

Relationship between Earnings Quality and External Audit Quality: Evidences from US and French Companies

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Abstract

During the recent years, the accounting scandals have multiplied (Enron, Worldcom, Xerox,). Several factors have contributed to these scandals. Among these factors we find the quality of audit. This paper examines the impact of audit quality on earnings quality. Audit quality is measured by financial statements audited by one of Big 4 auditing firms. Earning quality is measured by the predictability power of time series of earnings for firm financial statement audited by one of Big 4 auditing firm and those audited by non Big 4 auditing firms. Based on a sample of around 4030 firm-year observations in the French and US market during ten years (2004-2013), we document evidence that earnings quality is better when financial statements are audited by one of Big 4 auditing firms. Nevertheless, earnings quality of US companies are more associated with audit quality than those of French companies.

Keywords: Returns-Earnings association; Audit quality; Proxy; Big4; Earnings quality; Earnings predictability

Introduction

During the last years, the concept of accounting quality has been discussed widely. Earnings quality confuses other concepts such as profit management, earnings smoothness, managing accruals, etc. Earnings quality, which is a part of financial statement quality, refers to how well reported earnings allow a reliable representation of the economic and financial reality of the entity. But there is no common definition and no agreement about its specification and measurement, making it an abstract concept [1]. Earnings are viewed of higher quality if they accurately characterize the amount by which shareholder value has increased (decreased) during the period. Several factors can influence earnings quality.

Earnings management was seen by Hayn [2] as the first enemy of earnings quality. Corporate evaluation by rating company and investors, discretionary management as relevant factors and financial crisis categorizes arguments on earnings quality reported Kothari [3]. Schipper and Vincent [4] present the value relevance viewpoint, and an economics-based concept of income, examining attributes which specify earnings quality, such as time series properties of earnings, including persistence, predictive ability and variability, the qualitative characteristics of a conceptual framework, the relationships between income, cash, accruals and the implementation of decisions.

Allen et al. [5] focuses on the role of external audit firms in determining the level of earnings quality measured by their predictability power. They examine the degree of correlation between stock returns and future reported earnings for companies which audited by one of Big 4 auditing firms (Deloitte, Price Waterhouse, Ernst and Young and KPMG) and small auditing firms. They document that earnings quality is higher when financial statements are audited by one of big auditing firms.

This study focuses on a sample of US and French companies and discusses the correlation between earnings quality and audit quality. In a first phase, this relation is analysed as if the sample is homogeneous and emanates from a single country. Second, I deducted the sample according to the nationality of the company in order to assess this correlation by reference to the contingency theory. The paper is organised as follows: the next section reviews prior literature and develops the research hypotheses and the methodology is then described. The data is then described and results discussed, followed by the conclusion.

Literature Review and Research Hypotheses

What is earnings quality?

The concept of earnings quality is fundamental in accounting and financial economics. Yet, there are deep disagreements about how to define and measure it. The list of candidate measures is long: earnings persistence, predictability, asymmetric loss recognition, various forms of benchmark beating, smooth earnings, magnitude of accruals, income-increasing accruals, absolute value of discretionary or abnormal accruals, and the extent to which accruals map into cash flows. Complicating the measurement of earnings quality, archival research cannot satisfactorily parse out the portion of managed earnings from the portion resulting from the fundamental earnings process [6].

Earnings predictability is one of the "best" proxies of earning quality [1]. Financial statements are designed to provide value-relevant information for investors (and other users). Investors are using accounting information to study the current performance of a particular firm of interest and then to predict its future prospects. Therefore, high earning quality should enable investors and financial analysts to better anticipate a firm's future performance and solvency.

Measuring investors' perception of the firm's earning quality is not an easy task. Healy and Palepu [7] review academic papers that consider different proxies for the quality of corporate disclosures. They categorise these proxies into three groups: management forecasts, subjective ratings and self-constructed indices. Other studies use computer software packages to automate the generation of the disclosure scores for a large sample of firms [8].

Furthermore, considerable attention has been given to examining the association between disclosure quality and the stock market's ability to anticipate future earnings [9-12]. These papers find that the stock market's ability to anticipate future annual earnings changes is significantly improved when the firm provides higher levels of disclosure. However, these studies did not take into account audit quality as a potential variable signalling value relevant information for investors when valuing firms' future prospects.

