

Extract Or Not Extract? The Effect of Familism on Stock Option Plans

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Abstract

There is an ongoing debate in managerial literature regarding the aim of stock option plans (SOPs). In this paper we analyse whether and to what extent the family involvement in ownership and managerial positions affects the use of SOPs as tools to extract rents. By examining a sample of plans issued by Italian listed firms, we classify the SOPs according to their characteristics (i.e. vesting period, lock-up, strike price, market index) and identify three different clusters namely Rent SOPs, Non-Rent SOPs, Hybrid. After controlling for CEO family, board size, equity owned by minority shareholders, and other firm-specific characteristics, we find that family firms are less likely to adopt SOPs for rent extraction purpose. We also find that SOPs specifically granted to family members are less likely to pursue rent extraction goals. Our findings are robust against different specifications of family firms. This paper offers important theoretical contributions to management research and insightful policy implications for all family owned listed firms.

Keywords: stock option plans, family business, F-PEC, agency problems

1. Introduction

Understanding the aim of Stock Option (hereafter SOPs) is central to the management research (Cyert, Kang & Kumar, 2002; Matsumura & Shin, 2005; Nyberg, Fulmer, Gerhart, & Carpenter, 2010; Wowak & Hambrick, 2010) and the ownership structure is one potential determinant that has received scant attention in the literature (Aboody & Kasznik, 2008; Brandes Dharwadkar & Lemesis, 2003; Cadman, Klasa, & Matsunaga, 2010; Ramaswamy, Veliyath, & Gomes, 2000).

Some recent studies have focused on whether and how the controlling shareholder affects the aim of SOPs (Bebchuk, Fried, & Walker, 2002; Core, Guay, & Larcker, 2003; Yermack, 1995; Faccio & Lang, 2002; Melis, Carta, & Gaia, 2012). However, to date few evidence, declines this theme in family business field.

Some studies show that in concentrated family firms, family managers use Stock Options (SOPs) as tools to extract rents, especially when their wealth is already tied to the value of the firm (Morck, Shleifer, & Vishny, 1988; Morck & Yeung, 2003; Barontini & Bozzi, 2011). However, this approach that regards family firms as a homogeneous group, is lacking. In fact, recent family business literature calls for finer definition of family firms (De Massis, Sharma, Chua & Chrisman, 2012) by incorporating family uniqueness (i.e. family involvement in ownership and management).

This paper tackles previous issues and deeper analyse the role of SOPs in family firms. Specifically, we investigate if and how family firms use SOPs to mitigate agency problems rather than to extract rents.

We take advantage of the Italian setting that is characterized by concentrated ownership via pyramidal structure, heavy family influence and weak legal protection of minority shareholders (Giacomelli & Trento, 2005). Publicly listed family-controlled firms in Italy have strong familial characteristics. The findings of Consob (2013) reveal that family serves as ultimate shareholder in the most part of Italian listed firms; such class of shareholder accounts for 26.4% of total market capitalization. Moreover, the vast majority of the family-controlled listed firms has a family CEO and the directors are members of the controlling family (Corbetta & Minichilli, 2006).

These distinctive features of the Italian setting represent a unique opportunity to disentangle the effects of family involvement in ownership and management from other major block holders since family influence can occur via

the extent of its ownership, governance, and management involvement in the firm (Astrachan, Klein & Smyrniotis, 2002).

We use a sample of 181 active SOPs issued by Italian listed firms during the period 2008-2010 and capture familism by adopting the F_PEC score (Jaskiewicz, González, Menéndez, & Schiereck, 2005). We identify the SOPs that are used for rent extraction purposes (Rent SOPs) by means of a cluster analysis which relies on several characteristics of SOPs design (i.e. vesting period, lock-up, strike price, market index). Then, a multinomial logit model is used to assess the impact of family on the characteristics of SOPs. Our estimates suggest that, with increasing value of F_PEC score, firms are less likely to adopt Rent SOPs. Moreover, we show that SOPs specifically granted to family members are less likely to pursue rent extraction goals.

This paper offers several contributions to the existing literature in management field. Firstly, considering the inconclusive results of previous studies (e.g. Melis et al., 2012; Zattoni & Minichilli, 2009), we focus on family firms and show that SOPs are employed to mitigate conflicts between family and non-family owners, rather than merely to extract rents. Secondly, by employing cluster analysis we classify SOPs according to their characteristics rather than according to their official purposes (Melis et al., 2012). By this way, we offer a more fine-grained definition of SOPs' aim. Finally, we disentangle the family effect by taking into account family involvement both in ownership and in managerial positions (Cascino, Pugliese, Mussolino & Sansone, 2010; Ding et al., 2008; Tsao & Lien, 2008). Within this regard, our results show that not only ownership per se is crucial when defining SOPs' aim, but also the role of family members at apical levels.

The remainder of the paper is structured as follows. Section 2 describes the theoretical framework of the analysis. Section 3 develops the research hypothesis. Section 4 presents the sample and the empirical approach. Section 5 provides the results and Section 6 concludes the paper.

