INFORMATION ASYMMETRIES, FAMILY OWNERSHIP AND

DIVESTITURE FINANCIAL PERFORMANCE:

EVIDENCE FROM WESTERN EUROPEAN COUNTRIES

Keywords: Divestiture, Agency Theory, Family, Information Asymmetry, European Countries

1. INTRODUCTION

Corporate divestiture is a major strategic decisions used by firms to streamline and refocus their business. It represents a firm's adjustment of its portfolio structure (Bowman and Singh, 1993), occurring when firms spin off, carve out or sell off a business (Bergh, Johnson and Dewitt, 2007). In recent years, divestiture activity increased substantially worldwide. In Western European Countries, in particular, the number of divestiture transactions carried out between 2005 and 2009 was 65% higher than in the first five years of the century (2000-2004). However, in spite of the growing importance of corporate divestitures in global markets and despite a general consensus on divestiture's positive influence on firms' value creation (Mulherin and Boone, 2000), recent literature suggests that the link between corporate divestiture and post-divestiture performance still needs to be clarified (Lee and Madhavan, 2010).

From the dominant agency theory perspective, prior works have highlighted that divestiture activity is associated with relevant agency problems (e.g. Bethel and Liebiskind, 1993; Chung and Luo, 2008). On one hand, it "*involve*[s] *decisions that typically are purely discretionary on the part of management*" (Hanson and Song, 2006: 363), thereby causing the traditional conflicts between owners and managers (Bethel and Liebeskind, 1993). On the other hand, divestiture may be carried out at the expense of minority owners, potentially giving rise to the agency problems between controlling and minority owners.

In this paper we advance that there are two main factors that can affect agency costs in divestiture transactions. On one hand, information asymmetries play an important role. In fact, the existence of private information has been recognized as one of the main drivers of agency problems (Eisenhardt, 1989). In case of high information asymmetries, external investors are not able to assess appropriately the value of a transaction. Evidence of this problem has already been documented in various settings such as IPO (e.g. Sanders and Boivie, 2004),

M&A (e.g. Reuer and Ragozzino, 2008). However, accounting for the impact of information asymmetry on how investors respond to divestiture decisions deserves a specific attention since, compared to other transactions, divestiture is characterized by greater ambiguity and lower transparency (Brauer and Wiersema, 2012). On the other, family ownership, which is the prevalent ownership category in Western European countries, can have a twofold effect. While, in fact, it can help to reduce the first type of agency problem, i.e. between owners and managers (e.g. Maury, 2006), it can also be expected to exacerbate the second type, i.e. between controlling and minority owners (Andres, 2008; Shleifer and Vishny, 1997). Previous literature has suggested that, in the presence of information asymmetries, investors rely on certain firms' observable characteristics in order to assess whether and to what extent firm strategies will create value (Sanders and Boivie, 2002). Drawing on this logic, we posit that family ownership is one of these characteristics, acting as "*information diffusion mechanisms*" (Ragozzino and Reuer, 2007) regarding the value of a divestiture transaction.

In order to define the ultimate role of both information asymmetry and family ownership for divestiture financial performance, in this paper we ask the following research question: *how do stock markets react to divestiture transactions in the presence of information asymmetries and family ownership?*

In line with our theoretical expectations, our results show that information asymmetry negatively influences divestiture financial performance. In fact, for increasing levels of information asymmetry, investors perceive a higher risk of agency costs associated with the divestiture decision. Moreover, family ownership negatively moderates this relationship. This suggests that, within a divestiture transaction, investors look at the presence of family ownership as a condition that increases the likelihood of the second type of agency costs. Therefore, family ownership exacerbates the negative effect of information asymmetry on investors' reaction to divestiture decisions.

This study offers several contributions. First, we contribute to the stream of literature that investigates on divestiture financial performance, showing the influence of previously unexplored selling firm's characteristics on investors' perception of divestiture decisions. In line with recent research that has highlighted divestiture transactions' substantial ambiguity (Brauer and Wiersema, 2012), we explicitly investigate the influence of the selling firm's information asymmetry on investors' reaction to divestiture decisions. We argue that information asymmetry regarding the selling firm will drive investors to anticipate a higher degree of divestiture-related agency costs. This will lead them to respond more negatively to divestiture announcements undertaken by firms characterized by high information asymmetry. Moreover, we also examine the moderating role that family ownership may have on investors' response. Agency theory ascribes to family ownership two conflicting roles: a remedy to Type 1 agency costs and a source of Type 2 agency costs. Our work paper shows that, when evaluating the quality of divestiture decisions, investors embrace the second view and perceive family owners in their opportunistic role.

Second, we contribute to the literature on the role of corporate governance characteristics as potential information diffusion mechanisms. Extending previous research on IPO (Sanders and Boivie, 2004) and M&A (Ragozzino and Reuer, 2008), we show that even in the context of divestiture investors rely on the characteristics of the selling firm's ownership structure to gain more knowledge about transactions' value. Specifically, we demonstrate that in the presence of a family, the negative relation between the degree of information asymmetry and divestiture financial performance is accentuated due to the costs associated to the second type of agency problems.

Finally, we offer an empirical contribution. While prior works on divestiture have mainly focused on the US context (e.g. Abor, Graham, and Yawson, 2011; Owen, Shi and Yawson, 2011), we test our hypotheses on a sample of voluntary divestiture transactions in

Western European Countries. Our multinational sample constitutes an ideal setting because these countries, unlike the US, are characterized by the widespread presence of family owners (Faccio and Lang, 2002).

