

Growth, Diversification, and Business Group Formation in Entrepreneurial Firms

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ABSTRACT. Recent empirical research has demonstrated that the growth process of entrepreneurial firms is frequently achieved through the formation of business groups: i.e. a set of companies run by the same entrepreneur (or entrepreneurial team). This has been hypothesised as result of a growth process by diversification of the original activity. This entrepreneurial growth process offers an alternative explanation for the formation of business Groups, than that arising from managerial efficiency and expediency. The main aim of the article is to explore group formation through entrepreneurial diversification using a sample of high growth entrepreneurial firms. The analysis demonstrates that the running of a group of companies by the same entrepreneur is not only induced by the geographical extension of their operation and by diversification but also by the differentiation policy aimed at serving different market segments within the same sector. This seems to contrast with the diversification policy and organisational setting of large, managerial firms.

KEY WORDS: business groups, diversification, entrepreneurship, habitual entrepreneurs.

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1. Introduction

Most large “companies” are not single homogeneous units, but groups of subsidiary companies under a parent holding company. There is a large variation in the number of companies in a group, but in the case of some diversified groups and conglomerates the number of companies can exceed a hundred. Tricker reported, for example, that the 50 top UK companies owned over 10000 subsidiary firms between them (Tricker, 1984). This contrasts with the small firms sector, which is assumed to consist mainly of single owner managed firms. This is normally the case in the smallest micro firms,¹ but recent research has established that more complex organisational forms exist in the small firms sector as firm size increases (Iacobucci, 2002; Rosa and Scott, 1999b). Multiple business ownership by habitual entrepreneurs increases from a low rate amongst sole traders to over a third when limited companies are examined. More formal organisational forms involving holding companies, more in keeping with company groups found in the large firm sector, become more in evidence in the case of high growth medium sized firms (Rosa, 1998).

The reasons for the formation and maintenance of company groups in the large firm sector have been linked to diversification processes and their impact on organisational structure and performance (Ramanujan and Varadarajan, 1989). Diversification in large firms has been associated with managers’ behaviour, and specifically to their preference for growth. Within this perspective, the causes of diversification are classified in three broad classes: the market power view, the agency view and the resource-based view (Montgomery, 1994). It is generally accepted that the organisational setting through which diversification is

carried out is that of the multidivisional structure (M-form). Having established a complex multidivisional structure (or complex federation of subsidiary companies), issues of organisational efficiency and corporate governance become the primary areas of concern to the overall company and its performance.

Until recently, however, this literature has not taken into account the potential importance of entrepreneurship processes in shaping business group formation. The importance of such processes has been demonstrated in other large firm organisational context, such as management buyouts, also previously thought to be purely explainable in terms of agency and management organisation theories (Wright et al., 2001).

Assuming entrepreneurial processes are potentially important in the context of business group formation, they can theoretically be of three kinds. First they could be associated with the actions of a dominant “owner” entrepreneur who exploits new business opportunities and adds new products and value to the existing business. This may result in new subsidiary companies being added to the group. Second, they may be linked to new value being found from below, from the activities of “intrapreneurs”. This again can result in companies spinning off to form or add to a group. Third, there is a combination of the two, when dominant CEOs though not owners may still indulge in entrepreneurial experimentation resulting in new ventures. There is now a widespread culture in large organisations that a firm cannot stand still, and that the “status quo is not an option”. The incentives to change can result in new entrepreneurial realignments of activities. As employees, accountable to shareholder owners, they may be intrapreneurs but in practice they act as entrepreneurs. Examples of all three processes can be found to be at work in large companies. Leading entrepreneurs such as Richard Branson and Rupert Murdoch illustrate that the “entrepreneur” is not just a small firm phenomenon. Indeed it could be argued that only in the large firm context do entrepreneurs express their full potential.

The importance of entrepreneurial processes in large firms has also been explored in the corporate entrepreneurship literature, which

examines the way in which existing firms manage the process of innovation and new venture exploitation (Sharma and Chrisman, 1999; Zahra et al., 1999 review this literature). These researchers pay attention mainly to the conditions for fostering innovation and “intrapreneurship” and to the ways of managing the venture process. They pay less attention, however, to the factors affecting the organisational setting of the new venture, and specifically to the choice between the development of the new venture within or outside the legal boundaries of the existing firm. The common wisdom is that “...the location and structure for a new venture will depend on a number of factors, the most fundamental being how close the activities are to the core business” (Tidd et al., 2001). As a result, the setting up or acquisition of a new subsidiary company is normally associated with unrelated diversification.

Little work has also been done on the empirical analysis of the growth process of entrepreneurial firms and specifically about the impact of new venture exploitation on the direction of growth and on the organisational setting of these firms. By an entrepreneurial firm we mean a firm that is owned and controlled by the same entrepreneur or entrepreneurial team.² Similarly, although there has been a lot of work on corporate diversification and its relationship to company performance, little empirical work has been undertaken on how the process of diversification is related to the formation of groups. Moreover, there is a paucity of research on the empirical complexities of diversification and how this impacts on our ability to measure it meaningfully.

These aspects are important research gaps that this paper tries to address referring to a sample of high grow entrepreneurial firms.

1.1. Definitions

In order to avoid any misunderstanding in the terms we are going to use, from now on we will adopt the following definitions:

- company (or business): a legal entity, normally a partnership or a limited company;

- group (or cluster): a set of companies under common control;³
- entrepreneur (or entrepreneurial team): a person(s) controlling a company or a group (through ownership) and directly involved in the management of it.⁴

The term firm is normally used as synonymous with of the legal unit (the company). In the case of entrepreneurial firms it is most appropriate to associated it to the group, being the latter a set of activities under a unitary control (for the same reason that a multidivisional firm is considered a firm).

The paper is organised as follows: Section 2 reviews the relevant literature and set the main propositions we are going to address in the empirical section; Section 3 describes the data and the variables used; Section 4 discusses the empirical results; the main conclusions are drawn in Section 5.

2. Entrepreneurial process and business group formation

If entrepreneurial processes are potentially important contributors to the formation and growth of the business groups, then this would imply that business groups are not just organisational structures *per se* but complex organic and dynamic outcomes of growth processes linked to entrepreneurial diversification. It would also suggest that the organisation of businesses into groups of companies would be as relevant for small firms as for larger ones. The scale of activities may be smaller in small firms, but the tendency towards group formation should still be detectable and in evidence.

