

Information Quality, Credit Risk and Performance: Empirical Evidence In Tunisian Banking Context

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ABSTRACT : *The objective of this paper is to study the determinants of credit risk in banking sector. Through the study on banking institutions on the period 2003-2011, we found that performance, audit opinion, and audit quality are the fundamental determinants of the banking credit risk level. However, information quality proxied by discretionary accruals is not related to credit risk. In the literature, we find the importance of banking regulation and its enforcement to improve market discipline, and efficient resource allocation.*

KEY WORDS: *disclosure, risk, performance, regulation.*

I. INTRODUCTION

Financialization is recognised as a key feature of the 2008 financial crisis (Hatherly and Kretzschmar, 2011: 209). Those authors argue that financialization has been permitted through the failure of accounting to distinguish distributable income from capital gains/transfers and to distinguish productive from speculative capital. Literature has demonstrated the important role of several risks and the weakness of banking regulation in explaining of financial crisis. After financial scandals and adoption of treadway committee reports (COSO report 1 and COSO report 2), business world thinks of the actual and potential risks. In fact, the COSO report 1 provides a great importance to evaluate risks, essential component of internal control and the COSO report 2 is reserved to risk management. Thus, the information disclosure viewed through the angle of information quality and risk attracts the attention of several research works. Arif, Fah and Ni (2013) examine the impact of unexpected earnings and risk factors on share price changes in eight Organization of Economic cooperation and Development European countries. They find that credit risk, price risk, exchange rate risk, and solvency risk are significantly correlated with share price changes. Credit risk appears to be the most critical risk, while price risk and exchange rate risk are also significant in both large and small economies in Europe (Arif, Fah and Ni, 2013: 103). Only credit risk is significantly influencing the earnings in all countries except in Turkey.

Cheng (2012) uses discretionary loan loss provisions as a proxy for managing specific accruals, given that loan loss provisions are a very important accrual for banks. Managers are more likely to utilize loan loss provisions to meet earnings targets if the magnitude of earnings manipulation is close to the limit of loan loss provisions (Cheng, 2012: 23). Ng (2011) demonstrates that information quality is associated negatively to the liquidity risk. Information quality is measured by earnings precision, accruals quality, financial analysts' forwards and aggregated quality. High correlations were observed between the information quality proxies and both liquidity risk and market risk. Cabedo and Tirado (2004: 182) define in detailed manner the different risk categories. The financial risks have a direct effect on depreciation of value of monetary assets and liabilities. They are integrated market risk, credit risk, liquidity risk, legal risk and operational risk. For non financial risks, there are business risk and strategic risk. This work begins with the literature review (section 2). The regulation of credit risk in Tunisia is examined in section 3. In section 4, research methodology is presented. The results and interpretations are presented in section 5. The empirical results are summarized in section 6.

II. LITERATURE REVIEW

According to (Beck and Narayanamoorthy, 2013) study, Securities and Exchange Commission's regulatory intervention in the banking industry had a greater influence on banks' loan loss estimates. Loan loss allowances are changed in response to SEC's intervention which having an objective to promote a more disciplined and consistent loan loss methodology by requiring banks to provide enhanced documentation to support their loan loss allowance estimates.

US banks were not in a position to absorb mark-to-market losses on mortgage assets and goodwill impairment resulting from a credit crunch because they operate with narrow profit margins and a limited equity

cushion in the balance sheet (Heilpern, Haslam and Andersson, 2009: 99). Hughes, Wood and Hodgdon (2011) have demonstrated that American banks had complied with Securities and Exchange Commission guidance in critical accounting policy and estimate disclosures as part of the management's discussion and analysis. The increases occur in disclosures affected by financial crisis and identified in Securities and Exchange Commission guidance.

