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Show Me The Money-Cut: Shareholder Dividend Suspensions and Voluntary CEO Pay Cuts During the COVID Pandemic

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Abstract

Many US companies with December 31, 2019 as their fiscal year end had their Annual Shareholder Meeting scheduled (usually online) during the COVID pandemic. Unexpectedly faced with significant changes in operating environments, some companies decided to suspend shareholder dividend payments. In normal circumstances, this would be interpreted as a very negative event and shareholders could be expected to respond adversely at the annual meeting. However, we investigate whether CEOs were able to maintain shareholder support by offering a previously unheard of response of "sharing the pain", committing to cut their own pay following a dividend suspension. At issue is whether investors acted as if they updated their inferences using the new voluntary pay-cut decision to infer the extent to which the CEOs underlying personality type was well matched to crisis management. We estimate an instrumental variables model in which the dividend suspension is used as an instrument for the endogenous pay cut variable.

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1. Introduction

We explore whether corporate reactions to the exogenous shock of the Coronavirus pandemic of 2020 could be used by investors to make improved inferences about hard to estimate personality traits of CEOs. Specifically, we consider whether following a dividend suspension, cross sectional variation in CEOs decisions whether or not to take a pay-cut were consistent with existence of a separating equilibrium in which narcissistic CEOs did not take a pay-cut and non-narcissistic (team players) did. That is, one implication of the pandemic shock was to change the subtle trade-offs that executives faced when deciding how to communicate their intentions to investors and that change allowed investors to learn more about a hitherto hidden personality trait of CEOs.

The pandemic data is particularly interesting because even though some CEOs took the unpopular action of suspending dividend payments to investors, some pay-cut CEOs actually saw investor support increasing as proxied by shareholder say on pay voting (SoP). Attempting to form inferences in such a setting though is complicated by the fact that a variable such as the decision to volunteer for a pay-cut may be chosen endogenously. With this in mind we use an instrumental variables research design to address this issue. With this in place the economic rationale for the sign of the shareholder voting response variable is as follows. A shareholder having just seen dividends being suspended needs to form beliefs about the ability of the CEO to deal with the crisis. We hypothesize that these beliefs are revised on the basis of whether the CEO also volunteers to take a paycut. If the CEO does volunteer, investors increase the probability they assign to the CEO being able to deal with the crisis and this increases the probability that they will vote in support of the CEO. As we shall argue below this is consistent with investors revising upwards their belief measure that the CEO will be not be driven by narcissistic tenedencies and instead will be a team player during the crisis. Put simply the pandemic offers a brief partial window on whether CEOs are highly paid executives, working as team players trying to do the best for shareholders during a crisis or in contrast are simply narcissistic

and self-serving (King III, 2007).

Arguably the pandemic considerably increased the work load of many CEOs at a time when employees were being laid off or furloughed and corporate funds to pay executive salaries were constrained. On the one hand, given additional work loads, CEOs could argue that they should remain being paid in full while "at the helm in challenging seas", while on the other hand CEOs may argue that they should lead from the front and share in widespread resource reductions and be a "figurehead – team player" working hard to keep the company afloat during a crisis. Under normal (non-crisis) operating conditions it is reasonable to assume if asked, all CEOs would argue they were team players, since there are only limited tests that could be used to question the validity of such a claim. However, after claiming the pandemic necessitated suspending dividends, investors may doubt claims the CEO was a team-player if he/she then remained on full pay. We can describe this as the pandemic exposing a previously hidden potential separating equilibrium in which hard to observe underlying CEO personality traits gave rise to different pay-cut decisions.[1]

The two essential components required to support separation are that the narcissists find it too costly to pool with team players and accept a voluntary pay-cut and secondly the pay-cut (team player) CEOs recognize a positive benefit in the form of enhanced shareholder support on say on pay (SoP). This research shows empirical evidence that is consistent with the existence of a newly revealed separation.

2. Theory and rationale

Prior research on CEO pay reductions by Gao et al. (2012) argues that boards historically impose CEO pay cuts when the board believes that poor corporate performance is not because the CEO lacks skills, but instead because

[1] O'Reilly et al. (2014) suggest that observed cross sectional differences in pay awards may rationally be used to make inferences about CEO narcissism. Recently the phenomenon has been referred to as the CEOs coronavirus conundrum (Thomas et al., 2020).

the CEO has under provided effort. In those cases, (imposed) pay-cuts were used to give the CEO an incentive to work harder to regain previous compensation levels. See also Lobo et al. (2018) who argue CEO pay-cuts may increase their propensity to manage earnings. However, this 'pay cut to induce effort' model does not appear to be descriptive of the sudden COVID shock to corporate performance in which CEOs voluntarily offered to take pay-cuts. Instead we turn to the crisis management literature which we suggest is more insightful in this setting. In order to model shareholder reactions, our chosen dependent variable is shareholder voting (Tanyi et al., 2021; Thomas and Tricker, 2017). A potential issue when looking at how voting varies with the pay-cut decision is that the decision by a CEO to volunteer for a pay-cut may be endogenously determined so we adopt an instrumental variables approach. We use the dividend suspension decision as the pay-cut instrument and report on its covariance properties so that we can identify the independent effect of the pay-cut decision.

