

Excellence of Financial Reporting Information and Investment Productivity

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Abstract

Objective – This study intends to examine the relationship between investment efficiency and financial information excellence. The study is also examining the moderating impact of sustainability on the relation between excellence in financial information and investment productivity.

Methodology – The cumulative measurements are 668 firm-years and are made up of 257 sub-samples of underinvestment and 411 sub-samples of overinvestment. This study may find no proof on the moderating effect of diversification on the relation between excellence in financial information and efficiency in investment. In the years 2016 to 2019, our samples are companies listed on the Dhaka Stock Exchange.

Findings – The results indicate that financial information reporting quality (both for overinvestment and underinvestment sub-samples) has a positive association with investment performance. Although the evidence is not consistent across sub-samples, the test findings on the relationship between diversification and efficiency of investment appear to indicate a negative and substantial relationship between diversification and efficiency of investment.

Research limitations/implications – The study finds no research investigating financial information quality and the productivity of investments. Moreover, it also discusses the regulating consequence for diversification on the correlation concerning financial knowledge and productivity of investment, which has not been examined in current studies as well.

Originality/value – This research fills a void in the literature by providing understandings into performs followed by Bangladeshi companies in diversification effects in investment productivity.

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This study also has major consequences in providing additional proof of the connection between financial information and productivity of investment.

keyword: financial expansion, financial information, investment adeptness

1. Introduction

Financial reporting helps to promote the efficient distribution of capital; this means financial reporting plays a crucial role in improving investment decisions of companies (Shahzad et al., 2019a). Investment is one of the significant sources of firm-value growth. Based on the results of Modigliani and Miller (1958), companies should be investing in all positive Net Present Value (NPV) projects and declining all negative NPV projects. To maximize firm values, businesses can make investments before the marginal profit reaches the project's marginal cost. But this is not always the case in the real world. Knowledge asymmetry has a great influence on investment decisions and may result in underinvestment due to it adding competition to the market and impacting capital costs. This causes under liquidity constraint inadequate investment for companies and results in over-investment due to the moral hazard (managers who seek their personal benefits and make undue use of free cash flow in negative NPV projects). Previous studies (such as Saffkaur et al., 2019) show that the standard of financial reporting can mitigate these investment inefficiencies (both overinvestment and underinvestment) problems. Ahmed (2020) argues that the Financial Information Excellence (FIE) and investment productivity relationship is linked to a decrease in knowledge asymmetry between companies and outside capital providers. Diversification also applies to the degree of knowledge asymmetry (Dou et al., 2019; Lobo et al., 2018; Shahzad et al., 2019b).

Corporate diversification, based on agency theory, appears to increase organizational complexity and leads to increased knowledge asymmetry between management and stockholders (O'Connell et al., 2019). Because of the costs of agencies and information asymmetry, corporate diversification is also seen as a value-decreasing policy (Kim, 2020). With the level of knowledge asymmetry the degree of opportunistic earnings management increases (Siregar & Nuryanah, 2018). The Irwandi & Pamungkas study (2020) offers proof that higher asymmetry in knowledge contributes to increased management of earnings. Company managers pursuing a diversification strategy can use this high knowledge asymmetry for earnings management (agency dispute hypothesis) (Aulia & Siregar, 2018).

To the best of our knowledge, we find no studies investigating the effect of diversification on the productivity of investments. Therefore, it is worth examining whether diversification has any important correlation with investment efficiency or not. We also discuss the moderating effect of diversification on FIE's association with investment efficiency. The statement, which underlies this moderating function, is that higher FIE improves financial reporting efficiency. The level of diversification, however, can intensify or reduce knowledge asymmetry, and therefore the relationship of FIE and investment performance can differ in highly diversified firms relative to firms with low diversity.

However, results from other studies indicate that diversification does not result in higher earnings management (hypothesis for earnings volatility). Aulia & Siregar (2018) argue that there is the benefit of the co-insurance effect of diversification which leads to lower management of earnings within diversified firms. Such businesses have different market divisions, whereby accruals in each segment are imperfectly linked, appear to cancel each other out, and thus lower overall accruals.

Our study has major implications in providing additional evidence for the positive relationship between FIE and Bangladesh investment performance. Habib et al. (2019) indicate that in countries with lower investor security, the position of the financial statements information is more limited. This means that the level of financial reporting is lower for companies listed in emerging-country stock

exchanges (in which investor rights are substantially lower) than for companies listed in developed-country stock exchanges.

