

Voluntary disclosure-cost of equity nexus and the moderating role of corporate governance: evidence from an extremely politically unstable context

Moderating
role of
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governance

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Abstract

Purpose – Higher degree of and commitment to voluntary disclosure (VD) and corporate governance (CG) helps contain information asymmetry, leading to lower cost of equity (Ke). This study provides evidence on the nexus among VD, CG, and Ke from a context characterized by extreme political instability.

Design/methodology/approach – This study uses all non-bank companies listed with the Palestine Exchange during 2009–2018. The level of VD was estimated by using a checklist of 35 items modified for the context of Palestine. A second checklist with 19 items was used to measure the commitment of the Palestinian companies with CG requirements. Five proxies for Ke were tested: three ex-ante Capital Asset Pricing Model-like proxies and two ex-post realized return proxies.

Findings – The findings state that the VD negatively impacted Ke. Interaction effect of CG and VD helps reduce the Ke. As such, for firms with better CG, the increase in VD decreases the Ke more than their standalone effect. For control variables, leverage, size and growth of firms exhibited positive impacts on Ke, whereas quality of auditors found a negative connection.

Practical implications – Managers in similar context, like Palestine, may prefer flexibility of smaller size and adopt conservative growth strategies to cope with adverse events. Firms adopt CG and VD as complementary forces to tackle instability and market expectation.

Originality/value – Studies connecting VD-CG-Ke nexus from similar context are rare. Results of this study forward that emphasis on disclosure and governance practices will help boost the confidence of the investors, reduce the Ke and create an incentive for more investment.

Keywords Corporate governance, Voluntary disclosure, Cost of equity, Political instability, Palestine exchange

Paper type Research paper



1. Introduction

Financing decision is one of the weighty strategic decisions of any company that drives their survival, support growth and pay for current operation (Modigliani and Miller, 1958; Rashid, Johari, and Izadi, 2020). The choice of debt versus equity is primarily fuelled by cost of debt and cost of equity (Ke hereinafter) that are closely connected to corporate performance (AlHares, 2019; Abdeljawad and Nor, 2017). While cost of debt is often quoted by the issuers, the Ke involves complex relationships among diverse internal factors, such as the governance system (Srivastava *et al.*, 2019), corporate social responsibility (Byun and Oh, 2018) and disclosure (Dutta and Nezlobin, 2017; Raimo *et al.*, 2020) and external factors, such as the political stability (Li *et al.*, 2018) and economic condition (Kim and Qi, 2010).

Corporate disclosure helps build trust, improves market liquidity, increases demand for corporate stocks and helps contain transaction cost that leads to lower Ke (Botosan and Plumlee, 2002; Leuz and Verrecchia, 2005; Temiz, 2021). Corporate governance (CG) includes standards, norms and practices that are disclosed to limit asymmetric information, which may also result in low external management cost (Srivastava *et al.*, 2019) and cost of capital (Chen *et al.*, 2009).

This study contributes to existing literature in two ways. Firstly, studies on the voluntary disclosure (VD)-Ke nexus from the emerging market contexts are limited (Khelif *et al.*, 2019). We investigate this limitation by covering companies from the Palestine Exchange (PEX). Palestine offers a unique context for this study due to three reasons: political, regulatory and firm demographics. Palestine has been under occupation with limited access to basic facilities and connectivity among different parts of the country (Abdeljawad *et al.*, 2020). As a result, poor governance, political uncertainty and regulatory insufficiency negatively influence investor confidence and entry of large companies in the PEX (Abu Alia *et al.*, 2020). Therefore, the PEX is generally underdeveloped and faces challenges with respect to disclosure and governance mechanisms. In politically unstable contexts, firms are exposed to severe information asymmetry, which intensifies the equity premium of firms, leading to higher Ke (Li *et al.*, 2018; Ben-Nasr *et al.*, 2012; MengYun *et al.*, 2018).

Secondly, connection between asymmetric information and VD-CG-Ke nexus is inconsistent. Volatile environment, like that of Palestine, results in incomplete disclosure and inferior governance guideline that advocate information asymmetry (Tessema *et al.*, 2017; Albarrak *et al.*, 2020). However, disclosure may not lead to straight-forward reduction in Ke (Richardson and Welker, 2001). VD helps companies that are in the maturity stage, rather than those from the early stage on their life cycle or those are smaller in size (Enache and Hussainey, 2020). Also, several emerging countries have experienced inconclusive connection on VD-CG-Ke nexus (Mulyati, 2017).

We differentiate our study in two ways. Firstly, we have used two indices, each on VD and CG, using a robust checklist of items that are modified for the context in Palestine. Similar studies in the regional contexts have emphasized on traditional measures, such as the board size, role duality and board independence (Sweiti and Attayah, 2016). The indices cover more information on CG and VD than the traditional measures. Secondly, we have used multiple proxies for Ke to address robustness, context-specific market condition and investigate the downside risk associated to Ke.

