INFLUENȚA CICLULUI DE VIAȚA CORPORATIV ASUPRA PRACTICILOR DE MANAGEMENT AL REZULTATELOR

INFLUENCE OF CORPORATE LIFE CYCLE ON ACCRUAL-BASED EARNINGS MANAGEMENT

Maria Carmen HUIAN,
Alexandru Ioan Cuza University of Iași, Faculty of Economics and Business Administration, Romania
maria.huian@uaic.ro
ORCID: https://orcid.org/0000-0002-4446-0805

Marilena MIRONIUC,
Alexandru Ioan Cuza University of Iași, Faculty of Economics and Business Administration, Romania
marilena@uaic.ro
ORCID: https://orcid.org/0000-0002-8496-3888

Abstract. This study investigates the opportunistic behavior of managers in reporting the company earnings within the different stages of the corporate life cycle, classified according to the characteristics of their cash flows. On a sample of 73 companies listed on the main segment of the Bucharest Stock Exchange during 2007-2021 and 996 annual observations, the paper uses Least Square Dummy Variable panel data analysis and demonstrates that in the initial stage of the life cycle managers are tempted to exploit the characteristics of the accrual-based accounting to enhance the reported results. Conversely, as firms grow and mature, accrual-based earnings management is no longer so tempting. In addition, stock returns are an incentive for management to try to improve the perception of capital market participants. The field of activity appears to be another important determinant of the level of use of earnings management. Finally, no significant link can be established between the age of the company and the propensity to manipulate earnings.

Keywords: (accrual based) earnings management, accruals, corporate life cycle, cash flows, financial reporting

JEL Classifications: M41, M10, G30

Introduction

The aim of the paper is to study whether the nature of the relationship between the corporate life cycle (CLC) and earnings management (EM) is different from one stage to another and whether there are stages in which this connection is more intense or not. In this sense, the CLC stages are determined based on the cash flows patterns developed by Dickinson (2011), according to which firms are in the Introduction stage (I) if operating cash flows (CFO) and investment cash flows (CFI) are negative, and financing (CFF) are positive; in the Growth phase (G) if CFO and CFF are positive and CFI negative; in the Maturity stage (M) if CFO are positive and CFI and CFF are negative; in the Shake Out phase (SO) if: i) all cash flows are either positive or negative or ii) CFO and CFI are positive and CFF negative and in Decline (D) if: i) CFO are negative and CFI and CFF positive or ii) CFO and CFF are negative and CFI positive.

In order to study the influence of the passage of time on EM practices, the company's age (Age) is used, as a way of evaluating the sequential progress through the CLC stages (Durana et al., 2021).

The level of managers' use of opportunistic accounting choices is estimated based on *discretionary accruals*, considered to be synonymous with EM (Huian et al., 2018). In this sense, three accrual-based earnings management models (AEM) are used, all widely cited in the literature: Hribar and Collins (2002); Kothari and Wasley (2005) and Raman and Shahrur (2008).

The research question that the paper tries to answer is *whether the level of accrual-based earnings management practices used by managers differs during the corporate life cycle, i.e., whether it is lower or higher depending on the challenges generated by each stage?*

To answer this question, two models are developed and subsequently tested using panel data analysis and Least Square Dummy Variable (LSDV) regression. The results show that managers of firms listed on the Bucharest Stock Exchange (BSE) that are in the introduction stage are more inclined to opportunistically increase profits, while in the growth and maturity stages, these AEM practices are less tempting. Also, good stock returns encourage managers to enhance real performance to confirm market and financial analyst expectations. In addition, in industries such as manufacturing and the gas and electricity sector, the discretionary use of accruals is lower than in other sectors.

The study contributes to a better understanding of the behavior of firms in various stages of the corporate life cycle, joining the existing literature in the field of organizational science. In addition, the paper develops the empirical research on AEM in the emerging countries of Central and Eastern Europe, insufficiently studied in the literature (Can, 2020; Durana et al., 2021). In these countries, a trend of increasing accounting manipulations is identified (Durana et al., 2020). The negative consequences of EM practices, which reflect on the quality of financial reporting, and therefore of financial markets, could be even more severe in emerging countries, characterized by a lower quality of state institutions, weak corporate governance, and limited transparency of financial reporting (Alhadab et al., 2020). This justifies the usefulness and relevance of this paper that brings new and recent evidence on the relationship between AEM and CLC in an emerging country like Romania.

