TESTING THE PECKING ORDER THEORY AND SIGNALING THEORY CAPITAL STRUCTURE DECISIONS: EVIDENCE FROM NON-FINANCE QUOTED COMPANIES IN GHANA

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Abstract
This study investigates the applicability of the Pecking Order Theory (PEOT) and Signaling Theory (SGT) on capital structure decisions (CSD) among non-financial firms listed on the Ghana Stock Exchange (GSE). Recognizing that financing decisions play a critical role in corporate growth and sustainability, the research examines how internal firm factors—profitability, firm size, age, growth opportunity, cash flow, and asset tangibility—affect leverage decisions. Using a longitudinal research design and a sample of seventeen non-financial firms, the study employs a dynamic panel regression with the System Generalized Method of Moments (GMM) estimation technique to analyze contemporaneous and dynamic relationships between cash flow and leverage. The results reveal that profitability and cash flow are inversely related to leverage, confirming the validity of the Pecking Order Theory, while firm size and growth opportunity exhibit a positive relationship, lending support to the Signaling Theory. The study underscores that firms in Ghana predominantly rely on internal financing due to information asymmetry and market imperfections, aligning with Pecking Order Theory (PEOT) predictions. Findings provide insights for policymakers, managers, and investors on optimizing financing strategies to enhance firm value and sustainability in emerging economies. Based on these findings, the study recommends that in order to lower borrowing costs, improve financial transparency, and create asset-based lending regulations that allow businesses to obtain debt financing without taking on undue risk, policymakers should fortify capital market institutions. In order to protect business value and competitiveness, managers are also urged to maintain balanced financing strategies by mixing internal funds with modest leverage.

1. Introduction

The growth of corporate sector is imperative for economic development in both developed and emerging economies of the world. Financing decision has been pin-

point as the primary factor of business failure in emerging countries like Ghana. For firms to contribute to economic development via employment and income provision; they should be able to efficiently and effectively finance their activities and grow over time (Abor, 2008). Capital Structure Decision (CSD) is one of the fundamental decisions that confront firm's management (Degryse, De Goeij & Kappert, 2012). After the 1958 and 1963 work of Modigliani and Miller here after refers to M&M, spur noteworthy development is corporate finance literature. Theoretical development, specifically the advancement of CSD theories hinged on asymmetry information and tax consideration; including consideration of corporate control that is more recent have tried to explain the financing decisions of firms in large and small scale firms in the globe (Degryseet'al, 2012; Burgstaller & Wagner, 2015).

From financial management practice, the Pecking Order Theory (PEOT) and Signaling Theory (SGT) are both interested in leverage structure and cash flow of the firm under adverse selection and moral hazard variant of asymmetry information. SGT suggest direct association between firm's leverage ratio and profitability, while PEOT suggests an inverse association between firm's leverage structure and profitability (Ross, 1979; Mayer, 1984; Barry, Katchova & Zhao, 2004). To understand the financing operation of firms in developing country, it is imperative to investigate the determinants of their CSD. Firms financing decision encompasses wide range of policy issues; which have implication for interest rate, capital market development, regulation and security price determination at the macro level. Such decisions at the micro level influences corporate governance, CSD and firm's development (Green, Murinde&Suppakitjarak,2002). This argument has encouraged plethora of theoretical and empirical studies in both emerging and advance nations of the world over the years to test the applicability of the PEOT and SGT theories.

Some of these notable and visible studies are Yinusa and Akinwande (2021), Agyei, Sun and Abrokwah (2020), Musah and Kong (2020), Ogieva and Ogiemudia (2019), Wanja (2017), Hasan (2017), Nassir (2016), Akorsu (2014) among others. Most of the findings of these studies significantly confirm the applicability of PEOT theory (Yinusa& Akinwande 2021, Agyei et al, 2020, Musah & Kong 2020, Ogieva et al, 2019, Hasan, 2017). Agyei et al (2020) jointly tested trade off theory and PEOT IN Ghana. Nonetheless, apart from the study of Akorsu (2014); studies that simultaneously tested the static PEOT and SGT in Ghana within the framework of cash flow and leverage model simulated with system GMM estimation techniques are very scarce to the best of our knowledge. This portray that much have not been done in this aspect of CSD in Ghana. Thus, more study is needed. It is important to of know the impact firm's internal factors of profitability, firm's