From a research design perspective, the COVID shock could help improve identification of the CEOs underlying personality type because it shifts the tradeoffs faced by the CEO and could induce different actions depending on personality types. In the literature on CEO personality; O'Reilly and Chatman (2020), O'Reilly et al. (2014), Bolton et al. (2013) and Kaplan et al. (2012) argue that CEO personality traits influence decision making and corporate performance. For instance, Kaplan et al. (2012) identify "team related abilities" as important determinants of corporate buyout and venture capital performance. They use survey data and stress that the observable characteristics used in econometric studies such as CEOs' "education," "functional background," and or "age" are at best proxies for underlying psychological factors (Hambrick and Mason, 1984). O'Reilly et al. (2014, pp. 2) argue that: "The difference between having healthy levels of self-confidence and self-esteem, which are appealing and useful qualities for leaders, and being narcissistic is that narcissists have an elevated sense of self-worth such that they value themselves as inherently better than others. That said, the difference between those who are self-confident and those who are narcissistic are often difficult to detect. Thus, it is likely that

both highly self-confident and narcissistic people are disproportionally selected into CEO jobs". They go on to argue that while narcissistic leaders may succeed in the short term, over time they destroy management systems and by implication companies. Clearly, a CEOs tendency to be narcissistic has heightened relevance during a crisis. Thus the underlying hidden psychological factor that we stress is important in this study is the CEOs tendency to narcissism during the pandemic crisis. In further support of this focus we note that King III (2007) argues that during a crisis, a leader's behavior and attitude towards colleagues will affect crisis performance. He argues that they need to be charismatic leaders but if that spills over into narcissism that may hamper recovery. King III (2007, pp. 184) argues that "In the event of a crisis, a charismatic style of leadership may enhance an organization's response to return to a state of normal operation. On the other hand, a charismatic style of leadership can also produce disastrous outcomes for both employees and the organization in the event of a crisis (Conger and Kanungo, 1994). According to Conger and Kanungo, some charismatic leaders possess characteristics associated with narcissism, which can lead them to promote highly self-serving and grandiose aims[2]. When this occurs, 'the leader's behaviors can become exaggerated, lose touch with reality, or become vehicles for pure personal gain (Conger and Kanungo, 1994, pp. 211). Conger and Kanungo further note, "narcissism can lead charismatic leaders to over-estimate their capabilities and underestimate the role of critical skills, resources, and changing market places' (Conger and Kanungo, 1994, pp. 218)".

Motivated by the above discussion we argue that a critical issue for rational investors is how to form beliefs about the CEOs underlying personality traits

[2]Emmons (1987) explains some of the challenges to identifying narcissm while Cragun et al. (2020) provide a meta-analysis of narcissm research and Olsen et al. (2014) discusses it's initial application in accounting research. Recently two papers (Abdel-Meguid et al., 2021; Johnson et al., 2021) have demonstrated how CEO narcissm plays an active role in non-GAAP reporting and auditing. However, it is important to stress there may be other competing theories which explain why some CEO's volunteer for pay cuts while others do not.

during the pandemic. On what basis to form those beliefs is an open issue. For instance, (Gow et al., 2016) stress how the language used by CEOs in corporate communications can be used in meaningful ways to infer CEO personality traits. In this research we condition belief revision on observation of the CEOs decision whether or not to offer voluntarily to take a pay-cut. That is, in this research we do not attempt to come up with an exhaustive list of all CEO personality traits. Instead we use the COVID shock to see whether investors act (vote on Say on Pay) as if they are making revised inferences about one trait; whether the CEO shows him/herself to be a team player in a crisis, or alternatively closer to being a self-obsessed narcissistic.

During normal corporate activity the CEO is unlikely to be clearly exposed as possessing one or the other of those traits – although he/she is likely to suggest belonging to the former (as this is hard to credibly confirm or deny). It is hard for investors to differentially identify team players as the narcissists can free ride noisy beliefs concerning team player membership. However, following the COVID shock the CEOs of those companies that were so negatively affected as to induce suspension of dividend payments, risk inducing the wrath of investors who increase their belief measures that the CEO was more likely to be a narcissist. In such a scenario, CEOs that really are team players may be prepared to take an action that is costly to them in the short run in order to signal their underlying personality trait: take a voluntary pay-cut. Narcissist's find pooling with team players in this new environment is excessively costly and chose not to voluntarily take a pay-cut. Critical to establishing existence of such an equilibrium is a need to show that in equilibrium investors "reward" the CEOs that voluntarily take the privately costly pay-cuts to signal their team player intentions. Rewards may in part be multi-period in nature. While accepting this, we test to see if there is any evidence of near immediate reward in the form of enhanced shareholder support for the CEO. In particular, we focus on the SoP vote that shareholders have at the annual general meeting (AGM).[3]