The rest of the paper is structured as follows: Section 1 reviews the relevant literature in the field of CLC and AEM to substantiate the research hypotheses; Section 2 describes the research methodology by defining the sample, data source and detailing the empirical models used; Section 3 presents the results, in the form of univariate and multivariate analysis, and their discussion and Section 4 draws the conclusions.

1. Literature review

The theory of the organizational life cycle, a result of research in the field of strategic management (Frielinghaus et al., 2005), has relatively recently gained attention in the accounting literature, offering an alternative economic framework for investigating earnings management practices.

In the specialized literature, attempts to define earnings management converge towards perceiving it as: i) intentional interventions in the external financial reporting process, with the intention of obtaining a private gain (Schipper, 1989); ii) strategies to mislead certain stakeholders about the underlying economic performance of the company in order to influence contractual outcomes that depend on reported accounting figures (Healy and Wahlen 1999); iii) management attempts to influence or manipulate the reported results, using specific accounting methods or accelerating transactions involving expenses or revenues intended to influence short-term earnings (Isenmila and Afensimi, 2012); iv) strategies used by the management of a company to modify its revenues so that the figures correspond to a predetermined objective (Jara and Lopez, 2011).

Existing literature refers to two earnings management strategies: Accrual-based Earnings Management (AEM) and Real Earnings Management (REM), and empirical research confirms that the amplitude of the manipulation of companies' income differs by the phase of the organizational life cycle. Thus, Krishnan et al. (2020) suggest that early life cycle organizations are more inclined to engage in earnings management strategies than mature companies. Hribar and Yehuda (2015) document that the importance of discretionary accruals on firm growth varies by stage of the development cycle. Hussain et al. (2020) infer, for a sample of listed Chinese firms, that companies in the early stages of the life cycle are more likely to develop AEM compared to firms in the mature and declining stages.

Earnings management practices in correlation with the stages of the organizational life cycle follow, according to empirical studies, a "U"-shaped trend, thus firms operating in the start-up and decline stages use accruals more to manipulate results.

The "launch stage" of the organizational life cycle marks the moment of entering the market, characterized by major risks and uncertainties. In this stage, companies accumulate fixed assets and working capital through large investments supported by high capital costs. However, initially, start-ups make small profits because they have difficulties in covering their expenses, and the risk of bankruptcy is omnipresent. Thus, low profitability, high cost of debt, bankruptcy risk, high uncertainty of research and development expenses, idiosyncratic volatility are factors that predispose managers to earnings management practices. Krishnan et al. (2020) point out that in the Introduction stage, the amount of accruals will be high, which motivates managers to exercise discretion over reported accounting figures. In the opinion of Can (2020), the introductory stage also negatively affects the quality of companies' reporting.

The second stage, "growth", is characterized by: development and expansion of business activities (market share, sales volume), higher profit rates, less asymmetric information, less uncertainty in obtaining cash flows (Dickinson 2011). However, in the growth phase, firms may have more concerns about their reputation, which mitigates managers' involvement in tax avoidance practices. Also, at this stage the demand for transparency from the company seeking additional external financing increases (Habib and Hasan 2019), the interest of analysts is much higher compared to other stages of the life cycle, and adequate internal control and monitoring mechanisms increase the quality of financial reporting and decrease the involvement of managers in earnings management practices (Hussain et al., 2020).

In the "maturity stage," competition becomes fierce, business expansion and profits stagnate because the optimal market share has been reached, and firms are interested in sustaining what they have already achieved rather than exploring new opportunities. Consequently, these firms do not require debt financing, even if they are able to obtain loans at reasonable costs. In the mature stage, firms are more accountable and transparent compared to other stages and reveal the highest level of reporting quality. Therefore, based on these arguments, in the mature phase, managerial involvement in earnings management practices, through AEM techniques, proves to be meaningless.

Known as the "revitalization" or "resurgence" phase, the shake out stage is identified when competitors with lower market share begin to exit the market, which intensifies competition among strong competitors (Dickinson 2011). At this stage, sales volume tends to decline, so firms are forced to boost innovation-related activities to achieve stability. This stage of transition from maturity to decline is considered uncertain in terms of EM strategies.

