# Shareholder activism and the timing of blockholder disclosure

Simon Gueguen
University of Paris-Dauphine, simon.gueguen@dauphine.fr

This version: April, 2017

Simon Gueguen is member of Dauphine Recherche en Management (DRM), CNRS Unit, UMR 7088, University of Paris-Dauphine, Place du Maréchal de Lattre de Tassigny, 75116 Paris, France.

# Shareholder activism and the timing of blockholder disclosure

In this paper, we propose a model including the trading stage (acquisition of shares and blockholder disclosure) and the governance stage of activism. We analyze the blockholder's timing of disclosure, allowing for a strategic behavior. In some cases, the blockholder voluntarily renounces to use the full reporting window and makes an immediate announcement. The key to the analysis is the idea that what happens during the trading stage influences the governance stage *via* the belief of the firm's incumbent about the wish or capacity of the blockholder to launch a confrontational activist campaign if he does not cooperate. This model also offers the possibility to discuss the consequences of a shortening of the legal disclosure period. It predicts that shortening the legal reporting window would only affect the expected benefit of the blockholder when the cost of activism is low or the created value is high. Such a reform would favor minority shareholders.

Keywords: Regulation, disclosure, blockholding, shareholder activism.

# 1. Introduction

The role played by activists in the shareholder value creation has been well documented by the empirical literature in recent years. It appears that most of the positive impact of activism on the share price happens when the presence of an activist blockholder in the shareholding structure of the company is revealed (e.g. Brav *et al.*, 2008). However, the underlying theoretical models only focus on the governance stage of activism, and ignore the first stage where the potentially activist shareholder acquires a blockholding and has to announce it. The belief of the firm's incumbent on the ability of the blockholder to launch a confrontational activist campaign is key to the outcome of the governance stage. Including the possibility of a strategic behavior in this first stage allows a more comprehensive analysis of shareholder activism.

In March 2011, a rulemaking petition has been submitted to the Securities and Exchange Commission (SEC) by a prominent law firm, *Wachtell, Lipton, Rosen & Katz* (WLRK). Considering that the reporting rules for the acquisition of blockholdings are not up-to-date in today's financial markets, they ask for a tightening of these rules. The main claim of this petition is a reduction in the disclosure delay, which dates to the *Williams Act* (1968). Currently, the time to publicly disclose acquisitions of over 5% of a company is 10 days; the WLRK associates propose to reduce it to one business day. They argue that the blockholders take advantage of this long-time period to continue to accumulate shares above the 5% threshold, while the share price did not incorporate the value relevant information of the presence of the blockholder. Market transparency and protection of small, uninformed investors, require to shorten the legal delay.

Some researchers have taken position against this petition. They explain that the blockholder disclosure regulation should not take full transparency as a final objective, and that any change in this regulation should not be undertaken before an examination of its economic implications for investors (Bebchuk and Jackson, 2012). Using the empirical evidence that blockholding announcements by activists lead to positive stock price reaction (Brav *et al.*, 2008, Clifford, 2008, Greenwood and Shor, 2009, Klein and Zur, 2009, Becht *et al.*, 2015), and that they create value in the long run (Bebchuk, Brav and Jiang, 2015), they consider the ability for these blockholders to capture a bigger part of this created value during the reporting window as legitimate. They develop the argument that shortening this delay would deter activist

blockholders to enter the shareholding of companies, and that this would result in less value creation for all the shareholders. As a result, the effect of such a change in regulation would also be detrimental to the minority (uninformed) shareholders, contrary to the alleged objective of the petition.

This opinion, however, is based on the idea that the trading profit obtained by activists through buying shares from uninformed investors during the legal delay is necessary to make activism profitable. The existing literature does not provide evidence supporting this idea. There exists a theoretical literature on shareholder activism, but it has mainly focused on the governance aspect of this activity, especially the trade-off faced by the activist between the costs and the benefits of monitoring (Admati, Pfleiderer and Zechner, 1994, Maug, 1998). In order to discuss the impact of a change in the legal delay, we need to take account on the fact that the blockholder may adopt a strategic behavior when she acquires and discloses her participation, and that this behavior may have an impact on the governance stage. The objective of this paper is to provide a theoretical model considering the interactions between the trading and disclosure stage, and the governance stage of activism. To our knowledge, this is the first model of this kind in the literature.

Interestingly, Bebchuk *et al.* (2013) provide an empirical study on disclosure timing and pre-disclosure accumulation of shares by blockholders (on the U.S. market). They notice that most blockholders use the full legal delay (they disclose 8 to 10 days after crossing the 5% of ownership threshold), but a significant portion of them decide to disclose immediately (more than 10%). Another important finding is that investors other than activist hedge funds also make a substantial use of the legal delay. They use these results to sustain the idea that there is no need for a change in regulation. However, these findings are also compatible with the idea that the blockholders behave strategically regarding the timing of disclosure, and that the difference between activist hedge funds and the other kinds of blockholders are smaller than hypothesized in this literature.

Activism is a governance mechanism by which a shareholder of a company, generally holding a (possibly small) block of the company's equity, imposes the management to take specific measures. These measures can go from financial policy decisions (increase dividends, start a share buyback program…) to a change in the strategy or in the perimeter of the firm. Activist campaigns, however, are costly. Gantchev (2013) estimates the cost of a confrontational activist campaign at $10.71 billion, which is about two thirds of the return obtained by the activist from

the campaign. In such cases, both the activist shareholder and the current management of the firm would be better-off if the operational changes could occur before the campaign.

The management has an imperfect knowledge of the ability of such minority blockholders to launch an activist campaign. Some shareholders are usual suspects of future activism (like activist hedge funds or some industrial shareholders). However, the border between active and passive shareholders has become blurred. On one side, usual activists try to avoid costly activist campaigns by putting pressure on management. In March 2015, the activist investor Harry Wilson agreed to withdraw his nomination at the board of directors of General Motors after the firm announced a $5 billion share buyback program. On the other side, investors usually considered as passive are increasingly willing to behave like activists when they consider that the firm faces serious governance problems. The word "reluctavists" has emerged to describe those reluctant activists. Overall, the behavior of the management once the presence of such a blockholder is revealed depends on the belief that this blockholder will become active if changes are not implemented.

For this reason, being seen as a potential activist is important for the blockholder, because it may induce the management (or the controlling shareholder) to undertake favorable actions by himself. If the blockholder really has the intent and ability to launch an activist campaign, it may allow her to obtain the policy decisions she expected without bearing the cost of the campaign. If she does not have this intent or ability, she still has a chance to be seen as a potential activist and to obtain value creation.

In this paper, we show that the timing of blockholder disclosure may be used as an instrument to convince the management to undertake those actions before a confrontational activist campaign is launched. Disclosing early, while the regulation does not require her to do so, is a way for the blockholder to show that she is more interested in the value created by governance improvements than in the possibility to realize trading profits by accumulating shares at a low price in the days preceding the announcement. We argue that the disclosure timing decision is the result of a trade-off between this ability to appear like a potential activist (early disclosure) and the possibility to legally trade shares on superior information (late disclosure). The aim of this paper is to provide a theoretical framework allowing to study this trade-off, the conditions under which the blockholder discloses earlier or later, and the consequences of a shortening in the legal disclosure delay.

The rest of the paper proceeds as follows. Section 2 reviews the existing literature on shareholder activism and disclosure timing. Section 3 and 4 present the model and its equilibrium. Section 5 derives the empirical predictions of the model and analyses the consequences of a change in the disclosure regulation. Section 6 concludes.

## 2. Related literature

Most theoretical and empirical studies related to corporate disclosure consider announcements as exogenous. They predict or measure the impact of these announcements on stock prices or investors' behavior. For example, Pevzner, Xie and Win (2015) measure the market impact of earnings announcements in different countries. However, other papers consider the strategic decision of voluntary disclosure. Theoretical research on that issue has mainly focused on the information flow from managers to investors. Ferreira and Rezende (2007) propose a model where managers decide to reveal their strategic plan or keep this information private. They face a trade-off between keeping the possibility of changing project implementation (no disclosure) and providing incentives for partners to undertake project-specific investments (disclosure). Chemmanur and Tian (2012) show that many companies decide to delay the announcement of upcoming dividend cuts to the market. Only the companies with temporary difficulties decide to disclose early.

The most common discussion point in this literature is the intention by the manager to reduce or not information asymmetry with outside investors. Good news is usually disclosed early. Bad news may be disclosed early in order to reduce information asymmetry and increase liquidity (Balakrishnan *et al.*, 2014), or late when the news flow in the market is such that the impact of the bad news will be lower (Boulland and Dessaint, 2015).

The intraday disclosure strategy has also been studied, with the same idea of an asymmetry between good news and bad news disclosure. For example, Gennotte and Trueman (1996) show that managers prefer to release positive news during trading hours and negative news after trading hours. Michaeli, Rubin and Vedrashko (2014) provide evidence that the immediate market impact of earnings announcements is 50% smaller when they occur during trading hours. In the same vein, Dellavigna and Pollet (2009) find that investors temporarily underreact to news when they are disclosed on Fridays (however this result may be due to selection bias,

as noted by Michaeli, Rubin and Vedrashko, 2016). Niessner (2015) shows that managers take advantage of this effect and disclose negative news on Fridays or before holidays, when investors are supposed to be distracted.

Takeover bids constitute business situations where voluntary disclosure occurs frequently. For example, Brennan (1999) study the voluntary earnings forecasts disclosure from targets of takeover bids on the U.K. market between 1988 and 1992. He shows that these targets tend to disclose more frequently in case of hostile takeover, with a disclosure bias in favor of good news. On a French sample of takeover bids between 2006 and 2011, Negre and Martinez (2013) show that both the bidder and the target use voluntary press releases to try to influence the outcome of the (friendly or hostile) bid.

Corporate insider trading constitutes a possible cause of voluntary disclosure. Fishman and Hagerty (1995) propose a model of insider trading where the market cannot observe if the supposed insider is really informed. They show that making disclosure mandatory can lead to higher profits for uninformed insiders (they can mislead the market about their information and obtain trading profits). Cheng and Lo (2006) show that strategic disclosure may be used by informed managers to manipulate share prices and obtain trading profits: they tend to disclose bad news before the acquisition of shares.