[3]In unreported tests we also considered voting on other proxy proposals but since there

Coming shortly after the suspension of dividends this is perhaps the best venue for shareholders to voice their first concerns about the CEO.[4]

3. Data

In order to exploit the possibility for the exogenous COVID shock to aid in identification of the underlying association between CEO narcism, voluntary pay-cuts and shareholder voting we concentrate on the links between operating cash flow and dividend suspensions. We use dividend suspensions as an instrumental variable for voluntary CEO pay-cut decisions. We defend the choice of this instrument in the discussion around Table 3. However, one issue that dividend suspensions gives rise to, is the differential way the timing of the pandemic affected companies with the two predominant fiscal year ends of 31st December and 30th of June. For the 31st December companies that typically declared interim dividends in January before the AGM, the COVID pandemic in March came as an exogenous shock. For 30th June companies the interim dividend came after March and so can not be described as an exogenous shock to the dividend suspension decision. To reflect this we introduce two main filter restrictions on the base Russell 3000 dataset:

I Fiscal Year End Restriction - We require companies to have 31 December 2019 Fiscal year end so pandemic happened shortly after the annual dividend was declared;[5]

II SoP vote - A SoP advisory vote was recorded;

was much less uniformity in those proposals and or staggered boards there was many missing observations

[4] We leave for future research the analysis of other potential effects such as lifetime earnings. We also considered other proxy proposals but there was a lack of proposal consistency between companies

[5] For companies with June 30 year end, the March commencement of the pandemic in the US will have influenced the decision on what dividend to propose in July. The important point here is that there is no need to suspend an already announced lower dividend because the COVID shock has already been observed and dividend levels could have been adjusted

The Russell 3000 companies that satisfying filter I are those companies that announced a proposed dividend for the forthcoming year (typically in January or February) and scheduled their annual shareholder meeting during the second quarter (Q2), which turned out to be during the start of the stay at home (lock-down) period (see Appendix A for an example). To identify those companies, we started with the full list of the constituents of the Russell 3000 index in 2019 and then used Factset fiscal year end date function to identify 1,924 companies with the required fiscal year end. Next, we applied filter II by obtaining SoP votes from Factset, complementing missing observations manually with 8-K filings.[6] Since some companies elect not to have annual SoP votes (for instance only requiring a bi-annual vote) when we applied this filter the sample reduces to 1,865 companies that satisfy both filters.

Separately we searched all companies that file with the U.S. Securities and Exchange Commission – SEC to search for notification of CEO pay-cuts. In order to identify those pay-cuts that were linked to the onset of the COVID pandemic we restricted our search to the period 1st of January 2020 to 15th of July 2020. The SEC requires registrants to file an 8-K 5.02[7] if the compensation of the CEO changes. Using this search procedure we were able to identify a total of 459 companies were the 8-K stated the CEO was taking a pay-cut. Of these 459 pay-cut observations some were from small (non Russell 3000) companies and some were from companies with other than 31 December fiscal year ends (typically 30 June fiscal year end). On performing a match using company CIK we identified 202 companies from our filter I and II sample (1,865 companies) that had made a filing that the CEO had taken a pay-cut.

To identify dividend suspensions, we manually compared two fields from Compustat: the proposed second quarter dividend (Compustat field DVY) was

[6] We used Form 8-K's items 5.02 and 5.07 (Submission of Matters to a Vote of Security Holders) to identify the CEOs that took pay-cuts and to complement information on SoP voting, respectively.

[7] Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

required to be positive and greater than zero while the actual Q2 dividend payment was zero (Compustat field DVPSPQ). Then as an independent check we used Refinitiv (formally Thomson Reuters) news wire search using the "dividend suspension" search term. The set of "suspended dividend" firms has a total of 159 firms, of which 131 are in our 1,865 sample.

Our final requirement was to require sufficient quarterly financial data be available from Compustat. As we shall see shortly our estimation model uses a lagged quarterly operating cash flow variable (ΔCF) and data on insider trades (*DirTrades*). Requiring lagged quarterly operating cash flow reduced our sample size from 1,865 companies to 1,056 companies and obviously this then reduced the number of CEO pay-cut and dividend suspensions in our final sample. For instance the final sample number of companies suspending dividends and satisfying the filter I, II and now quarterly financial data requirements reduces the observations from 131 to 79.

Table 1 reports the size of our final sample. We note that a significant number of firms neither suspend dividends nor report a CEO pay-cut. This arises because some firms such as Netflix actually benefited from the stay at home provisions so there was no reason to take either action.

