



# The impact of increased shareholders voting on firm value

## The potential contribution of blockchain

### Abstract

This study examines the ex-ante effect of the introduction of blockchain technology to permit e-voting Annual General Meetings on firm value. We find that a higher

attendance and participation by shareholders at the meetings of the Top 200 companies listed on the ASX has a positive impact on firm value.

### Introduction

The objective of this study is to understand whether the introduction of blockchain technology as an e-voting system at Annual General Meetings (AGM) affects firm value.

Several exchanges and regulatory institutions around the world are investing and exploring the use of blockchain as an e-voting or share registry mechanism. In terms of voting, the primary objective is to guarantee the efficiency and the integrity of the voting process. A benefit of the technology is the reduced costs associated with reporting, immutable history, and distribution via electronic devices.

As an example, the Russian National Settlement Depositories launched a pilot project in 2015 with a successful test in April 2016 for a bondholder meeting<sup>1</sup>. In 2016, NASDAQ, Abu Dhabi and the Estonia Central Securities Depository tested blockchain technology for e-voting at AGMs<sup>2</sup>, with the purpose of bringing higher attendance and interaction during the AGM<sup>3</sup>. A number of other exchanges are exploring implementation of the technology. For example, the South Africa's Central Securities Deposit plans to launch a system in 2017<sup>4</sup>, while the Toronto stock exchange announced a distributed ledger technology prototype as part of its strategy to improve the efficiency and accuracy of the elections at

the annual general meetings and to help boost the shareholders' involvement<sup>5</sup>

Due to the many trials underway, it is not possible to measure, ex-post directly the effect of the introduction of this technology. However, we can examine what the impact of shareholder participation at AGMs is on company value. In this study, we assume that blockchain/e-voting will increase shareholder participation at AGMs, and measure the degree of shareholder participation at AGMs, as they relate resolutions of executive remuneration. Executive remuneration has been shown in the extant literature to have a significant impact on company value (Mehran, 1995; Chung and Pruitt, 1996).<sup>6</sup> Shareholder engagement/participation is evaluated in light of the degree of voting via proxy and attendance at AGMs.

### Data

Data for AGM attendance/voting and company fundamental data are sourced for the top 200 ASX listed companies. Specifically, we obtain:

- Shareholder resolution notices a required under the Corporations Act. We hand collect these proxy disclosures summaries for all AGMs in 2016.
- Market capitalisation from Thomson Reuters Tick History.
- Company financial data from DatAnalysis/Morningstar.

<sup>1</sup> <https://www.nsd.ru/en/press/ndcnews/index.php?id36=628973> Accessed: 28 March 2017

<sup>2</sup> <http://business.nasdaq.com/marketinsite/2017/Is-Blockchain-the-Answer-to-E-voting-Nasdaq-Believes-So.html> Accessed: 28 March 2017

<sup>3</sup> <https://www.adx.ae/English/News/Pages/20161015140637422.aspx> Accessed: 28 March 2017

<sup>4</sup> <https://www.moneyweb.co.za/news/tech/sa-to-launch-block-chain-based-e-proxy-voting-in-2017/> Accessed: 28 March 2017

<sup>5</sup> <https://www.tmx.com/newsroom/press-releases?id=559> Accessed: 15 May 2017

<sup>6</sup> Mehran, H. (1995). Executive compensation structure, ownership, and firm performance. *Journal of Financial Economics*, 38(2), 163-184  
Chung, K.H., & Pruitt, S.W. (1996). Executive ownership, corporate value, and executive compensation: A unifying framework. *Journal of Banking & Finance*, 20(7), 1135-1159

Our sample size is reduced to 136 after merging the voting data with the financial data., mainly because of the lack of polls data for some companies.

## Research design

### Variables

The proxy disclosure summary reports the: Proxy instructions cast ahead of the AGM and Poll votes cast at the AGM for every resolution item. There are four categories for the proxy instructions (for, against, abstain, and open<sup>7</sup>) and three for the poll results (for, against, and abstain). The sum of the poll votes represents the proportion of shareholders present at the AGM.

Using the proxy and poll data, we develop two variables that measure shareholder participation. We divide a company's total share outstanding into four categories: vote, do not vote, attend, and do not attend, as shown in Figure 1. The proxy instructions "For", "Against", and "Abstain" represent the shareholders who do not attend the meeting but provide instructions. Shareholders who attend physically are categorised as direct participation at the AGM. They can express their vote in favour or against the resolution (DIRECT "for" or "against"), or they can abstain, ie not vote. The poll votes are the sum of the direct participation and the proxy votes, the green section in Figure 1, plus the proxy "Open" instruction.

	VOTE	DO NOT VOTE
ATTEND AGM	DIRECT For Against	DIRECT Abstain
DO NOT ATTEND AGM	PROXY For Against Abstain	NOT PRESENT + PROXY Open

Figure 1. Total votes breakdown

With the introduction of the blockchain, we assume an increase in shareholder participation, measured by an increase in direct participation at the AGM in terms of shares or a decrease of the fraction of not voting and not attending (NANV) shares (the blue section in Figure 1). The direct participation is measured as:

$$Direct\ Participation_i = \frac{Total\ Poll_i - Total\ Proxy_i}{Total\ Share\ Outstanding_i}$$

where

<sup>7</sup> With the open instruction, the shareholder leaves the decision to the chair.

$$Total\ Poll_i = Poll(For)_i + Poll(Against)_i + Poll(Abstain)_i$$

$$Total\ Proxy_i = Proxy(For)_i + Proxy(Against)_i + Proxy(Abstain)_i + Proxy(Open)_i$$

