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FAMILY OWNERSHIP DURING THE COVID-19 PANDEMIC

Mario Daniele Amore, Fabio Quarato and Valerio
Pelucco

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FAMILY OWNERSHIP DURING THE COVID-19 PANDEMIC

Abstract

Prompted by the shakeup of Covid-19 on financial markets, scholars have begun to explore the corporate traits that can make firms more resilient to a pandemic. In this paper, we test how the involvement of families in ownership and governance positions influences the financial performance of Italian listed firms during the spread of Covid-19. Our results indicate that firms with controlling family shareholders fared significantly better than other firms in the pandemic period. This effect is particularly pronounced among firms in which a family is both the controlling shareholder and holds the CEO position. Collectively, our results expand existing knowledge on the determinants of organizational resilience in the wake of adverse events.

JEL Classification: G34, D10

Keywords: Family Business, COVID-19, Financial Performance, CEOs

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Family Ownership During the Covid-19 Pandemic

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1. Introduction

The sudden spread of Covid-19 around the world is causing significant damages to the corporate sector. Many companies face significant challenges in continuing their business activities due to lack of financial resources, value chain disruptions, and difficulties in organizing labor in ways that are consistent with the current lockdown measures.

While Covid-19 is affecting a large population of companies worldwide, recent works point to a significant heterogeneity depending on firm- and industry-level characteristics. For instance, Alfaro et al. (2020) document a less negative stock market reaction to Covid-19 among firms in labor-intensive sectors, where costs can be shed more easily. Other studies (Ding et al. 2020; Fahlenbrach et al. 2020; Ramelli and Wagner 2020) show a lower impact of Covid-19 among firms with higher cash holdings and less debt, suggesting that financial flexibility becomes particularly valuable during a pandemic.¹ Within this growing research, scholars started probing into the role of organizational and governance characteristics (Ding et al. 2020). Works in this area show that US firms more engaged in environmental and social activities performed better during the pandemic, also due to a more loyal customer base (Albuquerque et al. 2020). Moreover, firms with greater employee satisfaction exhibit better results during the Covid-19 outbreak (Shan and Tang 2020), as result of their superior ability to make employees cope with stress, accept alternative work arrangements, and thus preserve work efficiency.

This paper explores the role of firms' controlling owners in the wake of the Covid-19 outbreak. In particular we focus on family vs. non-family ownership, which provides one of the most important variations in how companies are held and managed (e.g. Faccio and Lang 2002).

¹ Other works in this area have related firms' stock market performance during the Covid-19 pandemic to country-level factors, such as debt-to-GDP ratios (Gerding et al. 2020) and their exposure to a previous epidemic like SARS (Ru et al. 2020).

Conceptually, the implications of family control of the ability of firms to overcome a pandemic are unclear. On the one hand, family owners are often motivated by the desire to pass on a healthy business to descendants, and thus exhibit longer time-horizons in decision-making, higher reputational concerns, and a stronger attachment to the business. During a pandemic, these features may be valuable to investors as they signal an extra motivation to react effectively to keep the business afloat. Moreover, family ties provide a better access to banks (D'Aurizio et al. 2015) and the political sector (Amore and Bennedsen 2013). Finally, family firms exhibit higher employee productivity (Sraer and Thesmar 2007) and lower cost of debt financing (Anderson et al. 2003). This set of resources and relationships can prove valuable to overcome a pandemic.

On the other hand, during a crisis families may engage in actions that harm minority investors, which in turn may lower firm value (Lins et al. 2013). Moreover, family owners are more tied to their workforce as result of their long-term orientation (which in turn makes them better able to enforce implicit contracts). Consequently, they provide jobs that are more stable to industry shocks and financial crises (Ellul et al. 2018; Sraer and Thesmar 2007; Bjuggren 2015). The reluctance to scale down workforce during hard times may represent a disadvantage vis a vis other firms. Indeed, Alfaro et al. (2020) suggest that the negative effect of Covid-19 on stock returns was lower among firms that could shed more easily labor costs.

To investigate these alternative explanations, we examine the performance effect of family ownership during the Covid-19 pandemic using daily stock market data from Italy. Italy represents an interesting laboratory for our study since it is one of the countries hit more severely by the Covid-19 pandemic, and is also one of the first Western countries to enact policy measures to contain the virus diffusion. Our baseline results indicate that the CAPM-adjusted abnormal returns of family firms were significantly *above* those of non-family firms during the Covid-19

pandemic. This result holds in the cross-section as well as exploiting the longitudinal dimension of the data to control for firm heterogeneity in a difference-in-differences model.