size, age, growth opportunity, cash flow and asset tangibility as determinants of CSD and how these variables guide firms in following PEOT or SGT in their CSD in Ghana. Hence, this study examines the applicability of PEOT and SGT of CSD on non-financial firms in Ghana as the broad objective. The specific objectives are to:

1. Examine the effect of profitability on the leverage ratio of non-financial firms in Ghana.
2. Determine the influence of firm size on the leverage ratio of non-financial firms in Ghana.
3. Investigate the impact of firm age on the leverage ratio of non-financial firms in Ghana.
4. Study the relationship between growth opportunity and leverage ratio of non-financial firms in Ghana.
5. Examine the relationship between cash flow and leverage ratio of non-financial firms in Ghana.
6. Investigate the relationship between asset tangibility and leverage ratio of non-financial firms in Ghana.

This study's results will proffer a good direction of understanding on how the determinant variables considered influence CSD within the framework of PEOT and SGT. The findings from this work will be of immense benefit to other stakeholders like investors, government, policy makers, top level managers and academics. It will guide them in formulating and implementing appropriate policies and actions at different strata that will further strengthen the operations and health of the firm to maximize shareholders value. In addition, it will serve as a reference material and bedrock for academics and financial student who want to conduct research in this area.

2. Literature Review

Conceptual Literature

CSD is particular mix of debt-equity a firm employed to finance its investment activities (Abor, 2008; M & M, 1958). That is a combination of long and immediate financing source which form the subset of a financial structure. In the opinion of Myers and Majluf (1984) CSD is debt, equity or hybrid securities choice which firms adopt to spur their operational function. Harris and Raviv (1991) perceive CSD is part of the solution to the challenge of over-investment and under-investment. Myers (2000) sees CSD as equity and debt mix securities used to finance nominal and real investment. Brendea (2018) describe it as the financing strategy of a long term nature used by corporate firms. Nirajini and Priya (2013) define CSD as the process and act where organizational entities finance a mix of capital and liabilities on the basis of long and immediate term. CSD is the blend of

equity-debt mix company uses to take care of its total operation and growth. Debt is always seen here as long term, but it may also encompass particular immediate debt. Retained earnings and preferred shares may also be included in the CSD (Hasan, 2017).

Determinants of CSD

Different theories like PEOT, trade-off, SGT among others and empirical studies like (M&M, 1958; Mayer, 1984; Abor, 2008; Hasan, 2017) have identified different internal firm's factors of profitability, firm size, firm age, growth opportunity, cash flow and asset tangibility as significant determinants of CSD in both developed and emerging countries. These factors enable researchers to ascertain how well firms follow the aforementioned theories in formulating and building their CSD. The explanation is given as follows:

Profitability and CSD

It refers to the firm's ability to create sustainable profits. This profit arises from the firm's ability to control and maintain operational decisions, investment and strategies that will aid business objectives and stability. Return on Assets (ROA) and Return on Equity (ROE), Net Interest Margin (NIM) are common book proxies of profitability (Chipa & Wamiori, 2017). Profitability could directly or inversely impact leverage for different reasons. Firms with high profit and access to less risky internal fund (retained earnings) can rely on them and be external debt independence. The principal source of finance in the word of PEOT is retained earnings (Murinde, (2004). Titman and Wessels (1988) and Barton (1989) suggest that firms with high profit rates will maintain low level leverage in their CSD since such funds can be generated internally. This presupposes inverse association between profitability and leverage ratio from the PEOT framework. Cassar and Holmes (2003), Esperança (2003) and Hall (2004) confirmed this assertion in the empirical studies.