Blockholder disclosure could not precisely be considered as voluntary disclosure, since the announcement is mandatory. However, the blockholder is not obliged to disclose immediately and may keep her trading private information for a few trading days. The fact that she sometimes decides to disclose early while she could disclose late is a voluntary (possibly strategic) *early* disclosure. This issue is close to the question of voluntary disclosure, since the blockholder decides to give a valuable information to the market while she could keep it private for a few more days.

Shareholder activism has been the subject of several studies in the last 10 years. Most of them are empirical studies and focus on hedge fund activism. For example, Brav *et al.* (2008) find a +7.1% CAR of the target on a 20 days' window centered on blockholding announcement by an activist hedge fund. They also show that these activists earn a significantly higher return than the size-adjusted value-weighted stock portfolio. Similarly, Klein and Zur (2009) and Greenwood and Schor (2009) find a significant market reaction of blockholding announcements. All these papers focus on activist hedge funds on the U.S. market, and they

measure CARs between 1.6% and 7.2% around the announcement. On an Italian sample, Croci and Petrella (2015) found a positive CAR around disclosure date (+0.93%) and trading date (+1.76%). On the longer run, Bebchuk, Brav and Jiang (2015) have shown that there is no price reversal. In a study based on activist campaigns on U.S. public firms between 1994 and 2007, they find that return and valuation (measured by Tobin's Q) are consistently higher five years after the activist campaign. They suggest that the positive cumulative abnormal returns (CARs) observed at blockholder disclosure are not a short-term price effect but represent the anticipation of a permanent value creation for the target due to future activist interventions.

These empirical studies generally ignore passive blockholders. The U.S. blockholder disclosure regulation makes a big difference between active and passive blockholders. Active blockholders are submitted to the Schedule 13D rule: when their beneficial ownership (defined as proportion of cash-flow rights or voting rights in the firm's equity) reaches 5%, they must disclose their position within 10 trading days. If a blockholder has no intent to become active, she is submitted to the much lighter disclosure requirement known as Schedule 13G (the disclosure may occur several months after the trade). Despite this difference, Clifford (2008) compares the market impact of active (13D) and passive (13G) blockholders, and shows that the CAR is higher for 13D. These empirical studies are built up on governance models where blockholders create value by monitoring the firm or threatening to sell their shares. Those two ways to create value are called *voice* and *exit* since the seminal article of Hirschman (1970).

However, there is a lack of theory on a crucial aspect of blockholding announcements: the disclosure strategy. Because the blockholder is not obliged to disclose immediately, she can use the 10 days' legal delay to continue to accumulate shares at a price which is lower than the price that would prevail in a well-informed market. The objective of this paper is to fill this gap. We propose a model explaining the timing of disclosure by the blockholder, and allowing a conceptual analysis of the impact of an elimination of the legal delay, as claimed by the WLRK petition.

## 3. Model framework

This section presents a multi-period model of ownership disclosure and activism by an outside blockholder.

**Start of the game**

When the game starts, a public firm is under the control of an incumbent ( $I$ ), who may be a manager (in case of disperse or passive ownership from current shareholders) or a controlling shareholder. An investor, denoted in the following as the blockholder ( $B$ ) and possibly owning a previously acquired toehold $K$ of the firm's equity, considers buying an additional quantity of shares of the target. Typically, $K$ is the level of ownership just one share below the legal threshold of blockholder disclosure (5% of shares outstanding in most regulations, minus one share). The existence of this blockholder is not a public knowledge. The prior probability of presence of such a blockholder in the firm's capital is $\alpha$ . In this paper, we study the situation where the announcement of a blockholder has a significant impact on the firm's stock price. Typically, $\alpha$ should be small, so that the announcement is a relevant news. In the model, we set hypothesis H1.

H1: $\alpha < \frac{1}{3}$ .

The blockholder is described as *high type* ( $t = h$ ) if she has the ability to launch an activist campaign on the firm ( $B = B_h$ ) and *low type* ( $t = l$ ) if she only may remain passive ( $B = B_l$ ). At the start of the game, only the blockholder knows her type. In the following, $q$ is the prior probability of the blockholder being high type (conditional on her existence). The prior beliefs $\alpha$ and $q$ are held by $I$ and all the uninformed agents in the market (outside investors, other shareholders of the firm); the type of the blockholder is only known by herself at the start of the game. Throughout the game, the incumbent and the uninformed agents will update their beliefs using Bayes' rule.

The rest of the game consists of two stages, each of them including several steps. The trading stage represents the acquisition and/or sale of shares by the blockholder, and its disclosure. The governance stage is a game where the players are the incumbent (current controlling shareholder or manager) and the blockholder. The link between the trading stage and the governance stage is that the former will influence the belief of the incumbent about the type of the blockholder.

**Trading stage**

In the trading stage of the model, $B$ (in case of existence) has the possibility to trade shares of the target. Because she already owns $K$, she knows that if she acquires at least one more share she will have to disclose her ownership. $B$ may trade on her two informational advantages relative to the public: her existence and her type. We assume that $B$ is risk-neutral, so that she simply maximizes her expected final wealth (denoted $W_h$ if $t = h$ or $W_l$ if $t = l$).

There are two rounds of trading in the trading stage (*trade 1* and *trade 2*). Regarding the price at each round of trading, I apply standard valuation concepts where the current value of the firm is equal to the discounted value of future cash flows. Here the only cash flow is the final value of the firm $v$. The discount factor is set equal to 1, so that the current price of the firm $p_i$ prevailing at trade $i$ is the expected value of $v$ conditional on the public information when the shares are traded (semi-strong form efficiency):

$p_i = \mathrm{E}(v \mid I_i)$ for $i = 1,2$ where $I_i$ is the public information at the date of trade $i$.

Let's denote $t_i$ as the percentage of the firm's shares traded by $B$ at trade $i$ ($t_i > 0$ if $B$ buys shares, $t_i < 0$ if $B$ sells shares). The blockholder pays (receives) $t_i p_i$ with $t_i > 0$ ($t_i < 0$) at trading $i$. At each round of trading, a maximum portion $L$ of the firm's shares may be traded by $B$:

$t_1, t_2 \in [-L; < L]$ .

If $t_1 > 0$, the acquisition triggers a disclosure obligation since the total size of the blockholding becomes at least equal to the first legal ownership threshold. $B$ must truthfully disclose her ownership, but she is not required to do so immediately. She may disclose early (*early announcement*, $d = a$) or late (*late announcement*, $d = b$). Disclosing *early* means that she announces her ownership (larger than 5% if this is the legal threshold) immediately after the first trade (if positive) at step T1. Disclosing *late* means that she does not make any announcement at that step. In case of acquisition, she will be obliged to disclose after the second trade.

Then the second round of trading (*trade 2*) occurs at step T2, after ( $d = a$ ) or before ( $d = b$ ) announcement. Following this second round, $B$ is obliged to disclose. In case of early announcement, she must update her notification. In other words, at the end of the trading stage, the complete trading and disclosure behavior of $B$ is publicly known. Notice that under the U.S. Schedule 13D regulation, the blockholder must promptly update her filing after any material change in the fact disclosed, like the acquisition (or disposal) of another 1% of the shares of the firm. Under European regulations, a notification is required when the blockholder ownership reaches 10% or falls below the 5% threshold. If the announcement occurs several days after crossing the legal threshold, the blockholder must disclose her ownership at the date of announcement (including the shares acquired during the reporting window). In this model, there is full disclosure after the trading stage, either because the blockholder chose to disclose late, or because she disclosed early and had to update her announcement after the second round of trading.

In the following, let's denote $x$ as the portion of the firm's equity that $B$ holds at the end of the trading stage:

$x = K + t_1 + t_2$ .

$X$ will stand for the maximum possible ownership after the trading stage:

$X = K + 2L$ .

It will be shown, under the assumptions of the model, that the high type blockholder $B_h$ will always hold a portion $X$ of the firm's equity at the end of the trading stage.

**Governance stage**

The end of the trading stage leads to the second stage of the model (governance stage). Like in Gantchev (2013) and Johnson and Swem (2016), activism is sequential and its cost depends on the behavior of the incumbent.

The final value of the firm is $v$. We normalize the status quo value of the firm at zero (without loss of generality). This status quo value $v = 0$ is below the full potential value $V$, because reaching $v = V$ would require an additional effort from the incumbent ( $I$ ), like a stronger monitoring, a reduction in the private benefits he extracts from the firm, or a managerial effort.

Obviously, $I$ may also benefit from an increase in the value of the firm (variable compensation if $I$ is a manager, capital gain in proportion of the percentage of ownership if he is a controlling shareholder); however, this benefit must be lower than the cost of effort, otherwise $I$ would make this effort even without the intervention of an activist shareholder. Let's denote $e$ the *net* cost of effort for the incumbent who decides to make this additional effort. In the following we hypothesize that $e$ is strictly positive ($e > 0$).

$I$ has 3 possible levels of utility ($U_I$). The status quo utility of the incumbent is set to:

$U_I = R$, with $R > e$ .

For example, $R$ may represent a level of private benefits that $I$ can extract from controlling the firm. The utility of the incumbent when he decides to make the additional effort (what we call "cooperation") is:

$U_I = R - e$.

Finally, in case of confrontational activism from $B$, the level of utility of $I$ would be significantly reduced. The utility of $I$ in case of confrontational activism is normalized at:

$U_I = O$.

In other words, $R$ represents the loss of utility due to a confrontational activist campaign. The incumbent is better off making the additional effort ($U_I = R - e$) than suffering from such a campaign ($U_I = O$).

In the following, we will also use $\lambda$ as an indicator of aversion to activism from the incumbent, where $\lambda = \frac{R}{e} - 1$ ($\lambda > 0$). $\lambda$ is high if the status quo utility of the incumbent is large compared to the cost of cooperation.

Remember that there are two types ($t = h$ or $t = l$) of blockholders. Some blockholders ($B_h$) are able to launch an aggressive (confrontational) activist campaign. However, since this kind of activism is costly ($c$ represents the cost of activism for $B_h$), the blockholder will launch a

campaign only if $I$ does not make the effort $e$. The cost of activism is strictly positive, but it is sufficiently low that $B_h$ will always engage in activism if she has bought shares at both rounds of trading and $I$ did not make the effort. This is hypothesis H2.

H2: $0 < c < XV$.

