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**SWP 31/88    NEW MANUFACTURING FIRMS AND NEW  
FIRM FOUNDERS IN RURAL AND URBAN  
AREAS IN WALES - ARE THEY REALLY  
DIFFERENT?**

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# **NEW MANUFACTURING FIRMS AND NEW FIRM FOUNDERS IN RURAL AND URBAN AREAS IN WALES - ARE THEY REALLY DIFFERENT?**

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*Through the presentation of survey results new manufacturing firm formation rates are shown to be markedly higher in rural rather than urban areas in Wales. In order to understand these differences in formation rates new firm formation theory was referred to and a range of hypotheses presumed to be associated with the firm formation process were explored. From the new firm survey it was found that new firms and founders in rural areas are significantly different from their urban counterparts.*

## **INTRODUCTION**

Following the study presented by Birch (1979) in the USA which reported that small firms were contributing some 80% of net job gains new firms are currently seen as a key component of economic development and employment creation. Fothergill and Gudgin (1982, p.114) in Leicestershire also indicated that a small number of relatively 'high fliers' can have a substantial effect on job opportunities in a local labour market, contributing as much as 23 per cent of total manufacturing employment at the end of a thirty year period. Consequently, one of the government's objectives has been to improve the climate for entrepreneurship and to foster more positive attitudes towards it (Frank et al., 1984). Attention has therefore focused on the potential for indigenous growth within depressed regions which have been unable to attract the diminishing supply of mobile manufacturing plants in the quantities required in order to stem rising unemployment.

Not surprisingly, a number of studies have investigated new and small firms in specific regional and subregional environments (Mason and Harrison, 1985). Despite this considerable interest by economists and geographers in recent years, there is still the need for informative and detailed research into the nature and extent of spatial variations in new manufacturing firm formation rates; not least because such information is an essential prerequisite in justifying the case for a spatially selective small firms policy

(Storey, 1982) and in order that the argument for the channelling of greater resources to help new firms in specific parts of the country be more fully informed. Pickles and O'Farrell (1987, p.426) have stated, "At present our knowledge of entrepreneurship is insufficient both for the purposes of explanation and policy prescription".

This paper presents the results of a survey of new manufacturing firms and new firm founders in a variety of rural and urban areas within Wales. Wales is a traditional peripheral region which has experienced massive employment losses in traditional heavy industries such as steel manufacture. In fact, over the 1979-85 period, manufacturing employment declined by 30.2% (from 302,298 to 210,933 employees) (Business Statistics Office, 1979, 1985). The focus on new manufacturing firms is due to two main reasons. First, manufacturing firms form part of the 'basic' industrial base in a local labour market area (Fothergill and Gudgin, 1982, p.34-37). Second, in the 1980s manufacturing employment change emerged as the dominant influence upon unequal growth in the UK (Fothergill and Gudgin, 1982, p.46).

## **PREVIOUS RESEARCH**

Until recently the vast majority of studies in the British Isles have prominently been concerned with firm formation rates in conurbations and large cities (Firn and Swales, 1978; Howick and Key, 1979; London Industry and Employment Group, 1979; Nicholson and Brinkley, 1979; Lloyd and Dicken, 1979, 1982; Lloyd, 1980; Hart, 1987; McEldowney and Middleton, 1987). Only limited research on the extent of rural new manufacturing firm formation and the characteristics of new firm founders has been undertaken.

Gudgin (1978), Fothergill and Gudgin (1979, 1982) and Gudgin et al. (1979) established that manufacturing firm formation rates were significantly higher in the rural areas of the East Midlands than in the region's cities and large towns between 1947-67 and 1947-75. Cross (1981) has noted the greater importance of new manufacturing firm formation rates in rural areas of Scotland between 1968-77 and indeed, that new firms were the most important source of job generation in Scotland's twelve most rural employment office areas. In a study in South Hampshire over the 1971-79 period Mason (1982) found that firm formation rates were lowest in the cities of Portsmouth and Southampton and highest in the rural areas, notably the residentially attractive areas of the New Forest. A similar rural-urban contrast has been identified in the Republic of Ireland over the 1973-81 period by O'Farrell and Crouchley (1984) who found that a high rate of indigenous new manufacturing firm formation was prominently a rural small town

phenomenon. A clear inverse relationship between the rate of indigenous new firm formation and town size was recorded. The Dublin rate was only one-fifth that of the smallest communities (< 1,500 population) and about one-half of that recorded by the major provincial towns between 25,001 and 100,000 population. In the prominently rural region of East Anglia Gould and Keeble (1984) reported that the new manufacturing firm formation rate in rural areas (6.3) was nearly three times larger than that recorded in the large towns (2.2) category over the 1971-81 period. In all 69% of East Anglia's new firms had been established in villages or small towns. Moreover, Keeble and Kelly (1986) using VAT registration data for production firms in the United Kingdom over the 1980-83 period found at a county level that high new firm formation rates were recorded in Greater London and surrounding counties, including those in East Anglia, together with three rural / peripheral zones of high formation rates, in the far south-west of England, the rural West Midlands of England and Wales and the Scottish Highlands. With the exception of the Highlands most of northern Britain was characterised by very low rates.

However, there remain major differences between researchers in explaining why there are spatial differences in formation rates (Gould and Keeble, 1984; Gudgin and Fothergill, 1984; O'Farrell and Crouchley, 1984; Whittington, 1984). However, Table 1 illustrates the factors found in the research literature to be associated with new manufacturing firm formation, of which some have been shown to inhibit individuals from new firm formation whilst others have been found to be more permissive. The factors hypothesised to be either positively or negatively associated with new firm formation have been detailed elsewhere (Westhead, 1988).

## **RESEARCH QUESTIONS**

The aim of this paper is to examine in detail the nature of surviving new firms in both 'less industrialised rural' areas and 'traditional industrial urban' areas in Wales. The applicability of the hypotheses presented in Table 1 in both rural and urban areas in Wales will be tested. A further objective is to identify if there are any significant differences between the new firms and new firm founders in these rural and urban environments.

## **SURVEY METHODOLOGY**

Definitions

Unfortunately, "the definition of a new firm is not a clear-cut or unambiguous issue" (Mason, 1983, p.53) but in the following discussion, the focus is on wholly new manufacturing firms which are established independently and have no "obvious parent in any existing business organisation" (Allen, 1961, p.28). The start-up-date of the new firm is taken as the date of the commencement of production on a full-time basis. The survey included firms with one (i.e. the founder) or more workers. These choices enabled this research to be based on definitions which are consistent with those used in previous studies (Cross, 1981; Mason, 1982; Keeble and Gould, 1984).