Results of this study indicate that the average Ke ranges between 1.2% and 7% (2.7% and 7.3% for ROE models). However, the extreme ranges of individual Ke figures (5.6% to 11.5% for Ke1 and 4.7% to 55.7% for ROE model) are results of an uncertain environment affected by prolonged political and financial uncertainty, limited stock market development (i.e. reliance on debt, excluding other liabilities, is about 37.3%) and limited growth

opportunity (average market to book ratio close to “1”). We found an average VD score of 0.375, and a commendable CG score of 0.613. Firm size was diverse, with the highest standard deviation among all variables, indicating the abundance of smaller firms.

Results also confirm that higher degree of VD reduces Ke, and CG significantly moderates this relationship. The negative effect of VD on Ke is stronger in firms with higher level CG. VD and CG can complement each other in achieving lower Ke. Results imply that policymakers in Palestine should invest more in establishing effective disclosure requirement and CG standards that meet internationally accepted practices to boost investor confidence. Investors can capitalize on the revamped VD-CG-Ke nexus to improve on their portfolio performance.

The remainder of the paper is structured as follows. Section 2 presents the existing literature and theoretical framework. Section 3 discusses the methodology. Section 4 discusses the empirical results. Section 5 concludes the study.

2. Theory, literature review and hypotheses

2.1 Relevant theories

Several theories dominate the discussions on VD, CG and Ke. Agency theory states that there is an agreement between the managers (agents) and the owners (principal) to run the firm in the best interest of the owners (Jensen and Meckling, 1976). Agency conflict, which stimulates information asymmetry, can be reduced by adhering to the standards of VD and CG (Lev, 1989). According to stakeholder theory, firms must meet and satisfy interest of all stakeholders (Abid *et al.*, 2014). Large companies with diverse stakeholder base disclose more voluntarily (Kalay, 2015).

Capital needs theory assumes that firms resort to provide further voluntary disclosure when they want to increase funds either through banks or financial markets (Meek *et al.*, 1995). VD helps the borrowing company to reach a wider base of investors, leading to reduction of Ke. Signalling theory claims that VD signals good quality management, thus performance (Akerlof, 1970). Good governance stimulates VD that provides a promising signal about the management of the firm, which leads to higher firm value (Cotter *et al.*, 2011). Thus, the signalling theory assumes that firms tend to disclose information voluntarily more than expected.

2.2 Characterization of terminology

Cost of capital is one of the primary determinants of the source of financing (Abdeljawad and Nor, 2017). Mulyati (2017) defines Ke as the minimum rate of return required by the investors. Ke includes basic riskless return and premium for additional risks (Sharpe, 1964). VD is the additional disclosure outside of the requirements of acts, rules and regulations that are expected to refine the usage of the financial statements for users (Meek *et al.*, 1995). Information is generally disclosed using annual reports, newsletters, press releases and the websites.

Management can pick on degree and size of information to be disclosed voluntarily (Sweiti and Attayah, 2016). Meek *et al.* (1995) report that companies disclose strategic, financial and non-financial information. The strategic and forward-looking information includes information such as the firm vision, mission, objectives, planning and future prospect. Financial information comprises notes and clarification to the financial statements, financial forecasts and stock price analysis. Non-financial information includes particulars on CG, internal control, human resources, CSR and other information that do not fit into the first two. The drivers of VD include firm size, profitability, leverage and firm age (Lan *et al.*, 2013; Habbash *et al.*, 2016; Elfeky, 2017).

Global corporate failures, include the likes of World Com and Enron, forward the idea of CG with an objective to separate management from ownership control. [La Porta et al. \(2000\)](#) report that CG includes mechanisms through which outsiders preserve themselves against the insider's expropriation. Also, the broader objective of CG covers the control of asymmetric information among stakeholders.

2.3 Voluntary disclosure and cost of equity nexus

Primary benefits of VD include low information risk and higher market liquidity that indicate an inverse relationship between VD and Ke ([Lambert et al., 2007](#)). VD, however, exposes the firm's rarity due to share of unique information, which may increase Ke. Essentially, benefits of VD should supplant costs as an incentive to disclose more voluntarily.

[Daske and Gebhardt \(2006\)](#) discuss three main channels behind VD-Ke nexus. The first stream states that disclosing more information reduces the non-diversifiable risk ([Albarrak et al., 2020](#)). As investors face less uncertainty, they are happy with lower Ke. The second stream forwards that higher degree of disclosure helps boost market liquidity through low information asymmetry. The third stream presents that the quality disclosure reduces the misalignment between the company and the outsiders ([Leuz and Verrecchia, 2005](#)).