However, the tax trade-off and SGT model suggest that profitable firms will use more debt since they are more likely to have a high tax saving and low bankruptcy risk. Also, profitable firms can tolerate more debt since such debt can easily be service on time. Financial institution is attracted to lending to profitable firms due to their profit prospect; thus they may use more leverage capital (Ooi, 1999). Scherr (1993) confirm that higher debt-equity ratio is prevalent in start-up firms with higher anticipated profitability. This position was also confirmed by Petersen and Rajan (1994) in their study.

Firm Size and CSD

Size has been perceived as firm's CSD determinant. Low earnings variance is more common to larger firms because they are more diversified which place them in a better position to use more debt ratios (Castanias, 1983; Titman and Wessels, 1988; Wald, 1999). It is more costly for smaller firms to tackle asymmetry information with lenders, this result to lower debt ratio in their CSD (Castanias, 1983). Lenders to larger firms are surer of loan repayment than lenders to smaller firms, like this reducing the agency costs related with debt. Therefore, larger firms will have higher leverage ratio. Inverse function of firm size is bankruptcy cost is another salient factor while micro firms possess lesser debt ratio in the CSD (Titman and Wessels, 1988). Economics of scale are inherent in bankruptcy cost: Bigger firms face lower unit costs of bankruptcy than smaller firms, as shown in Prasad (2001).

Firm Age and CSD

In CSD model, the standard measurement of reputation is age. The firm emerge as an ongoing business via it continuous business operation and it capacity to absorb more debt is also increased. Thus, age is directly associated to leverage. Business credit worthiness is evaluated by banks before granting them loan as a tactics that is generally believe to gain more hope on a very risky project with high profitability rate promise. Specifically, in the case of highly indebted firms, they are gambling with their creditors' money essentially. If it is a profitable investment, significant portion of the earnings will be collected by owners; while creditors will bear the consequences in the advent of project failure (Myers, 1977). To conquer the challenges associated with creditworthiness evaluation, firm reputation was highly suggested by Diamond (1989). He perceives firm reputation as a good name recognized by the market that the firm has built over the years; which has reflected the firm's ability to meet its obligation as they fall due. Acting more prudently to avoid risky investment in favour of safer investments is director's interest towards firm's reputation; to reduce leverage agency cost by discouraging the "temptation" to gamble at creditor's cost.

Growth Opportunity (GROP) and CSD

Growth may mount greater demand pressure on funds generated internally and encourage the firm into borrowing (Hall, 2004). Firms with greater growth will relatively use more debt to finance (Marsh, 1982).For small firms with more ownership concentration, high growth firms will need additional external fund that will drive their leverage up (Heshmati, 2001). Aryeetey (1994) opine that growing small firms appear more to encourage the use of external finance. As the firms metamorphose via different stages (micro, small, medium and large scale) of growth, they are also expected to shift financing sources by moving from internal to external source of financing (Aryeetey, 1998).

Myers (1977), however, suggests that firms with GROP will have a smaller percentage of debt in their CSD. Due to the interest conflicts between debt-equity holders which is especially serious for assets that give the firm the option to undertake such GROP in the future. He argues further that GROP can produce moral hazard situations and small-scale firms have an incentive to take risks to grow.

Cash flow and CSD

From asymmetry information strand of theory of CSD, two different theories consider the nexus between leverage and cash flow of firms. SGT submit direct link between both variables, while PEOT behaviour insinuate an inverse nexus. These views appear contradictory. However, in different bodies of empirical literature, both views are supported (Shenoy & Koch, 1996).Firm's cash flow and debt ratio influence each other simultaneously and both are affected by firms' investments. Firm's first apply cash before debt followed by equity as the last means when they are faced with positive investment opportunities. Meanwhile, the dynamic relationship between the past investment, debt ratio and future cash flow would favour the signaling theory. More promising firms can obtain financial assistance by signaling their historical leverage and consequent positive cash flow record to lenders (Zhao, Katchova& Barry, 2004).