2. Theoretical Framework

According to the agency theory, SOPs represent a governance mechanism aimed at aligning the conflicting interests of managers and dispersed heterogeneous owners towards the shareholder value maximization (Berle & Means, 1932; Jensen & Meckling, 1976; Jensen, Murphy, & Wruck, 2004). Within this framework, the design of an efficient compensation package also allows to attract, retain, and motivate CEOs, executives, and managers (Bruce, Buck, & Main, 2005; Zattoni & Minichilli, 2009).

Most scholars have focused on SOPs in widely-held firms (Bebchuk et al., 2002; Yermack, 1995). However, few investigation has examined SOPs granted to executive directors in blockholder-dominated firms, despite their pervasiveness in non Anglo-Saxon countries (Faccio & Lang, 2002; Melis et al., 2012). In this regard, some studies have highlighted that, even in these companies, SOPs can be effective in aligning the interests of owners and managers. In fact, in line with the predictions of the agency theory, the empirical evidence has shown that SOPs have been strongly used to align the interests of managers and shareholders in concentrated European, North American and East-Asian ownership structures (Alcouffe & Alcouffe, 2000; Nagaoka, 2005).

From a different perspective, recent research has witnessed a deviation from the original role of SOPs, especially in firms with concentrated ownership structures and a wide use of disproportional ownership devices. In particular, challenging the optimal contracting view, the empirical evidence shows that, in firms with concentrated ownership structures, the use of SOPs can be interpreted as a rent extraction of private benefits to the detriment of outside shareholders (Jensen & Murphy, 1990; Murphy, 1999; Cheung, Stouraitis, & Wong, 2005). Specifically, in closely-held firms, the so-called "agency problem II" fosters the expropriation of small investors by large controlling shareholders (Shleifer & Vishny, 1997; Johnson, Boone, Breach, & Friedman, 2000). The controlling owners have the power to influence the board decision-making and to appoint the majority of directors; they can choose not to hire professional directors but to appoint themselves or their close relatives to the board (Barca & Becht, 2001; Melis et al., 2012; Melis, 1999, 2000).

In these circumstances, the "rent extraction view" (Bebchuk & Fried, 2005, 2006) predicts that managers can receive pay in excess of the optimal amount for shareholders (Bebchuk et al., 2002; Bebchuk & Fried, 2006). Cohen and Lauterbach (2008) find that CEOs who belong to a controlling shareholder receive significantly higher pay than professional CEOs. Similarly, Su et al. (2010) argue that the ownership concentration positively affects the probability that shareholders set the level of compensation of their trusted managers at detriment of minority shareholders. They report a U-shaped link between ownership concentration and the executive compensation in non-state owned enterprises. Park and Jang (2010) show that an excessive granting of stock option awards to managers could weaken firm performance due to entrenchment effects of ownership concentration.

Literature has identified a number of features of SOPs in order to disentangle whether they may be used as a rent extraction rather an alignment tool. In this sense, the most investigated are the vesting period, the lock-up period the strike price, and the presence of indexed strike price. For instance, empirical evidence shows that plans characterized by an at/out of the money strike price, a vesting period longer than three years, the presence of a lock up period and an indexed strike price are symptomatic of executive compensation packages whose aims are to align the interests of managers and shareholders. Conversely, SOPs that exhibit an in-the-money strike price, a vesting period shorter than three years, the absence of a lock up period and an non indexed strike price are indicative of plans mainly used for rent extraction purposes (Johnson & Tian, 2000; Bebchuk et al., 2002; Zattoni, 2007; Hilb, 2008; European Corporate Governance Forum, 2009).

It is worth nothing that also in concentrated family firms, family managers use SOPs as tools to extract rents, especially when their wealth is already tied to the value of the firm (Morck et al., 1988; Morck & Yeung 2003). For instance, Basu, Hwang, Mitsudome, and Weintrop (2007) enlighten that executives receive higher remuneration in family controlled firms. However, another strand of research highlights that family businesses are often characterized by asymmetric altruism due to free riding, biased parental perceptions, sibling rivalry, difficulty in enforcing contracts, and generosity in terms of perquisite consumptions that can be very costly to solve (Schulze, Lubatkin, Dino, & Buchholtz, 2001). In such a context, family welfare may benefit from the use of pay incentives as these tools can mitigate the agency conflicts between family owners (Crocì, Gonenc, & Ozkan, 2012; Schulze, Lubatkin, & Dino, 2003).

However, recent studies suggest that the behaviour of family firms with respect to different types of decisions differs based on the degree of family involvement in ownership and management (Chrisman, Chua, & Sharma, 2005). In the literature, this phenomenon has been reported as a “family business theory jungle”, which is related to the existence of different definitions of family firms (Rutherford, Kuratko, & Holt, 2008). Such firms are considered as belonging to a “genre including many species” (Dematte` & Corbetta, 1993). In this sense, scholars point out three approaches to identify family businesses.