[He et al. \(2019\)](#) find that the VD affects cost of capital even after controlling for mandatory disclosure. [Botosan and Plumlee \(2002\)](#) report a contraire association between excess annual disclosure and the Ke. Voluntary carbon disclosure is associated with lower Ke ([Lemma et al., 2019](#); [Bui et al., 2020](#)). A negative relationship between VD and Ke is reported for Asian emerging firms in several studies ([Zhang and Ding, 2006](#); [Setiany et al., 2017](#)). [Orens et al. \(2010\)](#) report a negative relationship between Web-based non-financial disclosure and Ke for American and European companies.

We discuss a growing list of exceptions for non-financial firms. [Richardson and Welker \(2001\)](#) report a significant positive association between social disclosure and Ke for financially well Canadian companies. The study argues that social disclosure may benefit companies through its effect on organizational stakeholders other than equity investors. [Enache and Hussainey \(2020\)](#) assert that VD and CG are substitutes in their effect on performance for firms in advanced stages (i.e. maturity stage). [Mulyati \(2017\)](#) has not reported a conclusive connection between VD and Ke for Indonesian firms.

Palestine lacks quality research on VD. Therefore, no clear background on VD level in Palestine is available. We emphasize on related studies from Palestine and from the neighbouring countries. [Abu Alia and Mardawi \(2021\)](#) and [Barakat et al. \(2015\)](#) indicate that the level of CSR disclosure in Palestine, which is one of the elements of VD, is 43.7% and 30%, respectively. The level of VD in Saudi Arabia is 33.3% ([Alsaeed, 2006](#)), and the same for Jordanian firms is 32.4% ([Albitar, 2015](#)).

[Bontis et al. \(2007\)](#) use two disclosure indices based on the historical and forward-oriented information collected from the annual reports of 95 European firms. Results indicate that while Ke is negatively associated with the forward-oriented information, the historical information finds a positive relationship. However, [Kristandl and Bontis \(2007\)](#) forward a negative relationship between the level of forward-oriented information and Ke, and positive relationship between the level of historical information and Ke. Based on the discussion of the negative relationship between VD and Ke, we forward the following hypothesis:

- H1.* There is a negative association between the level of voluntary disclosure (VD) and the cost of equity (Ke).

2.4 Moderation effect of corporate governance on voluntary disclosure and cost of equity relationship

After controlling for several risk variables, [Chen et al. \(2009\)](#) report a significant negative association between CG and Ke in emerging markets. [Ashbaugh-Skaife et al. \(2006\)](#) study the role of the CG features in determining the Ke in the USA. They find quality of reporting, ownership structure, shareholders' rights and board structure having close tie with Ke. Overall, companies with stronger CG experience lower Ke.

In Egypt, [Khelif et al. \(2019\)](#) report that internal control significantly moderates the negative relationship between VD and CG. [Mangena et al. \(2016\)](#) suggest that the VD-Ke nexus is magnified by the disclosure of information on internal control. [Saha and Kabra \(2020\)](#) report a relationship between CG and VD to be complementary for Anglo-Saxon countries, while the same is insignificant for social market system. [Zhu \(2014\)](#) suggests that companies high on CG practices report lower Ke in markets with stronger legal system, extensive disclosure practices and high governance quality. [AlHares \(2019\)](#) report a negative relationship between CG index and cost of capital in Organization for Economic Co-operation and Development countries.

Effective CG mechanism is strongly connected to better disclosure, lower monitoring cost and low Ke ([Leuz and Verrecchia, 2005](#)). Strong CG mechanisms signal that the company's financial reporting is credible. Considering the benefits of CG linking VD and Ke, the study hypothesizes that:

- H2. Corporate governance (CG) moderates the relationship between voluntary disclosure (VD) and cost of equity (Ke). Higher level of CG practices helps reduce Ke.

2.5 Palestine: a unique context

Extreme political instability has a strong connection with poor governance that leads to inferior quality of VD and higher Ke. Palestine has been under occupation and received little autonomy on interior issues since 1994. Palestine is also an underdeveloped country with higher level of political instability and a weak rule of law ([Abu Alia et al., 2020](#)). Worldwide Governance Indicators ranked Palestine with suboptimal performance for 2019 in terms of rule of law (144 out of 214 countries), government effectiveness (166 out of 214), voice and accountability (171 out of 214) and political stability and absence of violence (204 out of 214 countries) ([World Bank, 2020](#)). As a result, the PEX mostly accommodates firms smaller in size and of inferior growth potential. Considering these attributes, we find Palestine a unique context to be considered due to limited literature on a similar context.

3. Research methodology

3.1 Data

As of December 2019, 48 companies were listed on the PEX with a market capitalization of about \$3.758bn. These companies are categorized into five main sectors: banking and financial services, insurance, investment, industry and service. Most of the listed companies are profitable (PEX, 2020). This study covers all Palestinian companies listed on the PEX, except the banking sector due to their distinct regulations, monitoring and separate CG codes. Therefore, the sample contains 41 listed companies for ten years of data ranging from 2009 until 2018. The total firm-year observations are 396 (See [Appendix 3](#) for details on the context). The study uses a panel data setting, which offers a more accurate inference of

model parameters, and greater capacity for capturing the complexity of behaviour than a single cross-section or time-series model (Hsiao, 2007).

