INVESTIGATING DECISION-MAKING CRITERIA OF PRIVATE EQUITY INVESTORS IN FAMILY FIRMS

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ABSTRACT

This paper examines decision-making models used by private equity investors in their selection of family firms. Building on literature on investment criteria at start-up stage, a series of hypotheses is put forward, based on decision-making, strategic management and buyout theories. The theoretical model is tested through an experimental design for which data have been collected among 41 respondents based in Italy. Findings are analysed using hierarchical linear models, in order to investigate which criteria are used, assess their relative importance and test whether decision-making models are individual-specific or influenced by the firm individuals work for.

INTRODUCTION

The decision by a private equity (PE) house to invest in a target firm is a specific type of acquisition evaluation, involving a whole business unit, or division of a firm. As such, it is a major strategic decision, characterised by a high degree of complexity and ambiguity (Duhaime and Schwenk, 1985). Entrepreneurship researchers have generally focused on early-stage investments by venture capitalists (Tyebjee and Bruno, 1984; Riquelme and Rickards, 1992; Zacharakis and Shepherd, 1999). This type of investment allows entrepreneurs to develop their concept into a business, start making their products or offering their services and help expand the business in its early stages. This is a well developed area of research, which has shown that, in deciding which business ideas to invest in, venture capitalists are consistent in their use of selection criteria (Muzyka et al., 1996) and rely on performance determinants stemming from strategic management literature (Shepherd, 1999).

However, in many countries, start-ups represent a relatively small proportion of total equity investment compared to investments in established businesses: in Europe, early-stage investments account for around a third of total equity deals, whilst buyouts of existing businesses represent around 70% of all deals (EVCA website). Family firms (i.e., family-owned and -run) are among the main recipients of PE, accounting for the largest share of deals in some countries including UK, Italy and France (CMBOR, 2005). This reflects the dominance of family firms as a form of economic enterprise throughout the world (Chrisman et al., 2003; Shanker and Astrachan, 1996). Family firms have been attracting greater interest in the academic community as an application field for mainstream theories (Chrisman et al., 2003), as well as among policy makers who are becoming more aware of the importance of family firms in creating employment and contributing to economic growth (Zahra and Sharma, 2004). Furthermore, many family firms are facing succession (Shanker and Astrachan, 1996; Upton and Petty, 2000) and, although the preferred route is to maintain the business in the family (Dreux, 1990), PE may be a potential solution, especially when there is no available or suitable successor. PE firms can also provide the necessary financial resources for family firms wanting to grow, by helping them become more innovative, strengthen their position in existing markets, and penetrate new ones (Corbetta, 2005).

While previous studies have shed much light on decision-making models of venture capitalists, there is little research on how these differ when established family businesses are evaluated as investment targets. By drawing on decision-making and investment literature, this paper puts forward a theoretical model to test decision-making models and criteria used by PE investors. This paper also refers to buyout literature and investigates whether PE investors are driven by cost efficiencies (Jensen, 1993) or upside revenue potential (Wright et al., 2001), or whether their main concern is to minimise the riskiness of investment.
projects (MacMillan et al., 1985; Zutshi et al., 1999), whilst striving to make a capital gain (Wright and Robbie, 1998).

**LITERATURE REVIEW AND HYPOTHESES**

This literature review is divided into two sections: the first focuses on decision-making models and processes leading to target selection, referring to decision-making theory; the second concentrates on the criteria used in investment decisions, drawing on strategic management and buyout theories.

**Investor decision-making models**

According to neo-classical economics, individuals are perfectly rational decision makers, following a step-by-step process, which is logical and linear, to arrive at an optimal solution maximising utility (Miller et al., 1996). However, this approach does not address cognitive aspects of strategy and fails to explain how individuals make decisions in an uncertain environment, in which they are unsure about their preferences and unclear about available alternatives (Kahneman et al., 1982; Simon, 1957).