Most authors define family firms with reference to the involvement approach (Chrisman et al., 2005), which takes into account the structural and organizational factors of the firms. This approach is based on the identification of four core governance dimensions: family ownership, family control, managerial role of family members, and generations involved in the business (Miller & Le Breton-Miller, 2006). Differently, the intention-based approach (Chua, Chrisman, & Sharma, 1999) focuses on the family’s vision of the business in terms of maintaining family control, its corporate behaviour and vision for trans-generational value creation, and the idiosyncratic resources derived from its involvement in the business (Chrisman, Chua, & Litz, 2003). Finally, the definition approach combines some elements of both the involvement and the intention-based approaches. It introduces the F_PEC scale (which stands for family power, experience and culture) to measure the level of family influence on the business as a continuous variable based on three main dimensions: power, experience and culture (Astrachan et al., 2002).

In this paper we adopt the definition approach to identify family firms and deeper analyse the role of SOPs in family firms.

3. Hypothesis Development

Literature review reports that equity incentive plans are instruments that may be opportunistically used for extracting value from the company in concentrated ownership structure (Zattoni & Minichilli, 2009). Some studies shows that controlling shareholders of Italian listed companies extract a large amount of value at the expense of minority shareholders (Dyck & Zingales, 2004).

While the literature on compensation practices in Italian firms with concentrated ownership structure is quite large and still growing (Pittino et al., 2013; Catuogno et al., 2015), more limited empirical evidence is available with respect to the executive remuneration induced by family firms. For instance, Barontini and Bozzi (2010) reveal that founder family firms with smaller board size and higher proportion of family managers provide higher compensation to board members. They also find that for founder-family firms higher compensation negatively affects subsequent firm performance, signalling sub-optimal compensation practices.

Although they find that the assignment of stock options strengthens these results, they do not examine how the SOPs design affect the rent extraction scope. In the context of concentrated ownership, Zattoni and Minichilli (2009) aim at empirically tackling this issue. However, their findings do not support the hypothesis that family ownership impact on SOPs adoption. As a result, a clear picture of family involvement and SOPs design is still lacking.

One of the major drawback of the aforementioned literature is that it fails to disentangle concentrated or blockholder dominated firms from family owned and family influenced firms. In respect with this argument, Chrisman et al. (2005) claim that, even if family involvement in the ownership is a necessary condition, it may not be sufficient to capture family specific behaviours.

The uniqueness of family firms is, by definition, a result of overlapping between family and business life (Habbershonand & Williams, 1999). However, at this stage the effect of this integration is controversial and recent research points out that it may give rise to a particular set of agency problems, i.e. conflicts between family and non-family owners (Arena et al., 2014; Catuogno et al., 2015; Schulze et al., 2003). This issue is certainly relevant in economies where most large firms are parts of family business groups where conflicts are mainly related to the use of pyramidal groups to separate ownership from family control, the entrenchment of controlling families, related-party transactions and tunnelling to the detriment of public investors (Morck & Young, 2003). In this regard, family firms may benefit from the use of pay incentives as these tools can mitigate the above mentioned agency conflicts.

Based on the previous discussion, we argue that in listed family firms the overlapping between family and business life exacerbates the agency problems between family and non-family members. According to this perspective we claim that family firms are more likely to use SOPs to mitigate agency problems between family and non-family owners rather than merely to extract rents. Hence, we formulate the first following hypothesis:

HP1: Family firms are less likely to adopt SOPs for rent extraction aim.

Literature suggests that the identity of the SOPs beneficiary becomes relevant to understand whether a SOP design can be explained by rent-extraction theory (Melis et al., 2012). In this regard, family beneficiaries might pursue the extraction of private benefits which are detrimental to the non-family owners and the use of SOPs can promote the alignment between family and non-family interests. Prior studies that have empirically examined this issue seem to be inconclusive. Zattoni and Minichilli (2009) claim that family controlling shareholders that act as directors and top managers of their companies might have more incentives to approve extremely generous equity incentive plans for themselves. However, their results did not show large-scale evidence of controlling shareholders abuse. Melis et al. (2012) explore how stock options are used for executive remuneration in block holder-dominated listed firms. In order to capture whether the SOPs are explained by the optimal contracting theory, they examine the identity of beneficiaries and the long term-duration. Their findings are consistent with rent-extraction theory, suggesting that SOPs that are not designed to reflect optimal contracting are more likely to become a rent extraction tool. However, Tiscini and Raioli (2013) report that SOPs assigned to family beneficiaries are inadequately explained by the rent extraction view, but can be explained as an additional remuneration of certain family-specific resources that key family figures contribute to a firm. Hence, whether the SOPs specifically granted to family beneficiaries pursue a rent-extraction aim remains an empirical issue. On the basis of these premises and following the strand of literature that recognizes the existence of particular agency problems in family firms, we hypothesize that SOPs that are specifically designed to reward family members are more likely to use mitigate agency problems between family and non-family owners, rather than to extract rents. Hence, we formulate the following second hypothesis:

HP2: SOPs granted to family beneficiaries are less likely to pursue rent extraction aim.

4. Sample and Methodology

In this section we describe the empirical strategy used to investigate our theoretical predictions.

