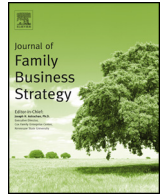




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## Research note

# Tax aggressiveness in family firms and the non-linear entrenchment effect

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## ABSTRACT

This article examines whether family firms are more tax aggressive than nonfamily firms when family involvement is greater. By testing our predictions on a panel of listed Italian firms, we find that the family status has a moderating non-linear effect on corporate tax aggressiveness, as too much family involvement (which is otherwise beneficial) causes the detrimental outcome of higher tax aggressiveness. As a novelty to the literature, we show that family involvement has a non-linear impact on tax aggressiveness in family firms, as concerns about a family versus minority conflict arise when the family is too entrenched.

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## 1. Introduction

Tax aggressiveness (Hanlon & Heinzman, 2010; Shackelford & Shevlin, 2001) generally originates in an agency framework in which managers behave opportunistically and extract rents from tax savings at the expense of shareholders (Desai & Dharmapala, 2006). Because tax manipulations consist of temporary or permanent modifications of reported accounting numbers (Graham, Raedy, & Shackelford, 2012; Slemrod & Yitzhaki, 2002), we would expect that the higher the tax aggressiveness, the lower the earnings quality (Ayers, Jiang, & Yeung, 2009; Badertscher, Phillips, Pincus, & Rego, 2009; Frank, Lynch, & Rego, 2009; Hanlon, 2005).

Only two studies (Chen, Chen, Cheng, & Shevlin, 2010; Steijvers & Niskanen, 2014) specifically investigate tax aggressiveness in a family context, both grounded in agency theory and finding that family firms are less tax aggressive than nonfamily firms. In an agency framework, ownership concentration is the most typical feature of family involvement, producing the following two countervailing effects on the governance of corporations: an alignment (or incentive) effect,<sup>1</sup> which makes monitoring of management more efficient, and an entrenchment effect, which makes it easier for opportunistic owners to expropriate minority owners (Morck, Wolfenzon, & Yeung, 2005). In the investigation of

the impact of family involvement on firms' tax aggressiveness, Chen et al. (2010) document the relevance of the alignment effect due to family ownership, whereas Steijvers and Niskanen (2014) support that the salience of family socio-emotional wealth favors an alignment effect.

In some institutional contexts (including the Italian context), the entrenchment effect prevails, originating from the high concentration of ownership and the active involvement of the family in the management of the firm. These impel the family to divert resources from the firm, addressing their own purposes at the expense of minority shareholders.

Supporting the fact that family firms cannot be considered homogeneous across different institutional contexts, in this article, we question how different levels of family involvement impact the tax aggressiveness of the firm by testing whether family firms that are too entrenched are more tax aggressive than their counterparts. Our findings demonstrate a non-linear impact of family entrenchment on tax aggressiveness, which has not been measured in the literature so far.

## 2. Research design

### 2.1. Definition of variables

The dependent variable is the effective tax rate, which is the most commonly used proxy for tax aggressiveness. Following the dominant literature (Hanlon & Heinzman, 2010), we adopt the GAAP effective tax rate (ETR), measured as the total expense for

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<sup>1</sup> An alignment effect occurs when the manager/agent aligns his own interests with those of the owner/proprietor, reducing the concerns about managerial expropriations.

income taxes scaled by pre-tax income. Thus, a larger *ETR* would imply a lower tax aggressiveness of the firm, and *vice versa*.

The explanatory variables designate the firm as family or nonfamily based on the measurement of family proprietorship in the equity and family activity in the management of the firm. First, following Villalonga and Amit (2006), we assign a general indicator of family status (*FAMILY*) as 1 if the founder (or acquirer) or a member of the founding (or acquiring) family, by either blood or marriage, is an officer, director, or block-holder with at least 5% of voting rights.

Second, we measured the involvement in the ownership and management of the firm using the indicator *INVOLVEMENT*. The concentration of equity in the hands of the main block-holder serves as a proxy for family involvement in ownership, and it is measured in the following three different ways: *i) OWN25*, which is assigned to be 1 if the shares held by the main block-holder are more than 25% of equity, and 0 otherwise; *ii) OWN50*, which is assigned to be 1 if the shares held by the main block-holder are more than 50% of equity, and 0 otherwise; and *iii) OWNERSHIP*, which is the percentage of ownership held by the main block-holder. The shares held by different individuals of the same family group are summed to total the main block-holder's ownership, as described above.