Limits to human rationality derive from cognitive limitations i.e., from boundaries in the human ability to know (de Wit and Meyer, 2002; Simon, 1957). Partial information processing capacity prevents individuals from using all the information that might be available. Instead, they use cognitive heuristics – mental shortcuts or rules of thumb – which allow them to simplify the problem (Janis, 1989) and deal with potentially large amounts of available data by focusing on a few key variables (Tversky and Kahneman, 1974). Thus, decision makers deal with complex problems by constructing simplified mental models (Simon, 1957), which do not include all possible choices, sources of information and outcomes.

In light of this discussion, the proposed theoretical model is based upon the assumption that, when PE investors evaluate whether to invest in a family firm or not, they rely on heuristics to process information and use a limited number of variables in their decision. This is supported by previous investment literature indicating that this type of decision is based on the use of a restricted number of criteria (Newell and Simon, 1972; Stahl and Zimmerer, 1984).

**Investor decision-making criteria**

Since PE investors assess target firms’ strategic prospects, models proposed by strategic management literature are a suitable perspective to address PE investment decisions. A firm’s ability to earn profits above its cost of capital depends on two factors: the attractiveness of the industry the firm operates in (Porter, 1980) and the establishment of a competitive advantage over rivals, which in turn is associated with the firm’s resources – inputs of the production process – and capabilities – abilities to undertake productive activities (Barney, 1991; Grant, 1991).

Based on a review of studies on start-up investment decision determinants (Shepherd and Zacharakis, 1999), the most important criteria relate to the entrepreneur and the management team; the product being offered, including its feasibility and uniqueness; industry growth and attractiveness; and financial considerations, including projections and expected rate of return. Although some studies comparing investment criteria at different stages (early vs. late) have found no significant differences (Carter and Van Auken, 1994; Elango et al., 1995), others have concluded that investors evaluate similar categories of criteria (those identified above) with some variation within them (Birley et al., 1999). These are discussed below, leading to a series of hypotheses.

*Industry growth.* Industrial organisation economists share the view that an industry’s structure is a key factor for profitability and affects firm-level strategic decision making (Barney and Ouchi, 1986). Research on criteria used by investors evaluating start-ups indicates that industry growth and attractiveness are key decision-making factors (MacMillan et al., 1985; Tyebjee and Bruno, 1984).
According to studies on later-stage investment evaluation, an industry offering high growth potential is important for a PE firm, since it can lead to earnings growth (Dreux, 1990; Elango et al., 1995). Industry growth can also contribute to the upside revenue potential of investee firms, which is a priority for PE houses (Wright et al., 2001).

\(H1:\) PE investors’ likelihood of investing in a family firm is positively associated with industry growth.

**Firm profitability.** Financial performance measures have been widely used by venture capitalists, who assess the viability of start-up investments by considering financial projections or expected rates of return (MacMillan et al., 1985; Riquelme and Rickards, 1992). Previous studies on financial criteria used to evaluate later-stage investments have not found significant differences compared to start-up evaluation (Birley et al., 1999; Carter and Van Auken, 1994; Elango et al., 1995). Although an investee firm that is already achieving high profitability may limit the potential for upside for a PE house (Wright et al., 2001), PE investors are expected to be more likely to invest in firms that already display positive performance, rather than pursue turnaround situations which greatly increase risk.

\(H2:\) PE investors’ likelihood of investing in a family firm is positively associated with firm profitability.

**Managerial resources.** Managers’ role in strategic decision at firm level is widely recognised in the literature, including the strategic choice approach (Child, 1972) and the resource-based view (Barney, 1991). Previous research on start-up investment decisions has indicated that management quality is a priority in venture capitalists’ decision making (Tyebjee and Bruno, 1984). Studies comparing criteria used in early- and late-stage investment evaluation have not found significant differences with regard to desired quality of management (Birley et al., 1999; Elango et al., 1995). According to buyout literature, PE deals can unlock potential that was previously restricted, due to prior ownership arrangements (e.g., a founder not delegating to next-generation family members or a family not delegating to non-family managers), thereby contributing to creating upside in the investee firm (Wright et al., 2001). Managerial resources in family firms can include family and professional managers. These are discussed separately.

