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Abstract

The goal of this article is to examine the relationship between unrelated diversification and performance. Results indicate that diversified firms, investing in activities far from the core business, have high performance. Unrelated diversification positively affects firms' performance. In addition, the estimation methods applied are fundamental in order to verify if there are endogeneity problems in the diversification decision and evaluate the effective role of diversification on performance.

Keywords

Corporate diversification, unrelatedness, performance.



Unrelated Diversification and Firm Performance: 1980-2007 Evidence from Italy

Maurizio La Rocca¹, Raffaele Staglianò²

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The goal of this article is to examine the relationship between unrelated diversification and performance. Results indicate that diversified firms, investing in activities far from the core business, have high performance. Unrelated diversification positively affects firms' performance. In addition, the estimation methods applied are fundamental in order to verify if there are endogeneity problems in the diversification decision and evaluate the effective role of diversification on performance.

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JEL classification: G30, M20.

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1. Introduction

This paper deals with the traditional but still controversial debate regarding the relationship between product diversification strategies and a firm's value. Till the end of the nineties the vast majority of Corporate Finance studies assumed a negative effect of diversification on performance, while the Strategic Management literature highlighted the contribution of diversification to value creation processes. In recent years a growing number of studies have shown a renewed interest among the scientific community in this area of research (Campa & Kedia 2002; Graham, Lemmon & Wolf 2002; Maksimovic & Phillips 2002; Singh, Nejadmalayeri & Mathur 2007; Villalonga 2004a; 2004b). Substantial empirical work confirms the existence of a relationship between corporate diversification and firm value, although there is no consensus on the negative or positive direction of this relationship (Martin & Sayrak 2003; Palich, Cardinal & Miller 2000; Villalonga 2003). Therefore, continued efforts to clarify the association between firm diversification and firm performance are useful.

Financial studies offer two competing theoretical perspectives providing theoretical motivations for diversification³: agency costs theory and efficient view of corporate diversification.

The first perspective, based on the search for private benefits explanations, considers diversification as a decision taken for opportunistic reasons (Jensen 1986; Jensen & Meckling 1976; Shleifer & Vishny 1989). According to the agency theory, diversification can somehow exacerbate opportunistic problems, resulting from the pursuit of managerial self-interest at the expense of stockholders (Fama & Jensen 1983). This explanation is consistent with a negative effect of diversification on firm performance. Many authors (Aggarwal & Samwick 2003; Berger & Ofek 1995; Denis, Denis & Sarin 1997; Lang & Stulz 1994) have shown that firm value decreases in diversification for this reason. In particular unrelated diversification might be consistent with agency theory, which could explain why diversified firms, especially conglomerates, make less profit and have a lower market value.

The second perspective concerns the benefits of corporate diversification. It is argued that the extent of corporate diversification is related to the level of information asymmetry between managers and outside investors (Hadlock, Ryngaer & Shawn 2001; Thomas 2002). From this perspective, according to Myers and Majluf (1984), problems of asymmetric information are often less severe for diversified firms than for focused firms. In addition, according to efficiency of the internal capital markets (Rajan, Servaes & Zingales 2000; Stein 1997), there should be a coinsurance effect derived from combining businesses whose cash flows are less than perfectly correlated, providing a tax benefit related to the fact that the tax liability of the diversified firm may be less than the cumulated tax liabilities of the different business units (Lewellen 1971). Specifically, unrelated diversification is associated with the financial synergies hypothesis, which states that firms diversify to benefit from the economies of an internal capital market and an internal labour market, to obtain tax benefits, and to reduce business risk (coinsurance argument).

These are two competing arguments that, although both based on managerial discretion, consider diversification decisions, in particular the one based on unrelated businesses, differently as an output of opportunistic behaviours, or as a means for fostering firms' efficiency. According to prominent literature, the effect of diversification on performance is expected to be particularly relevant when taking into consideration firms that

³ Research work explaining why firms diversify, in management, financial and economic literature, is synthesised by Montgomery (1994).

diversify into business segments dissimilar to the firm's core business, showing different industries' features (Kim et al. 2009; Lins & Servaes 1999; Palich, Cardinal & Miller 2000).

The goal of this study is to analyse the effectiveness of the prediction of the main literature in explaining the performance implications of unrelated diversification, and to verify which of the relationships – i.e. positive, negative - prevails as a general (net) effect.

The paper is organised as follows. Section 2 describes the context of analysis. Section 3 provides information about the methodology and the variables used. Section 4 reports the descriptive statistics of the data. The results of our empirical analysis are presented in Section 5. The conclusions follow in Section 6.