The involvement of the family in the ownership is captured by the interaction of the variable indicator *FAMILY* and the variables measuring involvement in ownership (*FAMILY\*INVOLVEMENT*).

The involvement of the family in management is also captured using the interaction term between *FAMILY* and the indicator *INVOLVEMENT*, which, in this step, measures the involvement of the family in the managerial activities of the firm. We measure involvement in management using the following three alternate variables: *i) CEODUAL*, which is 1 if the CEO and chairperson are the same individual, and 0 otherwise; *ii) AFF50*, which is 1 if the board is composed of a majority of members who are the main block-holder's affiliate directors, and 0 otherwise; *iii) AFFILIATE*, which counts the number of the main block-holder's affiliate directors sitting on the board.

A set of additional financial controls is used in the empirical test: profitability (*ROA*, measured as the operating income scaled by lagged total assets); leverage (*LEV*, measured as long-term debt scaled by lagged total assets); capital intensity (*PPE*, that is property, plant and equipment scaled by lagged total assets); intangible intensity (*INTANG*, measured as intangible assets deflated by lagged total assets); size (*SIZE*, that is equal to the logarithm of total assets), and market value of the firm (*MB*, measured as market value scaled by lagged total assets).

We also included dummy period fixed effects ( $\eta_t$ ) and dummy industry fixed effects ( $\eta_j$ ).

## 2.2. Regression model

The basic regression model adopted is described as follows:

$$ETR_{it} = \alpha_0 + \alpha_1 FAMILY_{it} + \gamma_1 ROA_{it} + \gamma_2 LEV_{it} + \gamma_3 SIZE_{it} + \gamma_4 PPE_{it} + \gamma_5 INTANG_{it} + \gamma_6 MB_{it} + \eta_t + \eta_j + \varepsilon_{it} \quad (1)$$

This model resembles the model adopted in previous literature (Chen et al., 2010), and it simply predicts a linear impact of the family indicator on the tax aggressiveness of the firm. In this article, we reconsider the linear relationship and expand the model in Equation (1), testing the moderating effect of family involvement in ownership and management on the tax aggressiveness of the firm. The model is able to test this moderating effect of *INVOLVEMENT* on the *FAMILY-ETR* relationship, which is described as follows:

$$ETR_{it} = \alpha_0 + \alpha_1 FAMILY_{it} + \alpha_2 INVOLVEMENT_{it} + \alpha_3 FAMILY_{it} * INVOLVEMENT_{it} + \gamma_1 ROA_{it} + \gamma_2 LEV_{it} + \gamma_3 SIZE_{it} + \gamma_4 PPE_{it} + \gamma_5 INTANG_{it} + \gamma_6 MB_{it} + \eta_t + \eta_j + \varepsilon_{it} \quad (2)$$

To achieve a more in-depth analysis, we progressively expand Equation (2) into a non-linear quadratic relationship, as follows:

$$ETR_{it} = \alpha_0 + \beta_1 FAMILY_{it} * INVOLVEMENT_{it} + \beta_2 FAMILY_{it} * INVOLVEMENT_{it}^2 + \gamma_1 ROA_{it} + \gamma_2 LEV_{it} + \gamma_3 SIZE_{it} + \gamma_4 PPE_{it} + \gamma_5 INTANG_{it} + \gamma_6 MB_{it} + \eta_t + \eta_j + \varepsilon_{it} \quad (3)$$

The non-linear relationship in Equation (3) is a peculiar situation of the linear relationship with a moderator effect in Equation (2), and it also carries information about the exact position of the inflection point over the continuum of the explanatory variable.

We run the regression using the panel Tobit model econometric approach, censoring the observations of *ETR* out of the range (0,1) and warding off the influence of faulty observations and the consequent eventuality of distorted estimates (Zimmerman, 1983). Finally, we test the absence of collinearity (unreported VIFs) and the absence of perfect correlation (Table 1) in our estimates. We adopt the Huber/White robust covariance matrix in order to correct heteroscedasticity.

## 2.3. Sample description

The sample comprises a panel of 183 companies listed on the Milan Stock Exchange, and it covers the six years between 2006 and 2011, leading to an unbalanced sample of 1098 firm-year observations. Descriptive statistics and a test of difference in means between family and nonfamily firms are reported in Table 2.