The "decline" or "terminal stage" is deemed as the most difficult stage a firm faces during its life cycle. Dickinson (2011) states that during decline cash flows and profits begin to decrease, which amplifies financial problems and exposure to the risk of bankruptcy. At this stage, firms typically pursue riskier projects to regain market share, which may motivate managers to follow aggressive tax and financing strategies. Against the background of inadequate internal control, managers of declining firms "play" with accruals in an attempt to minimize the chances of loan defaults and engage in fraudulent reporting activities to hide poor performance and present a stable position to stakeholders (Hussain et al., 2020). Thus, managers of declining firms have a higher propensity to opportunistically use accrual-based techniques to manage earnings.

In the context of these characteristics of each CLC stage, we formulate the first hypothesis.

H₁ The level of accrual-based EM practices of BSE-listed firms is higher in the introduction and decline stages than in the growth and maturity stages.

To compare the non-sequential CLC model of Dickinson's (2011) with a sequential one, the age of the firm (Age) is used to analyze the effect of the passage of time on the level of EM. For this purpose, the second research hypothesis is developed.

H_2 The level of accrual-based EM practices of BSE-listed firms is significantly correlated with the age of the companies.

2. Research methodology
2.1 Sample and data source
The initial sample consisted of 81 companies listed on the main segment of the Bucharest Stock Exchange. Because they do not report cash flow statements, the three listed banks were removed from the sample. Subsequently, another 5 companies were eliminated due to missing data for several variables used in the AEM models. The timeframe considered was a period of 15 years, between 2007 and 2021. Analyzed data, in order to calculate the variables, came from the annual financial statements downloaded from the Refinitiv Eikon database. The result was an unbalanced sample of 996 annual observations from 73 companies.

The age of companies was calculated based on the date of incorporation, found on each company's web page.

2.2. Empirical models
According to the literature (Durana et al., 2021; Huian et al., 2018; Hussain et al., 2020; Khuong et al., 2022; Lazzem and Jilani, 2018), discretionary accruals (DA) were calculated, in order to ensure the robustness of the results, based on three well-known models: Hribar and Collins (2002); Kothari and Wasley (2005) and Raman and Shahrur (2008).

Hribar and Collins (2002) model is presented in equation (1).
$$TA_{it}/A_{it-1} = \beta_0 \times (1/A_{it-1}) + \beta_1 \times (\Delta Rev_{it}/A_{it-1}) + \beta_2 \times (PPE_{it}/A_{it-1}) + \varepsilon_{it} \qquad (1)$$
where:
TA_{it} = total accruals, calculated as the difference between Operating Income of firm i at time t and operating cash flows (CFO) of firm i at time t
A_{it-1} = total assets of firm i at time $t-1$
ΔRev_{it} = change in sales revenue minus change in receivables of firm i at time t
PPE_{it} = property, plant, and equipment of firm i at time t
ε_{it} = residuals of equation (1) which represent the DA level used in the models testing the developed hypotheses
Kothari and Wasley (2005) model starts from Hribar and Collins (2002), which they adjust with an indicator of economic profitability – ROA, according to equation (2).
$$TA_{it}/A_{it-1} = \beta_0 \times (1/A_{it-1}) + \beta_1 \times (\Delta Rev_{it}/A_{it-1}) + \beta_2 \times (PPE_{it}/A_{it-1}) + \beta_3 \times ROA_{it-1} + \varepsilon_{it} \qquad (2)$$
where:
ROA_{it-1} = lag value of Return on Asset of firm i

The third model, Raman and Shahrur (2008), modifies equation (2) by adding a new term, according to equation (3).
$$TA_{it}/A_{it-1} = \beta_0 \times (1/A_{it-1}) + \beta_1 \times (\Delta Rev_{it}/A_{it-1}) + \beta_2 \times (PPE_{it}/A_{it-1}) + \beta_3 \times ROA_{it-1} + \beta_4 \times BM_{it} + \varepsilon_{it}$$
$$(3)$$
where:
BM_{it} = the ratio between the total assets of firm i at time t, on the one hand, and total assets – equity + market value of the firm, on the other hand