The low type blockholder ($B_l$) is not able to launch such a campaign. $B_l$ may only make a profit by behaving like $B_h$ and hoping for an effort from $I$, or by manipulating the share price and selling its shares during the trading stage. Remember that the proportion of high types of blockholders $q$ is common knowledge (with $0 < q < 1$).

The sequence of events is presented in **figures 1** and **2** and described below.

[INSERT FIGURE 1 AROUND HERE]

**Sequence of events**

The timing of the game works as follows.

**Step T0**. With a probability $\alpha$, a blockholder $B$ already owns a toehold $K$ of the target firm's equity and considers buying or selling shares (with $(1-\alpha)$, there is no such blockholder and the game stops). $K$ is one share below the threshold which triggers mandatory disclosure.

With probability $q$, the type of the blockholder is high ($B = B_h$), with probability $1-q$ it is low ($B = B_l$). Only $B_h$ may launch a (costly) activist campaign during the governance stage.

**Trading stage**

**Step T1**. $B$ decides to trade shares of the firm. The maximum number of shares that she may trade represents a portion $L$ of the firm's equity. The total price of the firm's equity at that step is $p_1$. The trading of $B$ is $t_1 \in [-L; L]$, and the total price paid (received) is $t_1 p_1$ if $t_1 > 0$ ($-t_1 p_1$ if $t_1 < 0$).

If $t_1 > 0$, $B$ must (truthfully) disclose her trade and total ownership. This announcement may be done early ($d = a$) or late ($d = b$). Early announcement means that disclosure is made at step T1 just after the acquisition. Late announcement means no disclosure at that step.

**Step T2**. This step is the second round of trading. $B$ decides to trade a portion $t_2$ of the shares of the firm, with $t_2 \in [-L; L]$, at price $p_2$.

After step T2, if $t_1 > 0$ or $t_1 + t_2 > 0$, $B$ must disclose her trade and ownership at the end of the trading stage. In case of early announcement ($d = a$), she must disclose her second trade and her final ownership. In case of late announcement ($d = b$), she must disclose her total trade of the trading stage and her final ownership. Notice that if $t_1 < 0$ and $t_1 + t_2 < 0$ , there is no announcement. However, as will be shown in equilibrium computation, this absence of announcement will reveal that there is no high type blockholder, which is a sufficient information for the incumbent at governance stage.

[INSERT FIGURE 2 AROUND HERE]

**Governance stage**

This stage occurs only if a blockholding announcement has been made (if this is not the case, it means that there is no high type blockholder in the game, and the value is $v = 0$).

**Step G1**. The incumbent *I* decides to cooperate ($g = e$) and make an additional effort which will improve the firm's value, or resist ($g = 0$).

**Step G2**. If $B = B_h$, the blockholder may launch an aggressive activist campaign ($h = c$) or remain passive ($h = 0$). If $B = B_l$, the blockholder remains passive.

**Step G3**. The value $v$ of the firm, the wealth of $B$ and the utility of $I$ are realized, and the game ends. The value of the firm is $v = V$ if $I$ cooperated or if $B$ launched an activist campaign. It is $v = 0$ otherwise.

## 4. Equilibrium of the model

The blockholder choses a trading, announcement and activism strategy to maximize her expected final wealth. The incumbent choses a cooperation strategy to maximize his expected utility. The market price of the firm's equity is equal to the expected final value of the firm given the public information available at the date of trading. The existence and type of the blockholder is her private information. The beliefs of uninformed agents are updated using Bayes' rule when an information is made public. The equilibrium is defined as follows.

**Definition 1.**

An equilibrium is a set of trading $\{t_1, t_2\}$ , disclosure $\{d\}$ and governance $\{h\}$ strategies for each type $\{t\}$ of blockholder, with market prices $\{p_i\}$ at each trading date, and cooperation behavior $\{g\}$ from the incumbent, that satisfy:

(i) Wealth maximization from the blockholder, such that the trading, disclosure and governance behavior maximizes the expected wealth of the blockholder given her type, market prices and the cooperation behavior of the incumbent.

(ii) Utility maximization from the incumbent, such that his cooperation behavior maximizes his expected utility given the expected governance behavior of the blockholder.

(iii) Bayesian updating, such that the incumbent revises his priors on the presence and type of blockholder regarding her trading and disclosure strategy, and the market prices at each date of trading are the expected final values of the firm given the public information at that date.

This definition corresponds to a perfect Bayesian equilibrium for a multi-period game, as formally defined by Fudenberg and Tirole (1991).

We solve the game using backward induction. The solution of the governance stage is simple. Because of H2 ( $0 < c < XV$ ), if the blockholder has bought the maximum possible shares at each round of trading, she will always launch an activist campaign if she is high type and the

incumbent didn't cooperate. Lemma 1 presents the solution of the governance stage when $t_1 = t_2 = L$, which means $x = X$. We introduce $\delta_G$ as the updated probability of the blockholder being of type $t = h$ after the trading stage. $\delta_G$ is obtained by the incumbent using Bayesian inference. This variable is a result of the trading stage, and is key to the resolution of the governance stage.

**Lemma 1.**

If $x = X$, there is the following equilibrium at governance stage:

- if $\delta_G > \frac{e}{R}$, then $I$ decides to make an additional effort ($g = e$);
- if $\delta_G < \frac{e}{R}$, then $I$ decides not to make the effort ($g = 0$);
- if $\delta_G = \frac{e}{R}$, then $I$ is indifferent about making or not the effort. He may use any pure strategy, or even any mixed strategy where he makes the effort with a probability $k$, with $k \in [0,1]$;
- if $I$ makes the effort, $B$ does not launch an activist campaign; if $I$ does not make the effort, $B$ decides to launch an activist campaign if her type is $t = h$ and remains passive if her type is $t = l$.

*Proof.* See appendix.

Solving the governance stage for $x = X$ is a sufficient intermediate result to solve the trading stage, since at equilibrium the result of the trading stage will be $x = X$ in case of presence of a high type blockholder. If $x < X$, the updated belief about the type of the blockholder will be $\delta_G = 0$, and the governance stage will be straightforward (no cooperation and no activism).

The case $\delta_G = \frac{e}{R}$ is the result of the trading stage with a non-zero probability; therefore, in Lemma 1 we had to specify the behavior of $I$ at equilibrium when $\delta_G = \frac{e}{R}$. The consequence

of Lemma 1 is that the final value of the firm depends on the type of $B$ and the decision of $I$; and this decision depends on the belief of $I$ about the type of $B$. The value will be $v = V$ when $t = h$, since $B$ will always buy at trading stage when her type is high (as will be shown in propositions 1 and 2). In this case, either $I$ will cooperate, or $B$ will launch an activist campaign. The value will also be $v = V$ if $B$ is low type but the *belief* about her type is high enough ($\delta_G > \frac{e}{R}$). This is the reason why $B_l$ will (sometimes) behave like $B_h$, hoping that the incumbent will cooperate.

Propositions 1, 2 and 3 are the main results of this paper. Proposition 1 presents the equilibrium when the prior probability of $t = h$ is high, so that the blockholder will always buy even if she is low type, and the incumbent will always cooperate. In this case the announcement will always be late ($d = b$). Propositions 2 and 3 present the equilibria when the prior probability of $t = h$ is low, so that the low type blockholder will not always behave like a high type blockholder but will follow a mixed strategy.

**Proposition 1**

If $q \geq \frac{e}{R}$, there exists an equilibrium where the blockholder always buys and never announces early, and the incumbent always cooperates:

- $t_1 = t_2 = L$
- $d = b$
- $\delta_G = q$
- $g = e$
- The market prices are given by $p_1 = p_2 = \alpha V$

*Proof.* See appendix.

This intuition of the proof is the following. If the prior belief of $t = h$ is high enough, even if the low type blockholder always decides to behave like the high type blockholder, the updated probability of $t = h$ remains high and the incumbent is better off when he cooperates. In turn,

because $I$ will always cooperate, the blockholder always buys since she knows that the final value will be $v = V$ and she will not need to launch an activist campaign.

In terms of disclosure strategy, proposition 1 says that the disclosure will be late when the prior belief of $t = h$ is high. Because a large proportion of the blockholders are able to launch an activist campaign, announcing early will increase the price of the second trading round $p_2$ (by revealing the presence of the blockholder); this higher price will not induce the blockholder to sell at that step if she is low type, since she knows that her type will have no effect on the governance stage (no need to become active). As a result, an early announcement would only negatively affect the final wealth of the blockholder by increasing the price paid at step T2.

This is the source of the first important prediction of this model: when the blockholder is likely to be a potential activist, she tends to disclose late. Her reputation will be strong enough at the governance stage, so that she does not need to disclose early to put pressure on the incumbent.

We now turn to the more interesting case where $q < \frac{e}{R}$. In this case $I$ will not always cooperate. We will show that after an early announcement ($d = a$) the incumbent will tend to cooperate more often than after a late announcement ($d = b$). The intuition of the result is that an early announcement will increase the price because it reveals the presence of a block ($p_2$ will be higher). As a result, if the blockholder is low type ($B = B_l$), it will be more expensive for her to imitate $B_h$ (buying $L$ at price $p_2$) and more profitable to sell at step T2. By announcing early and continuing to accumulate shares ate step T2, $B$ sends a signal about her type.

We will have a mixed strategy equilibrium where $I$ needs to cooperate more often when $d = a$ to make $B_l$ indifferent between buying and selling at step T2. Thus, if the block is high type, an early announcement reduces her expected cost of governance. Although, this early announcement increases the price at the second round of trading, because it reveals her presence. Consequently, it reduces the potential trading profit of the blockholder. The disclosure strategy will depend on the result of this trade-off between cost of governance and trading profit.

Proposition 2 describes the equilibrium when the relative cost of activism $\frac{c}{V}$ is low, and proposition 3 when it is high. In the first case, there will be a late announcement in case of acquisition at first trading round ($d = b$); in the second case, there will be early announcement ($d = a$). The trading and governance strategy of the blockholder will now depend of her type (while it was not the case for $q \geq \frac{e}{R}$).

