Job Generation and Labour Market Change*, Macmillan, Basingstoke.

Storey, D. and Strange, A. (1992), *Entrepreneurship in Cleveland, 1979-1989: A Study of the Effects of the Enterprise Culture*, Research Series no.3, Employment Department, London.

Wells, J. (1993), "Unemployment, Domestic Incomes and the Traded Sector", forthcoming in Arestis, P. and Marshall, M.(eds), *The Political Economy of Full Employment: Conservatism, Corporatism and Institutional Change*, Edward Elgar.