Family firms represent 77% of our sample, which is not far from the percentage found in previous research in Italy (Cascino, Pugliese, Mussolino, & Sansone, 2010; Faccio & Lang, 2002; Prencipe & Bar-Yosef, 2011; Prencipe, Bar-Yosef, Mazzola, & Pozza, 2011). This amount is much higher than the percentages reported in US-based research, which is close to 35% (Anderson & Reeb, 2003; Villalonga & Amit, 2006). In our sample, ownership seems to be highly concentrated in the hands of the ultimate owner and higher in family firms (53.72%) compared with nonfamily firms (42.61%). This offers circumstantial evidence that the controlling families in Italy generally own very large percentages of the equity, which is completely different from the 16% reported in the US (Villalonga & Amit, 2006). Additionally, on average, the main block-holder's affiliate directors who sit on the board are significantly more numerous in family firms (5.14) than in nonfamily firms (3.12), suggesting that proprietors may have larger managerial powers in family firms compared to nonfamily firms. These circumstances support the relevance of our analysis due to the peculiarity of the institutional setting investigated in this article, documenting a seemingly extensive involvement of block-holders in family firms.

Our sample reports a censored and trimmed effective tax rate (*ETR*) with a mean of 0.36 and a median of 0.35, which is quite close to the statutory tax rate for the period and varied between the minimum rates of 0.37 in 2006 and 2007 and 0.32 since 2008. Table 2 provides a breakdown of the censoring and trimming procedures adopted to clarify *ETR*.

## 3. Results and discussion

The results of the regression analysis described in Eqs. (1) and (2) are presented in Tables 3 and 4.

**Table 1**  
Pearson's correlation matrix.

	1.ETR	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
2. FAMILY	0.027 (0.77)												
3.OWN25	0.027 (0.78)	<b>0.692</b> <b>(31.4)</b>											
4.OWN50	-0.045 (-1.29)	<b>0.530</b> <b>(20.4)</b>	<b>0.642</b> <b>(27.2)</b>										
5.OWNERSHIP	-0.032 (-0.92)	<b>0.251</b> <b>(7.42)</b>	<b>0.723</b> <b>(34.0)</b>	<b>0.723</b> <b>(34.0)</b>									
6.CEODUAL	-0.054 (-1.55)	<b>0.227</b> <b>(7.58)</b>	<b>0.153</b> <b>(5.03)</b>	<b>0.208</b> <b>(6.92)</b>	<b>0.171</b> <b>(5.66)</b>								
7.AFF50	0.027 (0.79)	<b>0.300</b> <b>(10.2)</b>	<b>0.255</b> <b>(8.59)</b>	<b>0.156</b> <b>(5.14)</b>	<b>0.061</b> <b>(1.98)</b>	<b>0.085</b> <b>(2.80)</b>							
8. AFFILIATE	0.010 (0.30)	<b>0.173</b> <b>(5.02)</b>	<b>0.079</b> <b>(2.60)</b>	<b>-0.014</b> <b>(-0.48)</b>	-0.025 (-0.72)	-0.043 (-1.42)	<b>0.438</b> <b>(15.8)</b>						
9. ROA	-0.008 (-0.23)	<b>0.077</b> <b>(2.22)</b>	0.041 (1.17)	0.056 (1.61)	0.048 (1.37)	0.049 (0.33)	-0.011 (-0.02)	-0.000 <b>0.068</b>					
10. LEV	0.004 (0.90)	<b>-0.073</b> <b>(-2.11)</b>	-0.056 (-1.61)	<b>-0.085</b> <b>(-2.46)</b>	<b>-0.086</b> <b>(-2.49)</b>	<b>-0.087</b> <b>(-2.51)</b>	-0.023 (-0.66)	<b>0.072</b> <b>(2.06)</b>	<b>0.464</b> <b>(15.0)</b>				
11. PPE	-0.047 (0.17)	<b>-0.286</b> <b>(8.55)</b>	<b>-0.237</b> <b>(-6.99)</b>	<b>-0.120</b> <b>(-3.46)</b>	0.049 (1.42)	-0.017 (-0.49)	<b>-0.206</b> <b>(-6.02)</b>	<b>-0.126</b> <b>(-3.65)</b>	-0.035 (-1.02)	<b>0.105</b> <b>(3.03)</b>			
12. SIZE	-0.022 (0.51)	<b>-0.298</b> <b>(-8.59)</b>	<b>-0.245</b> <b>(-7.24)</b>	<b>-0.194</b> <b>(-5.67)</b>	<b>-0.171</b> <b>(-4.96)</b>	<b>-0.139</b> <b>(-4.03)</b>	<b>-0.268</b> <b>(-7.95)</b>	<b>0.243</b> <b>(7.17)</b>	<b>0.162</b> <b>(4.70)</b>	<b>0.302</b> <b>(9.07)</b>	<b>0.191</b> <b>(5.56)</b>		
13. INTANG	-0.007 (-0.21)	0.017 (0.50)	0.011 (0.33)	0.005 (0.17)	0.003 (0.08)	0.013 (0.37)	0.030 (0.88)	-0.015 (-0.44)	<b>0.580</b> <b>(20.3)</b>	<b>0.755</b> <b>(32.9)</b>	-0.042 (-1.21)	-0.008 (-0.23)	
14. MB	-0.019 (-0.55)	-0.071 (-2.04)	<b>0.108</b> <b>(3.13)</b>	0.026 (0.75)	<b>0.069</b> <b>(1.99)</b>	<b>-0.112</b> <b>(-3.23)</b>	-0.009 (-0.28)	0.018 (0.53)	0.049 (1.40)	<b>0.117</b> <b>(3.38)</b>	-0.011 (-0.33)	<b>0.127</b> <b>(3.68)</b>	0.014 (0.41)