Research since the 1980s has shown that owing more than one company is relatively common in the small business sector (Birley 1987; Donckels et al., and Westhead, 1993; Scott and Rosa, 1996). There also appears to be an increase in the incidence of multiple business ownership with firm size and complexity of organisation. Rosa and Scott (1996) reported multiple business ownership rising in incidence from less than 10% amongst small traders to over 30% in smaller limited companies. This pattern appears to be replicated in other countries although we lack systematic data allowing comparison between them. In Italy recent

data available from the intermediate Census of 1997 show that the phenomenon of groups is almost absent in firms of less than 10 employees, but grows steadily with company size, and becomes an important form of organization for medium sized firms; in some sectors more than half the companies in the class 100–249 employees declared they belonged to a group (see Table I). In firms exceeding 250 employees, the group appears to be the normal way of organising their activities. Other surveys conducted for the manufacturing sector show that the phenomenon is even more widespread than would appear to be indicated by official statistics (Iacobucci, 2002).

How far “groups” at the small and medium firm level genuinely reflect the outcome of dynamic entrepreneurial growth processes, rather than managerial constructs to optimise efficiency, remains a matter of debate. There is a growing literature which seems to ascribe – in part at least – the growth of business groups to the creative activities of special almost professional entrepreneurs, who “habitually” create new businesses. Several definitions have been used in the literature (Westhead and Wright, 1998): “serial entrepreneurs”, i.e. entrepreneurs who sell their original business but at a later date inherit, establish, and/or purchase another business; “portfolio entrepreneurs”, i.e. entrepreneurs who retain their original business and establish and/or purchase or inherit other businesses. Both categories are referred to as “habitual entrepreneurs” to contrast them to “novice” entrepreneurs, i.e. entrepreneurs who are at their first start-up (Birley and Westhead, 1993; Wright et al., 1997). Much of this current research has tried to establish what characterises these entrepreneurs in terms of performance, resources and behaviour when contrasted with novice entrepreneurs. Such an approach is limited, however, when related to explaining entrepreneurial processes in company groups, as it is possible, as mentioned earlier, for companies to emerge through the activities of intrapreneurs as well as dominant “habitual” entrepreneurs. Moreover such approach does not consider the entire growth process of business cluster formation by habitual entrepreneurs and, for this reason, it fails to capture the relationships between the new ventures and the ones already set up by the same entrepreneur.

TABLE I
Percentage of companies belonging to groups in Italy by sector and class of employees – 1997

Sectors	Class of employees					
	1–9	10–19	20–49	50–99	100–249	250 +
Mining	3.1	7.8	15.8	22.1	89.3	100.0
Manufacturing	0.8	3.8	12.3	23.2	43.9	72.7
Utilities	7.4	17.1	21.9	24.1	39.6	30.5
Construction	1.5	3.4	8.5	16.8	34.5	56.5
Wholesale trade, retail, repair, and maintenance	0.9	5.9	20.4	35.4	50.4	79.6
Accommodation and Food Services	0.4	1.8	12.6	19.6	29.5	61.0
Transportation	5.4	8.7	16.1	21.6	27.3	42.8
Finance and Insurance	10.3	28.4	47.7	51.1	59.2	77.9
Professional, Scientific, and Technical Services	1.3	7.5	17.5	27.7	29.7	43.3
Other Services (except Public Administration)	0.7	4.5	16.0	33.0	31.1	33.8
Total	1.4	4.8	14.2	25.1	41.2	65.3

Source: ISTAT, Intermediate Census, 1997.

Analysis of small groups, usually associated with a dominant entrepreneur or entrepreneurial family, has been described by Rosa (1998) and Rosa and Scott (1999a). Their approach involved mapping out each cluster, and interviewing the habitual entrepreneur responsible in terms of how and why each company was added to the group. The results were complex, showing that the motives and strategies for adding each new company by an entrepreneur were often different, and varied considerably according to circumstances. The company groups most associated with growth tended to be those that pursued strategies of related diversification, and had a corporate rather than “family” style of management. These studies whilst suggesting that strongly entrepreneurial processes were associated with the growth of medium sized groups of companies, nevertheless were exploratory in nature. They did not attempt a quantitative analysis of entrepreneurial growth processes, or relate them systematically to alternative explanations of cluster formation.

In this paper we draw on these studies to hypothesise that the setting up of new companies by the same entrepreneur is most commonly, though not exclusively, the result of a growth process by diversification (Rosa, 1998). Although a number of empirical studies have been reported regarding the process of entrepreneurial diversification and business group formation, several questions remain to be fully understood, both at the theoretical and empirical level (Wright et al.,

1998). Among these questions we concentrate our attention on the following: (a) the direction of growth and diversification and (b) the relationships between the diversification policy and business group formation.

2.1. Growth and diversification

Following the seminal works of Penrose (1959), Chandler (1962) and Rumelt (1974), the literature on diversification has focused its attention almost exclusively on large firms. Two aspects predominate in this literature: (a) to explain the causes of diversification and (b) to analyse its consequences on firms’ performance. Diversification in large firms has been mainly considered to result from the separation of ownership and control and from activities through which managers pursue their own objectives at the expense of shareholders (an agency costs perspective). For this reason researchers expect a negative relationship between the degree of diversification and firm’s performance. This same result is also predicted by the “resource based view” that distinguishes between related and unrelated diversification; related diversification results from the utilization of the specific competencies developed by the firm, while unrelated diversification is undertaken by managers merely for growth. For these reasons, related diversifiers should exhibit superior performance to that of unrelated (conglomerate) diversifiers. Empirical evidence generally supports these conclusions, although several caveats and exceptions are reported in the literature.⁵

In contrast to the literature on large firms few studies have addressed the theme of diversification in small entrepreneurial firms, either at a theoretical or empirical level. Diversification, it has been hypothesised, occurs: (a) as a survivalist strategy (Robson et al., 1993); (b) as a result of entrepreneurial "dynamics" (Donckels et al., 1987); (c) as the result of family or entrepreneur capital accumulation (Scott and Rosa, 1996).