Whether the family firm is led by a family member or a professional CEO constitutes a key source of heterogeneity in firm performance (e.g. Bennedsen et al. 2007) as well as in the strength of relationships with employees and other stakeholders (Bach and Serrano Velarde 2015; Mullins and Schoar 2016). Going beyond the comparison between family and non-family firms, we analyze separately the performance of professionally-led and family-led family firms. Our results show that the outperformance of family firms during Covid-19 is largely driven by *family* CEOs. This finding is in contrast with existing evidence (e.g. Bennedsen et al. 2007; Cucculelli and Micucci 2008; Perez Gonzales 2006) that professional CEOs systematically outperform family CEOs, and thus suggests that family leadership brings about relationships within the firm (e.g. with employees, other investors) as well as externally with providers of resources and the financial community, which are valuable during a pandemic.

Our inquiry relates to a long-running debate about whether family firms outperform other businesses (Anderson and Reeb 2003; Bennedsen et al. 2007; Miller et al. 2007; Villalonga and Amit 2006; Sraer and Thesmar 2007). Within this area, our work contributes to the growing literature on organizational resilience. Family firms have been shown to be better equipped to withstand periods of political uncertainty (Amore and Minichilli 2018) and natural disasters (Salvato et al. 2020) due to a mix of long-term horizon, and social and political capital. By contrast, the evidence on the ability of family firms to overcome financial crises is mixed. On the one hand, Lins et al. (2013) provide cross-country evidence that family owners engage in actions costly to outside investors and thus underperform. On the other hand, there is evidence that family ownership improved financial performance (Minichilli et al. 2016) and reduced the

cost of bank debt during the great recession (D'Aurizio et al. 2015; Lagaras and Tsoutsoura 2015).² None of the existing works to our knowledge have explored the effect of family ownership on financial performance during a pandemic. Yet, this is important for at least two reasons. First, Covid-19 has led to an unprecedented increase in market uncertainty (Baker et al. 2020a; Baker et al. 2020b).³ Also due the lack of close historical comparisons, Covid-19 is triggering a significant uncertainty over the type of policy-making and strategic actions that may be implemented to overcome the crisis. Second, recent estimates suggest that the adverse implications of Covid-19 may well exceed those of the last financial crisis.⁴ In this gloomy scenario, factors driving organizational resilience will prove decisive to discern the ability of firms to overcome the current crisis. Our results suggest that the presence of a family behind the firm can be one such factor.

Our analysis also contributes to the ongoing research on the implications of Covid-19 on many outcomes related to financial markets (Alfaro et al. 2020; Baker et al. 2020b), analyst forecasts (Landier and Thesmar 2020), labor markets (Coibion et al. 2020), and households (Baker et al. 2020c). Along this line, our contribution is to document that, in addition to financial characteristics (Fahlenbrach et al. 2020; Ramelli and Wagner 2020), family involvement in ownership and leadership represents a factor shaping the heterogeneous response of firms' financial performance to Covid-19. In so doing, we also expand a small but fast-growing research which has examined the importance of organizational and governance characteristics during the

² There is also evidence suggesting that the performance difference between family and non-family firms during a crisis depends on the level of generalized trust in the area of corporate headquarter (Amore and Epure 2020).

³ Baker et al. (2020b) show that the increase in stock market volatility during the Covid-19 pandemic has been higher than the one during the global financial crisis of 2008, and similar to the one of the great depression.

⁴ For instance, Albuquerque et al. (2020) note that the unemployment rate in the US increased to 10% by the end of the recession, whereas during Covid-19 unemployment subsidies rose by 11% in just few weeks. See also Carmen Reinhart in "This time truly is different" (Project Syndicate, March 23rd, 2020).

Covid-19 pandemic but has not explicitly tested the role of family involvement (Albuquerque et al. 2020; Ding et al. 2020; Shan and Tang 2020).

2. Data and variables

Our analysis is based on firms listed in the stock exchange in Italy. Italy was one of the first Western countries to report a case of Covid-19 contagion, and was subsequently hit extremely hard by the virus. As of May 6th, 2020 Italy has had 214,457 cases of contagion (3rd highest value after the US and Spain) and 29,684 deaths (3rd highest value after the US and UK). The evolution of Covid-19 cases and deaths in Italy is illustrated in Figure 1.