Statistically significant correlations are in bold ( $p$ -value < 0.10);  $t$ -statistic in parenthesis.

**Table 2**  
Mean standard deviation, and test of differences in means between family and non-family firms.

	(a) All firms		(b) Family firms		(c) Non-family firms		Diff. in means	
	mean	Std. Dev.	Mean	Std. Dev.	mean	Std. Dev.	(b)-(c)	$t$ -stat.
OWNERSHIP (%)	51.23	18.01	53.72	16.55	42.61	20.14	10.11	8.71***
AFFILIATE	5.79	2.46	5.98	2.20	5.14	3.12	0.84	4.69***
SALES (€)	626,409	2,357,725	354,272	1,310,674	1,569,504	1,310,674	-1,215,232	-7.07***
ASSETS (€)	3,935,275	15,658,932	1,697,716	5,991,795	11,695,291	29,940,565	-9,997,575	-8.98***
ROA	0.0092	0.0763	0.0111	0.0848	0.0025	0.0323	0.086	1.50
LEV	0.4030	3.1850	0.4653	0.1318	0.1912	0.1630	0.2741	1.12
PRE-TAX INCOME (€)	72,599	405,436	28,642	81,680	223,582	820,321	-194,940	-6.54***
INCOME TAXES (€)	31,293	191,738	11,350	28,318	102,119	398,275	-90,769	-6.23***
ETR	12.23	293.65	16.52	210.50	-2.63	485.29	19.15	0.83
Firm-years obs.	950		741		209			
Firms	183		141		42			
Left side censoring								
ETR ≥ 0	23.39	227.47	20.35	232.05	34.02	201.94	-13.67	-0.69
Firm-year obs.	781		609		174			
Left and right side censoring								
1 ≥ ETR ≥ 0	0.3575	0.1818	0.3582	0.1801	0.3553	0.1877	0.0029	0.17
Firm-year obs.	693		532		161			
90% trimming								
3.5 ≥ ETR ≥ -0.3	0.4029	0.4481	0.4197	0.4754	0.3434	0.3239	0.0763	2.07**
Firm-year obs.	855		666		189			

The data collection process included two steps. In the first step, we built up a dataset including accounting and financial information drawn from Worldscope. In the second step, the information about the firm's family ownership and management was collected manually from companies' Reports on Corporate Governance, from the official ownership databank provided by the Italian Authority for the Fair Financial Trade Market (CONSOB, i.e., Commissione Nazionale per le Società e la Borsa), and from at least two concordant public sources of information (companies' websites and the national financial press).