This research can thus be interpreted as an analysis of the "boundary constraints" associated with the value of details on financial statements (Science, 2019, Jun 14). In this field of study, we also contribute by providing diversification that has not been explored in current studies. Seeing the positive correlation between FIE and investment performance has significant consequences for both management and capital providers, as our findings illustrate the importance of financial reporting in both parties' decision making.

2. LITERATURE REVIEW

Irwandi & Pamungkas (2020) indicates that if it spends all and only in ventures with good NPV, the business is investing efficiently. Investment inefficiency does not include taking investment opportunities in projects with a positive NPV (under-investment) but rather taking investment opportunities in projects with a negative NPV (over-investment); by decreasing the information asymmetry, FIE enhances investment efficiency. Higher FIE improves transparency for management in enabling investors to track spending better and thereby reduce adverse choices and moral hazards. That means fewer asymmetries in the details. Reducing information asymmetry results in less cost of control and enhances the efficiency of project selection (Irwandi & Pamungkas, 2020). In addition, higher FIE offers high-quality information to managers to help them make more informed investment decisions by more soundly defining investment opportunities (Yusuf, 2018). Higher FIE also decreases information asymmetry, which allows market liquidity to increase. This, in turn, decreases capital costs and encourages long-term investment financing for projects that produce meaningful NPV (Irwandi & Pamungkas, 2020).

Irwandi & Pamungkas (2020) and Razakova et al. (2019) provide evidence that FIE is able to reduce investment efficiency (i.e., FIE is positively related to investment performance) for both over-investment and under-investment and subsamples. Therefore the first hypothesis is as follows:

H_1 : Financial information excellence has a positive relation to productivity in investment.

The Strategy for Diversification has both benefits and costs. There are many potential benefits, such as increased operational efficiency; decreased willingness to give up constructive NPV projects; increased debt capacity; and the ability to cut taxes. Potential costs can include a variety of factors, such as increased use of discretionary capital to take on negative NPV projects; cross-subsidies that allow low-performance segments to drain capital from better-performing segments (Ahmed et al., 2016). Al-Dmour et al. (2018) found that diversified businesses have negative effects on the values of companies. There are two conflicting theories regarding the impact of diversification on knowledge asymmetry according to Neal et al., 2019. The first hypothesis is the hypothesis of accountability. According to this theory, diversified companies are subject to greater knowledge asymmetry as opposed to focuses on companies. Dividing an organization into several segments will increase this knowledge asymmetry problem because the profitability and operating efficiency of each market segment arise when the segments are part of a business group. The second hypothesis applies to the theory of knowledge diversification. For diversified companies, the total recorded earnings can imply less knowledge asymmetry. Assuming that the errors made by outside parties in forecasting cash flows produced by each segment have an imperfect correlation between segments, the absolute amount of the percentage error in the company's cash flow forecast may be smaller for a diversified business than for a focused company. Knowledge asymmetry about each segment's output is, in part, diversified across segments. Consequently, the degree to which the perceptions of the outsiders vary from those given by the private information (degree of knowledge asymmetry) of the managers' Neal

et al., 2019 can be reduced.

When cash flow is small, asymmetric knowledge between managers and stockholders may result in less productive investment because managers cannot credibly persuade stockholders that cash flow is insufficient to take advantage of all positive NPV opportunities. Managers should provide stockholders with the knowledge that the firm cannot grab all constructive NPV ventures that are available. As managers still profit from increased investment, stockholders never depend on claims from the management that cash flow is too poor (Lin et al., 2018).

Company diversification appears to increase organizational complexity, which consequently causes higher knowledge asymmetry, according to Neal et al., 2019. This higher knowledge asymmetry can lead managers of diversified companies to become more involved in earnings management (the hypothesis of an agency conflict). However, Soyemi & Olawale (2019) suggest that there is the benefit of diversification's co-insurance impact which results in lower earnings management within diversified firms (this implies lower knowledge asymmetry). This effect of diversification on the asymmetry of knowledge is expected to affect investment performance, too. According to Ahmed (2016), diversification has a negative correlation with investment success.

