Growth Opportunities and Default Risk among Nonfinancial Firm Listed in Kenya

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ABSTRACT: This paper analyses the impact of growth opportunities on default risk of nonfinancial listed firms in Kenya. The study employ panel data analysis to study the 31 nonfinancial listed firms between 2011 and 2020. Default risk is estimated by Merton's (1974) distance to default, while growth opportunities is measured by the ratio of market to book value. The study employs the ordinary least squares to test the hypotheses, and both the fixed effect and random effect regression for robustness test. The results show that the growth opportunities has a negative and statistically significant effect on default risk. Furthermore, tangibility, institutional ownership, firm size, firm profitability and leverage were also found as exerting a significant effect on default risk. Managers may consider financing this growth opportunities using equity financing, which may lower the likelihood of default risk.

KEYWORDS: Default risk, growth opportunities, listed firms, Kenya

1. INTRODUCTION

The causes of corporate defaults have received a lot of attention in academic research ever since Beaver (1966) and Altman (1968) published their groundbreaking works in this area. Default risk is the probability that a firm may not be able to make an expected payment either principal or interest. A large number of academic researchers have been dedicated to assessing default risk since the direct and indirect costs of failure are substantial to the whole environment of a firm, equity-holders, debtholders, entrepreneurs, employees, clients, suppliers and auditors. In a more recent study, Traczynski (2017) has shown that the only two risk metrics that can sufficiently reflect default risk across all industry sectors are financial leverage and market return instability. Information on a firm's bankruptcy has a major life-changing effect on many parties connected to the defaulting firm. The expenses of financial distress, both direct and indirect (Opler & Titman, 1994; Maksimovic & Titman, 1991; Andrade & Kaplan, 1998), lower the value of the company's shares. According to Altman (1969), a bankruptcy declaration typically has a negative return. Empirical literature further confirms an inverse relationship between financial distress and stock returns (Garlappi & Yan, 2011; Nugroho, Arif & Halik, 2021; Gao, Parsons & Shen, 2018). Additionally, there is proof that solvent firms operating in an industry where insolvent firms also operates is more likely to report negative returns (Lang & Stulz, 1992).

The mixture of available assets and investment opportunities plays a significant role in predicting the possibility of default. The reasoning is simple. On the one hand, the more valuable a company's growth prospects are, the additional time the shareholders are willing to hold off and the greater the losses they are willing to accept (as well as the amount of money they are willing to invest in a struggling company), before going into default and turning the company over to the debt holders. If a company has a growth option, then in the case of default, its shareholders forfeit not only their right to the revenue flow produced by the current assets, but also their right to utilize the investment option in the future. As a result, default is more expensive for shareholders of a company with abundant investment prospects, and as a result, they are more prepared to delay their choice to fail on their debt commitments.

On the other hand, the easier it is to secure external funding, the more attractive the firm's investment prospects are, and the higher the value of the firm's residual claims on its assets that do not accrue to existing loan holders. This applies to both external loans and equity. Therefore, a firm's default risk is tied to growth opportunities, regardless of whether bankruptcy is triggered by the shareholders' unwillingness to continue honoring their debt obligations or by their inability to find outside funding to continue servicing debt.

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Firms tend to use to external capital in situation where they can not generate sufficient internal funds to finance investment opportunities (Mateev, Poutziouris & Ivanov, 2013). It has been suggested that the application of debt by firms with growth opportunities increases default risk and, consequently, underinvestment problems. The issuance of debt or equity to finance new investment projects faces the problem of undervaluation due to asymmetric information (Daniševská, 2002). Therefore, the managers of firms with growth opportunities, but which do not generate enough funds internally, should decide which is the best source of funds to cope with the underinvestment and the undervaluation problems. Empirical studies have also examined how a firm's investment opportunity, more specifically growth opportunities, influences the choice of debt financing, maturity and covenant (Billett, King & Mauer, 2007). The decision to become levered involves a tradeoff between the costs and benefits of debt financing. The long-standing view among finance theorists is that one of the most important costs of debt financing is the potential for conflicts between stockholders and bondholders over the investment and financing policies of the firm. These agency conflicts have the potential to significantly reduce firm value and thereby temper the firm's use of debt financing.