The paper is organized as follows. In section 2, we provide a review of the existing literature, formulating our hypotheses. In section 3, we describe the construction of the database, the variables and the model. Section 4 presents our results, while section 5 draws conclusions and implications.

2. THEORETICAL BACKGROUND

On average, previous literature has demonstrated that divestitures are value-creating transactions (Mulherin and Boone, 2000). Divestiture may favour a better use of resources (e.g., Bergh, 1998; Bergh and Lawless, 1998), improve efficiency through the removal of negative synergies across a firm's business portfolio (Capron, Mitchell and Swaminathan, 2001) and provide liquidity gains (Denning, 1988).

In an agency framework, changing ownership structure, improving internal governance and separating managerial divisions of a diversified firm provide managers with new incentives, such that the interests of owners and those of managers are more aligned (Hoskisson and Turk, 1990; Denning, 1988). Moreover, divestiture also reduces monitoring and bonding costs since the cost of collecting information is lower and the arbitrary allocation of resources less likely (Woo, Willard, and Daellenbach, 1992). This leads to an increase in the firm's value (Markides, 1992), which should drive the market to react positively to divestiture transactions (Berger and Ofek, 1999).

Notwithstanding these predictions, recent research highlights that scholars' understanding of divestiture performance is still inadequate (Brauer, 2006) and that additional

factors should be accounted for when trying to anticipate the stock market reaction to divestiture events (Lee and Madhavan, 2010).

One very important characteristic of divestitures is that they exhibit significant ambiguity (Brauer and Wiersema, 2012). Compared to other transactions, it is more difficult to rule out what the sources of divestiture value creation are. Moreover, given their confidential nature (Slovin, Sushka, Ferraro, 1995), even less information regarding transactions' financial and strategic aspects is revealed to the market. As a consequence, when assessing the quality of divestiture decisions, investors may face great information asymmetry, which makes this task very challenging.

Drawing on information economics, prior works on M&A have showed that - in presence of information asymmetries - acquirers are not able to distinguish between higher- and lower-quality target firms (Reuer, 2009). On the other hand, target firms have great difficulties in signalling their true value to outsiders (e.g., Reuer and Ragozzino, 2008). We suggest that also in the context of divestiture information asymmetry - defined as the uneven distribution of information among individuals (Stiglitz, 2002) - is one important factor that scholars need to consider to gain a more comprehensive understanding of the stock market response to divestitures.

2.1.Information asymmetry, agency costs and divestiture financial performance

Established literature suggests that information asymmetry is one of the main triggers of agency costs (Wiseman, Cuevas-Rodriguez and Gomez-Mejia, 2011). When the principal is unable to maintain full control of the agent's self-interested behaviour because of his limited information set (Eisehardt, 1989), agency costs are exacerbated. Agency costs typically arise from the relationship between owners and managers. While the former are interested in maximizing the firm value, the latter tend to pursue personal objectives (Amihud

and Lev, 1981). Under these conditions, a limit to managers' opportunistic behaviour lies in the presence of a blockholder (Shleifer and Vishny, 1997), who may have both the incentive to monitor management and the power to enforce his own interests, thus limiting managerial discretion (Fama and Jensen, 1983; Jensen, 1989). Whereas ownership concentration may act as a remedy to traditional agency problems between managers and owners (Type 1), recent research has highlighted that it can also be the source of other types of agency cost, i.e. those arising between controlling and minority owners (Type 2) (Johnson, La Porta, Lopez-de-Silanes, Shleifer, 2000). Increasing ownership may in fact lead controlling shareholder(s) to reap private benefits from controlled firms, thus damaging minority investors' interests (Shleifer and Vishny, 1997; Renders and Gaeremynck, 2012).

In the context of divestiture, two types of agency situations may occur. First, as managers have decisional power on divestiture transactions (Hanson and Song 2006), their conduct can heavily influence divestiture performance. As a result, traditional agency problems (Type 1) may arise as managers use divestiture transactions for the pursuit of their private interests, to the detriment of owners. Second, in the presence of highly concentrated ownership, divestiture may be carried out to favour the controlling owner's objectives, which do not necessarily overlap with the general objective of wealth maximization of the firm. In this latter case, agency problems between controlling and minority owners may emerge (Type 2)[1]. In both cases, divestiture transaction will create lower value for the firm and its shareholders, and instead will serve as a means through which either managers or controlling owners can pursue their private interests.

How will investors assess divestiture transactions under high levels of information asymmetry, i.e. when agency costs are more likely to occur? To answer this question, we

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[1] As an example, controlling owners can exploit resources from the firm by fixing an unfair price on the divesting units or by transferring profits from the firm to other companies controlled by the controlling owner (Atanasov, Boone, Haushalter, 2010).

analyse how divestiture financial performance varies under varying levels of information asymmetry. Divestiture financial performance, as measured by the stock market reaction to the divestiture event, reflects investors' evaluation regarding the perception of transactions' quality, and provides an "*assessment of the expected financial returns associated with the restructuring event*" (Bergh *et al.*, 2007: 136-137).

We suggest that, in the context of divestiture, information asymmetry about a firm's activities will drive investors to perceive a higher risk of both types of agency problems. On one hand, information asymmetry limits the owners' monitoring ability and provides managers with the opportunity to exploit private information to pursue their own interest (Hanson and Song, 2006). On the other hand, information asymmetry increases the perceived risk that controlling owners use private information within divestiture transactions to extract value from minority owners (Atanasov, Boone, and Haushalter, 2010). Hence, in presence of information asymmetry, both managers and controlling owners will have higher chances to behave opportunistically.

