Accruals Anomaly and Cash Flows Anomaly: Evidence in France

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Abstract: **The accruals anomaly and cash flows anomaly appear as an irregularity in financial markets. The results of previous empirical studies challenge the paradigm of financial market efficiency (Sloan 1996; Shi and Zhang 2011; Houge and Loughran 2000). The anomaly seems to be derived from users' inability to recognise effect of accruals and cash flows on stock income. Prior literature revue, supports that the abnormal accruals and cash flows that are strong and solid in different context (Lafond 2005; Pincus et al. 2007). To address this issue, we conducted a study on a sample of 185 French firms over the period from 1998 to 2008. The results show that there is no evidence of the cash flow anomaly in France. But, we detect the existence of the accruals anomaly.**

Keywords: **Anomaly; accruals; cash flows; managerial discretion.**

I. INTRODUCTION

Financial market anomalies have attracted the attention of several accounting and financial researchers (e.g. the post earnings announcement drift, Ball and Brown 1968; accruals anomaly, Sloan 1996) and several market participants. Xie (2001) finds that these anomalies are challenges to financial market theories. Investors are also interested in these anomalies in order to make abnormal profits.

Sloan (1996) states that in the U.S. capital markets, an investment strategy based on accruals generates a significant abnormal stock market return for the following year. These results run counter to the efficiency of the capital market.

Several studies ensure that the accruals anomaly is robust in various samples of US firms (Collins and Hribar, 2000; Bradshaw et al. 2001; Zach, 2003; Pincus et al. 2007).

Houge and Loughran (2000) identified, in a US capital market, that a cash-flow based investment strategy, can generate an excess stock market returns. Thus, the mispricing test of operating cash flows is a logical extension of the accruals anomaly.

These results assume that investors systematically commit a cognitive error when evaluating the information contained in the earnings. According to the functional fixation hypothesis, investors focus on earnings and are not interested in the choices underlying its elaboration.

The determination of earnings depends on the accounting method used. Due to regulatory framework, managers have discretionary options to make different interpretations in the production of accounting information.

Earnings management is divided into two categories: accrual based management, which includes discretionary accruals, and real earning management, which includes the timing of investments, expenditures and financial decisions (Degeorge et al. (1999).

Xie (2001) and Chan et al (2006) point out that the anomaly of accruals is mainly due to a limited understanding by investors of the persistence of the discretionary part of the accrual.

Pincus et al (2007) and Lafond (2005) found controversial results of the accruals anomaly in a French context. This encourages us to test the existence of this anomaly in a French context over a more recent period from 1998 to 2008.

In this study, we investigate the existence of the accruals anomaly and the cash flow anomaly in a French context, and we propose to verify whether these anomalies come from the discretionary part of each variable.

II. LITERATURE REVIEW

The literature review allows us to conclude that previous studies show several discrepancies in the detection of accruals and cash flow anomalies (Soares and Stark 2011; Shi and Zhang 2011). These results differ according to the context (Pincus et al. 2007), and the methodology used (Leippold and Lohre 2008; Soares and Stark 2011; Kraft et al. 2006).

In this section, we empirically test the existence of the accruals and cash flow anomaly in the French context and the effect of managerial discretion on these anomalies. Although several studies have focused on the effect of results management on the accruals anomaly in countries other than the USA (Pincus et al. 2007; Koerniadi and Tourani-Rad, 2007), no research has focused on the effect of real manipulation on the cash flow anomaly.

Previous studies of the accrual anomaly have pointed out that financial market participants do not take into account the difference between the persistence of accruals and the persistence of current earnings cash flows in their forecasts of future earnings. (Sloan 1996; Bradshaw et al. 2001). They focus only on current earnings and are surprised when future performance is lower or higher than expected. Sloan (1996) and Bradshaw et al (2001) examine the relationship between future earningss and the components of current earnings. They find that the ratio of accruals is smaller than that of cash

flows, indicating that the payback to the average accrual is faster than that of cash flows. Thus, the accruals anomaly arises because investors do not correctly assess the difference in persistence between accruals and cash flows. Thus, to examine the presence of the accruals anomaly, our first hypothesis is the following:

H1: The performance of current earnings related to accruals, components of current earnings, is less persistent than that attributed to cash flows, components of current earnings.