4.1 Sample

Our sample consists of 181 active SOPs issued by Italian listed firms during the period 2008-2010. The data collection starts in 2008 in order to neutralize the effects of the change in the taxation regimes of SOPs occurred in June, 25, 2008. We extend our sample until 2010 to have an adequate sample size for the empirical analysis. Our initial sample comprises all the companies listed in Milan Stock Exchange in 2008. We consider all the companies having an active SOPs during our observation period (tot 216 SOPs). We delete all the observations for which we were unable to collect the necessary data for our analysis (tot 35). The final sample comprises 181 active SOPs (Table 1).

Table 1. Sample selection

	2008	2009	2010	Total
Listed firms	300	296	296	892
- Firms without SOPs	(228)	(227)	(234)	(689)
SOPs active	72	69	62	203
- SOPs with missing data	(2)	(3)	(17)	(22)
SOPs in the sample	70	66	45	181

4.2 Classifying SOPs

In order to understand whether a SOP is likely to be used for rent extraction purposes, we rely on cluster analysis, a rigorous and reliable statistical technique that divide observations into clusters or groups (Kaufman & Rousseeuw, 1990). Cluster analysis aims at identifying natural clusters of observations with homogeneous properties, given some measures of similarity/dissimilarity among observations. The methodology should be considered as an exploratory data-analysis technique that, as emphasized by Everitt, Landau, Leese, & Stahl (2011), is intended largely for generating rather than testing hypotheses. Therefore, we consider particularly useful its application in this preliminary step of our empirical analysis.

The main SOPs' features considered in the cluster analysis are related to the vesting period, the lock-up period (e.g., Zattoni, 2007; Hilb, 2008; European Corporate Governance Forum, 2009), the strike price, and the presence of indexed strike price (Johnson & Tian, 2000). More in details, our cluster procedure is based on the following variables.

Vesting period. Motivating executive directors to undertake firm value-maximizing decisions requires long-term remuneration contracts, which await the arrival of additional information on current activities (Peng & Roell, 2008). A long-term perspective in executive remuneration is generally recommended by codes of best practice (e.g., Combined Code 2008; Italian Code of conduct 2006; French Code of best practices 2008; German Code of best practices 2009). On the one hand, SOP design characterized by a short-term vesting period can motivate executive directors to take decisions that myopically boost the short-term stock price, but may reduce (or fail to foster) medium-long term value and so harm shareholders (Bernhardt, 1999; Palepu & Healy, 2003). On the other hand, if the beneficiary is not allowed to exercise (sell) the options (shares) in the short-term, as compensation is deferred, s/he is discouraged to conduct myopic behavior (e.g. Milgrom & Roberts, 1994: 432). Thus, while a SOP with long-term vesting period (i.e. longer than 36 months) is potentially coherent with the value maximizing aims, a SOP designed with a short length of vesting period (i.e. shorter than 36 months) is likely to be explained by rent-extraction theory. We code the vesting period (*VESTING*) as a continuous variable equals to the duration in month of the SOP (Note 1).

Lock up. The relationship between the length of vesting period and the rent extraction aim is strengthened by the absence of a lock up period as a pivotal characteristics of the SO plan design (European Corporate Governance 2009; Zattoni, 2007). The presence of a lock-up period encourages the retention of the SO plan beneficiaries and induce them to pursue medium and long-term company goals, thus discouraging their short-term opportunistic behaviour. Both the length of the vesting and the presence of the lock-up period matter in defining whether the SO plan design is likely to exacerbate the rent extraction aim. That is, Bebchuk et al. (2002) noted that the lack of lock-up mechanisms is coherent with rent-extraction theory. We code the presence of lock up (*LOCK_UP*) as a binary outcomes equals to one if the SOP has a lock up provision, zero otherwise.

Strike price. Scholars predict that the optimal strike price influences the efficient SO plan design because setting a strike price higher than the market price of the share at the assignment date, provides incentives to increase the shareholders' returns. In this perspective, in-the-money options may suggest the rent extraction, while at/out-of-the-money options provide incentives to the shareholders' value maximization and result in the alignment of conflicting interests (Bebchuk & Fried, 2005; Zattoni, 2007). We code the strike price (*STRIKE_PRICE*) as a dummy variable equals to one if the SOP has a strike price *at or out of the money*, zero otherwise.

Market index. SO plan design should filter out stock price changes that are due to general market trends, as they are unrelated to executive directors' performance (Johnson & Tian, 2000; Bertrand & Mullainathan, 2001). As accounting results typically fail to reflect the current value of growth opportunities, the share price of a firm is often used, above all in the Anglo-Saxon world, as a tool for the evaluation of executive performance (Bebchuk et al., 2002). SO plan should subsequently grant rewards only if the managers contribute to the increase in the

share price. The presence of a market/industry-indexed strike price avoids rewarding beneficiaries for stock performance that is unrelated to their own performance (Bebchuk et al., 2002; Kuang & Quin, 2009).