Diversified companies can reduce both over-investment and under-investment problems. If diversified companies have two or more divisions of imperfectly associated cash flows, diversification makes Lin et al. (2018) more consistent cash flows. Less volatile cash flow makes overinvestment and underinvestment less likely and, therefore, decreases investment performance problems. However, Lin et al., (2018), also indicates that diversified companies appear to overinvest in market markets with less attractive opportunities for investment. The subsequent point is that managers have available borrowing ability and substantial free cash flows to take on expenditure that reduces the value of the business. We establish the second unidirectional hypothesis as follows, provided that there are two opposing arguments:

H_2 : Diversification has a relation to investment productivity.

This study also explores the regulating influence of diversification on the association flanked by and FIE and investment productivity. Because of its potential two effects on knowledge asymmetry, we propose that diversification could strengthen or weaken the FIE association and investment efficiency. Neal et al., suggested a positive correlation of diversification and information asymmetry in 2019, while Soyemi & Olawale (2019) suggests that information asymmetry declines with increasing diversification. The degree of diversification can boost or minimize the correlation between financial reporting and investment performance because, as explained above, diversification can increase or decrease the asymmetry of the details. Therefore the hypothesis suggested is as follows:

H_3 : Diversification has a mediating impact on the relationship flanked by the standard economic information & the investment profitability.

3. RESEARCH METHOD

Research Model

Testing our prediction we use the following research model:

$$\begin{aligned} InvPro_{i,t} = & \alpha_0 + \alpha_1 FIE_{i,t} + \alpha_2 DIV_{i,t} + \alpha_3 FIE * DIV_{i,t} \\ & + \alpha_4 Tang_{i,t} + \alpha_5 TobinsO_{i,t} + \alpha_6 CFO_{i,t} + \alpha_7 LEV_{i,t} \\ & + \alpha_8 Size_{i,t} + \alpha_9 Age_{i,t} + \alpha_{10} Loss_{i,t} + \epsilon_{i,t} \end{aligned} \quad (1)$$

Variable Definition

We follow the work done by (Garcia-Blandon et al., 2018), and Gomariz and Ballesta (2014) to

calculate investment productivity. Investment inefficiency is defined as the difference between the true investment level and the planned investment level. This is based on a model, as shown below, which forecasts investment as a function of revenue growth:

$$Invest_{i,t} = \beta_0 + \beta_1 NEG_{i,t-1} + \beta_2 \%RevGrowth_{i,t-1} + \beta_3 NEG_{i,t-1} * \%RevGrowth_{i,t-1} + \epsilon_{i,t-1} \quad (2)$$

Investment is the net investment measured as the aggregate of investment in land, equipment, plant, R&D minus property, plant, and equipment sales deflated by lagged total assets. RevGrowth percent is sales growth. The NEG is a sales growth predictor vector were 1 if the company is experiencing negative revenue growth, and 0 if not. We cross-sectionally calculated this model for each year and for each sector. Residuals of this model are deviations from planned investment levels and therefore reflect the inefficiency of investment. A positive residual means that the investment of the company relative to the sales growth is higher than the usual level; thus, over-investment occurs. A negative residual, on the other hand, means that the investment is lower than the level expected and therefore there is underinvestment. We multiply the absolute residual value by negative 1 so the higher amounts reflect greater investment efficiency. We analyzed the samples and split them into over-investment and under-investment subsamples.

There is plenty of FIE calculation (please see Begum et al., 2012; Benlemlih & Bitar (2018) for a comprehensive discussion on this matter). All FIE measurements have the same limitations; this is because we have biases and thus the FIE cannot be reliably measured. We use the aggregate FIE measure based on the three measures which were commonly used in previous studies to answer this issue. The use of this aggregate measure should reduce any bias in the proxy. Since only one proxy cannot represent all of FIE's features, we assume the use of an aggregate measure is one way to address this problem.

We argue, too, that the generalization of our findings can be improved by using several proxies (Garcia-Blandon et al., 2018). We calculated the FIE using three different proxies established by Dechow and Dichev (2002), Kasznik (1999), & McNichols and Stubben (2008) following the findings of Gomariz and Ballesta (2014). Here is a tutorial by McNichols and Stubben (2008):

$$\Delta AR_{i,t} = \gamma_0 + \gamma_1 REV_{i,t} + \epsilon_{i,t} \quad (3)$$

Where AR is receivables change, while REV is sales change. All variables are multiplied by total assets lagging behind. Then we multiply the residuals from this formula by negative one (-1), so that the higher quantity is higher FIE.