Despite the improvement in disclosure quantity and quality, the banks did not fully comply with SEC guidance regarding critical accounting policy and estimate disclosures. In the 2008 Form 10-Ks, only seven of the 20 banks disclosed that the critical accounting policies had been discussed with the audit committee; despite specific guidance from the SEC stating that this information should be included in the disclosure (Hughes, Wood and Hodgdon, 2011: 156). Hughes, Wood and Hodgdon (2011) demonstrate the importance of institutional regulation of the banking industry (SEC guidance) in imposing transparency of financial disclosures and providing new rules in determining of fair value accounting. Jackson and Wood (2013) study different prediction models of credit risk and corporate insolvency. They find that the complicated models are less efficient to simplified models. Firm size and cash flow to total debt have predictive ability to assess credit risk and corporate insolvency. The authors suggest using techniques which consider market-based information alongside accounting numbers because of the relatively poor performance of accounting number-based models. Ariff and Fah (2011) examine the impact of disclosed earnings on share price changes for four Asia Pacific countries (Australia, South Korea, Malaysia and Thailand). They show that because of the banking industry is more regulated than non-banking industry, the behavior of investors in revaluing share prices based on news of earnings in this industry is important. The regression results using data from all four countries suggest that the changes in total earnings as disclosed in the final reports appear to significantly affect the banking share prices in each of the four countries.

Information disclosure is envisaged in terms of quality and quantity. Two measure methods are applied: content analysis and disclosure indices (Joseph and Taplin, 2011). According to these authors, disclosure abundance is measured by content analysis and disclosure occurrence is measured by disclosure indices. Disclosure abundance counts the amount of words, sentences, lines, pages, etc. while disclosure occurrence counts the amount of disclosed items in order to calculate disclosure indices. In Ng (2011) study, information quality is measured by earnings precision, accruals quality, consensus financial analysts and aggregated quality. Earnings precision is measured by a standard deviation of earnings over the most five recent years deflated by standard deviation of cash flow from operations.

Accruals quality is the standard deviation of residuals obtained by regression the total accruals on cash flow from operations, change in revenues and gross value of plant, property and equipment. Analysts' consensus is measured by the standard deviation of analysts' forecasts of annual earnings per share for the immediate fiscal year end deflated by the share price. The aggregate quality is measured by summing the three standardized proxies described above. Each proxy is divided by standard deviation of the proxy of all firms. Ng (2011) adds control variables those capture market characteristics (stock liquidity, stock return, stock turnover, prior returns, return volatility, and size) and firm characteristics (investment opportunities, growth, duration of operating cycle, capital intensity, cash liquidity and financial condition). High correlations are founded between information quality proxies and both market and liquidity risks. Jaggi and Low (2000) examine the legal system impact on financial disclosure made by firms in different countries. Their results demonstrate that firms from common law countries disclose more information compared to firms from code law countries. Moreover, these results demonstrate that cultural values have not a significant impact on disclosure in the common law countries but they are significant in code law countries. They advance that empirical findings support their arguments that strong legal protection provided to investors by common law countries has resulted in a greater dispersion of corporate ownership in these countries. Additionally, they conclude that the common law countries also offer better legal protection to creditors. They argue that with better protection for creditors, firms in common law countries have better borrowing capabilities, and thus have higher debt financing. (Jaggi and Low, 2000: 500-501) Cabedo and Tirado (2004) classify risks in financial risks and non financial risks and propose value at risk as a risk quantification method. Financial risks have a particular pertinence for the information disclosure since they have an immediate effect on monetary assets and liabilities. Non financial risks are not directly related to monetary assets and liabilities, although, they will have an effect on future cash flow losses (Cabedo and

Tirado, 2004: 185-186). Edmister and Chen (1989) demonstrate that announcement effect of problem loans on stockholder of returns of two bank portfolios is positive. They state that imposing a requirement of announcement of the non performing loans is associated significantly to increased stock returns of the two

portfolio of banks. Thus, investors appreciate the abundance of informational divulgation although it integrates bad news. Patten (1991) examines if voluntary disclosure is due to public pressure or profitability imperatives. It's argued that disclosure is practised to expose firms to her environment. It is more related to public pressure variables than to profitability measures. Regression analysis on the level of disclosure for 128 firms in 1985 indicates that size and industry classification are significant explanatory variables in contrast profitability variables are not.