Based on the empirical studies that have been provided by the literature, the absence of market/industry-indexed exercise price is consistent with the rent extraction theory (Bebchuk et al., 2002; Hall & Liebman, 1998). We code the indexed SOP (*INDEX*) as a dummy variable equals to one if the SOP has a strike price related to a market or industry performance, zero otherwise.

On the basis of the previous discussion we expect that the rent extraction plans are the ones characterized by: 1) vesting period lower than 36 months (*VESTING*<36 months); 2) no lock-up provisions (*LOCK_UP*=0); 3) a strike price in the money at the grant date (*STRIKE_PRICE*=0); 4) absence of market/industry indexed strike price (*INDEX*=0).

The analysis is based on the hierarchical clustering method with the average linkage and the Gower's distance metric. Average linkage is a reasonably robust method for many situations (Everitt et al., 2011) and the Gower dissimilarity measure is appropriate with analysis based on a mix of continuous and binary variables (Gower, 1985). A critical issue in cluster analysis concerns the number of groups. To estimate the optimal number of clusters we rely on the Calinski-Harabasz pseudo F index (Calinski & Harabasz, 1974) and the Duda-Hart index stopping-rule (Duda et al., 2001). The results of both tests (not shown to save space) point out that the three-groups solution is the most distinct for our dataset. Table 2 shows the results of cluster analysis that are in line with our theoretical expectations.

Table 2. Cluster analysis results

	Obs.	VESTING (mean)	LOCK_UP		STRIKE_PRICE		INDEX	
			1=Yes	0=No	1=Yes	0=No	1=Yes	0=No
<i>RENT_SOPs</i>	42	33	8	34	0	42	0	42
<i>NON-RENT_SOPs</i>	35	40.1	8	27	24	11	35	0
<i>HYBRID_SOPs</i>	104	37.6	17	87	17	87	59	45

Cluster 1 (*RENT_SOPs*) includes 42 stock option plans that can be considered to be used for rent extraction purposes. The observations belonging to this cluster have the mean value of *VESTING* equal to 33 months, while none of these plans has an indexed strike price and a strike price at or out of the money. Lastly, most of them (81%) does not exhibit the lock up provision. Cluster 2 (*NON-RENT_SOPs*) is composed of 35 stock option plans that, based on their characteristics, are consistent with the non-rent purpose. The observations belonging to this cluster have a mean value of vesting period equal to 40 months. All of them show the presence of an indexed strike price. In addition, 69% of them has *STRIKE_PRICE* equal to one and the 77% of them does not have a lock up provision. Lastly, Cluster 3 (*HYBRID_SOPs*) consists of 104 observations whose characteristics can be associated in part with the rent extraction aim and in part with the non-rent purpose. The observations belonging to this cluster have a mean value of vesting period equal to 38 months and 57% of them has an indexed strike price. Conversely, 84% of the SOPs has neither lock up nor the strike price and hence are more similar to the *RENT_SOPs*. In sum, the cluster analysis suggests that out of 181 stock option plans included in our sample, 42 (23%) are consistent with the rent extraction aim and 35 (19%) with non-rent purpose. The remaining plans are mixed cases.

4.3 Model and Variables

Based on the results of cluster analysis, we construct the variable SO Type, a nominal and non-ordered outcome with three categories, one for each group identified by cluster analysis. Given that such variable takes on more than two outcomes and that the outcomes have no natural ordering, we estimate a multinomial logit model (MNL), the most frequently used nominal regression model (Long & Freese, 2006), that simultaneously estimates separate binary logit regressions for each pair of outcome categories. The structural model can be formalized as follow:

$$Y_i = F_PEC_i + CEO_FAM_i + BOARD_i + MIN_DIR_i + SIZE_i + LEV_i + AGE_i \quad (1)$$

where Y represents SO Type. The structural equation is simultaneously estimated for the three categories of the cluster analysis' outcomes. The maximum likelihood method is used to estimate the model parameters.

F_PEC represents our main variable of interest that capture the family involvement in ownership and managerial positions. Chrisman et al. (2005) claim that the use of a dichotomous variable does not capture "family strength".

In response to this issue, we adopt a continuous variable (F_PEC). This definition of family firms has the advantage of being constituted on multidimensional scale; in fact, the principal contribution is to do not offer “a precise or all-encompassing definition of family business” (Astrachan et al. 2002, p. 51), but to concentrate into an index different dimension (family ownership and family involvement into top management) suggested in the literature. The primary advantage of the F_PEC score is its ability to group into a single index a series of dimensions suggested in the previous literature, namely family ownership and family involvement into board of director and top management. We calculate the F_PEC as follow:

$$F_PEC = (EQ_{fam}/EQ_{tot}) + (BOD_{fam}/BOD_{tot}) + (SB_{fam}/SB_{tot}) \quad (2)$$

The first addend represents the family equity involvement as the quota of shares owned by family (EQ_{fam}) over the total firm's equity (EQ_{tot}); the second one is equal to family members (related through blood or marriage) on the Board of Directors (BoD_{fam}) on the total members of Board (BoD_{tot}); the last defines the quota of family members in the whole supervisory board. We conduct several sensitive tests to strengthen our results by using dummy variables capturing the presence of at least one family member in managerial positions and simultaneously the thresholds of ownership of 10% (FAM_10), 20% (FAM_20) and 30% (FAM_30).