Robson et al., (1993) find that in the case of very small firms (those with less than 30 employees) employment growth is higher for non-diversified than for diversified firms. For the other small firm classes (up to 200 employees) there is no significant difference in the rate of growth between diversified and undiversified firms. From these results the authors draw two main conclusions. The first is that in very small firms, entrepreneurs lack the resources and managerial skills to manage activities in diversified business; diversification is thus seen as a survivalist strategy in order to counterbalance the decline in the original business. In larger firms (within the range of 200 employees) Robson et al., (1993) found that diversified firms did not show higher grow rates than undiversified firms, especially in the long run (Robson et al., 1993, p. 47). One of the main limits of this work is that they associate the firm to the legal entity. We know that when the size of the firm increases, growth is achieved not only through the expansion of the existing one but also through the setting-up or the acquisition of new companies. Growth appears to be mainly the result of an entrepreneurial process "... in which the entrepreneur is constantly identifying and evaluating new opportunities ... Over time a significant 'portfolio' of surviving ventures (acquired or founded) can be built up" (Rosa, 1998, p. 44).

Empirical research by Rosa (1998) and Rosa and Scott (1999b) seems to demonstrate that related diversification is commonly associated with growth, that is when entrepreneurs seize opportunities arising from its existing activities. Unrelated diversification, where there is a sudden change of direction into a new business area, is relatively uncommon in the smaller business environment, and is less growth oriented. Rosa (1998) shows that both related and unrelated forms of diversification can lead to new

businesses being added to the business group. As related diversification resulting in the addition of new firms is only easily detectable in qualitative research approaches, however, this can give the impression that entrepreneurial firms are "less diversified" than managerial firms.

Entrepreneurial firms are characterized by ownership concentration and the direct involvement of the entrepreneur or entrepreneurial team in the effective control of the firm (a company or a group). These features eliminate one of the main causes of pursuing a diversification policy: i.e. the agency costs associated to the separation of ownership and control. At the same time there could be other reasons that justify an unrelated diversification policy in entrepreneurial firms. The first is the sub-optimal portfolio diversification of entrepreneur's wealth. Because it is mainly concentrated in the activities he/she controls, this could induce him/her to diversify in unrelated business to reduce specific risk.

Moreover the entrepreneurial growth process shows a lower degree of planning than one would expect in a managerial firm and the decision to pursue a diversified activity is often the product of serendipity and opportunism. This could result in a higher probability of seizing opportunities with no relationships with the ones already established. Rosa (1998) shows, however, that the planning of new ventures is less intense when the entrepreneur is doing well. Serendipity and opportunism can lead to rapid decisions being taken to diversify into a new company. This is usually in a related area of activity. When economic conditions are less favourable, however, the entrepreneur usually stops diversifying and "tightens his or her belt". Rosa (1998) reported that an undiversified smaller firm was often a clue to underlying financial problems. Only when problems become urgent did entrepreneurs pursue a strategy of survivalist diversification. This was usually a carefully planned process, and often involved unrelated diversification. This research thus points to complex diversification strategies followed by entrepreneurs in response to favourable and unfavourable economic climates.

A few papers compare diversification strategies in large and medium sized firms. In general they adopted the agency costs view and focused their

attention on the relationship between ownership concentration and diversification. Amihud and Lev (1999) found that ownership concentration is negatively associated with diversification, so confirming the agency costs hypothesis. Anderson et al. (2000) reached the same conclusion; however they suggested that firms can use alternative governance mechanisms as substitutes for CEO ownership and conclude that agency costs do not provide a complete explanation for the magnitude and persistence of the valuation discount associated to conglomerate diversification. Aw and Batra (1998) studied the relationship between size and diversification (product and geographical) for firms located in Taiwan and concluded that diversification is not only a large firm phenomenon, although the most common form of diversification for Taiwanese firms is geographic rather than product diversification. They found that the positive relationship between firm size and product diversification, typically found in developed countries, is valid only for the largest exporting firms. Bethel and Liebeskind (1998) demonstrated that the legal organisation of firms does influence the degree of diversification. Specifically, firms organised as a group of subsidiary companies show a higher degree of diversification than firms organised as a single legal unit (multidivisional firms). It is unclear, however, whether the group organisation is the result or the causes of diversification.

Overall we hypothesize that the growth process of entrepreneurial firms is primarily driven by a diversification process, although we expect that the degree of diversification, especially unrelated diversification, would be rather low.

2.2. *Diversification and business group formation*

A specific characteristic of the growth process of entrepreneurial firms seems to be that it is mainly achieved through the setting up of new companies, resulting in the formation of groups (or clusters).

Most of the research on groups has concentrated on large firms. This literature has put forward several explanations of why large firms are organised as a group, in developing as well as in most developed countries (Ghemawat and Khanna, 1998; Khanna, 2000 review this literature). Some authors have interpreted the

group as an efficient form of organisation of business activities compared with alternative organisational forms. The most common theoretical approach of this strand of literature is that of transaction costs, according to which the group is identified as an intermediate form between market and hierarchy. The efficiency of the group form stems from the fact that it offers a solution to problems created by market imperfections: mitigating the opportunism and the information problems between firms exchanging goods and services (Goto, 1982; Kester, 1992); enhancing the incentives for managers running the companies (Collin, 1998); reducing the information asymmetries in allocating financial resources to the companies. Within this strand of literature specific attention has been dedicated to the Japanese groups whose organisation, based on cross ownership between industrial and financial firms, is rather different from that of the "pyramid" groups prevailing in continental Europe (Gerlach, 1995; Shiba and Shimotani, 1997).

Authors studying the organisation of business activities in developing countries and transitional economies have seen the group as an organisational device that is able to overcome the market imperfections and the lack of economic institutions (like a developed financial market) that are typical of these economies (Khanna, 2000; Khanna and Rivkin, 2001). In general, this literature sees a beneficial role of groups in fostering efficiency in product and capital markets and in promoting the development of business activity in these countries. Some of the same authors, however, have also underlined the potential welfare loss determined by the presence of groups. The inefficiencies can originate from several factors: the exploitation of minority shareholders in pyramidal groups; the rent seeking behaviour of group owners in less developed countries; the exercise of market power. Overall, business groups are considered as playing a positive role in developing countries while they are seen with more "suspicion" in developed countries, where their presence is less justified by efficiency reasons.