Predictability as a proxy of earnings quality

According to Kormedi and Lipe (1987), the basic components of earnings quality is the ability of net income to predict future net earnings and operating income to predict both net earnings and cash flow from operations. Many papers analyzed them for the purpose of predicting future earnings and the results of Sloan [13] indicated that earnings performance attributable to the accrual component of earnings exhibits lower persistence than earnings performance attributable to the cash flow component of earnings. So, the lower persistence of accruals compared to cash flows have consequences for the persistence of current earnings [13].

Literature related to auditing quality and hypothesis

The external auditor's role is crucial in the corporate governance scheme [14]. by the joint likelihood market that an auditor will simultaneously discover an anomaly or a significant irregularity in the accounting system of the company and mention and publish this anomaly or irregularity. This definition refers to the dualistic approach that distinguishes between the technical competence of the auditor represented by the ability to detect errors in the financial statements and its independence codified through the quality of revelation. This is an indirect assessment of audit quality through the characteristics of the auditor.

Subsequently, some researchers have developed a direct approach to assessing audit quality by examining the various stages of the audit process [15-17]. However, the difficulty of this direct approach, mainly due to the opacity of the audit process and the strong asymmetry of information between the auditor and the market, is a hindrance to our use of this method in French context. For this reason, we prefer, in this study, the classical dual approach based on the characteristics of the auditor: the auditor is a member of Big 4 auditing firm or not.

The use of this approach has generated an abundant theoretical and empirical literature. In this context, the need has been established for the intervention of an external auditor to purify the financial communication processes of any anomalies arising from results management practices. [18,19].

The previous research does not provide the same results related to the relationship between earnings quality of firms audited by one of Big 4 companies and these audited by a "non Big 4" company. Some research confirms a positive relation and others confirm a negative one. But the common point is that earnings quality significantly

associated with the quality of audit. Many previous studies show a strong association between the quality of the audit and the different proxies of earnings quality [6,20].

H1: Earnings quality is strongly associated with audit quality.

Moreover, and given that our study is based on two samples of French and US companies, it is advisable to highlight the theory of contingency. Indeed, this theory highlights the influence of environmental factors on the quality of accounting information. Historically, the United States and France do not have the same financial and accounting characteristics and have not adopted the same accounting standards. Previous researches classify them as two completely different systems. However, during the last decade we are witnessing reconciliation between the two countries on many levels. At the regulatory level, LSF French Act [21] is often called French SOX [22]. At the institutional level, the creation of the ANC in 2010 is seen as the "French FASB". Regarding the accounting standards, the reconciliation between US GAAP and IFRS is witnessed since 2002. From such reconciliations, we predict a similarity in accounting disclosures in general and earnings quality in particular.

H2: French and US firms which audited by one of Big 4 auditing firm have the same earnings quality.

Methodology

Statistic model

The present paper uses the Collins et al. [23] returns-future earnings regression model to measure earnings quality and to test the research hypothesis (we added a dummy variable: AUD which measure the impact of audit quality on earnings quality).

$$R_t = b_0 + b_1X_t + \sum_{k=1}^2 b_{k+1}X_{t+k} + \sum_{k=1}^2 b_{k+3}R_{t+k} + b_6EP_{t-1} + b_7AG_t + b_8AUD + b_9[AUD * X_t] + \sum_{k=1}^2 b_{k+9}[AUD * X_{t+k}] + \sum_{k=1}^2 b_{k+11}[AUDIT * R_{t+k}] + b_{14}[AUD * EP_{t-1}] + b_{15}[AUD * AG_t] + u_t$$

Where:

b_0 : Intercept; b_1 - b_8 : Coefficient of slope parameters; μ : Error term; R_t : Stock return for period t ; R_{t+1} : Stock return for period $t+1$; R_{t+2} : Stock return for period $t+2$; X_t : Earnings change per share in period t deflated by the share price four months after the end of the financial year $t-1$; X_{t+1} : Earnings change per share in period $t+1$ deflated by the share price four months after the end of the financial year $t-1$; X_{t+2} : Earnings change per share in period $t+2$ deflated by the share price four months after the end of the financial year $t-1$; $EPT-1$: Earnings yield is defined as earnings per share for period $t-1$ divided by share price four months after the end of the financial year $t-1$; AG_t : Total assets growth for period t ; AUD : dummy variable=1 when financial statements are audited by one of the Big 4 accounting firms; 0 in the opposite case).