According to the previous literature (Melis et al., 2012) we control for additional variables that capture the effect of the governance structure. The presence of CEO-family is coded as a dummy variable (CEO_FAMILY) equals to one if the CEO is a member of the family and zero otherwise. The board size ($BOARD$) is computed in terms of the total number of directors sitting on the board. To capture the effect of the minorities, we also include in the model the variable (MIN_DIR) which measures the percentage of directors sitting on the board elected by the minorities. Finally, we control for some firm-specific characteristics such as size ($SIZE$), leverage (LEV) and age (AGE). $SIZE$ is measured as the natural logarithm of total asset. LEV is measured as the ration between the non-equity debt over total asset. AGE is measured as the natural logarithm of the years since the firm foundation.

5. Results

5.1 Descriptives and Correlation

Table 3 reports the descriptive statistics of the regressors. The mean value of F_PEC is equal to 0.46, ranging from 0 to 1.18. This suggests that more than a half of the sample firms are considered as being family owned ($n=93$), while almost 5 % of the sample firms ($n=9$) has F_PEC equal and/or greater than one. Almost 19% of the sample firms has a family CEO. The mean value of directors sitting on the board equals 11, while the percentage of directors elected by minorities is equal to 6%.

Table 3. Descriptive statistics and correlation coefficient

	Mean	St. dev.	Min	Max	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) F_PEC	0.45	0.38	0.00	1.18	1.00						
(2) CEO_FAMILY	0.19	0.39	0	1	0.50	1.00					
(3) $BOARD$	2.40	0.32	1.38	3.13	-0.03	0.04	1.00				
(4) MIN_DIR	0.06	0.13	0	0.75	-0.32	-0.21	-0.13	1.00			
(5) $SIZE$	14.68	2.27	5.21	20.7	-0.11	-0.01	0.50	0.10	1.00		
(6) LEV	0.67	0.18	0.10	1.16	-0.27	-0.29	0.19	0.01	0.36	1.00	
(7) AGE	3.43	0.87	1.79	5.18	0.15	0.14	0.29	-0.06	0.41	0.19	1.00

Note. F_PEC is a continuous variable defined as (equity owned by family/total equity) + (family board members/total board members) + (family supervisory board members/total supervisory board members) CEO_FAMILY is a dichotomous variable equals to one if the CEO is a family member (related through blood or marriage), zero otherwise. $BOARD$ is the logarithm of the number of board members. MIN_DIR is the ratio of directors elected by minorities to number of total directors. $SIZE$ is the logarithm of Total Assets. LEV is the ratio of Book Value of non-Equity Liabilities on book value of Total Asset. AGE is difference between the year of analysis and the founding year: in the analyses, we employ the logarithm.

5.2 Regression Analysis

In Table 4 we report estimates for all pairs of alternative categories. In model 1 we use the F_PEC score as main regressor of interest. The column *I a* shows the estimates for the comparison between Rent and Non Rent SOPs, with the latter type that is set as the base category. Column *I b* reports the estimates for the comparison between Hybrid and Rent SOPs. Column *I c* reports the comparison between Hybrid and Non-Rent SOPs.

Table 4. Multinomial Logit Regression: Results for family effect

Variables	MODEL 1			MODEL 2			MODEL 3		
	Column (I a)	Column (I b)	Column (I c)	Column (II a)	Column (II b)	Column (II c)	Column (III a)	Column (III b)	Column (III c)
<i>F_PEC</i>	-2.04** (1.04)	1.30** (0.60)	-0.74 (0.84)						
<i>FAM_20</i>				-2.28*** (0.78)	1.68*** (0.57)	-0.60 (0.57)			
<i>FAM_30</i>							-1.67** (0.76)	1.50*** (0.57)	-0.16 (0.55)
<i>CEO_FAMILY</i>	1.83** (0.77)	-2.10*** (0.59)	-0.26 (0.60)	2.02*** (0.77)	-2.37*** (0.63)	-0.34 (0.57)	1.90** (0.80)	-2.36*** (0.65)	-0.46 (0.58)
<i>BOARD</i>	-0.24 (1.10)	0.20 (0.91)	-0.37 (0.87)	-0.13 (1.09)	0.05 (0.88)	-0.08 (0.89)	-0.16 (1.04)	0.21 (0.86)	-0.04 (0.84)
<i>MIN_DIR</i>	-3.81* (2.12)	3.39*** (1.23)	-0.42 (1.98)	-4.48** (2.09)	3.94*** (1.36)	-0.54 (1.81)	-3.74* (2.08)	3.81*** (1.26)	-0.06 (1.93)
<i>SIZE</i>	-0.79*** (0.19)	0.31* (0.16)	-0.48*** (0.14)	-0.80*** (0.19)	0.34** (0.15)	-0.46*** (0.14)	-0.78*** (0.18)	0.31** (0.14)	-0.47*** (0.15)
<i>LEV</i>	5.30*** (1.89)	-2.88* (1.59)	2.42* (1.30)	5.65*** (1.89)	-3.07** (1.58)	2.58** (1.28)	5.56*** (1.91)	-2.96* (1.63)	2.59** (1.29)
<i>AGE</i>	0.75** (0.35)	-0.21 (0.30)	0.53** (0.26)	0.85** (0.37)	-0.33 (0.32)	0.51** (0.26)	0.86** (0.37)	-0.33 (0.32)	0.52** (0.26)
<i>Industry Dummies</i>	YES			YES			YES		
<i>Year Dummies</i>	YES			YES			YES		
ll	-146			-142			-145		
Obs.	181			181			181		
Wald (<i>p</i> -value)	0.00			0.00			0.00		
Pseudo R ²	0.18			0.20			0.18		
SH test (<i>p</i> -value)	χ^2 9.3 (0.587)		10.4 (0.489)		6.6 (0.831)		10.9 (0.445)	9.06 (0.616)	15.4 (0.161)