Based on this reasoning, we expect that in the presence of higher information asymmetry, stock market investors will anticipate potential higher agency costs and discount the divesting firm's stock price. Thus, we hypothesize the following:

HYPOTHESIS 1: There is a negative relationship between the degree of information asymmetry and divestiture financial performance.

2.2 The moderating role of owner identity

One of the main sources of ambiguity regarding divestitures lies in the poor understanding investors have of the strategic motivations behind these transactions. Divestiture may be undertaken for a variety of reasons (Brauer and Wiersema, 2012). While it

may be used to improve the firm's wealth, as in the case of pre-existing over-diversification or business poor performance, it can also be a tool to pursue the private interests of agents internal to the firm. Moreover, divestiture is characterized – on average - by a lack of public disclosure (Slovin *et al.*, 1995), which prevents investors from having a clear idea on the motivations and, hence, on the value consequence of these transactions. A possible remedy to such information asymmetry in divestiture transactions stems from the existence of observable indicators of the potential value of divestiture transactions. Previous literature has found that corporate governance indicators can downsize the *effects* of information asymmetry (Sanders and Boivie, 2004; Spence, 1974; Stigliz, 2000; Garmaise and Moskowitz, 2004). In the IPO context, Sanders and Boivie (2004) have shown that stock-based financial incentives, blockholders, institutional and venture capital ownership and board structure may be helpful in reducing investors' uncertainty regarding firms' value in emerging markets.

In this regard, ownership identity is relevant because different owners may have different motivations, capabilities and control on the firm's activities (Hautz, Mayer and Stadler, 2013). Owners' interests may influence management's strategic decisions (e.g., Connelly, Tihanyi, Certo, Hitt, 2010). In their seminal work, Thomsen and Pedersen (2000) have reported that different types of owners heterogeneously affect company decisions and their consequent financial performance. Connelly, Hoskisson, Tihanyi and Certo, (2010) have examined the relationship between different categories of institutional investors and firm's strategic competitive actions. Also R&D investment activities are affected by ownership identity (Munari, Sobrero, and Oriani 2010). In the context of corporate divestiture, Hoskisson et al. (2005) have pointed out why different owners may choose different types of divestitures (related or unrelated refocusing) in emerging economies. More recently, Hautz, Mayer and Stadler (2012) have shown that the presence of family ownership is positively

related to product diversification and negatively related to international diversification. Thus, the identity of the owner has important organizational and strategic consequences.

Overall, research on the implications of ownership identity (Connelly, Tihanyi, Certo, and Hitt, 2010; Hautz, *et al., 2013*) provides insights on how specific ownership identities may convey information about the motivation for divestiture, thus influencing investors' reaction to the divestiture decision.

Building on these insights, we posit that different owners may drive managers to pursue different operational and strategic objectives when undertaking divestitures. More specifically, we propose that the identity of the dominant owner may help investors to infer the strategic and financial aims of divestiture decisions and hence the quality of divestiture decision, thus moderating the impact of information asymmetry on divestiture financial performance (e.g. Eisenhardt, 1989; Gomez-Mejia, Nunez-Nickel, Gutierrez 2001). In doing so, we focus on family ownership, which is the prevalent ownership identity category in Western European countries. Indeed, more than 70% of firms can be categorized as a family business in several European Countries such as Belgium, Finland, France, Germany, Italy, Spain and Sweden (Family Firm Institute, 2013).

Existing literature suggests that family ownership can limit managerial opportunism and narrow the extent of agency problems between managers and owners (Type 1), for several reasons. First, when the dominant owner is a family, its incentive to control managers is stronger because families usually invest most of their wealth in their company (Villalonga and Amit, 2006; Gomez-Mejia, Nunez-Nichel, Jacobson and Moyano-Fuentes 2007; Miller, Le Breton-Miller and Lester, 2010). Second, family owners want to hold down future work opportunities for family members and to preserve both the family and the social identity (Sharma and Manikutty, 2005). Family owners are usually long-term oriented and tend to pursue strategies of continuity (Gomez_Mejia, Makri and Kintana, 2010; Gomez-Mejia et al.,

2007). In sum, they have no incentive to behave to the detriment of the firm's wealth (Peng and Jiang, 2010), as their ultimate goal is to pass the firm to later generations (Gomez-Mejia et al., 2007). Moreover, the family's involvement in the executive board acts in the direction of reducing manager-owner agency problems.

Based on these arguments, we can predict that – in presence of information asymmetry - family ownership acts as a positive signal to sort the quality of divestiture transactions. In fact, when there is an expectation of high agency costs due to information asymmetries, the existence of family ownership may act as a signal of stronger monitoring on managers. This should reassure investors about the family's ability to reduce Type 1 agency costs, thus limiting the detrimental effect that information asymmetry has on divestiture financial performance. We thus predict that family ownership will have a positive influence on the relation between information asymmetry and divestiture financial performance:

HYPOTHESIS 2A: The extent of family ownership positively moderates the relation between the degree of information asymmetries and divestiture financial performance.