The present paper seeks to test the hypothesis that earnings quality and audit quality are associated. In particular, I try to evaluate the degree of association (positive or negative) between earnings quality (measured by the degree of predictability) of French firm and the appointment of one of Big 4 auditing firms.

Data

The present study uses a sample of French and US companies collected from EBSCO data base and we supplement missing data from many web sites (Boursarama; NYSE, etc.). After elimination of financial companies and firm which do not have the necessary information during the study period, the final sample was limited to 142 listed companies issued from France and 261 listed companies issued from USA. The number of usable observations used in the present study is 4030 firm-years for the period 2004-2013.

Table 1 provides descriptive statistics on the independent variable and control variables used in examining the association between earnings quality and audit quality.

	Mean	Std	Max	Min
Stock return (R)	2.654	0.675	4.765	-0.987
Earnings change per share (X)	0.548	0.356	1.876	-2.098
Total assets growth (AG)	0.084	0.029	0.14	-0.073
AUDIT	0.453	0.098	1	0
Full observations	4030			
French companies	1420			
US firms	2610			

Table 1: Descriptive statistics.

Results and discussion

The relationship between earnings quality and audit quality is examined on Table 2.

Variable	Coefficient
	[P-Value]
Intercept	-0.071 *** [0.001]
R _{t+1}	0.742*** [0.001]
R _{t+2}	0.232*** [0.001]
X _t	0.567*** [0.001]
X _{t+1}	0.604*** [0.001]
X _{t+2}	0.232*** [0.001]
EP _{t-1}	0.09*** [0.001]
AG _t	0.785***

		[0.001]
AUD		0
		[0.999]
AUD*	R _{t+1}	0.019
		[0.439]
	R _{t+2}	0.001
		[0.592]
	X _t	1.252**
		[0.001]
	X _{t+1}	0.581***
		[0.001]
X _{t+2}	0.231***	
	[0.001]	
EP _{t-1}	0.701***	
	[0.001]	
AG _t	-0.099***	
	[0.001]	

The significance levels (two-tail test): * = 10 percent; ** = 5 percent; *** = 1 percent. P-values are reported in parentheses.

Table 2: Effect of audit quality on earnings quality.

For the whole sample (French and US companies), the result show that the coefficients on X_t, X_{t-1} and X_{t-2} are positive and significant at the 1% level. This mean that the time series of accounting earnings has an excellent explanatory power of current return (R_t) and future return (R_{t+1} and R_{t+2}. In consequence, the previous time series is a good proxy of earnings quality.

The relevance value of audit quality for earnings quality is given by the estimate coefficients on AUD*X_{t+1} and AUD*X_{t+2}. These coefficients are positive and highly significant at the 1% level. This result indicates that earnings quality is strongly associate with audit quality.

In this meaning, companies with financial statements audited by one of the four auditing firms than companies with those with financial statements audited by non-Big 4 auditors. Consequently, hypothesis 1 is accepted based on the both samples of French and US companies.

To test hypotheses 2; I distinguish between French and US companies in order to compare the effect of audit quality on earnings quality in two different economic, regulatory and accounting environments. A regression model is then run for each category. Table 3 summarizes the statistical results of the two samples.

Variable	Coefficient	
	[P-Value]	
	US Companies	French Companies

Intercept		-0.03*	-0.28***
		[0.094]	-0.001
R _{t+1}		-0.06*	-0.04
		[0.082]	[0.107]
R _{t+2}		-0.02	-0.01
		[0.249]	[0.179]
X _t		0.95***	-0.09
		[0.001]	[0.559]
X _{t+1}		0.90***	0.08
		[0.001]	[0.883]
X _{t+2}		0.87***	-0.11
		[0.001]	[0.401]
EP _{t-1}		0.13***	0.09***
		[0.001]	[0.001]
AG _t		0.52**	-0.12
		[0.001]	[0.546]
AUD		0.12***	0.05
		[0.001]	[0.165]
AUD*	R _{t+1}	0.03	0.08
		[0.970]	[0.419]
	R _{t+2}	-0.09*	-0.02
		[0.076]	[0.955]
	X _t	1.88***	0.63
		[0.001]	[0.270]
	X _{t+1}	0.89***	-0.03
		[0.001]	[0.877]
	X _{t+2}	0.45***	0.31
		[0.001]	[0.426]
	EP _{t-1}	0.92***	0.23
		[0.001]	[0.432]
	AG _t	0.34	0.60***
		[0.001]	[0.001]
Adj. R2	0.113	0.022	
The significance levels (two-tail test): * = 10 percent; ** = 5 percent; *** = 1 percent. P-values are reported in parentheses.			