Maines and Hand (1996) mention that investors do not make proper use of available accounting data in forecasting future earnings. The accruals anomaly arises from mispricing accruals and cash flows as if these two components have the same level of persistence in relation to future earnings. Since accruals are less persistent than cash flows, Sloan (1996), Xie (2001) concluded that the US financial market overvalues accruals and undervalues cash flows. Our hypothesis is as follows:

H2: The financial market overvalues (undervalues) accruals (cash flows).

Xie (2001) specifies that discretionary accruals are less persistent than non-discretionary accruals. Non-discretionary accruals are less persistent than cash flows. Zhang (2006) concludes that abnormal cash flows are less persistent than normal cash flows.

H3: The performance of current earnings related to the non-discretionary cash flow component of current earnings is less persistent than that attributed to the other components of current earnings.

Subramanyam (1996) notes that markets value the discretionary accruals estimated by Jones' (1991) model and that these discretionary accruals are positively associated with the future profitability of the firm.

Xie (2001) concludes that the market overvalues both discretionary and non-discretionary increments, but the overvaluation of discretionary increments is more significant.

H 4: The financial market overvalues discretionary and non-discretionary accruals.

The results of Zhang (2006) indicate that abnormal cash flows are less persistent than normal cash flows. Mishkin's test estimate shows that the financial market underestimates both discretionary and non-discretionary cash flows. These results are in contrast to those of Melendrez et al (2008) who express that both expected and unexpected cash flows are significantly overestimated.

H5: The financial market undervalues discretionary and non-discretionary cash flows.

At the company level, accruals are negatively related to future stock market returns (Sloan 1996; Desai et al. 2004) and cash flows are positively related to future stock market returns (Desai et al. 2004; Pincus et al. 2007). Houge and Loughran (2000) and Collins and Hribar (2000) find that the magnitude of cash flows and accruals are positively or negatively correlated with future abnormal returns, respectively.

Desai et al (2004) add that, with the introduction of CFO/Ps as explanatory variables, accruals become insignificantly related to future stock market returns.

Since accruals and cash flows are negatively correlated, the accruals strategy can be expressed in terms of cash flows. The empirical results in this context are mixed. However, Pincus et al (2007) find that the existence of the accrual anomaly in a country is not always accompanied by the existence of the cash flow anomaly and vice versa. The results found show that the cash flow anomaly is more pervasive in different countries, these results also indicate that the two anomalies can coexist.

The predictive relationship between accruals (cash flows) and future returns creates an arbitrage of investment opportunities and leads us to the fifth and sixth hypothesis:

H 6: An investment strategy based on buying portfolios with relatively low accruals and selling a portfolio with relatively high accruals generates a positive abnormal return.

H7: an investment strategy based on the purchase of portfolios with relatively high cash flows and the sale of a portfolio with relatively low cash flows generates a positive abnormal return.

Defond and Park (2001) conclude that the financial market anticipates the reversal of discretionary increases, but to a limited degree. Thus, the market does not correctly value discretionary accruals.

Xie (2001) shows that the anomaly of accruals in the United States is mainly attributable to the discretionary component of total accruals.

Pincus et al (2007) note that there is a significant negative relationship between discretionary accruals and stock market returns for Australia, Canada, the United Kingdom, and the United States, but this is not the case for non-discretionary accruals. Therefore, there is evidence that the accruals anomaly is related to earnings management in these four countries, which is consistent with the results of Xie (2001) for the United States.

In this study, we test, in a French context, the following hypothesis.

H 8: The accruals anomaly is due to the discretionary component of accruals.

Managerial discretion offers to managers to engage in earning management and manipulate accounting data. earning management concerns accruals and cash flows.