Traditional agency theory suggests that the presence of family ownership will reduce the extent of agency costs between managers and shareholders (Type 1). However, family ownership does not in reality have a straightforward effect on the agency problems associated with divestiture activity. As mentioned above, existing literature has documented the potential misalignments between controlling owners and minority shareholders (Type 2) that arise in the presence of concentrated ownership (LaPorta, Lopez-de-Silanes and Shleifer, 1999). In their seminal work, Shleifer and Vishny (1997) show that controlling owners have both incentive and power to extract private benefits of control. Johnson et al. (2000: 22) use the term "*tunneling*" to describe the "*transfer of resources out of a company to its controlling*

shareholder", to the detriment of minority owners. Instead of maximizing shareholder value, "entrenched" families might have a privileged position and a strong incentive to exchange profits for private benefits thereby expropriating minority shareholders (Andres, 2008). Compared to other ownership categories, family owners have a greater incentive to expropriate minority shareholders. Unlike in firms where the large shareholder is an institution such as a bank, an investment fund, or a widely-held corporation, in family-owned firms the private benefits of control are concentrated upon the family itself, rather than *"diluted among several independent owners"* (Villalonga and Amit, 2006: 2). Therefore, within the context of divestiture, family controlling owners have a stronger potential incentive to extract value from the firm.

Due to Type 2 agency problem, the presence of family ownership may act as a "negative" signal of the quality of divestiture transactions. In fact, it can insinuate that family owners may use divestiture in the pursuit of their private interest, to the detriment of minority shareholders. This will exacerbate the negative effect of information asymmetry. Therefore, we expect a negative effect of family ownership on the relation between information asymmetry and divestiture financial performance:

HYPOTHESIS 2B: The extent of family ownership negatively moderates the relation between the degree of information asymmetries and the divestiture financial performance.

3. METHODS

3.1 Data and Sample

We generated a sample of divestiture transactions across the following European countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal,

Spain, Sweden, Switzerland, and the U.K. This selection of countries provides the needed variance in terms of governance systems and has the additional advantage of allowing the use of several ownership data sources. As in prior research (e.g. Bergh *et al.*, 2007), Thomson One Banker was used to track different types of divestiture events and their announcement dates. We chose the earliest of the announcement dates listed in Thomson One sources and Lexis-Nexis. More specifically, the Thomson Mergers and Acquisitions database was used to identify "sell-offs", while the Thomson New Issue Database was used to detect "equity carve-outs". In the Merger and Acquisition database, events identified as "divestiture" are classified in our sample as sell-offs because they indicate a loss of majority control by the parent company. Sell-offs, and equity carve-outs constitute the primary forms of divestiture identified in the literature (e.g. Chen and Guo, 2005), and our subsequent analysis controls for these different types of actions. We limited our sample to divestitures completed in the years from 1996 to 2010 by publicly listed corporations, and excluded any divestitures by firms operating in utilities (Bergh *et al.*, 2007) because they may have been influenced by regulators, as well as limited partnerships, and could be the result of a reorganization. This process led to a sample of 336 transactions, namely 190 sell-offs, and 146 equity carve-outs.

From this sample of transactions, we selected only those for which we could trace both the measure of information asymmetry on IBES and the divesting firms' ultimate ownership and control chains. To construct ownership structures we relied on Thomson One Banker and Stock Exchange institutional reports, while Datastream and Stock Exchange institutional web sites allowed us to identify dual class shares and cross-holdings. At the end of this process, the final sample includes 115 divestiture transactions. Using the Kolmogorov-Smirnov test, we checked the potential existence of sampling biases, comparing the 115 firms in our final sample with the remaining 221 excluded because of the lack of data on the ownership structure. Following Shimizu and Hitt (2005), we tested for potential differences in

the distribution on return on assets and the results suggest no systematic differences between the two groups.

3.2 Measures

3.2.1 Dependent Variable

According to the event study methodology (Fama, Fisher, Jensen, and Roll, 1969; Warner, Watts and Wruck, 1988), we measured the stock market reaction to the divestiture event with the Cumulative Abnormal Returns (DIVESTITURE PERFORMANCE) using Datastream to draw Stock Market data.

CAR is the sum of the ex-post returns of the security over the event window, minus the normal return of the firm, which is the return that would be expected if the event had not taken place. Through this approach, we are able to detect the effects of the deal on the divesting firm's stock price during a given event window. The formula for CAR is the following:

$$CAR_j = \sum_{t=T_1}^{T_2} AR_{jt} \qquad\qquad (1)$$

where *AR* measures an abnormal return for stock *j* and event day *t,* in the window from T_1 to T_2. We used a "two day" and a "three-day" event window; that is, if we set the time of the transaction at zero, we use a "two-day window" if we consider the stock price course in the period (-1;0), while we use a "three-day window" if we refer to the period (-1;1).

The Abnormal Return (*AR*) is the difference between the actual return on day *t* (R_{jt}) and the predicted return $\hat{R}_{jt}$:

$$AR_{jt} = R_{jt} - \hat{R}_{jt} \qquad\qquad (2)$$

We calculated the parameter of predicted return $\hat{R}_{jt}$ based on an estimation period of 200 days (−250 to −50) before the divestiture announcement data (Fama et al., 1969; Warner, Watts and Wruck, 1988). To do this, the market model method was used. For each firm j, we ran a market model regression for the period T-250 to T-50.

$$R_{jt} = \alpha_j + \beta_j R_{Mt} + \varepsilon_{jt} \qquad (3)$$

where α_j is the intercept, β_j measures the sensitivity of the firm j to the market index, and R_{Mt} is the return of the market index. We chose a MSCI index for each country, in order to measure country-effect. Data were gathered from Datastream,

Regression 3 produced estimates of $\hat{\alpha}_j$ and $\hat{\beta}_j$, which were used to predict return over the event period:

$$\hat{R}_{jt} = \hat{\alpha}_j + \hat{\beta}_j R_{Mt} \qquad (4)$$

3.2.2 Independent Variables

Two explanatory variables were used in order to test the hypotheses.