Although the economic literature offers a rich set of hypotheses in order to understand the causes and consequences of the presence of business groups, its main limitation, from the

point of view of our analysis, is that it considers only large groups. In several cases the authors studied just a few of the major groups within a country. In general, they consider the group as a “special” form of business organisation, efficient under certain circumstances. This approach seems in contrast with the empirical evidence presented in the previous section, according to which the group appears to be the common and typical form of organisation when a business grows beyond a certain size.

The reasons why entrepreneurs prefer to set up new companies rather than new business units within the existing one can be associated with some advantages of the group form both in the development and in the management of the new ventures. The legal autonomy of the company allows to better assess the performance of the new venture and to enrich the structure of incentives of the persons involved in the management of it. This aspect increases its importance with the growth of the activities and the involvement of other people (family members or managers) in the running of the companies.

At the same time, the legal autonomy accorded to the new venture allows the entrepreneur to adapt the marketing policy and the relationships with the suppliers to the specific needs of the business. These advantages are gaining more and more importance. On the one hand they fit the exploitation of specialized market niche or regionally segmented markets that are typical in the small business sector. On the other hand, it is important for firms that rely on an extended network of external suppliers to adapt the relationships within the network to the changing needs of the specific line of business.

There are still other advantages associated with the legal autonomy of the companies, like the possibility of directly raising external capital for the new company or to isolate the existing activity from the risk of failure of a highly innovative venture. Some of the advantages of the group form are the same in the large as well as in the small business sector. At the same time, the widespread presence of business groups among medium sized firms would not be justified by governance mechanisms or organisational efficiency alone. It is possible that the setting up of new companies (i.e. group formation) is the result

of some features of the entrepreneurial process of new venture exploitation and the result of peculiar way of managing the group by entrepreneurs (as opposed to the way large organisations are developed and run by professional managers).

It is out of the scope of this article to develop a general theoretical framework linking entrepreneurial process to all forms of business group formation. Taking advantage of data available on the growth process of a sample of high growth entrepreneurial firms we try to empirically verify the following propositions:

- (a) that business groups are the normal way through which entrepreneurial firms grow;
- (b) that the setting up or the acquisitions of new companies is the result of a process of related diversification from the activity originally set-up by the entrepreneur.

3. Data and variables

3.1. *The data*

In order to analyse the growth strategies followed by entrepreneurial firms and its relationship with group formation, we have taken advantage of a longitudinal data set of high growth Italian manufacturing firms.⁶ The data set was constructed by selecting all the Italian manufacturing firms that fitted the following criteria:

1. having been established as new ventures after World War II;
2. having reached a turnover of at least 100 million Euros in 1999;
3. being still under the ownership and control of the founding entrepreneur or entrepreneurial team.⁷

Using these criteria 66 firms were identified with annual turnover in 1999 ranging from 100 to more than 1,000 million Euros. Some of them have achieved an outstanding position within the Italian manufacturing sector and in some cases at an international level as well. All of them are organised as a group of companies (for this reason we will refer to them as groups). The companies belonging to these groups have been identified as all the companies under the control of the same entrepreneur (or entrepreneurial

TABLE II
Groups by sector of initial activity and turnover

	Consolidated turnover 1999 (million Euro)			Total
	100–250	250–500	> 500	
Food products	2	1	3	6
Paper products	1	1		2
Chemical and Pharmaceuticals	1	2		3
Domestic appliances	1	2	5	8
Electromechanical		5		5
Rubber and plastics	3			3
Metal working	1	4	3	8
Machinery and equipment	4	1		5
Transportation equipment	1	1	1	3
Building materials	1	3		4
Leather and footwear	2			2
Textile and clothing	3	4	5	12
Other manufacturing	1	1	3	5
Total	21	25	20	66

team); this not only implies a majority stake in the companies of the group but also the direct involvement of the entrepreneur (or entrepreneurial team) in the effective control of the group.⁸ Although these firms are medium sized or large firms they are particularly useful for the purpose of our study: (a) they are the result of the growth strategy followed by the same entrepreneur and (b) the data available allowed us to analyse the growth process of the group and the role played in it by its companies. Indeed, for each group the growth process from the setting up of the initial business to the present day has been analysed, through the collection of quantitative and qualitative information from several sources, including direct interviews with some of the entrepreneurs.

The distribution of the 66 groups by sector of initial activity and turnover is shown in Table II. Taking into account that the start-up of new firms in the Italian manufacturing sector exceeded 50,000 per year during the period under consideration, the absolute number of high grow firms is rather small, compatible with Storey's observation that only a tiny proportion of new firms achieve sustained growth over time (Storey, 1994).⁹ A large number of the firms identified belong to the sectors in which Italy has consolidated its competitive advantage after World War II: textile and clothing, household appliances, metal working, food products. They are also

located in a limited number of regions, most of them belonging to the so-called "third Italy": i.e. the north-east-central regions of Italy which, following World War II, experienced an intensive process of industrialisation, mostly based on small firms concentrated in industrial districts. The yearly average rate of growth of the firms considered ranged from 15 percent to 50 percent (Table III). There is a clear negative relationship between the age and the rate of growth; this seems to confirm that fast growth is normally achieved in the early stages of the firm's life and tends to slow down with age and size. We were able to collect data regarding the companies controlled and their activities for 60 of the groups taken into consideration. From now on we will refer to this subset of the sample.¹⁰

Overall the companies controlled by these groups in 1999 were more than 1,500, with an average of about 26 companies per group, a minimum of 2 and a maximum of 144. As expected, the number of companies per group shows a positive and significant correlation with firm size (Table IV).¹¹ The ratio between the overall employees of the groups and those in the original company show that the growth achieved by setting up or acquiring new companies outperformed the growth of the original company: i.e. the company first set-up by the entrepreneur (Table V). The ratio increases monotonically with group size; this confirms the hypothesis that set-

TABLE III
Firms by year of foundation and average rate of growth

Year of Foundation	Average yearly rate of growth (%) ^a							Total
	15–20	20–25	25–30	30–35	35–40	40–45	45–50	
1946–1949	2							2
1950–1954	10							10
1955–1959	7	7	3					17
1960–1964	1	10	2	2				15
1965–1969		3	3	2	1			9
1970–1974			3	3				6
1975–1980				2	2	2	1	7
Total	20	20	11	9	3	2	1	66

^aThe yearly rate of growth is calculated by an exponential function.

ting-up or acquiring new companies is the main way through which growth is achieved. In order to relate the process of group formation with the diversification strategy followed by the entrepreneurs, the companies belonging to groups were initially divided between “production” and “service” companies. The former are for the most part manufacturing companies, while the latter perform service activities for the productive companies of the group (distribution, financial services, etc.). Overall there is a prevalence of service companies over the productive ones, determined by the large number of commercial companies located abroad (Figure 1).