Model Kasznik (1999) is as follows:

$$TAC = \delta_0 + \delta_1 \Delta REV_{i,t} + \delta_2 PPE_{i,t} + \delta_3 \Delta CFO_{i,t} + \epsilon_{i,t} \quad (4)$$

TAC is cumulative accruals (change in non-liquid current assets less current liabilities change plus short-term bank loan change less depreciation). REV is a change in income; $PPE_{i,t}$ is gross property, plant and equipment; and $\Delta CFO_{i,t}$ is a change in cash flow from operating activities. All variables are multiplied by total assets lagging behind. Even we multiply the residuals from this formula by the negative one so that the higher value reflects greater quality in financial knowledge (FIE).

Model Dechow and Dichev (2002) is as follows:

$$WCA_{i,t} = \lambda_0 + \lambda_1 \Delta CFO_{i,t-1} + \lambda_2 CFO_{i,t} + \lambda_3 \Delta CFO_{i,t+1} + \epsilon_{i,t} \quad (5)$$

WCA is the accrual of working capital (change in current non-liquid assets less change in current liabilities plus the change in short-term bank loans). $CFO_{i,t-1}$, $CFO_{i,t}$, $CFO_{i,t+1}$ are the last year,

current year, and recurring cash flows from next year. All variables are multiplied by the total asset that starts. In line with the two above models, we also multiply the residual values from this model by -1 so a higher value indicates higher excellence in financial details.

After we have the residuals from those 3 models, these residuals are aggregated as our FIE (FIE) metric.

As a commonly used metric of diversification we use the Herfindahl-Hirschman Index:

$$DIV_{i,t} = \sum_i^n S_i \quad (6)$$

DIV is the Herfindahl index; s_i in each firm represents segment I revenue share; and n represents segment number. The high value of the DIV stands for low diversification.

Following Razakova et al. (2019) results, our study model integrates multiple control variables. These are: tangibility (Tang) which is tangible asset to total asset; Tobin's Q to calculate growth opportunities; Cash Flow from Operations (CFO) to measure net cash flows from operating activities; Leverage (Lev) to measure firm leverage; Size to manage company size; Age to measure company age; and Loss (indicator variable were 1 if negative earnings and 0 if not).

Companies at various stages of their business cycles can have distinctive accruals resulting from variations in their business cycles not linked to the management of earnings (Dechow and Dichev, 2002). Thus we use the age variable and the frequency of losses as indicators. Lastly, following the results of Razakova et al. (2019) and Gomariz and Ballesta (2014), we monitor tangibility, Tobin's Q, leverage, and firm scale, as these have been found to have important capital investment associations in previous studies. We also include cash flow to capture its effect on the productivity of investments.

Sample Selection

We obtained data on our samples of the companies listed on the Dhaka Stock Exchange. Financial businesses are excluded from the samples because they are highly regulated entities. In addition, the FIE measure employed in this study does not apply to regulated industries (e.g., see Lai & Liu, 2018) for FIE measures by banks). Our research covers the 2016–2019 years. The research period begins in 2012 since Bangladesh officially introduced its local accounting standards (BAS) along with IFRSs. To minimize the potential impact of IFRS convergence on the research findings, this analysis discusses only the years in which Bangladeshi accounting standards have significantly converged with IFRSs. Our findings are composed of 668 firm-years, based on these parameters and data availability.

4. RESULTS

Table 1: Correlation Matrix

	InvPro	FIE	DIV	Tang	TobinsQ	CFO	Lev	Size	Age	Loss
InvPro	1,000									
FIE	0,087	1,000								
DIV	0,035	0,005	1,000							
Tang	-0,196	0,065	0,018	1,000						
TobinsQ	-0,014	0,018	-0,073	-0,054	1,000					
CFO	-0,053	0,034	-0,052	-0,063	0,484	1,000				
Lev	-0,073	-0,112	-0,059	0,129	-0,063	-0,161	1,000			
Size	0,096	0,038	0,269	-0,041	0,137	0,242	0,073	1,000		
Age	0,065	-0,015	0,105	-0,053	0,146	0,164	-0,059	0,270	1,000	
Loss	-0,087	-0,035	-0,137	0,294	-0,091	-0,207	0,344	-0,173	-0,112	1,000

InvPro: investment productivity, FIE: financial information excellence, using aggregate measure, DIV: corporate diversification, Tang: ratio of property, plant, and equipment to total assets, TobinsQ: Tobin's Q, CFO: cash flow from operations to total assets, Lev: debt to total assets, Size: natural logarithm of revenue, Age: natural logarithm of firm's age, Loss: 1 if firm has negative earnings and 0 if otherwise

The product of the matrix correlation is shown in Table 1. The findings show that InvPro and FIE have a positive correlation and a positive correlation between InvPro and DIV. This indicates there is a negative link between the productivity of the investment and diversification.

