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Capital structure, profitability, and short-term solvency of nascent SMEs in Ghana: An empirical study

Karikari Amoa-Gyarteng¹ , Shepherd Dhlwayo² 

Abstract

PURPOSE: Small and medium enterprises (SMEs) play a vital role in the economic growth of emerging economies. However, many of these businesses fail in their early stages, making it important to investigate factors that influence their short-term solvency. This study aims to examine the impact of capital structure and profitability on the short-term solvency of nascent SMEs in Ghana, building on the liability of newness framework.

METHODOLOGY: Data for this study were obtained from the Ghana Enterprises Agency, focusing on nascent SMEs that are five years old or less. Financial statements were used to measure the dependent and independent variables, and regression analysis was employed to measure the variance in short-term solvency accounted for by profitability and capital structure. **FINDINGS:** This study demonstrates that financing decisions and financial performance act as crucial mitigating factors for the potential risks of default and failure faced by nascent SMEs. Notably, the study finds that an appropriate balance between debt and equity financing raises the working capital ratio and thus reduces the liability of newness, which is a major challenge faced by nascent SMEs. This highlights the relevance of the trade-off theory, which recommends a combination of debt and equity financing to leverage the advantages of both sources of capital, in the context of nascent SMEs. The intricate relationship between profitability and short-term solvency in nascent SMEs was revealed in this study. The findings illustrate that while return on equity exhibits a direct impact on the short-term solvency of such SMEs, return on assets manifests an opposing effect. Furthermore, net profit after tax demonstrates only a nominal influence on the short-term solvency of nascent SMEs in Ghana.

IMPLICATIONS: The implications of our study are far-reaching, particularly within the context of Ghana's nascent SMEs. To ensure short-term viability and facilitate a smooth transition to maturity, nascent SMEs must strive for an optimal debt-to-equity ratio. This

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critical insight underscores the importance of managing the capital structure of nascent SMEs, as the improper balance between debt and equity may impede the achievement of short-term solvency and, in turn, hinder the long-term success of the firm. Additionally, while nascent SMEs must prioritize maintaining liquidity to safeguard against unforeseen contingencies, this comes at a high cost in terms of missed opportunities that could significantly enhance the company's long-term return on assets. Thus, it is crucial for small business owners in Ghana to strike a balance between short-term solvency and return on assets by engaging in prudent financial management practices. Overall, our study provides valuable theoretical and practical implications for nascent SMEs in Ghana, emphasizing the need to optimize their capital structure and maximize their long-term return on assets while safeguarding their short-term liquidity. ORIGINALITY AND VALUE: The study's conceptualization that capital structure and profitability relate significantly to short-term solvency and, therefore, buffers the liability of newness is novel. Second, by showing that the trade-off theory's tenets are relevant to the short-term solvency of nascent SMEs, the study demonstrates that capital structure theories apply equally to SMEs, just as much as large firms.

Keywords: capital structure, profitability, liability of newness, liquidity, new firm survival, SMEs, economic growth, emerging economies, short-term solvency

INTRODUCTION

Small and medium enterprises face a higher risk of failure during their nascent stages compared to established ones due to the complex issues that they must contend with, jeopardizing their viability. This notion is well established in the liability of newness framework, first introduced by Stinchcombe (1965). Studies such as Coase and Wang (2011) provide empirical evidence supporting this idea, demonstrating that nascent SMEs have a higher propensity to fail than survive. Further corroborating this view, Hewitt and Roodt (2017) report that 50% of all small businesses fail within two years of their inception, while in emerging countries such as Ghana, the survival rate is even lower, with 60% of entrepreneurial firms not surviving beyond the fifth year (Amaglo, 2019).

The challenges that nascent SMEs face are several. Firstly, they need to learn new tasks, which can be challenging for new businesses. Secondly, they lack a track record with external stakeholders and protocols for effective problem-solving (Yang & Aldrich, 2017). Thirdly, they have difficulties in swiftly converting assets into cash and becoming profitable (Wiklund et al., 2010). These challenges can result in nascent SMEs struggling to transition to maturity and ultimately failing to achieve their objectives (Amaglo, 2019).

SMEs have been widely acknowledged as key drivers of economic growth, creating employment opportunities, increasing income levels, and promoting the emergence of new businesses (Dar & Mishra, 2020; Sopha et al., 2021). The significance of SMEs to global and national economies is indisputable, with

Nieuwenhuizen (2019) estimating that 95% of businesses globally are SMEs. However, a high failure rate of SMEs poses a major challenge to economies, hindering job creation, economic stimulation, and poverty reduction. This highlights the importance of understanding the factors that affect the survival and success of SMEs in their nascency.

Despite the liability of newness, entrepreneurs can adopt various techniques or approaches to help their enterprises transition from nascency to maturity (Rutherford et al., 2017). For example, entrepreneurs can provide adequate financial capital to help their enterprises survive (Yang & Aldrich, 2017). It is not only important to have sufficient funding, but the right capital mix is also essential as it may result in increased net profits, earnings, and liquidity (Dhankar, 2019). Therefore, the financing strategy of an enterprise can significantly influence its chances of survival and success (Abor, 2016).

Undoubtedly, one of the most significant challenges faced by firms is maintaining an optimal balance between debt and equity within their capital structure. This is because a firm's capital structure has a profound impact on its future funding sources, cost of capital, risk profile, liquidity position, investor return, and overall firm valuation (Bajaj et al., 2020). Firms that can identify their optimal capital structure stand to benefit in numerous ways. Efficient financial decision-making empowers small and medium-sized enterprises to leverage their limited resources effectively, resulting in accelerated growth and development (Li et al., 2019). The ability to navigate this delicate balance between capital sources requires a nuanced understanding of market conditions, strategic vision, and a firm's unique risk–return trade-offs. As such, an effective capital structure can serve as a crucial determinant of a firm's success and longevity in a dynamic business environment.

This paper seeks to investigate the impact of capital structure and profitability on the short-term solvency of nascent SMEs in Ghana. The study addresses a relatively under-researched area in the literature on nascent SMEs and capital structure, particularly in emerging economies. Specifically, we aim to fill the gap in the literature by examining the short-term solvency of nascent SMEs in Ghana, and how this is affected by their capital structure and profitability.