We find that the coefficient of *F_PEC* is equal to -2.04 ($p < .05$) in column I a. This result suggests that with increasing value of *F_PEC* score, firms are less likely to adopt Rent SOPs vs. Non-Rent SOPs. The coefficient on *CEO_FAMILY* is positive and significant in Column I a (1.83 , $p < 0.05$) suggesting that the presence of family CEO increases the likelihood of adopting a RENT SOPs. As expected, the coefficient of *MIN_DIR* is negative and significant (-3.81 , $p < 0.1$) underlying the monitoring role of minorities over managerial choices; while the coefficient on *BOARD* is negative and not significant.

Moving to results obtained in column I b, we find that the coefficient of *F_PEC* turns into 1.30 ($p < .05$) suggesting that with increasing value of *F_PEC* score, firms are more likely to adopt Hybrid SOPs vs. Rent SOPs. Finally, the comparison between Hybrid and Non Rent SOPs (Column I c) is not statistically significant. The last row of the table shows the χ^2 and the *p*-value of the Small and Hsiao' test (1985). The test aim at assessing the validity of the independence of irrelevant alternatives assumption underlying the multinomial models. Based on this assumption, adding or deleting alternatives (i.e. the SOP types) should not affect the odds among the remaining alternatives. The assumption appears of particular relevance because several authors have shown that MNLM is appropriate when the alternatives can be plausibly considered dissimilar (Amemiya, 1981;

McFadden, 1973). Looking at the values reported in the table, we can not reject the null hypothesis of the test (i.e. that odds are independent of other alternatives) in the various model specifications. Then, these results corroborate the use of MNLM as estimation method.

Overall, these results confirm our hypothesis that family firms are less likely to adopt SOPs for rent extraction purposes. Specifically, we find that at an increase of 1% for F_PEC , the likelihood that a firm adopt a Rent SOPs will decrease of 0.57%. Our results are robust against alternative specifications of family firm definition. That is, we find the same results when we substitute F_PEC with FAM_20 (Model 2) or FAM_30 (Model 3). Moreover, un-tabulated results confirm that these findings are unchanged even when we use FAM_10 as family involvement proxy.

To test our hypothesis 2 we extend the econometric model 1 with the variable FAM_BEN defined as the ratio between family beneficiaries and the total number of SOPs beneficiaries. Then, we re-run our models 1-2-3 only for the sub sample of family firms. The results are shown in Table 5. Model 1 reveals that the coefficient of FAM_BEN is equal to -0.22 ($p < 0.01$) when we compare Rent vs. Non- Rent SOPs (Column I a), while it turns into 0.16 ($p < 0.01$) when we contrast the Hybrid vs. Rent SOPs (Column I b). Again, our results are robust when we consider FAM_20 (Model 2) and FAM_30 (Model 3) and the Small and Hsiao' test indicate that our choice of MNLM is appropriate. In sum, this evidence suggest that SOPs specifically granted to family members are less likely to pursue rent extraction goals.