3.2 Measurement of variables

3.2.1 *Measurement of cost of equity.* Ke is the dependent variable of this study, which is defined as the rate of return required by the investors to compensate for the risk. We have reviewed both the residual income valuation model (Ohlson, 1995) and the abnormal earnings models (Ohlson and Juettner-Nauroth, 2005). Hail and Leuz, (2006) suggest using multiple models to eliminate estimation errors and to increase robustness. However, these measures require analysts' forecast on dividends, dividends growth rate and earning per share that are often unavailable in public domain for the PEX. Hence, based on Hearn and Piesse (2009), we have used variants of Capital Asset Pricing Model (CAPM) framework that are suitable for emerging markets. In addition, return on equity, an *ex-post* measure of realized return, was also used as an alternative measure. In sum, the study used three different *ex-ante* CAPM-like measures with different ways of calculating risks and two *ex-post* realized return measures. These models are presented below:

Model 1: The classical CAPM model was developed by Sharpe (1964) and others, which is shown in equation (1):

$$Ke1_{it} = R_f + B_{it}(R_m - R_f) \quad (1)$$

In equation (1), $Ke1_{it}$ represents the cost of equity for a firm "i" in year "t". R_f denotes the risk-free rate. R_m represents the market return. B_{it} is the systemic risk (beta) for a firm "i" in year "t". It is calculated annually based on a 12-month data as $B_{it} = \frac{cov(r_{it}, r_{mt})}{\sigma_{r_m}^2}$.

Models 2 and 3: The Estrada models or CAPM-like Cost of Equity models. In the classical CAPM, the beta coefficient is not appropriate to calculate Ke for emerging markets. Therefore, Estrada (2001) suggested two alternative risk variables: total risk and downside risk. Total risk is measured by standard deviation of the returns, and the downside risk is measured by semi-deviation of the returns. Analogous to the CAPM model, the Ke using standard deviation is shown in equation (2):

$$Ke2_{it} = R_f + \sigma_{it}(R_m - R_f) \quad (2)$$

In equation (2), the total risk can be measured by a standard deviation of the return for the 12-months of each year, which is $\sigma_{it} = \sqrt{\frac{1}{T} \sum_{t=1}^T (r_{it} - \bar{r}_i)^2}$.

Following semi-deviation of the return, the Ke is calculated using equation (3):

$$Ke3_{it} = R_f + \delta_{R_{m,i}}(R_m - R_f) \quad (3)$$

In equation (3), the semi-deviation measures the average deviation of returns below the market return for the 12-months of each year: $\delta_{R_{m,i}} = \sqrt{\frac{1}{T} \sum_{t=1}^T (\min\{r_{it} - r_{mt}, 0\})^2}$.

Furthermore, the study also used return on equity to proxy the Ke. It is measured by dividing the net income of the firm by its total book value of equity as shown in equation (4):

$$ROE1 = \frac{NI}{BVE} \quad (4)$$

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ROE1 can have negative values, but the Ke cannot be negative. Therefore, an additional measure of the Ke (ROE2) was used where all negative values were set to zero. At the end, Ke was proxied by five measures: Ke1, Ke2, Ke3, ROE1 and ROE2.

3.2.2 Measurement of voluntary disclosure. Following prior studies (Habbash *et al.*, 2016; Meek *et al.*, 1995), and based on the instructions by the Palestine Capital Market Authority and the Palestinian Code of Corporate Governance, we used a checklist to measure and adjust the level of Voluntary Disclosure (VD) for the case of Palestinian context. Each item of the checklist was coded with “1” if the information is disclosed and with “0” if they were not. The VD index for each company was estimated by the ratio of the disclosed items to the maximum possible score for a company. The checklist presented in Appendix 1 includes eight dimensions, including general, strategic, financial, employee, among other information.

3.2.3 Measurement of corporate governance. CG was employed to modify the strength and direction of the association between the firm’s level of VD and its Ke. Following prior studies (Zhu, 2014; Gupta *et al.*, 2018), this study used a checklist modified for Palestinian context to measure the CG. In 2009, Corporate Governance National Committee proposed codes comparable to international standards for good CG practices for listed non-banking firms of the PEX. Each item in the checklist was coded with “1” if it is disclosed and with “0” if it was not. The CG index of a company was estimated by computing the ratio of the total items committed to the maximum possible score appropriate for that company. Appendix 2 lists the items on board of directors, audit committee and disclosure and transparency.