2. Context of Analysis

The Italian economic environment presents a large number of elements of inefficiency in the allocation of funds. Capital markets in Italy are relatively undeveloped compared not only to those in the US but also, to some extent, to those of other large European countries. The stock market is not an important source of finance in Italy. Corporate debt is not issued on the market, but is often raised through banks and other financial institutions. Due to the lack of transparency regulations and high information asymmetries, contract costs between borrowers and lenders are high. In particular, benefits provided by diversification strategies, arising from the internal capital market, can be extremely relevant in the presence of significant external capital market constraint and imperfections.

Another feature of the Italian economy is that, in most cases, the Italian model of corporate governance is quite different to the one proposed by Berle and Means (1932). Families represent an important class of large shareholders. In particular, family firms face severe agency problems that arise between controlling and non-controlling shareholders. If the large shareholder is an individual or a family, it is potentially greater the incentives to both extract private benefits at the expense of the small shareholders and monitor the firm. This agency problem is likely to be exacerbated in the presence of a context such as Italy, with weak disclosure requirements and governance mechanisms and a poorly developed financial market (Faccio & Lang 2002; La Porta et al. 1998; La Rocca et al. 2009).

In the light of these arguments, Italian firms represent an interesting case study to verify the value of diversification, because of a context characterised by market inefficiency with considerable asymmetric information, and where whoever is in control has considerable discretionary power to use financial resources, even for opportunistic behaviours.

3. Methodology and Variables

To verify empirically the effect on corporate performance of unrelated diversification, the following model is estimated.

$$\text{Performance}_{it} = f(\text{D_DivUnrel}_{it}, \text{Control Variables}_{it}) \quad (1)$$

The corporate performance of firm i at time t is a function of diversification unrelated (D_DivUnrel) and a set of control variables.

Since the stock market in Italy, as in other continental European countries, is not an important source of finance and very few Italian companies trade publicly, not even companies that are quite large (e.g. Ferrero, Fininvest, Barilla), we take into consideration an accounting-based measure of performance (Palich et al. 2000; Singh et al. 2007; Wan & Hoskisson 2003). Similar to Jiraporn et al. (2008) we use a relative performance measure; more specifically, we measure operating performance (*Ind-rel ROA*) as the industry-adjusted ratio of earnings before interest, taxes, depreciation, and amortisation (EBITDA) to total assets

(Denis & Kruse 2000). We adjust each firm's operating performance by subtracting the median ratio of EBITDA to assets for all other companies having the same two-digit Standard Industrial Classification (SIC) code.

Diversification is proxied by a dummy diversification unrelated ($D_DivUnrel$), that is a binary variable taking a value of one if the firm diversifies in unrelated businesses (at least one business division has to be different at 2-digit SIC code), and zero otherwise.

Theoretical and empirical studies have shown that leverage, ownership concentration, tangibility, age and growth opportunities affect corporate performance and these have also been included in the model. Moreover, a dummy family and a dummy listing are also included.

We use different methods to examine the effect of unrelated diversification on firm performance. First, we use an ordinary least squares (OLS) regression. A possible concern with the analysis is that $D_DivUnrel$ and error term in equation (1) may be correlated. In this case, OLS estimations generate biased estimates (Campa & Kedia 2002; Villalonga 2004a). We use three econometric methods each of which addresses the endogeneity problem from a different perspective. To avoid unobservable firm heterogeneity we use a fixed-effect estimator (FE). In addition, we apply the instrumental variables estimation (IV) to examine the underlying causal relation. Finally, we use the treatment estimator to verify if there is self-section bias (Heckman)⁴. The additional instruments used in the last two cases include industry and time dummies and macroeconomic indicators such as the overall economic growth (log of GDP).

4. Data and Descriptives

The sample consisted of a panel made up of 229 Italian firms, listed and unlisted, evaluated in the period from 1980 to 2007 (28 years). Firms belonging to the financial-services industry, which present specific features that make them difficult to compare to other firms, and firms belonging to the regulated utilities industries, which at the beginning of the period were government-owned but then were involved in a privatisation process, were excluded. The hand-collected data were provided by Mediobanca - Ricerche & Studi (R&S). This is a unique database, created using the R&S paper-based reports until 2000, and the PDF-files up to 2007. The whole sample comprised 2,613 observations. Table 1 shows the descriptive statistics for the variables used in the analysis.