As noted by Kumar et al. (2020), there is a paucity of research on capital structure from Africa. Our study seeks to fill the void in existing research by delving into the realm of nascent SMEs in Ghana, recognizing their indispensable contribution to economic expansion. By examining the impact of capital structure and profitability on the short-term solvency of nascent SMEs in Ghana, our study provides a valuable contribution to the literature on nascent SMEs and capital structure. This study is critical for entrepreneurs in Ghana, where the entrepreneurial ecosystem is characterized by a difficult business environment, an unstable regulatory framework, limited access to finance, low productivity of

labor, and insufficient infrastructure (Sheriff & Muffatto, 2015). This adds to the vulnerability of nascent SMEs in Ghana.

The exigency for empirical research that examines the strategies requisite for nascent SMEs to survive in Ghana cannot be overstated. Kumar et al. (2020) highlight a conspicuous knowledge gap in this regard. Prior studies carried out in Ghana have predominantly centered on the performance of SMEs, rather than their survival, as evidenced in the works of Amoa-Gyarteng and Dhliwayo (2022) and Musah and Kong (2019). The limited research on capital structure and its influence on firm survival in Ghana underscores the significance of this study. Not only does it address the knowledge gap, but it also advances our understanding of how nascent SMEs can sustain viability and maturity in the challenging business environment of Ghana.

This paper aims to investigate the hypothesis that the capital structure and profitability of nascent SMEs significantly impact their short-term solvency. Findings from studies, including research conducted by Amoa-Gyarteng (2021), underscore the significance of financial solvency as a protective factor against financial distress, reinforcing the understanding that economically sound firms are better equipped to navigate challenging circumstances. Hence, this study provides valuable insights into how nascent SMEs can mitigate the risk of failure. The study adds to the limited literature on how nascent SMEs can increase their resilience and enhance their longevity. The central thesis posited is that illiquidity challenges faced by nascent SMEs could be attributed to inappropriate capitalization and poor profitability.

This study presents a modest yet meaningful contribution to the scant literature on nascent SMEs. Specifically, the study offers three noteworthy contributions to the existing body of knowledge. Firstly, we introduce a novel concept that highlights the significant impact of capital structure and profitability on the short-term solvency of nascent SMEs, thereby reducing the liability associated with newness. Secondly, the study also showcases the applicability of the trade-off theory to the short-term solvency of recently formed SMEs. Thus, we establish that capital structure theories hold true for small businesses, much like they do for large enterprises. Thirdly, the study adds to the scarce literature on nascent SMEs, particularly within the context of Ghana.

The ensuing sections of this paper are structured as follows. Section 2 provides an exposition of the theoretical underpinnings and expounds upon the broad hypotheses. In Section 3, the research methodology is comprehensively detailed. Subsequently, Section 4 presents the empirical findings that emerged from the research. Finally, in Section 5, we conclude by offering a discussion of the study's implications, highlighting any limitations, and presenting our final observations on the subject matter.

THEORETICAL REVIEW AND HYPOTHESES DEVELOPMENT

Trade-off theory

The trade-off theory is the foundation of this study. The theory is the most established framework of capital structure and underpins much of the empirical work on capital structure (Abel, 2018). According to the theory, businesses should set a target debt ratio and gingerly work towards achieving it. Thus, the trade-off theory forecasts an optimum financing decision by weighing the advantages and disadvantages of issuing capital and debt (Martinez et al., 2019). The trade-off framework appears to be an extension of the Modigliani and Miller theorem as it inculcates the effects of taxes and bankruptcy costs (Cekrezi, 2013). Since the theory proposes an optimal capital structure, it advocates a trade-off between tax sheltering and bankruptcy costs for firms to reap the benefits of gearing while minimizing debt financing costs (Dierker et al., 2019).

According to Brealey and Myers (2003), businesses with safe, tangible assets and plenty of shield-taxable revenue should have high target debt ratios. Hence, unprofitable companies with vulnerable intangible assets, such as nascent SMEs, should rely primarily on equity financing. If there were no costs associated with adjusting the financing structure, each company should always be at its target debt ratio (Brealey & Myers, 2003). In sum, the trade-off theory develops the capital structure irrelevance theory but moderates the assumption that there is no cost to financial distress in situations where businesses are leveraged. This brings in the optimal point where the firm's value is maximized.

Businesses whose debt levels do not meet their target could change their capital structure if their advantage outweighs the adjustment cost. Thus, according to Dierker et al. (2015), firms should adjust their capital structure if the benefits outweigh the cost. Therefore, the trade-off theory suggests that firms increase their debt levels to benefit from tax shields in the absence of adjustment costs. In such situations, leverage and profitability are positively related (Dierker et al., 2015). Therefore, according to this theoretical perspective, using debt is preferred by owner–managers even when internal funds are available because leverage is seen as advantageous.

Nonetheless, due to the possibility of a considerable adjustment cost, it may be preferable for businesses to be inactive in terms of adding more leverage, as capital can be costly. Adding more debt capital may result in a leverage ratio that may not be desirable (Dierker et al., 2015). Following studies such as Martinez, Scherger, and Guercio (2019), this study advances the view that when nascent SMEs achieve a balance between the costs and benefits of issuing debt and equity capital, their short-term solvency improves. In examining the pecking order theory versus the trade-off theory in the context of SMEs in Ghana,

Agyei et al. (2020), however, found broad support for the pecking order theory by showing that Ghanaian SMEs' funding choices conform to its theoretical predictions in contrast to the perspective of this current study. Nevertheless, this study's viewpoint is consistent with the findings of Yakubu et al. (2021), who found a negative effect of debt on Ghanaian enterprises, validating the trade-off argument. Overall, the trade-off theory provides a useful framework for understanding the capital structure decisions of SMEs, including those in Ghana. It highlights the importance of balancing the benefits and costs of debt and equity financing and emphasizes the need for SMEs to carefully consider the adjustment costs associated with changing their capital structure.