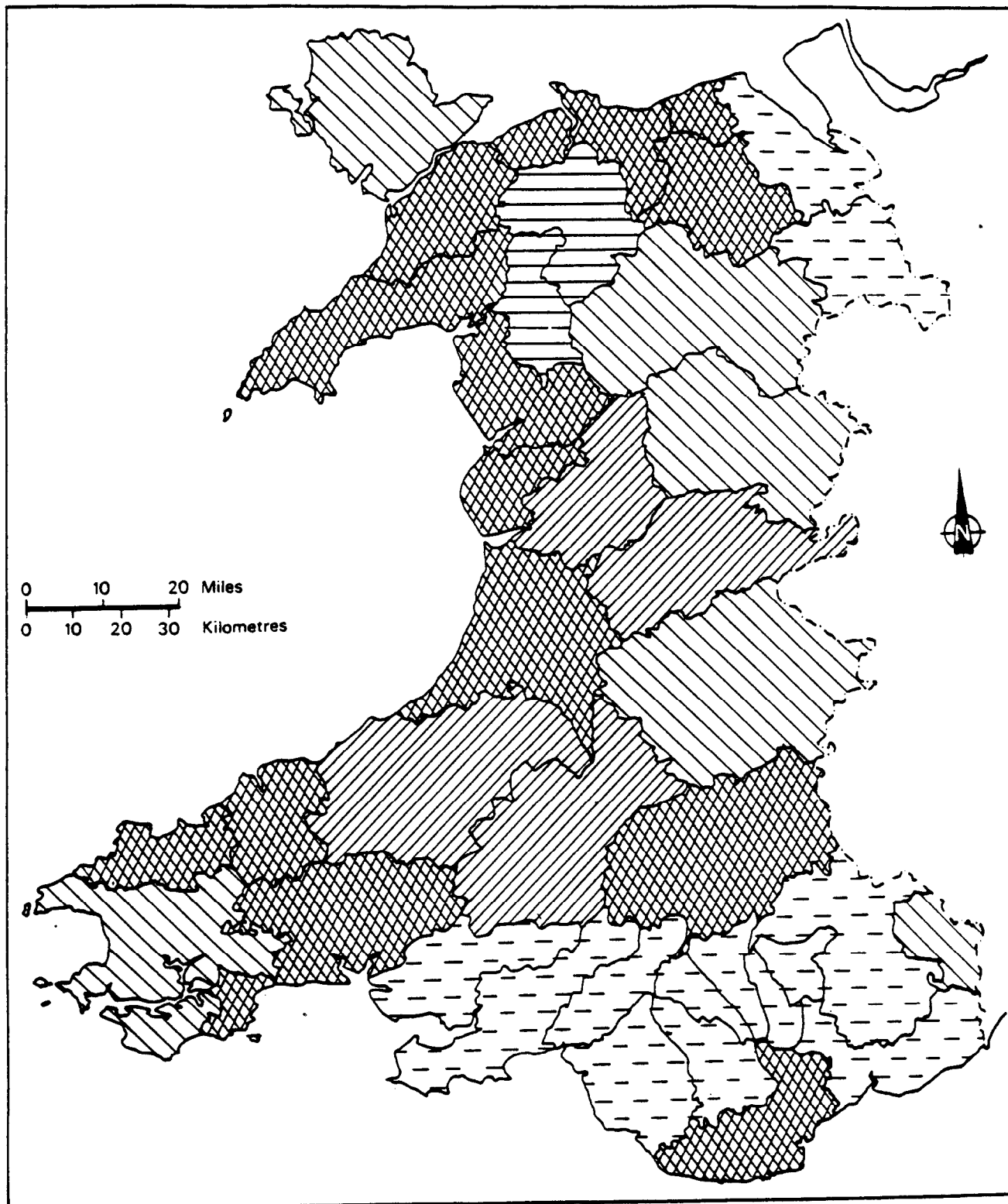
### Survey Design






The only possible source of information about the background of new firm founders, new firms and the actual process of new firm formation is the entrepreneur (i.e. the new firm founder). Unfortunately, it was not possible to gain access to an accurate listing of new manufacturing firms in Wales due to confidentiality constraints of the 1947 Statistics of Trade Act. As a consequence of this data shortage and due to the problems of time and resources as well as the objective of surveying new firms in rural and urban areas, it was decided on pragmatic grounds to choose a number of labour markets in Wales and interview as many new firm founders in these labour markets as possible. A working presumption adopted in this paper is that most new firms locate close to the founders' place of residence, at least in the earliest days of a new firm (Scott, 1976; Gudgin, 1978; Johnston and Cathcart, 1979; Keeble and Gould, 1985). Therefore, the spatial framework adopted was that of the Revised (1978) Travel-To-Work-Areas (TTWAs) the daily urban system which attempts to define areas within which the majority of most people's activities are acted out, in which they search for work, education and leisure - and by extension premises.

In order to survey new firms in contrasting environments the forty TTWAs in Wales were classified into a smaller number of sub-regions or 'ecological incubator' environments which could then easily be classified into 'rural' and 'urban' areas for the purpose of this paper. The classification of Wales into five sub-environments is presented in Figure 1 (Westhead, 1987) and on the basis of this classification it was possible to survey founders in demonstrably different rural and urban sub-areas. For the purpose of the present paper, new firms located in cluster 1 to 4 environments have been regarded as essentially firm formations in 'rural' areas (with the exception of Cardiff which was not selected for surveying new firm founders) whilst firms established in cluster 5 have been assumed to be firm formations in 'urban' areas.

Figure 1

### 5 CLUSTER SOLUTION OF WELSH ECOLOGICAL INCUBATOR ENVIRONMENTS



- |   |           |  |
|---|-----------|--|
|  | Cluster 1 | TTWAs With Favourable Industrial Structures Associated With Relatively Small Manufacturing Bases, Low Foreign Ownership And Favourable Socio-Economic Mix. |
|  | Cluster 2 | Specialised Easy Entry Declining Rural TTWAs.  |
|  | Cluster 3 | Turbulent Rural TTWAs With A Tradition of Self Employment.   |
|  | Cluster 4 | Growth In TTWAs With High Foreign Ownership.   |
|  | Cluster 5 | Traditional Diversified And Urban TTWAs With A Predominance of Manual Employees.   |

## The New Firm Survey

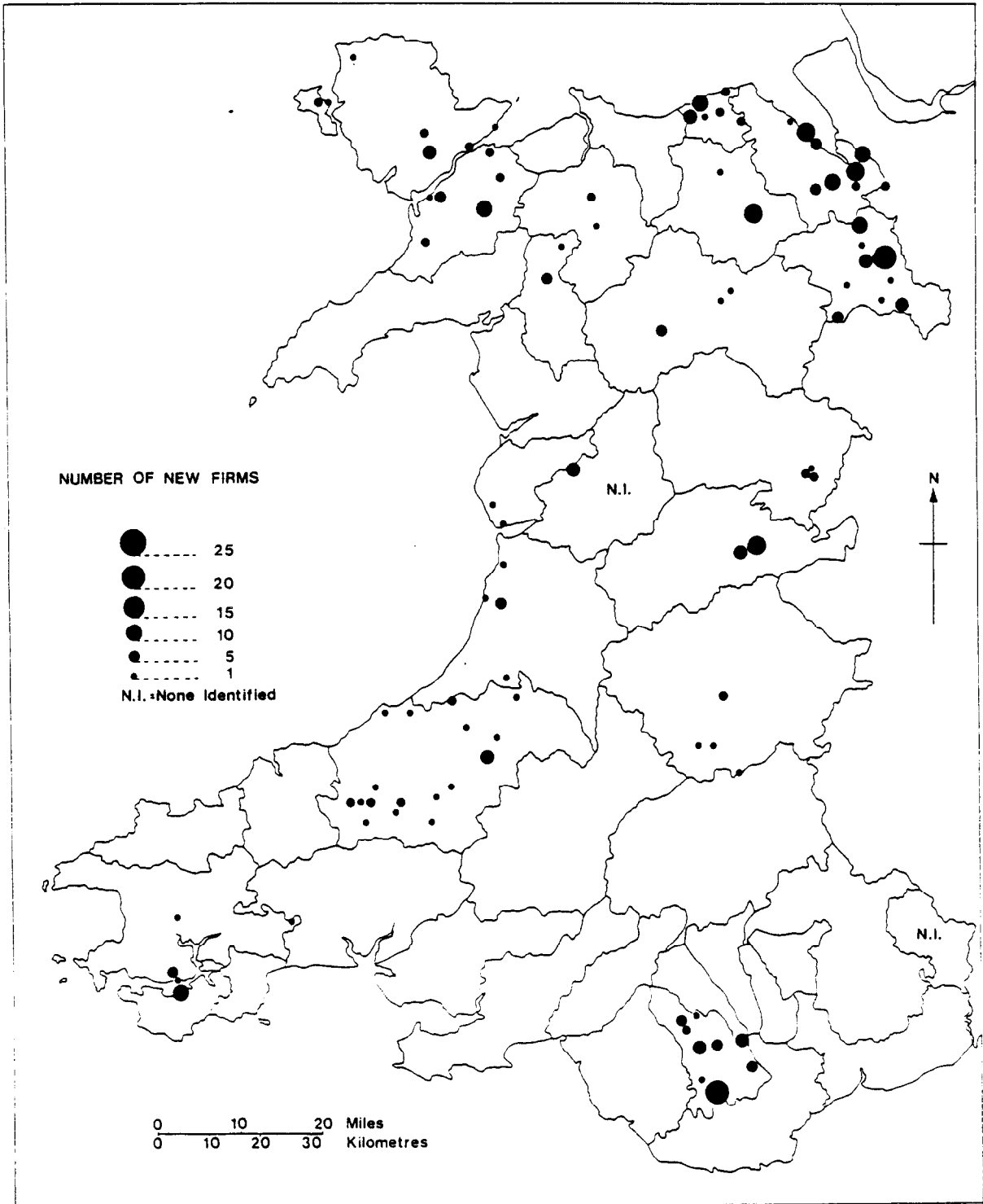
The data for this paper was gathered by personal visit and interview during 1986 to surviving manufacturing firms which had been established in rural and urban TTWAs in Wales during the period between 1979 (January 1st) and 1985 (December 31st). Twenty out of forty TTWAs were targeted for surveying new firms (selected on a subjective basis). The survey procedure identified a total of 335 new manufacturing firms (Figure 2). In eighteen of the twenty TTWAs (represented by a proportional symbol in Figure 3) new firms were surveyed (the two TTWAs where no new firms were identified are indicated by the N.I. symbol in Figure 3). The identification of new manufacturing firms was aided by the construction of a manufacturing establishment databank already assembled for the whole of Wales (Westhead, 1988). Detailed fieldwork in the TTWAs surveyed enabled new firms which had been omitted from the establishment databank to be included in the survey design. In all, 269 out of 335 new firms were contacted during the 'grab' survey using an unarranged 'knock-on door' approach which produced a noteworthy 80.3% response rate (82.5% response rate in rural TTWAs and 77.8% response rate in urban TTWAs -  $z = 1.07$ , no significant difference in response rates between the two areas at the 0.05 level of significance). Also, significant differences between rural and urban TTWAs were identified through Chi-Square testing of responses from the new firm survey.