Low market to book value companies are those that present fewer investment options or do not have worthwhile investment opportunities that are known to outside investors (Barclay & Smith, 1995; Lang, Ofek & Stulz, 1996; Myers, 1977). Investors are skeptical about whether extra funds generated to finance a company's investment option can increase shareholder wealth when future development potential are not recognized by the market. Investors are also worried about the possibility of managers misusing money at these companies. When investing in these companies, investors would want a greater rate of return to make up for the uncertainties. This also explains why enterprises' rising cost of capital while using leverage. As a result, low growth enterprises tend to employ less long-term debt capital to address these issues.

Growth opportunities may escalate the tension between managers and shareholders. The underinvestment issue is likely to surface as suggested by Myers (1977). The underinvestment problem essentially highlights the drawback of excessive debt financing in the context of growth opportunities because too much debt could hinder managers from implementing positive NPV projects, as is well recognized. If this is the case, managers may abandon some profitable projects out of concern for the shareholders due to the pressure of excessive financial leverage ratios. Arguably, bondholders have precedence over shareholders with regard to the company earnings. Managers may decline to investment in projects whose cash flows will not benefit owners but by creditors if debtholders are the prior claim holders. The effects of this behavior on company value are obvious; therefore, a decline in value may be anticipated because of the lost opportunities to make money. Therefore, growth opportunities play a prominent role in the theory of corporate finance. It is generally believed that growth opportunities play an especially important role in determining a firm's debt policy and the extent of default (Jaggi & Gul, 1999). Firms with good growth opportunities are expected to have little debt, and a high proportion of their debt is expected to be short-term rather than long-term, private instead of public, and senior (e.g., secured debt) instead of junior. Several papers have established cross-sectional relations between proxies for growth opportunities and debt variables. For example, Smith and Watts (1992) and Gaver and Gaver (1993) find that debt ratios vary inversely with proxies for growth opportunities. Barclay and Smith (1995a) find an inverse relation between proxies for growth opportunities and the maturity of corporate debt, while Stohs and Mauer (1996) find only mixed results on the inverse relationship between growth opportunities and leverage. In in the same vein, Barclay and Smith (1995b) found that measure for growth opportunities were directly related to the proportion of a firm's debt. The authors concluded firms with high growth opportunities should employ high priority debt, for instance capitalized leases and secured debt.

In the literature on default risk may be influenced by firm-specific variables were first proposed by Altman (1968) and Beaver (1966, 1968). Accounting-based variables were introduced to examine corporate default probability. Through them it was found that firms with good liquidity and high profits have a lower probability of default (Altman, 1968; Ohlson, 1980). Other firm-specific variables, such as firm size, are negatively correlated with a firm's default probability. The probability of default of large firms is lower than that of small and medium-sized enterprises. At the same time, market-based measures, such as DTD, are key factors (Hillegeist *et al.,* 2004). Highly leveraged firms (i.e., low DTD) have a higher probability of default. In addition, Campbell et al. (2008) found that the market to book ratio of bankrupt firms is higher than that of other active firms. Campbell, Hilscher and Szilagyi (2008) assessed the determinants of financially distressed stocks using US data over the period 1963 to 2003 found that firms characterized by higher leverage, lower profitability, lower market capitalization, lower past stock returns, more volatile past stock returns, lower cash holdings, higher market-book ratios, and lower prices per share were likely to face financial distress.

Generally, a high market to book ratio represents good future growth opportunities, which means a low probability of corporate failure in the long term. However, sometimes investors will misevaluate a firm that leads to a positive correlation between the market to book ratio and the firm's default probability Duan, Sun & Wang, 2012). The importance of the growth opportunities cannot be ignored in corporate finance. Growth opportunity is an indicator of a firm ability to invest in the profitable projects. Growth opportunities has also been linked to a firm's capital structure decision, specifically the tradeoff between debt and equity. In accordance to the argument by Myers (1977), firms having high leverage ratio tend to undertake activities contrary to debt

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holder's interest or investment in the risky projects which expropriates the wealth from the debt holders. However, empirical evidence in context of the similar statement is mixed. For instance, Chung (1993), Rajan and Zingales (1995) and Pescetto (2004) have found a negative relationship between firm growth and default risk whereas, Kester (1986) finds no significant relationship between firm growth and default risk, Booth et al. (2001) has found the existence of the positive relationship between firm growth and default risk. Zhang (2017) found no significant relationship between credit risk and growth of firms. Jermias and Yigit (2018) using the data of Turkish companies reported that leverage and growth opportunities of firm has negative association.