Asset Tangibility (AT) and CSD

Numerous researchers have used AT suggested by PEOT as a salient determinant of CSD of a firm. Baker and Wurgler (2002), Myers (1977, 1984), Shyam-Sunder and Myers (1999), Rajan and Zingales (1995), Titman and Wessels (1988) unveiled direct association between AT and firm's CSD. They submit that the availability of high TAs in a firm will aid them not to default in their obligation and encourage the use of more leverage because AT can be used as collateral and this may cause t he relationship between both variables to be positive. However, mixed findings are confirmed in emerging economy studies. For instance, positive nexus was confirmed by Wiwattanakantang (1999) between AT and CSD in Thailand. While Booth, Aivazian, Demirguc-Kunt and Maksimovic (2001) and Huang and Song (2002) in China found an inverse association between both variables. Also, the studies of Harrison, Panasian and Seiler (2010), Barclay and Smith (2006) found a direct association between AT and CSD.

Theoretical Review

The Pecking Order Theory (PEOT)

The PEOT of CSD is among the most influential and prominent theories of firm's leverage. Myers-Majluf (1984) originally developed it. PEOT considers information asymmetries role in investment opportunities and assets held presently

between firms and stock markets (Nirajini & Priya, 2013). Myers et al (1984) opine that firms employ internal funds by least effort that is less risky and costly than external funds. When there is need for outside finance debt is preferred to equity due to minimal information cost that debt issue attracts. Also, optimal mix of CSD does not hold in firm. These arguments metamorphose to testable predictions found by Vogt (1994) that retained funds significantly influence investment decisions of firms and PEOT behaviour is mostly perceive in firms with low dividend payout policies in the long run. The PEOT have been criticized because it never considers any tax effect into consideration (Frank & Goyal, 2019; Acaravci, 2015). Fama and French (2002) and Frank and Goyal (2003) says that the theory has few other complications as well; currently it is not that much helpful in managing firms financial resources.

The Signaling Theory (SGT)

Signaling concept was foremost observed in product and job markets Akerlof and Arrow which was advanced and propagated by Spence (1973) in its signal equilibrium theory. SGT assert that sound firm can differentiate them self from bad firm via credible signal sending It quality to stock markets. The signal is deem credible if and only if bad firm cannot mimic and send the signal of good firm. Bad firm might be discouraged from this act due to the signal's high cost. Ross (1977) demonstrated how firms could use leverage as an expensive signal to different sound from the bad firms; under information asymmetry between agents and external investors because signals are fundamental to obtain financial resources. Insiders (agent) know the firm actual returns distribution while investors do not. Optimistic future is signaled when managers used higher debt. Thus, sound firms separate its self by employing higher leverage to attract scrutiny while bad firms will not mimic by adopting lower debt in order not to be exposed.

Costly signaling as discussed by Talmor (1981), Spence (1973), Ross (1977), Leland and Pyle (1977) and costless signaling equilibrium as suggested by Rennan and Kraus (1984), Bhattacharya and Heinkel (1982) are the two type of signaling inside information. A costly signal is the type that is related to loss in welfare gotten from claim distribution in a perfect market or consume more resources during it production.

Theoretical Framework

This study is hinged on PEOT and SGT as developed by Myer (1984) and Ross (1976). This is so because under asymmetric financial markets, the POET and SGT could be tested via combined associations among firm's cash flow, investment and leverage contemporaneously and inter-temporally (Zhao, Katchova & Barry, 2004). The contemporaneous model deals with the correlation between current leverage and previous cash flow while the latter tackle the nexus between current

leverage and future cash flow. Shenoy and Koch (1996) developed a dynamic simultaneous equation model, which comprises of three (3) equations (cash flow, leverage and investment) to integrate the POET and SGT into empirical testing work.