## Problems with the Survey Methodology

Despite the logic and thoroughness of the survey methodology and the high response rates, it can be argued that there are four areas where the methodology can be questioned and it is important to make these clear at the outset (Hamilton, 1987, p.71). First, the survey was only able to interview those firms which had survived through to 1986: the survey can say nothing about the characteristics of firms which had not survived. This is regarded as the major weakness of this study. Second, this is a retrospective study and the survey relied upon the memory of founders for the recall of specific circumstances, events and motivations. This is not regarded as a major defect of the approach used. Third, on pragmatic grounds only the principal founder from each of the surveyed new firms was interviewed. In fact, 123 new firms (45.7%) were founded by more than one individual (36.3% and 56.9% in rural and urban areas, respectively). However, there would be reasonable grounds to assume that the views of the 'principal'

Figure 2

**THE LOCATION OF TOTAL NEW MANUFACTURING ESTABLISHMENTS IN NEW FIRM SURVEY TTWAs IN WALES, 1979-1985**

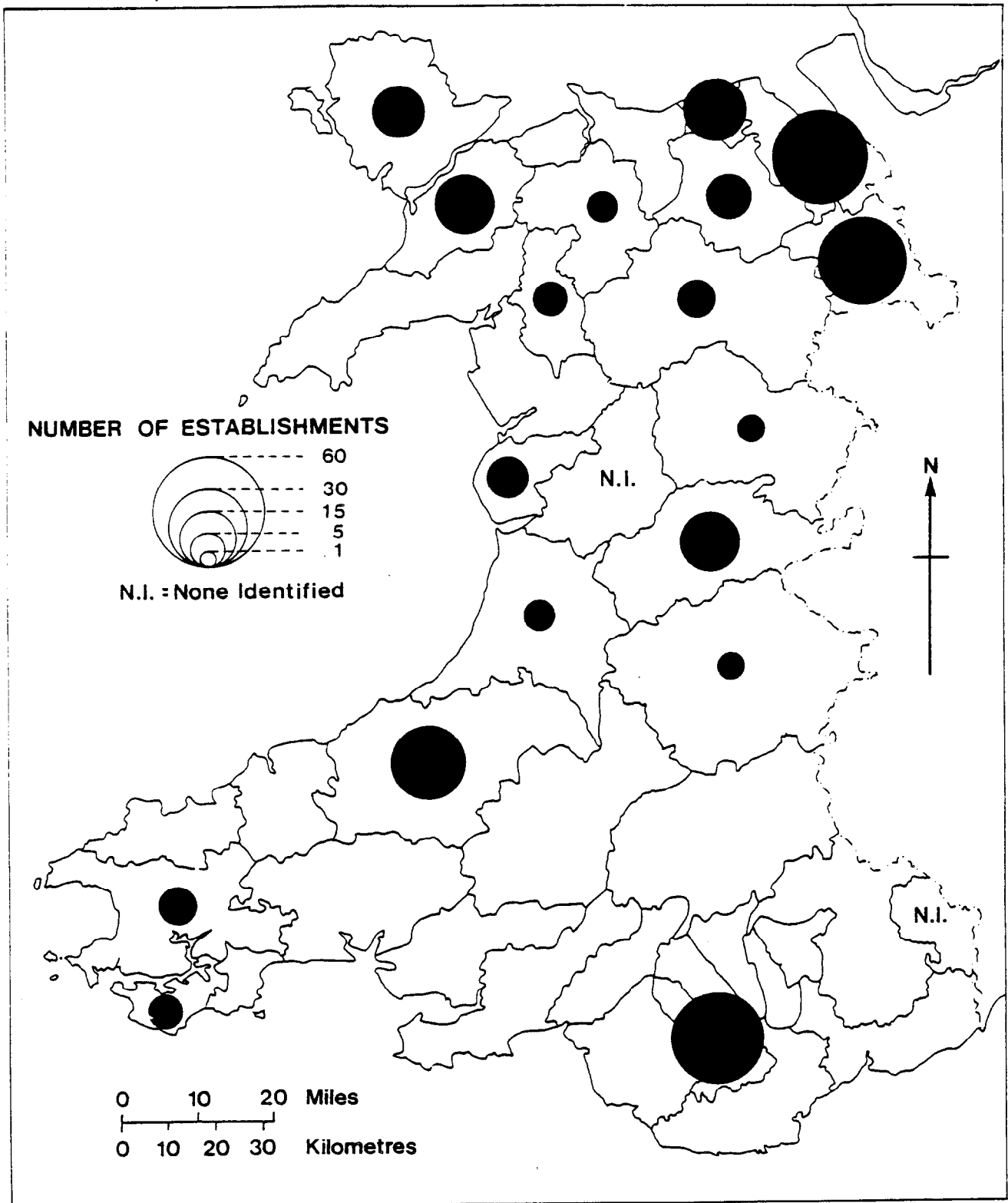


Source: Survey



Figure 3

# THE LOCATION OF SURVEYED NEW MANUFACTURING FIRMS IN WALES, 1979-1985



Source: Survey

founder, will reflect those of the wider founding group. Finally, on a point of omission due to time and financial constraints it was not possible to survey founders in the Cardiff TTWA which in retrospect deserves to be regarded as a separate urban environment in its own right.