Common experiences create strong ties among family members and contribute to building family values and norms as well as firm-specific tacit knowledge (Sirmon and Hitt, 2003). The interaction of business and family creates a complex system of idiosyncratic resources, capabilities and processes, which can give advantages to family firms (Habbershon and Williams, 1999). For example, family members’ in-depth understanding of their local environment allows them to identify emerging entrepreneurial opportunities more easily (Randøy and Goel, 2003). A PE investor may want to access this tacit knowledge and pool of resources and capabilities (Habbershon et al., 2003). This may be possible if some family members wish to stay on after the PE deal. However, the quality of this type of human capital needs to be assessed, since family members may be working in the firm simply thanks to nepotism, birth order or gender (Dyer, 2003), rather than merit. Experience allows individuals to develop and fine-tune their cognitive models and make more successful decisions (Hambrick and Mason, 1984). If work experience is gained outside the family firm, it can enrich the family-based experience and tacit knowledge base, by introducing heterogeneous perspectives and improving strategic decisions (Salvato, 2004; Sirmon and Hitt, 2003).

\(H3:\) PE investors’ likelihood of investing in a family firm is positively associated with the presence of family members with outside work experience.

Professional managers are another key resource for formulating and implementing a firm’s strategy. Non-family managers also possess idiosyncratic knowledge of the firm (Sirmon and Hitt, 2003). Compared to family managers, professional managers offer the advantage of adding heterogeneity and healthy conflict through perspectives that are not based on family experiences. Furthermore, non-family
managers are not tied by emotional connections, making sensitive decisions less difficult (Sirmon and Hitt, 2003).

**H4: PE investors’ likelihood of investing in a family firm is positively associated with the presence of professional managers.**

**Cost reduction.** According to agency literature, buyouts are control devices aimed at reducing agents’ value-destroying activities, by introducing stricter governance and incentive systems and stopping shirking-type behaviours (Jensen, 1993; Wright et al., 2001). Although this type of agency cost is minimised in family firms, because principal and agent coincide (Jensen and Meckling, 1976), there can be another type of cost deriving from family behaviours that are driven by altruism and non-economic objectives (Chrisman et al., 2004). Firm resources can be used to provide unqualified family members with jobs (Burkart et al., 2003) and family members can consume perquisites and privileges, as well as shirk or free-ride (Chrisman et al., 2004; Schulze et al., 2001).

Thus, a PE deal can be a means for introducing cost reduction and efficiency enhancements in a family firm (Wright et al., 2001), by implementing tighter governance structures and incentives. For example, often PE firms take seats on the board of directors (Gompers and Lerner, 2001) and managers are awarded equity stakes that increase or decrease according to whether performance targets are met (Wright et al., 1994). Furthermore, since PE deals typically involve increased levels of debt, the cost of servicing such debt and paying out fixed dividends imposes a discipline to allocate resources more efficiently and eliminate unprofitable activities (Jensen, 1993; Wright et al., 1994). In order to be able to pursue this cost reduction, individuals who were previously consuming perquisites and privileges need to exit the firm.

**H5: PE investors’ likelihood of investing in a family firm is positively associated with the number of family members wishing to sell their shares.**

**Ownership dispersion.** Family firms are characterised by increasing ownership dispersion over time, as the firm is passed from the founder to later generations (Gersick et al., 1997). This can lead to growing conflict and difficulties in coordinating family members’ goals and behaviours (Corbetta, 1995). In turn, it can cause problems for a PE investor with regard to strategy implementation, management, leadership inability, and exit (MacMillan et al., 1985).

**H6: PE investors’ likelihood of investing in a family firm is negatively associated with ownership dispersion level.**

**Formalisation.** Environment stability can affect organisational decision making. Since typical PE investee firms tend to be in fairly mature and stable industries, it is assumed that PE investors prefer relatively high levels of formalisation, since they are associated with performance enhancement (Baum and Wally, 2003). Formalisation includes explicitly formulated structures and procedures, such as policies, job descriptions, organisational charts, and operational plans (Baum and Wally, 2003). Formalisation can also reduce information asymmetry between potential investor and vendor family, which is caused by high levels of tacit knowledge possessed by family members (Westhead et al., 2004). This can help the PE firm reduce the riskiness of the investment project (MacMillan, 1985; Zutshi et al., 1999).