Family firms are defined as those in which one or more family members are officers or directors, or own 5% or more of the firm's equity, either individually or as a group. ETR is left-censored to exclude firms with pre-tax losses ( $ETR < 0$ ) and right-censored to exclude firms with losses after taxation (pre-tax income < income taxes, which implies  $ETR > 1$ ). A transformation of statistics is required because there is a large number of spurious outliers in the distribution of ETR. We use a 90% trimming procedure (Dixon, 1960).

\*, \*\*, and \*\*\* denote statistical significance at 10%, 5%, and 1% level, respectively.

**Table 3**  
The impact of family involvement in ownership on ETR.

Variables	Coeff.	(1)	(2)	(3)	(4)
FAMILY	$\alpha_1$	0.119*** (2.63)	0.491** (2.40)	0.242*** (3.25)	0.539*** (3.62)
OWN25	$\alpha_2$		0.122 (1.50)		
OWN50	$\alpha_2$			0.167* (1.73)	
OWNERSHIP	$\alpha_2$				0.003 (1.49)
FAMILY*OWN25	$\alpha_3$		-0.459** (-2.12)		
FAMILY*OWN50	$\alpha_3$			-0.300** (-2.56)	
FAMILY*OWNERSHIP	$\alpha_3$				-0.009*** (-2.90)
ROA	$\gamma_1$	0.464** (2.01)	0.405 (1.61)	0.424* (1.77)	0.501** (2.22)
LEV	$\gamma_2$	-0.028 (-0.19)	-0.097 (-0.58)	-0.122 (-0.73)	-0.148 (-0.89)
PPE	$\gamma_3$	-0.042 (-0.75)	-0.045 (-0.59)	-0.073 (-0.94)	-0.063 (-0.82)
SIZE	$\gamma_4$	-0.044* (-1.74)	-0.049* (-1.81)	-0.054* (-1.93)	-0.055** (-2.00)
INTANG	$\gamma_5$	-0.020 (-1.08)	-0.010 (-0.49)	-0.008 (-0.41)	-0.006 (-0.32)
MB	$\gamma_6$	-0.005 (-0.91)	-0.005 (-0.69)	-0.005 (-0.76)	-0.004 (-0.65)
Firm-year obs.		760	760	760	760
Log-likelihood [prob.]		-654[0.00]	-652 [0.00]	-652[0.00]	-653[0.00]

This table presents the estimates of Eqs. (1) and (2) where the dependent variable is ETR, using Tobit regression model. Industry and period dummy fixed effects and constant term are included in the models but unreported  
\*, \*\*, and \*\*\* indicate statistical significance level (two-tailed) at 10%, 5%, and 1% levels, respectively. *t*-Statistics are reported in parenthesis and are calculated using Huber/White correction for heteroscedasticity; *p*-values are reported in brackets.

**Table 4**  
The impact of family involvement in management on ETR.

Variables	Coeff.	(1)	(2)	(3)
FAMILY	$\alpha_1$	0.006 (0.09)	0.170** (2.27)	0.231** (2.08)
CEODUAL	$\alpha_2$	-0.158*** (-2.75)		
AFF50	$\alpha_2$		0.175* (1.88)	
AFFILIATE	$\alpha_2$			0.023* (1.92)
FAMILY*CEODUAL	$\alpha_3$	0.199*** (2.73)		
FAMILY*AFF50	$\alpha_3$		-0.195* (-1.74)	
FAMILY*AFFILIATE	$\alpha_3$			-0.029* (-1.73)
ROA	$\gamma_1$	0.428 (1.80)	0.320 (1.02)	0.322 (1.22)
LEV	$\gamma_2$	-0.045 (-0.29)	-0.172 (-0.98)	-0.148 (-0.89)
PPE	$\gamma_3$	-0.029 (-0.52)	-0.029 (-0.41)	-0.012 (-0.16)
SIZE	$\gamma_4$	-0.046* (-1.82)	-0.048* (-1.81)	-0.049* (-1.72)
INTANG	$\gamma_5$	-0.017 (-0.92)	-0.000 (-0.02)	-0.004 (-0.21)
MB	$\gamma_6$	-0.005 (-0.88)	-0.007 (-0.94)	-0.005 (-0.79)
Firm-year obs.		760	754	753
Log-likelihood[prob]		-652[0.00]	-649[0.01]	-646[0.00]

This table presents the estimates of Eq. (2) where the dependent variable is ETR, using Tobit regression model. Industry and period dummy fixed effects and constant term are included in the models but unreported  
\*, \*\*, and \*\*\* indicate statistical significance level (two-tailed) at 10%, 5%, and 1% levels, respectively. *t*-Statistics are reported in parenthesis and are calculated using Huber/White correction for heteroscedasticity; *p*-values are reported in brackets.