To test Hypothesis 1, we needed a proxy for the degree of information asymmetry (*INFO ASYMMETRY*). Following Krishnaswam and Subramaniam (1999), we calculated the degree of information asymmetry as the *forecast error* in earnings measured before the announcement of the divestiture. For each firm in the sample, we collected the mean and median monthly earnings forecast for the last month of the year before the announcement of divestiture as the predicted earnings. After that, we measured forecast error as the ratio of the absolute difference between the forecast earnings and the actual earnings per share to the price per share at the beginning of the month. Firms with higher levels of information

asymmetry are expected to have greater forecast errors. Data for this variable was obtained from IBES.

To test H2A and H2B, the sample had to be partitioned according to ownership concentration. We split the divesting firms into *widely-held* firms and firms with an *ultimate controlling owner*. Following Faccio and Lang (2002), we assumed as relevant the threshold of 20 percent of the control rights to ensure control, and we defined a company as *widely-held* if no *ultimate controlling owner* exceeded such control threshold. To test H2A and H2B, for companies controlled by at least one ultimate controlling owner, we considered the control share held by the family owner, consistently with Faccio and Lang (2002). We calculated the control rights of the ultimate controlling owner, so that the independent variable became:

1.   (*FAMILY*) – share of control rights held by a *Family or Unlisted Firm*

The control right is defined as the weakest link along the control chain. The cash flow right, instead, is calculated as the product of all the ownership stakes along the control chain (Faccio and Lang, 2002). Hence, we reconstructed the control chain for divesting firms, in order to calculate the control rights of the ultimate controlling owner. A shareholder is defined as "*an ultimate owner at a given threshold if he controls it via control chain*" (Faccio and Lang, 2002: 369). We recorded all owners in the control chain who control at least 5 per cent of voting rights, taking into account dual class shares, pyramidal structures, holding through multiple control chains and cross holdings. For example, if a *Family* has 27% of Firm X that owns 22% of Firm Y, then this *Family* has 5.9% of the cash-flow rights of Firm Y but controls 22% of Firm Y. Hence, since control rights are higher than 20%, divesting firm is controlled by a *Family* that owns 22% of control rights.

Data to construct this measure were gathered from several sources: Thomson One Banker Data, Datastream, Osiris and other official sources (i.e., Stock Exchange institutional web sites).

3.2.3 Control variables

Several factors may influence the stock market reaction to the divestiture event, including pre-divestiture performance and debt structure of divesting firms, voting rights of remaining categories of ultimate controlling owner, modes of divestiture, systems of governance and industry difference between parent and divested unit (Bergh, 1995; Chen and Guo, 2005; Bergh and Lim, 2008).

First of all, we checked for divesting firm performance (*ROA*) and debt (*DE*) before divestiture, respectively measured through the firm's return on assets and debt-to-equity ratio, averaged for the 2 years prior to the divestiture event. The data needed for these variables were drawn from *Datastream.*

We also checked for voting rights held by the remaining categories of ultimate controlling owner: *widely-held financial institution*, *widely-held corporation and miscellaneous.* Following Faccio and Lang (2002), we calculated the voting rights, to identify the following control variables:

2.   (*FINANCIAL*) – measured as the share of voting rights held by *widely-held financial institution.*

3.   (*CORPORATION*) – measured as the share of voting rights held by a *widely-held corporation.*

4.   (*MISCELLANEOUS*) – measured as the share of voting rights held by a *miscellaneous firm.*

Moreover, we accounted for the possibility that stock market reaction to the divestiture event may depend on the social and regulatory context where firms are embedded. Controlling for governance systems, we are able to account for some characteristics that have a powerful influence on divestiture performance (e.g. La Porta et al. 1999). Accordingly, we

employed the index developed by Djankov, La Porta, Lopez-de-Silanes, Shleifer (2008) as measure of the degree of *minority shareholders' rights protection* (*MSRP*), since it specifically focuses on the ability of corporate insiders to divert corporate wealth to the detriment of minority owners.

In order to check whether the divestiture performance is influenced by the implementation alternative, we considered modes of divestiture as a further set of controlling variables. We added a dummy variable for the "equity carve out" mode of divestiture (ECO), taking the sell-offs as baseline. The data needed for this variable were drawn from *Thomson One Banker*.

We also checked for industry difference between parent firms and divested units. *INDUSTRY* is a dummy variable to which a value of 1 is attributed when the parent firms and divested units operate in the same industries (three-digit SIC codes), and a value of 0 otherwise (Chen and Guo, 2005). The data needed for these variables were drawn from *Amadeus*. We also checked for the size of divesting firms by taking the log of total revenues (*REVENUES*), averaged for two years prior to the divestiture event. The data needed for this variable were drawn from *Datastream*.

Finally, we added a full set of year dummies to control for time effects on divestiture performance.

4. RESULTS

Table 1 reports means, standard deviations and correlations for the studied variables. None of the correlation coefficients raises potential problems of multi-collinearity.

Insert Table 1 about here

In Table 2, we present the OLS estimations to test our hypotheses. Model 1 reports the results only for the control variables. The control variables have no significant effect on the *CAR* (Model 1).