**Proposition 2**

If

$q < \frac{e}{R}$

and $\frac{c}{V} < M$ ,

where $M = \frac{1}{2(1-2\alpha)}[X(1-\alpha) - 2Lq\alpha\lambda]$ ,

then there is an equilibrium with the following characteristics:

**(i)** Prices at step T1 and T2 are given by $p_{1b}$ and $p_{2b}$, respectively.

**(ii)** If $B = B_h$ , then $t_1 = t_2 = L$ and $d = b$.

**(iii)** If $B = B_l$ , then the blockholder has a mixed strategy. With a probability $m$, $B_l$ imitates $B_h$ ($t_1 = t_2 = L$ and $d = b$); with a probability $(1-m)$, $B_l$ sells shares at both rounds of the trading stage ($t_1 = t_2 = -L$).

**(iv)** If $t_1 = t_2 = L$ and $d = b$, then $I$ decides to cooperate ($g = e$) with a probability $k_b$ , and not cooperate ($g = 0$) with probability $(1-k_b)$ .

**(v)** If $t_1 = t_2 = L$ and $d = a$ (out-of-equilibrium), then $I$ decides to cooperate ($g = e$) with a probability $k_{ba}$ , and not cooperate ($g = 0$) with probability $(1-k_{ba})$. In this case the price will be $p_{2ba}$ .

**(vi)** If $t_1 \neq L$ or $t_2 \neq L$ then $I$ does not cooperate ( $g = 0$ ).

**(vii)** If $B = B_h$ and $g = 0$ then $B$ decides to launch an activist campaign. In all other cases $B$ remains passive.

With

$$p_{1b} = p_{2b} = V \frac{1}{\frac{1}{\alpha q} - \frac{4L}{X}\lambda}$$

$$m = \frac{q}{1-q}\lambda$$

$$k_b = \frac{1}{\frac{X}{4L\alpha q} - \lambda}$$

$$k_{ba} = \frac{3}{2}k_b$$

$$p_{2ba} = 3p_{2b} = 3p_{1b}$$

*Proof.* See appendix.

**Proposition 3**

If

$$q < \frac{e}{R}$$

and $\frac{c}{V} > M$ ,

then there is an equilibrium with the following characteristics:

**(i)** Prices at step T1 and T2 are given by $p_{1a}$ and $p_{2a}$, respectively.

**(ii)** If $B = B_h$ , then $t_1 = t_2 = L$ and $d = a$.

**(iii)** If $B = B_l$ , then the blockholder has a mixed strategy. With a probability $m$ , $B_l$ imitates $B_h$ ($t_1 = t_2 = L$ and $d = a$); with a probability $(1-m)$ $B_l$ buys at step T1, announces early, and sells at step T2 ($t_1 = L$ , $d = a$ and $t_2 = -L$ ).

**(iv)** If $t_1 = t_2 = L$ and $d = a$, then $I$ decides to cooperate ($g = e$) with a probability $k_a$, and not cooperate ($g = 0$) with probability $(1-k_a)$ .

**(v)** If $t_1 \neq L$ , $t_2 \neq L$ or $d = b$ then $I$ does not cooperate ($g = 0$).

**(vi)** If $B = B_h$ and $g = 0$ then $B$ decides to launch an activist campaign. In all other cases $B$ remains passive.

With

$$p_{1a} = \alpha p_{2a}$$

$$p_{2a} = V \frac{1}{\frac{1}{q} - \frac{2L}{X}\lambda}$$

$$m = \frac{q}{1-q}\lambda$$

$$k_a = \frac{1}{\frac{X}{2Lq} - \lambda}$$

*Proof.* See appendix.

The general idea of propositions 2 and 3 is that the high type blockholder $B_h$ faces the trade-off between the trading stage benefit of a late announcement and the governance stage benefit of an early announcement, while the low type blockholder $B_l$ has a choice between imitating $B_h$ (buying at each round of trading and following the same disclosure strategy) or selling shares. In other words, for $B_h$ , the choice of announcing early or late is the result of a trade-off between:

- paying a lower price $p_2$ when she announces late (trading stage benefit of $d = a$ )

- obtaining a higher probability of cooperation when she announces early (governance stage benefit of $d = b$).

At equilibrium, $B_h$ will always buy at trading stage, and launch an activist campaign if $I$ does not cooperate. The expected utility of $B_h$ will thus be:

$$\mathrm{E}(U_h \mid t_1 = L, t_2 = L) = XV - Lp_1 - Lp_2 - (1-k)c$$

The choice to announce early or late comes at step T1, just after the first trade. So, the trade-off that $B_h$ is facing may be formalized as a comparison between the trading stage benefit $L(p_{2a} - p_{2b})$ and the governance stage benefit $c(k_a - k_b)$.

If $L(p_{2a} - p_{2b}) > c(k_a - k_b)$, then $B_h$ discloses late (she does not make an announcement after her first trade).

If $L(p_{2a} - p_{2b}) < c(k_a - k_b)$, then $B_h$ discloses early in order to increase the probability that the incumbent will cooperate at governance stage.

These conditions are equivalent to $\frac{c}{V} < M$ and $\frac{c}{V} > M$, respectively.

Notice that the condition $\frac{c}{V} < M$ (respectively $\frac{c}{V} > M$) for proposition 2 (proposition 3) is sufficient for equilibrium but not necessary. All we need for proposition 2 (proposition 3) equilibrium is $\frac{c}{V} < X$ (respectively $\frac{c}{V} > \frac{X}{2}$).

We show in the demonstrations that $M \in ]\frac{X}{2}, X[$. This means that there is a range of value for the relative cost of activism $\frac{c}{V}$ where both pooling equilibria ($d = a$ and $d = b$) coexist. The tie-breaking rule we used is the following: the chosen equilibrium is the one which maximizes the utility of $B_h$ at the time of disclosure (after T1). With this tie-breaking rule, $B_h$ does not always chose the equilibrium which maximizes her total utility, since she cannot commit to a

disclosure strategy at the start of the game. It means that, since the price at step T1 is lower in case of late announcement ( $p_{1b} < p_{1a}$ ), $B_h$ would prefer a late disclosure more often than described by the threshold $M$ if she could commit *not* to disclose early.

[INSERT FIGURE 3 AROUND HERE]

Overall, disclosure will be early when the *ex ante* probability of the blockholder to be high type is low enough, so that the incumbent will not always cooperate, and the relative cost of activism is high enough, so that the blockholder wants to increase the probability of cooperation from the incumbent (**figure 3**). Next section presents the empirical predictions of the model.

## 5. Empirical predictions of the model

In this section, we derive the empirical predictions of the model. The two main points of controversy are discussed: the disclosure strategy of blockholders, and the possible impact of a shortening of the legal disclosure window.

### Disclosure strategy of blockholders

Proposition 1 establishes that when the prior probability of $B$ being of high type is high, the blockholder will always choose to disclose late. This is the first empirical prediction of the model about the disclosure strategy of the blockholder. When a blockholder has the reputation to be a potential activist, she does not need to disclose early because when her presence is revealed the pressure on the incumbent is high enough to generate cooperation.

However, the model also considers the case where the prior belief of $B$ to be active is low. In this situation, an early announcement is a way to increase the pressure on the incumbent at the governance stage. By disclosing early and continuing to acquire shares at the second round of trading, $B$ signals that her intent is not a short-term trading profit but the creation of shareholder value. Notice that the signaling effect does not come from the early announcement

itself: at equilibrium, when the conditions of proposition 3 are satisfied, all types of blockholders will announce early (the equilibrium is pooling in disclosure strategies). The signaling effect appears at the second round of trading, when the blockholder continues (or not) to buy while she announced early.

The disclosure strategy of the blockholder depends on the cost of shareholder activism (*c*), relative to the final value of the firm in case of activism (*V*). If the cost of activism is relatively low, $B_h$ will prefer to announce late since the trading stage benefit of a late announcement will exceed the governance stage benefit of an early announcement. Regarding $B_l$, if we are in the case where a high type blockholder would announce early, she will also buy at step T1 and announce early, so that she does not reveal her low type. At step T2 she follows a mixed strategy and buys with a probability *m* and sells with $(1-m)$. She will buy more often when the prior belief about her type is that she is likely to be high type ($q$ is high). In this case, she tends to buy because the probability of cooperation from $I$ is higher. $B_l$ will also buy more often when the aversion to activism ($\lambda$) is higher ($k_a$ is increasing in $q$ and $\lambda$).

In case of late announcement, the mixed strategy of $B_l$ occurs at step T1. Since we have a pooling equilibrium where both types of blockholder announce late (and obviously, there is no announcement if there is no block), seeing "no announcement" provides no information about the existence or the type of the block. Thus, $p_{1b} = p_{2b}$. This is the reason why if $B_l$ wants to sell she should do it at step T1. The probability of imitating $B_h$ is the same as in the case of an early announcement ($m = \frac{q}{1-q}\lambda$), and for the same reasons.

To derive empirical implications of the model about the disclosure strategy of the block (when $q$ is low), we need to analyze the threshold $M$ which separates the two equilibria.

$$M = \frac{1}{2(1-2\alpha)}[X(1-\alpha) - 2Lq\alpha\lambda]$$

When the relative cost of activism ($\frac{c}{V}$) is higher than $M$, there is early announcement if a blockholder crosses the notification threshold ($t_1 > 0$). If it is lower, there is late announcement.

As a consequence, in order to study the empirical predictions of the model, we have to analyze how $M$ varies with the probability of arising of a blockholder ($\alpha$), the prior belief about the type of this block ($q$), the liquidity of the firm ($L$), the size of the toehold ($K$) and the aversion to activism of the incumbent ($\lambda$). For a given relative cost of activism, early announcements (respectively late announcements) will be more frequent when $M$ is lower (higher).

***Probability of arising ($\alpha$)***

When $\alpha$ is higher, the blockholder tends to disclose later. In the trade-off $c(k_a - k_b)$ versus $L(p_{2a} - p_{2b})$, $\alpha$ only impacts $k_b$ and $Lp_{2b}$. Using $p_{2b} = \frac{XV}{4} k_b$ we have:

$$ck_b - Lp_{2b} = (c - \frac{XV}{4})k_b$$

We know that if $c < \frac{XV}{4}$, the blockholder will chose a late disclosure ($d = b$). If $c > \frac{XV}{4}$, because $k_b$ is increasing in $\alpha$, a higher $\alpha$ will improve the net gain from late disclosure. When the probability of arising of a new blockholder is high, this block will tend to disclose late. This finding may be combined with the previous one (from proposition 1) that there will be late disclosure when the probability of the blockholder to be a potential activist is high. Overall, a prediction of the model is that the blockholding announcement will be late for the firms that are most likely to be targeted by activist shareholders.