This is because the groups examined, like the Italian manufacturing companies, are highly export-oriented and tend to set-up commercial companies in the main foreign markets. The other service companies are mostly financial companies. The relationship between the diversification strategy and business group formation will be analysed referring to the productive companies that constitute the 43 percent of the total (66 companies).

3.2. Measures of diversification

In order to study the relationships between growth, diversification and business group formation it is important to clarify the way in which diversification is defined and measured. Traditionally, diversification has been defined as the entry of a firm into a new sector. The boundaries between the sectors – also referred as industries (Jacquemin and Berry, 1979), segments (Denis

et al., 1997), lines of business (Montgomery, 1994) – are generally deduced from the classification system of activities adopted by statistical agencies. Apart from the problem of identifying the appropriate level of disaggregation (2, 3 or 4 digits), the use of classification codes has several drawbacks, already noted by Penrose (1959). The main problem of using classification codes for measuring diversification is their “failure to tap the dimension of relatedness” (Hall and St. John, 1994). A method that partly overcomes this problem has been suggested by Jacquemin and Berry (1979): they use the entropy index of concentration, which makes it possible to separate the diversification “within” an industry group (defined as a 2-digit SIC code) from the diversification “across” industry groups. Although this is a richer way of measuring diversification, it has

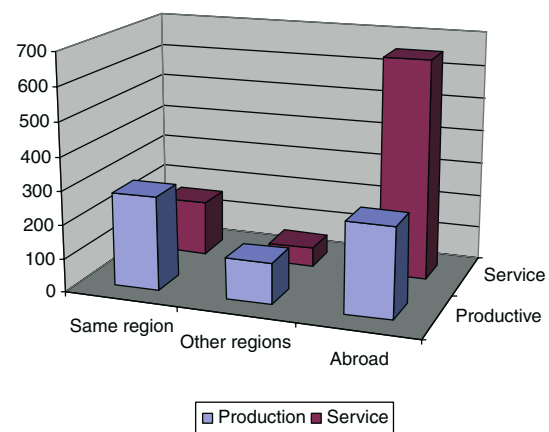


Figure 1. Companies controlled by groups by activity and location.

TABLE IV
Groups by class of turnover and companies controlled

Turnover 1999 (million Euro)	Number of companies						Total
	0–9	10–19	20–29	30–39	40–49	50	
0–250	8	5	6				19
251–500	2	9	7	3			21
501–1000	1	3	1	2	1		8
> 1000	1 ^a		1	3	3	4	8
Total	12	17	15	8	4	4	60

^a The figure regards a group for which it has been impossible to find the foreign subsidiaries.

TABLE V
Ratio between the total employees of the group and the employees in the original company in 1999

Class of sales	Total employees of the group/employees in the original company
0–250	2.3
251–500	2.9
501–1000	4.5
> 1000	7.3
Total	3.8

two main drawbacks: the first is that it still relies on classification codes in order to define the industry boundaries; the second is that it fails to relate the “amount” of diversification to the growth strategy followed by firms. To overcome the latter problem, several authors, have relied on qualitative measures of diversification, following the seminal work of (Rumelt, 1974).

We used both the qualitative and the quantitative measure in order to assess the degree of diversification in the group examined. Given x_i as the sales of a group in industry i , $i = 1, \dots, n$, then $\sum_i x_i = X$ is the total sales and $q_i = (x_i/X)$ is the quota of the sales in industry i . Defining $x_m = \max x_i$, $i = 1, \dots, n$ as the primary activity of the firm, then $(x_m/X) = q_m$ can be considered as a specialization index. Both the qualitative and the quantitative measures of diversification are based on the elaboration of the q_i ratios. We determined those ratios for the products of the groups examined at a level of 2 or 4 digit industry classification code.¹²

The qualitative measure proposed by Rumelt (1974) defines four types of diversification strategies based on the following indices: a) the specialisation ratio $SR = (x_m/X) = q_m$; (b) the

correlation ratio, defined as the share of sales coming from related activities $RR = \sum_{j=1}^r q_j$, r = correlated activities, $r \leq i$.¹³

The definition of the four types is shown in Figure 2, and the distribution of the group according by the four types is shown in Table VI. Compared with the results obtained by Rumelt and other scholars with reference to large, managerial firms, in our sample there is a prevalence of non-diversified groups, i.e. groups that are single business or dominant business. This result is confirmed by the quantitative measure of diversification. We used two indices: the complement of the Herfindahl concentration ratio proposed by Berry (1975, p. 62) and the Entropy index proposed by Jacquemin and Berry (1979). The first one is calculated as $D = 1 - H = 1 - \sum_{i=1}^n (q_i)^2$, $0 \leq D \leq (n-1)/n$. The index is 0 when the firm produces in only one industry and grows both with n and with the disparity between the q_i . The entropy index is $E = \sum_{i=1}^n q_i \ln 1/q_i$; it is 0 when diversification is absent and is equal to $\ln n$ in case the sales are equally distributed among n industries. Both indices have been calculated at 2 and 4 digit level of the product classification. As expected, the indices calculated at four-digit level show a higher degree of diversification (Table VII).

Types	
Single business	$SR > 95\%$
Dominant business	$70\% < SR < 95\%$
Related business	$SR < 70\%$ and $RR > 70\%$
Unrelated business	$SR < 70\%$ and $RR < 70\%$

Figure 2. Diversification strategy according to Rumelt classification.

TABLE VI
Distribution of groups according to the Rumelt classification

Types	Number	%
Single business	25	41.7
Dominant business	21	35.0
Related business	12	20.0
Unrelated business	2	3.3
Total groups	60	100.0

The two quantitative indices confirm the low degree of diversification of the group examined. The average values are rather low, and more than one quarter does not show any diversification. As known, the Herfindahl index has the property of being equal to $1/n$ in case of the equidistribution of firm sales across industry, and its variant proposed by Berry would be $1-1/n$. A value of 0.5 means that the sales of the company are equally distributed between two sectors (at 2 or 4 digit level). The average value of 0.2 at 4 digit level means that the 80 percent of sales are concentrated in one 4 digit sector. The interpretation of the Entropy index is less evident as it does not have a fixed range of variation. One can consider that were firms' sales to be equally distributed between two sectors the index value would be 0.69. The quantitative indices present a high degree of correlation among themselves and with the qualitative measure (Table VIII and IX). This is why in the following section we will use only some of them. The results are the same irrespective of the particular index used. We will use the quantitative indices based on the 4 digit code as they offer a better measure of the degree of diversification of each group.