According to Pattern (1991), disclosure is measured by the amount of pages, exprimed in percentage of annual report. The sample is subdivised into high disclosure and low disclosure classifications. Olson and Zoubi (2008) try to identify differences between Islamic and conventional banks of golf countries on the basis of financial characteristics alone. Their results indicate that financial ratios integrated performance ratios, liquidity ratios, and *risk ratios* may be used to distinguish between Islamic and conventional banks. According to Billings and Capie (2009), the framework of banking regulation is extensive. There is a clear international consensus that transparency in information disclosed by bank institutions is desirable. There are two categories of transparency: transparency stability and transparency fragility. The first imply that a greater disclosure facilitates the efficient allocation of resources by improving market discipline via reducing informational asymmetry. The second may engender banking system instability that is, disclosure creates negative externalities (Tadesse, 2006: 33). Lang and Maffett (2011) soulign that a great transparency based on accounting standards, auditor choice, earnings management, analysts' forecasting and forecast accuracy generated less liquidity volatility, fewer extreme illiquidity events and lower correlations between firm level liquidity level and both market liquidity and market returns.

On the basis of the literature review, we can inspire hypothesis formulated by Ng (2011) relying information quality (independent variable) and liquidity risk (dependant variable) in order to formulate the first hypothesis. Hypothesis 1: information quality affects significantly but in inverse sens the credit risk. Ng (2011) and Street and Bryant (2000) integrate variables that represented firm characteristics (size, listing status, performance, industry, audit opinion and audit quality). Several studies have addressed the impact of various corporate characteristics on annual report disclosures. These characteristics include size, listing status, leverage, profitability, industry, type of auditor, size of the equity market, degree of economic development, type of economy, activity on the equity market, dispersion of stock ownership, and culture (Street and Bryant, 2000: 307).

Thus, the second hypothesis is formulated as follow:

Hypothesis 2: performance, audit quality, audit opinion and listing status affect significantly but in inverse sens the credit risk.

III. CREDIT RISK COVERING REGULATION IN TUNISIA

According to article 8 of Tunisian central banking circular n°91-24 of December 17 1991, banks must classify their assets. To appreciate insolvency risk, banks must distinguish assets in balance sheet and hors balance sheet in current assets and classified assets according both to risk of loss and probability of recouvrement. Current assets those realization and integral recouvrement in time seem to be ensured and those holded on firm whose:- financial situation is balanced and confirmed by certified accounting documents dated from less 18 months and provisional situations dated from less 3 months ;- management and activity perspectives are juged satisfactory on the basis of visit reports ;- form and volume of loans compatibles with both the needs of principal activity and the real capacity of repayment.

For classified assets, we distinguish:

Class 1: assets required a particular following: in this class, there are assets those realization or integral recouvrement in time seems to be ensured and those holded on firms presented one of characteristics as below:
activity sector knows difficulties ;
financial situation is deteriorated.

Classe 2: Incertainty assets: in this class, there are assets those realization or integral recouvrement in time is uncertain and those holded on firms knowing financial difficulties or others that can be involving a suspect of their viability and necessitate the using or carrying out redressement measures.

Apart from defined characteristics in class 1, these firms present at least:

form and volume of loans those are not compatibles with their principal activities ;
evaluation of financial situation can not be up to date because the failing of information availability or of necessar documentation ;

existence of management problems or disputes between stockholders ;
existence of technical, trading or supplying difficulties ;
cash flow deterioration that compromises, in the absence of other sources of financing, repayment of debts within the time allowed ;
existence of payment delay of interests or principals superior to 90 days without exceed 180 days.
As well in class 2, other assets remained in suspense and not apured within the time of 90 days without exceed 180 days.