***Prior belief ($q$) and aversion to activism ($\lambda$).***

The prior belief about the type of the blockholder and the aversion to activism have the same impact on the disclosure strategy. When they are high, early announcements are more frequent ($M$ is decreasing in $q$ and $\lambda$). This result is not straightforward since a higher $q$ or $\lambda$ increases the cooperation and the prices in both announcement cases ($k_a$, $k_b$, $p_{2a}$, and $p_{2b}$ are all increasing in $q$ and $\lambda$).

Technically, the result comes from the fact that the influence of $q$ and $\lambda$ is higher on $k_a$ than on $k_b$ because of the role of $\alpha$ in $k_b$. Intuitively, if the prior belief is that the bock is likely to

be a potential activist, and/or if the incumbent has a high degree of aversion to activism, $I$ will cooperate more often to avoid a confrontational activist campaign. This is the case after a late announcement, but even more so after an early announcement because in this case the second round of trading will play a signaling role about the type of the blockholder. Therefore, a higher prior belief ($q$) or aversion to activism ($\lambda$) induces an earlier disclosure.

***Toehold ($K$) and liquidity ($L$).***

The impact of the toehold can be seen through $X$ ($X = K + 2L$). A higher toehold reduces the probability $k$ of cooperation. This comes from the behavior of $B_l$, who will prefer to imitate $B_h$ when the toehold is high because the potential gain if $I$ cooperates is large. Thus, $I$ must cooperate less frequently to make $B_l$ indifferent at equilibrium. Because of the possibility of having no block, the (negative) impact of $K$ is larger on $k_a$ than on $k_b$, so $M$ is increasing in $K$. When the toehold is large, the blockholder tends to disclose later.

A larger liquidity ($L$) also increases $M$ and makes a late announcement more likely. The variation of $M$ with $L$ is easy to study: we have a factor $2(1-\alpha)-2q\alpha\lambda$ at the numerator, which is positive (using $q < \frac{e}{R}$).

There are in fact two competing effects regarding liquidity. On the one hand, $L$ has the same impact as the toehold: $B_l$ will want to imitate $B_h$ because the benefit in case of cooperation is higher, and as a result $I$ will cooperate less frequently. On the other hand, it also has the same impact as the prior belief ($q$): if $L$ is large, the incumbent knows that imitating the high type is costlier for $B_l$ and he will tend to cooperate more often. The net effect however is in favor of a late announcement (when $q < \frac{e}{R}$). In other words, a prediction of the model is that when liquidity is large, the blockholder will tend to disclose late.

**Analysis of a change in disclosure regulation**

The main point of controversy about blockholder disclosure regulation in the U.S. is the possible shortening of the disclosure window. The SEC is considering this possibility, which was the main point of the WLRK petition. Bebchuk, Brav and Jiang (2015), among others, are against this idea. The consequence of a large disclosure window is that it gives the possibility for the blockholder to continue to accumulate shares at a low price before announcing the trade to the market (trading stage benefit in the model). Their argument is that this possibility allows the activist blockholder to capture a larger part of the value creation that wouldn't occur without her. In other words, shortening the window (to one trading day, as suggested by the petition) would deter some activist blockholders to enter the capital of firms, while they are a source of value creation. They suggest that minority shareholders benefit from a large disclosure window, since the gain from encouraging activist blockholders is larger than the loss due to the possibility for these blockholders to trade on private information.

They also show that, frequently, the blockholder decides to disclose early. In an earlier study, Bebchuk *et al.* (2013) also find that the blockholder does not always use the full legal delay and sometimes makes announcement immediately after crossing the 5% of ownership threshold. However, they do not consider the possibility of this early announcement being the result of a strategic choice. The model is compatible with this empirical evidence, but I conclude the opposite regarding the interest of minority shareholders.

The WLRK petition and Bebchuk, Brav and Jiang (2015) agree on the fact that the purpose of the blockholder disclosure regulation should be the best interest of the minority uninformed shareholders. The model supports the idea that tightening the regulation would fulfil this purpose. Shortening the disclosure window will have a consequence when the blockholder would prefer to disclose late. And this is the case when the relative cost of activism is low ( $\frac{c}{V} < M$ ). In this case, the expected gain obtained by the (activist) blockholder is reduced; but those are the situations where the profit from activism is very high (low cost of activism, high value creation). In other words, if such a decision will reduce the total gain of the blockholder, it will not deter her from buying shares and creating shareholder value.

On the contrary, the blockholders who have a lower gain from activism (because activism is costlier to them, or the total potential value is low) are those who choose to announce early anyway, and shortening the announcement window will not change their disclosure strategy.

Notice that, if the blockholders are obliged to disclose early, it will not cancel out the governance stage benefit from this early announcement. The signaling effect comes from the behavior at step T2 (not selling shares, while the share price went up), not from the early announcement itself.

A reduction in the legal delay will not reduce the expected benefit from the blockholder when the relative cost of activism is high ($\frac{c}{V} > M$ ). These are the situations where the potential activist blockholders are the most likely to renounce the acquisition of shares if the expected gain from their operation is reduced. However, these also are the situations on which the reduction of the reporting window claimed by the WLRK petition would have no effect.

According to the model, shortening the disclosure window will not hinder activist campaigns. It will only affect the distribution of the created value when the cost of activism is low. The activist blockholders will still obtain substantial benefits from their campaigns, but they will not be able to continue to trade against uninformed investors during the legal delay. As a consequence, a larger part of the created value will go to the minority uninformed shareholders.

## 6. Conclusion

The SEC is considering to shorten the legal disclosure period for blockholders after an acquisition above the 5% of ownership threshold. The WLRK petition asks for a reduction from 10 days to 1 day of this period. Both the supporters and opponents to such a change consider the best interest of the uninformed minority shareholders as the relevant purpose of blockholder disclosure regulation. However, the scarce empirical evidence and the absence of a theoretical model of blockholder disclosure precludes any argued prediction of the impact of a change in regulation. The proposed model includes the trading and governance stages of activism, allowing the behavior of the blockholder during the trading stage to affect the outcome of the governance stage.

This model highlights the strategic aspect of the choice in the timing of blockholder disclosure. The blockholder may disclose late, in order to accumulate shares at a low price during the delay. Doing so, she captures a larger part of the value created by its activism, as explained by Bebchuk and Jackson (2012). She also may disclose early, immediately after crossing the 5% of ownership threshold. Disclosing early and not selling her shares after the announcement is used as an (imperfect) signal of she being a potential confrontational activist. As a result, the incumbent will choose to cooperate more frequently in order to avoid an activist campaign.

The blockholder who has the potential to launch such a campaign ( $B_h$ ) faces a trade-off between the trading stage benefits associated with a late announcement, and the governance stage benefits associated with an early announcement. This model predicts that, when the cost of activism is low compared to the value creation, the blockholder will use the full legal delay, while when this relative cost is high, she will disclose immediately to put pressure on the incumbent and avoid the costs associated to confrontational activism. When the blockholder does not have the ability to go for a confrontational activist campaign ( $B_l$ ), she may trade on the price increase after the blockholder disclosure, or hope for cooperation from the incumbent at governance stage.

Considering the possibility that the trading stage of activism influences the governance stage, this model offers the possibility to analyze the disclosure strategy of blockholders, and study the possible impact of the regulation change advocated by the WLRK petition. Bebchuk *et al.* (2013) find empirical evidence that some blockholders decide to disclose immediately after

acquisition, while they are not obliged to do so. The model is compatible with this evidence, but its predictions regarding the effect of a shortening of the reporting window are the opposite.

Although such a change will reduce the part of the created value that the activist blockholder is able to capture, we do not find that it would prevent or inhibit activism. Shortening the legal reporting window would only affect the expected benefit of the blockholder when the cost of activism is low or the created value is high; it would not restrain the acquisition of shares by blockholders or their involvement in the process of value creation. Thus, the model predicts that, if the purpose of the regulation is the best interest of the minority uninformed shareholders, the proposition of the petition should be adopted.

The proposed model makes several other empirical predictions, concerning the key variables in the timing of announcement. An empirical analysis of the timing of blockholder disclosure, studying the variables explaining the choice of the blockholder (early or late disclosure), could confirm or contradict the model, and improve the overall understanding of shareholder activism strategies.

This paper focuses on the best interest of the minority uninformed shareholders, since both the supporters and opponents to a change in blockholder disclosure regulation agree that this should be the purpose of financial regulation. This model ignores the interest and possible influence of other kinds of investors in the activist process. First, it does not consider the effect of complex shareholding structures with several blockholders, and the possibility of coalitions during the governance stage. There is empirical evidence that the presence of multiple blockholders in the shareholding structure of a firm may affect its value (for example Basu, Paeglis and Rahnamaei, 2016). Second, debtholders play no role in the model, while they may react to shareholder activism, with an impact on loan spreads (Sunder, Sunder and Wongsunwai, 2014). Allowing different kinds of investors to play a role in the process of activism would certainly be a valuable extension of the model.

## References


Admati, A.R., Pfleiderer, P., Zechner, J. (1994). Large shareholder activism, risk sharing, and financial market equilibrium. *Journal of Political Economy*, 102(6), 1097-1130.

Balakrishnan, K., Billings, M.B., Kelly, B.T., Ljungqvist, A. (2014). Shaping liquidity: on the causal effects of voluntary disclosure. *Journal of Finance*, 69(5), 2237-2278.

Basu, N., Paeglis, I., Rahnamaei, M. (2016). Multiple blockholders, power, and firm value. *Journal of Banking and Finance*, 66(c), 66-78.

Bebchuk, L.A., Brav, A., Jackson, R.J., Jiang, W. (2013). Pre-disclosure accumulations by activist investors: evidence and policy. *Journal of Corporation Law*, 39(1), 1-34.

Bebchuk, L.A., Brav, A., Jiang, W. (2015). The long-term effect of shareholder activism. *Columbia Law Review*, 115, 1085-1156.

Bebchuk, L.A., Jackson, R.J. (2012). The law and economics of blockholder disclosure. *Harvard Business Law Review*, 2(1), 40-60.

Becht, M., Franks, J., Grant, J., Wagner, H.F. (2015). The returns to hedge fund activism: an international study. *ECGI - Finance working paper n°402/2014*.