Diversification and business group formation

The average number of companies per group shows a positive correlation with the type of

TABLE VII
Diversification indices regarding the sample of groups

	Average	Minimum	Maximum	Percentile		
				25	50	75
E ₂	0.21	0	1.29	0	0.04	0.34
E ₄	0.35	0	1.37	0	0.22	0.63
H ₂	0.12	0	0.63	0	0.01	0.18
H ₄	0.20	0	0.63	0	0.11	0.40

TABLE VIII
Correlation matrix of the diversification indices (60 groups)

	E2	E4	H2	H4
E ₂	1.00	0.78	0.98	0.75
E ₄		1.00	0.77	0.99
H ₂			1.00	0.76
H ₄				1.00

All the coefficients are significant at a level of 0.01.

diversification strategy (Table X). This is due quite exclusively to a size effect and to the fact that the larger groups are also the more internationalised.¹⁴ If we consider only the production companies located in Italy the correlation between the number of companies and the degree of diversification is less evident. The regression of the number of companies on the growth rate (sales) of the group and its degree of diversification allows clarification the relationships between the three variables (Table XI). The rate of growth is highly significant in predicting the number of companies per group, while the degree of diversification is significant (at 10% level) only in the case of the overall companies of the group. Diversification thus is not significant in predicting the creation of independent production companies, especially those located in Italy. This result strongly support the first hypothesis – i.e. that group formation is the normal way through which entrepreneurial firms grow – while it appears not to support the second hypothesis: i.e. that group formation is mainly lead by a diversification strategy.

This result runs counter to what is normally claimed in the corporate entrepreneurship literature (i.e. that similar activities should be integrated within the existing company while diversified activities should be managed in separate companies) and raises the question of why

TABLE IX
Average values of diversification indices by type of diversification (60 groups)

	E ₂	E ₄	H ₂	H ₄
Single business	0.01	0.04	0.00	0.02
Dominant business	0.25	0.38	0.13	0.20
Related business	0.51	0.84	0.31	0.50
Unrelated business	0.62	0.93	0.35	0.55
Total groups	0.21	0.35	0.12	0.20

TABLE X
Average companies per group by type of diversification strategy

	Total	Productive companies	Productive companies located in Italy
Single business	17	7	5
Dominant business	27	15	8
Related business	36	11	7
Unrelated business	54	21	9
Total groups	26	11	7

entrepreneurs rely on independent companies to control activities that do not show a significant degree of diversity with the one already developed. Before we proceed in answering this question we must take into account the limitations of how diversification is traditionally defined and measured. The economic meaning of diversification, and its impact on the organisational setting of a firm, is related to the degree of “relatedness” or, specularly, of “diversity” of the activity that a firm is going to add to the ones already in place. These attributes refer to the resources needed to implement the new activity and are strictly related to the technology used and/or the market addressed. The degree of diversity (or the degree of relatedness) determines the extent of the synergies between the new and the existing activities and, consequently, the degree of integration or autonomy that should be accorded to the new venture. The strategic management literature is more interested in the categorical (Rumelt-type) measure of diversification,

TABLE XI
Regression of the number of companies of the group on size and diversification – Standardized beta coefficients (p values in brackets)

	Dependent variable		
	Total companies	Productive companies	Productive companies located in Italy
Ln (sales)	0.707 (0.000)	0.716 (0.000)	0.336 (0.010)
H ₄	0.214 (0.015)	0.038 (0.681)	0.101 (0.424)
R ² (adjusted)	0.59	0.51	0.10
F	43.1 (0.000)	31.5 (0.000)	4.47 (0.016)

as they can be associated to different strategic moves, while the economic literature is more interested in continuous measures of diversification to access the “degree” (and not the type) of diversification (Hoskisson et al., 1993). Although there are a few papers that have tried to use more objective measures of “relatedness” (Fan and Lang, 2000) the economic literature has continued to rely on continuous measure of diversification based on SIC codes, although the validity of such measure to assess the degree of relatedness has been often questioned.

To obtain a richer pattern in this respect we started identifying all the possible “directions” through which growth can be achieved and the degree of “diversity” they introduce in the activities of the firm. When an entrepreneur seeks to expand the activities under his/her control he/she has the following alternatives:

1. to raise the share of existing products within the same geographic area (market penetration);
2. to serve new, foreign, markets (internationalisation);
3. to integrate activities along the production chain (vertical integration);
4. to expand in the market segments within the same sector (horizontal or vertical differentiation);
5. to enter into new sectors (diversification).

Alternative 1 is the only one that does not imply any significant modification in the products and the kind of activities carried out by the firm; all the others imply a more or less substantial modification of the product mix and of the manufacturing and marketing processes. Notwithstanding this, diversification is normally referred only to the last alternative, being the sector defined – as previously examined – according to some classification code. Actually, there is a large body of literature that considers the impact of geographical diversification and its relationship with product diversification, in the large as well as in the small firm sector (Aw and Batra, 1998; Dass, 2000; Davies et al., 2001; Hitt et al., 1994, 1997; Qian, 2002). It is still a matter of debate whether international diversification must be considered a substitute of a complementary strategy of product

TABLE XII
Companies controlled by groups by type of activity and localisation

	Location			Total		
	Same region	Other regions	Abroad	Absolute value	% by column	% (excluding the original companies)
Original	100.0			60	9.0	
Similar (horizontal or vertical differentiation)	26.7	18.2	55.0	329	49.4	54.3
Complementary (vertical integration)	45.5	23.1	31.4	121	18.2	20.0
Related diversification	50.0	24.0	26.0	96	14.4	15.8
Unrelated diversification	45.0	18.3	36.7	60	9.0	9.9

diversification, but it is certainly considered as a form of diversification.