To test the developed hypotheses, two models are created, shown in equations (4) and (5), which contain the variables of interest (the phases of the corporate life cycle - CLC and the age- Age), and the control variables.
$$y_{it} = \alpha_0 + \alpha_1 \times CLC_{it} + \alpha_2 \times Tang_{it} + \alpha_3 \times Stock\_Ret_{it} + Industry_i + \mu_{it} \qquad (4)$$

$$y_{it} = \alpha_0 + \alpha_1 \times Age_{it} + \alpha_2 \times Age\_Sq_{it} + \alpha_3 \times Tang_{it} + \alpha_4 \times StockRet_{it} + Industry_i + \mu_{it} \qquad (5)$$

where:

y_{it} = the dependent variable, discretionary accruals (DA), proxy for EM, calculated as the residuals of the three models described in equations (1), (2) and (3), respectively DA_HC, DA_KW and DA_RS

CLC_{it} = stages of the corporate life cycle, according to Dickinson (2011): Introduction (I), Growth (G), Maturity (M), Shake Out (SO) and Decline (D)

Age_{it} = the age of the company measured as the natural logarithm of the number of years since its incorporation (Michaelas et al., 1999)

Age_Sq_{it} = firm age squared, which captures the non-linear relationship with the dependent variable (La Rocca et al., 2011)

Control variables:

$Tang_{it}$ = Tangibility, calculated as a ratio between the value of tangible fixed assets and total assets (Durana et al., 2021; Hussain et al., 2020; La Rocca et al., 2011)

$Stock\_Ret_{it}$ = yearly stock return (Hussain et al., 2020)

$Industry_i$ = variabile dummy for the fields of activity according to NACE, grouped into 5 categories: pharma and health activities (PH); financial industry (Fin); gas and electricity sector (GE); manufacturing (Man) and other industries (Other)

μ_{it} = error term

Empirical investigation of the hypotheses was done using panel data analysis. Both Ordinary Least Square (OLS) and Least Square Dummy Variable (LSDV) regression results are presented for the two models. LSDV models are based on the fixed – effects assumption (Greene, 2003), by including time (except the first year) and company (except the first) dummy variables that capture the time and cross-sectional effects of all variables – included and omitted (Michaelas et al., 1999). Because the tests showed heteroscedasticity problems, both OLS and LSDV models were corrected using robust standard errors. The chosen LSDV model includes space dummies, being time-invariant, and proving superior (after testing the time parameters) to the LSDV variants with year dummies (space-invariant) and the one with both types of variables (year and space dummies).

The dummy variables chosen as a reference were, in the case of CLC, the SO stage, whose nature is still considered unclear in the literature (Hussain et al., 2020) and for the industry, the Others (which includes several heterogeneous sectors, for which there were few individual annual observations).

3. Results and discussions
3.1 Univariate analysis

Univariate analysis considers the descriptive statistics of all variables in the models. Table 1 shows that approximately 45% of the companies are in the maturity stage, which confirms other studies carried out at the BSE (Huian and Mironiuc, 2023). At the opposite end, around 8% of firms are in the initial stage, according to the characteristics of their cash flows. By field of activity, the majority are manufacturing companies (46%), followed by the heterogeneous Others sector (22%) and gas and electricity (almost 13%).

Table 1. Descriptive statistics of dummy variables

CLC	Freq.	Percent	Industry	Freq.	Percent
I	78	7.83	PH	77	7.73
G	200	20.08	Fin	115	11.55
M	448	44.98	GE	126	12.65
SO	163	16.37	Man	462	46.39
D	107	10.74	Other	216	21.69
Total	996	100	Total	996	100

Table 2 presents the mean and standard deviation for both the dummy variables in Table 1 and the dependent and control variables. Regarding AEM, the mean values of DA, in all three calculation variants, are significantly different from zero, which signals the existence of EM practices in Romanian companies listed on the BSE, with negative effects on the quality of financial reporting.