3.2.4 Measurement of control variables. The study considered four control variables: company size, financial leverage, future growth opportunities and quality of auditors. As large firms have better financial disclosure and lower asymmetric information, we assume that company size, represented by the natural logarithm of the total assets, is negatively associated with Ke (Ben-Nasr *et al.*, 2012; Hail and Leuz, 2006). Due to higher financial risk associated with financial leverage, which is measured by dividing total liabilities with the total assets, we expect a positive connection between leverage and Ke (Botosan and Plumlee, 2002). Growth opportunity, measured by the market to book ratio, is expected to negatively influence Ke (Hail and Leuz, 2006). To consider the impact of external monitoring on Ke nexus, “Quality of the auditor” is included as a dummy variable: coded as “1” if the company is audited by one of the Big Four audit firms. Based on Houqe *et al.* (2017), we expect a negative relationship between quality of the auditor and Ke. Table 1 presents the variables of this study.

3.3 Empirical model

To avoid multicollinearity, a mean-centring procedure was adopted by subtracting the sample mean from each observed value of the predictor and moderator variables (Shieh, 2011). Following regression model [equation (5)] was tested for investigating the hypotheses. Details of these variables are given in Table 1:

$$\begin{aligned} Ke_{it} = & \beta_0 + \beta_1 VD_{it} + \beta_2 CG_{it} + \beta_3 VD_{it} * CG_{it} + \beta_4 SIZE_{it} + \beta_5 LEVERAGE_{it} + \beta_6 MB_{it} \\ & + \beta_7 QUALITY_{it} + e_{it} \end{aligned} \quad (5)$$

Variable	Abbreviation	Operational definition
Voluntary Disclosure	VD	A checklist to measure the level of voluntary disclosure
Corporate Governance	CG	A checklist to measure the level of corporate governance
Cost of Equity	Ke1	CAPM framework using beta as a risk measure
	Ke2	CAPM framework using standard deviation as a risk measure
	Ke3	CAPM framework using semi-deviation of return as a risk measure
	ROE1	Net income divided by equity book value
	ROE2	Net income divided by equity book value. All negative ROEs are set to zero
Firm Size	SIZE	The natural log of total assets of the firm
Financial Leverage	LEVERAGE	The total debt to total assets ratio
Future Growth Opportunities	MB	The ratio between the market value and the book value of assets
Auditor quality	QUALITY	A dummy variable which equals "1" if the company is audited by Big Four* audit firm and "0" if otherwise

Note: *The Big Four audit firms are Deloitte, Ernst and Young, KPMG and PricewaterhouseCoopers

Table 1.
Definitions of the variables

4. Results and discussion

4.1 Descriptive statistics and correlation

Table 2 presents the descriptive statistics. The mean score of the Ke varies between 1.2% and 7%. VD has a mean of 0.375, which is comparable to the score presented by Habbash *et al.* (2016) from their study on ten Arab countries. Range of VD score (highest 74% and lowest 2.9%) exhibits a diverse disclosure choice among the companies. Palestinian firms disclosed mostly on general company information (54%), followed by CG indicators (53%) and disclosed the least on forward-looking information (2%), followed by information on employees (16%) (Appendix 1). The mean of CG score is 0.613, indicating that the Palestinian firms have a fair commitment to CG standards. Among the elements of CG, PEX firms have reported mostly on "transparency", followed by "board of directors" (Appendix 2). Leverage ratio on the average is 37.6% among the Palestinian firms. The

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Obs.
Ke1	0.070	0.020	1.150	0.004	0.144	358
Ke2	0.014	0.010	0.188	0.001	0.018	359
Ke3	0.012	0.010	0.056	0.001	0.008	359
ROE1	0.027	0.047	0.557	-2.632	0.243	396
ROE2	0.073	0.047	0.557	0.000	0.088	396
VD	0.375	0.371	0.743	0.029	0.164	374
CG	0.613	0.611	1.000	0.056	0.210	378
VD × CG	0.255	0.229	0.686	0.008	0.165	370
LEVERAGE	0.376	0.357	0.800	0.000	0.236	396
MB	0.968	0.925	2.471	0.055	0.375	396
SIZE	17.141	17.160	20.744	13.711	1.535	396
QUALITY	0.692	1.000	1.000	0.000	0.462	396

Table 2.
Descriptive statistics of the study variables

Notes: Std. Dev. = Standard Deviation. Obs. = Observations. Refer to Table 1 for notations

assets have a market value close to book value as the ratio of MB is close to “1”. About 69% of the firms hire a Big Four auditing firm. We find support on these results from [Abu Alia et al. \(2020\)](#) and [Abdeljawad et al. \(2020\)](#).

Table 3 shows the correlation coefficients. The highest coefficient was 0.913: between the interaction term VD*CG and VD. The correlation between VD and the three measures of the Ke (Ke1, Ke2 and Ke3) are positive but weak, whereas the coefficients between VD and return on equity (ROE1, ROE2) are stronger and positive. The relationships between CG and the measures of the Ke are positive, except for the ROE1, which present a weak negative connection.