SUGGESTION: INSERT TABLE 1 HERE.

Table 1: Number of companies in the sample, based on 2020 SoP proxy vote and financial available data.

	Dividend suspension		Total
	No	Yes	
No pay-cut	885	55	940
Pay-cut	92	24	116
Total	977	79	1,056

In order to aid subsequent development of intuition, we now present some basic descriptive statistics before considering our formal econometric model. In

Table 2 we see that votes for cast in (Q2) 2020 for the 31 December 2019 fiscal year end results, CEOs that took pay-cuts were more likely to have suspended dividends, had a smaller increase in operating cash flow in the two periods leading up to the pandemic, were in companies of smaller size and attained a more positive voting result (VoteForProp) on SoP.

SUGGESTION: INSERT TABLE 2 HERE

Rather than just considering how voting patterns varied in 2020 reported 8-K's, further investigation of the data is aided by considering how voting patterns changed in both 2019 and 2020. In order to conduct this analysis, we classify voting patterns reported in 2019 (for fiscal year 31 December 2018) as belonging to companies that, in the subsequent year, chose pay-cut (Yes or No) and dividend suspension (Yes or No) in 2020. That is, we classify companies over both years into the group which defines their pay-cut dividend suspension policy in the 8-K's reported in 2020. As Figure 1 shows, if a company suspends dividends the SoP VoteForProp falls unless the CEO also takes a pay-cut. In that sense, Figure 1 suggests that shareholders reacting positively to CEOs offer to share the pain. However, this graphical approach while providing intuition does not take account of the important issue of endogenous relation that may hold between the variables of interest. To address this concern, we employ an instrumental variables approach.

To summarize, Figure 1 shows how the VoteForProp, has fallen after the pandemic starts for all company groupings except the pay-cut and dividend suspension group. Given our hypothesis of existence of a separating equilibrium and an exogenous shock leading to the need for expressing a team player stance (characteristic / personality trait X) after a dividend suspensions (s), we model our null hypothesis as:

$$E(Votes_0|paycut,X') = E(Votes_0|X') \tag{1}$$

i.e., the null hypothesis is that the cross-sectional estimated expected voting results do not depend on the CEO taking a pay-cut, given a vector of observed company-level control variables.

4. Econometric Model

We encoded our indicator variables as follows:

PayCut = 1 if CEO takes a pay cut, 0 otherwise

DivSusp = 1 if Q2 dividends are suspended, 0 otherwise

VoteForProp = VotesFor/(VotesFor + VotesAgainst + Abstentions)

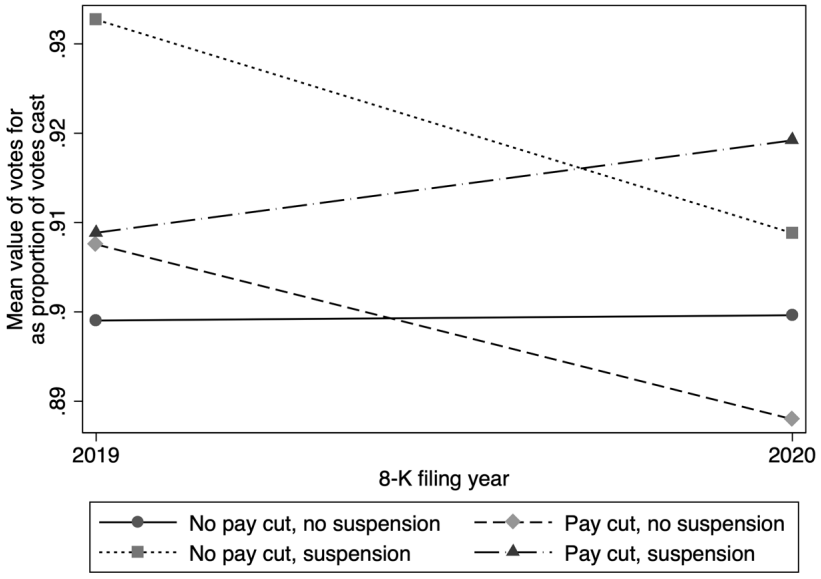
Our main focus of interest is assessing the relation between the cross-sectional variation in the proportion of votes *for* in the 2020 SoP votes and the decision to take a pay-cut in that same fiscal year. The exogenous shock of the pandemic induces some dividend suspensions, and this can then induce an endogenous response by the CEOs to voluntarily take a pay-cut. Voluntary pay-cuts by CEOs are historically very rare events and we assume they occur in 2020 during the pandemic primarily because the CEO wants to show they are a team player rather than a selfish narcissist. At issue is whether CEOs were rational to bear the cost of a voluntary pay-cut. Our test of consistency with rationality is to check if investors acted as if they inferred voluntary pay-cut CEOs were more likely to be team players. Put simply, did shareholders act as if they believed pay-cut volunteering CEOs were more likely to be successful at crisis management.