**H7: PE investors’ likelihood of investing in a family firm is positively associated with the presence of formalised systems and procedures.**

**Moderator variables.** The association between likelihood of investment and managerial resources (H3, H4) is hypothesised to be stronger under two conditions. First, likelihood of investment is expected to be higher if there are (family or professional) managers when many family members wish to sell their shares and exit the family firm. This is because remaining managers can compensate the loss of firm-specific
knowledge and social networks caused by some family owners selling out. Remaining managers would continue to possess tacit knowledge and guarantee continuity in the firm’s image with outside stakeholders as well as ensure a sense of stability for employees, suppliers and customers (Chrisman et al., 1998). This is explained by the desire of PE investors to minimise risk (MacMillan, 1985; Zutshi et al., 1999).

H8: The positive association between likelihood of investment and presence of (a) experienced family members and (b) professional managers is moderated by the number of family owners wishing to sell their shares.

Second, likelihood of investment is expected to be higher if there are (family or professional) managers when there are high ownership dispersion levels. This is because remaining managers can handle potential conflict and disagreement among family members who still own shares in the investee firm more easily than an outsider (the PE investor). This can contribute to reducing the riskiness of the investment project (MacMillan, 1985; Zutshi et al., 1999).

H9: The positive association between likelihood of investment and presence of (a) experienced family members and (b) professional managers is moderated by the degree of ownership dispersion.

Higher-level variables. Decision-makers’ cognitions are driven and constrained not only by personal perceptions and experiences, but also by the surrounding organisational structures and business environment (Baum and Wally, 2003; Hofmann, 1997). Thus, it was decided to investigate whether PE investors (i.e., individual decision makers) are influenced in their evaluation by the PE firm they work for.

PE firms have been differentiated based on two variables: portfolio size and type of deal carried out (i.e., whether they take a majority or minority stake in the target firm). First, portfolio size relates to a risk management perspective: when PE investors evaluate investee firms, they can be viewed as risk managers minimising project riskiness (MacMillan, 1985; Zutshi et al., 1999). Having a large portfolio can allow the PE firm to spread risk across a larger number of deals. Second, the type of deal can affect the PE firm’s chance of success, since having a majority stake can allow it to have greater control over the target firm’s strategy, increasing the likelihood of achieving capital gain. In both cases (large portfolio or majority stake), the PE investor may be willing to take a greater risk by investing in a target firm that has insufficient management and leadership resources (with a view to building them up later) or in a poorly performing firm, which can offer greater future upside potential (through strategic innovation and change in firm structure and practices).

H10: If the decision maker works for a PE firm which (a) has a large portfolio value and (b) takes a majority stake in the target firm, high profit levels in the target family firm become less important.

H11: If the decision maker works for a PE firm which (a) has a large portfolio value and (b) takes a majority stake in the target firm, the presence of experienced family members in the target family firm becomes less important.

H12: If the decision maker works for a PE firm which (a) has a large portfolio value and (b) takes a majority stake in the target firm, the presence of professional managers in the target family firm becomes less important.

RESEARCH DESIGN AND SAMPLE

According to social judgement literature, it is difficult to identify decision-making models because individuals find it challenging to isolate variables they use, identify links between variables and express the process by which they combine information into a decision heuristic (Keats, 1991). Thus, rather than investigating espoused theories – those that people say are at the basis of their actions – this paper
captures theories in use – those that actually govern behaviour (Argyris and Schon, 1974). Theories in use are inferred from how individuals behave and can be investigated using procedures such as conjoint analysis, which involves a posteriori analysis of the decision process (Shepherd and Zacharakis, 2002).