4.2 Cost of equity, corporate governance and voluntary disclosure nexus

Table 4 shows that the relationship between VD and the Ke is sensitive to the proxies of the Ke. All regressors were lagged by one period to ensure that the relationship went from the regressors to dependent variable, not vice versa ([Leszczensky and Wolbring, 2019](#)). Results reported a significant negative relationship between VD and down-side risk (Ke3). The insignificant results with beta and standard deviation and the significant negative association with semi-deviation in emerging markets are supported by [Estrada \(2003\)](#). A significant positive relationship was found with the remaining two *ex-post* measures. [Estrada \(2000\)](#) reveals that the causes for smaller beta may lie not only with the lack of market integration but also with other significant reasons connected to instability that are common to emerging markets.

The negative influence of VD on the *ex-ante* measures of Ke is consistent with a growing list of extant results ([Lambert et al., 2007](#); [He et al., 2019](#); [Albarrak et al., 2020](#)). The rationale includes lower uncertainty, lower liquidity risk and less misalignment with outsiders ([Daske and Gebhardt, 2006](#)). [Souissi and Khelif \(2012\)](#) added that the negative correlation between VD and Ke was easier to detect in low intensity disclosure environment. The results of *ex-post* realized return - ROE1 and ROE2 – have returned significant positive relationship with VD that can be traced back to the higher cost or risk associated with VD.

CG presents a nominal positive connection with Ke3, but negatively connects to ROE1. As we hypothesized, the interaction term (VD × CG) is negatively related to the Ke when measured using ROE1 and ROE2 proxies. Our results about CG are supported in principle

Variables	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
[1] Ke1	1.00											
[2] Ke2	0.16	1.00										
[3] Ke3	-0.21	0.54	1.00									
[4] ROE1	0.02	-0.05	-0.08	1.00								
[5] ROE2	-0.01	-0.02	-0.03	0.58	1.00							
[6] VD	0.02	0.06	0.00	0.13	0.29	1.00						
[7] CG	0.06	0.07	0.01	-0.02	0.13	0.62	1.00					
[8] VD*CG	0.03	0.07	0.01	0.08	0.23	0.91	0.84	1.00				
[9] LEVERAGE	0.05	0.07	0.04	-0.16	0.13	0.22	0.29	0.25	1.00			
[10] MB	0.06	0.18	0.08	-0.02	0.26	0.13	0.08	0.13	0.15	1.00		
[11] SIZE	0.01	0.06	0.04	0.20	0.15	0.24	0.32	0.31	0.25	-0.05	1.00	
[12] QUALITY	0.09	0.05	-0.01	-0.04	-0.01	0.10	0.30	0.21	0.06	0.13	0.39	1.00

Notes: All correlations in the table are based on original data. The mean-centring of variables does not affect the correlations, except for the interaction term. After centring, the correlation between the interaction term and VD is 0.151 and the correlation between the interaction term and CG is 0.092

Table 3.
Pearson correlation
matrix

Variables	Ex-ante measures of Ke			Ex-post measures of Ke	
	Ke1	Ke2	Ke3	ROE1	ROE2
VD(-1)	0.016 (0.771)	0.002 (0.372)	-0.003*** (-2.911)	0.278** (2.234)	0.217*** (3.926)
CG(-1)	-0.057 (-0.948)	0.006 (1.603)	0.006** (2.247)	-0.148** (-2.254)	-0.064 (-1.421)
CG*VD(-1)	-0.381* (-1.862)	0.007 (0.491)	0.007 (0.986)	-0.370** (-2.265)	-0.419** (-2.569)
LEVERAGE(-1)	0.017 (0.890)	0.002 (0.867)	0.001* (1.669)	-0.103 (-1.369)	0.028 (0.744)
MB(-1)	0.050** (2.229)	0.012** (2.108)	0.002** (2.407)	0.046 (1.324)	0.037*** (3.116)
SIZE(-1)	-0.001 (-0.147)	0.001 (1.626)	0.0004*** (3.064)	0.036*** (2.840)	0.006 (1.493)
QUALITY (-1)	0.032 (1.461)	-0.001 (-0.740)	-0.001*** (-3.213)	-0.053* (-1.706)	-0.017 (-0.892)
R-squared	0.043	0.067	0.056	0.376	0.396
Adjusted R-squared	0.015	0.039	0.028	0.358	0.379
Durbin-Watson stat.	2.157	2.044	1.530	2.729	2.425
F-statistic	1.520	2.419**	2.007**	20.97***	22.89***

Table 4.
Estimation results
for the model with all
measures of Ke

Notes: Panel Least Squares with White cross-section standard errors and covariance (d.f. corrected) are used. The *t*-statistics are in the parentheses. Models include a constant and AR(1) terms. All variables are lagged by one period. ***, **, * indicate level of significance at 1%, 5% and 10%, respectively. Ke = Cost of equity, ROE = Return on equity, VD = voluntary disclosure, CG = Corporate governance, MB = Market to Book ratio, Leverage = debt to asset ratio, Size = Firm size, Quality = Auditor's quality

by several recent studies, such as [Adnan and Qubbaja \(2019\)](#), [Zhu \(2014\)](#), [Gupta et al. \(2018\)](#), [Srivastava et al. \(2019\)](#) and [Khlif et al. \(2019\)](#).