Given our hypothesis of existence of a separating equilibrium and an exogenous shock leading to the need for expressing a team player stance (characteristic or personality trait X) after a dividend suspensions (*suspended*), we model our null hypothesis as:

$$E(propForVote|paycut,X') = E(propForVote|X') \tag{2}$$

i.e., the cross-section estimated expected voting results does not depend on the CEO taking a pay-cut (*paycut*), given a vector of observed company-level control

Figure 1: Pay cut groups average of votes *for* as cast proportion



Notes: Chart built using sample employed in columns (3) through (5) of Table 4.

variables X'. To measure the effects of pay-cuts on the proportion of positive votes cast for management in the Say-on-Pay proposal, we estimate Model (3) and employ a two-stage least squares strategy to deal with potential omitted variable bias and reverse causality in the relation between pay-cut and vote proportions.

$$VoteForProp_{\mathrm{i}} = \alpha + \beta_1 paycut_{\mathrm{i}} + \beta_{\mathrm{k}}\mathbf{X'} \tag{3}$$

The dividend suspension decisions declared in 2020 is a natural candidate to act as an instrument for the voluntary pay-cut decision for the following reasons:

(i) it is correlated with the causal variable of interest, *pay-cut*, but uncorrelated with all other observed determinants of the dependent variable in our model of interest Model E, as reported in Table 3;

(ii) they have a clear effect on pay-cut decisions (Angrist and Pischke, 2009,

p.117), conditional on the same covariates existing in our model, with a coefficient of 0.16 and *p-value* of 0.006.[8]

SUGGESTION: INSERT TABLE 3 HERE.

We assume that the 2020 dividend suspensions consist notably of a response to industry-specific temporary and foreseeable illiquidity. They are mainly explained by industry fixed effects, but also by other elements, like company size, cash flows and revenue recently accrued. Executive pay-cuts represent a message sent by CEOs and the board that higher management layers are team players and willing to share the pain during times of cash paucity, which should lead to larger proportions of votes *for* in the SoP. In the absence of financial constraints, however, executive pay-cuts generally have no utility, as there is no financial burden to be shared, and dividend suspensions would neither be expected nor required, exerting instead negative effects on SoP votes if adopted. Therefore, once its main drivers have been controlled for, dividend suspensions shall have no effects on the SoP, being excluded from the causal model of interest (Angrist and Pischke, 2009, pp.116–117). The exception is when they happen in the presence of executive pay-cuts, with both decisions mitigating the negative effects of financial constraints on the voting. This case represents our motivation to use dividend suspensions as instrument: once liquidity-related elements are controlled for, all that is left of the instrument's effect on the SoP voting is captured by the executive pay-cut decision, for they are both motivated by financial constraints, albeit having distinct goals. This explains the upwards trend observed in Figure 1's triangle-marked curve, instead of the downwards trend in the others.

To investigate the initial association between pay-cuts on SoP votes we could estimate Model (4), where P is a binary variable representing pay-cut, and u_{i} includes O_{i}, a matrix that consists of observable and non-observable covariates,

[8] Additionaly, estimation of the first stage (Model (7), as follows) shows the coefficient of 0.16 (*Std. Error* = 0.0508) for dividend suspensions, suggesting it is a relevant instrument, while the second stage estimation rejects the under-identification null hypothesis.

explicitly shown in Model (5) (keeping α_0 the same for simplicity). In both models, i indexes company-level observations. Included in our specification of O are control variables that capture operating cash-flow effects (Compustat OANCF operating cash flow) and corporate governance (large insider and block holder trades). We allow the operating cash flow variable to have a non-linear effect, since the pay-cut decision is assumed to be driven by threshold effects rather than being a linear response. We introduce both quadratic and cubic terms to model the non linearity.

$$VoteForProp_{\mathrm{i}} = \alpha_0 + \beta P_{\mathrm{i}} + u_{\mathrm{i}} \tag{4}$$

$$VoteForProp_{\mathrm{i}} = \alpha_0 + \beta_1 P_{\mathrm{i}} + \beta_{\mathrm{j}} O_{\mathrm{i}} + \nu_{\mathrm{i}} \tag{5}$$

We estimate the effects of *paycut* on *VoteForProp* by solving Model (6), which is the structural equation for *VoteForProp* and where $\hat{P}$ is estimated in its first stage model Model (7).

$$VoteForProp_{\mathrm{i}} = \alpha_0 + \theta_1 \hat{P}_{\mathrm{i}} + \theta_2 X_{\mathrm{i}} + \epsilon_{\mathrm{i}} \tag{6}$$

$$\hat{P}_{\mathrm{i}} = \delta_0 + \Lambda_1 DivSusp_{\mathrm{i}} + \delta_{\mathrm{j}} X_{\mathrm{i}} + \eta_{\mathrm{i}} \tag{7}$$

In (7), η_{i} is uncorrelated with $\mathbf{X}$ and *DivSusp* by definition and we assume that $\Lambda_1 \neq 0$, which is assessed further in the study. Due to the nature of events that led to pay-cut and dividend suspension decisions in 2020, i.e., cash-constrained decision making leading CEOs from different industry sectors to respond in distinct ways, we let this operating cashflow related variable to have different response slopes for different industry segments, giving rise to a 3-way interaction term. Hence, in our final specification X is the sum of all terms in the third degree operating cash variation polynomial interacted with NAIC industry indicator variables.