Table 2. Descriptive statistics of all variables

Variable	Obs	Mean	Std. Dev.
DA_HC	923	0.0089	0.1471
DA_KW	923	0.0089	0.1471
DA_RS	923	0.0045	0.1464
I	996	0.0783	0.2688
G	996	0.2008	0.4008
M	996	0.4498	0.4977
SO	996	0.1637	0.3701
D	996	0.1074	0.3098
Tang	996	0.4435	0.2749
Stock_Ret	982	0.2246	0.9081
PH	996	0.0773	0.2672
Fin	996	0.1155	0.3197
GE	996	0.1265	0.3326
Man	996	0.4639	0.4989
Other	996	0.2169	0.4123
Age	996	46.5351	39.7993

Table 3 shows the descriptive statistics (mean values) detailed by life cycle stage. According to Istrate et al. (2015), the positive values of DA show that EM operations aim to increase the reported results, which leads to the appearance of positive differences between the level of accruals and that of cash flows. Similarly, negative values of DA reflect the reduction of profits and simultaneously generate negative differences between the accruals and cash flows.

Table 3. Descriptive statistics by stages of corporate life cycle

CLC	DA_HC	DA_KW	DA_RS	Tang	Stock_Ret	Age
I	0.0988	0.0988	0.0976	0.3927	0.1835	52
G	-0.0007	-0.0008	-0.0012	0.5077	0.2250	47
M	-0.0202	-0.0203	-0.0238	0.4800	0.2659	47
SO	0.0305	0.0304	0.0219	0.3884	0.0755	46
D	0.0539	0.0539	0.0425	0.2914	0.3070	41

It is observed that the mean values of DA, quite similar in the three models, indicate a greater propensity of companies in the introduction stage (I) to resort to AEM techniques, followed by those in the decline and revitalization phase (D, SO). These results, showing a U-shaped evolution of the attempts to manipulate earnings over the duration of CLC, confirm expectations from the existing literature that start-ups and declining firms positively manipulate profits because they have negative cash-flows (Durana et al., 2021). Mature companies, but especially those in the growth stage, rarely resort to such means. The negative sign of DA shows that, once they reach maturity and their maximum profitability potential, firms try to reduce their reported profits to avoid taxes. According to Can (2020), minimization of results (top-down earnings management) is characteristic to profitable companies in the growth and maturity stage. DA values close to zero in the growth stage, also documented in other studies (Durana et al., 2021), indicate the minimization, on average, of the attempts at accounting manipulation. In all CLC stages (except SO), the highest DA values are those

calculated according to the Raman and Shahrur (2008) model. Surprisingly, the firms with the highest age are the ones in the initial stage, based on their cash flow patterns, and the youngest are in the decline phase. The age of the companies in the remaining stages is similar, approximately 46-47 years.

3.2 Multivariate analysis

The multivariate analysis refers to the correlations among variables, detailed in table 4, and to the results of the regressions testing the two hypotheses (tables 5 and 6). The correlation matrix indicates links of weak and moderate intensity, positive and negative, located below the threshold of 0.7 (Ratner, 2009).

Table 4. Correlation analysis

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	DA_HC	1.00															
2	DA_KW	1.00	1.00														
3	DA_RS	0.99	0.99	1.00													
4	D	0.10	0.10	0.09	1.00												
5	G	-0.04	-0.04	-0.03	-0.17	1.00											
6	I	0.17	0.17	0.19	-0.10	-0.14	1.00										
7	M	-0.17	-0.17	-0.16	-0.32	-0.45	-0.27	1.00									
8	SO	0.06	0.06	0.05	-0.15	-0.22	-0.13	-0.41	1.00								
9	Tang	-0.10	-0.10	-0.06	-0.18	0.12	-0.05	0.11	-0.08	1.00							
10	Stock_Ret	0.10	0.10	0.11	0.02	-0.03	-0.02	0.08	-0.08	-0.02	1.00						
11	PH	0.03	0.03	0.03	-0.06	0.02	-0.02	0.07	-0.06	-0.11	0.00	1.00					
12	Fin	0.12	0.12	0.08	0.23	-0.13	-0.06	-0.07	0.09	-0.50	-0.01	-0.10	1.00				
13	GE	-0.02	-0.02	-0.02	-0.11	-0.06	-0.11	0.17	0.00	0.07	0.00	-0.11	-0.14	1.00			
14	Man	-0.04	-0.04	-0.02	-0.06	0.07	0.06	-0.02	-0.05	0.24	0.03	-0.27	-0.34	-0.36	1.00		
15	Other	-0.04	-0.04	-0.04	0.02	0.04	0.07	-0.11	0.03	0.11	-0.03	-0.15	-0.19	-0.20	-0.49	1.00	
16	Age	-0.08	-0.08	-0.07	-0.08	0.02	0.05	0.02	-0.02	0.14	0.06	0.07	-0.24	-0.14	0.39	-0.22	1.00

where: DA_HC = discretionary accruals under the Hribar and Collins model; DA_KW = discretionary accruals under the Kothari and Wasley model; DA_RS = discretionary accruals under the Raman and Shahrur model; D= Decline; G= Growth; I = Introduction; M = Maturity; SO = Shake Out; Tang = Tangibility; Stock_Ret = stock return; PH = pharma and health activities; Fin = financial industry; GE = gas and electricity sector; Man = manufacturing; Other = other industries