INSERT FIGURE 1 HERE

The first policy intervention to stop the contagion was made on February 22nd, when the government imposed the quarantine in 11 municipalities in northern Italy. The government also imposed various restrictions, such as the closure of schools and universities, and the suspension of sport events in the two regions where these municipalities are located (i.e. Lombardy and Veneto). This intervention thus represents the watershed of Italy's policy reaction to the diffusion of Covid-19: subsequent interventions were aimed at expanding existing quarantine measures to broader sets of the Italian territory. Consistent with Albuquerque et al. (2020), we use February 24th 2020 (i.e. the first trading day after the announcement of the decree on February 22nd) to denote the beginning of the time window with Covid-19 measures in place. In Figure 2, we validate that this is also the moment when the stock market started to fall.

INSERT FIGURE 2 HERE

For each company listed in Italy, we obtain daily stock market data (including returns, trading volumes and daily high/low prices) from Compustat Global (WRDS). Using this data, we construct our main variable of interest, i.e. the stock market performance of listed firms during the first four months of 2020 (from early January to the end of April). Specifically, following recent studies on Covid-19 (e.g., Albuquerque et al. 2020 and Ramelli and Wagner 2020), we employ the CAPM-adjusted return estimated as the difference between the daily logarithm return of a stock and its CAPM beta times the daily logarithm market return. CAPM betas are estimated using daily returns from January 2017 to December 2019 and using the FTSE-All Shares as market index. We will perform two analyses of stock market performance: the first is a cross-sectional analysis which employs the cumulated daily CAPM-adjusted returns from early-January to end-April 2020, for a total of 353 firms (net of missing values in the variables explained below). The second employs the daily CAPM-adjusted returns for each of these 353 firms over the period early-January to end-April 2020, which yields a total of 30,160 observations.

We obtain information on companies' ownership structures (used to identify the controlling shareholders), and executive regime (i.e. affiliation of the CEO with the controlling owner) from official public filings at the Italian Stock Exchange as of 2019.

INSERT TABLE 1 HERE

As Table 1 shows, out of the 353 firms in total, 226 (i.e. 64%) are classified as family firms.⁵ This classification is based on whether or not a family owns at least 25% of a firm's equity. For the family firms in the sample, we also have information on whether the CEO is a family member or a professional manager. Almost half of the family firms in our sample are led by a CEO belonging to the controlling family.

INSERT TABLE 2 HERE

Table 2 illustrates the distribution of family and non-family firms across industries. As shown, and consistent with existing insights on the prevalence of family ownership, family firms are more common in manufacturing, and less in financial and insurance. These differences underlie the importance of controlling for industry effects in the regression analysis. For each of the companies in our study we also obtain accounting data (on the last quarter available) from Orbis. Using this information, we construct a number of variables used as controls in our regression analysis: (1) the logarithm of the book value of total assets as proxy for firm size; (2) the debt to equity ratio to control for differences in firms' capital structure; and (3) a measure of accounting profitability computed as net profits divided by the book value of equity. Summary statistics for cumulated abnormal returns and these control variables are reported in Table 3.⁶

⁵ This figure is comparable to that in Faccio and Lang (2002) who use a similar criterion to identify firms' controlling shareholders in Europe and obtain that 60% of listed firms in Italy are held by families.

⁶ In untabulated results, we compare family and non-family firms by means of *t*-tests. Results indicate that family firms are significantly smaller than non-family firms. By contrast, capital structure and accounting performance do not exhibit significant differences across the two groups.

INSERT TABLE 3 HERE

3. Results

3.1. Cross-sectional analysis

We start the analysis by conducting a cross-sectional analysis of cumulative abnormal returns from early January to April 2020. In Panel A of Table 4, the key explanatory variable is a dummy equal to one for family firms, and zero otherwise. The baseline specification in Column (1), which only controls for industry heterogeneity (via NACE dummies), indicates that family firms exhibit higher returns by 8%, on average. The effect remains significant to sequentially control for firms' accounting characteristics, as shown in Columns (2)-(4). The most comprehensive specification indicates that family firms exhibit higher returns by 9% (a result which is significant at the 5% level).⁷ An important question pertains to whether the better performance during Covid-19 is specific to family control or whether it arises from *any type* of concentrated shareholding structure (as opposed to widely-held firms). We tackle this question in Panel B of Table 4, where we replace the family firm dummy with a set of dummies equal to: one for family control; two for state control; three for control by financial entities (like banks, investment funds etc.); and four for control by foreign entities. In the baseline group we include widely-held firms, firms held by coalitions of investors without family ties, and other residual categories (e.g. cooperatives). Consistent with our previous results, the coefficient related to family control is