To capture corporate governance effects we introduce a new variable to the literature: trading by directors and officers versus (influential) 10 percent shareholders (SEC Form 4 disclosure) which we label DirTrades and include in X.

It is well known that large block holders have an important effect upon major corporate decision making (Holderness, 2003). We suggest that this variable is important in this crisis setting because traditional corporate governance variables such as board size and audit committee composition will not have been chosen with the pandemic in mind and during the crisis block holders influence is likely to have increased in the short term. The variable measures the ratio between the number of director and officer trades versus the trades made by influential shareholders holding more than 10 percent of shares (when they exist), in the 12 months before the AGM meeting holding the SoP. DirTrades controls for the relative importance of 10% owners trading shortly before the SoP and is a proxy for the influence exerted by influential shareholders around the voting session. In addition, we control for size effects using the Total Assets levels and estimate industry-clustered standard-errors.

5. Results and Empirical Analysis

In our regression setting, Model (8) is the second stage regression to be estimated:

$$VoteForProp_{\mathrm{i}} = \lambda_0 + \lambda_1 DivSusp_{\mathrm{i}} + \lambda_{\mathrm{j}} X_{\mathrm{ji}} + \zeta_{\mathrm{i}} \tag{8}$$

Where: ζ is the second stage error, which comprises ν_i from (5) plus the product $\beta_1 * \eta_{\mathrm{i}}$; λ_0 is $\alpha_0 + \beta_1 * \delta_0$; λ_{j} is $\beta_{\mathrm{j}} + \beta_1 * \delta_{\mathrm{j}}$ for all covariates j in X; and λ_1 is the instrumental variables estimator (Wooldridge, 2010, pp. 92) of interest given by $\beta_1 * \Lambda_1$, i.e., the product between the instrument's coefficient in the reduced form (7) and the endogenous variable's coefficient in the structural equation (5). The effect of dividend suspensions on the SoP votes is, therefore, weighted by how much it is correlated with the pay-cuts. While we observe this correlation, we assume that dividend suspensions are largely driven by the unique pandemic situation that has led to perceived cash-flow risks and that how management approaches this situation, taking the pay-cut or not, determines said suspensions' effects on the SoP.

Estimation results are reported in Table 4, as follows: in Column (1), we estimate the effects of pay-cuts on the dependent variable, while in Columns (2) through (4) we sequentially add controls and, in Column (5), we interact the full set of controls with NAIC industry indicators.

SUGGESTION: INSERT TABLE 4 HERE.

The results in the final Column (5 int)'s estimation support rejection of the null hypothesis that there is no association between pay-cuts and SoP propVotes *for*. Once ΔCF has been controlled for, the pay-cut effect on the positive vote proportion is an increase that ranges from 20 to 24.5 percentage points, depending on the model's specification. Including non linearities (quadratic and cubic terms) for ΔCF and allowing for different slopes across industry segments the instrumental variables model (5 int) shows how lagged operating cash flow significantly affects the observed pay-cut decisions. This result provides a link to the work of De Vito and Gomez (2020) which we discuss in the next section.

Table 2: Descriptive statistics Fiscal Year end 31 December 2019.

	Mean	SD	Median	Min	Max	N
No pay-cut						
VoteForProp	0.898	0.136	0.947	0.000	1	940
Dividend suspension	0.059	0.235	0.0	0.0	1.0	940
ΔCF	72.5%	1,058%	12.4%	-16,633%	20,175%	939
Total Assets (Mill $)	20,300	122,000	3,300	39.9	3,210,000	940
DirTrades	0.040	0.115	0.000	0.000	0.886	940
Pay-cut						
VoteForProp	0.901	0.117	0.947	0.289	0.999	116
Dividend suspension	0.207	0.407	0.0	0.0	1.0	116
ΔCF	30.4%	392.3%	-13.5%	-1,535%	3,385%	116
Total Assets (Mill $)	12,400	37,100	2,580	85.6	269,000	116
DirTrades	0.045	0.107	0.000	0.000	0.481	116
Total						
VoteForProp	0.899	0.134	0.947	0.000	1	1,056
Dividend suspension	0.075	0.263	0.0	0.0	1.0	1,056
ΔCF	67.9%	1,007%	10.7%	-16,633%	20,175%	1,055
Total Assets (Mill $)	19,500	116,000	3,200	39.9	3,210,000	1,056
DirTrades	0.040	0.114	0.000	0.000	0.886	1,056