Insert Table 2 about here

In order to check whether different owner identities play a role on divestiture financial performance, we also added a set of control variables to account for the control share held by different categories of dominant owner. In particular, the coefficient of the *Family Owner* is positive and statistically significant (model 2: $\beta = .067$, p <.005). It is worth noting that none of the control shares pertaining to owners different from families (*Fin, Cor* and *Mix*) have a significant effect on the *CAR*.

In Model 2 we run the OLS to test Hypothesis 1. In particular, we test the relationship between the information asymmetry and divestiture financial performance (*CAR*). To this aim, the dependent variable (CAR) is regressed onto *Information Asymmetry*. The coefficient of *Information Asymmetry* is negative and statistically significant (model 2: $\beta = -.105$, p <.010). This means that the degree of *Information Asymmetry* drives stock market expectations of the quality of divestiture, thus influencing the divestiture financial performance. This evidence is consistent with our theory, supporting Hypothesis 1. In fact, in our baseline, information asymmetry fuels agency costs, increasing the perceived risk of opportunistic behaviour.

Model 3 reports the Ordinary Least Squares estimation of the empirical model to test our competing Hypotheses (2A and 2B). In this model we added the linear interaction between *Information Asymmetry* and *Family* variables. The evidence indicates that *Family*

negatively moderates the linear effect of *Information Asymmetry* on *CAR* as the coefficient of the interaction term between *Family* and *Information Asymmetry* is negative and significant (model 3: β = -.370, p <.40). To illustrate the moderating effect of *Family*, we have plotted the slopes on the basis of different levels (%) of *Family* ownership (Fig.1). These results support Hypothesis 2B. When *Family* is at maximum level (93%), the negative relation between the *Information Asymmetry* and divestiture financial performance is accentuated and Type 2 agency problem prevails, while the negative relationship disappears when there is no family ownership (i.e. Family is equal to 0%).

Insert Figure 1 about here

4.1 Robustness checks

In order to validate our results, we also investigate their robustness in several additional ways. Firstly, we have tested the significance of the simple slopes of the variable *Information Asymmetry*, as defined in the Aiken and West (1991). Table 3 reports the results of the simple slopes of *Information Asymmetry* at different levels of *Family*. The results confirm the robustness of our results, showing that the higher the family ownership, the lower the simple slopes of the relation between divestiture financial performance and the degree of information asymmetry.

Insert Table 3 about here

Secondly, we verified the robustness of our results with different specifications of our measure of information asymmetry. We also use the median of monthly earnings. Our results are not affected by this specification, and remain consistent with our theoretical framework. Finally, in order to control for the potential *endogeneity* issue related to the divestiture decision, we estimated a two-step *Heckman* selection model, where the probability of a firm divesting is estimated in the first step and the stock market reaction to the divestiture event is estimated in the second one. This two-step model corrects the potential *endogeneity* bias related to the fact that divesting firms may be systematically different from non-divesting firms and that a common set of factors may affect both divestiture decision and financial performance. In the selection equation of the Two Step Heckman Model, we empirically controlled that the decision to divest might have been affected by some of the variables that also affect divestiture financial performance. In order to correct for this potential endogeneity bias, we calculated the likelihood of divestiture decision for our focal sample of divesting firms and a matched sample of firms that have not divested. In particular, the variable *Divestiture*, which is the dependent variable in the selection equation, takes the value of 1 for divesting firms, 0 for the matched firms that have not divested. As concerns the predictor of the divesting decision, we include pre-divestiture performance and debt structure of divesting firms, systems of governance, industry difference between parent and divested unit , and the ownership structure of both divesting and non-divesting firms. We also account for the role of identity in shaping divestiture decision. Indeed, concerning the role of family, for example, previous literature has argued that when the identity of the dominant owner is a family, the firm is usually unwilling to divest (Sharma and Manikutty, 2005). It follows that divestiture may be either avoided or deferred (Sirmon and Hitt, 2003), even when family is debating on a

value-enhancing transaction. However, the results indicated that our main findings are not affected by this endogeneity issue.

5. DISCUSSION AND CONCLUSIONS

In this paper, we have analysed the controversial relationship between information asymmetry, family ownership and divestiture financial performance in Western European Countries. We provide evidence for two main findings. First, we show that information asymmetry negatively affects divestiture financial performance. We interpret this result as a consequence of more severe Type 1 and Type 2 agency costs associated with the divestiture transaction in presence of higher information asymmetry. Second, we find that family ownership negatively moderates the relationship between information asymmetry and divestiture financial performance. Our justification is that, in the presence of information asymmetry, stock market investors expect family owners to use divestiture transactions to pursue their opportunistic objectives to the detriment of minority shareholders (Type 2 agency problem).

We contribute to the existing literature in several ways. First, we make a theoretical contribution to the literature on divestiture financial performance. Answering to scholars' recent call for additional attention on the factors influencing divestiture performance (Lee and Madhavan, 2010), we have highlighted that – given the ambiguous nature of divestiture transactions – it is important to account for the impact of information asymmetry. Although consistent evidence has shown that divestiture decisions yield positive abnormal returns (for a review see Lee and Madhavan, 2010), we find that in the presence of information asymmetry divestiture performance will be lower than expected.

Accounting for the role of information asymmetry is relevant because not only because information asymmetry contributes to make divestiture transactions even more opaque to

investors, but it is also a source of agency costs, which may reduce divestitures' financial performance. Therefore, this work complements prior findings on the role of information asymmetry in different settings such as M&A (Reuer and Ragozzino, 2008) and IPO (Sanders and Boivie, 2004), showing the relevance of adverse selection risks in divestiture setting.