Profitability and short-term solvency

Profitability is a vital sign of SME health and an essential predictor of illiquidity (Boata & Gerdes, 2019). Defaulting businesses are almost always unprofitable (Levratto, 2013). A default describes a situation in which a company is not profitable and its capital is not producing value (Levratto, 2013). To obtain an acceptable return on the amount of risk agreed upon by the owners and lenders, the firm must be profitable (Lamberg & Vlming, 2009). Profits are determined by two factors in any organization, large or small: sales and costs (Stanley & Wasilewski, 2017). Profitable companies earn more money than they spend. Profitability assesses a company's ability to profit through production factors and capital. It indicates how well the company performs in meeting its goals (Issau & Soni, 2019). It becomes significantly worse when bankruptcy is looming (Amoa-Gyarteng, 2019). As a result, large and small firms must be profitable to meet their objectives, remain liquid, and reduce the risk of failure.

In identifying the three phases that firms go through before collapse, Boata and Gerdes (2019) indicate that the first phase is the strategic phase, in which business owners and managers face several strategic choices. Such decisions could be the selection of funding type. Financial distress will escalate if the strategic phase is prolonged. The second phase is the profitability crisis stage, and it manifests an inappropriate strategy, such as an inappropriate capital structure. According to Boata and Gerdes (2019), a profitability crisis reveals itself in diminishing operating profits and contracting cash flows. This acute cash flow shortage leads the company to fall behind on payments and obligations, launching it into financial distress (Culetera & Bredart, 2016).

Chen et al. (2022) found that financial indicators that can better reflect short-term solvency are important for evaluating enterprise profitability. Minemma and Anderson (2018) found a positive relationship between liquidity and profitability. Furthermore, businesses that default on short-term debt are frequently unprofitable (Levratto, 2013). Return on assets, return on equity, and

net profit after tax are the metrics used in this study to determine profitability. We employ the working capital ratio as the short-term solvency indicator. Following on from the key body of research on the subject, we have developed our hypotheses for each metric as follows:

H1: Return on assets has a positive relationship with the short-term solvency of nascent SMEs in Ghana.

H2: Return on equity has a positive significant relationship with the short-term solvency of nascent SMEs in Ghana.

H3: Net profit after tax has a positive relationship with the short-term solvency of nascent SMEs in Ghana.

Capital structure and short-term solvency

The success of nascent SMEs is affected by various factors, including their firm-specific resources. The claim is supported by Masakure et al.'s (2009) study on the performance of microenterprises in Ghana. Hence, the selection of an appropriate funding framework is imperative for promoting the short-term solvency of nascent SMEs in Ghana. Analogous to their larger counterparts, nascent SMEs in Ghana necessitate access to financial resources to facilitate their operations. However, gaining capital in Ghana is challenging (Attrams & Tshehla, 2022). Nascent SMEs in Ghana face difficulties in accessing finance due to high collateral requirements, complex application procedures, and high interest rates. These factors limit their ability to obtain new capital, leading to illiquidity and financial instability (Abe et al., 2015).

Added to this constraint is the cost of capital. Biswas (2014) emphasizes the high cost of external equity for small and medium enterprises while admitting its essence in supporting growth potential and survival. As an enterprise grows, its preferences for various sources of capital change. According to Baker et al. (2020), the preference for long-term funding increases as small businesses progress across the growth stages. In their study, Berger and Udell (1998) conclude that financial institutions are sceptical of younger firms because of information opacity and hence are less creditworthy. Therefore, their capacity to secure credit grows as businesses mature from infancy to maturity.

Nascent SMEs should pay attention to short-term solvency as it is an important indicator of financial health. It indicates the company's ability to run its operations into the future. In effect, businesses are illiquid if they can no longer consistently achieve their corporate, financial, and social objectives at steady intervals (Levratto, 2013). Despite the fact that there are numerous discriminant factors for illiquidity, Levratto (2013) identifies the major financial reasons as capital loss, inability to secure new capital, and high leverage. When firms are

highly leveraged, the risk of default escalates (Almansour, 2015), and liabilities may even be more than assets (Power, 2015). In these instances, the cost of debt rises leading to high financial risks and the possibility of collapse (Boata & Gerdes, 2019). Nascent SMEs can improve liquidity by utilizing the appropriate capital mix (Dhankar, 2019). As a result, the financing strategy may affect the venture's chances of survival and success (Abor, 2016). Since non-equity sources or debt capital are typically used to purchase assets, heavily leveraged nascent SMEs show a higher financial risk.

On the other hand, a low level of leverage indicates a high level of efficiency in the management of equity capital (Situm, 2014). Abor (2016) asserts that a high debt-to-equity ratio increases earnings volatility and raises the risk of insolvency due to high financing costs. Furthermore, a poorly configured capital structure could lead to insolvency, so organizations should consider sustainability in their capital structure framework. As stated by Chung et al. (2013), firms with capital structures close to an economically relevant equilibrium will perform well in competitive markets and be more likely to be solvent and survive than those further afield.

This paper measures capital structure by debt-to-equity ratio, equity ratio, and debt ratio. The working capital ratio measures short-term solvency. Based on the extant literature, we posit the following hypotheses for each measure:

H4: Debt ratio has an inverse relationship with the short-term solvency of nascent SMEs in Ghana.

H5: Debt-to-equity ratio has an inverse relationship with the short-term solvency of nascent SMEs in Ghana.

H6: Equity ratio has a positive relationship with the short-term solvency of nascent SMEs in Ghana.

METHODOLOGY

Research design

This study used a cross-sectional survey and a quantitative approach to establish the relationship between capital structure, profitability, and short-term solvency. A cross-sectional survey design allows for the collection of quantitative data, which can then be quantitatively analyzed using descriptive and inferential statistics (Saunders et al., 2015).

Study setting, population, and sampling

The unit of analysis in this study is small and medium enterprises operating in Ghana's Accra, Kumasi, and Tema metropolitan areas. Ghana's capital city is Accra. Tema and Kumasi are also large cities in Ghana, with numerous small businesses in various industries (Ghana Statistical Service, 2013). The population of this study includes all small and medium enterprises registered with the Ghana Enterprises Agency in Accra, Kumasi, and Tema. The Ghana Enterprises Agency is a government agency under the Ministry of Trade and Industry tasked with promoting and developing Ghana's micro, small, and medium enterprises. SMEs registered with the Ghana Enterprises Agency have defined operational structures and operate within the formal economy. They are legally required to file annual audited returns with the Ghana Revenue Authority (Aryeetey & Ahene, 2005). As a result, to maintain their legal standing, they keep financial records.