Classe 3: preoccupant assets: in class 3, assets those realization or recouvrement is threaten and those holded on firms that situation suggests eventual losses degree calling for vigorous actions from bank in order to limit at the very least.

These assets are generally holded on firms those present more gravity than class 2 characteristics.
Payment delay of interests and principals are generally superior to 180 days without exceed 360 days.
As well in class 3, other assets remained in suspense and not apured within the time of 180 days without exceed 360 days.

Classe 4: Compromised assets: in class 4:

receivables for those payment delay of interests and principals are superior to 360 days,
assets remained in suspense beyond 360 days ;
other assets those must be passed in losses. The bank must exhaust all legal procures striving for realization of those assets.

According to article 10 of the same circular, banks must constitute provisions equal at least *20% for class 2 assets, 50% for class 3 assets and 100% for class 4 assets.*

According to a circular n° 2012-02, credit establishment must constitute general provisions called collective provisions by the deduction on benefits of 2011 in order to recover latent risks relied to current commitments and commitments those necessitate a particular following (class 1).

The amount of these provisions must be in adequation with latent risks relied to current commitments and those necessitate a particular following (classe 1).

IV. RESEARCH METHODOLOGIE

We study Tunisian banking establishments in view of abundant regulation those are benefited from. Tunisian central banking circulars are precised credit risk categories and thus fixing mechanisms of provisions allowing the covering of risks. Data concerns 14 banks and is collected in the period 2002-2011.

We test the relation between credit risk (dependant variable) and information quality (discretionary accruals variable as proxy), performance, size, listing status, audit opinion, and audit quality (independant variables) with applying ordinary least square model.

Model 1:

$$\text{credit risk}_{it} = \alpha_1 \text{discretionary Accruals}_{it} + \alpha_2 \text{Performance}_{it} + \alpha_3 \text{Size}_{it} + \alpha_4 \text{liqting status}_{it} + \alpha_5 \text{Audit opinion}_{it} + \alpha_6 \text{Audit quality}_{it} + \varepsilon_{it}$$

Table 1 contains variables of model, their measures and the expected sign of independent variable coefficient.

Table 1: Analysis Variables

Variables		measure	Expected sign
Dependant Variable	Credit risk	Provisions/ customer credit	
Independant Variables	Discretionary Accruals	Les résidus résultant du modèle (2)	+
	performance	Net earning/Total asset	
	Size	Natural logarithm of total asset	+
	Listing status	Binary variable: 1 listed, 0 not listed	-
	Audit opinion	Binary variable: 1 unqualified opinion or opinion without reserve, 0 qualified opinion or opinion with reserve	-
	Audit quality	Binary variable: 1 audited by big four, 0 otherwise	-

Kothari, Lione and Yang (2005), Model 2:

$$\frac{Total\ accruals_{it}}{total\ asset_{it-1}} = \frac{\alpha_1}{total\ asset_{it-1}} + \alpha_2 \frac{\Delta Rev_{it}}{total\ asset_{it-1}} + \alpha_3 \frac{IMMB_{it}}{total\ asset_{it-1}} + \alpha_4 \frac{ROA_{it}}{total\ asset_{it-1}} + \epsilon_{it}$$

Where total accruals_{it} is the difference between the net earning and operating cash flow of bank i in the end of year t ; total asset_{it-1} is total asset of bank i in the end of year t-1 ; ΔRev_{it} is the revenue net change (banking net product) of bank i in the end of year t to the end of year t-1, IMMB_{it} is the gross margin of plant, property and equipment of the bank i in the end of year t, ROA_{it} is the return on assets (net earning/total asset) of the bank i in the end of year t et ε_{it} is the error term of the bank i in the end of year t.

According to Kothari, Lione and Yang (2005), the error term ε_{it} represents discretionary accruals of the bank i in the end of year t.

V. RESULTS AND INTERPRETATIONS

5.1. General characteristics of the sample

The sample contains 133 bank-years for total asset and 135 bank-years for listing status.