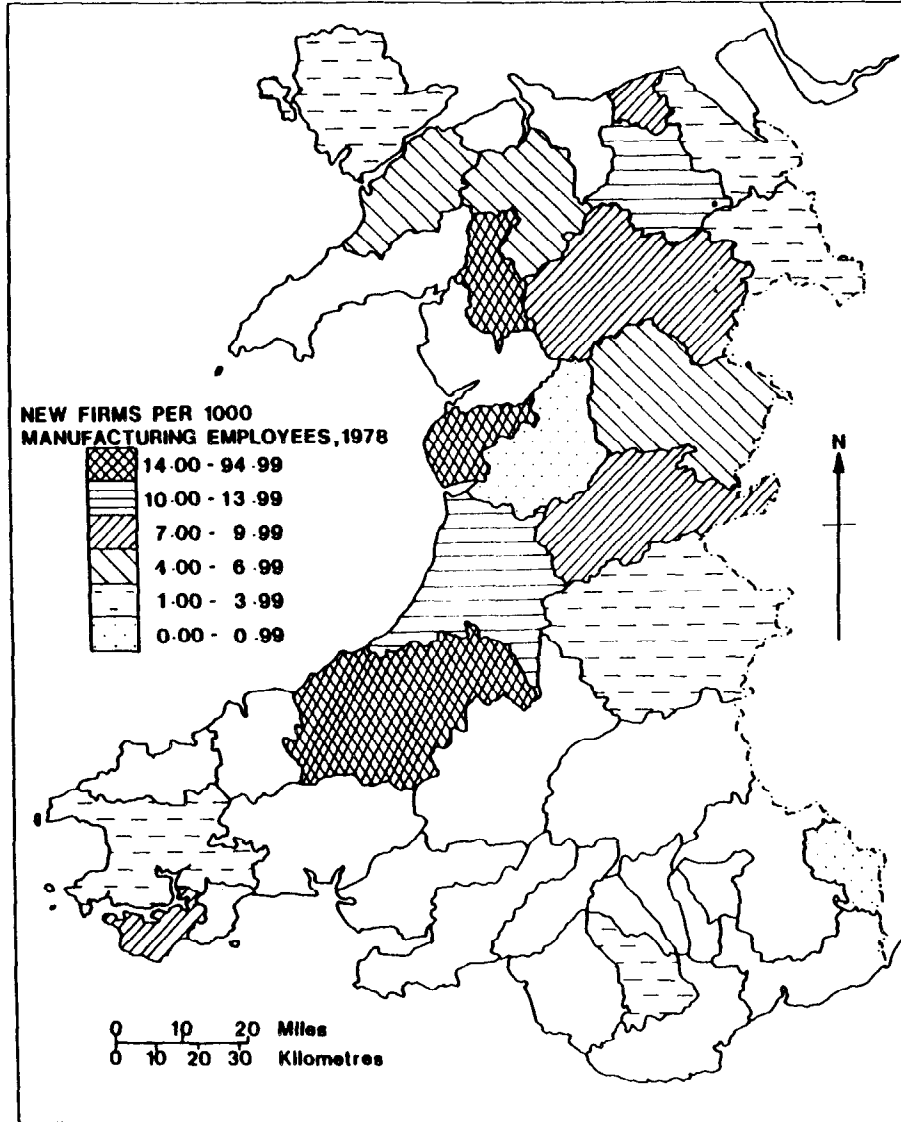
## **RESULTS OF THE NEW MANUFACTURING FIRM SURVEY**

### **New Firm Formation: Scale, Structure and Comparisons**

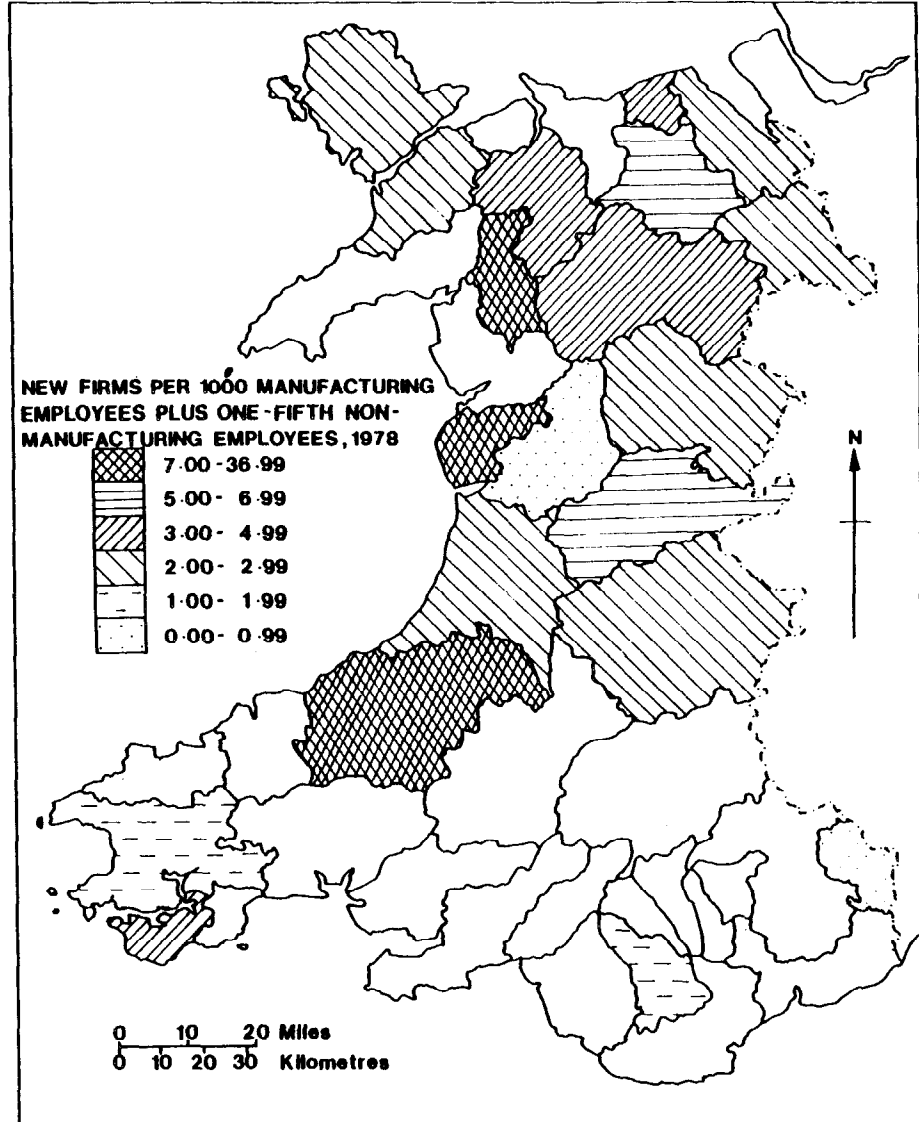
In line with previous research, the surveyed new firms have made a very small impact on job generation in the region with 2,070 jobs being created in the 269 surveyed new firms (mean = 7.70, median = 4) (Table 2). In the rural TTWAs 146 new firms were interviewed (Figure 3) and these firms had created 778 jobs (mean = 5.33, median = 3) whilst in the urban TTWAs surveyed the 123 new firms had created 1,292 new jobs with the mean sizes of these firms (mean = 10.50, median = 5) being larger than for rural TTWAs ( $t = -3.35$ , significant difference at the 0.001 level of significance). Interestingly, the mean employment level recorded in the survey as a whole is similar to the mean number of jobs gained per firm found in the USA by Teitz et al. (1981) in California and Birley (1986) in St. Joseph County, Indiana. In the short run, and taking the surveyed TTWAs as a whole, new manufacturing firms have provided relatively few jobs relative to the level of total manufacturing employment in the surveyed TTWAs in 1981.

Also, formation rates were calculated in order to take account of the size of the existing manufacturing bases of the surveyed rural and urban TTWAs - firm formation is expressed as - the number of surviving new firms formed in an area per 1,000 manufacturing employees in the base year prior to formation of 1978. Rural TTWAs had an unadjusted formation rate nearly three times larger than the urban areas (7.32 and 2.38 firms per 1,000 manufacturing employees in 1978, respectively). From Figure 4a it is apparent that the highest firm formation rates occurred in the following less-industrialised rural TTWAs: Tywyn, Lampeter, Blaenau Ffestiniog and Denbigh. On a technical point, Gudgin and Fothergill (1984, p.205) suggested that formation rates based on manufacturing employees alone cause "an arbitrary and misleading exaggeration of formation rates in rural areas" and that formation rates should be recalculated using manufacturing employment plus 20% of other non-manufacturing total employment in order to remove the bias in the formation rate denominator. Even when a wider employment denominator was used the sharp contrast in formation rates between rural and urban TTWAs remained (Figure 4b).

**NEW MANUFACTURING FIRM FORMATION RATES IN SURVEY TTWAs IN WALES, 1979-1985 (RATE 1)**



**NEW MANUFACTURING FIRM FORMATION RATES IN SURVEY TTWAs IN WALES, 1979-1985 (RATE 2)**



In terms of the industrial composition of surveyed new firms in Wales, it is apparent from Table 3 that the largest number found in rural areas were in Timber, Furniture, etc (SIC 17); Bricks, Pottery, Glass, Cement, etc (SIC 16); Metal Goods n.e.s. (SIC 12) and Other Manufacturing Industries (SIC 19), whilst in urban TTWAs it was in Timber, Furniture, etc (SIC 17); Metal Goods n.e.s. (SIC 12); Other Manufacturing Industries (SIC 19); and Mechanical Engineering (SIC 7). This table also indicates the existing manufacturing composition of the surveyed rural and urban TTWAs in Wales, together with variations in barriers-to-entry. In rural TTWAs - high formation rates are associated with low barriers-to-entry and a high turnover of firms. Either no new firm formation or low formation rates were recorded in Coal and Petroleum (SIC 4); Metal Manufacture (SIC 6); Metal Manufacture (SIC 6); Vehicles (SIC 11) and Food, Drink and Tobacco (SIC 3) is in part due to high barriers-to-entry and the importance of large plants with high economies of scale in production. In the urban TTWAs the highest firm formation rates were recorded in Timber, Furniture, etc (SIC 17); Shipbuilding and Marine Engineering (SIC 10) (this high formation rate is in part due to the very small 1978 manufacturing employment denominator); Metal Goods n.e.s. (SIC 12); Other Manufacturing Industries (SIC 19) and Bricks, Pottery, Glass, Cement, etc (SIC 16). In contrast, low formation rates or no new firms at all were recorded in the following capital intensive high barriers-to-entry industries: Coal and Petroleum Products (SIC 4); Steel Manufacture (SIC 6); and Vehicles (SIC 11).

In Table 4 firm formation rates between rural and urban areas in Wales are compared with formation rates in different areas of the British Isles. This table has standardised formation rates which enables direct comparison between one study and another. The standardised rate is the manufacturing firm formation rate for each area (see above) divided by the number of years covered by the study. In comparison with other areas of the British Isles, rural TTWAs in Wales (and urban areas in Wales in most instances) clearly experienced a high rate of new manufacturing firm formation. It is striking to note that the standardised rate for rural TTWAs in Wales is even higher than that reported for the Republic of Ireland. The standardised formation rate for urban TTWAs in Wales was, contrary to expectations, higher than that found in Norfolk and Suffolk with comparison with Northern England and Scotland rates being particularly noteworthy. This table indicates that firm formation in the surveyed TTWAs in Wales is at a very high level which in part may be due to the period of the present survey which covered the 1978 to 1982 recession in the UK. Moreover, Table 5 indicates that 75 new firms in rural areas (51.4%) were established since 1982 whilst in urban TTWAs 58 firms (47.2%) were established since 1982. This 'push' explanation will be

explored in greater detail in the remainder of this paper but at this stage it can be suggested that those individuals who had lost their jobs or were threatened with losing their jobs between 1979 and 1982 had gone and set their business up after 1982 when there was an increase in demand for their products and services.

#### Characteristics of the New Firms

Table 6 indicates that the present employment sizes of surveyed firms in rural TTWAs was statistically significantly smaller than those for urban TTWAs. In rural TTWAs 71.2% of firms were less than 6 employees in size whilst only 2.1% of firms were larger than 25 employees in size. Conversely, in the urban TTWAs 63 firms (51.2%) were less than 6 employees in size. From Table 7 it is apparent that there is no statistically significant difference in the number of firms in each of the two types of areas by the industrial category of the new firms.

With regard to the current turnover of the surveyed new firms, Table 8 shows that there is a statistically significant difference between firms in rural and urban areas. In rural TTWAs 41.0% of firms had a turnover less than £20,000 compared to 14.6% of firms in urban TTWAs. Surveyed firms in urban areas had generally larger levels of turnover with 15.4% of firms in urban areas having a turnover of £500,000 or more. No statistically significant difference was recorded between rural and urban TTWAs in terms of current net profitability (Table 9). However, from Table 9 it is apparent that more firms in urban TTWAs (65.9%) were making a net profit in contrast to rural TTWAs (56.6%).