The fraction of not attending, not voting share is measured as:

$$NANV_i = \frac{Not\ Present_i + Proxy(Open)_i}{Total\ Share\ Outstanding_i}$$

where

$$Not\ Present_i = Total\ Share\ Outstanding_i - Total\ Poll_i$$

We focus our measure on "Remuneration Report Resolution" for two reasons. First, the remuneration report is one of the most discussed resolutions at the shareholders' meetings, and the analysis of the proxy disclosure reveals that it is normally approved by a poll. The presence of polling data permits the calculation of the direct participation and NANV variables. Second, the voting rights for the remuneration report are limited to a certain class of shareholders. To reduce any conflicts of interest, the Corporations Act 2001 prohibits the key management personnel and their closely related parties to cast votes or to direct the open proxy instructions.

The firm's value is calculated as the Market-To-Book ratio:

$$MTB_i = \frac{Market\ Value\ of\ Equity_i}{Book\ Value\ of\ Equity_i}$$

## Methodology

Our hypothesis identifies a dependency between the firm's performance and the shareholders' participation at the AGM:

$$MTB_i = f(NANV_i)$$

However, participation itself may be a function of firm MTB:

$$NANV_i = f(MTB_i)$$

Consequently, an Ordinary Least Square (OLS) specification would result in inconsistent estimates of the relationship between firm value and shareholder participation. Therefore, to overcome this endogeneity problem, we propose a simultaneous equation model estimated through a two-stage least square method:

$$\begin{cases} MTB_i = \beta_0 + \beta_1 NANV_i + \sum \beta_j CV_j + \sum \beta_j FE_j + u_{1i} \\ NANV_i = \beta_0 + \beta_1 MTB_i + \sum \beta_j CV_j + \sum \beta_j FE_j + \gamma_1 SH_i + u_{2i} \end{cases}$$

where

$CV_j$  are the control variables, namely the ROE, the Market capitalisation, the age of the company, the percentage of institutional shareholders, and the distance from the HQ and the meeting location.

$FE_j$  are the industry fixed effects plus financial year quarter close dummies.

$SH_i$  is the number of shareholders, and it is used as the exogenous variable for the participation  $NANV_i$  in the 2SLS estimation.

## Results

Table 1 reports the summary statistics of shareholder voting for the 2016 financial year derived from proxy disclosure statements. It is evident that proxy instructions represent the vast majority of participation at AGMs. On average 61.7% of votes are via proxy, and direct involvement by shareholders in person (DIRECT) is less than 2% on average. The percentage of absence at the AGM, indicated by the Not Attending, Not Voting (NANV) shares, is on average 37.3%.

	PROXY	POLL	DIRECT	NANV
<i>count</i>	169	147	140	147
<i>mean</i>	0.617	0.632	0.018	0.373
<i>std</i>	0.164	0.156	0.063	0.158
<i>min</i>	0.133	0.153	0.000	0.066
<i>25%</i>	0.498	0.544	0.000	0.256
<i>50%</i>	0.651	0.673	0.001	0.332
<i>75%</i>	0.738	0.747	0.008	0.464
<i>max</i>	0.932	0.935	0.566	0.849

Table 1: Voting summary statistics

Using the number of shareholders as instrumental variable for solving endogeneity issues<sup>8</sup> Table 2 reports the relationship between firm value and shareholder not participating. A negative relationship between Market-to-Book ratio and  $NANV$  is reported as expected, suggesting that if the converse were true, ie we had a reduction in non-voting, and greater direct voting, then firm value would increase. The coefficient is statistically significant after controlling for profitability, industry, and quarter close.

<sup>8</sup> The first stage of the regression uses the number of shareholders as an exogenous variable to explain the variation in the shareholders' participation. This technique helps isolating the effect of the other variables that affect both the market value and the participation, overcoming the endogeneity problem. We expect that companies with a higher number of shareholders will face a smaller attendance and therefore a positive relationship with the  $NANV$  variable. The estimation of the first stage confirms this result with a high level of significance (t-stat 5.7566).

	Model 1 Dep: logMTB IV: #Shareholders	Model 2 Dep: logMTB IV: #Shareholders
$\beta_0$	0.2110 (0.3775)	0.0402 (0.0792)
$\log NANV$	-0.5363 (-1.0035)	-0.6590 (-2.2598)
$ROE$		3.8431 (7.6583)
$\log MCap$		0.0736 (1.8023)
$\log AGE$		-0.0606 (-1.1829)
$INST$		-0.4535 (-1.3882)
$\log DIST$		-0.0067 (-0.7427)
$qrtClose$	NO	YES
$Industry$	NO	YES

Table 2: 2SLS Regression results. Relation between the Market-to-Book ratio and the shareholders' participation at AGMs. T-stats are reported in parentheses.

**Error! Reference source not found.** reports the impact of the increase in shareholders participation on the market value of the top 200 companies, assuming the book value fixed and the increase of participation in all firms in the sample.

Shareholders Participation	Market value	Average Mkt value (\$bn)	Total Mkt Value (\$bn)
+5%	+3.3%	+0.35	+51.16
+10%	+6.6%	+0.70	+103.21

Table 3: Effect of shareholders participation on market value of the TOP200 ASX companies

## Conclusions

This analysis considers Top 200 listed companies in Australia and shows that firms with higher shareholders' participation perform better than others with lower shareholders' interest. This result suggests that technology that would improve shareholder participation/engagement such as blockchain/e-voting systems can improve firm value.