Table 2 : number of observations

	Observations					
	Inclus		Exclu(s)		Total	
	N	Pourcentage	N	Pourcentage	N	Pourcentage
Tasset * bank	133	98,5%	2	1,5%	135	100,0%
listing * bank	135	100,0%	0	,0%	135	100,0%

Table 3 : Total asset and listing status

bank	Tasset					Listing status
	N	Mean	Minimum	Maximum	Standard deviation	
AmenB	9	3215,60356	1982,939	5516,189	1296,256113	listed
ATB	9	2750,39778	1202,364	4312,617	1144,172367	listed
Attijari	9	2766,60244	1734,144	4165,576	876,611275	listed
BFT	8	289,98762	104,659	438,046	136,257216	Not listed
BH	9	4127,34333	2862,404	5470,535	1000,048957	listed
BIAT	9	4931,98400	3063,091	7089,242	1475,884671	listed
BNA	9	5192,37222	3926,116	7218,296	1086,098887	listed
BT	9	2255,97533	1556,163	3388,044	675,725185	listed
BTE	9	398,05533	239,384	627,805	145,040217	listed
BTK	9	510,28700	301,444	973,591	266,721795	Not listed
BTL	9	336,78589	174,302	583,674	129,865208	Not listed
STB	9	5331,72533	4005,271	7072,161	1102,936637	listed
STUSID	8	330,97612	173,805	656,579	177,780310	Not listed
UBCI	9	1593,46589	1029,097	2475,091	494,808916	listed
UIB	9	2121,49667	1681,486	2978,348	505,767031	listed
Total	133	2441,77867	104,659	7218,296	1959,468599	-

According to table 3, we observe that total asset for 5 banks don't exceed 1 milliard Tunisian dinars through the studying period. There are foreign participation banks (BFT, BTE, BTK, BTL, and STUSID). According to listing status, the Emirates Tunisian bank (BTE) alone of 5 foreign participation banks is listed.

Table 4: Correlations

		DISCRAC	NETEAsset	ProvisionsCredit	Lnsiz	listing	Opinion	Bigfour
ACDISCR	Pearson Correlation	1	,006	-,013	,001	,000	,018	-,020
	Sig. (bilateral)		,948	,878	,987	1,000	,840	,828
	N	133	133	133	133	133	122	123
NETEAsset	Pearson Correlation	,006	1	-,773**	,121	,142	,270**	,129
	Sig. (bilateral)	,948		,000	,167	,102	,003	,155
	N	133	133	133	133	133	122	123
ProvisionsCredit	Pearson Correlation	-,013	-,773**	1	-,135	-,242**	-,390**	-,207
	Sig. (bilateral)	,878	,000		,122	,005	,000	,022
	N	133	133	133	133	133	122	123
Lnsiz	Pearson Correlation	,001	,121	-,135	1	,781**	,069	-,192
	Sig. (bilateral)	,987	,167	,122		,000	,453	,033
	N	133	133	133	133	133	122	123
Cotation	Pearson Correlation	,000	,142	-,242**	,781**	1	,239**	-,081
	Sig. (bilateral)	1,000	,102	,005	,000		,008	,376
	N	133	133	133	133	135	122	123
Opinion	Pearson Correlation	,018	,270**	-,390**	,069	,239**	1	,082
	Sig. (bilateral)	,840	,003	,000	,453	,008		,368
	N	122	122	122	122	122	122	122
Bigfour	Pearson Correlation	-,020	,129	-,207	-,192	-,081	,082	1
	Sig. (bilateral)	,828	,155	,022	,033	,376	,368	
	N	123	123	123	123	123	122	123

5.2. Credit risk determinants

According to table 4, we remark that discretionary accruals variable doesn't present a significative correlation with other variables of model. The performance (net earning/total asset) is negatively correlated with credit risk (provisions/customer credit) and positively correlated with audit opinion.