A statistically significant difference between rural and urban areas is presented in Table 10 with regard to the percentage of turnover sold in Wales. From this table it can be inferred that new firms in rural TTWAs relied upon local Welsh markets more than new firms in urban TTWAs. For example, 45.2% of new firms in rural TTWAs sold over 80% of their turnover in Wales whilst only 26.0% of new firms in urban TTWAs did the same. Moreover, no statistically significant difference was recorded between new firms in terms of the percentage of turnover exported abroad (Table 11). In both rural and urban TTWAs over 69% of turnover was sold within the UK. Proportionally, however, more new firms in rural TTWAs rather than urban TTWAs exported more than 5% of their turnover abroad (15.1% and 11.4% of new firms, respectively). From Table 12 it can be inferred that there is a statistically significant difference between rural and urban TTWAs in their propensity to sell their turnover to industry. This table suggests that markedly more new

firms in urban TTWAs than in rural TTWAs sold greater than 90% of their turnover to industry (61.8% and 39.7% of new firms, respectively). Furthermore, Table 13 indicates that a statistically significant difference between the type of work done by new firms is apparent between rural and urban TTWAs. In rural TTWAs the majority of new firms made mainly their own products (55.0% of new firms) whilst in urban TTWAs the majority of new firms made mainly specification orders (64.0% of new firms). The above tables have suggested that new firms in rural TTWAs were generally making their own products which were essentially sold within Wales perhaps serving immediate local demand and the tourist industry. In contrast new firms in urban TTWAs were mainly involved in making specification products for industry which was sold both in Wales serving local markets as well as supplying markets in the rest of the United Kingdom.

#### The Characteristics of the New Firm Founders

The picture of founder characteristics which emerge from the new firm survey in rural and urban TTWAs is of considerable interest, both intrinsically and because it indicates the applicability of a range of factors which have been hypothesised as being associated with new firm formation. Of course, founders in both rural and urban TTWAs in Wales do exhibit certain characteristics which are similar to those of their counterparts elsewhere in the United Kingdom.

Table 14 shows that significantly more surveyed principal founders in urban TTWAs were male. In fact, in urban TTWAs 94.3% of principal founders were male whilst in rural TTWAs it was 84.9%. The survey results also show that the founders' motivations to start the new firm were similar between rural and urban TTWAs (Table 15). In both types of areas the main motivation was to exploit a perceived market opportunity closely followed by the motivations of being forced into entrepreneurship and a desire for independence. Moreover, prior to start-up over 26.0% of founders in both types of areas were unemployed (Table 16). This evidence and the founders motivations prior to start-up indicate that the majority of founders in both rural and urban locations were markedly more motivated by positive intentions rather than negative factors. Also, from the above results it may be suggested that the recession-push theory (Atkin et al., 1983; Binks and Coyne, 1983; Creedy and Johnson, 1983; Binks and Jennings, 1986) does have some general applicability because a sizeable proportion of founders were 'pushed' into entrepreneurship.

At the time of start-up, no statistically significant difference was recorded between the ages of founders in rural and urban TTWAs. In fact, 56.2% and 54.5% of new firm founders in rural and urban

TTWAs were aged between 30 and 45 years of age (Table 17). From this evidence it can be inferred that founders in both rural and urban TTWAs had considerable work experience and may have developed some useful personal contacts or 'networks' which possibly could have influenced the new firm formation process in some positive way.

A most striking finding of the new firm survey is indicated in Table 18 in which new firm founders in Wales differ from their counterparts elsewhere. No less than 65.4% of founders surveyed in Wales were immigrants to the Principality, only 34.6% of founders were born in Wales. This is in marked contrast to the situation in northern England (Johnson and Cathcart, 1979; Lloyd, 1980), Midland England (Gudgin, 1978), rural eastern England (Keeble and Gould, 1985) and southern England (Mason, 1982). In terms of the birthplace of founders Table 18 shows that markedly more founders in the environmentally attractive less industrialised and rural TTWAs were born outside Wales. The reason for this high level of immigration into rural as well as urban TTWAs is in part detailed in Table 19. From this table it can be suggested that immigrant founders in urban TTWAs mainly established their new firms in Wales due to reasons of a previous employment position and factory availability. Whilst in rural TTWAs a wider range of reasons for moving to Wales were identified with the most frequently noted being family reasons, the environment, previous employment position and a house we could afford. In general, then founders in Wales differ from those in other self-contained regions (with the exception of East Anglia as noted by Keeble and Gould (1985)) in being influenced more significantly by considerations of immigration into Wales prior to formation for a previous employment position, family reasons and the environment of Wales.

#### Personal Background of the New Firm Founder

Table 20 shows that a larger percentage of founders in rural TTWAs had fathers who had last been employed as high grade professionals (26.9%) or small proprietors or self-employed artisans (21.4%). Moreover, Table 21 indicates that more new firm founders in rural TTWAs rather than urban TTWAs had parents who had started an independent business (34.9% and 21.1% of founders, respectively). From this evidence it can be suggested that founders in rural TTWAs had been born into families which had a stronger entrepreneurial tradition than those in urban TTWAs.

In terms of credentialised qualifications achieved by founders no statistically significant differences were recorded between founders in rural and urban TTWAs (Table 22). It is, however, interesting to note

that more founders in urban TTWAs had City and Guilds type qualifications than their rural counterparts (27.6% and 25.5% of founders, respectively) whilst more rural founders had a first and a postgraduate degree (13.8% and 10.6% of founders, respectively). Also, the high percentage level of founders in both rural and urban TTWAs in Wales is comparable to the level recorded by founders in East Anglia by Keeble and Gould (1985).

Table 23 shows that no statistically significant difference was recorded between founders in terms of previous experience of founding an independent business. In rural TTWAs 36.3% of founders had done so whilst in urban TTWAs it was 31.7% of founders. Therefore, in both areas a sizeable minority of founders had previous founding experience.

#### Characteristics of the New Firm Founders Last Employer Prior to Start-Up

The survey results show a statistically significant difference between the two areas in terms of the last employment position held by founders immediately prior to start-up (Table 24). In urban TTWAs a larger percentage of founders had last held managerial (42.4%) and operative (33.8%) positions than in rural TTWAs (36.3% and 30.8%, respectively) immediately prior to start-up. Moreover, in rural TTWAs a slightly larger percentage of founders than in urban TTWAs had last had a self-employed employment position (16.4% and 10.4%, respectively). This evidence suggests that managerial experience was a strong promoting influence on new firm formation in urban TTWAs.

Table 25 indicates that significantly more founders in urban rather than rural TTWAs had been last employed in a manufacturing establishment (77.2% and 55.2% of founders, respectively). In fact, in rural TTWAs 32.4% of founders had last been employed in a services establishment. Similarly, from Table 26 it is apparent that there is a statistically significant difference between the two areas in terms of employment size of the founders' last employer. In rural TTWAs, 42.9% of founders were last employed in establishments with 10 or fewer employees whilst only 7.1% of founders had been employed in establishments with more than 499 employees. In contrast, 23.9% and 17.7% of founders in urban TTWAs were last employed in establishments with 10 or fewer employees and more than 499 employees, respectively. Moreover, with regard to the corporate status of founders with a last employer which was a manufacturing establishment Table 27 shows that a statistically significant difference exists between rural and urban TTWAs. In rural TTWAs the majority of founders were last employed in local manufacturing



establishments (55.8%) whilst in urban TTWAs local manufacturing (43.8%) and UK national manufacturing (36.5%) establishments were found to be more important incubators.

The evidence presented in Table 28 indicates that no statistically significant difference was recorded between the two areas in terms of the location of the previous employer prior to start-up. In fact, in both rural and urban TTWAs over 39% of founders had established their new firm in the same Welsh TTWA location as their previous employer prior to start-up. However, it must be stated, that slightly fewer founders in rural TTWAs than in urban TTWAs had established their new firm in the same TTWA location as their previous employer prior to start-up. This evidence confirms the well established fact that the majority of new firm founders establish their new enterprises in the general vicinity of their previous employment and place of residence. Also, these latter findings confirm a key point underpinning behavioural explanations of spatial variations in firm formation rates, whether these focus on the local occupational, or local firm size structure.

#### Access to Finance and the Influence of Development Agencies on the New Firm Formation Process

Table 29 suggests that significantly more founders in urban areas had access to more than one source of finance. In rural TTWAs 49.7% of founders relied upon a single source of finance whilst in urban TTWAs it was 35.8% of founders. In fact, in urban TTWAs 9.8% of founders had used more than three sources of finance. However, from Table 30 it does appear that founders in both rural and urban areas had relied mainly upon personal savings as their main source of finance during the start-up period.

The survey results also indicate that in both areas over 70% of founders found the response of development agencies helpful (Table 31). The main reason found for contacting agencies was with regard to information about premises and significantly more founders in urban TTWAs did, however, stress this reason (Table 32). Another reason for contacting agencies was grant availability and financial assistance and again significantly more founders in urban TTWAs indicated this was a reason for contacting development agencies (Table 33). Finally, Table 34 shows that a further reason for contacting agencies was to gain advice and information. In this respect no statistically significant difference was recorded between rural and urban TTWAs.