Notes: Descriptive statistics, non-winsorized, referring to observations in the sample. *VoteForProp* is the proportion of votes *for* in the SoP held in 2020, as collected by Factset. ΔCF is the previous year's second quarter's Operating Cash Flow variation ($\frac{OCF_{\text{t-1}} - OCF_{\text{t-2}}}{OCF_{\text{t-2}}}$). *Total Assets* information has been obtained from the XBRL files available in the SEC Edgar environment. *DirTrades* is the ratio between the number of 10% owners that recorded insider trades through Form 4s and the total number of insiders filing the same form type in the 12 months preceding the meeting that held the SoP.

Table 3: Variables' correlation table.

	suspended	pay-cut	VoteForProp	ΔCF	Assets
pay-cut	0.162 (0.000)				
VoteForProp	0.025 (0.293)	-0.020 (0.397)			
ΔCF	0.005 (0.876)	-0.001 (0.977)	0.037 (0.214)		
Assets	-0.012 (0.624)	-0.032 (0.193)	-0.01 (0.697)	-0.031 (0.317)	
DirTrades	0.039 (0.101)	0.056 (0.018)	0.011 (0.649)	0.029 (0.337)	-0.031 (0.209)

Notes: *paycut* is equal to 1 if the firm's CEO took a voluntary pay-cut in 2020. *VoteForProp* is the proportion of votes *for* at the SoP in 2020. *Assets* is Total Assets. *DirTrades* is the ratio of the number of unique 10% owners that reported insider trades with the company to the total of 10% owners reporting the same transactions during the 12 months preceding the AGM. Significance in parentheses.

Table 4: Estimation of models.

Variables	(1)	(2)	(3)	(4)	(5 int)
Pay-cut	0.079	0.163*	0.199***	0.201***	0.245***
	(0.073)	(0.085)	(0.054)	(0.052)	(0.067)
DirTrades			0.054	0.056	0.084***
			(0.041)	(0.041)	(0.026)
Nat. Log. of Tot. Assets			-0.004	-0.004	-0.019***
			(0.004)	(0.004)	(0.002)
ΔCF		0.003*	0.003**	0.004	0.061***
		(0.002)	(0.002)	(0.003)	(0.001)
ΔCF^2				-0.000	-0.044***
				(0.000)	(0.009)
ΔCF^3				0.000	0.006***
				(0.000)	(0.001)
Constant	0.865***	0.849***	0.921***	0.922***	1.259***
	(0.013)	(0.013)	(0.082)	(0.084)	(0.035)
First Stage F Stat.	13.05	12.71	13.09	13.95	10.09
Prob > F	0.0026	0.0028	0.0025	0.0020	0.0063
Observations	1,767	1,104	1,056	1,056	1,056

Notes: The dependent variable, *VoteForProp*, is the proportion of votes for in the SoP in all models. *VoteForProp* is "winsorized" at 1% and, the other variables, at 2%. All variables in column (5), except for *Pay-cut*, are included in the model as interactions (*int*) of the NAIC fixed-effects. Industry-clustered standard-errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

To provide further intuition for why lagged operating cash flow is significant we now consider the descriptive statistics for the variable stratified by pay-cut, dividend suspension policies. It shows that the companies that chose to suspend dividends and the CEO volunteer for a pay-cut experienced qualitatively different operating cash flow changes when compared to other companies.

Table 5: Average voting and ΔCF

Group	Average VoteForProp	N	ΔCF_{2020}	ΔCF_{2019}
No pay-cut, no suspension	0.898667	885	0.601368	0.200723
Only pay-cut	0.892429	92	0.393385	0.029029
Only suspension	0.926020	55	0.417043	0.276846
Both pay-cut and suspension	0.937092	24	-0.425233	0.149749

Notes: ΔCF refers to the second quarter variation in lagged operating cash-flow. In this case, the 2020 lagged variable refers to the difference between cash-flow generated in Q2 2019 and Q2 2018. This data is used in columns (3) through (5 int) of Table 4.

6. Additional Sensitivity Tests

Guay et al. (2003) document that stock appreciation rather than cash salary is the major component of executive compensation. Hence, one could argue that when CEOs agree to a pay-cut (in salary) they are actually not giving up very much since the value of stock and options held dominates their compensation. In order to investigate whether a pay-cut is an appropriate description at the macro level we consider what happened to the stock held by the CEOs in our sample. In this respect we note that the NASDAQ 100 index increased in value during the initial COVID outbreak period, so it is possible that while CEOs in our sample agreed to accept cuts in cash salary some may have made significant gains on their stock holdings.