What is completely neglected by the conventional analysis of diversification, both at a theoretical and at an empirical level, is the fourth alternative: i.e. the extension of the firm's activities in different market segments within the same product category (differentiation). One of the reasons for this is that it is practically impossible to capture it on the basis of the classification codes used by statistical agencies. Even using the highest degree of disaggregation (4 or 5 digits) the codes refer to an entire category of products (say man's clothing or refrigerators), irrespective of the segments in which the market for that product is divided. Differentiation can have a horizontal or vertical nature (Lancaster, 1979): horizontal differentiation refers to similar products devoted to serve customers with different tastes; vertical differentiation refers to similar products devoted to serve customers with different income levels. While horizontal differentiation can be tackled (to a certain extent) using disaggregated (4 – 5 digit level) SIC codes, vertical differentiation (i.e. the different price segments within the same product category) is completely ignored by classification codes. The failure of taking into account product differentiation is a major problem in our case for two reasons: a) within the new technological and demand conditions markets are more and more segmented and expansion in these segments represents one of the most important ways through which firms growth and (b) in most cases to enter a new market segment implies modifications in the firms activities and in the external relationships with customers and suppliers not inferior than those arising from conventional

diversification. Taking the example of a clothing firm, it is rather different to operate in the production and distribution of casual clothing than in the prêt-à-porter or haut-couture products (a difference that is impossible to capture with classification codes, whatever the number of digits used). The differences in the organization of production and marketing activities between these two segments are so high that it is difficult to find firms operating at the same time in both. Nevertheless they are included within the same 4-digit SIC code. On the contrary, given the high level of marketing synergies it is common to find companies (or groups) operating in a wide array of product categories related to the apparel business – clothing, footwear, accessories – all belonging to the same price segment of the market. According to the classification codes the latter case would be treated as unrelated diversification, being clothing and footwear classified under two different two-digit codes.¹⁵

In order to relate the growth strategies followed by entrepreneurial firms and group formation, the productive companies belonging to groups were grouped into five, mutually exclusive, categories (Figure 3). There are several ways to classify the companies in a group according to the activity of the company, the motives of the new venture, etc. (Rosa, 1998). Given the purpose of this study, we classified them according to the relationship between the activity performed by each company and that of the original company. Although this classification, as the one previously used for growth direction, presents a higher degree of subjectivity than that based on SIC codes, it gains of economic significance, as it is able to capture the real relationship between the activities successively

Types	Description
Original	the first company was that set up and that is used as the basis upon which the following types are defined
Similar (horizontal and vertical differentiation)	when they perform activities that require similar capabilities, normally belonging to the same stage of a production chain (for example men's and women's clothing)
Complementary (vertical integration)	Concerning the phases that are crucial for the manufacturing of a product within the same production chain (a textile company in the case of a clothing producer)
Related (or concentric) diversification	when they feature some links with the original activity of the group in terms of technology or marketing
Unrelated diversification	when they show no significant links with the original activity of the group

Figure 3. – Types of companies belonging to groups.

developed by the entrepreneurs. The distribution of companies according to these categories is shown in Table XII.

More than a half of the companies set-up or acquired after the original one, perform similar activities: i.e. they are the result of the progressive occupation of market segments within the original sector of activity. If we also consider the vertical integration within the same production chain, we see that three quarters of the companies successively established by these entrepreneurs were strictly linked to the original activity. Only one tenth of the companies perform activities that can be considered resulting from a strategy of unrelated diversification. The percentage of companies located abroad is higher for similar activities than for diversified ones. This confirms that product diversification and international diversification are considered as substitute strategies, especially in the case of entrepreneurial firms that could lack the resources to manage both type of diversification at the same time.

We have tried to demonstrate that the expansion within the same sector, although traditionally ignored from the literature of diversification, entails in some cases a degree of "diversity" from the previous activities not inferior to that associated with conventional diversification. At the same time it is possible that, for similar

degree of "diversity", entrepreneurial firms could be more disposed to favour the organisational autonomy of the new venture than a manager would do.

5. Conclusions

From the evidence of previous exploratory research on business group formation and habitual entrepreneurship we hypothesised in this paper that the setting up of a group of companies is the main way through which growth is achieved among medium sized, entrepreneurial firms. We also showed that there are problems and limitations in the conventional economic explanations of group formation, based on diversification processes linked to agency factors and managerial efficiency. Instead we argued that entrepreneurial processes were also important in the way groups of companies are formed. An important reason for setting up new companies is the need of organisational differentiation induced by the entrepreneurial diversification of activities: either as a result of the geographical extension of sales and production or by the entering into new sectors.

In this study we have tried to explore these hypotheses by analysing the growth process and group formation in a sample of high growth Italian manufacturing firms. The results appeared to be compatible with the first hypothesis examined, that the number of companies in a group increases with firm size. This would indicate that growing through business cluster formation is a fundamental and even standard process of growth of firms.

How far is this process of business cluster formation linked to entrepreneurial processes? At first sight the results ran counter to our expectations. If entrepreneurial processes are important determinants of business cluster formation, we would have expected significant levels of diversification as the managing or dominant entrepreneurs opportunistically established new forms of activity and new ventures. The results, however, exhibited a contrary trend of low levels of diversification. In terms of entrepreneurial theory the levels of diversification observed were not high enough to justify the establishment of separate legal units, yet despite this the entrepreneurs appeared to have continued to increase their groups. Closer

examination, however, established that levels of diversification were much higher than those indicated by the conventional measures used in the analysis, which rely on SIC classifications. Once the limitations of the SIC based measures of diversification are allowed for, the levels of diversification were compatible with the hypothesis that entrepreneurial processes may be important determinants of business group formation in smaller firms.

Given the prevalence and often uncritical use of diversification measures based on SIC codes, the study has made a contribution in highlighting their limitations. The traditional way of defining and measuring diversification does not completely take into account the diversity of product differentiation and markets subsumed in the same SIC. This seems to be a major drawback as differentiation is gaining more and more importance in the growth strategies pursued by firms. Indeed, differentiation into related market segments and the expansion of customer choice is one of the major features that distinguishes the present economy from that of forty years ago.

In the current technology and market conditions differentiation implies a high degree of diversity in the production and marketing activities and leads the firms to give a high level of autonomy to the units devoted to serve specific market segments (Sengenberger et al., 1990). In most cases this is achieved by creating (or acquiring) new companies. Indeed, the setting up of units with legal autonomy – rather than divisions within the same company – is induced by the aim of giving them strategic and operative autonomy, even when these units perform activities that are apparently very similar to the original ones.