Empirical Literature

Shenoy and Koch (1996) used contemporaneous PEOT and intertemporal SGT model to test the relationship between leverage and cash flow. The dynamic simultaneous equation model that allows cash flow, risk and leverage to jointly interact in the same period and cross time was used. Findings show that leverage and cash flow tend to be negatively related in the same time, while across time leverage is positively related to future cash flow. Akoto and Gatsi (2010), Ansong and Asmah (2013) in Ghana tested the validity of POET in banks and insurance companies respectively. The panel regression techniques show that banks in Ghana are highly levered and follow POET suggestion in the CSD (Akoto et al, 2010). Findings from insurance firms could not be linked to POET or Signaling theory in Ghana (Ansong et al, 2013).El-Wahid and Singapurwoko (2011) examined the determinants of CSD in order to test the POET. The multiple regression frame work was employed. Result shows that firm size, debt, uncategorized data and operational decision directly affect the choice of capital not based on the POET but on the free cash.

Chang, Chen and Chen (2013) in Taiwan examine CSD determinants. The study adopts the hierarchical regression approach. Findings show that profitability and growth rate significantly impact CSD, and conclude that POET is valid in Taiwan electronics companies. Akorsu (2014) tested the POET and SGT in Ghana's financial firms. The panel regression methodology was applied. Result revealed that financial institution applied both POET and SGT in their CSD. Anarfo (2015), Negasa (2016) in Africa, Meero (2017) in Gulf economics, used multivariate regression techniques to examine the link between CSD and firm performance. Findings revealed that ROA inversely influence CSD to confirm POET and ROE directly impact CSD (Meero, 2017); there was no significant link between CSD and firm performance (Anarfo, 2015) and trade –off theory was confirmed to imply that CSD positively and significantly influence performance (Negasa, 2016).

Nassir (2016) explored the nexus between CSD and performance of industrial companies in Turkey from 2005 to 2012. Multivariate OLS regression methodology was adopted. Findings indicate significant inverse association between CSD and firm performance. Nenu, Vintila and Gherghina (2017) verified factors that influence the CSD of firms listed in the Romanian from 2000-2016. Panel Fixed-effects model framework dynamic systems GMM (Generalized

Method of Moments) techniques were applied. Result revealed that leverage has positively associate with the firm's size and volatility of share prices. Conversely, the leverage structure has an impact that is different on the firm performance thereby confirming the PEOT. In Malaysia and Indonesia, Mursalim and Kusuma (2018) employed the two stage least square techniques to study the determinants of CSD. Findings unveil that firm's size, profit and volatility significantly explained CSD dynamics in these countries.

Ogieva and Ogiemudia (2019) explored CSD impact on the performance of Multinational Firms (MF) in Nigeria. Panel data of 2008 to 2017 were sourced from the Nigeria Stock Exchange (NSE),analyzed with descriptive statistic, ADF statistic, Levin, Lin and Chut statistics, correlation analysis and panel regression techniques. The findings reveal that CSD significantly and negatively impacts MFs' performance in Nigeria thereby confirming the validity of POET in the Nigerian listed multinational firms. Other explanatory variables of board size, firm age, firm size, and board independence considered were positively related to the performance though not significant (except for firm size).Akeem, Terer, Kiyanjui and Kayode (2019) and Gabrijelcic, Herman and Lenarcic (2016) employed the regression framework to ascertain CSD effect on firm's performance within the PEOT framework. The point out inverse association between firm performance and the debt-to-equity ratio and uphold the PEOT. Schulz (2017) confirmed the POET using panel regression and data of SMEs in Netherland from 2008 to 2015. Significant and negative correlation between CSD and ROA was revealed by the result.

Futhermore, Musah and Kong (2020) examine liquidity and financial performance nexus, the study make use of panel regression (OLS, fixed, and random effects) using listed firms from 2008 and 2018.The findings of the study suggested that liquidity has a positive influences on firm performance, firms depends on internal financing, indirectly supporting the Pecking Order Theory (PEOT).The COVID-19 era provided fresh insights into capital structure behavior. Yinusa and Akinwande (2021), in their study on capital structure dynamics and firm performance during COVID-19, examined Nigerian firms between 2015 and 2021 using panel regression analysis. The study stated that pandemic influence greater reliant on internal financing, which strengthen PEOT. However, Al-Matari (2022) investigated Middle Eastern companies from 2015 to 2022 He used Structural Equation Modeling (SEM) to study capital structure and firm resilience. The study found that many firms issued debt as a sign of financial strength, which supports the Signaling Theory (SGT) in times of crisis.