Table 2 displays the effects of regression of all samples of the study model. For underinvestment subsamples, the degree of investment inefficiency is greater than for overinvestment subsamples. Table 3 shows the effects of regression for the subsamples of overinvestment and underinvestment.

Table 2: Regression of all sample results

Variables	t stat	Sign.	Coeff.
FIE	0.6900	0.2465	0.0096
DIV	3.0800	0.0010 ***	0.0180
FIE*DIV	0.7500	0.2275	0.0186
Tang	-4.6100	0.0000 ***	-0.0933
TobinsQ	0.2400	0.4045	0.0004
CFO	-2.3000	0.0105 **	-0.0331
Lev	-0.5700	0.2845 *	-0.0069
Size	1.8200	0.0345 **	0.0095
Age	2.5400	0.0055 ***	0.0720
Loss	1.1500	0.1245	0.0045
F stat		***	0.0000

*, **, *** significant at 1%, 5%, and 10%, respectively

Table 3: Over-investment and Under-investment Subsamples

Variables	Over-investment			Under-investment		
	t stat	Sign.	Coeff.	t stat	Sign.	Coeff.
FIE	1.7200	0.0425 **	0.1054	1.2900	0.0995 *	0.0093
DIV	2.1300	0.0165 **	0.0376	-0.1000	0.4605	-0.0003
FIE*DIV	-0.6100	0.2710	-0.0587	0.4400	0.3310	0.0056
Tang	-5.1300	0.0000 ***	-0.2709	1.5500	0.0610 *	0.0186
TobinsQ	-1.3100	0.0945 *	-0.0060	2.5900	0.0050 ***	0.0027
CFO	-5.4800	0.0000 ***	-0.2647	-0.0700	0.4740	-0.0005
Lev	-2.6900	0.0035 ***	-0.1001	-0.8700	0.1935	-0.0056
Size	-2.7000	0.0035 ***	-0.0486	2.2200	0.0130 **	0.0062
Age	2.9700	0.0015 ***	0.2824	-3.0300	0.0010 ***	-0.0490
Loss	0.7300	0.2335	0.0077	0.1900	0.4235	0.0004
F stat		***	0.0000		***	0.0000

InvPro: investment productivity, FIE: financial information excellence, using aggregate measure, DIV: corporate diversification, Tang: ratio of property, plant, and equipment to total assets, TobinsQ:

Tobin's Q, CFO: cash flow from operations to total assets, Lev: debt to total assets, Size: natural logarithm of revenue, Age: natural logarithm of firm's age, Loss: 1 if firm has negative earnings and 0 if otherwise.

*, **, *** significant at 1%, 5%, and 10%, respectively

5. DISCUSSION

From the regression results, we can see that the consistency of financial information has a positive relationship with the productivity of investment (both for over-investment and sub-samples of under-investment), while the results are negligible for overall samples. These findings underline the value of looking separately at over-investment and under-investment.

The overinvestment and underinvestment findings are compatible with previous studies (Razakova et al., 2019; Linhares et al., 2018; Majeed et al., 2018; Gomariz and Ballesta's, 2014). This proof of a substantial correlation between FIE and investment performance has important implications for both macroeconomics (because of the significance of investment as an integral determinant of economic growth) and microeconomics or enterprise level (because the investment is a major factor influencing investor return on capital) (Razakova et al., 2019).

This finding of a positive and substantial association between FIE and investment efficiency is also relevant in emerging markets, such as Bangladesh. Although previous widely cited studies indicate that listed firms in developing countries have lower financial reporting quality than those in developed countries, finding from this study indicates that FIE still has a significant role to play in mitigating inefficiency of investment. DIV (diversification) has a positive and important association with investment efficiency for all samples, and especially over-investment.

A positive correlation means diversification has a negative association with the productivity of the project. This finding appears to support the openness hypothesis that diversified firms are subject to higher information asymmetry compared to oriented firms (Neal et al., 2019) as well as the agency conflict hypothesis, which suggests that managers of diversified firms use high information asymmetry to participate in earnings management (Soyemi & Olawale, 2019), exacerbating the degree of informatics. This result also suggests that diversified businesses tend to be investing inefficiently than concentrated firms.