Previous work (Roychowdhury, 2006; Burgstahler and Dichev, 1997) has focused on discretionary cash flows in the context of achieving certain targets. In this study, we consider

that the firm manipulates actual activities in a usual way. As a result, instead of focusing only on discretionary accruals, it would be considerable to focus on operating cash flows, detect the discretionary portion of these cash flows and examine their ability to generate excess stock market returns.

H 9: the cash flow anomaly is due to the discretionary component of cash flows

III. RESEARCH METHODOLOGY

In this study, our initial sample consists of 185 French companies over the period 1998 to 2008. Financial companies were excluded from this sample due to the regulations and special presentations of accounts that govern the financial sector.

The financial data is extracted from the companies' financial statements. The stock market values of these companies were collected from http://www.abcbourse.com.

(i) Definitions and measures of variables :

Eit: Operating earnings of enterprise i during period t.

CFOit: Operating cash flows of enterprise i during period t.

Ait: total accruals of enterprise i during period t.

In this study, we measure accruals by the difference between the operating earnings and the operating cash flows of the company.

Ait= Eit - CFOit .

The measures of these variables (Eit:, Ait;, CFOit:) are normalized by the average total assets.

* Discretionary and non-discretionary accruals will be estimated using the modified Jones model (1995).

Total accruals are divided into discretionary accruals and non-discretionary accruals.

Modified Jones Model (1995) :

At / TAt-1 = a1 (1/TAt) + a2 (Δ CAt-ΔVCt /TAt) + a3 (immobtt/TAt) +ut

At: total accruals in year t;TAt: average total assets in year t; Δ CAtsales in year t - sales in year t-1; immobti: fixed assets in year t;ΔVCt: change in net credit sales between t-1 and t;ui: the term of the error during t.

Non-discretionary Accruals: AND = â1 (1/TAt) + â2 (ΔCAt-ΔVCt /TAt) + â3 (immobti/TAt)

Discretionary Accruals: AD = At - ANDt= ut

* Discretionary and non-discretionary cash flows will be estimated using the model used by Dechow et al (1998) and developed by Roychowdhury (2006).

Roychowdhury Model (2006) :

CFOt / TAt-1 =a0 + a1 (1/TAt-1) + a2 (CAt/TAt-1) + a3 (ΔCAt /TAt-1) +εt

CFOt: company cash flow generated during period t;TAt-1: average total assets of year t; CAt: sales of year t

Non-discretionary cash flows: CFONDt = â1 (1/TAt) + â2 (CAt/TAt) + â3 (CAt-1 /TAt)

Discretionary cash flows: CFODt = CFOt - CFONDt= εt

In most previous studies, the method of least squares is used to determine the non-discretionary and discretionary portion of each variable. In this study, we use the Finite Mixture Model (FMM) to estimate the modified Jones model (1995) and the Roychowdhury model (2006).

Abnormal returns on a buy-and-hold basis

The abnormal return on a share i during period T: " BHARiT, I".

$$BHAR_{iT} = R_{iT} - R_{pT}$$

$R_{iT} = \prod_{t=1}^{T}[1 + r_{it}] - 1$ and $R_{pT} = \prod_{t=1}^{T}[1 + r_{pt}] - 1$, T=1 , …… , 12

r_{it} : represents the rate of return on share i during month t ;

r_{pt} represents the rate of return of benchmark portfolio i in month t.

Where: $r_{it} = \frac{1}{n}\sum_{t=1}^{n} r_{ij}$ et $r_{pt} = \frac{1}{n}\sum_{t=1}^{n} r_{pj}$

r_{it} : represents the rate of return on share i on day d.

r_{pt} : represents the rate of return of the benchmark portfolio (size) during day j.

We choose to start the calculation period six months after the end of the fiscal year (Soares and Stark 2011; Cormier et al. 2000). This ensures that all information in the financial statements is taken into account when implementing the portfolio strategies.

III. EMPIRICAL RESULTS

a) Investors' inability to interpret the implication of the difference in persistence of the two components of current earnings on stock prices.

- Persistence of accounting earnings and these different components

The objective of this paragraph is to verify in a French context the hypothesis of the low persistence of accruals in relation to cash flows.