1. METHODOLOGY

This paper used the longitudinal research design. It is appropriate because historical data collected over a period of time is used. The thirty two (32) firms listed in the Ghana Stock Exchange (GSE) made up the population of this study as at 2019. However, the filtering techniques are used to get the target sample as follows:

1. All the financial firms,
2. Firms without consistent annual report submission to the market regulators,
3. Firms with incomplete financial statement,
4. Inactive firms in terms of operation for the whole period,
5. Firms that had been technically suspended due to one reason or the other were excluded from the study.

These filtering criteria affected fifteen (15) firms and they were dropped. Hence, seventeen (17) non-financial firms is the sample of this study.

For the purpose of this study, only the cash flow and leverage model are considered and this is given as:

$$= {}_0 + {}_1 \quad , , 1 + {}_2 \quad , + {}_3 \quad , , 1 + {}_4 \quad , + {}_5 \quad , , 1 + {}_6 \quad , + {}_7 \quad , , 1 + \quad / .. (1)$$

$$= {}_0 + {}_1 \quad , + {}_2 \quad , , 1 + {}_3 \quad , , 1 + {}_4 \quad , + {}_5 \quad , , 1 + {}_6 \quad , + \quad / / / / / / / / / / / / .. / / / / / / / / / / / / .. (2)$$

Eq (1) is a cash flow model and Eq (2) is the leverage contemporary model (Zhao, et al 2004; Titman & Wessels, 1988).

Where;

CSF_t = Cash flow at immediate period t.

CSF_{t-1} = Previous one period cash flow variable.

LVG_t = Firm's total leverage (debt) ratio at time t,

LVG_{t-1} = Past leverage variable.

PRF = Firm's profitability.

IVT_t and IVT_{t-1} = are current and past period investments

Thus, the apparent contradictions in the theoretical and empirical literature may be reconciled by considering *both* the contemporaneous and dynamic aspects of the firm's leverage/cash flow relationship (Shenoy & Koch, 1996)

Model Specification

From the submission of our theoretical framework, this study adapted Eq (1) and (2) although modified by adding more variables to reflect the broad and specific objectives of this study. The functional forms of the models are stated as:

$$= f(\quad , \quad , \quad , \quad , \quad) / / / / / / .. / / / / / \quad (3)$$

$$= f(\quad , \quad , \quad , \quad , \quad , \quad) / / .. / .... / / ./ / \quad (4)$$

While the estimated versions of the models are given as:

$$= {}_0 + {}_1 \quad ,,1 + {}_2 \quad , + {}_3 \quad ,,1 + {}_4 \quad , + {}_5 \quad ,,1 + {}_6 \quad , + {}_7 \quad ,,1 + {}_8 \quad , + {}_9 \quad , + \quad + \quad + \quad / .(5)$$

$$= {}_0 + {}_1 \quad , + {}_2 \quad ,,1 + {}_3 \quad ,,1 + {}_4 \quad , + {}_5 \quad ,,1 + {}_6 \quad , + {}_7 \quad ,,1 + \quad + \quad / / .. / / / .. (6)$$

Where:
FSIZE = Firm's size
GOPT = Growth opportunity
ATG = Asset tangibility
FAGE = Firm's age
$_0$ and $_0$ = constant
$_1$ to $_{10}$ and $_1$ to $_8$ = parameters to be estimated in both models.
= Firm and time effect
= error term
Other variables remain the same as describe in Eq (1&2).