Our results also show that the relationship between information asymmetry and divestiture performance is moderated by family ownership. Agency theory predictions confer to the family a twofold potential role, as it may both reduce Type 1 agency problems and generate Type 2 agency problems. In this paper, we show that investors endorse the second interpretation. In presence of family ownership, investors may look at divestitures as transactions driven by the family private interests, realized to the detriment of minority shareholders. The negative impact of information asymmetry on divestiture financial performance is hence exacerbated by the presence of family ownership.

Second, we contribute to the stream of literature that highlights the role of corporate governance characteristics as "*information diffusion mechanism*" (Ragozzino and Reuer, 2007). We extend this literature by confirming this mechanism in the context of divestiture. Although previous research has already demonstrated how ownership structure affects divestiture performance (e.g. Brauer, 2006; Abor *et al.*, 2011), no study has yet elaborated on the role of ownership identity in signalling the quality of a divestiture transaction in the presence of information asymmetries. We have found that, in presence of different degrees of information asymmetry, the only ownership identity category that affects divestiture financial performance is family ownership. In presence of higher information asymmetries and greater family ownership, stock market investors perceive a higher risk of expropriation by controlling owners and discounting the price of the divesting firm. This work should, therefore, help clarifying the controversial role of family ownership in divestiture transactions (Sharma and Manikutty, 2005; Peruffo, *et al.* 2013), by shedding light on the conditions under

which family ownership may have positive or negative effects on divestiture financial performance. Through the analysis of the signalling role of family ownership, we also answer to recent strategy research's call for greater attention to the crucial role signals can play in reducing the costs of market exchange (Montiel, Husted and Christmann, 2012).

Finally, to the best of our knowledge, this is one of the very few studies (e.g. Capron, Mitchell and Swaminathan, 2001; Haynes, Thomson and Wright, 2003) that use a dataset of European divestiture transactions. This empirical setting allows us to study divestiture performance in a very different governance system (Abor *et al.*, 2011) as compared to other research focused on the US (e.g., Owen *et al.*, 2010). We think that for this reason our results are particularly important. These countries constitute an ideal setting because they are characterized by the widespread presence of controlling owners and family ownership (Faccio and Lang, 2002) and the relevance of principal-principal problems (Renders and Gaeremynck, 2012). Moreover, since family control is common also in other settings like Asia, our results provide some insights also to scholars interested in such contexts.

This study also bears some limitations, which at the same time provide potential opportunities for future research. A general caveat is that our intention to build a database of transactions performed in countries different from the US and presenting a different corporate governance system implies a limited number of observations available for our analysis. As a result, we have some specific limitations. First, we consider sell off and equity carve out to be alike, but differences may arise depending on the mode of divestiture. It would be interesting to further explore whether and in what way the characteristics of the transactions interact with ownership structure in affecting the performance. Second, data constraints have prevented us from examining whether the families are founding families or how many people in the family are associated with the firm, either on the board or in top management team. Third, we have only considered ownership structure as a corporate governance feature, leaving aside other

potential mechanisms like board composition. Future research should start from these limitations to better understand the role of corporate governance mechanisms in divestiture financial performance.

Finally, we wish to highlight some practical implications of our results. In our study, we contribute to explain under which conditions sellers earn abnormal returns through divestiture transactions. In fact, poor transparency about a firm's activities may allow better-informed agents within the firm to use divestiture transactions to pursue their own interests to the detriment of firm value. This result is consistent with prior works that show evidence of market failures in several settings, such as IPOs (e.g. Loughran, 2008) and M&As (e.g. Reuer and Ragozzino, 2008). Managers of divesting companies should be aware that their ownership identity might affect the divestiture financial performance. Our results are also congruent with prior works (e.g. Ataullah, *et al.*, 2012), that show the importance of developing signalling mechanisms for limiting the effects of information asymmetries. Thus, when the dominant owner is a family, managers should take specific measures to signal the quality of their divestiture to the markets, with the aim of reducing the costs of information asymmetries.

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TABLE 1

Means, Standard deviations and correlations of the variables (n=115)

	Mean	Std -Dev	Min	Max	Divestiture performance	Information Asymmetry	Family	Financial	Miscellaneous	Corporation	ROA	DE	Industry	ECO	MSRP	Revenu
Divestiture Performance	-.001	.042	-.171	.140	1.000											
Info Asymmetry	.047	.097	0	.854	-.184*	1.000										
Family	.098	.185	0	.93	.199*	.115*	1.000									
Financial	.017	.061	0	.42	.083*	.216*	-.015*	1.000								
Miscellaneous	.003	.023	0	.24	-.012	-.042	-.063	-.033	1.000							
Corporation	.011	.059	0	.49	.088*	-.058	-.098*	-.051	-.022	1.000						
ROA	1.241	6.141	-41.88	31.84	-.027	-.151*	.138*	-.108*	-.023	-.037	1.000					
DE	.276	.540	0	3.11	-.072*	.379*	.080*	.113*	-.058	.011	.189*	1.000				
Industry	.341	.476	0	1	-.116*	.050	-.112*	.135*	-.011	-.014	.004	.214**	1.000			
ECO	.333	.473	0	1	-.016	-.071*	-.064*	-.012*	-.009	.011*	-.135*	-.336*	-.182*	1.000		
MSRP	2.101	.556	1.270	2.850	-.026	.016	-.239*	-.018	.107*	-.139*	.052	-.116*	-.090*	-.201*	1.000	
Revenues	6.630	1.236	2.707	10.108	-.082*	-.071*	-.206*	.013*	-.007	-.020	.111*	-.003*	-.048	.258*	-.250*	1.000