Table 1: Study of the Persistence of accounting earnings and its various components

Model 1: Eit+1 = α0 +α1 Eit + εt+1

Model 2: Eit+1 = β0 + β 1 Ait + β 2CFOit + εt+1

VARIABLES	MODEL 1			MODEL 2		
	Coefficients	t-value	p-value	Coefficients	t-value	p-value
Constant	0.022	7.65	0.000	0.021	6.57	0.000

E_{it}	0.561	30.69	0.000			
A_{it}				0.521	23.48	0.000
CFO_{it}				0.588	24.32	0.000
N	1534			1456		
Adjusted R^2	0.3803			0.3773		
F p-value	941.82 0.000			441.79 0.000		
test of the coefficients of the variables	α1 =0, F= 941.82 (0.000) α1=1, F= 573.16 (0.000)			β 1 = β 2 , F= 5.85 (0.01)		

Eit: the earnings of enterprise i in period t;Ait: the total accruals of enterprise i in period t; CFOit: the operating cash flow per share of enterprise i in period t; Eit: the operating cash flow per share of enterprise i in period t;Ait: the total cash flow per share of enterprise i in period t

The second column of Table 1 presents the estimation of Model 1. We note that the coefficient of earnings persistence is significant (0.561 (0.000)) and is positive. The coefficient α1 is between 0 and 1 which leads to the existence of a reversal to the earnings average. The Fisher test rejects the null hypothesis that the earnings is purely transitory (α1 = 0) (F= 941.82). Similarly, the null hypothesis that assumes that earnings follow a random walk is rejected (α1 = 1) with a Fisher's F = 573.16. These results are consistent with those of (Sloan, 1996)

The third column of Table 1 presents the estimation of Model 2. It presents the association between future earnings and the components of current earnings (accruals and cash flows). The coefficient of accruals β 1 = 0.521 (0.000) and the coefficient of cash flows is 0.588 (0.000). Fisher's F test rejects the null hypothesis that these two coefficients are equal (β 1= β 2) (F= 5.85 (0.01)). The two coefficients of accruals and cash flows are significant and between 0 and 1, which means that these two components contribute to the payout to the average earnings. The results also show that β1 coefficient of accruals is lower than β2 coefficient of cash flows indicating that the payout to the average accruals is faster than the payout to the average cash flow. Thus, accruals are less persistent than cash flows. These results are consistent with those of Sloan, 1996 and Tourani-Rad, 2007. *Hypothesis H1 is validated in a French context.*

- Evaluation of the difference in persistence of the two components of current earnings

The second hypothesis concerns the valuation of accruals and cash flows by the financial market. To test this hypothesis, we use Mishkin's (1983) model.

In Table 2, we check whether investors correctly anticipate the difference in persistence between these two variables.

Table 2: The implication of the difference in persistence of accruals and operating cash flows on the share price

Equation 1 : $Eit_{+1} = \beta_0 + \beta_1 A_{it} + \beta_2 CFO_{it} + \varepsilon_{t+1}$

Equation 2 : $Bharit_{+1} = \gamma(E_{it+1} - \beta_0 - \beta_1^* A_{it} - \beta_2^* CFO_{it}) + \vartheta_{t+1}$

	Equation 1 : forcating equation		Equation 2 : evaluation **equation**	
	Coefficients	p-value	Coefficients	p-value
Constant	0.0267	0.000	0.0006	0.987
Ait	0.5398	0.000	0.9437	0.002
CFOit	0.5215	0.000	0.9218	0.007
E it+1			0.4222	0.004
N	982		982	
Adjusted R2	0.3752		0.0108	
Chi2	941.4 (0.000)		10.7 (0.03)	
market Efficiency test	$\beta_1 = \beta_1^*$ 1.6156 (0.2037) $\beta_2 = \beta_2^*$ 1.3313 (0.2486)			

Eit: the earningss of company i during period t. Ait: the total accruals of enterprise i during period t. CFOit: the operating cash flow per share of enterprise i during period t. Bharit : The abnormal return per a share i during period t = [1/06/N, 30/05/N+1].