The results of Eq. (1) are shown in Table 3, column (1), where the explanatory variable is the general family indicator (FAMILY). Our estimates reveal the existence of a systematic positive influence of FAMILY on the ETR ( $\alpha_1 > 0, p < 0.00$ ). *Ceteris paribus*, this result confirms the findings of Chen et al. (2010) and Steijvers and Niskanen (2014), who argue that family firms, compared with nonfamily firms, report a lower level of tax aggressiveness, considering a higher level of ETR as a proxy.

The strong positive relationship between FAMILY and ETR continues to hold when we estimate the model, including variables that measure the level of involvement in the ownership and the management of the firm, as described in Eq. (2). Measuring the moderator effect of family involvement in management on the FAMILY-ETR relationship (columns (2), (3), and (4)), we find that FAMILY is always positive and strongly significant ( $\alpha_1 > 0, p < 0.05$ ), whereas the variable INVOLVEMENT is positive and fairly significant only when the proxy is OWN50 ( $\alpha_2 > 0, p < 0.10$ ). It is not significant when the proxy is OWN25 and OWNERSHIP ( $\alpha_2 > 0, p > 0.10$ ). This implies that the percentage of ownership of the main block-holder in the equity in the subsample of nonfamily firms (i.e., when FAMILY = 0) does not affect or only slightly positively affects the tax aggressiveness of the firm measured with ETR. Notably, the interaction between FAMILY and INVOLVEMENT is negative and strongly significant regardless of which proxy is adopted to measure the involvement in the ownership ( $\alpha_3 < 0, p < 0.05$ ). This means that even though family firms are generally less tax aggressive than nonfamily firms, family firms with relevant levels of involvement of the family in the ownership are more tax aggressive. With enlargement of the percentage of ownership of the family in the firm, the ETR becomes smaller (i.e., tax aggressiveness rises).

When we measure INVOLVEMENT as the level of the block-holder's involvement in the management of the firm (Table 4), the influence of the FAMILY variable on ETR is still positive and mainly significant. As expected, when the proxy for INVOLVEMENT is both

**Table 5**  
The impact of entrenched family ownership and management indicators on ETR.

		(1a)	(1b)	(2a)	(2b)
FAMILY*OWNERSHIP	$\beta_1$	0.005** (2.14)	0.004* (1.93)		
(FAMILY*OWNERSHIP) <sup>2</sup>	$\beta_2$	-0.000* (-1.71)	-0.000* (-1.68)		
FAMILY*AFFILIATE				0.048*** (2.73)	0.031** (2.11)
(FAMILY*AFFILIATE) <sup>2</sup>				-0.003** (-1.98)	-0.002* (-1.68)
ROA	$\gamma_1$	1.420*** (2.58)		0.537** (2.29)	
LEV	$\gamma_2$	-0.180 (-1.06)		-0.157 (-0.89)	
PPE	$\gamma_3$	-0.026 (-0.42)		-0.011 (-0.17)	
SIZE	$\gamma_4$	0.061** (2.17)		0.026** (2.06)	
INTANG	$\gamma_5$	-0.021 (-0.73)		-0.026 (-0.78)	
MB	$\gamma_6$	-0.007 (-1.11)		-0.008 (-1.20)	
Inflection point			OWNERSHIP = 39.32		AFFILIATE = 7.353
ETR at inflection point			ETR = 0.426		ETR = 0.421
Firm-year obs.		755	855	754	848
Log-likelihood		-643[0.02]	-749[0.05]	-652[0.00]	-745[0.07]

This table presents the estimates of Eq. (3) where the dependent variable is ETR, using Tobit regression model. Industry and period dummy fixed effects are included in the models but unreported in columns (1a) and (2a). Constant term is included in the models but unreported.

\*, \*\*, and \*\*\* indicate statistical significance level (two-tailed) at 10%, 5%, and 1% levels, respectively. *t*-Statistics are reported in parenthesis and are calculated using Huber/White correction; *p*-values are reported in brackets.