Regression analysis
Next, the results obtained after testing the hypotheses through the LSDV regression analysis are presented. Tables 5 and 6 also show the results of the pooled OLS regressions, but the discussion is based mostly on the results of the LSDV models.

Table 5. Results of the regression analysis for hypothesis H_1

Variables	DA_HC		DA_KW		DA_RS	
	OLS	LSDV	OLS	LSDV	OLS	LSDV
I	0.0755***	0.0639***	0.0755***	0.0639***	0.0815***	0.0666***
G	-0.0250	-0.0613***	-0.0251	-0.0613***	-0.0201	-0.0602***
M	-0.0531**	-0.0768***	-0.0531**	-0.0767***	-0.0506**	-0.0771***
D	0.0147	0.0169	0.0148	0.0170	0.0141	0.0191
Tang	-0.0059	-0.0892*	-0.0056	-0.0891*	0.0082	-0.0555
Stock_Ret	0.0232**	0.0242**	0.0232**	0.0242**	0.0247**	0.0251**
PH	0.0432***	-0.0584	0.0430***	-0.0588	0.0487***	-0.0158
Fin	0.0564***	-0.0677	0.0562***	-0.0680	0.0487***	-0.0421
GE	0.0248	-0.0876**	0.0246	-0.0879**	0.0263	-0.0488
Man	0.0098	-0.0855**	0.0099	-0.0859**	0.0121	-0.0409
Intercept	0.0120	0.1673	0.0118	0.1671	-0.0022	0.1118
R-squared	0.0887	0.1907	0.0885	0.1899	0.0828	0.1810
F test	11.79***	7.64***	11.78***	7.62***	10.63***	6.81***
Company Dummies	No	Yes	No	Yes	No	Yes
No of obs	923	923	923	923	923	923

***significant at 0.01 level, ** significant at 0.05 level, *significant at 0.10 level

Table 5 shows that all three versions of the model in equation (4) have similar explanatory powers (R^2 varies between 18.10% in Raman and Shahrur – RS model and 19.07% in the one based on the equation of Hribar and Collins – HC). As for the relationship between CLC stages and the level of EM practices, it is positive and strongly statistically significant in all three cases of DA calculation for companies in the initial stage (Introduction - I) and negative in growing and mature firms (G and M), confirming the results of Khuong et al. (2022). The positive association with the AEM proxies in the initial stage shows the inclination of company managers towards reporting higher profits, through opportunistic accounting choices, to attract foreign capital at the most favorable costs (Durana et al., 2021), under the conditions of high information asymmetry. This result, supported by the descriptive statistics in Table 3, confirms the idea that there is a higher level of accruals in the introduction stage, which allows managers to exercise discretion over earnings (Hussain et al., 2020). Results illustrate a negative association with AEM in growth and maturity stages, which confirms the findings of Durana et al. (2021) and Khuong et al. (2022) and refute those of Hussain et al. (2020). Therefore, a reduction in AEM techniques is observed because, as the firm grows and matures, information asymmetry decreases, attention from analysts increases, the ability to contract loans at lower interest rates increases, and the quality of financial reporting is higher (Can, 2020). Mature companies have a greater capacity to generate internal financial resources (profits), resorting to a lesser extent to external financing (Huian and Mironiuc, 2023) and holding a sustainable position on the market. This makes AEM techniques less attractive to managers who have fewer future earnings growth cycles to compensate for the potential negative market consequences of EM. If the three stages analyzed so far behave as expected, the lack of statistical significance of the positive relationship between DA and the decline stage is surprising, especially considering the high values of DA shown in Table 3. Expectations were for consistent attempts to manipulate earnings, due to the high pressure from stakeholders to report a stable financial position, which is increasingly difficult to achieve because of the erosion of the business model and the decline in turnover (Hussain et al., 2020). The lack of significance of the relationship with AEM does not mean, however, that managers do not use other techniques to manipulate results, for example real earnings management ones.
In terms of control variables, Stock_Ret and business field of activity prove relevant. Regarding the first, the positive relationship between the response of Stock_Ret and AEM practices shows that it is an incentive for managers to opportunistically increase earnings to continue the positive streak in the market (Hussain et al., 2020). In addition, firms in the gas and electricity sector and manufacturing