The available list from the Ghana Enterprises Agency indicates that for the period 2010 to 2021, there were 7858, 433 and 2045 SMEs in Accra, Kumasi and Tema metropolitan areas, respectively, registered with the agency. This results in a total of 10,368 registered SMEs. While there are 10,368 small and medium-sized businesses, not all are new ventures. This study, like Günzel-Jensen and Holm (2015) and Crawford et al. (2015), focuses on SMEs that have been operating for less than five years. Therefore, for units to be included in this study, they must meet this selection criterion. The required SMEs with this age profile were chosen from the Ghana Enterprises Agency database. This study focused on 1106 SMEs that met the selection criteria. This category of Ghanaian nascent SMEs has the most difficulty surviving (Kusi et al., 2015). In order to examine all nascent SMEs (1106 units) in the metropolises of Accra, Kumasi, and Tema that have been registered with the Ghana Enterprises Agency, this study employs a census strategy. This allowed the researchers to collect information from all available and willing members of the population. The census strategy ensures that there is no sampling error and that accurate sample estimates are obtained (Rungani & Potgieter, 2018).

Data collection and analysis

The data is primarily financial statement information of nascent SMEs obtained from the Ghana Enterprises Agency. The required financial ratios for each SME in the study sample were then calculated using the financial statement data. Ratios are X/Y arithmetic relationships that analysts can control in two ways. First, they limit the size of the financial data. As a result, ratios from various enterprises can be compared even if the underlying financial information on the financial statements is not numerically comparable. Second, ratios account

for industry-specific features (Jewell & Mankin, 2011). The essential financial metrics that measure capital structure, profitability and short-term solvency for each nascent SME in the study sample were then calculated using the formulae stated in Table 1.

All data sources may contain errors and missing values. A data cleaning process addresses such irregularities. The method may include format controls, completeness checks, and a statistical review of the data to identify outliers, among other things (Chapman, 2005). Data cleaning in this study was accomplished using Microsoft Excel and IBM SPSS version 27 for data summarization and data reduction, respectively. Each variable's frequency distribution was run. This ensured that the data stayed within the expected range and that outliers were identified. The Statistics Package for Social Science (SPSS) version 27 was adopted to analyze the data. Specifically, an analysis of descriptive statistics (i.e., skewness and kurtosis) was conducted. A Pearson correlation analysis was also performed. Finally, this study, like previous studies by Abor (2015) and Ayepa et al. (2019), employs the multiple regression technique to test the dependency relationships between the constructs. Multiple regression is the appropriate statistical analysis method when a dependent variable is postulated to be associated with two or more independent variables (Hair et al., 2011).

Measures

Table 1 presents the variables used in the analysis. Following studies such as Kodongo et al. (2015) and Yapa (2015), this study measures capital structure by debt ratio, debt-to-equity ratio and equity ratio. Following Amoa-Gyarteng and Dhliwayo (2022), we measure profitability by return on assets, return on equity and net profit after tax. Short-term solvency is operationalized as the working capital ratio (Brigham & Houston, 2021).

According to Bartov et al. (2000), omitting confounding variables can lead to erroneously rejecting a hypothesis when it should be accepted. We use prior studies to account for other factors that could have an impact on the short-term solvency of nascent SMEs. We control for size (the Log of Total Assets) and sales growth (Current Period Sales- Prior Period Sales/Prior period sales), similar to Abor (2005), who investigated the effect of capital structure on profitability by analyzing listed firms in Ghana. Control variables, size, and sales growth have a positive and significant relationship with firm success (Rajamani, 2021).

Table 1. List of measures and their formulae

Variables	Abbreviation	Formula	Source
Return on Equity	ROE	Net Income / Equity	Ahsan (2012)
Return on Assets	ROA	Net Income / Total Assets	Brigham & Houston (2021)
Net Profit After Tax	NPAT	Revenue - (Expenses + Taxes)	Kemp (2011)
Debt Ratio	DR	Total Liabilities / Total Assets	Quesada-Pineda (2019)
Debt-to-Equity Ratio	DER	Total Liabilities / Shareholder Equity	Gibson (2012)
Equity Ratio	ER	Total Equity / Total Assets	Situm (2014)
Net Worth	NW	Total Assets - Total Liabilities	Brigham & Houston (2021)
Working Capital Ratio	WCR	Current Assets / Current Liabilities	Brigham & Houston (2021)
Solvency Ratio	SR	(Net Profit After Tax + Depreciation) / Total Liabilities	Ucal & Oksay (2011)
Size	SIZE	Log of Total Assets	Abor (2005)
Sales Growth	SG	(Current Period Sales - Prior Period Sales) / Prior period sales	Abor (2005)

Model estimation

The main objective of this study is to examine the relationship between profitability, capital structure, and short-term solvency of nascent SMEs. Thus, the amount of variance in short-term solvency that is accounted for by the variation in profitability and capital structure is measured by multiple regression analysis. The estimation model is as follows:

$$WCR_i = \beta_0 + \beta_1 ROE_{i,1} + \beta_2 ROA_{i,2} + \beta_3 NPAT_{i,3} + \beta_4 DR_{i,4} + \beta_5 DER_{i,5} + \beta_6 ER_{i,6} + \beta_7 SIZE_{i,7} + \beta_8 SG_{i,8} + \epsilon_i \quad (1)$$

Where:

WCR_i is the working capital ratio for nascent SME i in the population,

$ROE_{i,1}$ is the return on equity for nascent SME i in the population,

$ROA_{i,2}$ is the return on assets for nascent SME i in the population,

$NPAT_{i,3}$ is the net profit after tax for nascent SME i in the population,

$DR_{i,4}$ is the debt ratio for nascent SME i in the population,

$DER_{i,5}$ is the debt-to-equity ratio for nascent SME i in the population,

$ER_{i,6}$ is the equity ratio for nascent SME i in the population,

$SIZE_{i,7}$ is the log of total assets for nascent SME i the population,

$SG_{i,8}$ is sales growth for nascent SME i in the population,

$\epsilon_{i,t}$ is the error term,

The β 's are the coefficients for every independent variable.