⁷ This result is robust to a number of additional tests, such as (1) using arithmetic returns rather than logarithm returns, (2) use raw returns rather than CAPM-adjusted returns, (3) estimating the model by using a median regression to reduce concerns of outliers, and (4) control for industry effects by means of different industry classifications.

positive and statistically significant at the 5% level. The coefficient related to state control is also positive, albeit less precisely estimated. By contrast, the coefficients of other types of controlling entities are close to zero.

INSERT TABLE 4 HERE

Having shown a specific effect of family control, we move to examine the role of CEOs at the helm of the family business. The literature has discussed that a major source of heterogeneity in family business performance is the identity of the CEO, i.e. whether he/she is a family member or a professional manager (e.g. Bennedsen et al. 2007; Sraer and Thesmar 2007). In Table 5, we explore whether the performance ability of family firms during Covid-19 depends on having a *family* or a *professional* CEO. To this end, we replace the family firm dummy with two variables equal to zero for non-family firms, and one for family firms with a family CEO, or family firms with a non-family CEO, respectively. As shown, both types of family firms experience a significantly higher stock performance (which is significant at the 10% level). In economic terms, the effect is slightly larger for family CEOs. Contrary to the general evidence on the performance implications of family vs. professional CEOs, our evidence suggests that family leadership is better able to overcome a pandemic.

INSERT TABLE 5 HERE

3.2. Difference-in-differences analysis

In this section, we provide evidence from an alternative econometric specification which exploits the longitudinal dimension of stock returns at the daily level. In particular, we use daily abnormal returns from January 1st to April 31st 2020, and employ a dummy variable equal to one from February 24th onward, i.e. the period during which the virus started to spread significantly across the Italian territory, and the lockdown measures went into effect. Interacting this pre-post variable with the dummy equal to one for family firms (and zero for non-family firms) yields a difference-in-differences model, whose results are reported in Table 6.

In Column (1) we show the baseline results obtained by only including the post-Covid dummy and its interaction with the family firm dummy, and clustering residuals by firm. As expected, the post-Covid dummy has a negative and significant coefficient, which indicates that stock returns have fallen sharply from end-February onward. The family firm dummy has a negative and significant effect, indicating a level difference in the stock market performance of family and non-family firms. The coefficient of the interaction term, however, is positive and statistically significant at the 5% level. In other words, family firms fared better than non-family firms during the upsurge of the Covid-19 pandemic. This finding is confirmed in Column (2) where we control for firm fixed effects (and thus omit the family firm dummy, which does not change within the time-frame considered), as well as in Column (3) where we further control for day fixed effects (and thus omit the post-Covid dummy). In Column (4), finally, we reproduce the results in Column (3) clustering residuals by both firm and day. Collectively, these results confirm the outperformance of family firms in times of pandemic.

INSERT TABLE 6 HERE

As done in the previous section, we probe into this result by exploring the potential heterogeneity depending on the family affiliation of the firm's CEO. The results in Table 7 indicate that the outperformance of family firms is mostly driven by those companies led by family CEOs.

INSERT TABLE 7 HERE

3.3. Additional analyses

In untabulated results, we have employed other dependent variables, such as trading volumes and risk (computed as the volatility of daily stock returns from January to April 2020, or the price range of a stock within a given day). Our results indicate that family ownership does not have any significant effect on volumes and risk. Moreover, we have explored the heterogeneity of our performance results depending on a number of industry characteristics. Results show that the family business premium is larger in industries where the typical firm size is low.⁸ This result is consistent with Villalonga and Amit (2010) who suggest that family firms have a competitive advantage over non-family firms in contexts where the efficient scale of operations is low. By contrast, we do not find significant evidence that the family business premium varies with the industry-level R&D intensity and labor intensity.

⁸ We compute firm size across industries by computing the median or tertile values of total assets based on the universe of all firms (listed and privately held) with revenues above 20 Million Eur in the time period from 2000 to 2018, as reported in AIDA (Bureau Van Dijk).