The coefficient of accruals (cash flows) is 0.539 (0.521) in the forecasting equation, the assumption of efficient financial markets implies that the implications of the different components of current earnings for future earnings should be reflected in share price. That is, the coefficients for cash flows and accruals in the forecasting equation should be equal to those in the valuation equation, respectively. The coefficients for accruals and cash flows in the valuation equation are 0.9437 and 0.9218 respectively. Wald's statistic that tests the equality of the coefficients of accruals and cash flows in the forecasting equation and the prediction equation makes it possible to accept the rationality of investors towards accruals (β 1 = β 1*, Chi2 =1.615). This result supports that found by Pincus et al (2007). The results also allow us to accept the rationality of investors with respect to cash flows (β 2= β 2*, Chi2 =1.331). In a French context, *we reject the H2 hypothesis.*

These results are contrary to those found by Sloan, 1996 and Koerniadi and Tourani-Rad, 2007. In a French context, Pincus et al (2007) accepted the rationality of investors vis-à-vis accruals and rejected this rationality in terms of cash flows.

According to La Porta et al (1998), France is one of the countries with a code of law. Ball et al. (2000) explain that in code law countries, the board of directors of companies includes agents representing different stakeholders (creditors, employees, suppliers, customers, and shareholders). This situation implies that for these countries, internal company information is accessible to a large part of the stakeholder holders. This leads to a wider appreciation of the persistence of accruals.

- Study of the persistence of the discretionary and non-discretionary parts of accruals and cash flows.

The objective of this paragraph is to verify whether the low persistence of accruals in relation to cash flows comes from the discretionary part of the management discretion.

Table 3 test if the four components of the current earnings have a predictive role on the earnings of the following year.

Table 3: Study of the Persistence of discretionary and non-discretionary accruals, discretionary cash flows and non-discretionary cash flows

EQUATION : $E_{it+1} = \beta_0 + \beta_1 AD_{it} + \beta_2 AND_{it} + \beta_3 CFOD_{it} + \beta_4 CFOND_{it} + \varepsilon_{t+1}$

VARIABLES	EQUATION		
	Coefficients	t-value	p-value
Constant	-0.0005	-0.07	0.945
AD_{it}	0.521	22.65	0.000
AND_{it}	0.531	10.43	0.000
$CFOD_{it}$	0.552	20.79	0.000
$CFOND_{it}$	0.9087825	8.12	0.000
N	1360		
Adjusted R^2	0.3783		
F (p-value)	207.72 (0.0000)		
Test of variables coefficients	$\beta_1 = \beta_2$, F= 0.05 (0.829) $\beta_3 = \beta_4$, F= 9.20 (0.002) $\beta_1 = \beta_3$, F= 1.14 (0.285) $\beta_2 = \beta_4$, F= 8.19 (0.004) $\beta_1 = \beta_2 = \beta_3$, F= 0.58 (0.55)		

Rit+1 : return per share i during the period t+1 , t = [1/06/N, 30/05/N+1] ;Eit: the earningss of the company i during the period t. ADit: the discretionary accruals of company i during period t.ANDit : the non-discretionary accruals of company i during period t. CFODit: the discretionary operating cash flow per share of company i during period t; CFONDit: the non-discretionary operating cash flow per share of company i during period t. Bharit : The abnormal return per a share i during period t = [1/06/N, 30/05/N+1] .

The coefficient of discretionary accruals β 1 = 0.521 (p=0.000) and the coefficient of non-discretionary accruals is β 2 =0.531 (p=0.000). Fisher's F test accepts the null hypothesis that these two coefficients are equal (β 1= β 2) (F= 0.05 (0.8299)). This result shows that in a French context, there is no difference in persistence between discretionary and non-discretionary accruals. This result shows that in a French context, the management of the result by accruals does not have an effect on the persistence of accruals.