The issue of knowledge asymmetry may be more relevant for underinvestment firms as they need external funding more. Also, descriptive statistics show that underinvestment subsamples experience greater inefficiency of investment relative to overinvestment subsamples. That may explain why diversification is important for sub-samples of underinvestment. This is in line with Lin et al., (2018)'s assertion that while companies have restricted cash flows (under-investment issues), stockholders never assume that cash flow is too low on the management statement, as management would still benefit from higher investment levels.

On the other hand, there are negligible results in all regressions, in terms of the moderating function of diversification. Thus diversification has no moderating effect as indicated in the creative segment of hypotheses. Initially, we conjecture that diversification may have an impact on FIE's relationship with investment effectiveness. Diversification may have effects on information asymmetry, which is a positive association that declines information asymmetry as diversification increases and negative association (that is, information asymmetry declines as diversification increases). We can't find proof to support that though. These results indicate that diversification only has a strong correlation with productivity in investment. This finding suggests that FIE and diversification have no substitute role in reducing the productivity of investment; both have different functions.

The results show, for the control variables, that tangibility, firm size, and firm age have a consistently significant association with investment efficiency on all sample regression results and on the regression results of the subsamples. But the coefficient signs of the subsamples for overinvestment and underinvestment are different. Again, this indicates that sub-samples of over-investment and under-investment must be evaluated separately.

6. CONCLUSION

The findings show that the standard of financial reporting (FIE) has a favorable correlation with investment productivity for both overinvestment and sub-samples of underinvestment). This evidence is consistent with that given by Razakova et al., (2019), Garcia-Blandon et al., (2018), and Witkowska et al., (2019). Diversification has a negative and substantial relationship with investment performance for both samples and sub-samples of overinvestments.

This finding supports the hypothesis of openness (Neal et al., 2019), and the disputed hypothesis of the organization (Soyemi & Olawale, 2019). However, on the positive relation between FIE and investment efficiency, there is no moderating effect of diversification.

Our findings contribute significantly to the literature on investment efficiency which, in the sense of a developing country where the FIE is presumed to be of lower quality, still plays a significant role in reducing knowledge asymmetry and thereby enhancing investment efficiency. We also add to the current literature by showing that diversification often plays a role where higher diversification appears to increase the asymmetry of knowledge and thus reduce the efficiency of investment. This is a significant finding for Bangladesh where most Dhaka Stock Exchange-listed firms tend to be diversified firms rather than focus firms. These results are important for regulations on the capital market, too. These are critical in improving the quality of the financial results of the listed companies so that they play a better role in influencing investment decisions. The findings also have important implications for management to help them understand the economic effects in making investment decisions of corporate accounting policies (Witkowska et al., 2019).

This analysis has many caveats. For calculating aggregate financial statements we used 3 proxies. Maybe this measure isn't the best FIE measure. The use of readability can be considered in future studies (Razakova et al, 2019). In previous research, our investment-efficiency metrics were widely used. The calculation, however, is derived from a simple model forecasting expenditure as a function of growth in revenues. Future studies can build better models that include variables other than revenues to better measure the efficiency of investment.

Maybe differing in various contexts is the moderating influence of diversification on the relation between FIE and investment effectiveness. For example, in countries with varying levels of compliance and investor security, the impact can differ. Future studies will wish to examine this problem within a set of cross countries.

We're only discussing diversification based on industrial diversification in this report. Gamayuni (2018) finds evidence that fewer earnings management is correlated with industrial diversification while geographical diversification is not the case. Arguably, globally diversified companies (e.g. multinational entities) are larger and more diverse than domestic firms because of their activities in various countries (Timbate & Park, 2018). Based on the theory of agencies (Siregar & Nuryanah, 2018), the more complicated the business is, the harder it is for stockholders to track the behavior of management, and thus a higher degree of information asymmetry. This increased knowledge asymmetry between management and outsiders in geographically diversified companies will create an even more favorable atmosphere for managers to control earnings. Kuei-Fu (2018) indicates

that multinational companies have complicated coordination problems across numerous and diverse regional markets to reap the benefits of economies of scale and reach.

International operations are more vulnerable to various economic and political circumstances, such as sudden changes in regulatory regulations; local political and economic developments; difficulties in hiring and handling different regional operations; foreign exchange volatility issues; and potential costs incurred that are higher than the benefits of global diversification. It is therefore important to analyze the impact of geographic diversification on investment productivity, as well.

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