The credit risk is negatively correlated with performance, listing status, audit opinion and audit quality (Big four or not). The size (natural logarithm of total asset) is positively correlated with listing status and negatively correlated with audit quality that suggests big banks are listed and don't audited, in the majority of cases, by the big four. The listing status is negatively correlated both with credit risk and audit quality and positively correlated both with size and audit opinion. According to table 5, regression quality is high since adjusted R^2 is 0,662. For residuals, the mean equals zero and standard deviation equals 1. (Tables 5 and 6) Moreover, these residuals are independent (DW=1,710).

Table 5: Model capacity

R	R-square	Ajusted R-square	Standard error estimation	Durbin-Watson
,814	,662	,648	,039359258	1,710

Table 6: Residuals statistics

	Minimum	Maximum	Mean	Standard deviation	N
Prediction	,02528386	,57412469	,10843985	,053977773	122
Residual	-,093123719	,168139011	,000000000	,038537472	122
Prediction error	-1,541	8,627	,000	1,000	122
Residual error	-2,366	4,272	,000	,979	122

According to table 7, we observe absence of multicollinearity since we are eliminated listing status from regression model. In fact, this variable is significantly correlated with size. His integration in the model generates increase of tolerance indice (,334 and ,330) and VIF coefficient also for this variable and for size variable (2,992 and 3,032). Significant variables are performance, audit opinion and audit quality. All these variables present negative coefficients. Thus, more performant banks are less risked. They can deduct from their annual earnings sufficient amounts to cover risks that they are exposed. After financial scandals and the appearance of financial security laws, legal texts are recently published and forced auditors to exprime their opinion on internal control procedure quality. In tunisia, tunisian central bank circular n° 2012-02 obliges to exprime their opinion about adequation collective provisions with nature of latent risks relied to current commitments and commitments those necessitate a particular following (class 1). Moreover, according to Tunisian central bank circular n°91-24, each bank must demand from firms those risks exceed 10 % of their capital equity, an external audit report. Banks must, before any commitment, demand to her customers commitments that exceed five million Tunisian dinars, and certified financial statements by legal authorized auditor of exercise proceeding the year of credit. Banks must, as well, demand certified financial statements by legal authorized auditor of exercise followed the year of credit borrowed. A bank audited by big four presents a big size, well organized, and disposed a clair strategy in evaluation and management risks. Thus, audit made by big four affects positively the risk covering essentially credit risk.

Table 6: Regression coefficients and multicollinearity tests (tolerance and VIF)

Model	Standardised coefficients	t	Sig.	Collinearity Statistics		
				Bêta	Tolerance	VIF
1	(Constant)	6,297	,000			
	DISCRAC	,009	,164	,870	,997	1,003
	NETEAsset	-,714	-12,538	,000	,898	1,113
	Lnsizes	-,057	-1,018	,311	,936	1,068
	Opinion	-,185	-3,292	,001	,923	1,084
	Bigfour	-,109	-1,949	,054	,935	1,069

VI. CONCLUSION

The aim of this research is to study the link between credit risk, performance, and information quality. We were used discretionary accruals variable as a proxy of information quality. This proxy was adopted by Ng (2011) in his study about the link between information quality (independent variable) and liquidity risk (dependent variable). Founded results show the absence of significant link between information quality and credit risk. On the contrary, significant links but in opposite sense are observed between credit risk on the one hand and performance, listing status, audit opinion and audit quality on the other hand. Our study demonstrates the regulation role in evaluation and management risks. All banks try to comply with Tunisian central bank circulars. However, opinions with reserve are formulated on financial statements of several exercises of the bank because of insufficient amount of provisions compared to required provisions in accordance with risk covering fixed by Tunisian central bank circulars.