Boulland, R., Dessaint, O. (2015). Announcing the announcement. *American Finance Association 2015 Boston meeting paper*.

Brav, A., Jiang, W., Partnoy, F., Thomas, R. (2008). Hedge fund activism, corporate governance, and firm performance. *Journal of Finance*, 63(4), 1729-1775.

Brennan, N. (1999). Voluntary disclosure of profits forecasts by target companies in takeover bids. *Journal of Business Finance & Accounting*, 26(7), 883-917.

Burkart, M., Gromb, D., Panunzi, F. (1997). Large shareholders, monitoring, and the value of the firm. *Quarterly Journal of Economics*, 112(3), 693-728.

Chemmanur, T.J., Tian, X. (2012). Preparing the equity market for adverse corporate events: a theoretical analysis of firms cutting dividends. *Journal of Financial and Quantitative Analysis*, 47(5), 933-972.

Cheng, Q., Lo, K. (2006). Insider trading and voluntary disclosures. *Journal of Accounting Research*, 44(5), 815-848.

Clifford, C. (2008). Value creation or destruction? Hedge funds as shareholder activists. *Journal of Corporate Finance*, 14(4), 323-336.

Croci, E., Petrella, G. (2015). Price changes around hedge fund trades: disentangling trading and disclosure effects. *Journal of Management & Governance*, 19(1), 25-46.

Dellavigna, S., Pollet, J.M. (2009). Investor inattention and Friday earnings announcements. *Journal of Finance*, 64(2), 709-749.

Edmans, A., Manso, G. (2011). Governance through trading and intervention: A theory of multiple blockholders. *Review of Financial Studies*, 24(7), 2395-2428.

Ferreira, D., Rezende, M. (2007). Corporate strategy and information disclosure. *RAND Journal of Economics*, 38(1), 164-184.

Fishman, M.J., Hagerty, K.M. (1995). The mandatory disclosure of trades and market liquidity. *Review of Financial Studies*, 8(3), 637-676.

Fudenberg, D., Tirole, J. (1991). Perfect Bayesian equilibrium and sequential equilibrium. *Journal of Economic Theory*, 53(2), 236-260.

Gantchev, N. (2013). The costs of shareholder activism: evidence from a sequential decision model. *Journal of Financial Economics*, 107(3), 610-631.

Gennotte, G., Trueman, B. (1996). The strategic timing of corporate disclosures. *Review of Financial Studies*, 9(2), 665-690.

Greenwood, R., Schor, M. (2009). Investor activism and takeovers, *Journal of Financial Economics*, 92(3), 362–375.

Hirschman, A.O. (1970). Exit, voice and loyalty: responses to the decline in firms, organizations, and states. *Cambridge M.A., Harvard University Press*.

Johnson, T.L., Swem, N. (2016). Reputation and hedge fund activism, *working paper*.

Klein, A., Zur, E. (2009). Entrepreneurial shareholder activism: hedge funds and other private investors. *Journal of Finance,* 64 (1), 187-229.

Maug, E. (1998). Large shareholders as monitors: is there a trade-off between liquidity and control? *Journal of Finance*, 53(1), 65-98.

Michaeli, R., Rubin, A., Vedrashko, A. (2014). Corporate governance and the timing of earnings announcements. *Review of Finance*, 18(6), 2003-2044.

Michaeli, R., Rubin, A., Vedrashko, A. (2016). Are Friday announcements special? Overcoming selection bias. *Journal of Financial Economics*, 122(1), 65-85.

Negre, E., Martinez, I. (2013). Une analyse lexicale des communiqués de presse volontaires émis lors des OPA/OPE. *Comptabilité – Contrôle – Audit*, 2(19), 71-100.

Niessner, M. (2015). Strategic disclosure timing and insider trading. *Yale School of Management working paper*.

Pevzner, M., Xie, F., Xin, X. (2015). When firms talk, do investors listen? The role of trust in stock market reactions to corporate earnings announcements. *Journal of Financial Economics*, 117(1), 190-223.

Sunder, J., Sunder, S.V., Wongsunwai, W. (2014). Debtholder responses to shareholder activism: evidence from hedge fund interventions. *Review of Financial Studies*, 27(11), 3318-3342.

Wachtell, Lipton, Rosen & Katz. (2011). Petition for rulemaking under Section 13D of the Securities Exchange Act of 1934. *Petition submitted to the SEC on 7th of March, 2011*.

**Figure 1. Trading stage.**

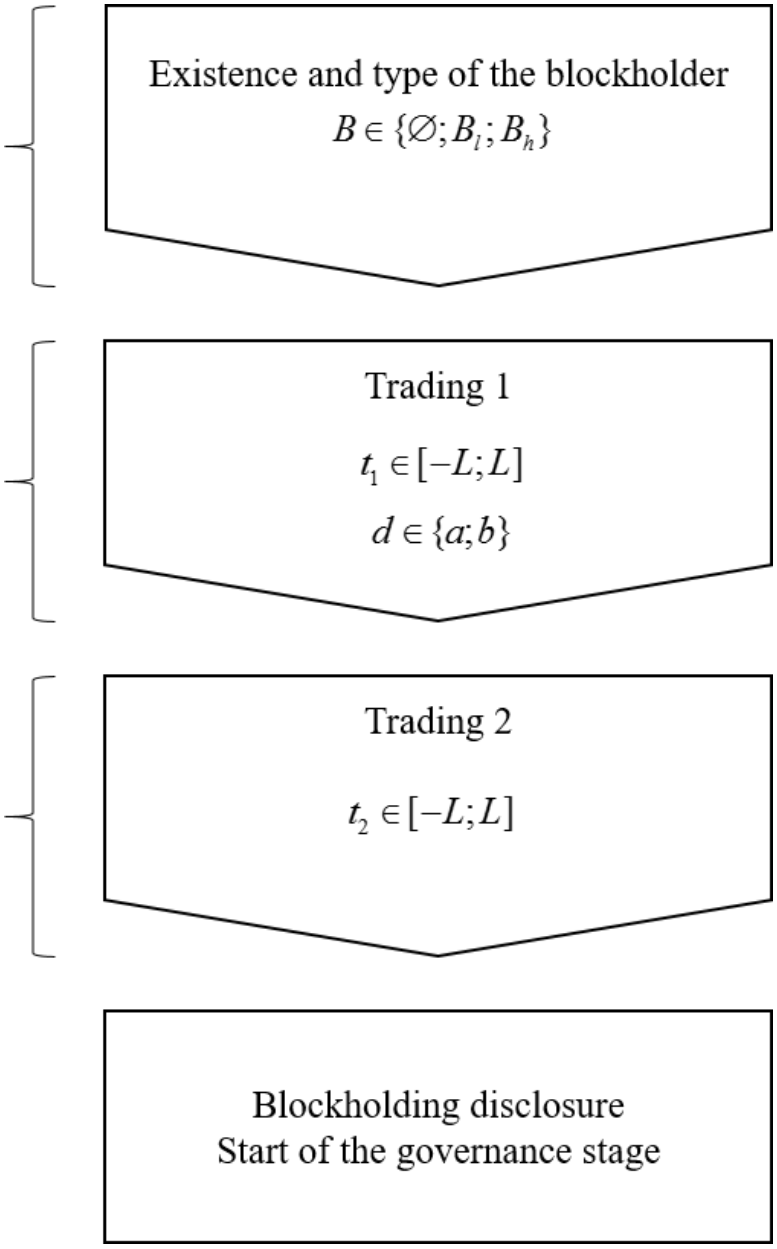


**Figure 2. Governance stage.**

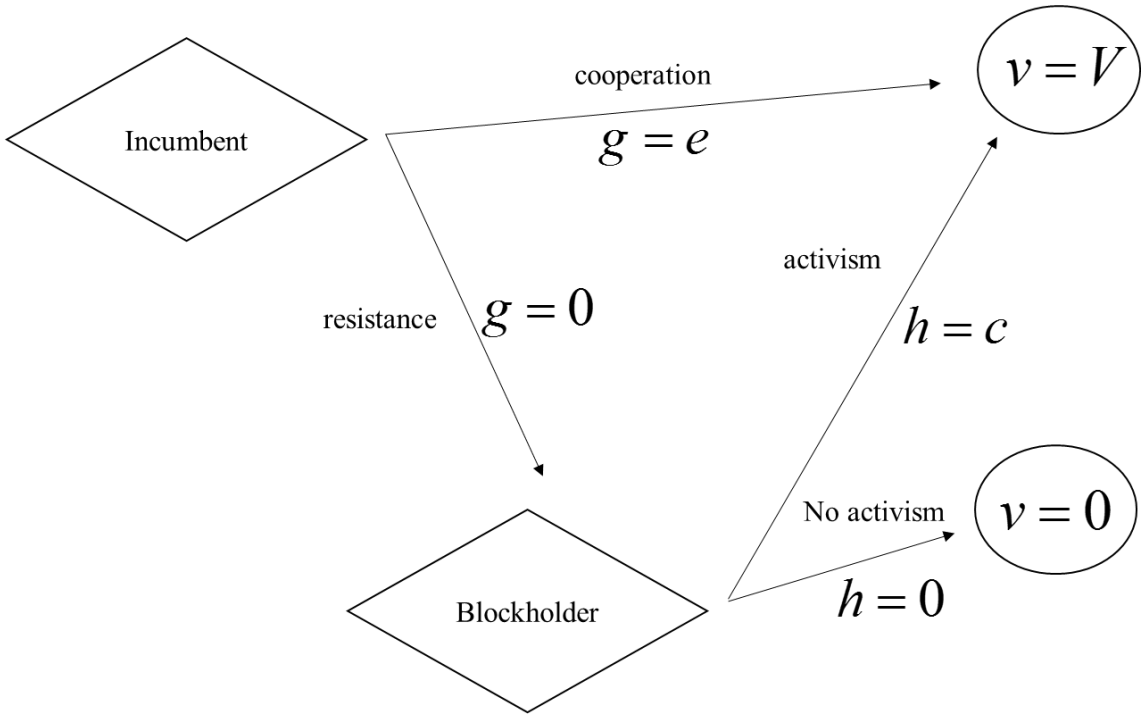
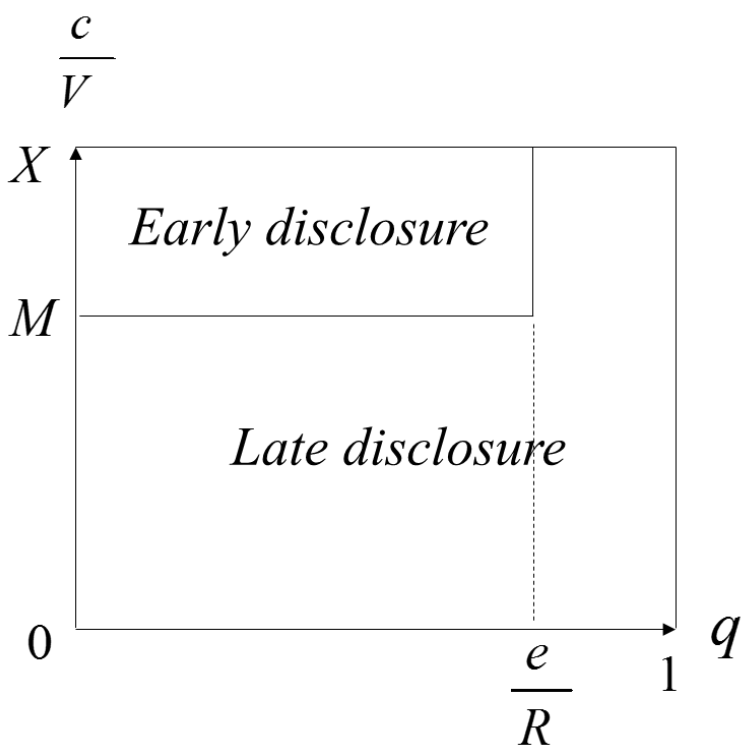