RESULTS AND DISCUSSION

Descriptive analysis

Table 2 presents descriptive statistics for the variables, including the age of the business, gender of the owners or primary principals, industry type, and form of business ownership. The study sample included 1106 nascent small and medium businesses, with the wholesale and retail sector (256 participants) and manufacturing sector (208 participants) having the most participants in terms of sector of the business. They accounted for 42% of the nascent SMEs in this study. This reflects the business environment in Ghana, where wholesale and retail are preferred over other sectors.

Table 2. Descriptive statistics

	Frequency	%
Gender of Owners/Major Directors		
Male	728	66
Female	378	34
Years of Business Operation		
Less than two years	118	11
Two to three years	146	13
Three to four years	302	27
Four to five years	540	49
Business Sector		
Manufacturing	208	19
Wholesale and Retail	256	23
Education	132	12
Construction and Mining	98	9
Agriculture	40	4
Hospitality and Tourism	102	9
General Business Service	104	9
Other	166	15
Forms of Business Ownership		
Sole Proprietorship	268	24
Partnership	72	7
Limited Liability Company	740	67
Other Business Structure	26	2

Males made up nearly twice the number of business owners sampled in this study, as is usually the case. Due to a male conception of entrepreneurship, female entrepreneurship is sometimes given a lower level of legitimacy by the business community. This impacts women-owned businesses' market position and image, limiting the mobilization of critical resources and impeding the full realization of their entrepreneurial potential (Díaz-García & Brush, 2012). The cut-off point was set at five years because the study focused on nascent SMEs. 49% of the sample was between the ages of four and five years. 27% of those who participated in this study were between the ages of three and four years. Nascent SMEs with a lifespan of two years or less made up 11% of participants, while those with a lifespan of two to three years made up 27%. 67% of the nascent SMEs in the survey were limited liability companies. This might be because some sectors, like the pharmaceutical sector, demand that businesses register as such.

Testing the assumptions of multiple regression

Before using multiple regression analysis to analyze the data, a number of assumptions must be taken into account (Laerd, 2015). Multiple regression analysis assumes that there is a continuous dependent variable and two or more independent variables, which can be continuous or categorical (Laerd, 2015). This study investigates the relationship between profitability, capital structure and solvency, all of which were measured on a continuous basis. Multiple regression analysis should have no significant outliers, high leverage points, or extremely influencing points. SPSS Statistics was used in this study to identify potential outliers, high leverage points, and highly influential points. In detecting outliers, a casewise diagnostics table was used to highlight cases where the standardized residual was more than ± 3 standard deviations. A cut-off value larger than ± 3 is a standard criterion for determining whether a residual is representative of an outlier or not (Laerd, 2015).

Additionally, harmful data points were removed using Cook's distance and leverage values rule of thumb. In regression analysis, Cook's distance (D_i) is used to detect significant outliers in a set of predictor variables. It is a technique for identifying negative points in the regression model. Cook's distance is calculated using each observation's leverage and residual values, the greater the leverage and residuals, the greater the Cook's distance. Large values (often greater than 1) indicate that the case substantially impacts the predicted regression coefficients (Field, 2009). Leverage numbers range from 0 to 1, with 0 indicating that the case has no effect and 1 indicating that the case has a significant impact (Field, 2009).

Testing normality

The results of the normality test are shown in Table 3. The skewness and kurtosis values for each measure were -2 or > +2, indicating that the data is normal and suitable for multiple regression analysis. Furthermore, the standard errors for skewness and kurtosis were 0.076 and 0.152, respectively, which are nominal values. According to Hair et al. (2011), values of up to ± 3 are accepted as normal.

Table 3. Normality assessment

Construct	Skewness	Std. Error	Kurtosis	Std. Error
Return on Assets	1.092	0.076	1.514	0.152
Return on Equity	0.878	0.076	0.756	0.152
Net Profit After Tax	1.042	0.076	0.683	0.152
Debt Ratio	-0.219	0.076	-0.534	0.152
Debt-to-Equity Ratio	1.044	0.076	1.091	0.152
Equity Ratio	0.007	0.076	-0.475	0.152
Working Capital Ratio	0.217	0.076	-0.121	0.152

Multicollinearity assessment

Table 4 shows a correlation matrix of the variables to examine the degree of collinearity. Field's (2009) ballpark value was met since none of the predictor values correlated above 0.80. Furthermore, the VIF values ranged from 1.124 to 3.032. Each value met the cut-off point as suggested by Hair et al. (2011).

Table 4. Correlation matrix and Variance Inflation Factor (VIF)

Variables	Correlation coefficients								VIF	
	1	2	3	4	5	6	7	8		
ROA	1.00									3.032
ROE	0.705	1.00								2.830
NPAT	0.567	0.531	1.00							1.813
DER	-0.040	0.318	-1.870	1.00						2.502
DR	0.043	0.325	-1.680	0.709	1.00					3.008
ER	0.199	0.186	0.095	-0.037	0.449	1.00				2.829
SIZE	0.230	0.332	0.225	0.220	0.150	0.180	1.00			1.240
SG	0.120	0.180	0.140	0.260	0.210	0.170	0.242	1.00		1.124

Measurement model goodness-of-fit assessment

R² was used as one of the statistical measures of goodness of fit. According to Greenlaw (2009), an R² of 0.8 is considered excellent for time series regression. However, in a cross-section regression such as this study, an R² of 0.4 or higher is considered good. The R² value was 0.519, as shown in Table 5. This means that the regression model explained 51.9% of the variability in the working capital ratio when all independent variables were included. The Adjusted R² was also used as a measure of goodness of fit because R² always increases when new variables are added, regardless of their contribution to the proper specification of the model. The better the model fit, the higher the adjusted R² (Figueiredo et al., 2011). The adjusted R² was 51.5%, a large effect size as classified by Cohen (1988). The Durbin–Watson test was utilized to identify the presence of autocorrelation in the residuals. With a Durbin–Watson statistic of 1.944, the results indicate a strong indication of independence in the residuals. This suggests that the residual values are largely uncorrelated and exhibit a high degree of independence.