4. Conclusion

Covid-19 is shaking up financial markets around the world. Which companies are more resilient to a pandemic? A vibrant research in this area started to explore firm-level factors related to financial strength and organizational climate, industry characteristics like the reliance on labor versus capital, and country-level factors. Our work has expanded this inquiry by probing into the importance of family involvement in ownership and CEO positions.

We based our arguments on a literature suggesting that family firms have several features that can prove valuable to overcome a crisis. In particular, family owners often exhibit long time-horizons in decision-making, high reputational concerns, and a strong attachment to the business. Moreover, family ties grant a better access to resources from banks and the political sector. Finally, family firms exhibit higher employee productivity thanks to their ability to enforce implicit contracts with the workforce.

Our empirical investigation, based on the analysis of daily stock return data for listed firms in Italy, confirm that family firms fared better than non-family firms during the Covid-19 pandemic. Importantly, this result is largely driven by those family firms in which the family is not only the largest shareholder but also actively manages the firm (i.e. the CEO is a family member). Collectively, the findings of our study help to understand the propagation of the Covid-19 pandemic on the business landscape. Moreover, they complement a recent literature on the drivers of organizational resilience in the wake of extreme events such as natural disasters, financial crises and spikes in political uncertainty.

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Figure 1. Diffusion of Covid-19 in Italy

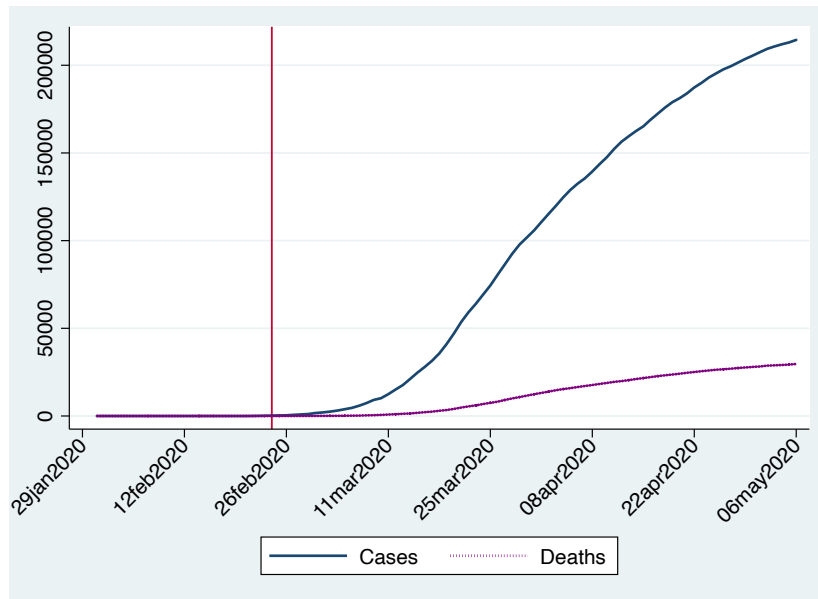


Figure 2. Stock market returns from January 1st to April 31th 2020

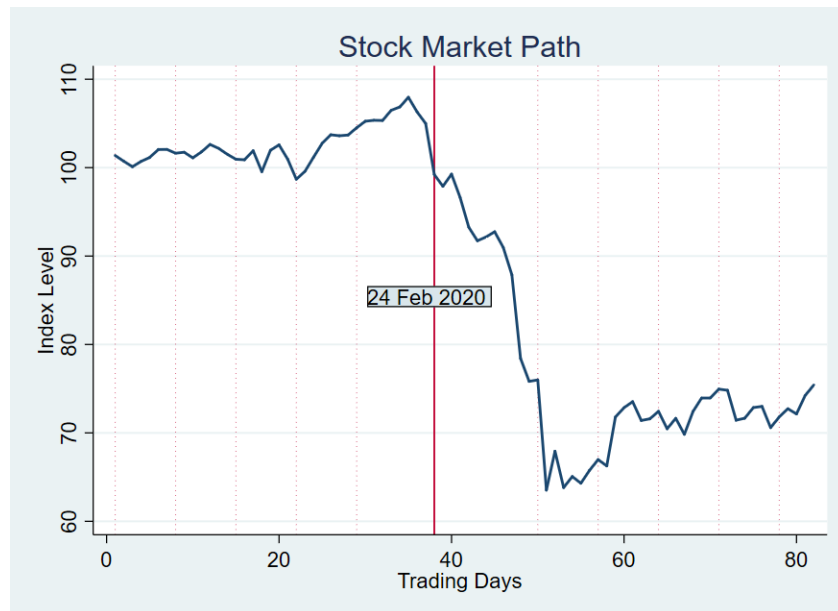


Table 1.
Sample composition

Panel A of this table shows the frequency of family vs. non-family firms (identified depending on whether or not a family has at least 25% of a firm's equity). Panel B distinguishes within the sample of family firms those with a family CEO vs. those with a professional non-family CEO.