**Figure 3. Disclosure strategy of the blockholder.**



# Appendix

**Appendix 1**. Proof of Lemma 1.

**Appendix 2**. Proof of Proposition 1.

**Appendix 3**. Proof of Proposition 2.

**Appendix 4**. Proof of Proposition 3.

## Appendix 1. Proof of Lemma 1.

The blockholder $B$ maximizes her wealth and the incumbent $I$ maximizes his expected utility.

We start with the behavior of $B$ at step G2.

The blockholder is risk-neutral and her expected utility is her expected wealth. She holds a portion $X$ of the firm's shares, which means that $t_1 = t_2 = L$ .

After the governance stage, her wealth is

$W_l = W_h = Xv - L(p_1 + p_2)$ if she remains passive and

$W_h = XV - L(p_1 + p_2) - c$ if she launches an activist campaign, which is only possible if $t = h$

If $I$ already decided to make the effort ($g = e$), the value will be $v = V$ . Since $c > 0$ from hypothesis H1, it is obvious that in this case $B$ will remain passive.

If $I$ does not make the effort ($g = 0$), the behavior of $B$ depends on her type. $B_l$ has no other choice than staying passive. $B_h$ has a choice between:

$W_h = 0 - L(p_1 + p_2)$ if she remains passive, and

$W_h = XV - L(p_1 + p_2) - c$ in case of activist campaign.

With H2 ($c < XV$), $B_h$ launches an activist campaign. Therefore, the value of the firm will always be $v = V$ at the end of the game if $t = h$ .

We have shown that:

**(vii)** If $t = h$ and $g = 0$ then $B$ decides to launch an activist campaign;

**(viii)** In all other cases, $B$ remains passive.

We now turn to the behavior of the incumbent.

If $g = e$ , the value of the firm is maximized at $v = V$ and $B$ does not need to launch a costly activist campaign. The utility of $I$ is then $U_I = R - e$ .

If $g = 0$, the utility of $I$ depends on the behavior of $B$. $U_I = R$ if $B$ remains passive, $U_I = 0$ if she launches an activist campaign. This only depends on the type of $B$: $B_h$ will launch a campaign and $B_l$ will remain passive. Thus, the expected utility of $I$ depends on the updated probability $\delta_G$ that $t = h$ :

$U_I = (1 - \delta_G)R$

For this reason, $I$ decides to cooperate if

$R - e > (1 - \delta_G)R$

which is equivalent to $\delta_G > \frac{e}{R}$,

and $I$ does not cooperate if

$\delta_G < \frac{e}{R}$.

The case $\delta_G = \frac{e}{R}$ will not be a singularity at equilibrium since it may be the result of the trading stage. In this case $I$ will be indifferent between his 2 possible actions; in particular he may implement any mixed strategy where he plays $g = e$ with a probability $k$ and $g = 0$ with probability $(1 - k)$ .

*q.e.d.*

## Appendix 2. Proof of Proposition 1.

If $B$ always buys and announces late, her behavior is not informative of her type and $\delta_G = q$, so $\delta_G \geq \frac{e}{R}$. Lemma 1 implies that $g = e$ at governance stage.

We now show that an equilibrium exists where $t_1 = t_2 = L$ and $d = b$ for all types of blockholders. For this we need to check that $B$ has no profitable deviation at equilibrium. Because the behavior of $B$ does not depend on her type at equilibrium, we will need to set up an out-of-equilibrium belief about $B$'s type when she deviates. This belief will apply to all uninformed agents, and affect market prices and the incumbent's behavior at this out-of-equilibrium node of the game.

First we compute the utility of $B$ at equilibrium. For this we need the prices $p_1$ and $p_2$. Because $B$ always buys and $I$ always cooperates, the final value is $v = V$ if there is a block at the start of the game and $v = 0$ if there is no block, so

$p_2 = \mathrm{E}[v \mid I_2]$ where $I_2 = \{t_1 = L, t_2 = L, d = b\}$

$p_2 = \alpha V$

The absence of announcement does not provide any information about the block's existence or type. For this reason, the updated probability of a high final value $v = V$ is equal to the prior belief of presence of a block ($\alpha$). The prices at both trading rounds are the same:

$p_1 = p_2 = \alpha V$

The final wealth of $B$ does not depend on her type since her behavior is the same and she never needs to launch an activist campaign:

$W_h = W_l = XV - t_1 p_1 - t_2 p_2$

$W_h = W_l = [K + 2L(1-\alpha)] \cdot V$

In order to check that $B$ has no profitable deviation from her disclosure strategy at equilibrium, we need to complete the game with the market price $p_2$ and the incumbent's decision $g$ if $B$ decides to announce early. A simple way is to set the out-of-equilibrium belief of the market and the incumbent at $\delta_G = q$ even if $d = a$. In this case the behavior of $I$ is always to cooperate (we still have $\delta_G > \frac{e}{R}$). The only change is the price after announcement, since the presence of a block is now public knowledge:

$p_2 = V$

Now, if she decides to sell at T2, the utility of the block is:

$W_h = W_l = L(1-\alpha)\cdot V$, which is lower than her utility at equilibrium.

Obviously, if she buys at T2, announcing early also reduces her utility since the only effect is to increase $p_2$. This confirms $d = b$ at equilibrium.

If $B$ decides to deviate from $t_1 = t_2 = L$, then the final value will be $v = 0$ so the best she can do is to sell at both trading date. Her wealth will be:

$W_h = W_l = L(p_1 + p_2)$

$W_h = W_l = 2L\alpha V$

Since $\alpha < \frac{1}{3}$ (H1), this is also lower than the equilibrium utility.

*q.e.d.*

## Appendix 3. Proof of Proposition 2.

We will first show that $M \in ]\frac{X}{2}, X[$ .

We start with showing that $M < X$

$M = \frac{1}{2(1-2\alpha)}[X(1-\alpha) - 2Lq\alpha\lambda]$ , so

$M < \frac{1}{2(1-2\alpha)}[X(1-\alpha)]$

$\alpha < \frac{1}{3}$ implies that $\frac{1-\alpha}{2(1-2\alpha)} < 1$

which proves that $M < X$ .

We now have to check that $M > \frac{X}{2}$ :

$M = \frac{1}{2(1-2\alpha)}[X(1-\alpha) - 2Lq\alpha\lambda]$ , with $\lambda < \frac{1}{q} - 1$

$M > \frac{1}{2(1-2\alpha)}[X(1-\alpha) - 2L\alpha(1-q)]$

We now use the fact that $2L \le X$

$M > \frac{1}{2(1-2\alpha)}[X(1-\alpha) - X\alpha + 2L\alpha q)]$

$M > \frac{X(1-2\alpha)}{2(1-2\alpha)}$ and $M > \frac{X}{2}$.

To prove proposition 2, we start with the governance stage.

At step G2, if $t = h$ then $t_1 = t_2 = L$ so $x = X$ . It implies from lemma 1 that $B$ launches an activist campaign if $I$ did not cooperate ( $c < XV$ from H2) and remains passive if $I$ did cooperate ( $c > 0$ ). **(vii)**.

We now solve step G1.

At that step, in case of buying at trading stage and late announcement ($t_1 = t_2 = L$ and $d = b$), $I$ needs to compute $\delta_G = \mathrm{P}(B = B_h \mid t_1 = L, t_2 = L, d = b)$ using Bayesian updating. With $q$ the prior belief and $m$ the probability of $t_1 = t_2 = L$ if $t = l$, we have:

$$\delta_G = \frac{q}{q + (1-q)m}$$

With $m = \frac{q}{1-q}\lambda$, this gives

$$\delta_G = \frac{1}{1+\lambda} = \frac{e}{R}$$

According to lemma 1 $I$ may follow a mixed strategy with $k = k_b$. **(iv)**.

If $t_1 \neq L$, then $I$ knows that the blockholder has low type, and $g = 0$ is the best response. **(vi)**.

We also need to describe the incumbent's behavior out-of-equilibrium, when $d = a$. Since the blockholder never behaves like this at equilibrium (whatever her type), we need to impose $\delta_{ba}$ an out-of-equilibrium belief about the updated probability of $t = h$. This out-of-equilibrium belief is the same for all uninformed agents.

$$\delta_{ba} = \frac{p_{2ba}}{V(1 + k_{ba}\lambda)}, \text{ with } p_{2ba} = 3p_{2b}$$

This belief $\delta_{ba}$ is the one compatible with $p_{2ba}$.