Further, they show that historical/past market-to-book ratios have a statistically significant impact on current capital structure (Bie & Haan 2007; Faulkender 2005; Hovakimian 2006). The authors argue that the persistent impact of past market-to-book on leverage is not due to the trade-off or pecking order theories but to equity market timing. As a result, capital structure is the cumulative outcome of past attempts at equity market timing (Baker & Wurgler 2002; Bie & Haan 2007; Hovakimian 2006; Huang & Ritter 2005) Baker and Wurgler's (2002) empirical results are also supported by the survey of US corporate executives conducted by Graham and Harvey (2001). Hovakimian (2006) find that the past market-to-book ratios do not have long lasting effects on capital structure. Rather, the author's findings are consistent with the hypothesis that past market-to-book ratio contains information about growth opportunities that cannot be captured by current capital structure. Despite the extensive research on growth opportunities and default risk, this relationship has not been examined in many developing and emerging economies such as Kenyan. Therefore, this study seeks to extend the literature by assessing the effect of growth opportunities on default risk among nonfinancial firms listed at the Nairobi Securities Exchange, Kenya.

Kenya is a good choice for this study for a number of reasons. First, with its firms cross-listed on the four stock exchanges in the region, Kenya has the largest securities market in the East Africa Community. Second, due to Kenya's capital market's rapid development since the early 1990s, the number of listed companies there has increased dramatically. Third, a number of Kenyan listed companies have faced severe financial distress in the decade (such as Sameer Africa, Mumias Sugar, Athi River Mining, East Africa Portland Cement, and the East Africa Cables). As a result, determining the indicator of default risk can not only lower investor losses but also contribute to the stability of the Kenyan financial market.

The rest of the article proceeds as follows. Section 2 reviews the related literature and develops the hypothesis. Section 3 presents the data and constructs the variables in our empirical study. Section 4 discusses findings. Section 5 concludes the article

2.   REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

It is predicted that a company's default risk and growth potential are inversely associated, for at least two reasons. First, a firm's growth opportunities is likely to be negatively impacted by the agency costs related to the debtholder-stockholder conflict. The underinvestment issue that Myers (1977) described is one illustration of this. Myers contends that businesses with risky debt are motivated to underinvest in value-adding initiatives. The reason for this is that while if shareholders, who make the investment decisions, incur the whole cost of the investments; they only earn a portion of the gain in firm value since some of it is distributed to the debt holders.

Firms with high growth opportunities have an incentive to finance their day-to-day activities with equity as opposed to debt as the cost of the underinvestment problem rises with a firm's growth opportunities (Moon & Tandon, 2007). In general, monitoring shareholders in high growth firms is more expensive for debt holders than it is in lower growth ones. It is more challenging for debtholders to watch how stockholders employ assets in fast growth corporations because these assets are typically intangible. For instance, there is sometimes disagreement between debtholders and stockholders over the ideal level of corporate risk, with debtholders typically favoring lower risk. It is easier for stockholders to increase firm risk, and more costly for debtholders to detect increases in firm risk, in high growth firms with mostly intangible assets than it is in low growth firms with more fixed assets in place. As a result, the costs of debt financing are higher in firms with more growth opportunities. Hence, a firm's debt level is expected to vary inversely with its growth opportunities.

Second, according to Jensen (1986), debt can lessen the agency costs of free cash flow, which are particularly high for businesses with limited room for growth. This argument holds that in industries with high free cash flow (i.e., operational cash flow minus capital required to fund value-enhancing initiatives), managers' and shareholders' interests are likely to diverge. In contrast to shareholders, who reportedly prefer using free cash flow to fund bigger payouts in the form of dividends and share repurchases, managers are said to have a stronger preference for keeping free cash flow within the company. Jensen believes that debt is one way to ease this strain. The risk that managers are going to squander free cash flow on value-decreasing projects is decreased when firms issue debt since they promise to paying out future free cash flows to investors. Stockholders are able to benefit from the value gain brought on by the decreased agency costs of free cash flow by disbursing the proceeds of the debt issues to shareholders in the form of dividends and share repurchases. This theory predicts an inverse relationship between growth prospects and debt ratios because the agency costs of free cash flow vary inversely with a firm's growth opportunities.