Panel A. Ownership type:		
Non-family firms	127	36%
Family firms	226	64%
All	353	
Panel B. CEO type among family firms:		
Family CEO	109	48%
Non-family CEO	117	52%
All	226	52%

Table 2.
Industry distribution

This table shows the distribution of family and non-family firms across the five most represented industries. The industry classification comes from NACE.

	Family firms	Non-family firms
Manufacturing	111 [49%]	17 [14%]
Information and communication	24 [11%]	14 [11%]
Wholesale/retail trade	15 [7%]	4 [3%]
Financial and insurance	18 [8%]	48 [38%]
Real estate	5 [2%]	6 [5%]
Other	53 [23%]	42 [33%]
All	226	127

Table 3.
Summary statistics

This table reports the summary statistics for the key variables used in our empirical analysis. The sample includes all Italian listed firms whose accounting data are available in Orbis. *CAR* is the sum of the abnormal returns. The latter have been computed as the difference between the daily logarithm return of a stock and the CAPM beta times the daily logarithm market return during the first quarter of 2020. CAPM betas are estimated using daily returns from January 2017 to December 2019, using the FTSE-All Shares as market index. *Ln assets* is the natural logarithm of the book value of total assets. *Debt equity* is the debt to equity ratio. Finally, *Performance* is the ratio of net profits to book equity.

	Number of firms	Mean	sd.	p25	Median	p75
Cum. abnormal returns	353	-7.045	24.321	-21.076	-7.899	5.633
Ln assets	353	12.668	2.603	10.737	12.385	14.161
Debt equity	353	1.242	17.061	0.505	1.4123	2.527
Performance	353	0.101	3.567	0.002	0.066	0.156

Table 4.
Cross-sectional regression of returns by ownership type

Panel A of this table reports the results from four different specifications of ordinary least squares (OLS) regressions in which the dependent variable is the first quarter 2020 cumulative abnormal return and the main explicatory variable is the *Family firm* dummy. The baseline specification (Column 1) only controls for industry heterogeneity (via NACE dummies). We sequentially add to the main specification the natural logarithm of the book value of total assets to control for firm size (Column 2), the debt to equity ratio to control for differences in the leverage ratio (Column 3), and the net profits divided by the book value of equity to control for firms' profitability (Column 4). Panel B of this table uses the same specification of Column (4), Panel A, but replaces the family firm dummy with a set of dummies corresponding to the different types of controlling owners: families, state, financial entities (banks, investment funds) and foreign companies. The baseline group is given by widely-held firms, firms controlled by coalitions of different investors without family ties, and other residual categories. The numbers in parentheses are standard errors. * and ** denote significance at (respectively) the 10% and 5% level.

<i>Panel A.</i> Dependent variable: Cum. abnormal returns					<i>Panel B.</i> Dependent variable: Cum. abnormal returns	
	(1)	(2)	(3)	(4)		(1)
Family firm	8.2787*	8.6298*	8.9198**	9.2218**	Family firm	12.0628**
	(4.3533)	(4.4945)	(4.5046)	(4.4855)		(5.8162)
Ln assets		0.2569	0.2007	-0.0123	State control	20.9400*
		(0.7893)	(0.7914)	(0.7971)		(11.1565)
Debt to equity			0.0771	0.4510*	Financial control	-1.4523
			(0.0785)	(0.2300)		(7.5098)
Performance				1.9153*	Foreign control	7.3458
				(1.1081)		(9.0237)
Industry dummies	Yes	Yes	Yes	Yes	Ln assets	-0.3575
Number of firms	353	353	353	353		(0.8180)
Adjusted R ²	0.052	0.052	0.052	0.062	Debt to equity	0.4308*
						(0.2299)
					Performance	1.9511*
						(1.1062)
					Industry dummies	Yes
					Number of firms	353
					Adjusted R ²	0.062

Table 5.