Table 5. Model summary

R	R Square	Adjusted R Square	Durbin–Watson
0.720	0.519	0.515	1.944

Note: Predictors NPAT, ROA, ROE, DR, ER, DER, Size, SG, Dependent Variable: WCR.

Regression results

The regression results obtained in this study are reported in Table 6. The results show that return on assets significantly predicted the working capital ratio, $\beta = -0.078$, $t = -2.058$, $p < 0.05$. The slope coefficient for return on assets is -0.741 , and it is statistically significant, $p < 0.05$, indicating that an increase in return on assets of one unit is associated with a decrease in the working capital ratio of 0.741 units. Thus, H1 is supported. Table 6 also shows that return on equity significantly predicted the working capital ratio, $\beta = 0.369$, $t = 8.668$, $p < 0.05$. As depicted in the table, a one unit increase in return on equity corresponds to a 1.671 unit increase in the working capital ratio. Hence return on equity may help nascent SMEs to meet short-term obligations; thus, H2 is supported. In our results, net profit after tax significantly predicted the working capital ratio, $\beta = 0.084$, $t = 2.867$, $p < 0.05$.

Table 6. Multiple regression results

WCR	B	95% CI for B		SEB	Beta	t	sig	R	R2
		LL	UL						
								0.720	0.519
NPAT	1.025E-5*	0.3E-5	1.7E-6	0.000	0.084*	2.867	0.004		
ROA	-0.741*	-1.447	-0.034	0.360	-0.078*	-2.058	0.040		
ROE	1.671*	1.293	2.049	0.193	0.369*	8.668	0.000		
DR	-1.645*	-1.977	-1.312	0.169	-0.585*	-9.716	0.000		
ER	2.914*	2.671	3.158	3.158	0.124*	0.857	0.000		
DER	0.374*	0.289	0.458	0.043	0.481*	8.679	0.000		
SIZE	1.183*	0.385	2.750	0.749	0.218*	1.580	0.013		
SALES	0.144	0.341	0.820	0.275	0.049	0.523	0.606		
GROWTH									

Note: B= Unstandardized Regression Coefficient; CI= Confidence Interval; LL= Lower Limit; UL= Upper Limit; SEB= Standard Error of the Coefficient; β = Standardized Regression Coefficients. * $p < 0.05$.

The slope coefficient for net profit after tax is 1.025E-5, and it is statistically significant, $p < 0.05$. Therefore, an increase in net profit after tax by one unit results in a nominal increase of the working capital ratio by 1.025E-5; hence, H3 is accepted. The results also show that debt ratio significantly predicted the working capital ratio, $\beta = -0.585$, $t = -9.716$, $p < 0.05$. The slope coefficient for debt ratio is -1.645 , and is statistically significant, $p < 0.05$. Therefore, an increase in debt ratio by one unit decreases the working capital ratio by -1.645 . This finding indicates that debt ratio has an inverse relationship with the working capital ratio. Hence, H4 is supported. The results further show that the model's debt ratio had the highest beta coefficient. This means that after controlling for the variance explained by all other variables in the model, this variable makes the strongest unique contribution to explaining the working capital ratio (dependent variable). This study shows that debt has the most significant impact, albeit negative, in terms of short-term solvency.

The results show that the debt-to-equity ratio significantly predicted the working capital ratio, $\beta = 0.481$, $t = 8.679$, $p < 0.05$. The debt-to-equity ratio slope coefficient is 0.374, as shown in the table. As a result, a one unit increase in debt-to-equity is associated with a 0.374-unit increase in the working capital ratio. Contrary to the hypothesized inverse relationship, the findings do not support H5, as they reveal a positive association instead. The findings indicate that an appropriate debt–equity mix raises the working capital ratio. Finally, the results demonstrate that the equity ratio predicted the working capital ratio significantly, $\beta = 0.124$, $t = 0.857$, $p < 0.05$. The multiple regression equation predicts that the higher the equity ratio, the higher the working capital ratio. Consequently, H6 is supported.

Regarding the control variables, size demonstrates statistical significance ($p = 0.013$) and exhibits a significant relationship with the working capital ratio. This means that as size increases (while holding other variables constant), there is a corresponding increase in the working capital ratio. On the other hand, sales growth does not show statistical significance ($p = 0.606$) and does not have a significant relationship with the working capital ratio. This implies that changes in sales growth do not significantly impact the working capital ratio.

DISCUSSION, LIMITATIONS, AND CONCLUDING REMARKS —————

Discussion and implications

Our research has generated substantial evidence that reinforces the trade-off theory. Our findings demonstrate that the debt ratio has a negative relationship with short-term solvency, while the debt-to-equity ratio and equity ratio have positive relationships with short-term solvency. As such, nascent SMEs in Ghana may be better positioned with less debt. Highly-leveraged firms carry a heightened risk of default, as noted by Almansour (2015). Moreover, these firms may face a situation where their liabilities exceed their assets, as highlighted by Power (2015). Such a predicament results in elevated debt costs, exposing firms to significant financial risks and ultimately increasing the likelihood of failure, as indicated by Boata and Gerdes (2019). Our findings suggest that an optimal mix of debt and equity can increase the working capital ratio and reduce the liability of newness associated with nascent SMEs.

Overall, the study supports the trade-off theory, which recommends a blend of debt and equity financing to leverage the benefits of both sources of capital. Employing an appropriate combination of debt and equity can enable nascent SMEs to meet their short-term obligations, maintain their financial stability, and improve their prospects for success. By adhering to this principle, firms can maximize their chances of achieving sustained growth and profitability, while simultaneously mitigating the inherent risks associated with nascent SMEs.