sector, which represent almost 60% of the total sample, show a lower need to use AEM techniques than those in the reference sector (Others). This is explained by the fact that in the GE field more than 80% of the companies are in the M and G stages, and in the Man field, 2/3 are in those stages of the CLC (M and G) with the lowest AEM levels. It is observed that the statistical significance disappears for DA calculated according to the Raman and Shahrur (2008) model. Hypothesis H_1 is mostly, but not entirely, validated.

Table 6 shows the results of the influence of the company's age on AEM practices.

Table 6. Results of the regression analysis for hypothesis H_2

Variables	DA_HC		DA_KW		DA_RS	
	OLS	LSDV	OLS	LSDV	OLS	LSDV
Age	0.0632*	0.1019	0.0632*	0.1008	0.0470	0.0821
Age^2	-0.0099**	-0.0206	-0.0099**	-0.0203	-0.0077	-0.0178
Tang	-0.0317*	-0.1045*	-0.0314*	-0.1043*	-0.0172	-0.0726
Stock_Ret	0.0209**	0.0207*	0.0209**	0.0207*	0.0223**	0.0216*
PH	0.0273**	-0.0322	0.0270**	-0.0332	0.0341**	0.0090
Fin	0.0412**	-0.0204	0.0411**	-0.0206	0.0331*	0.0051
GE	0.0003	-0.1345***	0.0001	-0.1346***	0.0019	-0.0996*
Man	0.0088	-0.0793	0.0090	-0.0804	0.0121	-0.0370
Intercept	-0.0852	0.0197	-0.0854	0.0204	-0.0690	0.0010
R-squared	0.0341	0.1237	0.0339	0.1230	0.0258	0.1109
F test	6.20***	5.87***	6.17***	5.87***	4.30***	5.98***
Company Dummies	No	Yes	No	Yes	No	Yes
No of obs	923	923	923	923	923	923

***significant at 0.01 level, ** significant at 0.05 level, *significant at 0.10 level

It is observed that only in the OLS model there is a low influence ($p < 0.1$) of the Age variable on the DA level calculated in the Hribar and Collins (2002) and Kothari and Wasley (2005) models, an influence that becomes weaker as firms age (the sign of the Age^2 coefficient is negative, while Age has a positive coefficient). The OLS model also confirms the existence of a non-linear relationship (Age^2 shows a quadratic relationship) (La Rocca et al., 2011). However, none of the LSDV models confirm the significant association between firm age and AEM practices, which supports the results of Durana et al. (2021). The control variables (Stock_Ret and GE business domain) have largely the same relationships with the dependent variables as in table 5. In addition, the share of tangible fixed assets in total assets (Tang) negatively influences the level of DA, showing that firms with high levels of tangible fixed assets can attract more capital from banks, for which they serve as collateral. Hence, these companies face less financial difficulties and, therefore, are less tempted to hide their real performances (Huian and Mironiuc, 2023; Hussain et al., 2020). Hypothesis H_2 is invalidated.

4. Conclusions

The paper describes the behavior of managers of BSE-listed firms in terms of AEM practices at different stages of CLC. The results show the existence of a significant informational asymmetry that allows the involvement of managers in manipulation practices especially in the introduction stage, but also the reduction of this asymmetry and involvement as companies evolve towards the stages of growth and maturity. The passage of time does not appear to be a factor influencing EM attempts. These results may have important implications for lenders, investors, and financial analysts, who need to pay close attention to the quality of financial reporting of early-stage firms.

Limitations of the paper are related to the use of accrual-based EM practices only, which may be an explanation for some of the surprising results obtained. For this reason, in future research, the authors intend to investigate the real earnings management techniques of Romanian companies.

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