Notice that $k_{ba} \in ]0,1[$ and $p_{2ba} < V$:

$$k_b = \frac{1}{\frac{X}{4L\alpha q} - \lambda}$$

$q < \frac{e}{R}$ is equivalent to $\lambda < \frac{1}{q} - 1$. With $\alpha < 1/3$ and $X \geq 2L$ this gives:

$k_b < \frac{1}{\frac{1}{2q}+1}$ so $0 < k_b < \frac{2}{3}$, which implies $0 < k_{ba} < 1$.

$p_{2b} = V \frac{1}{\frac{1}{\alpha q} - \frac{4L}{X}\lambda}$ gives

$p_{2b} < V \frac{1}{2+\frac{1}{q}}$ so $p_{2b} < \frac{1}{3}V$, and $p_{2ba} < V$

We now show that with this belief $I$ may use a mixed strategy with parameter $k_{ba}$ .

With $p_{2ba} = 3p_{2b}$ and $k_{ba} = \frac{3}{2}k_b$, $B_l$ is indifferent at step T2 (after $d = a$) between selling L or buying and imitating $B_h$ :

$$Lp_{2ba} = -Lp_{2ba} + k_{ba}XV$$

So $B_l$ may at that step use a mixed strategy with a probability $m_{ba}$ of buying like:

$$m_{ba} = \frac{\delta_{ba}}{1-\delta_{ba}}\lambda$$ .

At step T2, after $t_1 = L$ and $d = a$ , $B_h$ always buys, like at equilibrium ($t_2 = L$).

This strategy gives the same updated probability of $t = h$ than the equilibrium case: $\delta_G = \frac{\delta_{ba}}{\delta_{ba} + (1-\delta_{ba})m_{ba}} = \frac{e}{R}$

and from Lemma 1, $I$ may follow the described mixed strategy. **(v)**.

We now need to solve the trading stage.

At step T2, after $t_1 = L$ and $d = b$ , the market price is

$p_{2b} = \mathrm{E}(v \mid I_3)$ .

The absence of announcement is not an information for the market, since this is the behavior of both types of blockholder (and obviously, this is what happens in the absence of blockholder). This does not provide any new information on the presence or type of the blockholder. For this reason, the price $p_{2b}$ is the same as $p_{1b}$, which is the unconditional value of the firm.

The final value of the firm is $v = V$ if there is a block (probability $\alpha$), and:

- $t = h$ (probability conditional on existence $q$);
- or $t = l$ $(1-q)$, $B_l$ decides to imitate $B_h$ ($m$) and the incumbent cooperates ($k_b$).

This gives:

$p_{1b} = p_{2b} = \alpha[q + (1-q)mk_b]V$

$p_{1b} = p_{2b} = \alpha q(1 + \lambda k_b)V$

with $k_b = \dfrac{1}{\dfrac{X}{4L\alpha q} - \lambda}$

$p_{1b} = p_{2b} = \dfrac{XV}{4L} k_b$ ,

or $p_{1b} = p_{2b} = \dfrac{1}{\dfrac{1}{\alpha q} - \dfrac{4L}{X}\lambda} V$ . **(i)**.

We now prove the behavior of $B_h$ at trading stage.

At step T2, if she buys she obtains an expected wealth:

$E(W_h) = XV - Lp_{1b} - Lp_{2b} - (1-k_b)c$

$E(W_h) = XV - 2Lp_{1b} - (1-k_b)c$ ,

which is her expected wealth at equilibrium.

A deviation from buying at step T2 will have the consequence that the incumbent will never cooperate. If the blockholder decides to be activist at the last step, it is obvious that she will buy at each round of trading since the price is lower than $V$. If she decides to remain passive, the final value will be $v = 0$. Consequently, if she does not buy at both trading rounds, $B_h$ has to sell at both trading rounds. We simply check that this behavior would reduce her expected wealth.

If she sells at both trading rounds, $B_h$ obtains:

$$E(W_h) = 2Lp_{1b}$$

With $p_{1b} = \frac{XV}{4L}k_b$, this is lower than her expected utility at equilibrium. **(ii)**.

Finally, we must prove the behavior of the blockholder at trading stage if $t = l$. The expected final wealth of $B_l$ if she follows the equilibrium strategy is:

$$E(W_l) = XVk_b - 2Lp_{1b}$$

$$E(W_l) = \frac{1}{2}XVk_b$$

At step T2, after $t_1 = L$ and $d = b$, she does not deviate from $t_2 = L$ since the best she could obtain from deviation is a zero final wealth with $t_2 = -L$.

We now study the behavior of $B_l$ at step T2. In particular, we have to prove that $d = a$ is not a profitable deviation after $t_1 = L$.

After $t_1 = L$ and $d = a$, we show that $B_l$ is indifferent between buying and selling at step T2. If she buys, we are in the out-of-equilibrium situation described in (v) and the expected final wealth of $B_l$ is:

$$E(W_l) = XVk_{ba} - Lp_{1b} - Lp_{2ba}$$

$$E(W_l) = XVk_{ba} - 4Lp_{1b}$$

And if she sells ( $t_2 = -L$ ):

$E(W_l) = -Lp_{1b} + Lp_{2ba}$

$E(W_l) = 2Lp_{1b}$

With $p_{1b} = \frac{XV}{6L} k_{ba}$ , $B_l$ is indifferent between buying and selling at step T2, and obtains the same expected final wealth as in the equilibrium case, so that there is no profitable deviation.

Finally, we have to show that $B_l$ is indifferent between imitating $B_h$ ( $t_1 = t_2 = L$ and $d = b$ ) and selling at both trading rounds, so that she may follow the described equilibrium mixed strategy. This is straightforward, since selling at both trading rounds gives her:

$E(W_l) = 2Lp_{1b}$ . (**iii**).

*q.e.d.*

## Appendix 4. Proof of Proposition 3.

The governance stage is similar to proposition 2.

At step G2, if $t = h$ then $t_1 = t_2 = L$ so $x = X$. It implies from lemma 1 that $B$ launches an activist campaign if $I$ did not cooperate ($c < XV$ from H2) and remains passive if $I$ did cooperate ($c > 0$). **(vi)**.

At step G1, in case of buying at trading stage and early announcement ($t_1 = t_2 = L$ and $d = a$), $I$ needs to compute $\delta_G = \mathrm{P}(B = B_h \mid t_1 = L, t_2 = L, d = a)$ using Bayesian updating. With $q$ the prior belief and $m$ the probability of $t_1 = t_2 = L$ if $t = l$, we have:

$$\delta_G = \frac{q}{q + (1-q)m}$$

With $m = \frac{q}{1-q}\lambda$, this gives

$$\delta_G = \frac{1}{1+\lambda} = \frac{e}{R}$$

According to lemma 1 $I$ may follow a mixed strategy with $k = k_a$. **(iv)**.

If $t_1 \neq L$, then $I$ knows that the blockholder has low type, and $g = 0$ is the best response.

We still need to study the case where $t_1 = L$ and $d = b$ (which is out-of-equilibrium) in order to solve the governance stage. Since the blockholder never behaves like this at equilibrium, the updated probability of having a high-type blockholder in case of absence of announcement at step T1 must be zero (no announcement means no blockholder). For this reason, the price at step T2 will be:

$$p_{2ab} = 0$$

In this situation the blockholder does not gain anything from selling, and we may consider $t_2 = L$. At step G1, after $t_1 = t_2 = L$ and $d = b$, the (out-of-equilibrium) belief about the type is:

$\delta_G = 0$. From Lemma 1, $I$ does not cooperate. (**v**).

We now solve the trading stage. At step T2, after $t_1 = L$ and $d = a$, the market is informed of the presence of a blockholder but has no information on her type (since at equilibrium $t_1 = L$ and $d = a$ for both type of blockholder). The market price is the expected final value of the firm. With a probability $q$, the blockholder has high type and the final value will be $v = V$. If the blockholder has low-type $(1-q)$, the probability of $v = V$ is the probability that $B_l$ imitates $B_h$ $(m)$ and $I$ cooperates $(k_a)$. Thus:

$$p_{2a} = [q + (1-q)mk_a]V$$

$$p_{2a} = Vq(1 + \lambda k_a)$$

$$p_{2a} = V\frac{1}{\frac{1}{q} - \frac{2L}{X}\lambda} \ .$$

This will be the price at step T2 at equilibrium if there is a block. As a consequence, the price at step T1 is:

$p_{1a} = \alpha p_{2a}$ . **(i)**.

We now prove the behavior of $B_h$ at trading stage. If she follows the equilibrium strategy, her expected final wealth is:

$$E(W_h) = XV - Lp_{1a} - Lp_{2a} - (1-k_a)c \ .$$

If she remains active at governance stage in case of no cooperation, she obviously wants to buy at each trading stage since the final value will be $v = V$. Selling at step T2 (and remaining passive at governance stage) will result in a final value of $v = 0$. The expected final wealth will be:

$$E(W_h) = -Lp_{1a} + Lp_{2a} \ .$$

With $p_{2a} = \frac{XV}{2L} k_a$ and $c < XV$ , this is lower than the equilibrium expected final wealth.

If $B_h$ decides to deviate from $d = a$ and does not announce early, she will be able to buy at step T2 at price 0, but $I$ will never cooperate. Thus, her expected final wealth will be:

$E(W_h) = XV - Lp_{1a} - c$ .

This is lower than the equilibrium expected wealth if $c > \frac{XV}{2}$ , which is true since $M > \frac{X}{2}$.

Selling at step T1 and remaining passive at governance stage gives the expected final wealth:

$E(W_h) = Lp_{1a}$ .

With $\alpha < \frac{1}{3}$ and $p_{2a} = \frac{XV}{2L} k_a$ , this is lower than the expected final wealth at equilibrium. **(ii)**.

If $t = l$ , when the blockholder imitates $B_h$ she gets the expected final wealth:

$E(W_l) = XVk_a - Lp_{1a} - Lp_{2a}$ .

If she buys at step T1, announces early and sells at step T2 ($t_1 = L$ , $d = a$ and $t_2 = -L$ ), she obtains:

$E(W_l) = L(p_{2a} - p_{1a})$ .

Both expected final wealth are equal, since $p_{2a} = \frac{XV}{2L} k_a$ . They are higher than the final wealth if $B_l$ sells immediately ($Lp_{1a}$), since $\alpha < \frac{2}{3}$ . This proves that there is no profitable deviation from the described mixed strategy for $B_l$ at equilibrium. **(iii)**.

*q.e.d.*