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Empirical studies further reveal a significant association between growth opportunities and default risk. Campbell *et al.,* (2008) found that the ratio of market to book value (M/B) of bankrupt firms is higher than that of non-bankrupt firms. Generally, a high M/B ratio represents good future growth opportunities, which means a low probability of corporate default. However, sometimes investors will misevaluate a firm that leads to a positive correlation between the M/B ratio and the firm's default probability (Duan *et al.*, 2012). Zhang, Zhao and Yao (2022) study on publicly listed firms from China's A-Share market, including 2,232 active publicly listed firms for the 1994–2014 period, yielding 323,556 firm month found that market to book ratio had an insignificant on the credit default risk of listed firms. A study by Cao, Leng, Feroz and Davalos (2015) that used a sample consists of 97 AAER (Securities and Exchange Commission's (SEC's) Accounting and Auditing Enforcement Releases (AAERs) firms that are included in the Risk Metrics database for the period between 1998 and 2005, found that higher leverage , greater growth opportunities, greater idiosyncratic risk, and smaller relative-to-market firm size increased default risk. Using a sample of 286 companies listed on Pakistan Stock Exchange (PSX) KSE of last 27 years from 1995-2021, Hamid and Siddiqui (2021) examined the effect of firm specific variables on default risk. The study found a significant negative effect of firm liquidity, ROA, size, cash flow from operations and firm growth on default risk. The study concluded that as firm increase in firm liquidity, size, profitability and growth would reduce the default risk of the firm.

Heyman, Deloof and Ooghe (2008) used a sample of 4,706 firm-year observations representing 1132 Belgian firms over the period 1996–2000 and found that more profitable firms have less debt. The authors further reported that growth options did not affect debt maturity, implying that the underinvestment problem is resolved by lowering leverage and by bank monitoring, not by reducing debt maturity.

Gopalakrishnan and Mohapatra (2020) who studied non-financial manufacturing firms (SIC 2 digit 20-39) from 60 countries over a 15 year period from 2003 to 2017 found that smaller firms, firms with higher cash flows, and those with higher growth opportunities (higher market-to-Book ratio) tend to have higher Z-scores, indicating a lower propensity to default. Firms with higher tangible capital have a lower Z-score, which may be explained by a greater reliance on debt financing secured by the firms' tangible assets. The authors further found that firms in countries with higher GDP growth, higher per capita income, and lower private credit to GDP (implying a lower debt overhang) tend to have a lower likelihood of default.

Harris and Raviv (1991) further found that large firms and firms having a significant level of tangibility are less likely to experience financial distress and thus are more likely to get long-term debt financing. On the contrary, the authors found that firms with less tangibility and growth opportunities prefer avoiding debt financing due to the high cost of financial distress. Additionally, firms with higher tangibility and larger size are more likely to be rated high and such firms get access to the long-term debt due to their ability to maintain low information asymmetry and less cost of financial bankruptcy. Kabir *et al.,* (2020), who employed data for the period 2004–2017 period including the GFC, and 3,671 listed firms in Japan that yielded an unbalanced panel of 2,902 non-financial firms includes 24,613 firm-year observations , found that firm's profitability (ROA) and firm value (TOBINQ a measure of growth opportunities) were positively associated with DD. The authors concluded that default risk is lower for firms with higher profitability and value. Based on the empirical literature we therefore hypothesis as follows

H1. Growth opportunities has a significant effect on default risk

In both the hazard analysis of default incidence and the OLS regression analysis based on "closeness to default," we include financial and market variables that have been shown by prior studies to be important predictors of default risk. We control for these variables as many of them can be highly correlated with the governance mechanisms in place. By including these control variables, we assure that the coefficients on governance variables and their interaction terms reflect the direct effect of corporate governance on default risk above and beyond the indirect effect of these governance mechanisms that work though the financial and market variable.

3. RESEARCH METHODOLOGY

3.1. Data

Our dataset includes publicly listed nonfinancial firms from Kenyan securities market (Nairobi Securities Exchange) over the period 2011-2020. As of 2020, Kenya had 65 listed firms of which 40 were nonfinancial and 25 financials listed across 13 sectors. Consistent with earlier literature (Boubakri et al., 2013; Nguyen, 2011), the study excluded financial firms because of their unique operating and financial environment. The study applied an inclusion and exclusion criteria that; the firms ought to have had its shares trade throughout the study period between 2011 and 2020 and its financial and stock information must be available for consecutive 10 years. The final sample comprised of 31 firms that yielded 310 firm-year observations. Market data was extracted from the Nairobi Securities Exchange reports, while the rest of the data were hand-collected from the firms' annual reports. In

addition, the study winsorized the data at the 99.9% level to mitigate the effect of outliers. Table 1 lists the definitions of the research variables.