## **SUMMARY AND CONCLUSIONS**

This paper has shown that a wide range of detailed information can be distilled from a large survey of new firm founders. Also, through the adoption of a micro-level approach to the study of new firm formation the importance of behavioural considerations have been found to be of intrinsic interest but also of help in order to understand why rates of firm creation and survival are higher in less industrialised rural TTWAs than in more traditionally industrialised urban TTWAs. The range of hypotheses derived from previous research were found to have had some general applicability in both rural and urban TTWAs. However, the evidence from the new firm survey supports the view that high rates of new firm formation in rural TTWAs is primarily explained by behavioural considerations reflecting a process of immigration into these areas. This immigration into Wales is a response to job growth in essentially small local manufacturing companies and a preference on family reasons to reside in rural areas which have strong physical environmental attractions.

In summary new firms in rural TTWAs tended to be smaller than their urban counterparts in terms of present employment size and current levels of turnover. New firms in rural TTWAs could be suggested to be more orientated to craft industries because they were found to be mainly involved in making their own products and selling the vast majority of their turnover to local areas of demand such as the tourist market. Moreover, founders in rural as well as urban TTWAs did exhibit certain characteristics which were similar but in a number of instances statistically significant differences were recorded between rural and urban founders. To reiterate, more founders surveyed in rural TTWAs were female than in urban TTWAs. Markedly more founders in rural TTWAs were immigrants and had moved into rural Wales for a variety of personal, employment and environmentally related reasons. Moreover, founders in rural TTWAs had a stronger tendency to have been born into a family with an entrepreneurial tradition. Founders in rural TTWAs were drawn from a wider range of last occupational backgrounds than their counterparts in urban TTWAs and a smaller proportion had last worked in a manufacturing establishment. Their last employers also tended to be smaller in employment size and were more locally controlled. During the start-up period founders in rural TTWAs predominantly relied upon a single source of finance with that being personal savings. Finally, the founders in rural TTWAs claimed that the help given by development agencies had been helpful.

In conclusion, it can be suggested that the survey results presented in this paper has led to a better understanding of why there is a marked rural-urban contrast in firm creation in Wales. Also, through the use of detailed survey results a better understanding of the characteristics of both new firms and new firm

founders has been presented. Hopefully this research will enable policy makers to more fully understand the characteristics and motivations of new firm founders and to re-emphasise the fact that new firms can make a modest contribution to job generation in the short-term.

**TABLE 1: FACTORS IDENTIFIED BY THE NEW FIRM RESEARCH LITERATURE WHICH ARE ASSOCIATED WITH BEING EITHER POSITIVELY OR NEGATIVELY ASSOCIATED WITH THE RATE OF NEW FIRM FORMATION IN LABOUR MARKETS**

Factors	Surrogate Variables	Hypothesis positively or negatively associated with new firm formation
1. Rurality	High % of population living in towns of over 5,000 population.	Negatively
	High land area density (or low population density).	Positively
2. Entry into industry	High % of population in low entry barrier industries.	Positively
	High % of population in heavy industries.	Negatively
	High % of population in mining and quarrying industries.	Negatively
3. Degree of local autonomy	High % of total manufacturing employment in indigenous plants.	Positively
	High % of total manufacturing employment in foreign-controlled plants.	Negatively
4. Size of 'incubator' firm	High % of total manufacturing employment in plants employing fewer than 25 persons.	Positively
	High % of total manufacturing employment in plants employing 500 or more persons.	Negatively
5. Occupational experience	High % of population in managerial and professional groupings.	Positively
	High % of population in manual groupings.	Negatively
6. Self-Employment	High % of population being self-employed.	Positively
7. Turbulence	High employment loss rate in manufacturing plant closures.	Positively
	High rate of manufacturing establishment closures.	Positively
8. Education	High % of population with higher degrees.	Positively
9. Access to capital	High savings per head of population.	Positively
	High house-owning population.	Positively
10. Market demand	High regional income distribution.	Positively
	High rate of change in manufacturing employment growth.	Positively
	High rate of change in total employment growth.	Positively
11. Premises	Availability and low cost of premises.	Positively
12. Unemployment	High % change in the rate of unemployment.	Positively

Sources: Cooper (1971); Johnson & Cathcart (1979); Cross (1981); Fothergill & Gudgin (1982); Storey (1982); Gould & Keeble (1984); Gudgin & Fothergill (1984); Lloyd & Mason (1984); O'Farrell & Crouchley (1984); Whittington (1984); Storey and Jones (1987).

**Table 2: Employment Creation in Surveyed New Manufacturing Firms, 1979-1985**

Type of area	Total number of surviving new firms	New firm employment in 1985	Mean	Median	New firm employment as a percentage of total manufacturing employment, 1981
Rural	146	778	5.33	3	3.6
Urban	123	1,292	10.50	5	2.7
Total	269	2,070	7.70	4	3.0

**Table 3: Surveyed New Manufacturing Firms in Wales: Industrial Distribution**

Standard Industrial Category (1968)	Rural				Urban				Total			
	No.	Firm formation rate	New firm employment, 1985	% of total 1981 manufacturing employment	No.	Firm formation rate	New firm employment, 1985	% of total 1981 manufacturing employment	No.	Firm formation rate	New firm employment, 1985	% of total 1981 manufacturing employment
3 Food, drink and tobacco	4	2.10	14	0.7	7	1.97	83	2.3	11	2.01	97	1.8
5 Chemicals and allied industries	2	4.29	11	2.4	7	2.22	50	1.6	9	2.48	61	1.7
6 Metal Manufacture	0	0.00	0	0.0	1	0.22	6	0.1	1	0.14	6	0.1
7 Mechanical engineering	12	4.69	158	8.1	11	3.50	96	3.1	23	4.04	252	4.4
8 Instrument engineering	4	4.71	13	1.5	1	3.58	3	1.1	5	4.43	16	1.4
9 Electrical engineering	8	5.50	44	3.0	7	1.56	103	2.3	15	2.52	147	2.5
10 Shipbuilding and marine engineering	3	8.06	3	0.8	1	125.0	2	25.0	4	10.53	5	1.3
11 Vehicles	1	2.32	2	0.5	8	1.07	77	1.0	8	1.13	79	1.0
12 Metal goods n.e.s.	13	10.57	64	5.2	16	5.88	135	5.0	29	7.34	199	5.0
13 Textiles	10	7.56	55	4.2	3	0.86	57	1.6	13	2.69	112	2.3
14 Leather, leather goods and fur	1	4.90	3	1.5	0	0.00	0	0.0	1	2.79	3	0.8
15 Clothing and footwear	7	3.81	65	3.5	3	1.37	58	2.7	10	2.49	123	3.1
16 Bricks, pottery, glass, cement, etc.	19	14.84	69	5.4	9	3.08	43	1.5	28	6.66	112	2.7
17 Timber, furniture, etc	39	32.91	145	12.2	27	11.88	166	7.3	66	19.09	311	9.0
18 Paper, printing and publishing	10	6.19	44	2.7	6	2.51	40	1.7	16	3.99	84	2.1
19 Other manufacturing	13	8.59	90	5.9	16	5.67	373	13.2	29	6.69	463	10.7
Total	146	6.68	778	3.6	123	2.62	1,292	2.7	269	3.91	2,070	3.0

Notes: Firm formation rate: surviving new firms formed 1st January 1979 to 31st December 1985 per 1,000 manufacturing employees in 1978

**Table 4: National Comparisons of New Manufacturing Firm Formation**

Author (s)	Area	Time period	Number of surviving new firms	Standardised firm formation rate
Cleveland County Council (1982)	Cleveland	1965-78	165	0.10
Durham County Council (1982)	Durham	1965-78	238	0.25
Tyne and Wear County Council (1982)	Tyne and Wear	1965-78	486	0.17
Lloyd (1980) and Lloyd and Dicken (1979)	Greater Manchester	1966-75	2,312	0.57
Lloyd (1980) and Lloyd and Dicken (1979)	Merseyside	1966-75	533	0.36
Fothergill and Gudgeon (1979, 1982) and Gudgeon et al. (1979)	East Midlands	1968-75	1,650	0.42
Cross (1981)	Scotland	1968-77	504	0.08
Mason (1982)	South Hampshire	1971-79	333	0.34
Gould and Keeble (1984)	Cambridgeshire	1971-81	313	0.57
Gould and Keeble (1984)	East Anglia	1971-81	703	0.37
Gould and Keeble (1984)	Norfolk	1971-81	208	0.30
Gould and Keeble (1984)	Suffolk	1971-81	182	0.28
O'Farrell and Crouchley (1984)	Republic of Ireland	1971-81	1,482	0.81
Healey and Clark (1984)	Coventry	1974-82	152	0.15
Healey (1984)	Warwick	1974-83	79	0.40
Present Study	Rural TTWAs in Wales	1979-85	177	1.05
Present Study	Urban TTWAs in Wales	1979-85	158	0.34
Present Study	Surveyed TTWAs in Wales	1979-85	335	0.53

**Table 5: Year of Foundation of Surveyed New Firms**

Year of foundation	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
1979	29	19.9	14	11.4	43	16.0
1980	12	8.2	13	10.6	25	9.3
1981	14	9.6	20	16.3	34	12.6
1982	16	11.0	18	14.6	34	12.6
1983	21	14.4	19	15.4	40	14.9
1984	21	14.4	17	13.8	38	14.1
1985	33	22.6	22	17.9	55	20.4
<b>TOTAL</b>	<b>146</b>	<b>100.1</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>99.9</b>

$\chi^2 = 7.26$  d.f. = 6  $\chi^2_{0.05} = 12.59$  Accept  $H_0$ .