Among other determinants, we found a positive relationship between firm size and Ke (Ke3, ROE1), which contradicts with [Botosan and Plumlee \(2002\)](#) and [Ben-Nasr et al. \(2012\)](#). This study reports a significant positive relationship between market to book ratio and Ke (Ke1, Ke2, Ke3 and ROE2). Our results contradict with the existing studies done on large markets ([Ben-Nasr et al., 2012](#)). The firm in the growth stage is deemed to be riskier for investors. Hence, markets with smaller firms will generally experience higher Ke.

We find strong support on the positive nexus between financial leverage and Ke ([Ben-Nasr et al., 2012](#)). The risk for investor increases when the company has higher fixed debt obligation. Quality of auditor finds a negative connection with Ke, which is supported by the "reliability" hypothesis: better the quality of the auditors, more reliable is the disclosures, thus lower asymmetric information and Ke ([Houqe et al., 2017](#); [Chen et al., 2011](#)).

4.3 Discussions of the findings

4.3.1 Downside risk, cultural influence and cost of equity. Our results suggest that investors in PEX avoid downside or unfavourable volatility (Ke3), leading to a negative relationship between VD and Ke. However, under adverse circumstances, disclosures will increase investor uncertainty and information asymmetry ([Lambert et al., 2007](#)). In a smaller market, while some information may be used by competitors, and other may be associated with proprietary costs that can negatively affect firm value. The positive relationship between VD and Ke also lies in the cultural and values system that foster volatility and uncertainty ([Abu Alia and Branson, 2011](#); [Elfeky, 2017](#)). Like the surrounding countries (Jordan, Syria

and Egypt), Palestine is ranked high on the “Power Distance” and “Uncertainty Avoidance” and low on “Individualism” and “Long-Term Orientation” (Hofstede, 1980). VD requires a long-term plan in designing and publishing contents that are outside of the regular disclosure requirement. Hence, companies registered in countries ranked high on “uncertainty avoidance” and low on “long-term orientation” may not disclose futuristic information (Durnev and Kim, 2005).

4.3.2 Inferior quality of disclosure. The PEX firms broadly suffer from inferior quality of disclosure. Of the eight VD criteria (Appendix 1), score on six criteria was below 50%. PEX firms emphasized less on information related to forward-looking matters, employees, financials and even capital market. Hence, higher degree of asymmetric information existed in PEX. Inferior quality of disclosure in Palestine was amplified by political and economic instability and weak rule of law.

4.3.3 Voluntary disclosure and corporate governance moderation effect. Our results suggest that interaction effect of VD and CG carries stronger influence on Ke when compared to their standalone effect. Aside to strong application of the agency theory, the results should encourage management to adopt internationally comparable CG mechanisms in Palestine. However, due to inferior quality of VD, firms tend to fill up the “market expectation” gap with CG. While VD alone does not completely help reduce Ke, the interaction term of CG and VD signals higher confidence and lesser asymmetry, which leads to lower Ke.

4.3.4 Size effect. VD-CG-Ke nexus in the PEX is influenced from size effect in two ways: relatively smaller local firms listed on PEX and relatively smaller market capitalization of the PEX. Size influences market condition, volatility and business risk, leading to a significant influence on Ke. While much of the inconsistencies of Ke can be explained by size, small firm usually has limited transactions leading to limited demand for funds, higher flexibility and slightly stable activities that connect to lower risk and Ke. This could be a reason behind positive relationship between VD and Ke among PEX firms.

5. Conclusions

This study investigates the impact of the voluntary disclosure on the Ke and the moderating role of CG on this relationship in Palestine, a context characterized by prolonged political instability. We have analysed data of all non-bank companies listed with the PEX during 2009 to 2018. A checklist of 35 and 19 items are used to create indices of VD and CG respectively. Five proxies for Ke are used: three *ex-ante* CAPM-like proxies and two *ex-post* realized-return proxies. Results imply that firms with better CG will see a decrease in Ke if they can increase their VD. Firms with high leverage and low quality of auditor have experience high Ke. Positive relationships between size, growth, and Ke state that in an unstable context, such as Palestine, firms may prefer flexibility of smaller size and adopt conservative growth strategies to cope with adverse events.