AFF50 and AFFILIATE, it significantly and positively impacts ETR ( $\alpha_2 > 0, p < 0.10$ ). This implies that firms with at least 50% of affiliate directors are less tax aggressive than their counterparts, and the larger the number of affiliate directors, the lower the tax aggressiveness. The interaction term is negative and significant using both FAMILY\*AFF50 and using FAMILY\*AFFILIATE ( $\alpha_3 < 0, p < 0.10$ ). These findings reveal that family firms and firms with a larger number of affiliate directors report a higher ETR (i.e., a lower tax aggressiveness), but family firms with a larger number of affiliate directors are more tax aggressive than their counterparts. Surprisingly, when the proxy for the block-holder's involvement in management is CEODUAL (column (1)), FAMILY is not significant ( $\alpha_1 > 0, p > 0.10$ ). However, the estimator of CEODUAL is negative and significant, while the interaction term (FAMILY\*CEODUAL) is positive and strongly significant ( $\alpha_3 > 0, p < 0.01$ ). This result implies that firms where CEO-duality occurs are more tax aggressive than their counterparts. However, it also implies that family firms with CEO-duality are less tax aggressive than other firms. Hence, apparently, the family status has a moderating impact on the tax aggressiveness of firms managed under CEO-duality.

The results of the analyses on the moderating effect of family involvement on tax aggressiveness suggest that not every level of family control and influence positively impacts the ETR of the firm and that the relationship between these phenomena probably follows a non-linear path, with the eventuality of discovering a threshold beyond which the positive effect of family involvement becomes negative.

We test this prediction and use the model described in Eq. (3), whose results are shown in Table 5, presenting the non-linear impact of family control and influence on ownership and on management respectively in columns (1a) and (2a).<sup>2</sup>

The empirical estimates show that family involvement is positively and significantly associated with ETR ( $\beta_1 > 0, p < 0.05$ ), but the squared value of family involvement is negatively and significantly associated with ETR ( $\beta_2 < 0, p < 0.05$ ). These results imply that both a higher percentage of family ownership and a higher number of family affiliated members on the board reduce a firm's tax aggressiveness. Nevertheless, when the family involvement through ownership and affiliation becomes very large, it causes the undesired effect of higher tax aggressiveness.

Additionally, we run Eq. (3) while dropping all controls and including the constant term, as shown in Table 5, columns (1b) and (2b). This procedure allows us to measure the inflection point of family involvement in ownership and management, after which the entrenchment effect surpasses the alignment effect. This corresponds to family control and influence crossing the maximum threshold, which is approximately equal to a block-ownership of 39% of the equity and to more than seven family affiliate members sitting on the board. Family firms with more than 39% of family ownership or more than seven family affiliate directors report lower ETR (i.e., higher tax aggressiveness) relative to nonfamily firms and to those family firms affected by family involvement below the threshold. Conclusively, the relationship between family ownership and ETR has an inverted U-shape with an inflection point of approximately 39%. Firms with more than 39% of family ownership report a lower ETR, equivalent to 42.6% of their pre-tax income (calculated based on the results in column (1b) in Table 5), relative to nonfamily firms. The maximum threshold found when testing the ownership is not far from the maximum threshold found when testing the family's management activity in the firm, which occurs when taxation is 42.1% of the pre-tax income (calculated based on the results in column (2b) in Table 5) and when more than seven members on the board are family members or fiduciaries of the family. The result of this analysis is better described in Fig. 1.

<sup>2</sup> These results are robust when testing our hypothesis on the subsample of sole family firms, albeit less statistically powerful. This robustness test is unreported for brevity but is available from the authors on demand.



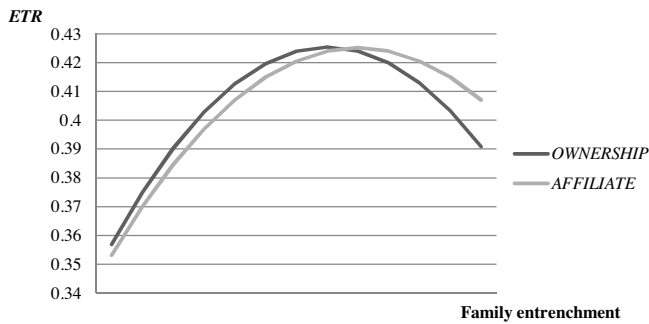


Fig. 1. The non-linear impact of family entrenchment on ETR.