**Table 6 Present Employment Sizes of Surveyed New Firms**

Employment size groups	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
1 - 5	104	71.2	63	51.2	167	62.1
6 - 10	28	19.2	20	16.3	48	17.8
11 - 15	10	6.8	14	11.4	24	8.9
16 - 25	1	0.7	17	13.8	18	6.7
≥ 26	3	2.1	9	7.3	12	4.5
<b>TOTAL</b>	<b>146</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>100.0</b>

$\chi^2 = 27.52$  d.f. = 4  $\chi^2_{0.001} = 18.46$  Reject  $H_0$ .

**Table 7: Number of Surveyed New Firms by Standard Industrial Category (1968) Order**

SIC (1968) order		Rural		Urban		Total	
		Nb.	%	Nb.	%	Nb.	%
3	Food, drink and tobacco	4	2.7	7	5.7	11	4.1
5, 6 & 10	Chemicals and allied industries, metal manufacture shipbuilding and marine engineering	5	3.4	9	7.3	14	5.2
7	Mechanical engineering	12	8.2	11	8.9	23	8.6
8	Instrument engineering	4	2.7	1	0.8	5	1.9
9	Electrical engineering	8	5.5	7	5.7	15	5.6
11	Vehicles	1	0.7	8	6.5	9	3.3
12	Metal goods n.e.s.	13	8.9	16	13.0	29	10.8
13	Textiles	10	6.8	3	2.4	13	4.8
14 & 15	Leather, leather goods and fur and clothing and footwear	8	5.5	3	2.4	11	4.1
16	Bricks, pottery, glass, cement, etc	19	13.0	9	7.3	28	10.4
17	Timber, furniture, etc	39	26.7	27	22.0	66	24.5
18	Paper, printing and publishing	10	6.8	6	4.9	16	5.9
19	Other manufacturing industries	13	8.9	16	13.0	29	10.8
<b>TOTAL</b>		<b>146</b>	<b>99.8</b>	<b>123</b>	<b>99.9</b>	<b>269</b>	<b>100.0</b>

$\chi^2 = 20.92$  d.f. = 12  $\chi^2_{0.05} = 21.03$  Accept  $H_0$ .

**Table 8 Current Level of Turnover of Surveyed Firms**

Current level of turnover		Rural		Urban		Total	
		No.	%	No.	%	No.	%
< £20,000		59	41.0	18	14.6	77	28.8
£20,000 - £49,999		39	27.1	27	22.0	66	24.7
£50,000 - £99,999		18	12.5	16	13.0	34	12.7
£100,000 - £499,999		28	18.1	43	35.0	69	25.8
> £500,000		2	1.4	19	15.4	21	7.9
TOTAL		144	100.1	123	100.0	267	99.9

$\chi^2 = 40.68$  d.f. = 4  $\chi^2_{0.001} = 18.46$  Reject  $H_0$ .

**Table 9 Current Level of Net Profitability of Surveyed New Firms**

Current level of net profitability	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Loss	24	16.6	21	17.1	45	16.8
Broke Even	39	26.9	21	17.1	60	22.4
Profit	82	56.6	81	65.9	163	60.8
TOTAL	145	100.1	123	100.1	268	100.0

$\chi^2 = 3.83$  d.f. = 2  $\chi^2_{0.05} = 5.99$  Reject  $H_0$ .

**Table 10 Percentage of Turnover Sold in Wales by Surveyed New Firms**

Percentage of turnover sold in Wales	Rural		Urban		Total	
	No.	%	No.	%	No.	%
0	11	7.5	15	12.2	26	9.7
1 - 10	24	16.4	33	26.8	57	21.2
11 - 50	128	17.8	21	17.1	47	17.5
51 - 80	19	13.0	22	17.9	41	15.2
81 - 100	66	45.2	32	26.0	98	36.4
TOTAL	146	99.9	123	100.0	269	100.0

$\chi^2 = 12.71$  d.f. = 4  $\chi^2_{0.05} = 9.49$  Reject  $H_0$ .

**Table 11 Percentage of Turnover Exported Abroad by New Firms**

Percentage of turnover exported	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
0	101	69.2	93	75.6	194	72.1
1 - 5	23	15.8	16	13.0	39	14.5
6 - 100	22	15.1	14	11.4	36	13.4
<b>TOTAL</b>	<b>146</b>	<b>100.1</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>100.0</b>

$\chi^2 = 1.41$  d.f. = 2  $\chi^2_{0.05} = 5.99$  Accept  $H_0$

**Table 12 Percentage of Turnover Sold to Industry by Surveyed New Firms**

Percentage of turnover sold to industry	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
0	77	52.7	41	33.3	118	43.9
1 - 90	11	7.5	8	4.9	17	6.3
91 - 100	58	39.7	78	61.8	134	49.8
<b>TOTAL</b>	<b>146</b>	<b>99.9</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>100.0</b>

$\chi^2 = 13.00$  d.f. = 2  $\chi^2_{0.05} = 9.21$  Reject  $H_0$

**Table 13 Type of Work Done by Surveyed New Firms**

Type of work done	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
Mainly specification orders	63	45.0	73	64.0	136	53.5
Mainly own products	77	55.0	41	36.0	118	46.5
<b>TOTAL</b>	<b>140</b>	<b>100.0</b>	<b>114</b>	<b>100.0</b>	<b>254</b>	<b>100.0</b>

$\chi^2 = 8.40$  d.f. = 1  $\chi^2_{0.01} = 6.64$  Reject  $H_0$



**Table 14 Gender of Surveyed New Firm Founders**

Gender of new firm founders	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Male	124	84.9	116	94.3	240	89.2
Female	22	15.1	7	5.7	29	10.8
<b>TOTAL</b>	<b>146</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>100.0</b>

$\chi^2 = 5.17$  d.f. = 1  $\chi^2_{0.05} = 3.84$  Reject  $H_0$ .

**Table 15 Surveyed New Firm Founders' Motivations to Start the New Firm**

Motivation to start the new firm	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Forced into entrepreneurship	37	25.3	35	28.5	72	26.8
Desire for independence	35	24.0	26	21.1	61	22.7
To exploit a perceived market opportunity	47	32.2	38	30.9	85	31.6
Financial rewards	15	10.3	12	9.8	27	10.0
Frustration	8	5.5	11	8.9	19	7.1
Others	4	2.7	1	0.8	5	1.9
<b>TOTAL</b>	<b>146</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>100.1</b>

$\chi^2 = 3.00$  d.f. = 5  $\chi^2_{0.05} = 11.07$  Accept  $H_0$ .

**Table 16 Surveyed New Firm Founders Being Unemployed Prior to Start-Up**

Unemployed prior to start up	Rural		Urban		Total	
	No.	%	No.	%	No.	%
No	108	74.0	84	68.3	192	71.4
Yes	38	26.0	39	31.7	77	28.6
<b>TOTAL</b>	<b>146</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>100.1</b>

$\chi^2 = 0.79$  d.f. = 1  $\chi^2_{0.05} = 3.84$  Accept  $H_0$ .

**Table 17** Surveyed New Firm Founders' Age at Start-Up

Founders' age at start up	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
≤ 25	9	6.2	19	15.4	28	10.4
26 - 30	20	13.7	10	8.1	30	11.2
31 - 35	38	26.0	23	18.7	61	22.7
36 - 40	29	19.9	22	17.9	51	19.0
41 - 45	15	10.3	22	17.9	37	13.8
46 - 50	16	11.0	10	8.1	26	9.7
> 51	19	13.0	17	13.8	36	13.4
<b>TOTAL</b>	<b>146</b>	<b>100.1</b>	<b>123</b>	<b>99.9</b>	<b>269</b>	<b>100.2</b>

$\chi^2 = 12.50$  d.f. = 6  $\chi^2_{0.05} = 12.59$  Accept  $H_0$ .

**Table 18** Birthplace of Surveyed New Firm Founders

Location of birthplace	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
Outside Wales	107	73.3	69	56.1	176	65.4
Wales	39	26.7	54	43.9	93	34.6
<b>TOTAL</b>	<b>146</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>100.0</b>

$\chi^2 = 7.98$  d.f. = 1  $\chi^2_{0.01} = 6.64$  Reject  $H_0$ .

**Table 19** Surveyed New Firm Founders Reasons for Immigration into Wales - Number of Times Mentioned

Reason for move to Wales	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
Previous employment position	23	15.1	31	41.9	54	23.9
Family reasons	39	25.7	12	16.2	51	22.6
Environment	33	21.7	2	2.7	35	15.5
House we could afford	21	13.8	2	2.7	23	10.2
Factory availability	6	3.9	15	20.3	21	9.3
Others	30	19.7	12	16.2	42	18.6
<b>TOTAL</b>	<b>152</b>	<b>99.9</b>	<b>74</b>	<b>100.0</b>	<b>226</b>	<b>100.1</b>

$\chi^2 = 49.14$  d.f. = 5  $\chi^2_{0.001} = 20.52$  Reject  $H_0$ .