The analysis of a sample of high growth firms in the Italian manufacturing sector shows that the number of companies forming groups is not only related to the geographical extension of their operations (and to conventional diversification) but also to a differentiation policy. Moreover, the latter policy is more important in explaining the growth of entrepreneurial firms and their organisational setting as a group than related and unrelated diversification.

The highly coherent pattern of growth around the original activity shown by the cases examined suggest two additional considerations: (a) in the

study of portfolio entrepreneurs it is important to focus the attention not only on the latest ventures developed but on the overall pattern of growth, as the ventures successively established are strictly interconnected and (b) in the study of the growth process of firms we must consider that the unit of analysis normally used (the legal unit) can be inappropriate as it is used by entrepreneur as an organisational device to control a set of activities that present a high level of economic and strategic synergies.

In considering the results of the analysis we must be aware of the limits of the empirical data we have used in order to verify our hypothesis. The first limit regards the characteristics of the sample. It is composed of entrepreneurs that have been highly successful in expanding the activities under their control. For this reason they cannot be considered as entirely representative of the way entrepreneurial firms grow. It could also be possible, as suggested in other studies, that diversification strategy (in the traditional sense) should be considered, in the case of SMEs, as a “defensive” strategy and as such associated with lower rather than higher rates of growth. We lack the data to separate out survivalist and expansionist motives in this study, both of which can result in new ventures being added.

Another limit in the analysis stems from the fact that the data analysed refer only to companies which survived. For this reason we do not know if diversified activities were initiated and successively sold or stopped. It is possible that the situation we observe is the result of a process of experimentation in several fields of activities and with different organisational setting; we analysed only the result of such a process in the case of highly successful entrepreneurs.

Several questions regarding the phenomenon of group formation were raised by this analysis and would need more research both at a theoretical and at an empirical level. The first is why do entrepreneurs prefer to run a group of companies rather than organising them within the same legal boundaries. We tentatively put forward the hypothesis that this is not only explained by the relative efficiency of the two different organisational setting but is also linked to the process of opportunities exploitation by the entrepreneur (or the entrepreneurial

team) who controls the firms. We also put forward the hypothesis that this could be the result of the fact that entrepreneurs tend to organize the activities under their control, allowing a higher level of strategic and operative autonomy to the organisational units.

Another important question is how the process of new venture creation and group formation is influenced by external variables, like the demand and technological conditions of the sector, or by the institutional context in which the firms operate. To examine the first aspect we would need a much larger sample than that used in the present study, while for the second one it would be useful to compare samples of groups in different countries.

To verify these hypotheses, and to compare them to the "efficiency" view, more theoretical and empirical research is needed on the way groups are developed and managed. From a theoretical point of view it remains to be explained whether and how the growth process of entrepreneurial firms differs from that of managerial firms and what are the main features of the entrepreneurial process associated with group formation. From an empirical point of view we would need longitudinal data regarding the entire growth process of the activities controlled by the same entrepreneur.

Notes

¹ Those who are self employed businesses or employ very few people.

² Most often the entrepreneurial team is composed of the members of a family. Under this meaning entrepreneurial firms are not necessarily small firms. This definition is further elaborated in the empirical section.

³ We refer here to *effective* control rather than to *formal* (legal) control (Hansmann, 1996). The latter, that gives the right to elect the firm's board of directors, is by law associated with the owners of a company, although not always exercised (as in the case of a public company). Effective control means not only the exercise of formal rights but also the direct involvement in the strategic decision-making process as a member of the board of directors of the company.

⁴ How much ownership an "entrepreneur" needs in a company in terms of share holdings to control the company's managerial direction is a contentious issue. It is interesting that though we would expect entrepreneurs to legitimise their control of the company through a

substantial proportion of share ownership, in larger firms even small minority shareholding can be enough to achieve control (Scott and Hughes, 1980, p. 263).

⁵ It is out of the scope of this article to examine the literature on corporate diversification. Excellent reviews of this literature can be found in Ramanujan and Varadarajan (1989) and Montgomery (1994); since then the literature has continued to grow in the economic as well as in the management journals.

⁶ The data set has been build in order to identify the "new stars" in the Italian manufacturing sector (Balloni and Iacobucci, 2001).

⁷ In some cases the sons or the daughters of the founder have become part of the management team of the group.

⁸ In almost all the cases the leading figures belong to the same family. It is interesting to note that the degree of delegation on the part of the entrepreneur(s) to employees is influenced not only by the size of the group but also by the "management style" adopted by the entrepreneur(s). In some cases he/she concentrates all the decision power regarding the main strategic decisions, while in other cases this responsibility is shared with a few top managers. In every case the owner-entrepreneur exerts a fundamental role in the resource allocation process as CEO or member of the board.

⁹ We must also take into account that the sample excludes the firms that were sold by the founding entrepreneur.

¹⁰ The groups excluded belong for the most part to the first size classes. Although this introduces a relative bias in favor of larger firms, it does not alter the overall result of the analysis.

¹¹ The Spearman correlation coefficient between the number of companies and sales is 0.73 (significant at the 99%); the correlation between companies and employees is 0.75.

¹² We used the Italian classification code (ATECO) defined by ISTAT (the Italian national statistics agency). ATECO is a revised version of the European NACE classification and has 22 two digit classes and 243 four digit classes.

¹³ There is an unavoidable degree of subjectivity in defining whether an activity is correlated or not with the original one of the firm. Correlations have been referred to two broad areas: technology and marketing.

¹⁴ Activities located abroad must, by definition, be organized as a separate legal entity.

¹⁵ It is somewhat surprising to find papers studying the phenomenon of diversification that do not pay attention to this problem. Some researchers simply accept the definition proposed by Jacquemin and Berry (1979) according to which diversification within a two digits code is considered related classification, while diversification in more than two digits code is considered as unrelated diversification (Qian, 2002). This definition can produce very strange results: according to the US SIC codes (but similar results can be obtained with any classification code) to pass from knitted products (code 22) to clothing (code 23) is considered as unrelated diversification, while

passing from computer storage devices to lawn and garden tractors is considered as related diversification (as both are within code 35).

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