The ratio for discretionary cash flows is β 3= 0.552 (0.000) and the ratio for non-discretionary cash flows is β 4= 0.908 (0.000). Fisher's F test rejects the null hypothesis that these two coefficients are equal (β 3= β 4) (F= 9.20 (0.002)). This result shows that in a French context β3 coefficient of discretionary cash flows is lower than β4 coefficient of non-discretionary cash flows indicating that the payback to the average of the discretionary part of the cash flows is faster than the non-discretionary part. Discretionary cash flows are therefore less persistent than non-discretionary cash flows in a French context.

A comparison between the coefficient of discretionary accruals β1et and discretionary cash flows β3 shows that there is no difference in persistence between these two components. (β 1 = β 3 , F=1.14 (0.2858)). In addition, the equality test of the coefficients β 1, β 2 and β3 respectively of discretionary accruals, non-discretionary accruals and discretionary cash flows shows that there is no difference in persistence between these three variables.

The results show that the coefficient of non-discretionary cash flows (β4= 0.908) is higher than the coefficients of the other explanatory variables. Therefore, we can conclude that the difference in persistence between cash flows and accruals is mainly due to the persistence of the non-discretionary part of the cash flows. H3 is accepted. This result is consistent with Zhang (2006).

-Evaluation of the difference in persistence of the discretionary and non-discretionary components of the current earnings on share prices.

In this section we test whether the share price reflects the difference characteristic of the discretionary and non-discretionary parts of the accruals and cash flows components of current earnings. To test this hypothesis, we use Mishkin's (1983) model.

Table 4: The implication of the difference in the persistence of the discretionary and non-discretionary parts of accruals and operating cash flows on the price of the share

Equation 1: $E_{it+1} = \beta_0 + \beta_1 AD_{it} + \beta_2 AND_{it} + \beta_3 CFOD_{it} + \beta_4 CFOND_{it} + \varepsilon_{t+1}$

Equation 2:$Bhar_{it+1} = \gamma(E_{it+1} - \beta_0 - \beta^*_1 AD_{it} - \beta^*_2 AND_{it} - \beta^*_3 CFOD_{it} - \beta^*_4 CFOND_{it}) + \vartheta_{t+1}$

	Forecasting equation 1		Evaluation equation 2	
	Coefficients	p-value	Coefficients	p-value
Constant	0.006	0.590	-0.087	0.512
Adit	0.537	0.0000	0.937	0.005
ANDit	0.548	0.0000	0.817	0.175
CFODit	0.493	0.0000	0.904	0.021
CFONDit	0.818	0.0000	2.123	0.228
E it+1			0.408	0.007
Nbre ofobsevation	925		925	
Adjusted R2	0.3670		0.0107	
Chi2	872.6 (0.00000)		10.0 (0.12592)	
Market efficiency test	$\beta_1 = \beta^*_1$ 1.3877 (0.2388) $\beta_2 = \beta^*_2$ 0.1971 (0.6571) $\beta_3 = \beta^*_3$ 1.0809 (0.2985) $\beta_4 = \beta^*_4$ 0.5438 (0.4609)			

Eit: the earnings of company i during period t. ADit: the discretionary accruals of company i during period t. ANDit: the non-discretionary accruals of company i during period t. CFODit: the discretionary operating cash flow per share of company i during period t. CFONDit: the non-discretionary operating cash flow per share of company i during period t. Bharit : The abnormal return per a share i during period t = [1/06/N, 30/05/N+1].

The results in (Table 4) show that the coefficient of discretionary (non-discretionary) accruals is 0.5373 (0.5481) in the forecasting equation, and the coefficient of discretionary (non-discretionary) cash flows is 0.4935 (0.8182). The financial market efficiency assumption assumes that the implications of the various components of current earnings for future earnings should be reflected in share price. That is, the coefficients of the discretionary and non-discretionary accruals and the discretionary and non-discretionary cash flows in the forecasting equation should be equal respectively to those in the valuation equation. Wald's statistic, that tests the equality of the coefficients of accruals and cash flows in the forecasting equation and the prediction equation, accept the rationality of investors towards discretionary and non-discretionary accruals. This result confirms the one found by Pincus et al (2007) in a French context. *Thus, we reject hypothesis H 4.*

Wald's statistic which tests the equality of the coefficients of accruals and cash flows in the forecasting equation and the prediction equation allows us to accept the rationality of investors towards discretionary and non-discretionary cash flows. Thus, we reject the H5 hypothesis.