Respondents were asked to evaluate their likelihood of investing in 16 hypothetical family firms, which were described through profiles made up of seven variables (each at two levels: high/low). The premise for conjoint analysis is that a respondent’s judgement is based on a combination of separate amounts of value attributed to each factor (Hair et al., 1998). Since variables and their levels need to be selected a priori, this was done through a comprehensive literature review. Variables were then pre-tested through preliminary interviews with PE investors, consultants, and academics (Shepherd and Zacharakis, 2002). The number of profiles was reduced through fractional factorial design (Hahn and Shapiro, 1966), in order to make the simulation manageable, allowing all main effects and four two-way interactions to be tested (Shepherd and Zacharakis, 2002). The 16 profiles were replicated to estimate individual subject error and assess external reliability through a test-retest measure (Shepherd, 1999). The dependent variable is PE investors’ assessment of how likely they are to select a family firm as a potential investment: this is an ordinal variable, measured on a seven-point Likert scale (Riquelme and Rickards, 1992), ranging from “I would definitely fund the proposal” to “I would definitely not fund the proposal”.

Simulations have been carried out by 41 respondents based in Italy. Considering that sample size is close to the rule of thumb of 50 (Shepherd and Zacharakis, 1999), that the Italian PE market is much smaller than the US one (where most conjoint studies have been carried out) and that response rate was high (81.4%), it can be concluded that this study has sufficient statistical power. Profiles have been administered through face-to-face interviews (29 respondents out of 41) and email (12). Respondents were mostly male (38 respondents) and had either a degree (21) or a Master’s/MBA (20). The sample was made up predominantly of senior individuals, with extensive experience in PE and related sectors (average: 15 years).

**FINDINGS**

Analysis has been carried out in two steps. First, data were analysed at individual level, to gain insight into preference models for each respondent. Second, analysis was performed at aggregate level, in order to conduct comparisons across respondents. This was done through hierarchical linear models (Choi and Shepherd, 2004), considering two levels of analysis (HLM 6.0): first (level-1 model) factors were analysed for the 41 respondents as a group and then (level-2 model) PE-firm level variables were added, using the intercepts and slopes from the level-1 analysis as dependent variables (Bryk and Raudenbush, 1992).

Individual models of PE decision makers’ assessment of likelihood of investment explained a significant proportion of variance in decision making in 95% of cases ($p < 0.05$) with a mean adjusted $R^2$ of 0.76. Decision-making consistency was assessed by administering the 16 profiles twice and measuring test-retest reliability (Hardy and Bryman, 2004). This was significant for 39 out of 41 respondents ($p < 0.01$). Average test-retest correlation was 0.81, which is high compared to Shepherd’s (1999) value of 0.69 and close to Choi and Shepherd’s (2004) 0.82, indicating a high level of judgement consistency.

The first stage of analysis (level-1) at aggregate level (see Table 1) shows that five out of seven main-effect coefficients are significant. Likelihood of PE investment in a family firm is positively associated with higher profits, growing industry, and presence of professional managers. Other positive associations are with presence of family members with outside work experience and number of family members wishing to exit. These findings provide support for H1, H2, H3, H4, and H5. Associations between likelihood of investment and level of ownership dispersion on the one hand and degree of formalisation on the other are not significant (H6, H7 not supported).
Two interactions out of four are statistically significant: between presence of experienced family members and family members wanting to exit, and between presence of experienced family members and ownership dispersion. This provides support for H8a and H9a. The other two interactions indicate a positive but statistically not significant association (H8b, H9b not supported).

The level-2 aggregate submodel addresses the question of whether group-level variables (relating to the PE firm individuals work for) are associated with variation showed by the level-1 submodel. Results (see Table 2) indicate that the two coefficients relating to the variable “target firm profitability” are significant. The coefficient for “portfolio size” is negative (p < 0.05), indicating that PE investors are more likely to invest in a family firm with low profits when they have a larger portfolio. The coefficient for “deal type” is positive (p < 0.01), indicating that PE investors are more likely to invest in a family firm with low profits if they take a majority stake. These findings provide support for H10a and H10b. Remaining hypotheses (H11a, H11b, H12a, H12b) are not supported.

DISCUSSION

This paper has analysed PE investment criteria with regard to family firms, by employing theoretical perspectives drawn from decision-making and strategic management theory. Rather than asking respondents to report criteria used in selecting investments (as they can suffer from recall bias and post-hoc rationalisation), it was decided to adopt an experimental design by employing conjoint analysis. This method allows researchers to study how individuals actually behave. The main limitation of this approach is that decision criteria need to be chosen a priori. This concern was addressed by carrying out a thorough review of investor decision-making literature to identify prevailing investment criteria. Criteria were also pre-tested with experts.