3.2. Measurement of variables

Dependent variable- Default risk

Due to lack of default data, this study estimate default risk using the probability of default derived from the Merton's (1974) distance to default (DD). As the baseline measure of default risk, Merton's (1974) distance to default (DD) has been widely used to estimate default risk among non-financial firms (Bharath & Shumway, 2008; Gutiérrez-López, Castro & Tascón, 2022; Hovakimian, Kayhan & Titman, 2012). Distance to default (DTD) is inversely associated with default risk, meaning that a higher value of distance to default indicates lower default risk The study estimate the probability of default (Prob. Default) as the N (-DD). Where, N (-DD) is the CDF of normal distribution. A higher value of DD implies a greater distance to default and therefore, lower default risk. Both measures, DD and PD, move in the opposite direction, the higher the distance to default, the lower the probability of insolvency. Hillegeist *et al.,* (2004) suggest that this measure incorporates default information beyond what is traditionally captured by a measure based on accounting variables, and thus can be a superior source of information regarding a firm's bankruptcy risk. While by construction DD is highly dependent on firm size and asset volatility, Vassalou and Xing (2004) show that this measure captures important default information beyond what is conveyed by the market value of equity or the firm's asset volatility.

Independent variable- growth opportunities

Growth opportunities is the independent variable of the study and it is measured as the market to book value as suggested by Hovakimian (2006) who asserts that past/historical market-to-book ratios reflects the growth opportunities . This measure has also been used in previous studies (Chen, Zhao, 2006; Kogan & Papanikolaou, 2014).

Control Variables

Firm-specific variables have been found to be good bankruptcy predictors (Kabir *et al .,* 2021; Ho et al., 2023; Nie, Ling & Chen, 2023; Atif, & Ali, 2021). Therefore, this study controls for several relevant firm characteristics that could affect default risk in the regression model: (1) Profitability, the ratio of net income to total assets; (2) Tangibility; the ratio of property plant and equipment (3) size, measured using the logarithm of total assets; (4) institutional ownership, the ratio of institutional ownership to total shareholding (5) leverage; the ratio of total debt to total assets. Table I provides detailed definitions, constructions, and economic rationales for these variables.

Table 1. Measurement of variables

Variable	Definition	Notation
Default risk	The default risk is derived from Merton (1974) Distance to Default. The probability of default given as P D = N(−DD), where N is the standard normal distribution function and DD is the distance-to-default.	PD
Growth opportunities	Market to book value	GOP
Firm size	Nature logarithm of total assets denominated in Kenyan Shillings	FS
Firm performance	Return on assets	ROA
Tangibility	Ratio of plant property and equipment to total assets	TAN
Leverage	Ratio of debt to assets	
Institutional ownership	Proportion of shares held by institutional investors	INOW

3.3. Estimation model

Using a panel data regression model with the ordinary least squares (OLS), we ran the regression model of the dependent variable default risk $DRit$ over the independent variable $GOPRit$ while controlling for firm-level variables that the empirical literature shows as key determinants of default risk probability. The regression model is as follows:

$$PD_{it} = \beta_0 + \beta_1 ROA + \beta_2 TAN_{it} + \beta_3 FS_{it} + \beta_4 INOW_{it} + \beta_5 GOP_{it} + \varepsilon_{it}$$

Where; PD = probability of default, ROA = return on assets of firm i at year t, TAN = Tangibility of firm i at year t, FS = Firm size of firm i at year t, INOW = Institutional Ownership of firm i at year t, GO= Growth opportunities of firm i at year t. β1 to β5 = coefficients of the equations, t = time, i = firm and ε $_{it}$= error term

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4. RESULTS AND DISCUSSIONS

4.1. Descriptive statistics

Table 2 reports the descriptive statistics of our selected variables. The probability of default cash is 0.279, which suggests that firms in Kenya have low likelihood of falling into default risk. The mean tangibility is 0.369, implying that the selected firms hold relatively low physical asset. In terms of profitability, the average return on asset is 0.064. The average leverage is 0.444 which implies low default risk. The mean firm size is 7.096, while the average 0.7066 which is an indicator of considerable high level of ownership. The average growth opportunities is 2.958, this suggest that listed firms in Kenya have high growth opportunities.