Table 5. Multinomial logit regression: results for SOPs beneficiaries

	MODEL 1			MODEL 2			MODEL 3		
	Column (I a)	Column (I b)	Column (I c)	Column (II a)	Column (II b)	Column (II c)	Column (III a)	Column (III b)	Column (III c)
<i>FAM_BEN</i>	-0.22*** (0.06)	0.16*** (0.05)	-0.05 (0.04)	-0.16*** (0.05)	0.10*** (0.03)	-0.05 (0.04)	-0.22*** (0.06)	0.16*** (0.05)	-0.06 (0.04)
<i>CEO_FAMILY</i>	2.36* (1.29)	-3.41*** (1.19)	-1.04 (0.81)	2.70** (1.25)	-3.51*** (1.12)	-0.80 (0.69)	2.32* (1.28)	-3.37*** (1.18)	-1.04 (0.73)
<i>BOARD</i>	2.57 (1.88)	-3.32* (1.77)	-0.74 (1.18)	0.10 (1.56)	-0.23 (1.32)	-0.12 (1.30)	2.55 (1.86)	-3.38** (1.61)	-0.83 (1.18)
<i>MIN_DIR</i>	-14.80*** (4.16)	14.96*** (4.12)	-17.29** (9.04)	-7.96*** (3.20)	8.12*** (3.02)	-3.16 (2.03)	-8.66*** (2.52)	7.98*** (3.12)	-7.08 (5.30)
<i>SIZE</i>	-1.82*** (0.51)	1.59*** (0.51)	-0.23 (0.15)	-1.34*** (0.40)	0.88** (0.38)	-0.45*** (0.17)	-1.90*** (0.53)	1.61*** (0.52)	-0.28 (0.22)
<i>LEV</i>	6.05** (3.06)	-4.72** (2.25)	1.33 (2.35)	6.94** (2.90)	-5.89** (2.66)	1.05 (1.74)	4.71* (2.55)	-4.20** (1.98)	0.51 (1.87)
<i>AGE</i>	0.77 (0.60)	0.39 (0.46)	1.17** (0.53)	1.30*** (0.48)	-0.09 (0.38)	1.20*** (0.39)	0.73 (0.50)	0.35 (0.42)	1.08*** (0.39)
<i>Industry Dummies</i>	YES			YES			YES		
<i>Year Dummies</i>	YES			YES			YES		
ll	-53			-72			-59		
Obs.	89			110			99		
Wald (p-value)	0.00			0.00			0.00		
Pseudo R ²	0.38			0.33			0.38		
SH test χ^2 (p-value)	13.4 (0.199)		15.1 (0.127)	5.2 (0.871)		7.7 (0.658)	6.1 (0.801)		5.2 (0.877)

6. Conclusion

This paper investigates whether and to what extent the family involvement in ownership and management affects

the aim of SOPs. Using data from the Italian Stock Market, we classify the SOPs according to their characteristics (i.e. vesting period, lock-up, strike price, market index). After controlling for CEO family, board size, equity owned by minority shareholders, firm size, leverage and firm age we find that family firms are less likely to adopt SOPs for rent extraction purpose. Our results remain stable through several specifications of family firms. We also find that SOPs specifically granted to family members are less likely to pursue rent extraction goals. These results are consistent with the assumption that in family firms the overlapping between family and business life exacerbates the agency conflicts between family and non-family members, leading to the use of SOPs as an instrument to mitigate these problems.

This study makes a number of contributions to the existing literature on family business and corporate governance by exploring the effects of family involvement in ownership and management on the SOPs purpose. First, we extend the few studies that examine the use of SOPs in family firms (Zattoni & Minichilli, 2009; Melis et al., 2012; Tiscini & Raioli, 2013). Specifically, the present study offers a deeper understanding of the motivation underlying the use of SOPs in family firms. Second, we shed new light on the management literature on executive compensation by showing that SOPs specifically granted to family members reduce agency conflicts. In this way, we answer to the call from previous scholars for more researches on the SOPs' beneficiaries (Melis et al., 2012).

This paper also advances the current understanding of family firms and accounting behaviours. In fact, our results confirm prior findings about the beneficial effect of familism in the context of Italian capital market (Cascino et al., 2010; Prencipe & Bar-Yosef, 2011). Third, we employ an original methodology to investigate the aim of SOPs by grouping observations into three clusters according to their characteristics (Rent SOPs, Non-Rent SOPs, Hybrid SOPs). Consequently, we advance the previous literature on SOPs by proposing a more comprehensive methodological approach to classify the aim of SOPs. Forth, differently from previous studies, we capture not only the family ownership concentration but also the involvement of family members in managerial positions by using *F_PEC* score as a more fine-grained measure, thus contributing to the family business literature.

Finally, the practical significance of the results is also at issue. From one side, family firms themselves could positively evaluate SOPs as beneficial mechanism to lessen the conflicts between family and non-family members and preserve their long term orientation. From the other side, our results could be useful for regulators in order to emanate normative actions to promote the use of SOPs as a substitute mechanism for a weak corporate governance regime in family firms.

As with all research, our study is subject to limitations that offer opportunities for future research. The first limitation of the study refers to the geographical setting. On the one hand, as in Chahine (2007), we are able to avoid any endogeneity problems between family ownership and country-specific characteristics, but on the other, this may limit the external validity of the results. Despite of this, due to the structure of the market under scrutiny, our findings may provide deeper theoretical understanding and policy implications for all blockholder dominated listed firms. Moreover, future studies could extend the research to other countries longitudinally and over time to allow a broader generalization of the phenomenon.

The second main limitation is the lack of complete data on the characteristics of equity incentive plans adopted by sample companies. This is due to the lack of public information on SOPs plans. Future researches may use a multiple research approach (e.g. both qualitative and quantitative) to specifically address this issue. Furthermore, future development of the research stream could analyse the relationship between SOPs characteristics and family firm performance.

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Note

Note 1. The variable is standardized to zero mean and unit standard deviation in order to avoid results dominated by its high variance.

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