Data analysis indicates consistency between the proposed theoretical model and investor decision making. Findings confirm that experts use fewer criteria than are available (Zacharakis and Shepherd, 2001) and that they use them in a consistent manner. This addresses the potential concern of artificiality associated with using an experimental design.

Findings at both individual and aggregate level indicate that the most important criteria associated with likelihood of investment are target firm profitability, industry growth and presence of professional managers. This finding is in line with industrial organisation and strategic management literature (Barney, 1991; Grant, 1991).

The finding is more remarkable in light of PE investment literature. According to this, PE deals can have two main objectives: either to reduce agency costs through governance and control mechanisms (Jensen, 1993) or to achieve upside revenue potential through strategic managerial innovation (Wright et al., 2001). This study shows that neither is a priority for PE investors: these individuals’ decision models indicate that agency cost reduction is the least important concern. Instead, PE investors seemed to be mainly concerned with minimising investment risk (MacMillan, 1985; Zutshi et al., 1999), by selecting firms that already have positive performance and professional management, even though this limits the potential for achieving high returns. This finding is further supported by PE firm-level results, which indicate that individuals are more willing to invest in low-profit target firms only if they can minimise risk. This is possible if the PE firm the decision maker works for has a large portfolio (which allows it to spread risk across a larger number of investments) or if it takes a majority stake (which makes it more likely to be able to control the future strategy of the investee firm).

Another key result is that the main criteria used – target firm profitability, industry growth and professional management – are not family-related, even though respondents were asked to evaluate family firms. This appears to contradict much of the family business literature, according to which family firms have performance advantages over non-family firms, deriving from the interaction between family and business (Habbershon and Williams, 1999). This bundle of resources (“familiness”) includes management
practices and business values (Aronoff et al., 1996), motivation, loyalty and trust stemming from family ties (Tagiuri and Davis, 1996), long-term perspective (Dreux, 1990), and reputation (Chrisman et al., 1998). Thus, familiness does not appear to be a priority for outside equity investors. This suggests that PE investors may suffer from a bias when they evaluate target firms, which makes them rely more on investment criteria they can relate to, based on prior experience and knowledge. In other words, it appears that PE investors attribute greater importance to criteria that are not “family-related”, because similarity causes positive reactions and individuals tend to be more comfortable with what they know and are accustomed to deal with (Franke et al., 2003).

Although relatively less important, this research indicates that PE investors value the presence of family members with outside work experience. This finding can be interpreted in two ways. First, it can be an indication that PE investors value family members for their human capital i.e., their knowledge and managerial skills. This would be consistent with previous studies, according to which management quality is a priority and outside experience can improve family members’ managerial skills (Sirmon and Hitt, 2003). However, there can also be a second interpretation, which seems to be supported in this study. Experienced family members can offer continuity with the past, allowing PE investors to access tacit knowledge of the investee firm (Westhead et al., 2004). Thus, rather than valuing family members’ work-related skills, PE investors seem to value family members’ social capital, deriving from family relationships and connections with stakeholders both inside and outside the firm (Sirmon and Hitt, 2003). Remaining family members can balance the loss of tacit knowledge deriving from other family owners leaving the firm and can also manage conflict among remaining family members.

Finally, it appears that some PE investment decisions are individual-specific while others are associated with PE-firm variables, namely portfolio size and equity stake taken in the target firm. These higher-level factors are significant with reference to profitability levels of the target firm, providing further support to the evidence that PE investors are mainly concerned with minimising the riskiness of projects being evaluated (even if this means accepting lower upside potential or reduced potential for cost efficiencies).

CONCLUSIONS

PE investment is important for the economic development of many countries. The aim of this paper is to examine how PE investors choose the companies they invest in, focusing on family firms. Findings suggest that PE investors consistently use a limited number of criteria. Target firms tend to be already profitable, operate in growing industries and have professional managers, leaving little room for cost cutting or upside revenue generation. Thus, PE investors seem to be mostly concerned with limiting project riskiness. They also value family members who have outside work experience, although this appears to be the case more for the social capital these individuals carry with them and for their role in ensuring continuity with the past, than as resources per se. These findings have theoretical implications for those interested in understanding what makes an entrepreneurial family firm attractive for external equity investors.