Since some companies improved their financial performance during the pandemic it would be misleading to look at the average change in stock prices for

the whole sample. In order to address this we produce a sub-sample of companies - those that see a more than 15% reduction in revenues when comparing the second quarters of 2020 versus 2019. We describe these firms as negatively affected firms (NAFs). For our NAF sample, we compare the share price change between 30 June 2020 and 30 June 2019. Using an equally weighted index, the NAF sample experiences a 31% fall in share price over the period. This occurs because most of the rise in indices' like the NASDAQ 100 during the initial COVID period, was driven by rises in the market price of technology stocks that did not typically suffer significant revenue falls and hence are excluded from our sample of NAF companys. So we conclude that the pay-cuts are real because on average NAF CEOs also saw the unit value of company stock (and hence their stock portfolio) declining.

A word of caution is required here. Sullivan (2020) argues during the initial COVID pandemic some corporate boards granted large stock option plans at a low COVID affected strike price and cites Karmin (2020) who explains how a CEO could make huge gains on awarded options if shares prices rebound. However, in our study we include say on pay (SoP) voting proportions. If shareholders believed the share option plans were egregious they could vote against them and that should be detected in SoP voting results. In addition, the above claims about future gains for CEOs are not guaranteed, they are conditional on the continual survival of the company through the crisis and a subsequent increase in share prices.

Another concern could be that voting behavior is driven by pure liquidity concerns (De Vito and Gómez, 2020). Our model estimated in Table 4's Column 5 (5 int) shows that voting behavior is also partly explained by inferences made by investors about CEO traits.

7. Conclusion

Under normal operating conditions shareholders will respond very negatively to suspension of previously declared dividends. However, this research shows

that if suspensions are driven by a large exogenous shock some CEOs will be able to keep shareholders support by sharing the pain. Others will not. We have proposed that the differential voluntary pay response chosen by CEOs reflects an underlying previously hard to detect personality trait; narcissism. We have suggested that narcissistic CEOs will find it hard to live with volunteering for a pay-cut given their often over exaggerated self-belief and self-entitlement will result in them no longer being prepared to pool with the team player CEOs who volunteer for pay-cuts.

While the literature on leadership stresses that under normal operating conditions, narcissism has both positive and negative effects, during a crisis, narcissistic tendencies are particularly dangerous. This arises because it is claimed narcissists lose touch with reality and may become exclusively focused on pure personal gain which reinforces rather than mediates the crisis. In such a setting, investors will rationally want to form beliefs concerning CEOs narcissistic tendencies. Rather than directly ask investors how their beliefs have changed during the events of the pandemic, we consider whether their observed voting actions reveal anything about their belief revision. We find that even though some CEOs oversee highly unpopular dividend suspensions, if they also volunteer for a pay-cut, investors act (vote) as if they reduce the likelihood that the CEO has narcissistic tendencies. That is, one unexpected side effect of the pandemic is it offers a brief partial window on how to reassess CEO personality traits that previously was not possible.

We note that some authors have argued (see Sullivan (2020)) that claims by CEOs that they are sharing the pain are disingenuous because at the same time as taking a pay-cut CEOs are offered share option plans which may potentially be very lucrative. In response this research contributes three points to this debate. First that CEOs that suspend dividends and then voluntarily take pay cuts are more likely to keep or enhance the support of shareholders as measured by say on pay voting patterns. That is, shareholders react to the pay cuts in a positive fashion. Secondly, the negatively affected companies (NAF's) in our sample experience an average 31% fall in equity values. To the extent that

CEOs hold stock this is analogous to a second pay-cut in the value of their stock portfolio. Third, liquidity effects are in part determined endogenously by decisions taken by senior management regarding whether or not to voluntarily take a pay-cut.

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Appendix A. A Representative Time Line.

To illustrate how the Covid pandemic affected companies corporate disclosures we consider the case of the hotels and hospitality group Hilton Worldwide Holdings (Ticker:HLT, CIK: 0001585689).

Fiscal year end 31 Dec 2019.

February 11 2020, annual 10-K filed, includes announcement of annual dividend of $0.60 first quarterly instalment payable 31 March.

March 4, 8-K 5.02, Jonathan W. Witter, Executive Vice President and Chief Customer Officer, notified Hilton Worldwide Holdings Inc. (the "Company") that he will be leaving the Company, effective April 17, 2020 (the "Departure Date").

March 10, 8-K 7.01, withdraws 2020 outlook in response to Covid impact.

March 11, 8-K 2.03, announces increases in borrowings.

March 27, Press release President and CEO, Christopher Nassetta, will forgo his salary for the remainder of 2020. Company suspends 31 March quarterly dividend payment.

April 16, 8-K 2.02, 7.01, 8.01, announces preliminary estimated unaudited operating results for 3 months ended March 31.

June 9, 8-K 5.07, Record of votes at 5 June Annual Shareholder Meeting including Proposal 1 re-elected directors, Proposal 3 reaffirms company Support for Executive Pay.