Table 1
Descriptive statistics of the variables

<i>Variables</i>	Mean	Median	St.Dev.	Min	Max
Ind-rel ROA	0.212	0.00	0.148	-0.425	0.992
D_DivUnrel	0.260	0	0.439	0	1
Leverage	0.434	0.441	0.237	0	1
Own.Conc.	0.657	0.633	0.263	0.00760	1
D_Family	0.594	1	0.491	0	1
D_Listing	0.339	0	0.474	0	1
Tangibility	0.355	0.332	0.168	0.000190	1
Age	3.437	3.638	0.958	0	4.913
Growth Opp.	0.105	0.0630	0.350	-0.959	9.527
Observations	2,613				

⁴ Compared to the standard Heckman model, treatment effects models, in the performance equation, consider the dummy variable $D_DivUnrel$ as additional variable. For details on this point see Li and Prabhale (2007).

Considering descriptive statistics for the whole sample, approximately 26% of the firms diversify in unrelated businesses. Some variables, such as debt, seem to be symmetrically distributed while others, such as growth opportunity, are asymmetrically distributed.

5. Results

This section presents the results of the analysis. Table 2 shows the results of four regressions that characterise the relationship between diversification and performance. In particular, *Ind-rel ROA* is the proxy used to measure industry-adjusted firm's performance.

Table 2
The effect of unrelated diversification on firm performance

<i>Variables</i>	(OLS) (1)	(FE) (2)	(IV) (3)	(Heckman) (4)
D_DivUnrel	-0.008* (0.004)	-0.034*** (0.013)	0.060* (0.032)	0.049* (0.027)
Leverage	-0.154*** (0.008)	-0.231*** (0.013)	-0.247*** (0.016)	-0.244*** (0.013)
Own.Conc.	0.013 (0.009)	0.020 (0.012)	0.046*** (0.013)	0.044*** (0.012)
D_Family	0.009** (0.004)	-0.044 (0.027)	0.005 (0.006)	0.005 (0.006)
D_Listing	-0.031*** (0.005)	-0.046*** (0.011)	-0.050*** (0.006)	-0.049*** (0.007)
Tangibility	-0.035*** (0.012)	-0.095*** (0.023)	-0.078*** (0.017)	-0.014*** (0.003)
Age	-0.010*** (0.002)	-0.031*** (0.007)	-0.014*** (0.003)	-0.076*** (0.017)
Growth Opp.	0.070*** (0.006)	0.031*** (0.006)	0.030** (0.014)	0.030*** (0.008)
Constant	0.110*** (0.012)	0.299*** (0.030)	0.168*** (0.017)	0.170*** (0.017)
Observations	2611	2612	2612	2612
Adjusted R ²	0.191	0.145	0.155	
F-statistic (p-value)	76.96(0.00)	50.37 (0.00)	53.22 (0.000)	
Lambda (p-value)				-0.032**(0.016)
Hausman test (p-value)			224.97 (0.000)	

Notes: *Ind-rel ROA* defined as firm's ROA minus industry (2-digit SIC code) median ROA. (*), (**) and (***) indicates that coefficients are significant at 10, 5 and 1 percent level, respectively. Lambda, if significant, indicates the prevalence of self-selection and suggests that characteristics that make firms choose to diversify are negatively correlated with firm value. To test for the existence of endogeneity, we use Hausman's test (Hausman 1978). This test is based on the difference between the OLS estimator and the IV estimator.

The results in regressions (1) to (2), based on OLS specification and the fixed effect model alternatively, are qualitatively similar. The variable *D_DivUnrel* shows a negative and significant coefficient, indicating that unrelated diversified firms have low performance compared to other firms.

The results in regressions (3) and (4) show a changed sign of the variable *D_DivUnrel*, while all the other explanatory variables for the most part maintain similar

effects. Regression (3), in which IV estimator is considered, shows that the coefficient of the instrumented $D_DivUnrel$, is significant and positive. Finally, regression (4), in which an endogenous self-selection model is considered, also shows that the coefficient on $D_DivUnrel$, is significant and positive. These results suggest that after accounting for endogeneity problems, with both the instrumental variables and self-selection models, the impact of unrelated diversification on a firm's performance is positive. This implies that the decision to diversify unrelated is made in the shareholders' best interest. These results are consistent with the efficient view of corporate diversification, which suggests that managers invest efficiently in unrelated diversification. In general, in order to evaluate the impact of diversification on firm value it is of great importance to verify the endogeneity of the diversification decision.

6. Conclusions

The results reveal the predominant role of the efficient view argument; that is, the benefits of diversification outweigh its costs (mainly based on opportunistic problems). In an institutional context like the Italian one, full of frictions and inefficiencies, firms mainly diversify for financial purposes, to reduce asymmetric information problems and to obtain benefits from the creation of internal capital markets. Empirically, the estimation methods applied are fundamental in checking if there are endogeneity problems in the diversification decision and in evaluating the effective role of diversification on a firm's performance.

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