Cross-sectional regression of returns by ownership and CEO type

This table reports the results from ordinary least squares (OLS) regressions in which the dependent variable is the first quarter 2020 cumulative abnormal returns. The dependent variables are: a dummy equal to 1 for family firms with a family CEO (and to 0 otherwise), a dummy variable equal to 1 for family firms with a professional CEO (and to 0 otherwise), the natural logarithm of the book value of total assets to control for firm size, the debt to equity ratio to control for differences in the leverage ratio, and the net profits divided by the book value of equity to control for firms' profitability. Finally, NACE dummies are included to control for industry heterogeneity. The numbers in parentheses are standard errors. * denotes significance at the 10%.

Dependent variable: Cumulative Abnormal returns	
	(1)
Family firm with family CEO	9.4551* (4.8260)
Family firm with non-family CEO	8.8427* (5.3219)
Ln assets	-0.0150 (0.7993)
Debt equity	0.4540* (0.2316)
Performance	1.9265* (1.1140)
Industry dummies	Yes
Number of firms	353
Adjusted R ²	0.057

Table 6.
Difference-in-differences regressions

This table reports the results of a difference-in-differences estimation of daily abnormal returns during the first quarter of 2020. In Column 1 we include the *Post COVID* variable (i.e. a dummy variable equals to 1 for the time period from 24th February 2020 to 31st March 2020, and equals to 0 before this period), the *Family firm* dummy, and the interaction between the former variables. In Column 2 we include firm fixed effects (therefore dropping the *Family firm* dummy as the latter doesn't change within the time-frame considered). Finally, in Column 3 we include day fixed effects (dropping the *Post COVID* dummy). Standard errors (in parentheses) are clustered by firms (Column 1-3) and by both firms and days (Column 4). *, **, and *** denote significance at (respectively) the 10%, 5% and 1% level.

Dependent variable: Abnormal returns				
	(1)	(2)	(3)	(4)
Post COVID	-0.1375*** (0.0489)	-0.1374*** (0.0494)		
Family firm	-0.1122*** (0.0430)			
Post COVID×Family firm	0.1516** (0.0639)	0.1523** (0.0644)	0.1513** (0.0642)	0.1513* (0.0880)
Firm fixed effects	No	Yes	Yes	Yes
Day fixed effects	No	No	Yes	Yes
Standard error clustering	Firm	Firm	Firm	Firm-day
Observations	30,160	30,160	30,160	30,160
Adjusted R ²	0.000	-0.005	0.055	0.055

Table 7.
Difference-in-differences regressions of returns by CEO type

This table reports the results of a difference-in-differences estimation of daily abnormal returns during the first quarter of 2020. In Column 1 we include the *Post COVID* variable (i.e. a dummy variable equals to 1 for the time period from 24th February 2020 to 31st March 2020, and equals to 0 before this period), a dummy equal to 1 for family firms with a family CEO (and to 0 otherwise), a dummy variable equal to 1 for family firms with a professional CEO (and to 0 otherwise), and the interaction between the *Post COVID* dummy and the *Family firm with family CEO* and *Family firm with non-family CEO* dummies. In Column 2 we include firm fixed effects (thus removing the *Family firm with family CEO* and *Family firm with non-family CEO* dummies as they don't change within the considered time-frame). Finally, in Column 3 we also include day fixed effects. Standard errors (in parentheses) are clustered by firms (Column 1-3) and by both firms and days (Column 4). *, **, and *** denote significance at (respectively) the 10%, 5% and 1% level.

Dependent variable: Abnormal returns				
	(1)	(2)	(3)	(4)
Post COVID	-0.1375*** (0.0489)	-0.1374*** (0.0494)		
Family firm with family CEO	-0.1099** (0.0488)			
Family firm with non-family CEO	-0.1144** (0.0537)			
Post COVID×Family firm with family CEO	0.1869** (0.0753)	0.1872** (0.0759)	0.1862** (0.0756)	0.1862* (0.1010)
Post COVID×Family firm with non-family CEO	0.1176 (0.0763)	0.1187 (0.0771)	0.1176 (0.0767)	0.1176 (0.0875)
Firm fixed effects	No	Yes	Yes	Yes
Day fixed effects	No	No	Yes	Yes
Standard error clustering	Firm	Firm	Firm	Firm-day
Observations	30,160	30,160	30,160	30,160
Adjusted R ²	0.000	-0.005	0.055	0.055