Table 2: Summary Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
PD	310	.2787133	.3009113	0.000	1.000
TAN	310	.3691107	.2728815	0.001	.9415659
INOW	310	.7066368	.1643937	0.000	0.970
LEV	310	.4440806	.1359944	.0260912	.9379133
ROA	310	.0642881	.1529423	-0.420	.5909452
FS	310	7.095973	.8466186	5.198698	9.405137
GOP	310	2.958	7.812	.0038	58.806

PD, probability of default; TAN, tangibility; LEV, leverage; ROA, return on assets; FS, firm size; INOW, institutional ownership; GOP, growth opportunities.

4.2. Correlation results

Table 3 presents the correlation matrix of the research variables. Tangibility is positively correlated with the PD (0.2097), indicating that firms holding more plant, property and equipment are more likely to a high default risk. Leverage is positively correlated with PD (0.395), which suggests that firms with increasing debt capital may have higher default probability. There is a negative correlation between firm size and PD, which suggests that large companies have less default risk (-0.5281). ROA is negatively correlated with probability of default (-0.3452), suggesting profitable firms are less likely to fall into default. At the same time, growth opportunities is negatively correlated with PD (-0.5818), suggesting firms with high growth opportunities are less likely to default. The results of the Variance Inflation Factor (VIF) presented in table 4, confirm then absence of multicollinearity among the variables.

Table 3: Correlation analysis

	PD	TAN	LEV	ROA	FS	INOW	GOP
PD	1.0000						
TAN	0.2097*	1.0000					
LEV	0.3950*	0.1274*	1.0000				
ROA	-0.3452*	-0.0875	-0.2273*	1.0000			
FS	-0.5281*	0.1170*	-0.1090	0.3752*	1.0000		
INOW	0.3503*	-0.0165	0.2659*	-0.0868	-0.2232*	1.0000	
GOP	-0.5815*	-0.1030	-0.2240*	0.2756*	0.2373*	-0.0952	1.0000

Notes: PD, probability of default; TAN, tangibility; LEV, leverage; ROA, return on assets; FS, firm size; INOW, institutional ownership; GOP, growth opportunities.* $p < 0.05$

4.3. Regression results

We estimate the OLS regression with growth opportunities as the independent variables and firm-specific factors as control factors. The OLS results presented in table 4, show that growth opportunities have a negative and statistically significant effect on the probability of default (PD), and hypothesis (H1) is accepted. The results are consistent with those of Saona Hoffmann and Vallelado González (2005), who observed firms that require more external funding employ more bank loans, favor longer maturities, have fewer opportunities for growth, are more vulnerable to bankruptcy, and are less profitable. Moreover, Smith and Watts (1992) observed that firms with substantial potential for growth as well as high cash flow volatility have an incentive to

lower debt in their capital structure. According to our findings, Kenyan listed firms with high growth opportunities tend to use more of internally generated funds, which reduces the use of debt capital and ultimately lowering default risk. Our findings are consistent with the argument that financing growth opportunities with debt capital increases underinvestment and asset substitution problems in those firms that generate funds internally All the control variables show a significant relationship with default risk in the OLS regression model. Tangibility has a positive and significant effect on PD (β= 0.128, p<0.05). Firms with high share of plant, property and plant are more likely to use such assets as collateral for external financing, thus raising their probability of falling in default. Institutional ownership has a positive and significant effect on PD (β= 0. 178, p<0.05). According to the wealth distribution hypothesis, institutional shareholders may not adequately supervise management and may even exert pressure on them to engage in risky ventures in order to reap personal benefits at the expense of debtholders and minority shareholders. Consequently, future cash flows are more volatile, which simultaneously increases the risk of default. The negative association between firm size and PD implies that larger firms are more exposed to default risk (β= -0.664, p<0.05). The negative association between firm size and PD implies that larger firms are more exposed to default risk (β= -0.664, p<0.05). The relationship between firm size and PD is negative and significant   (β= -0.664, p<0.05). These results suggest that larger firms are more stable and consequently have less default risk. At the same time, the ''too big to fail'' principle still holds true in Kenya listed firms. Large firms have more diversified business and multiple financing channels when compared with small firms. Hence, large firms face few credit constraints compared to small ones. The positive coefficient of profitability (ROA) (β= -0.664, p<0.05) support the current view in the literature that more profitable firms are less exposed to default risk. ROA indicates the ability of a firm to generate sufficient returns for the smooth functioning of the firm. Higher ROAs would indicate lower default risk. The association between leverage and PD is positive and significant (β= 0.174, p<0.05), Indeed, highly leveraged firms are more exposed to default risk than non-leveraged firms. Financial leverage reflects the capital structure of the firm, i.e., how a firm finances its assets and the ability of the firm to meet its financial obligations. High leverage increases the financial risk of firms and is expected to have a positive relationship with default risk.