From a practical perspective, this study suggests that family firms wanting to attract PE capital should ensure that they already display positive performance and employ professional managers, unless they are seeking a large fund or are willing to give up a controlling stake. Family firms seeking PE should also try and offer some continuity with the past, by maintaining reputation and image among employees and outside stakeholders.

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NOTES

1. This paper is based on my doctoral dissertation. I would like to thank my supervisors Guido Corbetta and Carlo Salvato for their guidance and support. I am also indebted to Dean Shepherd for his invaluable help on research design and data analysis. Expressed views and any errors are my own responsibility.

2. In this paper, “venture capital” refers to capital invested at start-up stage and “private equity” to capital invested in established businesses.

3. The total number of possible combinations of the variables was $2^7=128$.

REFERENCES


Table 1: Private equity investors’ decision model (level-1)\(^a\)

<table>
<thead>
<tr>
<th>Intercept and level-1 variables</th>
<th>Main-effects model</th>
<th>Full model</th>
<th></th>
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<tr>
<td></td>
<td>Standardised</td>
<td>S.E.</td>
<td>Standardised coefficient</td>
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<tr>
<td>Intercept</td>
<td>3.770</td>
<td>0.074***</td>
<td>3.770</td>
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<tr>
<td>Firm profitability</td>
<td>2.030</td>
<td>0.118***</td>
<td>2.030</td>
</tr>
<tr>
<td>Industry growth</td>
<td>1.418</td>
<td>0.104***</td>
<td>1.418</td>
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<tr>
<td>Professional management</td>
<td>0.845</td>
<td>0.093***</td>
<td>0.845</td>
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<tr>
<td>Experienced family members</td>
<td>0.351</td>
<td>0.053***</td>
<td>0.351</td>
</tr>
<tr>
<td>Family selling</td>
<td>0.345</td>
<td>0.098**</td>
<td>0.345</td>
</tr>
<tr>
<td>Formalisation</td>
<td>0.136</td>
<td>0.070</td>
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<td>Ownership dispersion</td>
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<td>0.048</td>
<td>0.034</td>
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<tr>
<td>Experienced family × Family exiting</td>
<td>0.253</td>
<td>0.091**</td>
<td></td>
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<tr>
<td>Ownership dispersion</td>
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<td></td>
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<td>Professional managers ×</td>
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<tr>
<td>Professional managers × Family exiting</td>
<td>0.042</td>
<td>0.116</td>
<td></td>
</tr>
</tbody>
</table>

Model

\(R^2\) 0.626 0.629

\(^a\) n = 1312; * p < 0.05, ** p < 0.01, *** p < 0.001

Table 2: Private equity investors’ decision model (level-2)\(^a\)

<table>
<thead>
<tr>
<th>Level-1 variables</th>
<th>Level-2 variables (^b)</th>
<th>Standardised coefficient</th>
<th>S.E.</th>
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<td>Firm profitability</td>
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<td>0.000011*</td>
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<td></td>
<td>DEAL TYPE</td>
<td>0.487666</td>
<td>0.136860**</td>
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<tr>
<td>Experienced family members</td>
<td>PORTFOLIO SIZE</td>
<td>0.000002</td>
<td>0.000011</td>
</tr>
<tr>
<td></td>
<td>DEAL TYPE</td>
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<td>0.136860</td>
</tr>
<tr>
<td>Professional management</td>
<td>PORTFOLIO SIZE</td>
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<td></td>
<td>DEAL TYPE</td>
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</tr>
</tbody>
</table>

\(^a\) n = 1312; * p < 0.05, ** p < 0.01

\(^b\) Portfolio size (value of PE firm’s portfolio) is measured in million Euro; deal type is a dummy variable coded 0 (corresponding to PE firm taking a majority stake in the target firm) or 1 (corresponding to minority stake).