REFERENCES

- [1] **Ariff M., Fah C.F. and Ni S.W. (2013)**, Earnings response coefficients of OECD banks: Tests extended to include bank risk factors, *Advances in Accounting, incorporating Advances in International Accounting* 29 97–107
- [2] **Ariff M. and Fah C.F. (2011)**, Accounting earnings response coefficient: An extension to banking shares in Asia Pacific countries, *Advances in Accounting, incorporating Advances in International Accounting* 27 346–354
- [3] **Beck P.J. and Narayanamoorthy G.S. (2013)**, Did the SEC impact banks' loan loss reserve policies and their informativeness? *Journal of Accounting and Economics*, article in press, accepted proof, <http://dx.doi.org/10.1016/j.jacceco.2013.06.002>
- [4] **Billings M. and Capie F. (2009)**, Transparency and financial reporting in mid-20th century British banking, *Accounting Forum* 33 (2009) 38–53.
- [5] **Cabedo, J.D., and Tirado. J.M. (2004)**, The disclosure of risk in financial statements, *Accounting Forum* 28, 181–200.
- [6] **Cheng X. (2012)**, Managing specific accruals vs. structuring transactions: Evidence from banking industry, *Advances in Accounting, incorporating Advances in International Accounting* 28 22–37.
- [7] **Edmister, R.O. and Chen C. (1989)**, Public Disclosure of Bank Loan Accounting Information, *Journal of Accounting and Public Policy*, 8, 181-198.
- [8] **Hatherly D. and Kretzschmar G. (2011)**, Capital and income financialization: Accounting for the 2008 financial crisis, *Accounting Forum*, 35, 209-216
- [9] **Heilpern E., Haslam C. and Andersson T. (2009)**, When it comes to the crunch: What are the drivers of the US banking crisis? *Accounting Forum* 33 99–113
- [10] **Hughes S.B., Wood A.L. and Hodgdon C. (2011)**, Bank response to SEC disclosure guidance issued during the 2007–2008, *Research in Accounting Regulation* 23 149–159.
- [11] **Jackson R.H.G., and Wood A. (2013)**, The performance of insolvency prediction and credit risk models in the UK: A comparative study, *The British Accounting Review* 45 183–202.
- [12] **Jaggi B. and Low P.Y. (2000)**, Impact of Culture, Market Forces, and Legal System on Financial Disclosures, *The International Journal of Accounting*, Vol. 35, No. 4, pp. 495-519.
- [13] **Joseph C. and Taplin R. (2011)**, The measurement of sustainability disclosure : abundance versus occurrence, *Accounting Forum*, n° 35, pp. 19–31.
- [14] **Kothari S.P., Leone A, and Yang J.S. (2005)**, Performance matched discretionary Accrual measures, *Journal of Accounting and Economics*, vol. 39, pp 163-197.
- [15] **Langn M. and Maffett M. (2011)**, Transparency and liquidity uncertainty in crisis periods, *Journal of Accounting and Economics*, n ° 52, pp. 101–125.
- [16] **Ng J. (2011)**, The effect of information quality on liquidity risk, *Journal of Accounting and Economics* 52 (2011) 126–143.
- [17] **Olson D., and Zoubi T.A. (2008)**, Using accounting ratios to distinguish between Islamic and conventional banks in the GCC region, *The International Journal of Accounting* 43, 45–65.
- [18] **Pattern D.M. (1991)**, Exposure, Legitimacy, and Social Disclosure, *Journal of Accounting and Public Policy*, 10, pp. 297-308.
- [19] **Street D.L., and Bryant S.M. (2000)**, Disclosure Level and Compliance with IASs: A Comparison of Companies With and Without U.S. Listings and Filings, *The International Journal of Accounting*, Vol. 35, No. 3, pp. 305-329
- [20] **Tadesse S. (2006)**, The economic value of regulated disclosure: Evidence from the banking sector, *Journal of Accounting and Public Policy* 25 32–70.
- [21] **Tunisian central bank circular n° 91-24** of december 17 1991 fixed risks division and covering and commitments following.
- [22] **Tunisian central bank circular n°2012-02** of January 11 2012 relating to commitments evaluation in the context of conjonctural measures of economic firms support.