[a]* (p<.05); n = 115

TABLE 2

Divestiture financial performance, information asymmetry and family ownership

	Model 1	Model 2	Model 3
Divestiture performance	OLS	OLS	OLS
Information Asymmetry		-.105**	-.003
		(.040)	(.081)
Family		.065**	.097***
		(.021)	(.026)
Family*Information Asymmetry			-.371*
			(.172)
Financial		.047	.087
		(.073)	(.092)
Financial*Information Asymmetry			-.600
			(.774)
Miscellaneous		.091	12.607
		(.058)	(24.075)
Miscellaneous*Information Asymmetry			-0.29
			(.26)
Corporation		.913	.105
		(.058)	(.071)
Corporation*Information Asymmetry			-.451
			(3.90)
ROA	.000	-.000	-.000
	(.000)	(.000)	(.000)
DE	-.000	-.000	-.000
	(.000)	(.000)	(.000)
Industry	-.000	-.006	.004
	(.008)	(.008)	(.008)
ECO	-.009	.-.005	-.008
	(.010)	(.009)	(.010)
MSRP	-.004	.007	.006
	(.007)	(.007)	(.007)
Revenues	-.004	-.002	-.000
	(.003)	(.003)	(.003)
YEAR DUMMIES	YES	YES	YES
Const	.039	.013	.022
	(.028)	(.026)	(.032)
Observations	115	115	115
R-Squared	.162	.287	.327
F-statistic	1.03	1.60	1.60

Parameter estimates from the OLS with the standard errors in the parenthesis.
***$p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$

TABLE 3

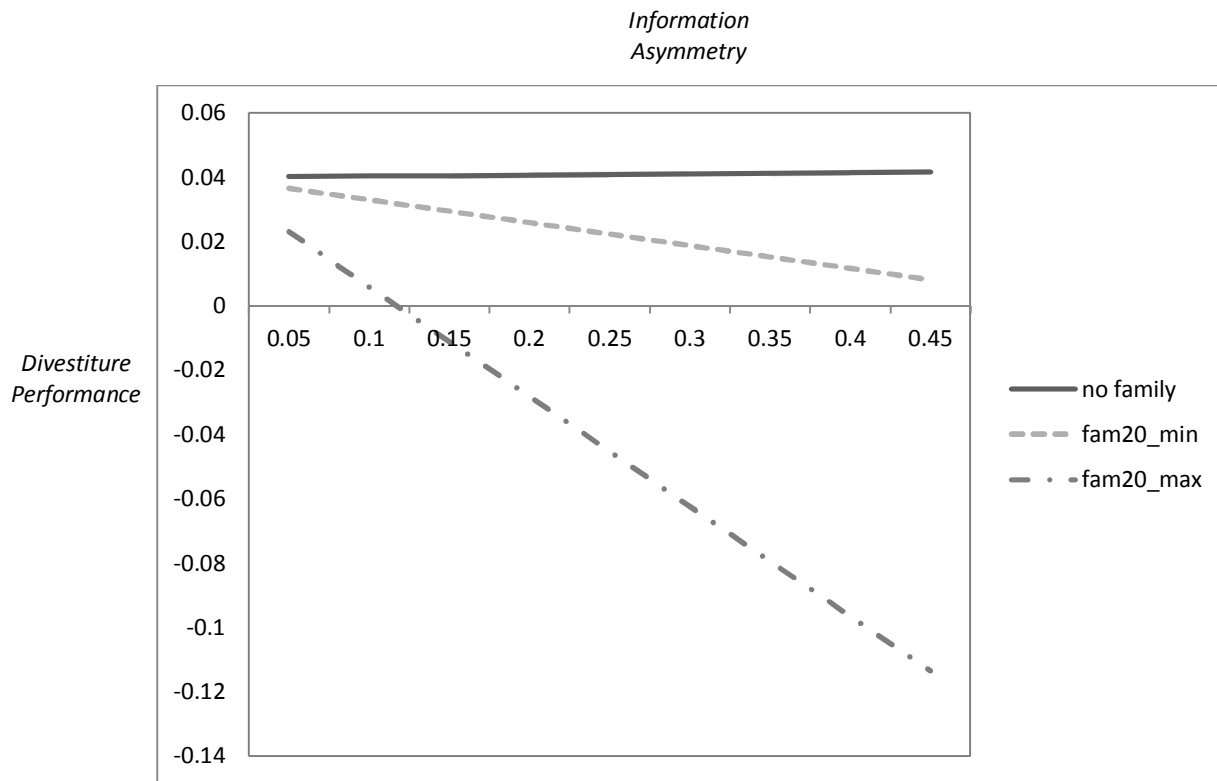Simple slope of divestiture financial performance for different levels of family ownership

	Family Ownership							
	20%	30%	40%	50%	60%	70%	80%	90%
Simple Slope	-.155	-.388[†]	-.622*	-.856*	-1.089*	-.1.323*	-1.557*	-1.790.*

***$p < .001$, ** $p < .01$, * $p < .05$, † $p < .1$

Figure 1

Information Asymmetry and divestiture financial performance for different levels of family ownership

Short Bio

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