Our study has also identified that return on equity (ROE) is a crucial driver of short-term solvency for nascent SMEs. This is expected as highly profitable businesses are better positioned to mitigate the liability of newness. Profitability is critical to a company's survival, as noted by Amoa-Gyarteng (2019). Firms that default are typically unprofitable, as highlighted by Levratto (2013), and nascent SMEs must maintain profitability to ensure short-term solvency. Thus, solvency is a function of profitability since it enhances the likelihood of nascent SME survival, as emphasized by Nunes et al. (2012). Moreover, declining profitability manifests as a reduction in operating profits and cash flows. The resulting

cash flow shortages can cause the company to fall behind on payments and obligations, leading to a short-term insolvency crisis, as noted by Culetera and Bredart (2016). The company may then be forced to dissolve, liquidate or declare bankruptcy, as highlighted by Salazar (2006).

The study also found only a nominal positive relationship between net profit after tax (NPAT) and short-term solvency of nascent SMEs in Ghana. While NPAT is an important indicator of a company's financial performance, our findings show that it does not directly impact short-term solvency in a significant way. This is because NPAT represents profits earned over a longer period, usually a year. Short-term solvency, on the other hand, is concerned with a company's ability to meet its immediate financial obligations, such as paying bills and salaries. However, NPAT can indirectly affect short-term solvency by influencing a company's cash flow. A company with high NPAT is likely to have more cash on hand, which can help it meet short-term obligations. Conversely, a company with low NPAT may struggle to generate enough cash to pay its bills, which could affect its short-term solvency.

Contrary to the findings regarding ROE, the study found an inverse relationship between return on assets (ROA) and short-term solvency. This is because maintaining high levels of current assets can result in missed opportunities that could have increased the company's return on assets, as emphasized by Bolek and Wiliński (2012). The implication is that firms that hold too much current assets may not allocate sufficient capital to long-term investments that would generate high returns on assets. This explains our study's inverse relationship between ROA and working capital ratio. As such, the study highlights the critical role of profitability in ensuring the short-term solvency of nascent SMEs. By maintaining an optimal debt to equity mix and profitability, nascent SMEs can increase their working capital ratios, improve their financial stability, and enhance their chances of survival.

The present study has several important implications for both theory and practice. Firstly, it contributes to the literature on nascent SMEs by expanding our understanding of the financial decision-making of business owners in emerging economies. This is particularly relevant since the majority of the studies on nascent SMEs is derived from developed economies, such as the United States and the United Kingdom. As such, this study provides valuable insight into how the trade-off theory applies to nascent SMEs and how the optimal capital structure can contribute to their short-term solvency and survival. The study's contribution to the literature lies in demonstrating that the trade-off theory's tenets are relevant to the liquidity and survival of nascent SMEs. As such, capital structure theories apply equally to small and medium businesses as much as they do to large corporations. This highlights the theoretical contribution of the study.

This study also emphasizes the inverse relationship between return on assets (ROA) and working capital ratio from a managerial perspective. This insight has practical implications for entrepreneurs and managers of nascent SMEs. Managers of nascent SMEs should recognize that maintaining liquidity requires keeping a significant portion of current assets, which lowers the risk of bankruptcy. However, excessive current assets could be utilized to invest in fixed assets, resulting in a higher ROA if applied correctly. SMEs should prioritize short-term solvency and ROA by avoiding converting all current assets into fixed assets solely to achieve a high ROA. Such a strategy could result in illiquidity and financial distress. SMEs should also avoid holding too many liquid assets, which would increase the cost of missed opportunities and lower ROA.

Overall, this study contributes to the literature on nascent SMEs, highlighting the importance of an optimal debt-to-equity ratio and the nuanced relationship between profitability and working capital ratio.

Limitations and suggestions for future research

Despite the study's limitations, they could make for interesting future investigation areas. Quantitative studies like this present study focus on numerical representativity and the creation and testing of hypotheses based on statistical significance. However, testing for statistical significance is prone to error, undermining what should be a contemplative exercise (Rothman, 1986). Furthermore, statistical significance does not always imply empirical results' practical or theoretical significance (Schneider, 2013). This represents a limitation in this study as the findings, managerial implications and contribution were reached based on the statistical significance of the relationship between the study constructs. However, as Ochieng (2009) suggested, this study recognized that quantitative data should be based on qualitative judgment. This study accepts that numbers cannot be interpreted without understanding the assumptions underpinning them. As a result, every effort was made to make this study and its findings a contemplative exercise.

This was a cross-sectional study rather than a longitudinal one. It was based on financial statements from nascent SMEs. According to Solem (2015), the primary limitation of a cross-sectional study design is that the predictor and outcome variables are assessed concurrently, making it nearly impossible to establish an actual cause-and-effect relationship. This methodological shortcoming limits the study's generalizability, and future studies should use a longitudinal design to address this limitation.

Another limitation of this study is that the research sample is highly heterogeneous, with companies from different sectors of activity included. As a result, there may be potential impacts on the obtained research results that

are beyond the control of the research model, particularly with regards to sector of the companies being studied. To address the limitation of the heterogeneous sample in future studies, researchers may consider implementing strategies such as stratified sampling or matching to control for the effects of firm sector. Stratified sampling involves dividing the population into subgroups based on relevant characteristics and then randomly selecting participants from each subgroup to create a more representative sample. Matching, on the other hand, involves selecting participants in terms of identifiable characteristics. Additionally, researchers may also consider conducting separate analyses for nascent SMEs of different sectors to better understand the potential impact of these factors on the research results.

Concluding remarks

This study contributes to the literature on nascent SMEs, particularly in emerging economies such as Ghana. The study utilizes financial indicators to better understand the short-term solvency and survival of nascent SMEs in Ghana. The integration of financial indicators provides a new lens through which to examine nascent SMEs and highlights the importance of financial decision-making in nascent SMEs success. The study findings demonstrate that a good mix of capital and profitability is crucial for the survival of nascent SMEs in emerging economies.

The study specifically contributes to the trade-off theory, which has primarily been applied to large corporations. By showing that capital structure theories apply equally to nascent SMEs, this study provides a theoretical contribution to the field. This study offers a unique perspective on the financial management of nascent SMEs and enriches the existing literature on SMEs in emerging economies. By demonstrating the importance of sound financial decision-making, the study provides fresh insights that can aid entrepreneurs and managers in emerging economies in making informed choices that promote their firms' success. Practically, the study highlights the importance of understanding the inverse relationship between return on assets and working capital ratio from a managerial perspective. Managers of nascent SMEs should prioritize short-term solvency while also considering long-term investment opportunities.