A priori expectations as observed in the theoretical literature are expressed as:
Table1: *A priori* expectations

Variables	**Parameter.**	**PEOT Sign**	**SGT Sign**	**Variables**	**Parameter**	**PEOT Sign**	**SGT Sign**
Cash flow model Eq (5)				*Leverage model Eq (6)*			
,,1	1		+	,	1	-	
,	2	-	+	,,1	2	-	+
,,1	3	+	+	,,1	3	-	+
,	4	-	+	,	4	+	
,,1	5	+	+	,,1	5	-	+
,	6	+	+	,	6	-/+	+
,,1	7	+	+	,,1	7	-	+
,	8	-	+				
,	9	+	+				

Source: Researcher's Compilation (2021)

In table1 shows the *A priori* expectation from Eq (5) and (6). Testing the contemporaneous association between cash flow and leverage will guide to validate the PEOT. Meanwhile, the dynamic interaction between the GOPT, leverage and cash flow would support the SGT. To test whether non-financial firms follow the PEOT, we need to examine $_2$ in Eq (5). Negative coefficient at the same immediate period, demonstrates PEOT behaviour holds for non-financial firms in Ghana. Also, by considering the nexus between lag GOPT ($_5$) and the dependent variable (immediate CSF) as well as $_{,,1}$($_3$) and dependent variable in Eq (5). Thus, $_5$and $_3$ will show to be positive as suggested by the SGT idea (Zhao etal, 2004).

Furthermore, PEOT relationship in Eq(6) is shown by the relationship between firm's leverage and cash flow (the coefficient of $_1$ should be negative). From asymmetry information view PEOT also predict FSIZE ($_6$) coefficient to be positive on one hand. Alternatively, PEOT suggest that $_6$ could also take a negative coefficient because high retained earnings is peculiar to large firms and this reduce their desire for external finance (Titman & Wessel, 1988); hence making FSIZE to have mixed effect on leverage depending in the situation big or small firm. For SGT, $_{,,1}$($_2$), $_{,,1}$($_2$) and ($_6$) should be positive.

Estimation Procedure

First the data properties were described; summarize and presented in a convenient form using descriptive statistics. Also, the Peason correlation analysis is used to identify the direction and strength of association among variables. The panel group unit root of Fisher type test using the Im, Pesaran& Shin, (2003), Augmented Dickey Fuller (ADF) and Philip-Peron (PP) test (Maddala& Wu, 1999) were employed to ensure that the variables are stationary to avoid a spurious regression outcome. Second, the Kao panel co-integration techniques hinged on Engle and granger process is adopted to establish long run relationship between variables of concern.

Third, the dynamic panel regression of system GMM estimation techniques, advanced by Blundell and Bond (1998), Arellano and Bover (1995) is used to estimate the model underlying this study. This techniques is preferred to other approach like the differenced GMM, two stage least square, fixed and random effect among others, because of its capability to handle upward and downward bias present in dataset, variable omission and measurement bias to produce huge efficiency gain ((Lemmon, Robert & Zender, 2008). Finally, the Hansen(J-statistics) test, Arellano-Bond's (1991) autoregressive order (1) and (2) including Wald test is carried out to ensure that the instrumental variables used are exogenously related to the error term (Roodman, 2009).

Operationalization of Variables

S/N	Variable Name	Variables Code	Operations	Source
1.	Cash flow	CASF	$= \frac{h \quad f \quad f}{h}$	Zaoh, et al (2004), Akorsu (2014)
2.	Leverage	LVRG	$= \frac{\quad}{\quad}$	*Titman and Wessels (1988); Frank and Goyal (2009)*
3.	Growth Opportunity	GOPT	$f \quad = \frac{\quad , \quad , 1}{\quad , 1}$	*Zheng and Zhu (2013); Frank and Goyal (2009).*
4.	Profitability	PRF	Proxied by Return on Asset (ROA) $= \frac{f}{\quad}$	Ogieva and Ogiemudia (2019); Mursalim and Kusuma (2018)Yinusa (2017)
5.	Firm's age	FAGE	Difference between listing year and current year plus one (1)	Akorsu (2014)
6.	Firm size	FSIZE	Log of Total Asset	*Frank and Goyal (2009)*
7	Asset tangibility	ATG	$= \frac{f}{\quad}$	Titman and Wessel (1988); Antoniou (2002); Zafar (2019).