#### 4. Conclusions

We began our study with the overarching question of whether family firms are more or less tax aggressive than nonfamily firms. Our findings about the range of effects that family ownership and management have on firm tax policy suggest that the answer to this question depends on how entrenched the family is in the ownership and management of the firm.

At first glance, we confirm Chen et al.'s (2010) and Steijvers and Niskanen's (2014) conclusion that family firms are less tax aggressive than nonfamily firms. Nevertheless, this study measures how sensitive tax aggressiveness is to varying levels of the family's control and influence, which determine the involvement of the family in the business, both on the side of ownership and on the side of management. It argues that the agency-theory-based relationship between the family status and the tax aggressiveness of the firm is non-linear and that high levels of family involvement have a moderating impact on the beneficial effect of the family status on tax aggressiveness. We recognize that, notwithstanding the prevailing effect of the family's alignment with the interests of minority shareholders (who call for higher earnings quality), the controlling family could affect the quality of financial reporting due to the entrenchment effect, which motivates firms to opportunistically manage earnings.

There are at least two contributions to the literature offered in this article. First, we provide additional evidence that family-based firms are less tax aggressive compared with nonfamily-based firms, confirming the results of previous research (Chen et al., 2010; Steijvers & Niskanen, 2014). Second, as a main contribution to the literature, we show a moderating effect of family control and influence of family ownership and management on the effective tax rate of the family firm, and we demonstrate the non-linearity of the impact of family entrenchment on tax aggressiveness.

In agreement with our empirical findings, when the family is excessively involved (i.e., entrenched), family-based firms avoid taxation as much as (or more than) nonfamily firms generally do. Our research offers additional insights regarding the "too-much-of-a-good-thing effect", recently discussed in managerial studies (Pierce & Aguinis, 2013, p. 317). This occurs when an "X-Y relation [like the relationship between the family status and the tax aggressiveness] has a context-specific inflection point [like the inflection point possible in a context of high family entrenchment] after which further increases in the otherwise beneficial antecedent X [like additional control and influence of the family in the ownership or management] lead to less desired outcomes [like higher tax aggressiveness (i.e., lower effective tax rate)]".

The adoption of the socio-emotional wealth perspective complements agency theory in explaining the results. Under the view of socio-emotional wealth theory, the eventuality of a similar dysfunctional effect of family entrenchment has been recognized in the literature, but there is no study that measures any threshold

beyond which the family makes the socio-emotional goals subservient to their private and opportunistic financial goals (Berrone, Cruz, & Gomez-Mejia, 2012). This article adds to the literature, determining that too much family involvement (through the lens of agency theory) due to too much salience of socio-emotional wealth (through the lens of socio-emotional wealth theory) might have a detrimental outcome and cause a prevailing entrenchment effect, leading to a higher tax aggressiveness of family firms. When family control and influence are great, the family has little fear of a loss in that socio-emotional dimension and no motivation to search for an additional gain in that dimension. Thus, when their control and influence are great, the family starts behaving opportunistically, insofar as "too-much-of-a-good-thing" (too much familial socio-emotional involvement) could provoke detrimental outcomes (higher tax aggressiveness).

An alternative explanation of our empirical results could be grounded in a market-driven resource-based theorization (Habbershon & Williams, 1999), as tax aggressiveness might be driven by a performance-based decision, aimed at reducing tax-costs and increasing net profits, which would reduce the marginal effective tax rate of the family firm. On that perspective, when family entrenchment is low, the firm will perform similarly to non-family firms, but when entrenchment gets larger, higher earnings and more tax compliance would be required by investors, in order to ensure their trust in the behavior of family members. In this situation the tax aggressiveness would be the lower (i.e., higher peak of effective tax rate). When the family entrenchment increases to very high levels, a fringe of minority shareholders will not be able to promote its own requirements, and the family will be free of reducing tax costs in order to extract larger private benefits, hence tax compliance will be the lower (i.e., effective tax rate decreases). This explanation needs some further analysis, in order to assess whether tax departments are considered as cost-driver or profit-driver centers (Robinson, Sikes, & Weaver, 2010) in the management accounting system of family firms, that is an unexplored topic, so far.

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