The study's focus on Ghana, an emerging economy, provides a unique perspective as most of the existing literature on nascent SMEs concentrates on developed economies. The added value of this work within the scientific debate on nascent SMEs in emerging economies is that it expands the body of knowledge on the subject beyond developed economies and provides a unique perspective on how such businesses in emerging economies can remain solvent. By expanding the body of knowledge on nascent SMEs in emerging economies, this study contributes to a more comprehensive understanding of the challenges and

opportunities facing nascent SMEs in these contexts. The practical implications of this study are relevant for entrepreneurs and SME managers in Ghana, where the entrepreneurial ecosystem is characterized by challenges such as limited access to finance, weak infrastructure, and limited market opportunities, which make nascent SMEs even more vulnerable. In light of these challenges, the study's findings can assist entrepreneurs and nascent SME managers in making informed decisions regarding capital structure and profitability to improve their short-term viability and survival.

Furthermore, policymakers in Ghana should take note of the study's findings and develop policies that promote access to finance for nascent SMEs, as well as provide support for entrepreneurs and nascent SME managers to make informed financial decisions. This can include measures such as developing a credit guarantee scheme for nascent SMEs, improving the infrastructure and market opportunities for nascent SMEs, and providing financial education and training to entrepreneurs and nascent SME managers.

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Abstrakt

CEL: Małe i średnie przedsiębiorstwa (MŚP) odgrywają kluczową rolę we wzroście gospodarczym gospodarek wschodzących. Jednak wiele z tych firm upada na wczesnych etapach, dlatego ważne jest zbadanie czynników, które wpływają na ich krótkoterminową wypłacalność. Niniejsze badanie ma na celu zbadanie wpływu struktury kapitału i rentowności na krótkoterminową wypłacalność powstających MŚP w Ghanie, opierając się na ramach odpowiedzialności za nowość. **METODYKA:** Dane do tego badania uzyskano z Ghana Enterprises Agency, koncentrując się na powstających MŚP, które mają pięć lat lub mniej. Sprawozdania finansowe wykorzystano do pomiaru zmiennych zależnych i niezależnych, a analizę regresji wykorzystano do pomiaru wariacji krótkoterminowej wypłacalności wynikającej z rentowności i struktury kapitału. **WYNIKI:** Niniejsze badanie pokazuje, że decyzje finansowe i wyniki finansowe działają jako kluczowe czynniki łagodzące potencjalne ryzyko niewypłacalności i niepowodzeń, z jakimi borykają się powstające MŚP. W szczególności badanie wykazało, że odpowiednia równowaga między finansowaniem długiem i kapitałem własnym podnosi wskaźnik kapitału obrotowego, a tym samym zmniejsza odpowiedzialność za nowość, co jest głównym wyzwaniem dla powstających MŚP. Podkreśla to znaczenie teorii kompromisu, która zaleca połączenie finansowania dłużnego i kapitałowego w celu wykorzystania zalet obu źródeł kapitału w kontekście powstających MŚP. W tym badaniu ujawniono skomplikowany związek między rentownością a krótkoterminową wypłacalnością powstających MŚP. Ustalenia pokazują, że podczas gdy zwrot z kapitału własnego ma bezpośredni wpływ na krótkoterminową wypłacalność takich MŚP, zwrot z aktywów wykazuje efekt przeciwny. Ponadto zysk netto po opodatkowaniu wykazuje jedynie nominalny wpływ na krótkoterminową wypłacalność powstających MŚP w Ghanie. **IMPLIKACJE:** Aby zapewnić krótkoterminową rentowność i ułatwić płynne przejście do dojrzałości, powstające MŚP muszą dążyć do optymalnego stosunku zadłużenia do kapitału własnego. To krytyczne spostrzeżenie podkreśla znaczenie zarządzania strukturą kapitałową powstających MŚP, ponieważ niewłaściwa równowaga między zadłużeniem a kapitałem własnym może utrudniać osiągnięcie krótkoterminowej wypłacalności i długoterminowy sukces firmy. Ponadto, podczas gdy powstające MŚP muszą priorytetowo traktować utrzymanie płynności w celu zabezpieczenia się przed nieprzewidywanymi sytuacjami, wiąże się to z wysokimi kosztami w postaci straconych szans, które mogą znacznie zwiększyć długoterminowy zwrot z aktywów firmy. Dlatego dla właścicieli małych firm w Ghanie kluczowe znaczenie ma znalezienie równowagi między krótkoterminową wypłacalnością a zwrotem z aktywów poprzez rozsądne praktyki zarządzania finansami. Ogólnie rzecz biorąc, nasze badanie dostarcza cennych implikacji teoretycznych i praktycznych dla powstających MŚP w Ghanie, podkreślając potrzebę optymalizacji ich struktury kapitałowej i maksymalizacji dłu-

goterminowego zwrotu z aktywów przy jednoczesnym zabezpieczeniu krótkoterminowej płynności. **ORYGINALNOŚĆ I WARTOŚĆ:** Koncepcja badania, zgodnie z którą struktura kapitału i rentowność są w znacznym stopniu powiązane z krótkoterminową wypłacalnością, a tym samym buforuje odpowiedzialność za nowość, jest nowatorska. Po drugie, wykazując, że założenia teorii kompromisu mają znaczenie dla krótkoterminowej wypłacalności powstających MŚP, badanie pokazuje, że teorie struktury kapitału mają zastosowanie zarówno do MŚP, jak i do dużych firm.

Słowa kluczowe: struktura kapitału, rentowność, zobowiązanie nowości, płynność, przetrwanie nowych firm, MŚP, wzrost gospodarczy, gospodarki wschodzące, wypłacalność krótkoterminowa

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Authorship contribution statement

Karikari Amoa-Gyarteng: Conceptualization, Data Curation, Formal Analysis, Software, Methodology, Writing Original Draft. **Shepherd Dhlwayo:** Validation, Investigation, Visualization, Writing - Review & Editing, Supervision.

Conflicts of interest

The authors declare no conflict of interest.

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