These results are explained by the French regulatory framework, as a multitude of agents have access to internal company information (Ball et al, 2000). This situation improves the rationality of investors with regard to the effect of earnings management on accruals and cash flows.

b) Investment strategies

- Investment strategies based on accruals and cash flows

For the strategy based on total accruals, the hedging portfolio is obtained by taking a long position for the quartile with the lowest level of accruals and a short position for the quartile with the highest level of accruals. These portfolios are rebalanced annually.

Table 5 reports the average of 10 annual abnormal returns for each quartile over the period 1999 to 2008.

Table 5: Investment strategies based on accruals

	Total Accruals	Discretionary accruals	Non-discretionary accruals
Q 1	0.046 (p=0.0745)	0.013 (p =0.5783)	0.042 (p=0.2349)
Q 2	0.028 (p=0.3445)	0.0590 (p=0.1433)	0.039 (p=0.4531)
Q 3	-0.030 (p=0.5463)	-0.036 (p=0.4287)	-0.043 (p=0.2659)
Q4	-0.047 (p=0.0608)	-0.017 (p=0.4955)	-0.001 (p=0.9630)
Nbr od years having positive results(sur 10 ans)	8	5	6
Hedge portfolio	0.093 (p= 0.0207)	-0.031 (p= 0.5118)	-0.043 (p= 0.4)

This table presents the abnormal returns of shar i during the period t = [1/06/N, 30/05/N+1] (BHAR it). Companies are classified in quartiles according to the level of each variable. The BHARit of the quartiles are presented for each variable. No. of positive years is the number of years out of 10 in which each strategy results in positive returns.

Houge and Loughran (2000) consider the hedging portfolio of an operating cash flow based strategy by taking a long position for the quartile with the highest cash flow and a short position for the quartile with the lowest cash flow.

Table 6 reports the average of 10 abnormal annual returns for each quartile of cash flows over the period 1999 to 2008.

Table 6: Investment strategies based on cash flows

	Total Cash flows	discretionary Cash flows	non discretionary Cash flows
Q 1	-0.014 (p= 0.707)	-0.003 (p=0.922)	0.011 (p=0.713)
Q 2	-0.006 (p= 0.839)	-0.0294365 (p=0.353)	0.0079348 (p=0.774)
Q3	.0008 (p=0.976)	0.016 (p=0.601)	0.007 (p=0.785)
Q 4	0.013 (p= 0.664)	0.019 (p=0.621)	-0.018 (p=0.418)
Nbre d'année positive(sur 10 ans)	6	6	5
Portefeuille de couverture (high – low)	0.028 (p = 0.664)	0.023 (p= 0.665)	-0.030 (p= 0.399)

This table presents the abnormal return of a stock i during the period t = [1/06/N, 30/05/N+1] (BHAR it). Companies are classified in quartiles according to the level of each variable (discretionary operating cash flow, non-discretionary operating cash flow). The BHARit of the quartiles are presented for each variable. No. of positive years is the number of years out of 10 in which each strategy results in positive returns.

The accruals-based investment strategy generates positive abnormal returns in 8 of the 10 years of the study. The most positive abnormal returns were 0.25% in 2006 and the smallest abnormal returns were -0.10 in 2001. And the cash flow based strategy generates positive abnormal returns in 6 of the 10 years of the study. The most positive anomalous returns are 0.3% in 2006 and the smallest anomalous returns are -0.38% in 2004.

The average abnormal returns of the hedging portfolio strategy based on total accruals over the study period is positive. It is 0.09% per annum. This return is positive and significant (p = 0.0207). The positive return is due to the negative return -0.047 (p=0.0608) and significant at a level of 10% of the portfolio having a high level of accruals, and to the positive return 0.046 (p=0.0745) and significant at a level of 10% of the portfolio having a low level of accruals. The other two quartiles do not show significant returns. This result confirms that the abnormal returns of the accruals strategy are due to the poor performance of companies with a high level of accruals, (Houge and Loughran (2000). Thus, in a French context, we accept hypothesis 6. We conclude that the existence of the accruals anomaly exists in a French context. This result is consistent with that of La fond (2005) in a French context.