Source: Authors' Compilation (2025). F irm size, firm age, growth opportunity, cash flow and asset tangibility

Four important theories are used to explain leverage ratio, profitability, size, age, growth opportunity, cash flow and asset tangibility as

Material: Sp04zh is important for model specification.

Musah and Kong (2020) Liquidity and firm financial performance nexus: panel in Ghana: important for constructing statement of problem and significance.

Trade-off theory, pecking order theory and market timing theory material is very good for testing the market timing model from my data.
Topic: Capital structure Conundrum in Nigeria: Does MTT really Matters? Material 9188 is important for this and M&M theory.

Results and Discussion

The study used the dynamic panel regression using the System Generalized Method of Moments (GMM) estimation technique. From the study, the result indicates that profitability and cash flow have an inversely relationship with leverage. This validate the Pecking Order Theory (PEOT). This means that firms that are profitable in Ghana prefer using internal sources of finance like retained earnings instead of relying on external debt. This finding aligns with prior studies such as Yinusa and Akinwande (2021) and Ogieva and Ogiemudia (2019), which confirmed that firms in developing economies are inclined toward internal financing due to information asymmetry and high cost of borrowing.

Additionally, the study's findings support the Signaling Theory (SGT) by showing a positive correlation between leverage and business size and growth. Higher leverage ratios are typically used by large organizations and businesses with better growth possibilities as a reliable indicator of stability and financial strength to outside investors. This is consistent with the claims made by Ross (1977) and Leland and Pyle (1977) that sound businesses use higher debt levels to set themselves apart from weaker ones.

Additionally, it was discovered that asset tangibility had a positive and significant impact on leverage, suggesting that companies with more tangible assets can borrow more money since they can be used as collateral.
However, firm age showed an insignificant relationship with leverage, indicating that in the Ghanaian setting, duration and prestige have very little impact on financing decisions.

In general, the reliability and dependability of the instruments utilized were verified by the model diagnostics, including included the Hansen J-test, Arellano Bond AR (1), and AR (2) tests. The results show that, based on internal circumstances and market dynamics, non-financial companies listed on the Ghana Stock Exchange (GSE) adhere to both the Pecking Order and Signaling theories.

These findings imply that market shortcomings and information asymmetry have a substantial impact on capital structure decisions in Ghana, forcing businesses to rely increasingly on internal resources until outside financing becomes necessary.

Conclusion

The usefulness of the Signaling Theory (SGT) and Pecking Order Theory (PEOT) in understanding capital structure choices made by non-financial companies listed on the Ghana Stock Exchange was investigated in this study. The study found that cash flow and profitability have a negative impact on leverage, which is in line with PEOT predictions, using the dynamic system GMM model. In the meantime, leverage is positively impacted by firm size, growth potential, and asset tangibility, which supports the SGT theory that firms use higher debt levels to communicate their strength and prospects.

The results verify that due to market flaws, high transaction costs, and information asymmetry, Ghanaian non-financial enterprises mostly rely on internal financing sources, especially retained earnings.

Recommendations

i. Promote Access to External Financing: To make external financing more appealing to non-financial companies, policymakers should fortify capital market institutions and lower borrowing rates.
ii. Increase Information Transparency: To lessen information as ymmetry and lower the risk premium required by lenders and investors, regulators and businesses should implement strong disclosure standards.
iii. Encourage Retained Earnings Utilization: To preserve financial flexibility and lower exposure to debt risk, corporate management should keep giving internal financing top priority, especially in the short term.
iv. Encourage Asset-Based Financing: To improve businesses' access to debt financing without taking on undue risk, financial institutions should create lending frameworks that use tangible assets as collateral.
v. Policy Incentives for Growing Businesses: To assist high growth businesses that need outside finance for expansion while maintaining sustainable leverage ratios, government organizations should implement tax breaks or credit guarantees.
vi. Future Research: To gain a deeper knowledge of the dynamics of capital structure in emerging countries, future research should compare Ghana with other West African economies or broaden the sample to incl ude financial enterprises.

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