Table 20

## Surveyed New Firm Founders Fathers' Social Class Ranking

Fathers' social class ranking	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Higher grade professionals, administrators, proprietors and lower grade professionals, administrators and managers. Supervisors and higher grade technicians	39	26.9	21	17.1	60	22.4
Clerical, sales and rank and file service workers	14	9.7	10	8.1	24	9.0
Small proprietors and self-employed artisans	31	21.4	15	12.2	46	17.2
Others	61	42.1	77	62.6	138	51.5
<b>TOTAL</b>	<b>145</b>	<b>100.1</b>	<b>123</b>	<b>100.0</b>	<b>268</b>	<b>100.1</b>

$$\chi^2 = 11.76 \text{ d.f.} = 3 \quad \chi^2_{0.01} = 11.34 \text{ Reject } H_0$$

Table 21 Had Surveyed New Firm Founders Parents Started an Independent Business?

Had parents started a business?	Rural		Urban		Total	
	No.	%	No.	%	No.	%
No	95	65.1	97	78.9	192	71.4
Yes	51	34.9	26	21.1	77	28.6
<b>TOTAL</b>	<b>146</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>100.0</b>

$$\chi^2 = 5.56 \text{ d.f.} = 1 \quad \chi^2_{0.05} = 3.84 \text{ Reject } H_0$$

Table 22 Credentialed Qualifications Achieved by Surveyed New Firm Founders

Qualifications achieved	Rural		Urban		Total	
	No.	%	No.	%	No.	%
None	49	33.8	44	35.8	93	34.7
City and Guilds	37	25.5	34	27.6	71	26.5
ONCD and HNC/D	20	13.8	25	20.3	45	16.8
Professional and advanced diploma	19	13.1	7	5.7	26	9.7
First and postgraduate degree	20	13.8	13	10.6	33	12.3
<b>TOTAL</b>	<b>145</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>268</b>	<b>100.0</b>

$$\chi^2 = 6.21 \text{ d.f.} = 4 \quad \chi^2_{0.05} = 9.49 \text{ Accept } H_0$$

**Table 23**                      **Surveyed New Firm Founders Previous Experience of Founding an Independent Business**

Previous founding experience	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
No	93	63.7	84	68.3	177	65.8
Yes	53	36.3	39	31.7	92	34.2
<b>TOTAL</b>	<b>146</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>269</b>	<b>100.0</b>

$\chi^2 = 0.44$  d.f. = 1  $\chi^2_{0.05} = 3.84$  Accept  $H_0$

**Table 24**                      **Last Employment Position Held by Surveyed New Firm Founders Immediately Prior to Start-Up**

Last employment position	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
Managerial	53	36.3	61	49.6	114	42.4
Operative	45	30.8	46	37.4	91	33.8
Self-employed	24	16.4	4	3.3	28	10.4
Other non-manufacturing	24	16.4	12	9.8	36	13.4
<b>TOTAL</b>	<b>146</b>	<b>99.9</b>	<b>123</b>	<b>100.1</b>	<b>269</b>	<b>100.0</b>

$\chi^2 = 17.02$  d.f. = 3  $\chi^2_{0.001} = 16.27$  Reject  $H_0$

**Table 25**                      **Standard Industrial Category (1968) of the Surveyed New Firm Founders Last Employer Prior to Start Up**

S. I. C. (1968) of last employer	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
Manufacturing	80	55.2	95	77.2	175	65.3
Services	47	32.4	20	16.3	67	25.0
Remainder	18	12.4	8	6.5	26	9.7
<b>TOTAL</b>	<b>145</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>268</b>	<b>100.0</b>

$\chi^2 = 14.30$  d.f. = 2  $\chi^2_{0.001} = 13.82$  Reject  $H_0$

Table 26

## Employment Size of the Surveyed New Firm Founders Last Employer Prior to Start Up

Employment size of last employer	Rural		Urban		Total	
	No.	%	No.	%	No.	%
≤ 10	48	42.9	27	23.9	75	33.3
11 - 24	14	12.5	13	11.5	27	12.0
25 - 99	20	17.9	24	21.2	44	19.6
100 - 499	22	19.6	29	25.7	51	22.7
≥ 500	8	7.1	20	17.7	28	12.4
TOTAL	112	100.0	113	100.0	225	100.0

$$\chi^2 = 12.38 \text{ d.f.} = 4 \quad \chi^2_{0.05} = 9.49 \text{ Reject } H_0$$

Table 27

## Corporate Status of the Surveyed New Firm Founders Last Manufacturing Employer Prior to Start Up

Corporate status of last employer	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Local manufacturing	48	55.8	42	43.8	90	49.5
U.K. national manufacturing	15	17.4	35	36.5	50	27.5
U.K. international manufacturing	11	12.8	8	8.3	19	10.4
Foreign manufacturing	12	14.0	11	11.5	23	12.6
TOTAL	86	100.0	96	100.1	182	100.0

$$\chi^2 = 8.39 \text{ d.f.} = 3 \quad \chi^2_{0.05} = 7.82 \text{ Reject } H_0$$

Table 28

## Location of Surveyed New Firm Founders Last Employer Prior to Start Up

Location of last employer	Rural		Urban		Total	
	No.	%	No.	%	No.	%
This Welsh TTWA	57	39.3	54	43.9	111	41.4
Adjacent Welsh TTWA	18	12.4	19	15.4	37	13.8
Remainder of Wales	5	3.4	5	4.1	10	3.7
Outside Wales	65	44.8	45	36.6	110	41.0
TOTAL	145	99.9	123	100.0	268	99.9

$$\chi^2 = 1.95 \text{ d.f.} = 3 \quad \chi^2_{0.05} = 7.82 \text{ Accept } H_0$$

**Table 29** Number of Initial Sources of Finance Used by Surveyed New Firm Founders

Number of initial sources of finance	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
1	72	49.7	44	35.8	116	43.3
2	54	37.2	48	39.0	102	38.1
3	15	10.3	19	15.4	34	12.7
≥ 4	4	2.8	12	9.8	16	6.0
<b>TOTAL</b>	<b>145</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>268</b>	<b>100.1</b>

$\chi^2 = 9.84$  d.f. = 3  $\chi^2_{0.05} = 7.82$  Reject  $H_0$ .

**Table 30** Types of Initial Sources of Finance Used by Surveyed New Firm Founders: Number of Times Mentioned

Types of finance used	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
Personal savings	134	55.1	113	45.6	247	50.3
Loans / overdraft from clearing bank	57	23.5	65	26.2	122	24.8
House mortgage	17	7.0	18	7.3	35	7.1
Loans and gifts from friends and relatives	12	4.9	18	7.3	30	6.1
Others	23	9.5	34	13.7	57	11.6
<b>TOTAL</b>	<b>243</b>	<b>100.0</b>	<b>248</b>	<b>100.1</b>	<b>491</b>	<b>99.9</b>

$\chi^2 = 5.61$  d.f. = 4  $\chi^2_{0.05} = 9.49$  Accept  $H_0$ .

**Table 31** Surveyed New Firm Founders Response to the Role of Agencies

Response to the role of agencies	Rural		Urban		Total	
	Nb.	%	Nb.	%	Nb.	%
Not helpful	42	29.8	35	29.4	77	29.6
Helpful	99	70.2	84	70.6	183	70.4
<b>TOTAL</b>	<b>141</b>	<b>100.0</b>	<b>119</b>	<b>100.0</b>	<b>260</b>	<b>100.0</b>

$\chi^2 = 0.00$  d.f. = 1  $\chi^2_{0.05} = 3.84$  Accept  $H_0$ .

**Table 32**      **Surveyed New Firm Founders Reason for Contacting Agencies - Information About Premises**

Information about premises reason	Rural		Urban		Total	
	No.	%	No.	%	No.	%
No	29	20.0	16	13.0	45	16.8
Yes	116	80.0	107	87.0	223	83.2
<b>TOTAL</b>	<b>145</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>268</b>	<b>100.0</b>

$\chi^2 = 1.85$  d.f. = 1  $\chi^2_{0.05} = 3.84$  Accept  $H_0$ .

**Table 33**      **Surveyed New Firm Founders Reason for Contacting Agencies - Grant Availability and Financial Assistance**

Grant availability and financial assistance	Rural		Urban		Total	
	No.	%	No.	%	No.	%
No	50	34.5	26	21.1	76	28.4
Yes	95	65.5	97	78.9	192	71.6
<b>TOTAL</b>	<b>145</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>268</b>	<b>100.0</b>

$\chi^2 = 5.19$  d.f. = 1  $\chi^2_{0.05} = 3.84$  Reject  $H_0$ .

**Table 34**      **Surveyed New Firm Founders Reason for Contacting Agencies - Advice and General Information**

Advice and general information	Rural		Urban		Total	
	No.	%	No.	%	No.	%
No	43	29.7	39	31.7	82	30.6
Yes	102	70.3	84	68.3	186	69.4
<b>TOTAL</b>	<b>145</b>	<b>100.0</b>	<b>123</b>	<b>100.0</b>	<b>268</b>	<b>100.0</b>

$\chi^2 = 0.01$  d.f. = 1  $\chi^2_{0.05} = 3.84$  Accept  $H_0$ .

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