There are two major takeaways from the results. First, for countries such as Palestine, strengthening disclosure requirement solely may not decrease Ke. Amid extreme political crisis, investors expect tangible improvements in standards and implanting CG guidelines effectively (Tessema *et al.*, 2017). Secondly, application of CG guidelines reduces the level of asymmetric information by making firms disclose voluntarily, leading to higher investor confidence and lower Ke. Therefore, firms will gradually increase their VD given its benefits with asymmetric information and positively influence firm value (Temiz, 2021).

As for practical implications, managers in unstable environment should strive to increase the level of CG and enhance disclosure to reduce asymmetric information. Managers should diversify the disclosure channels – moving into Web-based disclosure, for

instance – to capitalize on the benefits of VD. As investors will prefer firms with higher CG and VD levels. Policymakers should zoom into improving the disclosure and governance requirements to see a sustainable impact on cost of capital, investor confidence and firm value. Policymakers should help harmonize initiatives taken by standard setters to reduce duplications and increase compliance of international best practices.

Results from this study can be replicated in other countries facing similar environment. In doing so, we suggest that future studies include testing of the dynamic interactions on VD-CG-Ke nexus. To add complex dimensions, studies may investigate influence of “cultural values” on Ke, VD and CG. We could not test some of these due to limited time series data.

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Items	(%)
<i>General company information</i>	
1. Company's mission statement.	51.95
2. Brief history of the company.	61.95
3. Corporate structure/chart.	49.02
Average score	54.31
<i>Corporate strategy:</i>	
1. Statement of corporate strategy and objectives –general.	68.54
2. . . . –financial	58.54
3. . . . –marketing	52.20
4. . . . –social.	22.20
5. Impact of strategy on current performance.	5.61
Average score	41.41
<i>Financial performance:</i>	
1. Liquidity ratios	37.32
2. Debt / equity ratio	15.61
3. Profitability ratios	51.71
4. Return on equity	43.17
5. Return on assets	40.24
6. Financial history or summary (3 or more years)	57.07
Average score	40.85
<i>Employee information</i>	
1. Number of employees trained.	15.12
2. Policy on employee training.	37.56
3. Women empowerment.	0.49
4. Employees' appreciation	27.07
5. Amount spent on training	2.68
6. Equal opportunity policy statement	10.73
Average score	15.61
<i>Segmental information</i>	
1. Competitor analysis – qualitative	64.15
2. . . . – quantitative	12.68
3. Market share analysis – qualitative	24.88
4. . . . – quantitative	23.66
Average	31.34
<i>Corporate governance/directors' information</i>	
1. Shares held by board directors of the company.	63.66
2. Meeting held and Attendance.	70.00
3. Educational qualifications of the directors.	61.95
4. Experience of the directors.	63.17
5. Other directorship held by executive directors.	33.90
6. Statement of internal control	26.10
Average score	53.13
<i>Capital market data</i>	
1. The market value of shares at the end of the year	38.05
Average score	38.05
<i>Forward-looking information</i>	
1. Factors that may affect future performance	4.39
2. Earnings per share forecast	0.00
3. Sales revenue forecast	1.46
4. Profit forecast	1.22
Average score	1.77

Table A1.
Voluntary disclosure
checklist and average
score

Appendix 2

Moderating role of corporate governance

Item	(%)
<i>Board of Directors</i>	
1. Chairperson of board and CEO are two different individuals	71.71
2. Chairperson is a non-executive director	71.71
3. The composition of the Board of Directors has two independent directors.	89.51
4. Board has a corporate governance committee	23.90
5. All directors attended 75 of board meetings or had a valid excuse.	29.02
6. Company has remuneration committee	10.49
7. Board size is greater than 5 but less than 11	83.90
Average score	54.32
<i>Audit Committee</i>	
1. Company has an audit committee	44.88
2. Chairperson of committee is a non-executive director	38.05
3. All members of committee are non-executive directors	32.20
4. Chairperson of the board is not the chairman or a member of the audit committee	32.44
Average score	36.89
<i>Disclosure and Transparency</i>	
1. Company discloses composition of audit committee	35.12
2. . . . releases its annual reports within 3 months of year-end	79.27
3. . . . discloses share ownership	87.32
4. . . . states its commitment to effective corporate governance	60.00
5. . . . discloses remuneration of board directors	80.24
6. . . . discloses remuneration of executive directors	68.29
7. . . . reports on CSR activities	79.02
8. Shareholder's vote on directors selected to fill vacancies	70.00
Average score	69.91

Table A2.
Corporate
governance checklist
and average score

Sector	Number of firms	Market capitalization (USD)
Banking and financial services	7	1,023,239,849
Industry	13	379,966,479
Insurance	7	214,802,000
Investments	10	725,066,387
Services	9	1,103,838,801
Total	46	3,446,913,516

Table A3.
Overview of the
Palestine Stock
Exchange (end of
2020)

Note: Two companies were delisted since 2019, making the total count to 46 (compared to 48 at the end of 2019)

Source: <https://web.pex.ps>

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