Table 4: Regression analysis

PD	Model 1 OLS Coeff.	Model 2 Random effect. Coeff.	Model 3 Fixed effect Coeff.	VIF
TAN	.128(0.028)**	.064(0.027)**	.049(0.029)	1.06
INOW	.178(0.045)**	.128(0.043)**	.116(0.044)**	1.14
LEV	.174(0.042)**	.153(0.037)**	.148(0.038)**	1.20
ROA	-.144(0.034)**	-.127(0.033)**	-.144(0.034)**	1.27
FS	-.664(0.068)**	-.670(0.122)**	-.798(0.178)**	1.26
GOP	-.098(0.009)**	-.112(0.010)**	-.115(0.010)**	1.15
_cons	1.856(0.204)**	1.927(0.354)**	2.303(0.512)**	
R-squared	0.6056	0.5870	0.5785	
F/chi2	77.540	351.35	51.25	
Observation	310	310	310	

Notes: PD, probability of default; TAN, tangibility; LEV, leverage; ROA, return on assets; FS, firm size; INOW , institutional ownership; GOP, growth opportunities. Standard errors (Std. Err.) in parentheses; ** p<0.05

4.4. Additional analysis

Since OLS may not yield efficient estimates for a panel data, the study further employed the fixed effect and random effect regression model. Overall, the fixed effect and random effect results presented in table 4 concur with those reported for the OLS regression model that growth opportunities is negatively associated with default risk. Similarly, our results for the control variables also remain consistent. Specifically, high tangibility, high leverage and large institutional ownership is positively related to default risk. However, high profitability and large firm size are inversely related with default risk.

5.   CONCLUSION

This paper examines the effect of growth opportunities on default risk in an developing economy, specifically with respect to Kenyan listed firms, and thus bridges a gap in the relevant literature. As the state and regional development varies from one

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country to another, and this development could affect the validity of the various theories, as the environment changes. There has so far been no study of the East African region (especially Kenya), that investigates the impact of growth opportunities on a firm's default risk. This study is thus an attempt to fill the gap in the field, by investigating the effect of capital structure on corporate failure, taking Jordan as a case study. The negative and significant impact of growth opportunities tax on the likelihood of default implies that high taxes actually decrease the risk of corporate failure. This could indeed be correct, as we know from experience, that successful firms are paying high taxes. The findings of this study have implications. First, managers should consider allocating resources to boost a firms growth opportunities. This would increase investors' confidence and access to equity financing, thus lowering debt financing. Additionally, managers of firms with growth opportunities should consider internally generated resources to finance growth opportunities, thus lowering default risk. The use of internal funds to finance profitable growth opportunities not only lowers leverage but also mitigates underinvestment and asset substitution problems. Secondly, investors can exploit the knowledge that firms' growth opportunities can lower default risk to assess a firm's long-term financial health. Finally, for investors, our findings provide valuable insights that can assist in evaluating a firm's default risk based on its growth opportunities. Investors can use this information as part of their investment decision-making processes. This study provides useful insights, but it has some limitations. One limitation is the choice of dependent variables, which could be improved by a comparison to other proxies for a firm's default risk. Second, future research studies can be pointed at as the extension of the sample to a regional or global basis in order to elucidate if country-specific factors such as the financial system dramatically modify the conclusions achieved. This may help to ensure the validity and reliability of the findings. Additionally, it is important to consider the possibility that the relationship between growth opportunities and default risk may be affected by other firm-specific variables such as ownership and corporate governance variables.

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