Table 3: Audit quality and earnings quality of French and US companies.

After the distinction between the two samples and the analysis of the effect of audit quality on earnings quality, table 3 confirms a strong

divergence and shows a number of significant differences between US and French firms.

For the US companies, the coefficient on X_t, X_{t+1} and X_{t+2} are respectively: 0.95, 0.90 and 0.87 with a p-value of 0.001. This result the previous result shown in table 2. While, the same coefficients for French companies are -0.09, 0.08 and -0.1. These coefficients are insignificantly for French companies.

In addition, the decomposition of the sample in French and US companies shows another relevant result: the effect of audit quality on earnings quality is not the same. The quality of auditing influences the quality of the profits of US companies compared to french firms (coefficient of AUD is 0.12 with a p-value of 0.01 and 0.05 with a p-value of 0.165 for respectively US and French companies).

Moreover, table 3 indicate that audit quality does not improve the earnings quality for French companies. Unlike, there is a significant effect of audit quality on earnings quality for US companies. The coefficient estimates on AUD*X_t, AUD*X_{t+1} and AUD*X_{t+2} for US companies are positive and significant at the one percent level. Therefore, I reject hypothesis 2 (French and US firm which audited by one of Big 4 auditing firm have the same earnings quality).

These result, indicate that in spite of the reconciliation between US and France on regulatory, institutional and accounting levels, accounting and financial differences remain fundamental [24]. We explain the previous result by many reasons. Firstly, all Big 4 auditing firms are American therefore, they are more familiar with the US economic, financial and accounting environment and investors have more confidence in these auditing firms [25], whereas in France control and intervention by the State through its public bodies are the main sources of confidence for investors.

Secondly, the first destination of accounting information in the United States is the investor, while in France; the tax administration is pre-empted [26]. This is reflected in the degree of correlation between return (R_t) and the various explanatory variables (including audit quality) for US firms that is significantly higher than that of French firms (11.3% against 2.2%).

Third, the pivotal role of the Sarbanes-Oxley Act, SOX [22], which has enhanced both the quality of accounting disclosures and the quality of the audit. It should be remembered that, after the many scandals that hit the United States in 2001 (with Enron leading, but also Adelphia, Xerox, and especially WorldCom) adoption of this law. In sections 301 and 302, this Act requires the Chief Executive Officer (CEO) and the Chief Financial Officer (CFO) to certify the published financial statements by means of a signed declaration and must establish an independent audit committee to oversee the audit process.

In addition, the law provides for rotation of external auditors (section 203). Under the Act (sections 101-109), a new regulatory and supervisory committee is created, the Public Company Accounting Oversight Board (PCAOB). This committee must oversee audit firms, set standards, conduct investigations and punish natural or legal persons who do not comply with the rules. In the same trend, criminal sanctions are being created and others are considerably strengthened. As an example, it should be noted that auditor certification of non-compliant financial statements is punishable by a fine of \$ 5 million or imprisonment for up to 20 years.

All these measures have contributed to improving the quality of the information disclosed in general and the quality of the benefit in particular.

Conclusion

This research tries to evaluate the relationship between audit quality and earnings quality. Like the previous research, I measured audit quality (financial statements are audited by one of the Big 4 auditing firms). Earnings quality was measured by its predictability power. The findings are based on a sample of 403 companies (142 US companies and 261 French firms) during ten years (2004-2013).

The results show that the influence of audit quality on earnings quality depends on the context in accordance with the contingency theory. The Big 4 Americans improve earnings quality of the companies (in USA). While, their service does not improve earnings quality in France. These results come at a time when the two countries are trying to bring their accounting, financial and regulatory systems closer together, but the cultural factor and others variable (not introduced in our model) remains decisive.

Several reasons are behind these results. US GAAP (United States) is based on rules, offering fewer choices and demanding more details as opposed to IFRS (France) that are based on concepts, offering more choice and recommend less detail. On the stock market, the United States is a country with market orientation where companies are looking to transmit a signal that attracts more investor (privileged user).

In addition, the role of SOX which imposes heavy criminal responsibility (up to 20 years imprisonment) against the auditors involved in fraudulent manoeuvres prompting the audience to make an extra effort to ensure quality of disclosure in the financial statements. Finally, the cultural factor (mainly through individualism and professionalism) can also be the source of his differences.

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