The average of the abnormal returns of the hedging portfolio strategy based on total cash flows during the study period is positive. It is 0.02% per year. This return is positive and not significant. The positive return is due to a negative -0.047 (p=0.6640) and insignificant return per the portfolio with low cash flows, and a positive and insignificant return of the portfolio with high cash flows. The other two quartiles do not also show significant returns. Thus we reject in a French context the hypothesis H 7:

The average abnormal returns of the hedging portfolio strategy based on discretionary accruals is (-0.03%) during the study period. This return is negative and insignificant.

The average abnormal return of the hedging portfolio strategy based on discretionary accruals during the period under review was -.043%. This return is negative and insignificant.

The average of the abnormal returns of the hedging portfolio strategy based on total accruals during the study period is 0.093% per year. The investment strategies based on discretionary and non-discretionary accruals did not generate abnormal returns. Thus, we note that the abnormal returns on total accruals are not due to discretionary accruals. This result shows that the management of the accruals does not have an effect on the anomaly of the accruals. This result supports the one found previously, when we found that there is no significant difference between these two coefficients of discretionary and non-discretionary accruals when explaining future returns. This result is contrary to that found by previous studies (Xie, 2001; Koerniadi and Tourani-Rad, 2007). However, it supports the one found by Pincus et al (2007). The latter did not find a significant relationship between discretionary accruals and future abnormal returns, in France Thus, *we reject the H8 hypothesis.*

The average abnormal return of the hedging portfolio strategy based on discretionary cash flows during the study period is 0.023%. This return is positive but not significant.

The average abnormal return of the non-discretionary cash flow based hedging portfolio strategy over the study period is -0.03%. This return is negative and insignificant.

The average positive abnormal return of the cash flow based hedging portfolio strategy during the period under review is 0.028%. This return is positive and also insignificant and is therefore mainly due to the discretionary part of the cash flows.

We reject, in a French context, the hypothesis H 9.

IV. CONCLUSION

In this article, our objective is to detect the existence of the accruals anomaly and the cash flow anomaly in a French context and to verify whether these anomalies are due to managerial discretion. First, using Mishkin's (1983) test, we determine whether investors are able to correctly integrate the implications of the components of the accounting earnings of the subsequent period into share price. Secondly, the current earnings performance related to accruals is less persistent than that attributed to cash flows. The results show, in line with Zhang (2006), that the difference in persistence between cash flows and accruals is mainly due to the persistence of the non-discretionary part of the cash flows.

Thirdly, Mishkin's (1983) test allows us to conclude that the future share price correctly reflects the implications of accruals and cash flows that are components of current earnings on future earnings. In a French context, Pincus et al (2007) accepted the rationality of investors with respect to accruals and rejected this rationality in view of cash flows. Mishkin's (1983) test also allows us to accept investor rationality with respect to discretionary and non-discretionary accruals and discretionary and non-discretionary cash flows. These results are contrary to those of Xie (2001) and Zhang (2006).

Fourthly, we have concluded that an investment strategy based on buying a portfolio with low accruals and selling a portfolio with high accruals generates a significant positive abnormal return. And that an investment strategy based on cash flow generates an abnormal positive and insignificant return. These results allow us to conclude that the accruals anomaly exists in a French context.

We have not been able to affirm that the accruals anomaly stems essentially from the discretionary part of this variable. In a French context, this result is consistent with that of Pincus et al (2007). We have also noted that a strategy of investing discretionary (non-discretionary) cash flows does not generate abnormal returns.

The existence of the anomaly of accruals in a French context is contrary to the market efficiency hypothesis. This anomaly can be explained by a cognitive bias. For the proponents of behavioural finance, the explanation of stock returns is psychological and is based on the limited rationality of the

investor who suffers from psychological bias (Tversky and Kahneman 1974).

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